indo electricals

"ICO" Connectors

heavy duty multipole Industrial Connectors

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COMPANY PROFILE

Indo Electricals was established in the year 1975 at Vadodara India for manufacturing of Signaling and different terminals. Due to the change in market demand and change in market scenario since 1993 we started the manufacture of Industrial Connectors. This has now become our core competence.

Indo Electricals is one of the leading manufacturers of Industrial Connector in India. During the years the Company has undergone continuous modernization, for which we now have a versatile & sophisticated workshop that is under continuous upgradation. Connectors are designed using the state of art software and are developed in a well facilitated and sophisticated tool room equipped with the latest CNC machines for manufacturing & equipment for desired Quality Control.

To fulfill the market requirements the company has enhanced its new premises. The Companies objective is to continuously upgrade its manufacturing facility, improve its techniques, Automate the Production line to ensure a Quality product at the right time at the right place at the right cost.

At present throughout the electrical & electronic Industry wherever connection, interconnection system and solenoids are required and specifically where data processing control and measurement applications are involved, our products meet the most exacting requirement and are in daily use throughout the country in all the field of engineering. The Company has close link with leading OEM Companies resulting in innovation due to constant interaction, which has set current trends and have found country wide recognition.

The Company is catering to the highly technologically advanced domestic market of Switchgear Industries more then a decade & strives to meet the technical specification as per Industry requirement. It has also been regularly dealing with sophisticated Machinery Manufacturer of CNC Machines, Micro Process Plastic Injection Molding Machine, Textile, Automobile Assembly line, Robotic Equipment, SPM, Power Station, Electro Medical apparatus etc.

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Dimensioning of clearances and creepage distances

European standard EN 61984 Ed. 1.0 (22001-11) was recently published for safety prescriptions for multipole connectors for industrial uses and for the relevant tests. This standard assimilates, without any modifications, the corresponding international standard IEC 61984 Ed.1.0 (2001-06). It is applicable to connectors with rated voltage values of over 50V, and up to 1000V, and rated currents values of up to 125A per pole, for which no dedicated standard exists, or to which the particular specifications or the manufacturer refer as regards the safety aspects.

For determining the minimum through-air and surface insulation distances, i.e. creepage distances, for connectors, this standard makes use (with some modifications) of the concepts of standard IEC 60664-1 Ed. 1.0 (1992-10)1'.

NOTE - For connectors with rated voltage values of up to 50V - excluded from the field of application of Low Voltage Directive 73/23/EEC - standard EN 61984 may be used as a guide. For surface and through-air insulation distances, refer to standard IEC 60664-1 Ed. (1992-10).

We are illustrating below the method of standard EN 61984 for determining minimum insulation values in connectors.

The following are now obsolete: the insulation group concept, and the distinction of rated voltage values into d.c. and a.c. voltage values 220V and 380V were adapted to standardised values 230V and 400V according to IEC 60038'21 and some concepts were taken from the regulations for LV electrical systems of the IEC 60364'3' series, as follows:

- The over voltage categories (I, II, III, IV), according to the use of the equipment<4). They are correlated to the transient over-voltages taken as a basis for determining the rated impulse withstand voltage
- The degrees of pollution
- The classification of insulating materials according to their resistance to tracking
- The conditions of the electrical field (homogenous or inhomogenous).

Over voltage categories (or impulse withstand)

The over voltage categories of a circuit or of an electrical system are identified by a conventional number (from I to IV) based on the limit or the control of the assumed transient over voltage values obtained on a circuit or electrical system and depends on the means used to reduce the over voltages.

TABLE 1

The rated impulse withstand voltage for equipment energised directly from the low-voltage mains (IEC 60664-1 Edition 1.0 1992-10)

Nominal voltage of the supply system based on IEC 60038 (CENELEC HD 472 S1, CEI 8-6) V Three phase[a]	V Single phase	Voltage line to netural derived from nominal voltage a.c. or d.c. ≤V	Rated impulse withstand voltage[b] Over Voltage category V I	II	III	IV
		50	330	500	800	1500
		100	500	800	1500	2500
	120-240	150	800	1500	2500	4000
230/400	300	1500	2500	4000	6000	
277/480						
400/690		600	2500	4000	6000	8000
1000		1000	4000	6000	8000	12000

(a) The "/" symbol indicates a four-wire three phase distribution system (star distribution), The lower value is the voltage between phase and neutral (phase voltage), whereas the higher value is the voltage between the phases (mains voltage).

Where only one value is indicated, it refers to three-wire, three-phase systems (delta distribution) and specifies the line-to-line value.

(b) Equipment with these rated impulse withstand values can be used in installations in accordance with standard IEC 6036+4-443 (Italian standard CEI 64W4 Section 443, German standard DIN VDE 0100-443).

Table 1 supplies the rated impulse withstand voltage for equipment energised directly from the low voltage mains in function of the rated voltage of the power supply system, the relative voltage line-to-neutral and the over voltage category. **Industrial machinery and installations with fixed connection to the low voltage supply system and consequently the relative components including multipole connectors, constitute an example of the equipment that belongs to the over voltage category III.**

Examples of general equipment that comes under over voltage category II are electrical household appliances, portable tools and other household equipment or similar.

For distribution networks with rated voltage of **230/400V** (star distribution with earthed neutral), and over-voltage category **III** (category III: impulse withstanding), the demanded rated impulse withstanding voltage is **4kV**.

For distribution networks with rated voltage of **400** or **500V** (star distribution without neutral or with insulated neutral, or delta distribution, insulated or corner-earthed), and over-voltage category III (category **III**: impulse withstanding), the demanded rated impulse withstanding voltage is **6kV.**

(1) Assimilated with modifications as European Harmonisation Document HD 625.1 S1:1996 and published by the CENELEC member countries as a national standard: Italian standard CEI 28-6 (1997-11), German standard DIN VDE 0110-1 (VDE 0110Teil 1):1997-04.

(2) Harminisation Document CENELEC HD 472 S1, Italian standard CEI 8-6, German standard DIN IEC 38:1987-05.

(3) Italian standard CEI 64-8, German standard DIN VDE 0100.

(4) HD 625.1 S1 modifies the definition to "impulse withstanding categories".

Degrees of pollution

Pollution indicates the presence of any kind of foreign matter, whether solid, liquid or gaseous (ionised gas) that can have a negative influence on the dielectric strength or on the surface resistivity of the insulating material.

The standard establishes four degrees of pollution. The categories are identified by conventional numbers based on the quantity of polluting agents or on the frequency of the phenomenon which determines the reduction of the dielectric strength and/or of the surface resistivity.

Pollution degree 1:

No pollution or only dry, non-conductive pollution.

The pollution has no influence.

Pollution degree 2:

Only non-conductive pollution except that occasionally a temporary conductivity caused by condensation may occur.

Pollution degree 3:

Conductive pollution or dry, non-conductive pollution which becomes conductive due to condensation which may occur.

Pollution degree 4:

The pollution generates persistent conductivity caused by conductive dust or by rain or snow.

Pollution degree 3 is typical of an industrial environment or similar, while pollution degree 2 is typical of a household environment or similar.

Standard EN 61984 permits the sizing of surface insulation distances of connectors installed in enclosures in protection class &IP54 for the degree of pollution immediately below that of the application environment (e.g.: 2 instead of 3).

Extract from standard EN 61984

6.19.2.2 For a connector in protection class IP54 or higher, according to Publication IEC 60529, the insulating parts inside the enclosure may be sized for a lower degree of pollution.

This applies also to coupled connectors, closure of which is ensured by the connector enclosure, and which may be uncoupled for test and maintenance purposes only.

One may therefore use connectors installed in enclosures or containers in protection class & IP 54, at the rated data referring to degree pollution 2 in industrial applications with degree of pollution 3, if, in compliance with the standard, the coupling of the connectors is opened only occasionally for tests or maintenance. In the event of temporary or limited duration in uncoupled state, a closing cover is, however, necessary, guaranteeing at least protection class IP 54. However, this does not apply to connectors which remain uncoupled and exposed to an industrial atmosphere for an indefinite period. It should be noted, however, that pollution could penetrate inside coupled connectors, also when it comes from remote parts of the electrical system (e.g. through conduits providing cable entry to the connectors enclosure).

Moreover, connector enclosures are usually supplied without cable entry devices, with the installer fitting such devices according to need. The degree of protection marked on the enclosures is guaranteed only for connectors coupled through the use of cable entry devices in equal or higher IP protection class and expertly installed.

Examples of application for the selection of degree of pollution 2 for a connector

- connector on an electric motor controller, which is uncoupled only to replace a faulty motor, also in cases where degree of pollution 3 is instead specified for the system ;
- connector on a module-constructed machine, which is opened only for transport purposes and which is used only for faster installation and for safer putting into service. One must make sure that the connector has not been polluted during transport. To ensure this has not occurred, protective covers or adequate packing must be used;
- connector inside a panel in protection class &IP54. In this case one may even renounce equipping the connector with an IP54 enclosure.

Insulating material

Insulating material influences the determination of the minimum creepage distance. It is characterised according to the damage it suffers from the concentrated release of energy during scintillations when a surface leakage current is interrupted due to the drying of the contaminated surface.

The CTI (comparative tracking index), (index of resistance to surface currents) is assumed as index of the resistance to creep currents of the insulating materials in the presence of atmospheric contaminating agents.

The CTI constitutes the numeric value of the maximum voltage at which a material can resist against 50 drops of an electrolytic test solution without tracking, i.e. without a progressive formation of conductive paths on the surface of the solid insulating material (and permanent electric arc between the electrodes of the test equipment) due to the combined effect of electrical stress and electrolytic contamination.

The solid insulating materials are classified into four groups:

Group I	600	<	CTI		
Group II	400	<	CTI	<	600
Group IIia	175	≤	CTI	<	400
Group IIIb	100	≤	CTI	<	175

The values for groups IIIa/IIIb (Table 6, EN 61984) are identical for the purpose of determining the creepage distance values.

The insulating materials used to manufacture the INDO ELECTRICALS multipole connectors belong to groups IIia / IIIb.

Electric field conditions
The insulation clearance is determined in Table 2 of IEC 60664-1, bearing in mind the following influencing factors:
- Rated impulse withstand voltage
- Electric field conditions
- Altitude: the values specified in Table 2 give sufficient impulse withstand capability for equipment for use at altitudes up to 2.000 m. For equipment for use at higher altitudes, the corrective factors specified in Table A2 of IEC 60664-1
- The micro-environment.

The shape and arrangement of the conductive parts influence the homogeneity of the electric field and consequently the clearance needed to withstand a given voltage. The clearances in Case A (inhomogeneous field) have the required impulse withstand voltage under all conditions: clearances not less than those specified in **Table 2 - Case A** can be used irrespective of the shape and arrangement of the conductive parts and without verification by an impulse withstand test.

Determination of clearances
In accordance with standard IEC 60664-1, the following must be identified to determine it:
(a) The rated voltage of the power supply (usually 230/400V and therefore a conventional voltage line-to-neutral of 300V), in star distribution networks with earthed neutral, or 400V for star networks without neutral, or with insulated neutral, or in networks with the distribution transformer's secondary winding delta connected, insulated or corner-earthed and, therefore, with conventional phase voltage of 600V);
(b) The overvoltage category (usually III);
(c) The rated impulse withstand voltage determined from Table 1 of IEC 606641 (usually **4 kV** or **6kV**)
(d) The type of electric field to which the parts through which the current flows shall be subjected (worse case = **inhomogenous field**) and the degree of pollution (usually **3**).
Standard **EN 61984** specifies that the **through-air insulation distance** should be sized according to Table 2 of IEC 60664-1, but according to the rated impulse withstanding voltage obtained from **Table 5** of EN 61984. The rated impulse withstanding voltage must be selected according to the rated power supply voltage and to the overvoltage category. The assignment of connectors to a particular overvoltage category (usually **III**) is effected according to the rules of IEC 60664-1.

Rated voltage
The voltage value assigned by the manufacturer to the connector and to which the operating and performance characteristics refer (IEC 60664-1, definition 1.3.9 modified).
NOTE - A connector may have more than one rated voltage value.

As concerns the choice of the type of electric field, the through-air insulation distances via windows and openings in the enclosures of insulating material, must comply with the values of case A in Table of IEC 60664-1. i.e. for non uniform field conditions.

TABLE 5
Rated impulse withstand voltage (EN 61984 Edition 1.0 - 2001-11)

Nominal voltage of the supply system (< rated insulation voltage of equipment)					Preferred values for the rated impluse withstand voltage in kV (1.2/50 us)			
					Over voltage category			
					I	II	III	IV
Voltage line-to-earth derived from the nominal voltage of the supply system to the a.c. voltage (r.m.s. value) or d.c. voltage	a.c. voltage (r.m.s. value) 	a.c. voltage (r.m.s. value) 	a.c. voltage (r.m.s. value) d.c. voltage	a.c. voltage (r.m.s. value) d.c. voltage 	Special protected levels	Level for electrical equipment (household and similar)	Level for distribution supply systems	Input level
V	V	V	V	V	kV	kV	kV	kV
100	66/115	66	60	-	0.5	0.8	1.5	2.5
150	120/208; 127/220;	115;120; 127	110; 120;	220-110; 240-120;	0.8	1.5	2.5	4
300	220/380; 230/400; 240/415; 260/440; 277/480;	220; 230; 240; 260; 277;	220	440-220	1.5	2.5	4	6
600	347/600; 380/660 400/690 415/720 480/830	347; 380; 400; 145; 440; 480; 500; 480; 600;	480	960-480	2.5	4	6	8
1000		660; 690; 720; 830; 1000;	1000	-	4	6	8	12
* Value for voltage , 50V mentioned in IEC 60664-1, Encl. B								

With the three values (b) (c) and (d) the minium clearence is determined in Table 2 of IEC 60664-1

TABLE 8
Minimum clearance for insulation co-ordination (IEC 60664-1 Edition 1.0 - 1992-10)

Required impulse withstand voltage	Minimum clearances in air in mm. up to 2.000 m. above sea level							
	Case A - inhomogenous field 1)				**Case B** - inhomogenous field 2)			
	degree of pollution				degree of pollution			
kV	1	2	3	4	1	2	3	4
0.33 [3]	0.01	0.2 [4] [5]	0.8 [5]	1.6 [5]	0.01	0.2 [4] [5]	0.8 [5]	1.6 [5]
0.40	0.02	0.2 [4] [5]	0.8 [5]	1.6 [5]	0.02	0.2 [4] [5]	0.8 [5]	1.6 [5]
0.50 [3]	0.04	0.2 [4] [5]	0.8 [5]	1.6 [5]	0.04	0.2 [4] [5]	0.8 [5]	1.6 [5]
0.60	0.06	0.2 [4] [5]	0.8 [5]	1.6 [5]	0.06	0.2 [4] [5]	0.8 [5]	1.6 [5]
0.80 [3]	0.10	0.2 [4] [5]	0.8 [5]	1.6 [5]	0.10	0.2 [4] [5]	0.8 [5]	1.6 [5]
1.0	0.15	0.2 [4] [5]	0.8 [5]	1.6 [5]	0.15	0.2 [4] [5]	0.8 [5]	1.6 [5]
1.2	0.25	0.25	0.8 [5]	1.6 [5]	0.2	0.2 [4] [5]	0.8 [5]	1.6 [5]
1.5 [3]	0.05	0.2 [4] [5]	**0.8** [5]	1.6 [5]	0.3	0.3	0.8 [5]	1.6 [5]
2.0	1.0	0.2 [4] [5]	1.0	1.6 [5]	0.45	0.45	0.8 [5]	1.6 [5]
2.5 [3]	1.5	0.2 [4] [5]	**1.5**	1.6 [5]	0.6	0.6	0.8 [5]	1.6 [5]
3.0	2	2	2	2	0.8	0.8	0.8 [5]	1.6 [5]
4.0 [3]	3	3	**3**	3	1.2	1.2	1.2	1.6 [5]
5.0	4	4	4	4	1.5	1.5	1.5	1.6 [5]
6.0 [3]	5.5	5.5	**5.5**	5.5	2	2	2	2
8.0 [3]	8	8	**8**	8	3	3	3	3
10.0	11	11	11	11	3.5	3.5	3.5	3.5
12.0 [3]	14	14	14	14	4.5	4.5	4.5	4.5

1) Between pointed and flat electrode.
2) When the clearance is less than the value indicated for Case A an impulse withstand voltage test certificate is required
3) Preferential values specified in Table 1
4) For printed wiring material, the values of degree of pollution 1 apply except that the value shall not be less than 0.04 mm as specified in Table 4
5) These minimum clearances given for pollution degrees 2, 3 and 4 are based on experience rather than on fundamental data.
*) Table 2 of IEC 60664-1 is modified in Variant 2. In particular, the columns referring to degree of pollution 4 have been eliminated. The definition of this degree is varied in 2.5.1 to: "permanent conductivity occurs, due to conductive dust, rain or other humid conditions". The through-air insulation distances for degree of pollution 4 area as specified for degree of pollution 3, with the exception that the minimum through air distance is 1.6 mm.

In 2.5.2 it is specified that "in conductive pollution conditions, the dimensions for the surface insulation distances cannot be specified where permanent conductive pollution is present, e.g.: due to coal or metal dust. On the contrary, the insulation surface should be designed in order to prevent a seamless path of conductive pollution, e.g.: by means of ribs and cavities".
The values written in bold are the most common multipole connectors for industrial purposes.
If the component respects the minimum through-air insulation distance prescribed for live parts of opposing polarities, it is exempted from the impulsed voltage withstanding test. This test is run at sea level using increased voltage values in order to take into account rarefied air at high altitude (the prescribed values refer to 2000 m asl. However, if this distance is not respected, passing the test gives one the right to declare the relevant rated impulse withstanding voltage.
Declaration of the rated impulse withstanding voltage is optional for standard EN 61984: if the manufacturer declares the rated impulse withstanding voltage, the impulse withstanding voltage test is, in any event, necessary as dielectric verification. Alternatively, if the manufacturer does not declare this rated value, the voltage withstanding dielectric test at mains frequencies of 50/60 Hz for 60 s (test 4a of IEC 60512) is necessary but at reduced values compared to the peak values of the impulsive test voltages of wave shape standardised at 1.2/50 us.
To this end, standard EN 61984 provides the following cross-reference table:

TABLE 8
Test voltages (EN61984 Edition 1.0 - 2001-11)

Rated impulse withstand voltage kV	Test voltages impulse withstand* voltage kV (1.2/50 us) at 2000 above sea level	at sea level	withstand voltage (r.m.s. value) kV (50/60 Hz)
0.33	0.33	0.35	0.23
0.5	0.5	0.55	0.37
0.8	0.8	0.91	0.50
1.5	1.5	1.75	0.84
2.5	2.5	2.95	1.39
4	4	4.8	1.21
6	6	7.3	3.31
8	8	9.8	4.26
12	12	14.8	6.6

* If the test laboratory is situated between sea level and an altitude of 2000 m asl, interpolation of test impulsed voltage is allowed.

Rated impulse withstand voltage
The rated impulse withstanding voltage assigned by the manufacturer to the connector, which refers to the withstanding capacity of its insulation with respect to transient overvoltages [IEC 60664-1, definition 1.3.9.2 modified].
Impulse withstand voltage
The highest peak value of a voltage impulse of prescribed shape and polarity, which does not cause insulation faults under specified conditions.

Dimensioning of creepage distances

The minimum surface insulation distance (creepage distance), i.e. "the shortest distance along the surface of the insulation material between two conducting parts " [IE 60664-1 development 1.3.3] for connectors is prescribed by standard **EN 61984** in **Table 6**. It is determined according to rated voltage, degree of pollution and insulating material group. The rated voltage providing access to Table 6 (rationalised voltage of the feed system) is determined in Table 3a of IEC 60664-1 for single phase two or three wire a.c. or d.c. systems or Table 3b for three-phase three or four wire a.c. systems. Usually for three-phase systems with 230V/400V reted voltage, the conventional line-to-line insulation voltage is 400V and the line-to-earth for TT or TN systems is 250V. For three-phase systems with 400V or 500V rated voltage the conventional line-to-line insulation voltage is respectively 400V and 500V.
The degree of pollution must be specified according to standard IEC 60664-1. It strongly influences the rated insulation voltage of a connector. Therefore, the rated insulation voltage of a connector should be reconsidered time by time for each degree of pollution.

TABLE 3a
Single phase two or three wire a.c. or d.c. systems (IEC 60664-1 Edition 1.0 - 1992-10)

Nominal voltage of the supply system*)	Voltage rationalised for Table 4	
	for insulation	
	line-to-line[1)]	line-to-earth[1)]
	A	**B**
V	V	V
12.5	12.5	-
24	25	-
25	25	-
30	32	-
42	50	-
48	50	-
50**	50	-
60	63	-
30-60	63	32
100**	100	-
110	125	-
120	125	-
150**	160	-
220	250	-
110-220	250	125
120-240	250	125
300**	320	-
220-440	500	250
600**	630	-
480-960	1000	500
1000**	1000	-

TABLE 3b
Three-phase three or four wire a.c. systems (IEC 60664-1 Edition 1.0 - 1992-10)

Nominal voltage of the supply system*)	Voltage rationalised for Table 4		
	for insulation		
	line-to-line[1)]	line-to-earth[1)]	
	A	**C**	**D**
V	V	V	V
63	63	32	63
110	125	80	125
120	125	80	125
127	125	80	125
150**	160	-	160
208	200	125	200
220	250	160	250
230	250	160	250
240	250	160	250
300**	320	-	320
380	400	250	400
400	400	250	400
415	400	250	400
440	500	250	500
480	500	320	500
500	500	320	500
575	630	400	630
600**	630	-	630
660	630	400	630
690	630	400	630
720	800	500	800
830	800	500	800
960	1000	630	1000
1000**	1000	-	1000

Legends :
A = All systems.
B = Single phase three-wire systems with mid-point earthed.
C = Three-phase four-wire systems [secondary winding of a star distribution transformer] neutral-earthed2).
D = Three-phase three-wire systems [secondary winding of a delta distribution transformer], unearthed " or corner-earthed.

(1) The phase-earth insulation for unearthed or impedance-earthed lines is equal to that between phases, because the operating voltage of any phase can, in practice, approach full voltage between the phases [line voltage]. This is because the actual voltage to earth is determined by the insulation resistance and by the capacitive reactance of each phase to earth. Consequently, a low (but acceptable) insulation resistance of a phase can, in effect, earth it and increase voltage to earth of the other two phases at full voltage between the phases [line voltage].
(2) For equipment for use on both three-phase three-wire and three-phase four wire supplies, earthed or unearthed, use only the values for three-wire systems.

(*) Assuming a rated voltage of the equipment.
(**) These values correspond to the values given in Table 1.

With this voltage value, the pollution degree and the materials group the minimum creepage distance can be determined using **Table 6.**

Table 6
Minimum creepage distance (EN 61984 Edition 1.0 - 2001-11)

Rated voltage r.m.s. value	Minimum creepage distances (mm)									
	Pollution degree									
	1	**2**			**3**			**4**		
a.c. or d.c.	see note [b]	Material group			material group			Material group		
V		**I** [a]	**II**	**III**	**I**	**II**	**III** [c]	**I**	**II**	**III** [c]
63	0.2	0.63	0.9	1.25	1.6	1.8	2	2.1	2.6	3.4
80	0.22	0.67	0.95	1.3	1.7	1.9	2.1	2.2	2.8	3.6
100	0.25	0.71	1	1.4	1.8	2	2.2	2.4	3	3.8
125	0.28	0.75	1.05	1.5	1.9	2.1	2.4	2.5	3.2	4
160	0.32	0.8	1.1	1.6	2	2.2	2.5	3.2	4	5
200	0.42	1	1.4	2	2.5	2.8	3.2	4	5	6.3
250	0.56	1.25	1.8	2.5	**3**	**3.5**	4	5	6.3	**7.5**
320	0.75	1.6	2.2	3.2	4	4.5	5	**6**	**7.3**	**8.6**
400	1	2	2.8	4	**4.5**	**5.3**	**6**	**7**	**8.5**	**10**
500	1.3	2.5	3.6	5	**6**	**7**	**8**	**9**	**11**	**13**
630	1.8	3.2	4.5	6.3	8	9	10	**11.1**	**13.6**	**16.1**
800	2.4	4	5.6	8	**9**	**10.5**	**12**	**13.8**	**17**	**20.2**
1000	3.2	5	7.1	10	**12**	14	16	**17**	**21**	**25**

NOTE 1: The values for voltages s 50V are supplied in IEC 60664-1, Table 4.
NOTE 2: The values in bold are reduced compared to those of Table 4 IEC 60664-1, in compliance with 2.4 of IEC 60664-1.
a Materials group I or materials group II, III, where the possibility of tracking is reduced in conformance with the conditions of paragraph 3.2 of IEC 60664-1.
b Materials group I, II, IIia, IIIb
c Materials group IIIb is not recommended for application with pollution degree 3 above 630V and with pollution degree 4.

Dimensioning of the clearances and creepage distances according to the standard DIN VDE 0627:1986-06 (DIN VDE 0110:1972-11 + Guide DINVDE0110b:1979:02)

Standard DIN VDE 0627:1986-06, containing safety prescriptions for connectors, was the only reference standard for the safety aspects of multipole connectors for industrial uses, before the publication of European standard EN 61984 (2001-11). Some series of connectors occasionally refer to this standard as regards the sizing of insulation distances.
It refers to the 3rd edition of standard VDE 0110:1972-11. On the basis of the relevant field of application, electrical equipment is classified into insulation groups **A0, A, B, C** and **D**, relative to the reduction in the insulation performances due to environmental influences such as dust, dirt, humidity, condensation, ageing and atmospheric particles in aggressive environments.
The classification into insulation groups considers both the effects of the damages derived from faulty insulation of an insulating material in use and the estimated over voltages. In general, the classification of the equipment into various insulation groups is made in the relative VDE product standards by the Technical Committees.

Insulation group A0
Insulation group AO refers to low voltage equipment located in an air-conditioned or clean and dry environment, or one which is electrically protected by adequate measures or where overheating would not be excessive in case of short circuit. The maximum overvoltage in operation (including peaks) must not exceed the value :

U_{Bmax} = 2. (100V +1.25 U_B) [V]
(U_B = alternate voltage for use of the appliance)

Insulation group A
Insulation group A refers to equipment located in an air-conditioned or clean and dry locations, or one which is electrically protected by adequate measures.

Insulation group B
Insulation group B refers to equipment located in household environments or similar, shops, warehouses, precision mechanics workshops, laboratories, test chambers, medical rooms and similar locations.

Insulation group C
Insulation group C refers to equipment which is mainly used on industrial, commercial and agricultural, works housed in unheated warehouses, in workshops, in boiler rooms, on machine tools, etc.

Insulation group D
Insulation group D refers to equipment located on board road vehicles or rotating materials, equipment exposed to humidity from condensation or melted snow and to conductive dust caused by braking devices which can-not be satisfactorily protected by encapsulation.

Values **a** and **b** of the creepage distances obtained from Table 4 of standard DIN VDE 0110b: 1979-02 depend upon the profile of the surface path and the resistance of the insulating materials to tracking. The insulating materials are classified into groups according to Table 3 of this standard bearing in mind this particular aspect.

TABLE 3
DIN VDE 0110b: 1979-02

1	2	4	4
Group	Resistance to tracking [1] (minimum value)	Creepage distances [2]	
		Without rib	With rib (par.8a)
I	KB 100	b	(a+b)/2
II	KB 380	(a+b)/2	a
III	KB > 600	a	a

(1) Resistance to tracking in accordance with standard DIN VDE 0303 Teil 1/06.84 (IEC60112).
(2) For insulating groups AO and A the insulating distance is usually "a".

The minimum values of the clearance and creepage distances are obtained from Table 4 or the standard DIN VDE 0110b: 1979-02.

TABLE 4
DIN VDE 0110b: 1979-02 (extract)

Minimum values of the clearances and creepage distances in mm.

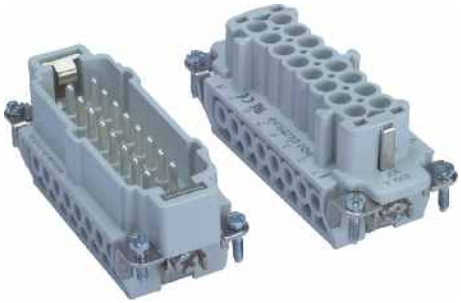
Reference voltages (according to Table 1) up to :											
a.c. voltage (r.m.s. value)	V	12	30	60	125	250	380	500	660	750	1000
d.c. voltage	V	15	36	75	150	300	450	600	800	900	1200
insulation group A0	L	0.1	0.1	0.2	0.3	0.5	0.8	1.1	1.5	1.8	2.5
	a	0.1	0.2	0.2	0.4	0.7	1.1	1.5	2	2.2	3
	b	0.3	0.4	0.5	0.7	1.3	2	2.7	3.6	4	5.5
insulation grouo B	L	0.4	0.5	0.7	1	1.6	2.4	3	4	4.5	6
	a	0.6	0.8	1	1.3	2	3	4	5.5	6	6
	b	0.8	1	1.3	2	3	4	5.5	7	8	11
insulation group C	L	0.8	1	1.2	1.6	2.5	3.5	4.5	6	6.5	9
	a	1.2	1.5	1.7	2.2	3	4.5	6	8	9	12
	b	1.7	2	2.3	3	4	6	8	11	12	16
insulation group D	L	1.6	1.8	2	2.5	3.5	5	6.5	8	9	12
	a	2.3	2.6	3	3.5	5	7	9	12	13	17
	b	3.2	3.5	4	5	7.5	10	13	17	19	25

L = clearance
a/b = creepage distances according to Table 3

Interpolate values for intermediate voltages.

CODING SYSTEM

CODING FOR INSERT



01	1	0	016	M	0	1	1

- Type of Connector
- Range of Connector
- Colour of connector
- No. of Contacts
- Type of Insert
- Sequence of Contact Numbers
- Type of Termination
- Surface Coating

CODING FOR HOOD

01	9	1	016	B	C	1	0

- Type of Connector
- Environmental Condition
- Hood with respect to connector
- No. of Contacts
- Type of Construction of Casting
- Type of Cable Entry
- Type of Clamp
- Type of Threads

CODING FOR BULKHEAD MOUNTING HOUSING

01	9	1	016	PM	40

- Type of Connector
- Type of Environmental Condition
- Housing with respect to connector
- No. of Contacts
- Type of Mounting
- Type of Clamp

CODING FOR SURFACE MOUNTING HOUSING

01	9	1	016	B	E	1	0

- Type of Connector
- Type of Environmental Condition
- Housing with respect to connector
- No. of Contacts
- Type of Construction
- Type of Entry
- Type of Clamp
- Type of Thread

TECHNICAL CHARACTERISTICS

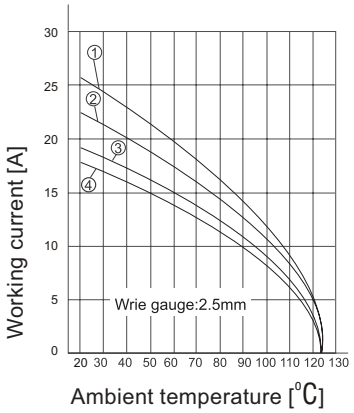
ICO A, ICO AA, ICO AB

Specifications	DIN EN 60 664 DIN EN 61 984
Inserts	
Number of contacts	6,8,10,16,24,32,32(16x2),48(24x2)+PE
Electrical data acc. to	16A 500V 6kV 3
ICO A 3 & 4	
-Rated current	16A
-Rated voltage	500V
-Rated impulse voltage	6KV
-Pollution degree	3
-Pollution degree 2 also	16A 400/690V 6kV 2
Rated voltage acc. to UL/CSA	600V
Insulation resistance	$\geqslant 10^{10}\Omega$
Material	polycarbonate
Limiting temperatures	-40°C...+125°C
Flammability acc. to UL 94	V0
Mechanical working life (mating cycles)	$\geqslant 500$
Contacts	
Material	copper alloy
Surface terminal	gold plated
	silver plated
Screw terminal	
-Contact resistance	$\leqslant 1m\Omega$
-Wire gauge	1.0-2.5mm^2
-AWG	18-14
-Tightening/Test torque	0.5Nm
-Stripping length	7.0mm
Crimp terminal	
-Contact resistance	$\leqslant 1m\Omega$
-Wire gauge	0.5-4.0mm^2
-AWG	20-12
-Stripping length	7.0mm
Spring terminal	
-Contact resistance	$\leqslant 3m\Omega$
-Wire gauge	0.14-2.5mm^2
-AWG	26-14
-Stripping length	7-9mm
Hoods / Housing	
Material	Die-Cast aluminum
Surface	Powder Coated RAL 7037
Locking Element	Zinc plated / Thermoplastic
Temperature Range	-40°C...+125°C
Degree of Protection	
For Coupled Connector	IP65

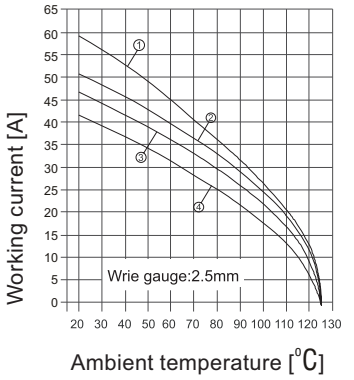
Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

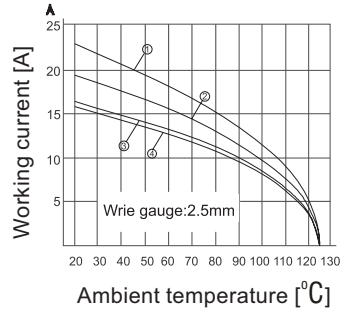
Control and test procedures according to DIN EN 60512-5



1. ICO A-006
2. ICO A-008
3. ICO A-010
4. ICO A-016
5. ICO A-024
6. ICO A-032



1. ICO AA-006
2. ICO AA-010
3. ICO AA-016
4. ICO AA-024



1. ICO AB-006
2. ICO AB-010
3. ICO AB-016
4. ICO AB-024

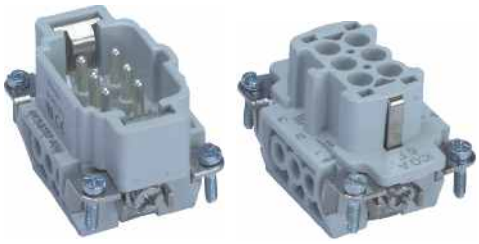
ICO A, ICO AA, ICO AB

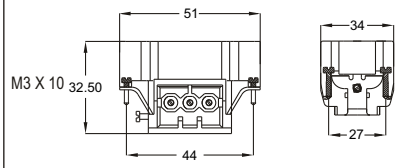
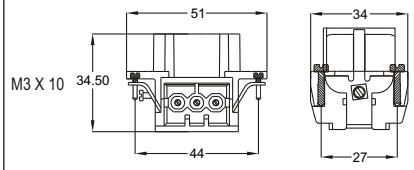
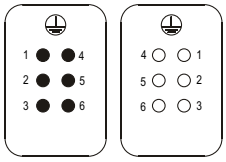
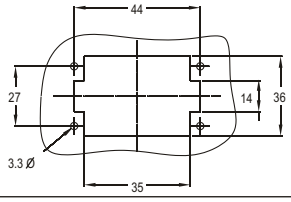
For Hoods/Housing please refer page no.91-96

Number of Contact

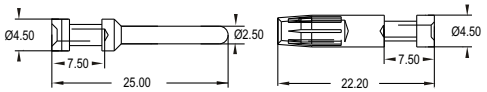
6+ ⏚

Rating : 16 A-500 V



Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO A			0110 006 M011	0110 006 F011
Screwless Spring Terminal 	ICO AA			0110 006 M031	0110 006 F031
Crimp Terminal 	ICO AB	Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 	0110 006 M021	0110 006 F021

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Silver plated 			0.14-0.37 0.50 0.75 1.00 1.50 2.50 3.00 4.00	0103 000 5M04 0103 000 5M03 0103 000 5M05 0103 000 5M02 0103 000 5M01 0103 000 5M06 0103 000 5M07 0103 000 5M08	0103 000 5F04 0103 000 5F03 0103 000 5F05 0103 000 5F02 0103 000 5F01 0103 000 5F06 0103 000 5F07 0103 000 5F08
Gold plated 	<table><tr><th>Indentification</th><th colspan="2">Wire gauge</th><th>Striping length</th></tr><tr><td>No Groove</td><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>7.5 mm</td></tr><tr><td>No Groove</td><td>0.50 mm²</td><td>AWG 20</td><td>7.5 mm</td></tr><tr><td>1 Groove</td><td>0.75 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>1 Groove</td><td>1.00 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>2 Groove</td><td>1.50 mm²</td><td>AWG 16</td><td>7.5 mm</td></tr><tr><td>3 Groove</td><td>2.50 mm²</td><td>AWG 14</td><td>7.5 mm</td></tr><tr><td>Wide Groove</td><td>3.00 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr><tr><td>No Groove</td><td>4.00 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr></table> For crimping tool & contact removal tool Page No. 140		0.14-0.37 0.50 0.75 1.00 1.50 2.50 3.00 4.00	0103 000 5M14 0103 000 5M13 0103 000 5M15 0103 000 5M12 0103 000 5M11 0103 000 5M16 0103 000 5M17 0103 000 5M18	0103 000 5F14 0103 000 5F13 0103 000 5F15 0103 000 5F12 0103 000 5F11 0103 000 5F16 0103 000 5F17 0103 000 5F18

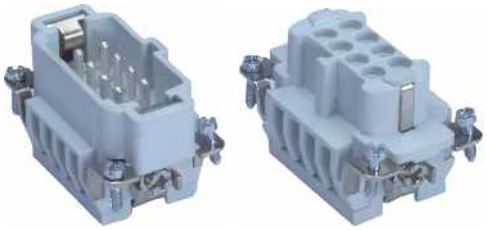
ICO A

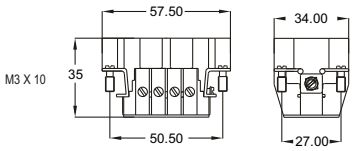
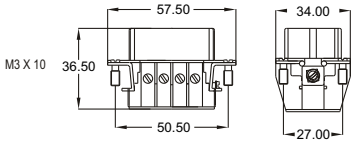
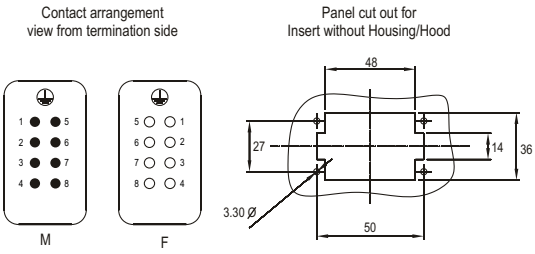
For Hoods/Housing please refer page no. 97-100

Number of Contact

8+⏚

Rating : 16 A-500 V



Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO A	  		0110 008 M011	0110 008 F011

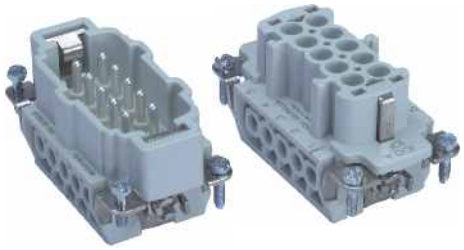
ICO A, ICO AA, ICO AB

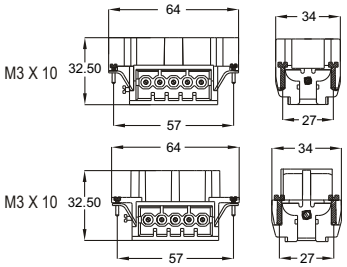
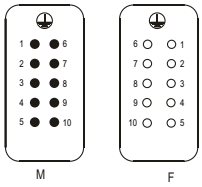
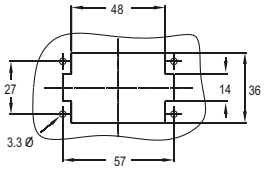
For Hoods/Housing please refer page no. 101-110

Number of Contact

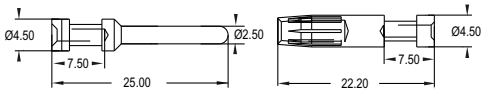
10+ ⏚

Rating : 16 A-500 V



Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO A			0110 010 M011	0110 010 F011
Screwless Spring Terminal 	ICO AA	Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 	0110 010 M031	0110 010 F031
Crimp Terminal 	ICO AB			0110 010 M021	0110 010 F021

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm^2)	Male	Female
Silver plated 			0.14-0.37	0103 000 5M04	0103 000 5F04
			0.50	0103 000 5M03	0103 000 5F03
			0.75	0103 000 5M05	0103 000 5F05
			1.00	0103 000 5M02	0103 000 5F02
			1.50	0103 000 5M01	0103 000 5F01
			2.50	0103 000 5M06	0103 000 5F06
			3.00	0103 000 5M07	0103 000 5F07
			4.00	0103 000 5M08	0103 000 5F08
Gold plated 			0.14-0.37	0103 000 5M14	0103 000 5F14
			0.50	0103 000 5M13	0103 000 5F13
			0.75	0103 000 5M15	0103 000 5F15
			1.00	0103 000 5M12	0103 000 5F12
			1.50	0103 000 5M11	0103 000 5F11
			2.50	0103 000 5M16	0103 000 5F16
			3.00	0103 000 5M17	0103 000 5F17
			4.00	0103 000 5M18	0103 000 5F18

Indentification	Wire gauge		Striping length
No Groove	0.14-0.37 mm^2	AWG 26-22	7.5 mm
No Groove	0.50 mm^2	AWG 20	7.5 mm
1 Groove	0.75 mm^2	AWG 18	7.5 mm
1 Groove	1.00 mm^2	AWG 18	7.5 mm
2 Groove	1.50 mm^2	AWG 16	7.5 mm
3 Groove	2.50 mm^2	AWG 14	7.5 mm
Wide Groove	3.00 mm^2	AWG 12	7.5 mm
No Groove	4.00 mm^2	AWG 12	7.5 mm

For crimping tool & contact removal tool Page No. 140

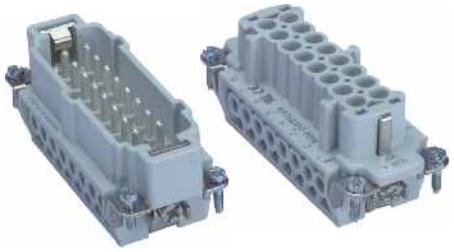
ICO A, ICO AA, ICO AB

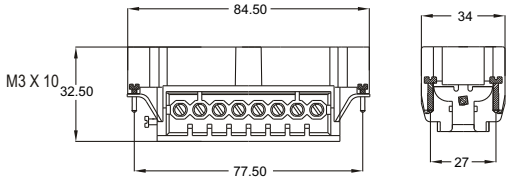
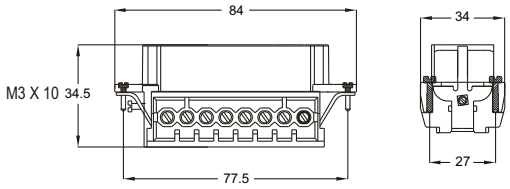
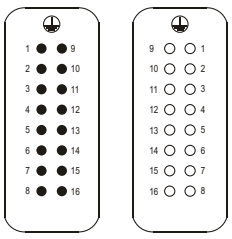
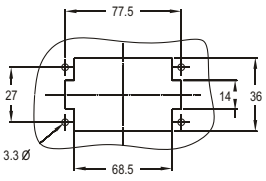
For Hoods/Housing please refer page no. 111-120

Number of Contact

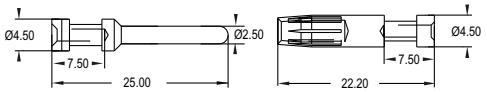
16+⏚

Rating : 16 A-500 V



Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO A			0110 016 M011	0110 016 F011
Screwless Spring Terminal 	ICO AA			0110 016 M031	0110 016 F031
Crimp Terminal 	ICO AB	Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 	0110 016 M021	0110 016 F021

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Silver plated 			0.14-0.37 0.50 0.75 1.00 1.50 2.50 3.00 4.00	0103 000 5M04 0103 000 5M03 0103 000 5M05 0103 000 5M02 0103 000 5M01 0103 000 5M06 0103 000 5M07 0103 000 5M08	0103 000 5F04 0103 000 5F03 0103 000 5F05 0103 000 5F02 0103 000 5F01 0103 000 5F06 0103 000 5F07 0103 000 5F08
Gold plated 	<table><tr><th>Indentification</th><th colspan="2">Wire gauge</th><th>Striping length</th></tr><tr><td>No Groove</td><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>7.5 mm</td></tr><tr><td>No Groove</td><td>0.50 mm²</td><td>AWG 20</td><td>7.5 mm</td></tr><tr><td>1 Groove</td><td>0.75 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>1 Groove</td><td>1.00 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>2 Groove</td><td>1.50 mm²</td><td>AWG 16</td><td>7.5 mm</td></tr><tr><td>3 Groove</td><td>2.50 mm²</td><td>AWG 14</td><td>7.5 mm</td></tr><tr><td>Wide Groove</td><td>3.00 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr><tr><td>No Groove</td><td>4.00 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr></table> For crimping tool & contact removal tool Page No. 140		0.14-0.37 0.50 0.75 1.00 1.50 2.50 3.00 4.00	0103 000 5M14 0103 000 5M13 0103 000 5M15 0103 000 5M12 0103 000 5M11 0103 000 5M16 0103 000 5M17 0103 000 5M18	0103 000 5F14 0103 000 5F13 0103 000 5F15 0103 000 5F12 0103 000 5F11 0103 000 5F16 0103 000 5F17 0103 000 5F18

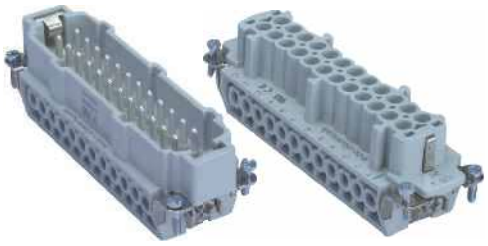
ICO A, ICO AA, ICO AB

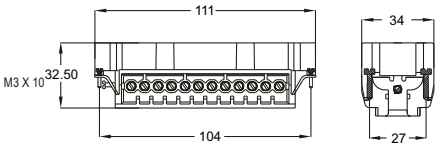
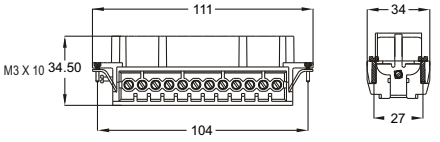
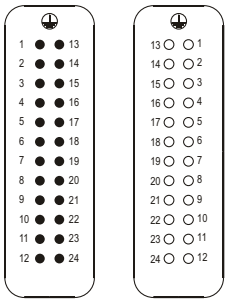
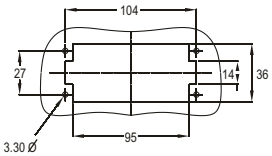
For Hoods/Housing please refer page no. 121-130

Number of Contact

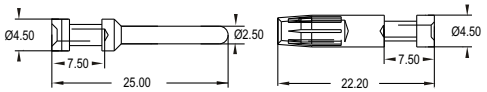
24+⏚

Rating : 16 A-500 V



Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO A			0110 024 M011	0110 024 F011
Screwless Spring Terminal 	ICO AA			0110 024 M031	0110 024 F031
Crimp Terminal 	ICO AB	Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 	0110 024 M021	0110 024 F021

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Silver plated 			0.14-0.37 0.50 0.75 1.00 1.50 2.50 3.00 4.00	0103 000 5M04 0103 000 5M03 0103 000 5M05 0103 000 5M02 0103 000 5M01 0103 000 5M06 0103 000 5M07 0103 000 5M08	0103 000 5F04 0103 000 5F03 0103 000 5F05 0103 000 5F02 0103 000 5F01 0103 000 5F06 0103 000 5F07 0103 000 5F08
Gold plated 	Indentification / Wire gauge / Striping length No Groove — 0.14-0.37 mm² — AWG 26-22 — 7.5 mm No Groove — 0.50 mm² — AWG 20 — 7.5 mm 1 Groove — 0.75 mm² — AWG 18 — 7.5 mm 1 Groove — 1.00 mm² — AWG 18 — 7.5 mm 2 Groove — 1.50 mm² — AWG 16 — 7.5 mm 3 Groove — 2.50 mm² — AWG 14 — 7.5 mm Wide Groove — 3.00 mm² — AWG 12 — 7.5 mm No Groove — 4.00 mm² — AWG 12 — 7.5 mm For crimping tool & contact removal tool Page No. 140		0.14-0.37 0.50 0.75 1.00 1.50 2.50 3.00 4.00	0103 000 5M14 0103 000 5M13 0103 000 5M15 0103 000 5M12 0103 000 5M11 0103 000 5M16 0103 000 5M17 0103 000 5M18	0103 000 5F14 0103 000 5F13 0103 000 5F15 0103 000 5F12 0103 000 5F11 0103 000 5F16 0103 000 5F17 0103 000 5F18

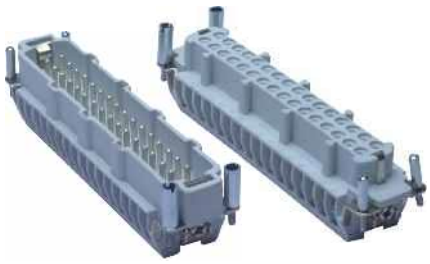
ICO A

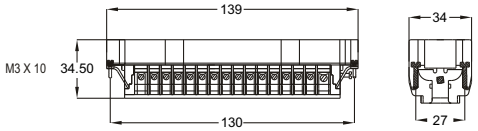
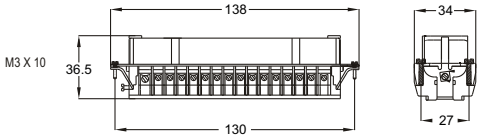
For Hoods/Housing please refer page no. 131-133

Number of Contact

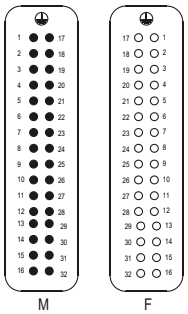
32+⏚

Rating : 16 A-500 V

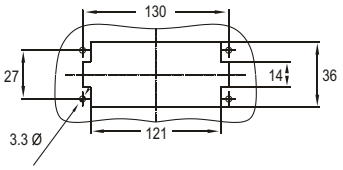


Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO A			0110 032 M011	0110 032 F011
Screw Terminal 				0150 032 M011	0150 032 F011

Contact arrangement
view from termination side



Panel cut out for
Insert without Housing/Hood



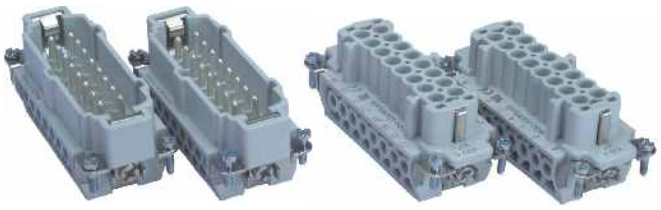
ICO A, ICO AA, ICO AB

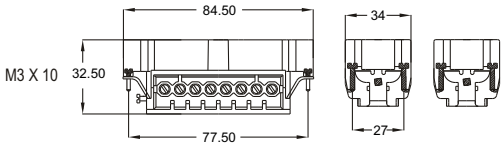
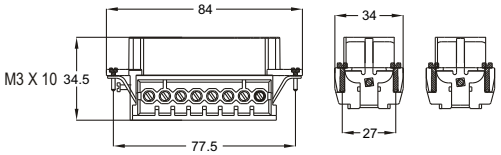
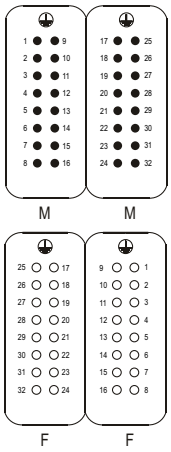
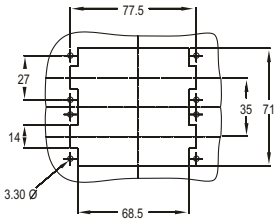
For Hoods/Housing please refer page no. 134-136

Number of Contact

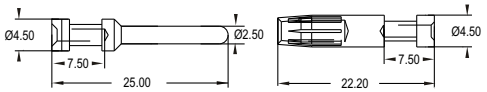
32 (16x2) +⏚

Rating : 16 A-500 V



Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO A			0110 016 M011 0110 016 M111	0110 016 F011 0110 016 F111
Screwless Spring Terminal 	ICO AA			0110 016 M031 0110 016 M131	0110 016 F031 0110 016 F131
Crimp Terminal 	ICO AB	Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 	0110 016 M021 0110 016 M121	0110 016 F021 0110 016 F121

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Silver plated 			0.14-0.37 0.50 0.75 1.00 1.50 2.50 3.00 4.00	0103 000 5M04 0103 000 5M03 0103 000 5M05 0103 000 5M02 0103 000 5M01 0103 000 5M06 0103 000 5M07 0103 000 5M08	0103 000 5F04 0103 000 5F03 0103 000 5F05 0103 000 5F02 0103 000 5F01 0103 000 5F06 0103 000 5F07 0103 000 5F08
Gold plated 	<table><tr><th>Indentification</th><th colspan="2">Wire gauge</th><th>Striping length</th></tr><tr><td>No Groove</td><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>7.5 mm</td></tr><tr><td>No Groove</td><td>0.50 mm²</td><td>AWG 20</td><td>7.5 mm</td></tr><tr><td>1 Groove</td><td>0.75 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>1 Groove</td><td>1.00 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>2 Groove</td><td>1.50 mm²</td><td>AWG 16</td><td>7.5 mm</td></tr><tr><td>3 Groove</td><td>2.50 mm²</td><td>AWG 14</td><td>7.5 mm</td></tr><tr><td>Wide Groove</td><td>3.00 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr><tr><td>No Groove</td><td>4.00 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr></table> For crimping tool & contact removal tool Page No. 140		0.14-0.37 0.50 0.75 1.00 1.50 2.50 3.00 4.00	0103 000 5M14 0103 000 5M13 0103 000 5M15 0103 000 5M12 0103 000 5M11 0103 000 5M16 0103 000 5M17 0103 000 5M18	0103 000 5F14 0103 000 5F13 0103 000 5F15 0103 000 5F12 0103 000 5F11 0103 000 5F16 0103 000 5F17 0103 000 5F18

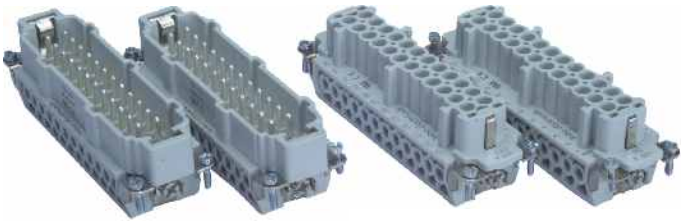
ICO A, ICO AA, ICO AB

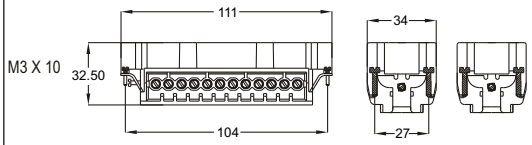
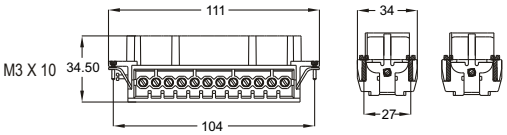
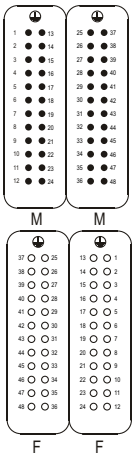
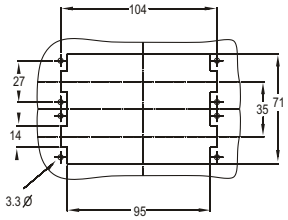
For Hoods/Housing please refer page no. 137-138

Number of Contact

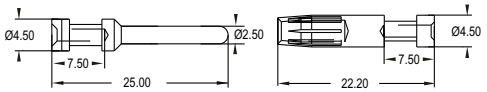
48 (24X2) + ⏚

Rating : 16 A-500 V



Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO A			0110 024 M011 0110 024 M111	0110 024 F011 0110 024 F111
Screwless Spring Terminal 	ICO AA			0110 024 M031 0110 024 M131	0110 024 F031 0110 024 F131
Crimp Terminal 	ICO AB	Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 	0110 024 M021 0110 024 M121	0110 024 F021 0110 024 F121

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Silver plated 			0.14-0.37 0.50 0.75 1.00 1.50 2.50 3.00 4.00	0103 000 5M04 0103 000 5M03 0103 000 5M05 0103 000 5M02 0103 000 5M01 0103 000 5M06 0103 000 5M07 0103 000 5M08	0103 000 5F04 0103 000 5F03 0103 000 5F05 0103 000 5F02 0103 000 5F01 0103 000 5F06 0103 000 5F07 0103 000 5F08
Gold plated 	<table><tr><th>Indentification</th><th colspan="2">Wire gauge</th><th>Striping length</th></tr><tr><td>No Groove</td><td>0.14-0.37 mm²</td><td>AWG 26-22</td><td>7.5 mm</td></tr><tr><td>No Groove</td><td>0.50 mm²</td><td>AWG 20</td><td>7.5 mm</td></tr><tr><td>1 Groove</td><td>0.75 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>1 Groove</td><td>1.00 mm²</td><td>AWG 18</td><td>7.5 mm</td></tr><tr><td>2 Groove</td><td>1.50 mm²</td><td>AWG 16</td><td>7.5 mm</td></tr><tr><td>3 Groove</td><td>2.50 mm²</td><td>AWG 14</td><td>7.5 mm</td></tr><tr><td>Wide Groove</td><td>3.00 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr><tr><td>No Groove</td><td>4.00 mm²</td><td>AWG 12</td><td>7.5 mm</td></tr></table> For crimping tool & contact removal tool Page No. 140		0.14-0.37 0.50 0.75 1.00 1.50 2.50 3.00 4.00	0103 000 5M14 0103 000 5M13 0103 000 5M15 0103 000 5M12 0103 000 5M11 0103 000 5M16 0103 000 5M17 0103 000 5M18	0103 000 5F14 0103 000 5F13 0103 000 5F15 0103 000 5F12 0103 000 5F11 0103 000 5F16 0103 000 5F17 0103 000 5F18


0

TECHNICAL CHARACTERISTICS

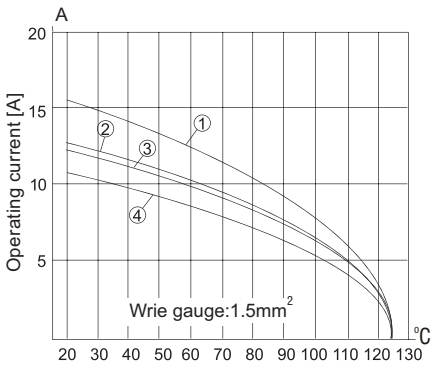
ICO ABS

Specifications	DIN EN 60 664 DIN EN 61 984
Inserts	
Number of contacts	10,18,32,46,64(32x2), 92(46x2)+PE
Electrical data acc. to EN 61 984	16A 500V 6kV 3
-Rated current	16A
-Rated voltage	500V
-Rated impulse voltage	6kV
-Pollution degree	3
-Pollution degree 2 also	16A 830v 8kV 2
Rated voltage acc. to UL/CSA	600V
Insulation resistance	$\geqslant 10^{10}\Omega$
Material	polycarbonate
Limiting temperatures	-40°C...+125°C
Flammability acc. to UL 94	V0
Mechanical working life (mating cycles)	$\geqslant 500$
Contacts	
Material	copper alloy
Surface terminal	gold plated silver plated
Contact resistance	$\leqslant 1m\Omega$
Crimp terminal	
-Wire gauge	0.5-4.0mm^2
-AWG	20-12
-Stripping length	7.5mm
Hoods / Housing	
Material	Die-Cast aluminum
Surface	Powder Coated RAL 7037
Locking Element	Zinc plated / Thermoplastic
Temperature Range	-40°C...+125°C
Degree of Protection	
For Coupled Connector	IP65

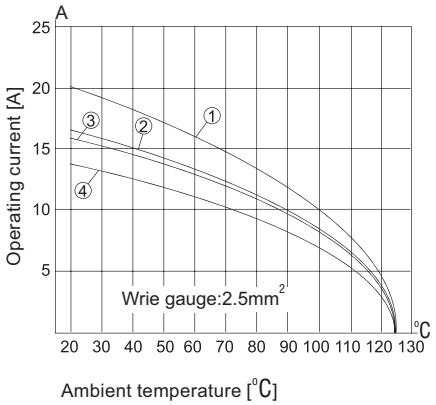
Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512-5



1. ICO ABS-010
2. ICO ABS-018
3. ICO ABS-032
4. ICO ABS-046



1. ICO ABS-010
2. ICO ABS-018
3. ICO ABS-032
4. ICO ABS-046

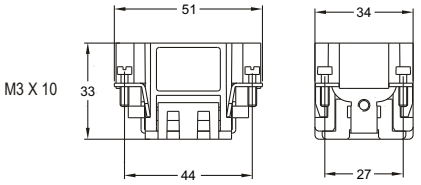
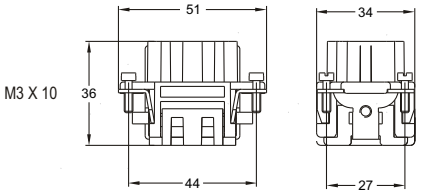
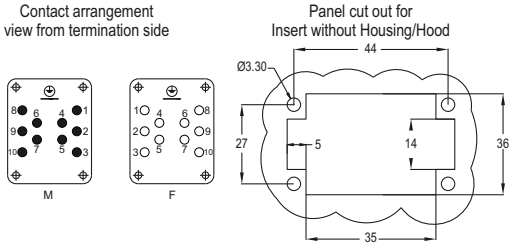
ICO ABS

For Hoods/Housing please refer page no. 91-96

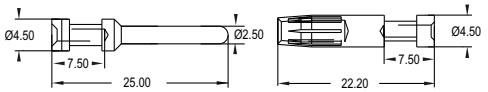
Number of Contact

10+⏚

Rating : 16 A-500 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO ABS			0510 010 M021	
					0510 010 F021
					

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Silver plated 			0.14-0.37	0103 000 5M04	0103 000 5F04
			0.50	0103 000 5M03	0103 000 5F03
			0.75	0103 000 5M05	0103 000 5F05
			1.00	0103 000 5M02	0103 000 5F02
			1.50	0103 000 5M01	0103 000 5F01
			2.50	0103 000 5M06	0103 000 5F06
			3.00	0103 000 5M07	0103 000 5F07
			4.00	0103 000 5M08	0103 000 5F08
Gold plated 			0.14-0.37	0103 000 5M14	0103 000 5F14
			0.50	0103 000 5M13	0103 000 5F13
			0.75	0103 000 5M15	0103 000 5F15
			1.00	0103 000 5M12	0103 000 5F12
			1.50	0103 000 5M11	0103 000 5F11
			2.50	0103 000 5M16	0103 000 5F16
			3.00	0103 000 5M17	0103 000 5F17
			4.00	0103 000 5M18	0103 000 5F18

Indentification	Wire gauge		Striping length
No Groove	0.14-0.37 mm²	AWG 26-22	7.5 mm
No Groove	0.50 mm²	AWG 20	7.5 mm
1 Groove	0.75 mm²	AWG 18	7.5 mm
1 Groove	1.00 mm²	AWG 18	7.5 mm
2 Groove	1.50 mm²	AWG 16	7.5 mm
3 Groove	2.50 mm²	AWG 14	7.5 mm
Wide Groove	3.00 mm²	AWG 12	7.5 mm
No Groove	4.00 mm²	AWG 12	7.5 mm

For crimping tool & contact removal tool Page No. 140

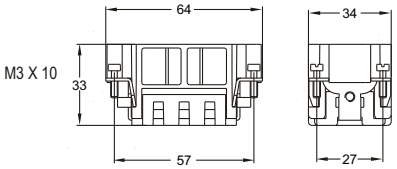
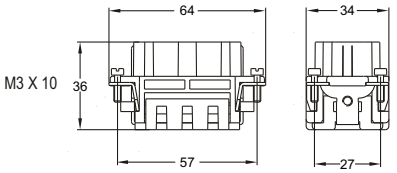
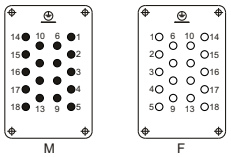
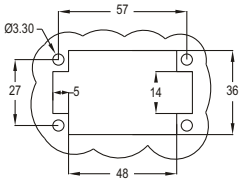
ICO ABS

For Hoods/Housing please refer page no. 101-110

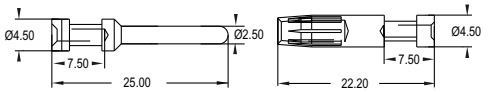
Number of Contact

18+ ⏚

Rating : 16 A-500 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO ABS			0510 018 M021	
					0510 018 F021
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm^2)	Male	Female
Silver plated 			0.14-0.37	0103 000 5M04	0103 000 5F04
			0.50	0103 000 5M03	0103 000 5F03
			0.75	0103 000 5M05	0103 000 5F05
			1.00	0103 000 5M02	0103 000 5F02
			1.50	0103 000 5M01	0103 000 5F01
			2.50	0103 000 5M06	0103 000 5F06
			3.00	0103 000 5M07	0103 000 5F07
			4.00	0103 000 5M08	0103 000 5F08
Gold plated 	Indentification / Wire gauge / Striping length No Groove — 0.14-0.37 mm² — AWG 26-22 — 7.5 mm No Groove — 0.50 mm² — AWG 20 — 7.5 mm 1 Groove — 0.75 mm² — AWG 18 — 7.5 mm 1 Groove — 1.00 mm² — AWG 18 — 7.5 mm 2 Groove — 1.50 mm² — AWG 16 — 7.5 mm 3 Groove — 2.50 mm² — AWG 14 — 7.5 mm Wide Groove — 3.00 mm² — AWG 12 — 7.5 mm No Groove — 4.00 mm² — AWG 12 — 7.5 mm For crimping tool & contact removal tool Page No. 140		0.14-0.37	0103 000 5M14	0103 000 5F14
			0.50	0103 000 5M13	0103 000 5F13
			0.75	0103 000 5M15	0103 000 5F15
			1.00	0103 000 5M12	0103 000 5F12
			1.50	0103 000 5M11	0103 000 5F11
			2.50	0103 000 5M16	0103 000 5F16
			3.00	0103 000 5M17	0103 000 5F17
			4.00	0103 000 5M18	0103 000 5F18

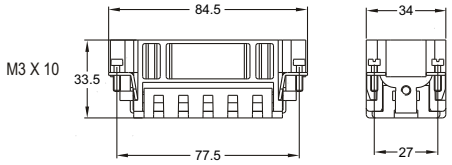
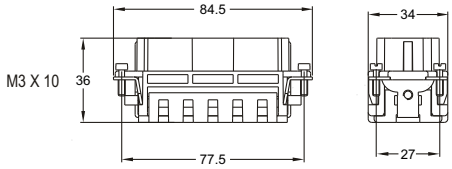
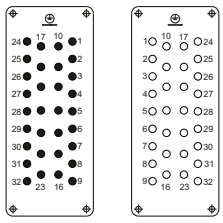
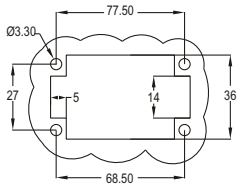
ICO ABS

For Hoods/Housing please refer page no. 111-130

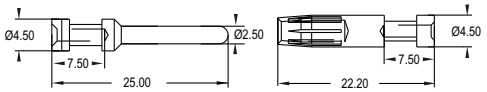
Number of Contact

32+⏚

Rating : 16 A-500 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO ABS			0510 032 M021	
					0510 032 F021
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Silver plated 			0.14-0.37	0103 000 5M04	0103 000 5F04
			0.50	0103 000 5M03	0103 000 5F03
			0.75	0103 000 5M05	0103 000 5F05
			1.00	0103 000 5M02	0103 000 5F02
			1.50	0103 000 5M01	0103 000 5F01
			2.50	0103 000 5M06	0103 000 5F06
			3.00	0103 000 5M07	0103 000 5F07
			4.00	0103 000 5M08	0103 000 5F08
Gold plated 	Indentification / Wire gauge / Striping length No Groove — 0.14-0.37 mm² — AWG 26-22 — 7.5 mm No Groove — 0.50 mm² — AWG 20 — 7.5 mm 1 Groove — 0.75 mm² — AWG 18 — 7.5 mm 1 Groove — 1.00 mm² — AWG 18 — 7.5 mm 2 Groove — 1.50 mm² — AWG 16 — 7.5 mm 3 Groove — 2.50 mm² — AWG 14 — 7.5 mm Wide Groove — 3.00 mm² — AWG 12 — 7.5 mm No Groove — 4.00 mm² — AWG 12 — 7.5 mm For crimping tool & contact removal tool Page No. 140		0.14-0.37	0103 000 5M14	0103 000 5F14
			0.50	0103 000 5M13	0103 000 5F13
			0.75	0103 000 5M15	0103 000 5F15
			1.00	0103 000 5M12	0103 000 5F12
			1.50	0103 000 5M11	0103 000 5F11
			2.50	0103 000 5M16	0103 000 5F16
			3.00	0103 000 5M17	0103 000 5F17
			4.00	0103 000 5M18	0103 000 5F18

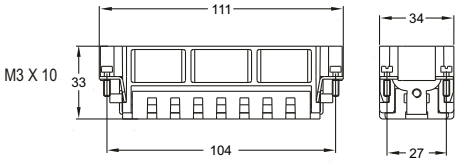
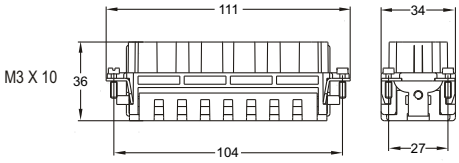
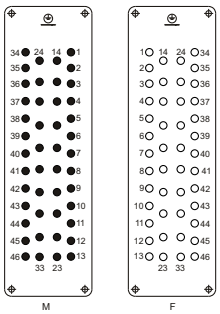
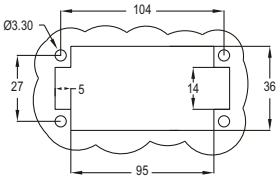
ICO ABS

For Hoods/Housing please refer page no. 121-130

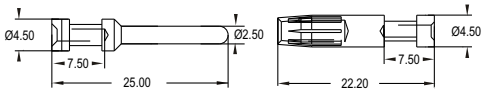
Number of Contact

46+ ⏚

Rating : 16 A-500 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO ABS			0510 046 M021	
					0510 046 F021
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm^2)	Male	Female
Silver plated 			0.14-0.37	0103 000 5M04	0103 000 5F04
			0.50	0103 000 5M03	0103 000 5F03
			0.75	0103 000 5M05	0103 000 5F05
			1.00	0103 000 5M02	0103 000 5F02
			1.50	0103 000 5M01	0103 000 5F01
			2.50	0103 000 5M06	0103 000 5F06
			3.00	0103 000 5M07	0103 000 5F07
			4.00	0103 000 5M08	0103 000 5F08
Gold plated 	Indentification / Wire gauge / Striping length No Groove — 0.14-0.37 mm² — AWG 26-22 — 7.5 mm No Groove — 0.50 mm² — AWG 20 — 7.5 mm 1 Groove — 0.75 mm² — AWG 18 — 7.5 mm 1 Groove — 1.00 mm² — AWG 18 — 7.5 mm 2 Groove — 1.50 mm² — AWG 16 — 7.5 mm 3 Groove — 2.50 mm² — AWG 14 — 7.5 mm Wide Groove — 3.00 mm² — AWG 12 — 7.5 mm No Groove — 4.00 mm² — AWG 12 — 7.5 mm For crimping tool & contact removal tool Page No. 140		0.14-0.37	0103 000 5M14	0103 000 5F14
			0.50	0103 000 5M13	0103 000 5F13
			0.75	0103 000 5M15	0103 000 5F15
			1.00	0103 000 5M12	0103 000 5F12
			1.50	0103 000 5M11	0103 000 5F11
			2.50	0103 000 5M16	0103 000 5F16
			3.00	0103 000 5M17	0103 000 5F17
			4.00	0103 000 5M18	0103 000 5F18

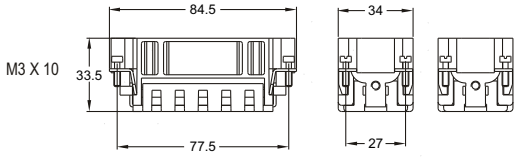
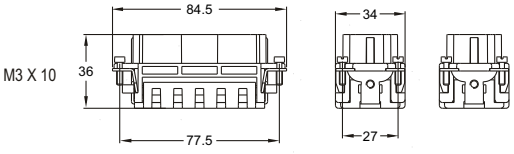
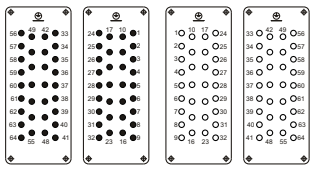
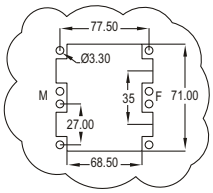
ICO ABS

For Hoods/Housing please refer page no. 134-136

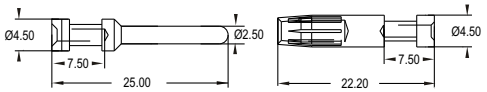
Number of Contact

64 (32x2) +⏚

Rating : 16 A-500 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO ABS			0510 032 M021 0510 032 M121	
					0510 032 F021 0510 032 F121
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Silver plated 			0.14-0.37	0103 000 5M04	0103 000 5F04
			0.50	0103 000 5M03	0103 000 5F03
			0.75	0103 000 5M05	0103 000 5F05
			1.00	0103 000 5M02	0103 000 5F02
			1.50	0103 000 5M01	0103 000 5F01
			2.50	0103 000 5M06	0103 000 5F06
			3.00	0103 000 5M07	0103 000 5F07
			4.00	0103 000 5M08	0103 000 5F08
Gold plated 	Indentification / Wire gauge / Striping length No Groove — 0.14-0.37 mm² — AWG 26-22 — 7.5 mm No Groove — 0.50 mm² — AWG 20 — 7.5 mm 1 Groove — 0.75 mm² — AWG 18 — 7.5 mm 1 Groove — 1.00 mm² — AWG 18 — 7.5 mm 2 Groove — 1.50 mm² — AWG 16 — 7.5 mm 3 Groove — 2.50 mm² — AWG 14 — 7.5 mm Wide Groove — 3.00 mm² — AWG 12 — 7.5 mm No Groove — 4.00 mm² — AWG 12 — 7.5 mm For crimping tool & contact removal tool Page No. 140		0.14-0.37	0103 000 5M14	0103 000 5F14
			0.50	0103 000 5M13	0103 000 5F13
			0.75	0103 000 5M15	0103 000 5F15
			1.00	0103 000 5M12	0103 000 5F12
			1.50	0103 000 5M11	0103 000 5F11
			2.50	0103 000 5M16	0103 000 5F16
			3.00	0103 000 5M17	0103 000 5F17
			4.00	0103 000 5M18	0103 000 5F18

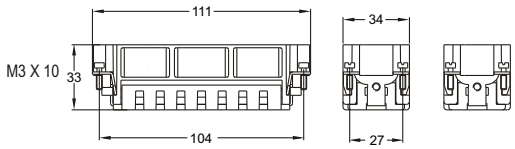
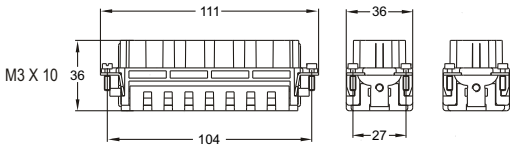
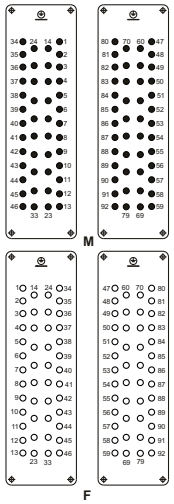
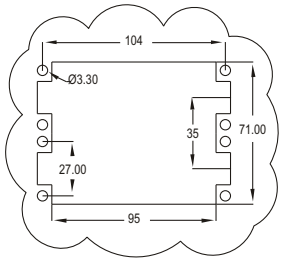
ICO ABS

For Hoods/Housing please refer page no. 137-138

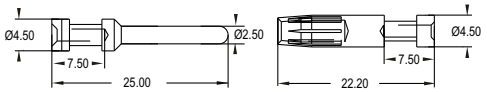
Number of Contact

92+⏚

Rating : 16 A-500 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO ABS			0510 046 M021 0510 046 M121	
					0510 046 F021 0510 046 F121
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Silver plated 			0.14-0.37 0.50 0.75 1.00 1.50 2.50 3.00 4.00	0103 000 5M04 0103 000 5M03 0103 000 5M05 0103 000 5M02 0103 000 5M01 0103 000 5M06 0103 000 5M07 0103 000 5M08	0103 000 5F04 0103 000 5F03 0103 000 5F05 0103 000 5F02 0103 000 5F01 0103 000 5F06 0103 000 5F07 0103 000 5F08
Gold plated 			0.14-0.37 0.50 0.75 1.00 1.50 2.50 3.00 4.00	0103 000 5M14 0103 000 5M13 0103 000 5M15 0103 000 5M12 0103 000 5M11 0103 000 5M16 0103 000 5M17 0103 000 5M18	0103 000 5F14 0103 000 5F13 0103 000 5F15 0103 000 5F12 0103 000 5F11 0103 000 5F16 0103 000 5F17 0103 000 5F18

Indentification	Wire gauge		Striping length
No Groove	0.14-0.37 mm²	AWG 26-22	7.5 mm
No Groove	0.50 mm²	AWG 20	7.5 mm
1 Groove	0.75 mm²	AWG 18	7.5 mm
1 Groove	1.00 mm²	AWG 18	7.5 mm
2 Groove	1.50 mm²	AWG 16	7.5 mm
3 Groove	2.50 mm²	AWG 14	7.5 mm
Wide Groove	3.00 mm²	AWG 12	7.5 mm
No Groove	4.00 mm²	AWG 12	7.5 mm

For crimping tool & contact removal tool Page No. 140

WARNING
Read and Understand Operator's Manual Before using this Machine
TVM 855
3R SERIES
TAL

TECHNICAL CHARACTERISTICS

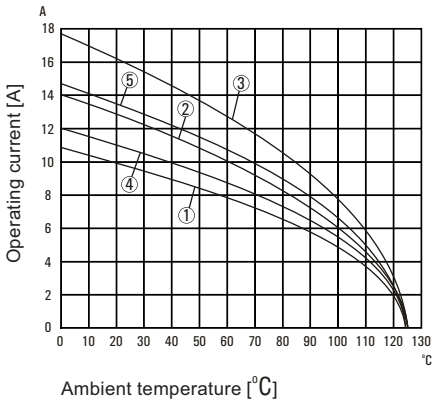
ICO ABE

Specifications	DIN EN 60 664 DIN EN 61 984
Inserts	
Number of contacts	40,64+PE
Electrical data acc. to EN 61 984	16A 500V 6kV 3
-Rated current	16A
-Rated voltage	500V
-Rated impulse voltage	6kV
-Pollution degree	3
-Pollution degree 2 also	
Rated voltage acc. to UL/CSA	600V
Insulation resistance	$\geqslant 10^{10}\Omega$
Material	polycarbonate
Limiting temperatures	-40°C...+125°C
Flammability acc. to UL 94	V0
Mechanical working life (mating cycles)	$\geqslant 500$
Contacts	
Material	copper alloy
Surface terminal	gold plated
	silver plated
Contact resistance	$\leqslant 1m\Omega$
Crimp terminal	
-Wire gauge	0.5-4.0mm^2
-AWG	20-12
-Stripping length	7.5mm
Hoods / Housing	
Material	Die-Cast aluminum
Surface	Powder Coated RAL 7037
Locking Element	Zinc plated / Thermoplastic
Temperature Range	-40°C...+125°C
Degree of Protection	
For Coupled Connector	IP65

Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512-5



1. ICO ABE-040
2. ICO ABE-064

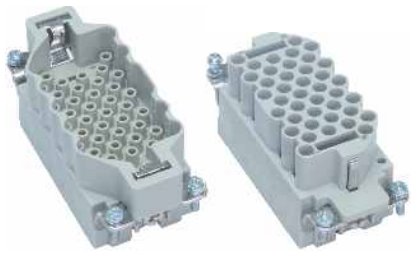
ICO ABE

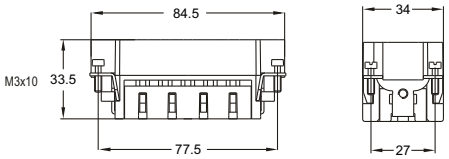
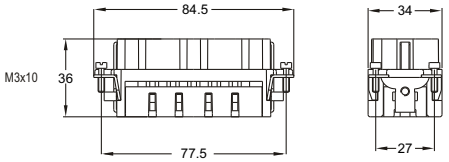
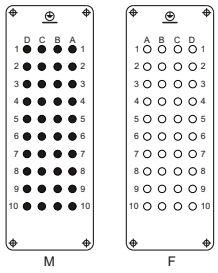
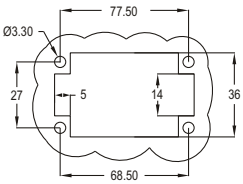
For Hoods/Housing please refer page no. 111-120

Number of Contact

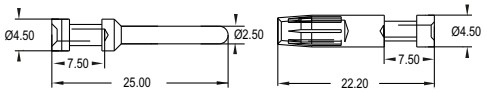
40 + ⏚

Rating : 16 A-500 V



Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO ABE			0510 040 M021	
					0510 040 F021
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Silver plated 			0.14-0.37	0103 000 5M04	0103 000 5F04
			0.50	0103 000 5M03	0103 000 5F03
			0.75	0103 000 5M05	0103 000 5F05
			1.00	0103 000 5M02	0103 000 5F02
			1.50	0103 000 5M01	0103 000 5F01
			2.50	0103 000 5M06	0103 000 5F06
			3.00	0103 000 5M07	0103 000 5F07
			4.00	0103 000 5M08	0103 000 5F08
Gold plated 			0.14-0.37	0103 000 5M14	0103 000 5F14
			0.50	0103 000 5M13	0103 000 5F13
			0.75	0103 000 5M15	0103 000 5F15
			1.00	0103 000 5M12	0103 000 5F12
			1.50	0103 000 5M11	0103 000 5F11
			2.50	0103 000 5M16	0103 000 5F16
			3.00	0103 000 5M17	0103 000 5F17
			4.00	0103 000 5M18	0103 000 5F18

Indentification	Wire gauge		Striping length
No Groove	0.14-0.37 mm²	AWG 26-22	7.5 mm
No Groove	0.50 mm²	AWG 20	7.5 mm
1 Groove	0.75 mm²	AWG 18	7.5 mm
1 Groove	1.00 mm²	AWG 18	7.5 mm
2 Groove	1.50 mm²	AWG 16	7.5 mm
3 Groove	2.50 mm²	AWG 14	7.5 mm
Wide Groove	3.00 mm²	AWG 12	7.5 mm
No Groove	4.00 mm²	AWG 12	7.5 mm

For crimping tool & contact removal tool Page No. 140

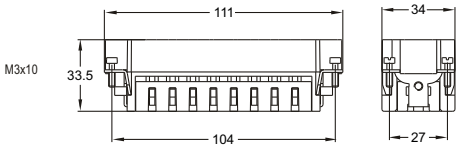
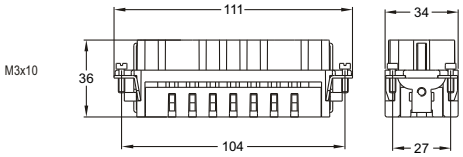
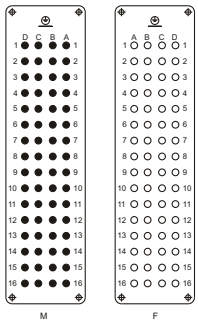
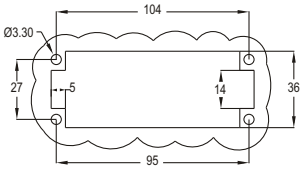
ICO ABE

For Hoods/Housing please refer page no. 121-130

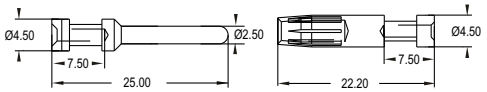
Number of Contact

64+ ⏚

Rating : 16 A-500 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO ABE			0510 064 M021	
					0510 064 F021
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm^2)	Male	Female
Silver plated 			0.14-0.37	0103 000 5M04	0103 000 5F04
			0.50	0103 000 5M03	0103 000 5F03
			0.75	0103 000 5M05	0103 000 5F05
			1.00	0103 000 5M02	0103 000 5F02
			1.50	0103 000 5M01	0103 000 5F01
			2.50	0103 000 5M06	0103 000 5F06
			3.00	0103 000 5M07	0103 000 5F07
			4.00	0103 000 5M08	0103 000 5F08
Gold plated 	Indentification / Wire gauge / Striping length No Groove — 0.14-0.37 mm² — AWG 26-22 — 7.5 mm No Groove — 0.50 mm² — AWG 20 — 7.5 mm 1 Groove — 0.75 mm² — AWG 18 — 7.5 mm 1 Groove — 1.00 mm² — AWG 18 — 7.5 mm 2 Groove — 1.50 mm² — AWG 16 — 7.5 mm 3 Groove — 2.50 mm² — AWG 14 — 7.5 mm Wide Groove — 3.00 mm² — AWG 12 — 7.5 mm No Groove — 4.00 mm² — AWG 12 — 7.5 mm For crimping tool & contact removal tool Page No. 140		0.14-0.37	0103 000 5M14	0103 000 5F14
			0.50	0103 000 5M13	0103 000 5F13
			0.75	0103 000 5M15	0103 000 5F15
			1.00	0103 000 5M12	0103 000 5F12
			1.50	0103 000 5M11	0103 000 5F11
			2.50	0103 000 5M16	0103 000 5F16
			3.00	0103 000 5M17	0103 000 5F17
			4.00	0103 000 5M18	0103 000 5F18


PLC Controlled Overhead
Automated System For
Transfer Of Components
with Cloud Based M2M
Rail Mounted Zero Gravity Manipulator
With Barcode Scanner For Component
Identification
Air Motor Based Travel Drive
Smart Energy Meter (M2M)

TECHNICAL CHARACTERISTICS

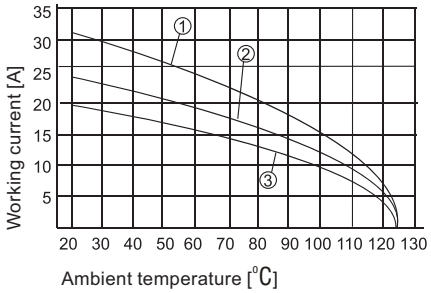
ICO C, ICO CA

Specifications	DIN EN 60 664 DIN EN 61 984
Inserts	
Number of contacts	3,4,10,16,24,32(16x2),48(16x3), 64(16x4),72(24x3)+PE
Electrical data acc. to EN 61 984	
ICO C-003 & 004	10A 250/400V 4kV 3
-Rated current	10A
-Rated voltage conductor	250V
-Rated voltage conductor	400V
-Rated impulse voltage	4kV
-Pollution degree	3
ICO CA- 10	16A 250V 4kV 3
-Rated current	16A
-Rated voltage	250V
-Rated impulse voltage	4kV
-Pollution degree	3
-Pollution degree 2 also	16A 230/400V 4kV 2
Rated voltage acc. to UL/CSA	600V
Insulation resistance	$\geqslant 10^{10}\Omega$
Material	polycarbonate
Limiting temperatures	-40°C...+125°C
Flammability acc. to UL 94	V0
Mechanical working life (mating cycles)	$\geqslant$ 500
Contacts	
Material	copper alloy
Surface terminal	gold plated silver plated
Contact resistance	$\leqslant$ 1mΩ
Screw terminal	
-Wire gauge	1.0-2.5mm2
-AWG	18-14
-Stripping Length	7.0 mm
-Tightening/Test torque	0.25Nm (ICO C 3 & 4) or 0.5Nm (ICO CA 10,16 & 24)
Hoods / Housing	
Material	Die-Cast aluminum
Surface	Powder Coated RAL 7037
Locking Element	Zinc plated / Thermoplastic
Temperature Range	-40°C...+125°C
Degree of Protection	
For Coupled Connector	IP65

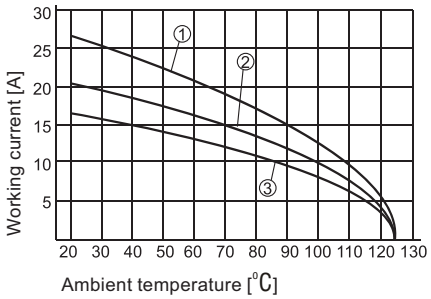
Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

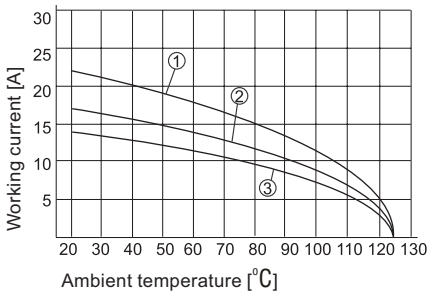
Control and test procedures according to DIN EN 60512-5



ICO C 3 & 4
1. 2.5mm²
2. 1.5mm²
3. 1.0mm²



ICO CA 10
1. 2.5mm²
2. 1.5mm²
3. 1.0mm²



ICO CA 16, 24
1. 2.5mm²
2. 1.5mm²
3. 1.0mm²

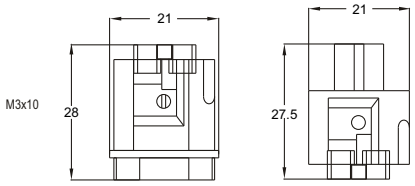
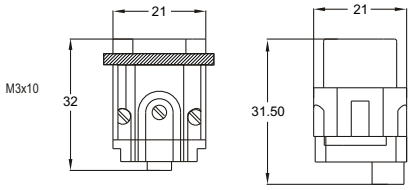
ICO C

For Hoods/Housing please refer page no. 71-73

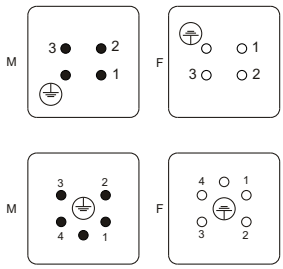
Number of Contact

3+⏚ & 4+⏚

Rating : 10 A-250/400 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO C			0120 003 M011	0120 003 F011
Screw Terminal 	ICO C			0120 004 M011	0120 004 F011

Contact arrangement
view from termination side



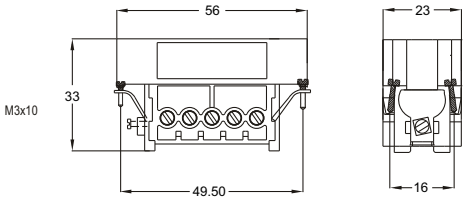
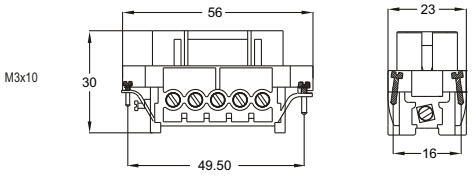
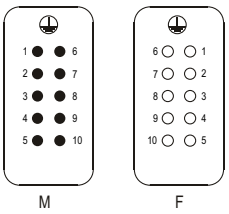
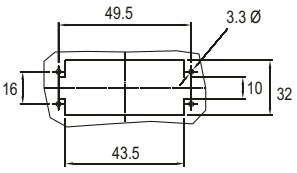
ICO CA

For Hoods/Housing please refer page no. 75-76

Number of Contact

10+⏚

Rating : 16 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO CA			0140 010 M011	
					0140 010 F011
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

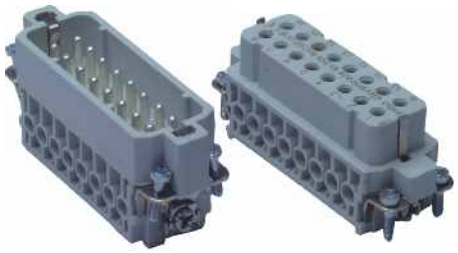
ICO CA

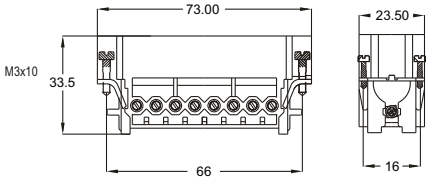
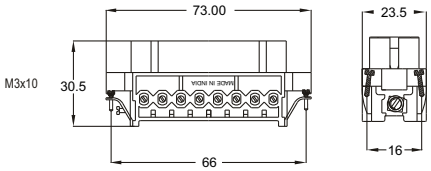
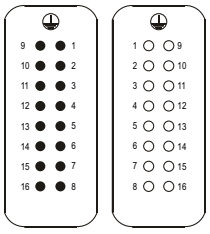
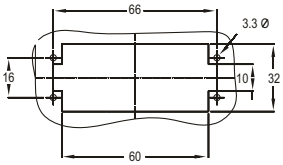
For Hoods/Housing please refer page no. 77-78

Number of Contact

16+⏚

Rating : 16 A-250 V



Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO CA			0140 016 M011	
					0140 016 F011
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

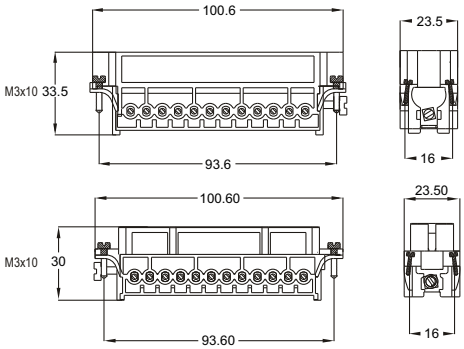
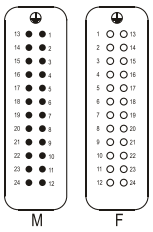
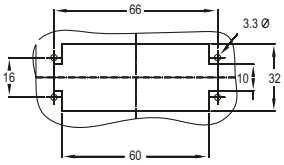
ICO CA

For Hoods/Housing please refer page no. 79-80

Number of Contact

24+⏚

Rating : 16 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO CA			0140 024 M011	
					0140 024 F011
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

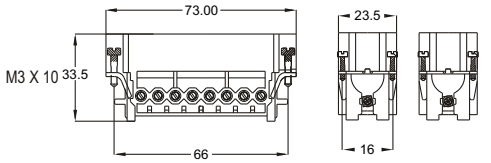
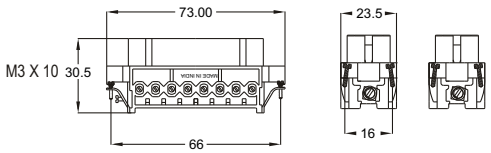
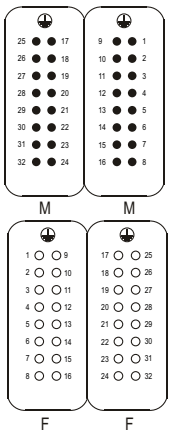
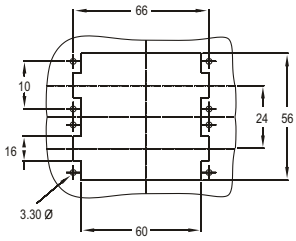
ICO CA

For Hoods/Housing please refer page no. 81-84

Number of Contact

32(16x2)+⏚

Rating : 16 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO CA			0140 016 M011 0140 016 M111	
					0140 016 F011 0140 016 F111
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

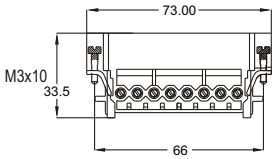
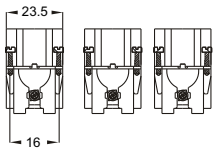
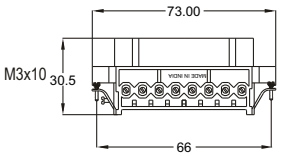
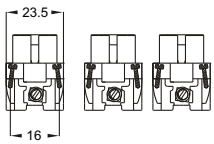
ICO CA

For Hoods/Housing please refer page no. 85-88

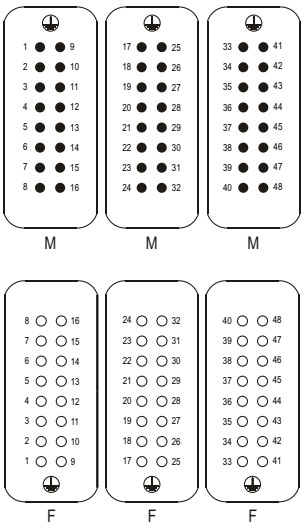
Number of Contact

48 (16x3)+

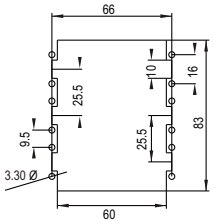
Rating : 16 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO CA			0140 016 M011 0140 016 M111 0140 016 M211	
					0140 016 F011 0140 016 F111 0140 016 F211

Contact arrangement
view from termination side



Panel cut out for
Insert without Housing/Hood



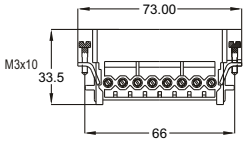
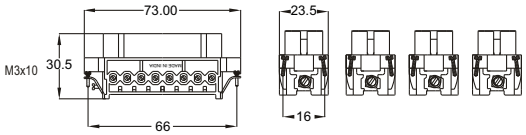
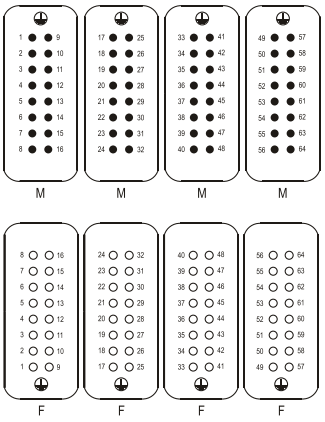
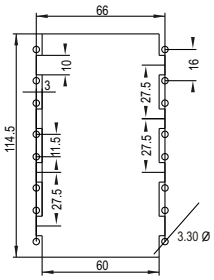
ICO CA

For Hoods/Housing please refer page no. 89

Number of Contact

64 (16x4)+

Rating : 16 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO CA			0140 016 M011 0140 016 M111 0140 016 M211 0140 016 M311	
					0140 016 F011 0140 016 F111 0140 016 F211 0140 016 F311
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

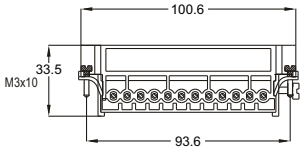
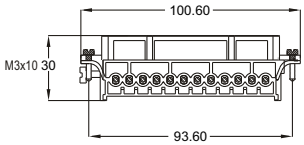
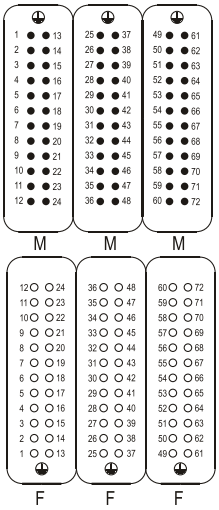
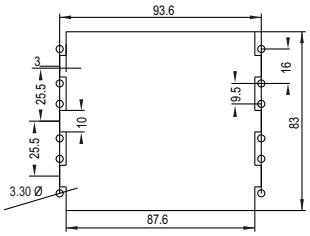
ICO CA

For Hoods/Housing please refer page no. 89

Number of Contact

72 (24x3)+ ⏚

Rating : 16 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO CA			0140 024 M011 0140 024 M111 0140 024 M211	
					0140 024 F011 0140 024 F111 0140 024 F211
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

TECHNICAL CHARACTERISTICS

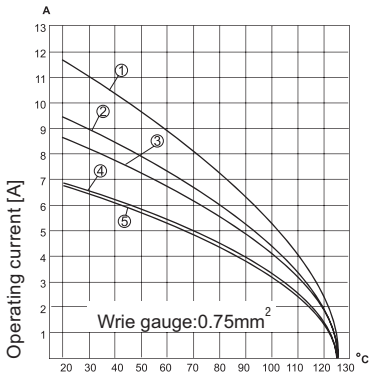
ICO D

Specifications	DIN EN 60 664 DIN EN 61 984
Inserts	
Number of contacts	7,8,15,25,40,50,(25x2),64,80
	(40x2),128(64x2)+PE
Electrical data acc. to EN 61 984	10A 250V 4kV 3
-Rated current	10A
-Rated voltage	250V
-Rated impulse voltage	4kV
-Pollution degree	3
-Pollution degree 2 also	10A 230/400V 4kV 2
Rated voltage acc. to UL/CSA	600V
Rated voltage for wrap terminal	
acc. to CSA	2A 30V
Insulation resistance	$\geqslant 10^{10}\Omega$
Material	polyamide
Limiting temperatures	-40°C...+125°C
Flammability acc. to UL 94	V0
Mechanical working life (mating cycles)	$\geqslant 500$
Contacts	
Material	copper alloy
Surface terminal	gold plated
	silver plated
Contact resistance	$\leqslant 3m\Omega$
Crimp terminal	
-Wire gauge	0.14-2.5mm^2
-AWG	26-14
-Stripping Length	7.0 mm
Hoods / Housing	
Material	Die-Cast aluminum
Surface	Powder Coated RAL 7037
Locking Element	Zinc plated / Thermoplastic
Temperature Range	-40°C...+125°C
Degree of Protection	
For Coupled Connector	IP65

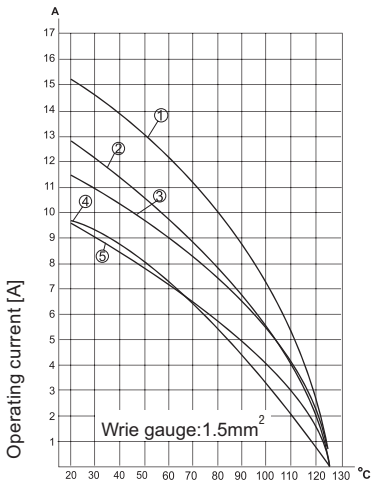
Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512-5



1. ICO D-007
2. ICO D-015
3. ICO D-025
4. ICO D-040
5. ICO D-064



1. ICO D-007
2. ICO D-015
3. ICO D-025
4. ICO D-040
5. ICO D-064

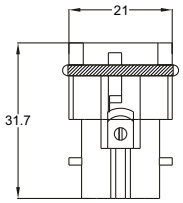
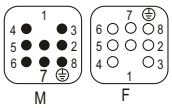
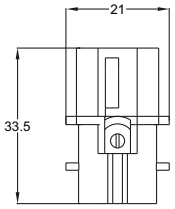
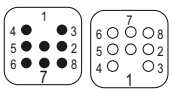
ICO D

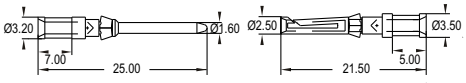
For Hoods/Housing please refer page no. 71-73

Number of Contact

7+⏚ & 8+⏚

Rating : 10 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO D		Contact arrangement view from termination side 	0120 007 M021	
			Contact arrangement view from termination side 		0120 007 F021
Crimp Terminal 	ICO D			0120 008 M021	
					0120 008 F021

Identification	Drawing	Dimension in mm.	(mm^2)	Male	Female
Crimp Contacts					
Silver plated 			0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M04 0103 000 4M03 0103 000 4M05 0103 000 4M02 0103 000 4M01 0103 000 4M06	0103 000 4F04 0103 000 4F03 0103 000 4F05 0103 000 4F02 0103 000 4F01 0103 000 4F06
Gold plated 			0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M14 0103 000 4M13 0103 000 4M15 0103 000 4M12 0103 000 4M11 0103 000 4M16	0103 000 4F14 0103 000 4F13 0103 000 4F15 0103 000 4F12 0103 000 4F11 0103 000 4F16

Wire gauge		Ø	Striping length
0.14-0.37 MM^2	AWG 26-22	0.90 mm	8 mm
0.5 MM^2	AWG 20	1.10 mm	8 mm
0.75 MM^2	AWG18	1.30 mm	8 mm
1 MM^2	AWG18	1.45 mm	8 mm
1.5 MM^2	AWG16	1.75 mm	8 mm
2.5 MM^2	AWG14	2.25 mm	6 mm

For crimping tool & contact removal tool Page No. 140

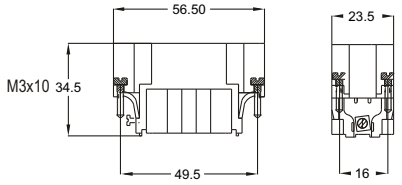
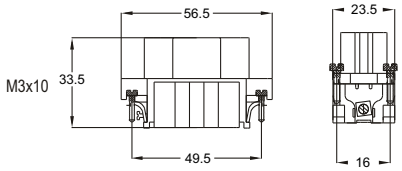
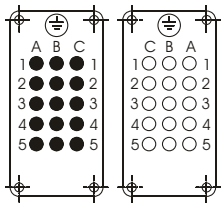
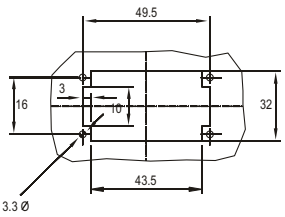
ICO D

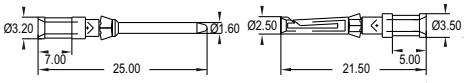
For Hoods/Housing please refer page no. 75-76

Number of Contact

15+⏚

Rating : 10 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO D			0120 015 M021	
					0120 015 F021
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Crimp Contacts					
Silver plated 			0.14/0.37	0103 000 4M04	0103 000 4F04
			0.50	0103 000 4M03	0103 000 4F03
			0.75	0103 000 4M05	0103 000 4F05
			1.00	0103 000 4M02	0103 000 4F02
			1.50	0103 000 4M01	0103 000 4F01
			2.50	0103 000 4M06	0103 000 4F06
Gold plated 			0.14/0.37	0103 000 4M14	0103 000 4F14
			0.50	0103 000 4M13	0103 000 4F13
			0.75	0103 000 4M15	0103 000 4F15
			1.00	0103 000 4M12	0103 000 4F12
			1.50	0103 000 4M11	0103 000 4F11
			2.50	0103 000 4M16	0103 000 4F16

Wire gauge		⌀	Striping length
0.14-0.37 MM²	AWG 26-22	0.90 mm	8 mm
0.5 MM²	AWG 20	1.10 mm	8 mm
0.75 MM²	AWG18	1.30 mm	8 mm
1 MM²	AWG18	1.45 mm	8 mm
1.5 MM²	AWG16	1.75 mm	8 mm
2.5 MM²	AWG14	2.25 mm	6 mm

For crimping tool & contact removal tool Page No. 140

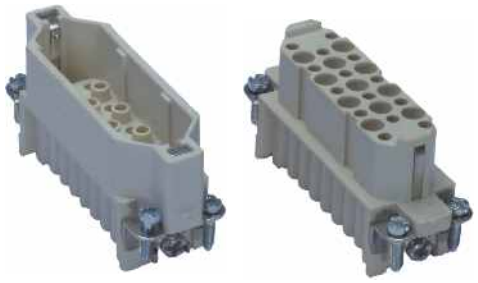
ICO D

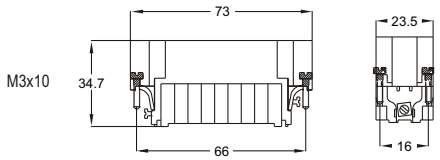
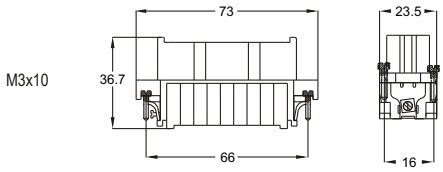
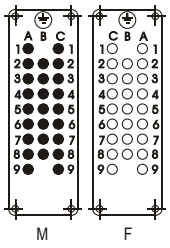
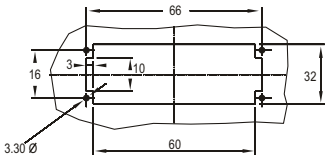
For Hoods/Housing please refer page no. 77-78

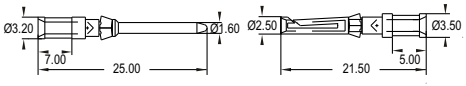
Number of Contact

25+ ⏚

Rating : 10 A-250 V



Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO D			0120 025 M021	
					0120 025 F021
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

Identification	Drawing	Dimension in mm.	(mm^2)	Male	Female
Crimp Contacts					
Silver plated 			0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M04 0103 000 4M03 0103 000 4M05 0103 000 4M02 0103 000 4M01 0103 000 4M06	0103 000 4F04 0103 000 4F03 0103 000 4F05 0103 000 4F02 0103 000 4F01 0103 000 4F06
Gold plated 		Wire gauge / ⌀ / Striping length 0.14-0.37 MM^2 AWG 26-22 0.90 mm 8 mm 0.5 MM^2 AWG 20 1.10 mm 8 mm 0.75 MM^2 AWG18 1.30 mm 8 mm 1 MM^2 AWG18 1.45 mm 8 mm 1.5 MM^2 AWG16 1.75 mm 8 mm 2.5 MM^2 AWG14 2.25 mm 6 mm	0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M14 0103 000 4M13 0103 000 4M15 0103 000 4M12 0103 000 4M11 0103 000 4M16	0103 000 4F14 0103 000 4F13 0103 000 4F15 0103 000 4F12 0103 000 4F11 0103 000 4F16

For crimping tool & contact removal tool Page No. 140

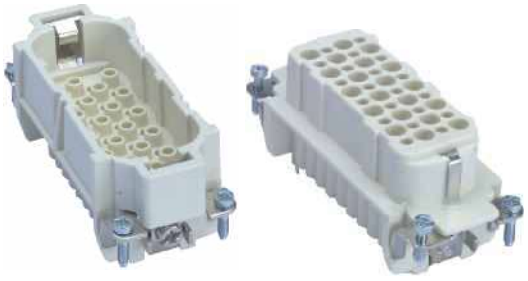
ICO D

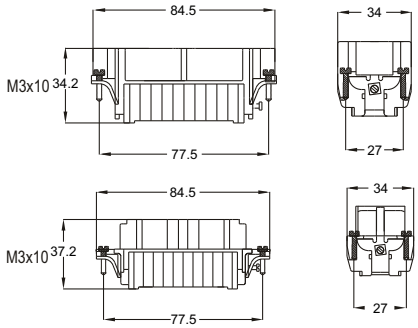
For Hoods/Housing please refer page no. 111-120

Number of Contact

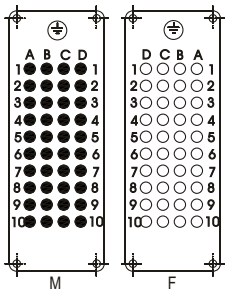
40 + ⏚

Rating : 10 A-250 V

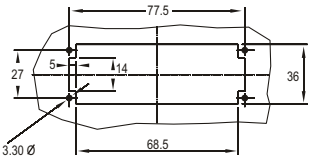


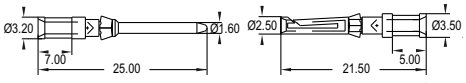
Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal  	ICO D			0120 040 M021	0120 040 F021

Contact arrangement
view from termination side



Panel cut out for
Insert without Housing/Hood



Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Crimp Contacts					
Silver plated 			0.14/0.37	0103 000 4M04	0103 000 4F04
			0.50	0103 000 4M03	0103 000 4F03
			0.75	0103 000 4M05	0103 000 4F05
			1.00	0103 000 4M02	0103 000 4F02
			1.50	0103 000 4M01	0103 000 4F01
			2.50	0103 000 4M06	0103 000 4F06
Gold plated 			0.14/0.37	0103 000 4M14	0103 000 4F14
			0.50	0103 000 4M13	0103 000 4F13
			0.75	0103 000 4M15	0103 000 4F15
			1.00	0103 000 4M12	0103 000 4F12
			1.50	0103 000 4M11	0103 000 4F11
			2.50	0103 000 4M16	0103 000 4F16

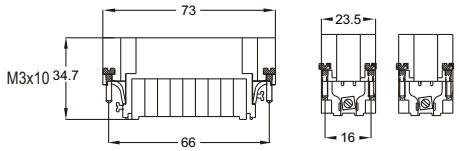
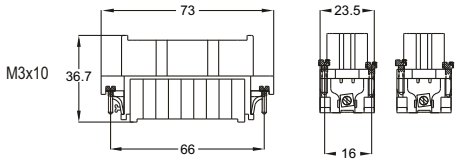
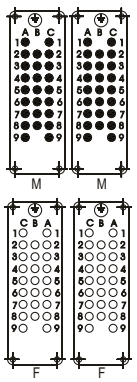
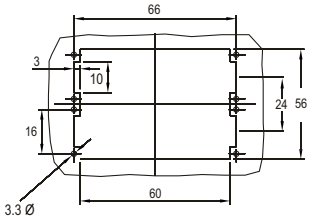
Wire gauge		Ø	Striping length
0.14-0.37 MM²	AWG 26-22	0.90 mm	8 mm
0.5 MM²	AWG 20	1.10 mm	8 mm
0.75 MM²	AWG18	1.30 mm	8 mm
1 MM²	AWG18	1.45 mm	8 mm
1.5 MM²	AWG16	1.75 mm	8 mm
2.5 MM²	AWG14	2.25 mm	6 mm

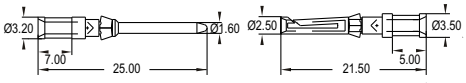
For crimping tool & contact removal tool Page No. 140

Number of Contact

50 (25x2) +

Rating : 10 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO D			0120 025 M021 0120 025 M021	
					0120 025 F021 0120 025 F021
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

Identification	Drawing	Dimension in mm.	(mm^2)	Male	Female
Crimp Contacts					
Silver plated 			0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M04 0103 000 4M03 0103 000 4M05 0103 000 4M02 0103 000 4M01 0103 000 4M06	0103 000 4F04 0103 000 4F03 0103 000 4F05 0103 000 4F02 0103 000 4F01 0103 000 4F06
Gold plated 		Wire gauge / Striping length 0.14-0.37 MM^2 AWG 26-22 — 0.90 mm — 8 mm 0.5 MM^2 AWG 20 — 1.10 mm — 8 mm 0.75 MM^2 AWG18 — 1.30 mm — 8 mm 1 MM^2 AWG18 — 1.45 mm — 8 mm 1.5 MM^2 AWG16 — 1.75 mm — 8 mm 2.5 MM^2 AWG14 — 2.25 mm — 6 mm	0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M14 0103 000 4M13 0103 000 4M15 0103 000 4M12 0103 000 4M11 0103 000 4M16	0103 000 4F14 0103 000 4F13 0103 000 4F15 0103 000 4F12 0103 000 4F11 0103 000 4F16

For crimping tool & contact removal tool Page No. 140

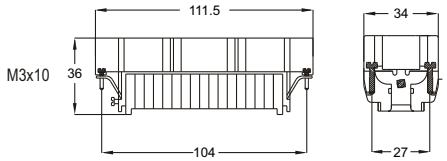
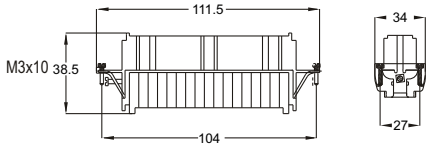
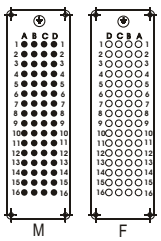
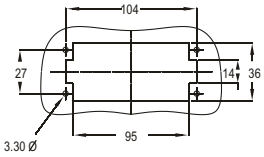
ICO D

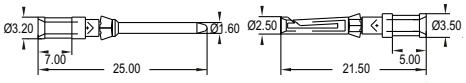
For Hoods/Housing please refer page no. 121-130

Number of Contact

64+⏚

Rating : 10 A-250 V

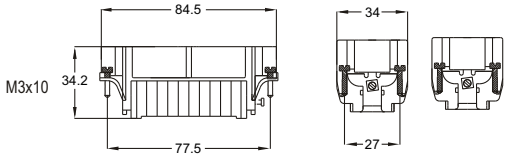
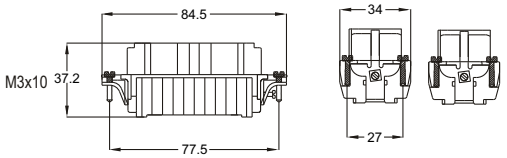
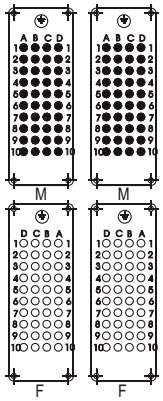
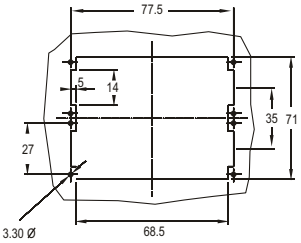
Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO D			0120 064 M021	
					0120 064 F021
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

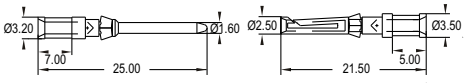
Identification	Drawing	Dimension in mm.	(mm^2)	Male	Female
Crimp Contacts					
Silver plated 			0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M04 0103 000 4M03 0103 000 4M05 0103 000 4M02 0103 000 4M01 0103 000 4M06	0103 000 4F04 0103 000 4F03 0103 000 4F05 0103 000 4F02 0103 000 4F01 0103 000 4F06
Gold plated 		Wire gauge / ⌀ / Striping length 0.14-0.37 MM^2 AWG 26-22 0.90 mm 8 mm 0.5 MM^2 AWG 20 1.10 mm 8 mm 0.75 MM^2 AWG18 1.30 mm 8 mm 1 MM^2 AWG18 1.45 mm 8 mm 1.5 MM^2 AWG16 1.75 mm 8 mm 2.5 MM^2 AWG14 2.25 mm 6 mm	0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M14 0103 000 4M13 0103 000 4M15 0103 000 4M12 0103 000 4M11 0103 000 4M16	0103 000 4F14 0103 000 4F13 0103 000 4F15 0103 000 4F12 0103 000 4F11 0103 000 4F16
		For crimping tool & contact removal tool Page No. 140			

Number of Contact

80 (40x2) + ⏚

Rating : 10 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO D			0120 040 M021 0120 040 M021	
					0120 040 F021 0120 040 F021
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

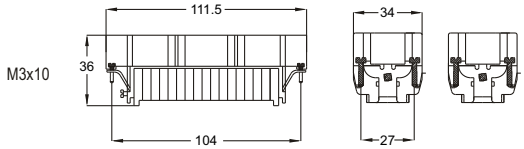
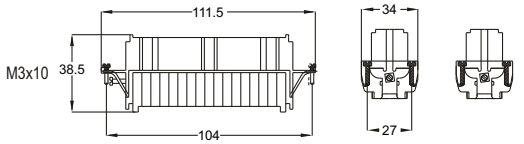
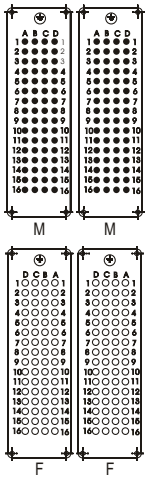
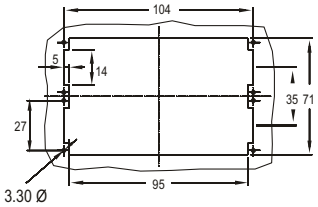
Identification	Drawing	Dimension in mm.	(mm^2)	Male	Female
Crimp Contacts					
Silver plated 			0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M04 0103 000 4M03 0103 000 4M05 0103 000 4M02 0103 000 4M01 0103 000 4M06	0103 000 4F04 0103 000 4F03 0103 000 4F05 0103 000 4F02 0103 000 4F01 0103 000 4F06
Gold plated 		Wire gauge / ⌀ / Striping length 0.14-0.37 MM^2 AWG 26-22 — 0.90 mm — 8 mm 0.5 MM^2 AWG 20 — 1.10 mm — 8 mm 0.75 MM^2 AWG18 — 1.30 mm — 8 mm 1 MM^2 AWG18 — 1.45 mm — 8 mm 1.5 MM^2 AWG16 — 1.75 mm — 8 mm 2.5 MM^2 AWG14 — 2.25 mm — 6 mm	0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M14 0103 000 4M13 0103 000 4M15 0103 000 4M12 0103 000 4M11 0103 000 4M16	0103 000 4F14 0103 000 4F13 0103 000 4F15 0103 000 4F12 0103 000 4F11 0103 000 4F16

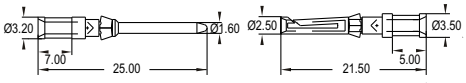
For crimping tool & contact removal tool Page No. 140

Number of Contact

128 (64x2) + ⏚

Rating : 10 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO D			0120 064 M021 0120 064 M021	
					0120 064 F021 0120 064 F021
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

Identification	Drawing	Dimension in mm.	(mm^2)	Male	Female
Crimp Contacts					
Silver plated 			0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M04 0103 000 4M03 0103 000 4M05 0103 000 4M02 0103 000 4M01 0103 000 4M06	0103 000 4F04 0103 000 4F03 0103 000 4F05 0103 000 4F02 0103 000 4F01 0103 000 4F06
Gold plated 		Wire gauge / ⌀ / Striping length 0.14-0.37 MM^2 AWG 26-22 0.90 mm 8 mm 0.5 MM^2 AWG 20 1.10 mm 8 mm 0.75 MM^2 AWG18 1.30 mm 8 mm 1 MM^2 AWG18 1.45 mm 8 mm 1.5 MM^2 AWG16 1.75 mm 8 mm 2.5 MM^2 AWG14 2.25 mm 6 mm	0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M14 0103 000 4M13 0103 000 4M15 0103 000 4M12 0103 000 4M11 0103 000 4M16	0103 000 4F14 0103 000 4F13 0103 000 4F15 0103 000 4F12 0103 000 4F11 0103 000 4F16

For crimping tool & contact removal tool Page No. 140

TECHNICAL CHARACTERISTICS

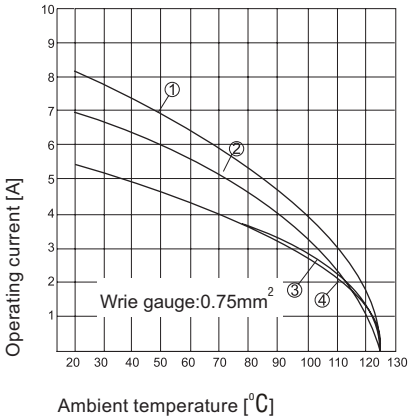
ICO DD

Specifications	DIN EN 60 664 DIN EN 61 984
Inserts	
Number of contacts	24,42,72,108,144(72x2), 216(108x2)+PE
Electrical data acc. to EN 61 984	10A 250V 4kV 3
-Rated current	10A
-Rated voltage	250V
-Rated impulse voltage	4kV
-Pollution degree	3
-Pollution degree 2 also	10A 230/400V 4kV 2
Rated voltage acc. to UL/CSA	600V
Insulation resistance	$\geqslant 10^{10}\Omega$
Material	polycarbonate
Limiting temperatures	-40°C...+125°2C
Flammability acc. to UL 94	V0
Mechanical working life (mating cycles)	$\geqslant$500
Contacts	
Material	copper alloy
Surface terminal	gold plated silver plated
Contact resistance	$\leqslant$3mΩ
Crimp terminal	
-Wire gauge	0.14-2.5mm^2
-AWG	26-14
-Stripping Length	7.0 mm
Hoods / Housing	
Material	Die-Cast aluminum
Surface	Powder Coated RAL 7037
Locking Element	Zinc plated / Thermoplastic
Temperature Range	-40°C...+125°C
Degree of Protection	
For Coupled Connector	IP65

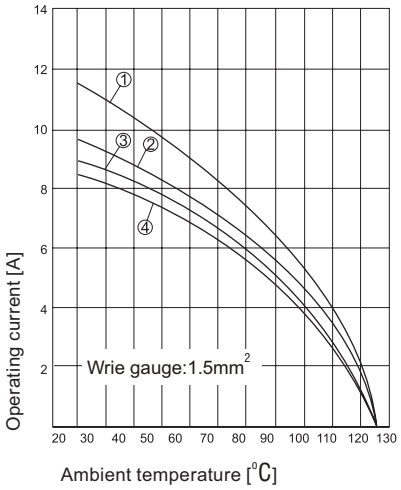
Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512-5



1. ICO DD-024
2. ICO DD-042
3. ICO DD-072
4. ICO DD-108



1. ICO DD-024
2. ICO DD-042
3. ICO DD-072
4. ICO DD-108

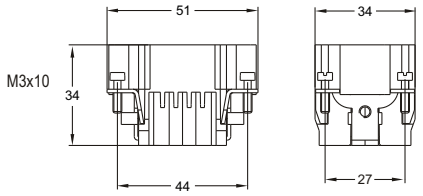
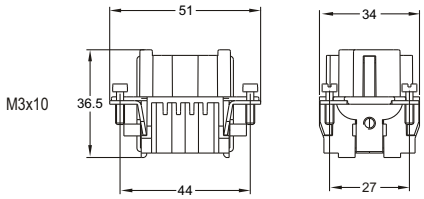
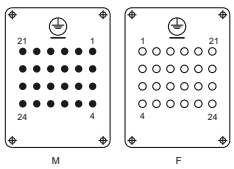
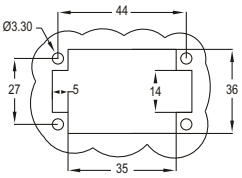
ICO DD

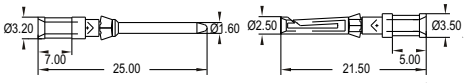
For Hoods/Housing please refer page no. 91-96

Number of Contact

24+⏚

Rating : 10 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO DD			0190 024 M021	
					0190 024 F021
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Crimp Contacts					
Silver plated 			0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M04 0103 000 4M03 0103 000 4M05 0103 000 4M02 0103 000 4M01 0103 000 4M06	0103 000 4F04 0103 000 4F03 0103 000 4F05 0103 000 4F02 0103 000 4F01 0103 000 4F06
Gold plated 		Wire gauge / ⌀ / Striping length 0.14-0.37 MM² AWG 26-22 0.90 mm 8 mm 0.5 MM² AWG 20 1.10 mm 8 mm 0.75 MM² AWG18 1.30 mm 8 mm 1 MM² AWG18 1.45 mm 8 mm 1.5 MM² AWG16 1.75 mm 8 mm 2.5 MM² AWG14 2.25 mm 6 mm	0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M14 0103 000 4M13 0103 000 4M15 0103 000 4M12 0103 000 4M11 0103 000 4M16	0103 000 4F14 0103 000 4F13 0103 000 4F15 0103 000 4F12 0103 000 4F11 0103 000 4F16

For crimping tool & contact removal tool Page No. 140

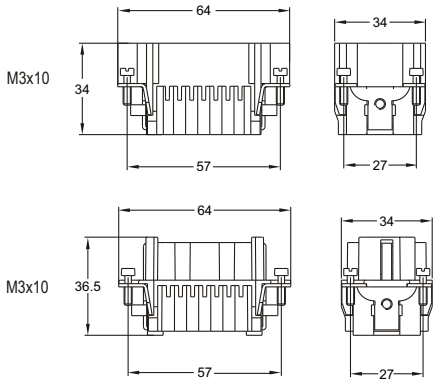
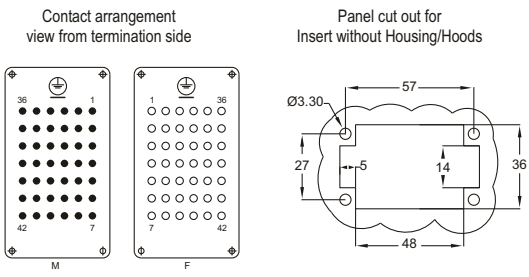
ICO DD

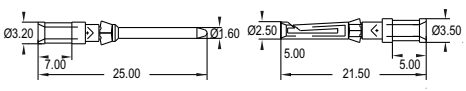
For Hoods/Housing please refer page no. 101-110

Number of Contact

42 + ⏚

Rating : 10 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO DD			0190 042 M021	0190 042 F021
					

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Crimp Contacts			0.14/0.37	0103 000 4M04	0103 000 4F04
			0.50	0103 000 4M03	0103 000 4F03
			0.75	0103 000 4M05	0103 000 4F05
			1.00	0103 000 4M02	0103 000 4F02
			1.50	0103 000 4M01	0103 000 4F01
Silver plated 			2.50	0103 000 4M06	0103 000 4F06
Gold plated 			0.14/0.37	0103 000 4M14	0103 000 4F14
			0.50	0103 000 4M13	0103 000 4F13
			0.75	0103 000 4M15	0103 000 4F15
			1.00	0103 000 4M12	0103 000 4F12
			1.50	0103 000 4M11	0103 000 4F11
			2.50	0103 000 4M16	0103 000 4F16

Wire gauge		Ø	Striping length
0.14-0.37 MM²	AWG 26-22	0.90 mm	8 mm
0.5 MM²	AWG 20	1.10 mm	8 mm
0.75 MM²	AWG18	1.30 mm	8 mm
1 MM²	AWG18	1.45 mm	8 mm
1.5 MM²	AWG16	1.75 mm	8 mm
2.5 MM²	AWG14	2.25 mm	6 mm

For crimping tool & contact removal tool Page No. 140

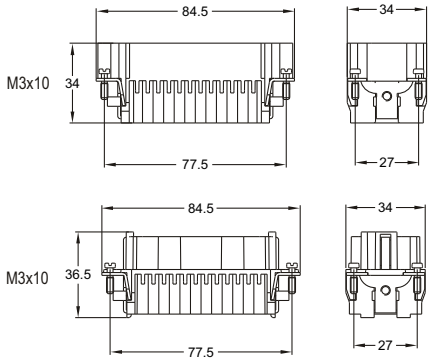
ICO DD

For Hoods/Housing please refer page no. 111-120

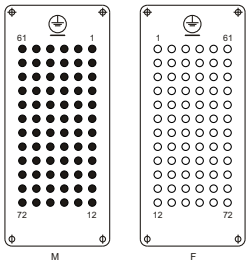
Number of Contact

72+⏚

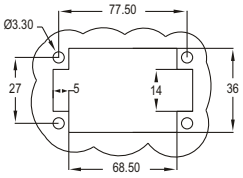
Rating : 10 A-250 V

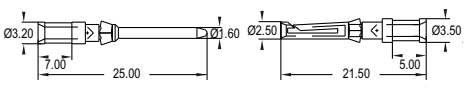
Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO DD			0190 072 M021	
					0190 072 F021

Contact arrangement
view from termination side



Panel cut out for
Insert without Housing/Hood



Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Crimp Contacts			0.14/0.37	0103 000 4M04	0103 000 4F04
			0.50	0103 000 4M03	0103 000 4F03
			0.75	0103 000 4M05	0103 000 4F05
			1.00	0103 000 4M02	0103 000 4F02
			1.50	0103 000 4M01	0103 000 4F01
			2.50	0103 000 4M06	0103 000 4F06
Silver plated 					
Gold plated 			0.14/0.37	0103 000 4M14	0103 000 4F14
			0.50	0103 000 4M13	0103 000 4F13
			0.75	0103 000 4M15	0103 000 4F15
			1.00	0103 000 4M12	0103 000 4F12
			1.50	0103 000 4M11	0103 000 4F11
			2.50	0103 000 4M16	0103 000 4F16

Wire gauge		Ø	Striping length
0.14-0.37 MM²	AWG 26-22	0.90 mm	8 mm
0.5 MM²	AWG 20	1.10 mm	8 mm
0.75 MM²	AWG18	1.30 mm	8 mm
1 MM²	AWG18	1.45 mm	8 mm
1.5 MM²	AWG16	1.75 mm	8 mm
2.5 MM²	AWG14	2.25 mm	6 mm

For crimping tool & contact removal tool Page No. 140

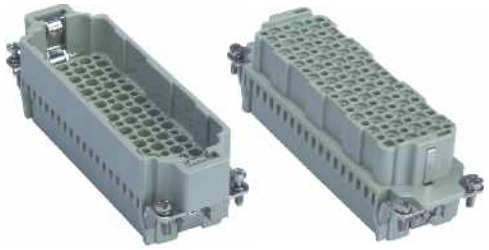
ICO DD

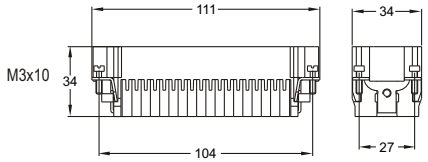
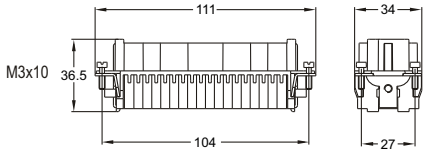
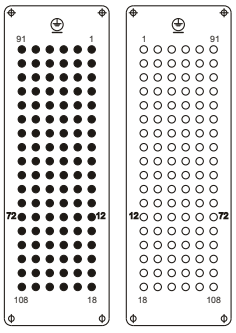
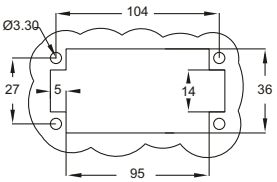
For Hoods/Housing please refer page no. 121-130

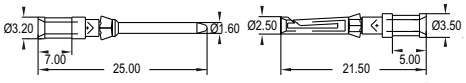
Number of Contact

108+⏚

Rating : 10 A-250 V



Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO DD			0190 108 M021	
					0190 108 F021
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Crimp Contacts					
Silver plated 			0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M04 0103 000 4M03 0103 000 4M05 0103 000 4M02 0103 000 4M01 0103 000 4M06	0103 000 4F04 0103 000 4F03 0103 000 4F05 0103 000 4F02 0103 000 4F01 0103 000 4F06
Gold plated 		Wire gauge / ⌀ / Striping length 0.14-0.37 MM² AWG 26-22 0.90 mm 8 mm 0.5 MM² AWG 20 1.10 mm 8 mm 0.75 MM² AWG18 1.30 mm 8 mm 1 MM² AWG18 1.45 mm 8 mm 1.5 MM² AWG16 1.75 mm 8 mm 2.5 MM² AWG14 2.25 mm 6 mm	0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M14 0103 000 4M13 0103 000 4M15 0103 000 4M12 0103 000 4M11 0103 000 4M16	0103 000 4F14 0103 000 4F13 0103 000 4F15 0103 000 4F12 0103 000 4F11 0103 000 4F16

For crimping tool & contact removal tool Page No. 140

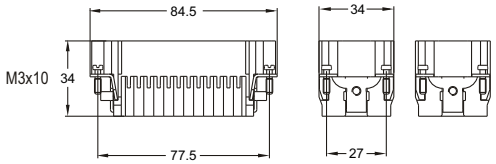
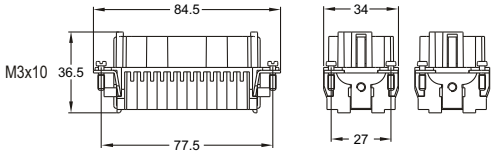
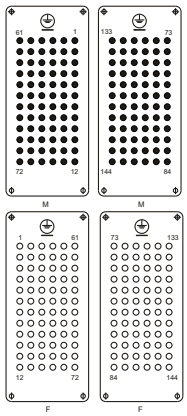
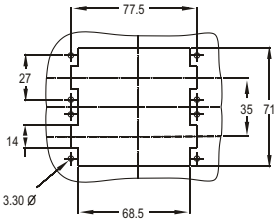
ICO DD

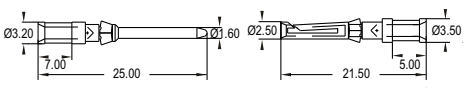
For Hoods/Housing please refer page no. 134-136

Number of Contact

144 (72x2) +⏚

Rating : 10 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
	ICO DD			0190 072 M021 0190 072 M121	
					0190 072 F021 0190 072 F121
		Contact arrangement view from termination side 			
		Panel cut out for Insert without Housing/Hood 			

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Crimp Contacts					
Silver plated 			0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M04 0103 000 4M03 0103 000 4M05 0103 000 4M02 0103 000 4M01 0103 000 4M06	0103 000 4F04 0103 000 4F03 0103 000 4F05 0103 000 4F02 0103 000 4F01 0103 000 4F06
Gold plated 			0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M14 0103 000 4M13 0103 000 4M15 0103 000 4M12 0103 000 4M11 0103 000 4M16	0103 000 4F14 0103 000 4F13 0103 000 4F15 0103 000 4F12 0103 000 4F11 0103 000 4F16

Wire gauge		⌀	Striping length
0.14-0.37 MM²	AWG 26-22	0.90 mm	8 mm
0.5 MM²	AWG 20	1.10 mm	8 mm
0.75 MM²	AWG18	1.30 mm	8 mm
1 MM²	AWG18	1.45 mm	8 mm
1.5 MM²	AWG16	1.75 mm	8 mm
2.5 MM²	AWG14	2.25 mm	6 mm

For crimping tool & contact removal tool Page No. 140

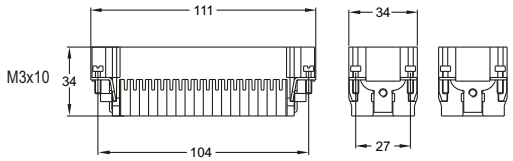
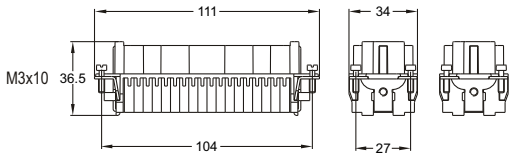
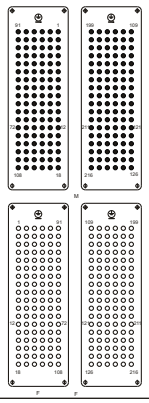
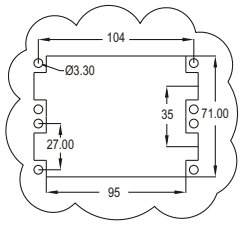
ICO DD

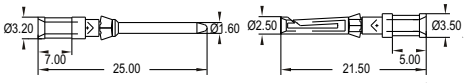
For Hoods/Housing please refer page no. 137-138

Number of Contact

216 (108x2) + ⏚

Rating : 10 A-250 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO DD			0190 108 M021 0190 108 M121	
					0190 108 F021 0190 108 F121
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Crimp Contacts					
Silver plated 			0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M04 0103 000 4M03 0103 000 4M05 0103 000 4M02 0103 000 4M01 0103 000 4M06	0103 000 4F04 0103 000 4F03 0103 000 4F05 0103 000 4F02 0103 000 4F01 0103 000 4F06
Gold plated 		Wire gauge / Striping length 0.14-0.37 MM² AWG 26-22 — 0.90 mm — 8 mm 0.5 MM² AWG 20 — 1.10 mm — 8 mm 0.75 MM² AWG18 — 1.30 mm — 8 mm 1 MM² AWG18 — 1.45 mm — 8 mm 1.5 MM² AWG16 — 1.75 mm — 8 mm 2.5 MM² AWG14 — 2.25 mm — 6 mm	0.14/0.37 0.50 0.75 1.00 1.50 2.50	0103 000 4M14 0103 000 4M13 0103 000 4M15 0103 000 4M12 0103 000 4M11 0103 000 4M16	0103 000 4F14 0103 000 4F13 0103 000 4F15 0103 000 4F12 0103 000 4F11 0103 000 4F16

For crimping tool & contact removal tool Page No. 140

TECHNICAL CHARACTERISTICS

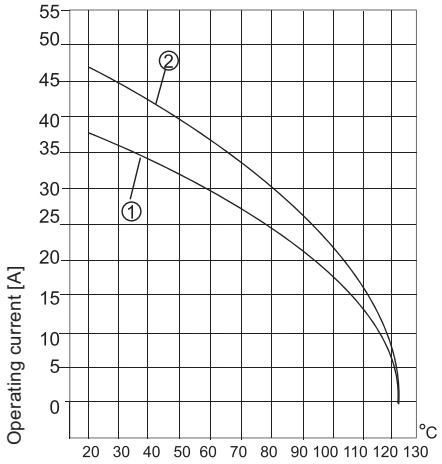
ICO B

Specifications	DIN EN 60 664 DIN EN 61 984
Inserts	
Number of contacts	6,12+PE
Electrical data acc. to EN 61 984	35A 400/690V 6kV 3
-Rated current	35A
-Rated voltage conductor-ground	400V
-Rated voltage conductor-conductor	690V
-Rated impulse voltage	6kV
-Pollution degree	3
-or	35A 500V 6kV 3
Rated voltage acc. to UL/CSA	600V
Insulation resistance	$\geqslant 10^{10}\Omega$
Material	polycarbonate
Limiting temperatures	-40°C...+125°C
Flammability acc. to UL 94	V0
Mechanical working life (mating cycles)	$\geqslant 500$
Contacts	
Material	copper alloy
Surface	silver plated
Contact resistance	$\leqslant 1m\Omega$
Screw terminal	
-Wrie gauge	$6mm^2$
-AWG	10
-Stripping Length	7.0 mm
-Tightening/Test torque	1.2Nm
Hoods / Housing	
Material	Die-Cast aluminum
Surface	Powder Coated RAL 7037
Locking Element	Zinc plated / Thermoplastic
Temperature Range	-40°C...+125°C
Degree of Protection	
For Coupled Connector	IP65

Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512-5



1. Wrie gauge:$4mm^2$
2. Wrie gauge:$6mm^2$

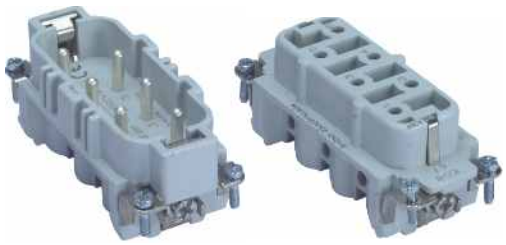
ICO B

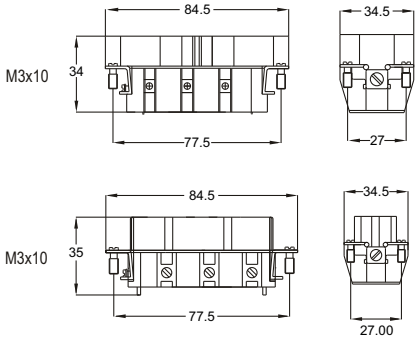
For Hoods/Housing please refer page no. 111-120

Number of Contact

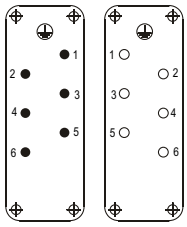
6+ ⏚

Rating : 35 A-690 V

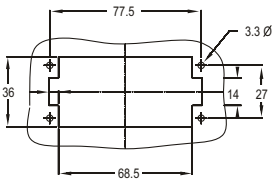


Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO B			0130 006 M011	
					0130 006 F011

Contact arrangement
view from termination side



Panel cut out for
Insert without Housing/Hood



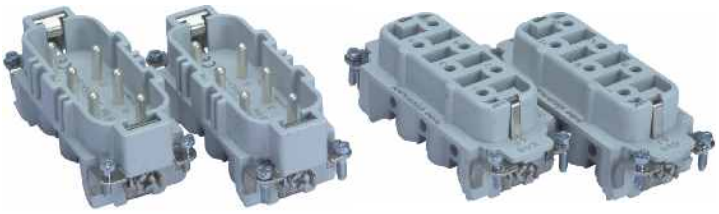
ICO B

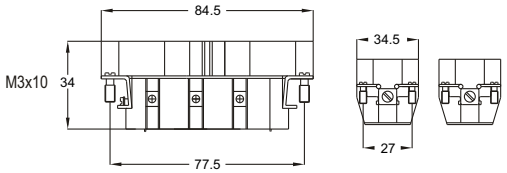
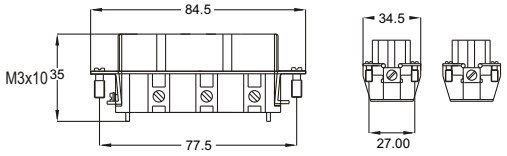
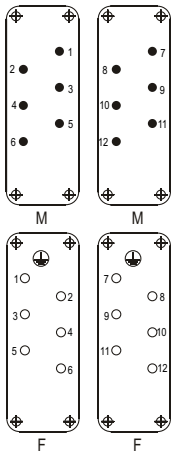
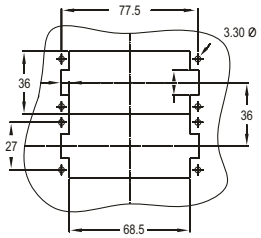
For Hoods/Housing please refer page no. 134-136

Number of Contact

12 (6x2) + ⏚

Rating : 35 A-690 V



Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO B			0130 006 M011 0130 006 M111	
					0130 006 F011 0130 006 F111
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		


FOR TRANSPORT
HOOK IN HERE

TECHNICAL CHARACTERISTICS

ICO E 4/0 & 4/2

Specifications	DIN EN 60 664 DIN EN 61 984
Inserts	
Number of contacts	4/0,4/2+PE
Electrical data acc. to EN 61 984	
Power area	80A 830V 8kV 3
-Rated current	80A
-Rated voltage	830V
-Rated impulse voltage	8kV
-Pollution degree	3
-or	80A 1000V 8kV 3
Signal area	16A 400V 6kV 3
-Rated current	16A
-Rated voltage	400V
-Rated impulse voltage	6kV
-Pollution degree	3
-Pollution degree 2 also	16A 400/690V 6kV 2
Rated voltage acc. to UL/CSA	600/300V
Insulation resistance	$\geqslant 10^{10}\Omega$
Material	polycarbonate
Limiting temperatures	-40°C...+125°C
Flammability acc. to UL 94	V0
Mechanical working life (mating cycles)	$\geqslant$500
Contacts	
Power contacts	
-Material	copper alloy
-Surface	silver plated
-Contact resistance	$\leqslant 0.3m\Omega$
-Screw terminal	
-Wire gauge	1.5-16mm^2
-AWG	16-6
-Tightening tourque	

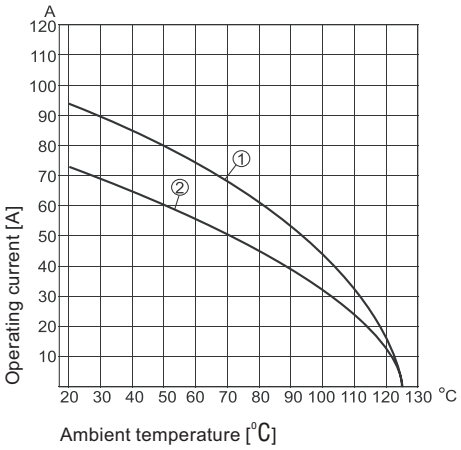
-mm^2	1.5	2.5	4	6	10	16
-N.m	1.2	2	3	3	3	3

-Stripping length	14mm
Signal contacts	
-Material	copper alloy
-Surface	silver plated
-Contact resistance	$\leqslant 1m\Omega$
-Screw terminal	
-Wire gauge	0.5-2.5mm^2
-AWG	20-14
-Stripping length	7.5mm
-Tightening / Test torque	0.5Nm
Hoods / Housing	
Material	Die-Cast aluminum
Surface	Powder Coated RAL 7037
Locking Element	Zinc plated / Thermoplastic
Temperature Range	-40°C...+125°C
Degree of Protection	
For Coupled Connector	IP65

Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512-5

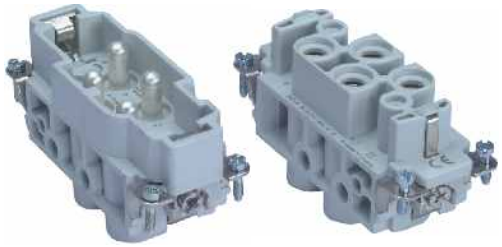


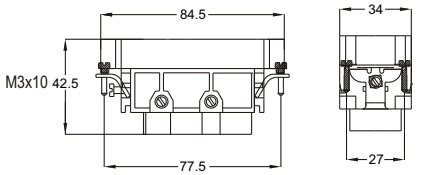
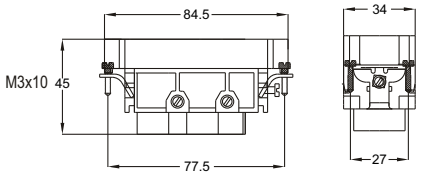
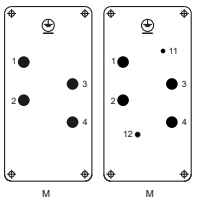
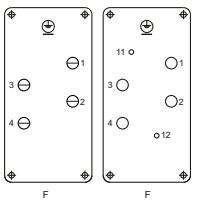
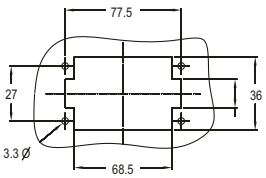
1. Wrie gauge:4mm^2
2. Wrie gauge:6mm^2

Number of Contact

4/0 & 4/2+⏚

Rating : 80 A-830 V / 16 A-400 V



Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO E			0160 006 M011	0160 006 F011
Screw Terminal 				0160 004 M011	0160 004 F011
		Contact arrangement view from termination side  	Panel cut out for Insert without Housing/Hood 		

TECHNICAL CHARACTERISTICS

ICO E 4/8

Specifications	DIN EN 60 664 DIN EN 61 984
Inserts	
Number of contacts	4/8+PE
Electrical data acc. to EN 61 984	
Power area	80A 400V 6kV 3
-Rated current	80A
-Rated voltage	400V
-Rated impulse voltage	6kV
-Pollution degree	3
-Pollution degree 2 also	80A 400/690V 6kV 2
Signal area	16A 400V 6kV 3
-Rated current	16A
-Rated voltage	400V
-Rated impulse voltage	6kV
-Pollution degree	3
Rated voltage acc. to UL/CSA	600/600V
Insulation resistance	$\geqslant 10^{10}\Omega$
Material	polycarbonate
Limiting temperatures	-40°C...+125°C
Flammability acc. to UL 94	V0
Mechanical working life (mating cycles)	$\geqslant$500
Contacts	
Power contacts	
-Material	copper alloy
-Surface	silver plated
-Contact resistance	$\leqslant$0.3mΩ
-Screw terminal	
-geometric wire gauge	1.5-16mm²
-AWG	16-6
-Tightening tourque	

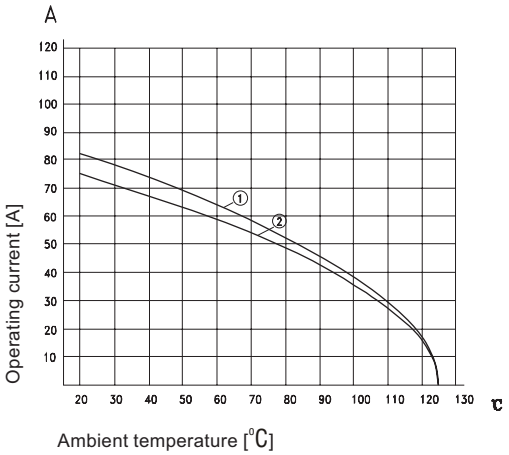
-mm²	1.5	2.5	4	6	10	16
-N.m	1.2	2	3	3	3	3

-Stripping length	14mm
Signal contacts	
-Material	copper alloy
-Surface	hard-silver plated
-Contact resistance	$\leqslant$1mΩ
-Screw terminal	
-mm²	0.5-2.5mm²
-AWG	20-14
-Tightening tourque	0.5Nm
-Stripping length	7.5mm
Hoods / Housing	
Material	Die-Cast aluminum
Surface	Powder Coated RAL 7037
Locking Element	Zinc plated / Thermoplastic
Temperature Range	-40°C...+125°C
Degree of Protection	
For Coupled Connector	IP65

Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512-5



1. Wrie gauge:4mm²
2. Wrie gauge:6mm²

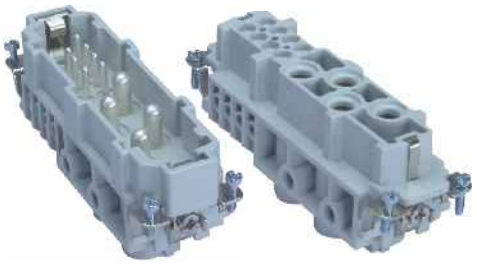
ICO E

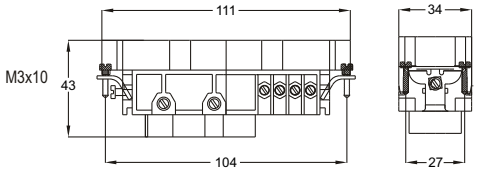
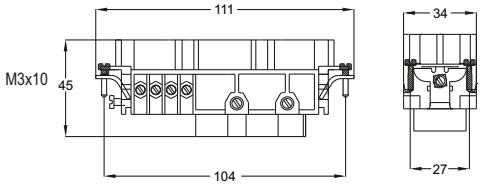
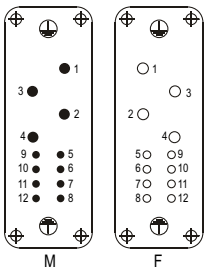
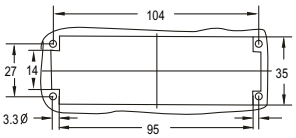
For Hoods/Housing please refer page no. 121-130

Number of Contact

4/8+⏚

Rating : 80 A-830 V / 16 A-400 V



Identification	Series	Drawing	Dimension in mm.	Male	Female
Screw Terminal 	ICO E			0160 012 M011	
					0160 012 F011
		Contact arrangement view from termination side 	Panel cut out for Insert without Housing/Hood 		

TECHNICAL CHARACTERISTICS

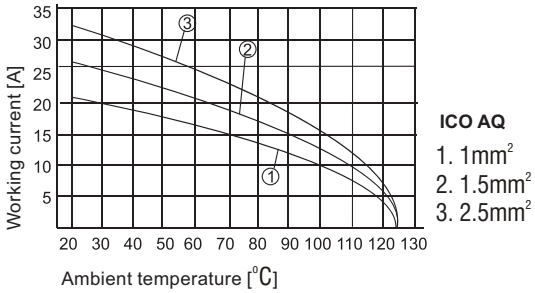
ICO AQ

Specifications	DIN EN 60 664 DIN EN 61 984
Inserts	
Number of contacts	5+PE
Electrical data acc. to	16A 230/400V 4kV3
-Rated current	16A
-Rated voltage	400V
-Rated impulse voltage	4KV
-Pollution degree	3
-Pollution degree 2 also	16A 320/500V 4kV 2
Rated voltage acc. to UL/CSA	600V
Insulation resistance	$\geqslant 10^{10}\Omega$
Material	polycarbonate
Limiting temperatures	-40°C...+125°2C
Flammability acc. to UL 94	V0
Mechanical working life (mating cycles)	$\geqslant$500
Contacts	
Material	copper alloy
Surface terminal	gold plated
	silver plated
Contact resistance	$\leqslant$1mΩ
Crimp terminal	
-Wrie gauge	0.14-2.5mm^2
-AWG	26-14
-Stripping length	7.0mm
Hoods / Housing	
Material	Die-Cast aluminum / Polyamide
Surface	Powder Coated RAL 7037
Locking Element	Zinc plated / Thermoplastic
Temperature Range	-40°C...+125°C
Degree of Protection	
For Coupled Connector	IP44

Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512-5



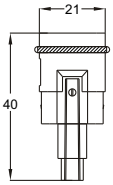
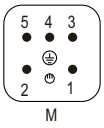
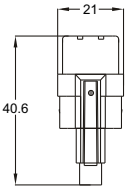
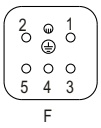
ICO AQ

For Hoods/Housing please refer page no. 71-73

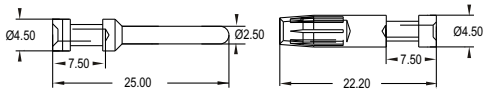
Number of Contact

5+⏚

Rating : 16 A-230 / 400 V

Identification	Series	Drawing	Dimension in mm.	Male	Female
Crimp Terminal 	ICO AQ			0170 005 M011	
					0170 005 F011

Crimp Contacts

Identification	Drawing	Dimension in mm.	(mm²)	Male	Female
Silver plated 			0.14-0.37 0.50 0.75 1.00 1.50 2.50 3.00 4.00	0103 000 5M04 0103 000 5M03 0103 000 5M05 0103 000 5M02 0103 000 5M01 0103 000 5M06 0103 000 5M07 0103 000 5M08	0103 000 5F04 0103 000 5F03 0103 000 5F05 0103 000 5F02 0103 000 5F01 0103 000 5F06 0103 000 5F07 0103 000 5F08
Gold plated 	Indentification / Wire gauge / Striping length No Groove — 0.14-0.37 mm² — AWG 26-22 — 7.5 mm No Groove — 0.50 mm² — AWG 20 — 7.5 mm 1 Groove — 0.75 mm² — AWG 18 — 7.5 mm 1 Groove — 1.00 mm² — AWG 18 — 7.5 mm 2 Groove — 1.50 mm² — AWG 16 — 7.5 mm 3 Groove — 2.50 mm² — AWG 14 — 7.5 mm Wide Groove — 3.00 mm² — AWG 12 — 7.5 mm No Groove — 4.00 mm² — AWG 12 — 7.5 mm For crimping tool & contact removal tool Page No. 140		0.14-0.37 0.50 0.75 1.00 1.50 2.50 3.00 4.00	0103 000 5M14 0103 000 5M13 0103 000 5M15 0103 000 5M12 0103 000 5M11 0103 000 5M16 0103 000 5M17 0103 000 5M18	0103 000 5F14 0103 000 5F13 0103 000 5F15 0103 000 5F12 0103 000 5F11 0103 000 5F16 0103 000 5F17 0103 000 5F18

Hoods & Housings

INDEX

Hoods/Housings with PG/Metric Thread

TECHNICAL CHARACTERISTICS

SIZE 3A

Plastic Hoods & Housings IP44 (Plastic Lever)	
Material	Polyamide
Colour	White
Locking Lever	Single Clamp (Plastic)
-Material	Polyamide
Hoods/ Housing seal	NBR
Limiting temperatures	-40...+125 °C
Degree of protection acc.to DIN EN	
60 529 for coupled connector	IP44

Metal Hoods & Housings IP44 (Metal Lever)	
Material	Aluminium die -cast
Colour	Grey RAL 7037
Surface Finish	Epoxy powder coating
Locking Lever	Single Clamp (Metal)
Surface Finish	Nickel Plating
Hoods/ Housing seal	NBR
Limiting temperatures	-40...+125°C
Degree of protection acc.to DIN EN	
60 529 for coupled connector	IP44

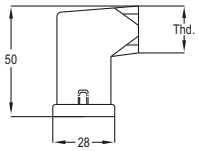
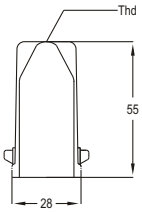
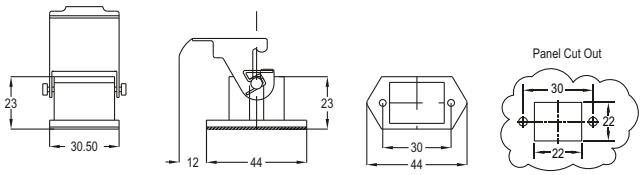
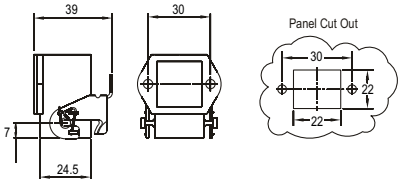
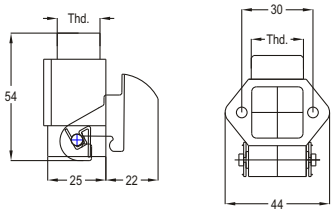
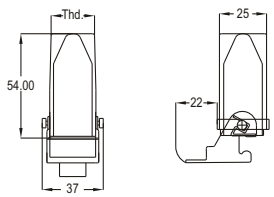
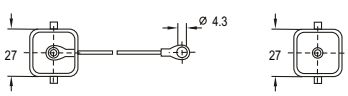
SIZE 3A HPR

HPR Pressure tight Hoods /Housings for I IP68	
Material	Aluminium die -cast
Colour	Black
Surface	Epoxy powder coating
Locking	screw looking
Surface Finish	stainless steel
Hoods/ Housing seal	NBR
Limiting temperatures	-40...+125 °C
Degree of protection acc.to DIN EN	
60 529 for coupled connector	IP68

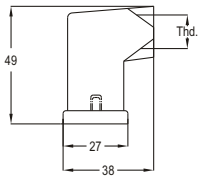
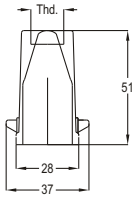
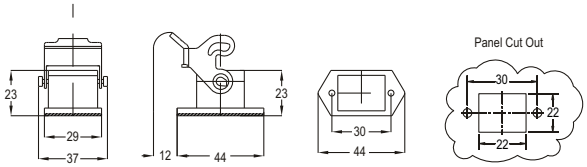
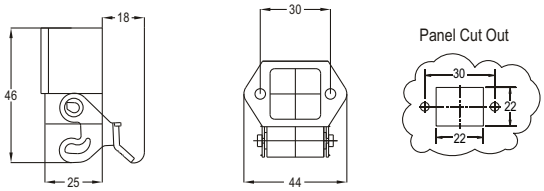
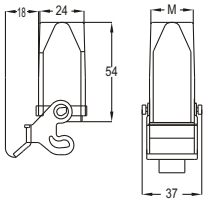
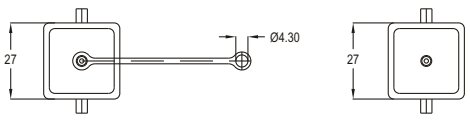
Standard Hoods / Housings for below insert (Male / Female)

Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO C	Screw Terminal	10 A-250/400 V	3+⏚	31
ICO C	Screw Terminal	16A 500V	4+⏚	31
ICO D	Crimp Terminal	16A 500V	7+⏚	41
ICO D	Crimp Terminal	16A 500V	8+⏚	41
ICO AQ	Crimp Terminal	10 A-250V	5+⏚	67

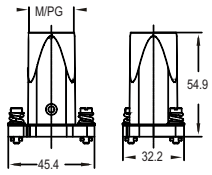
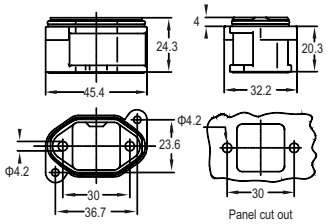
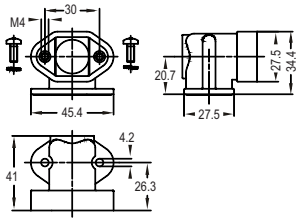
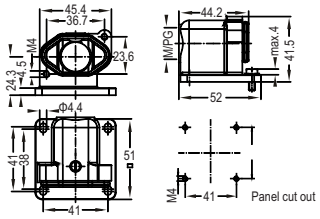
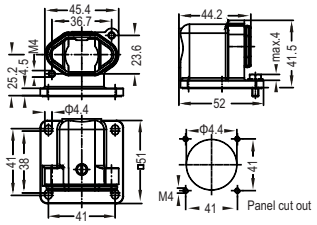
(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M16 M20 PG11 PG13.5	1192 003 BC38 1192 003 BC30 0192 003 BC34 0192 003 BC33
Hood Top Entry 			M16 M20 PG11 PG13.5	1192 003 BD38 1192 003 BD30 0192 003 BD34 0192 003 BD33
Housing Bulkhead Mounting 				0192 003 PM43
Housing Bulkhead Mounting Right Angle 				0192 003 PM49
Housing Surface Mounting 			M16 M20 PG11 PG13.5	1192 003 BE28 1192 003 BE20 0192 003 BE24 0192 003 BE23
Hood Cable to Cable 			M16 M20 PG11 PG13.5	1192 003 BM38 1192 003 BM30 0192 003 BM34 0192 003 BM33
Protection Cover for Housing Thermoplastic 				0192 003 P020

Standard Hoods / Housings
(Plastic Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M20 PG11	1194 003 BC30 0194 003 BC34
Hood Top Entry 			M20 PG11	1194 003 BD30 0194 003 BD34
Housing Bulkhead Mounting 				0194 003 PM43
Housing Bulkhead Mounting Right Angle 				0194 003 PM49
Hood Cable to Cable 			M20 PG11	1194 003 BM30 0194 003 BM34
Protection Cover for Housing Thermoplastic 				0194 003 P020

Standard Hoods / Housings
(Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Top Entry 			M20 PG11 PG13.5	1171 003 BD30 0171 003 BD34 0171 003 BD33
Housing Bulkhead Mounting 				0171 003 PM53
Adaptor for Housings 				0171 003 PM57
Housing Surface Mounting 			M20 PG11 PG13.5	1171 003 BE80 0171 003 BE84 0171 003 BE83
Housing Bulkhead Mounting Right Angle 				0171 003 PM49

TECHNICAL CHARACTERISTICS

SIZE 10A TO 72A

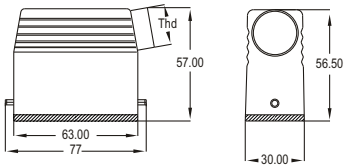
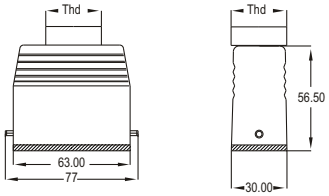
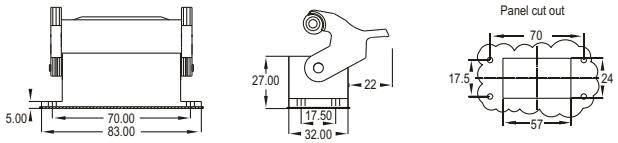
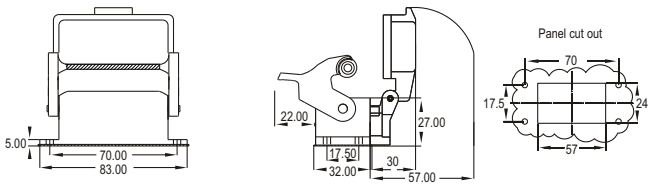
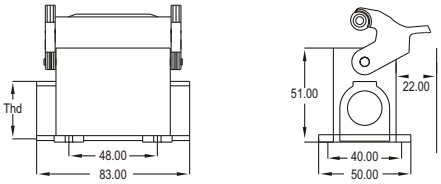
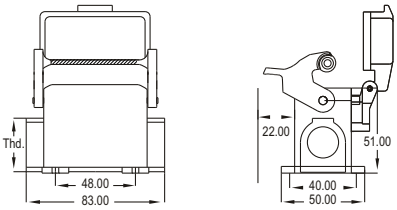
Metal Hoods & Housings IP65 (Plastic Lever)	
Material	Aluminium die -cast
Colour	Grey RAL 7037
Surface Finish	Epoxy powder coating
Locking Lever	Single Clamp (Plastic)
Material	Polycarbonate with metal insert
Hoods/ Housing seal	NBR
Limiting temperatures	-40...+125°C
Degree of protection acc.to DIN EN	
60 529 for coupled connector	IP65

Metal Hoods & Housings IP65 (Metal Lever)	
Material	Aluminium die -cast
Colour	Grey RAL 7037
Surface Finish	Epoxy powder coating
Locking Lever	Single Clamp (Metal)
Surface Finish	Zink blue plating
Hoods/ Housing seal	NBR
Limiting temperatures	-40...+125°C
Degree of protection acc.to DIN EN	
60 529 for coupled connector	IP65

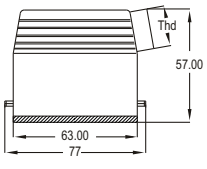
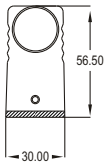
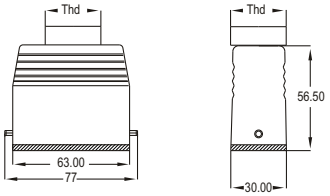
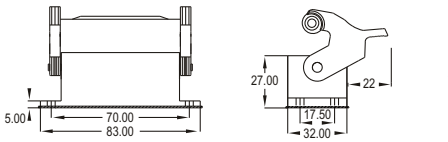
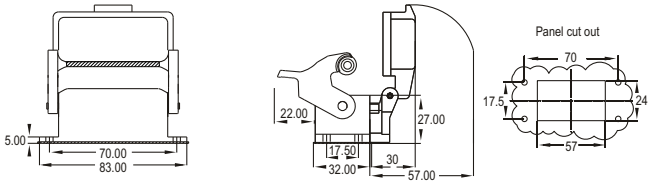
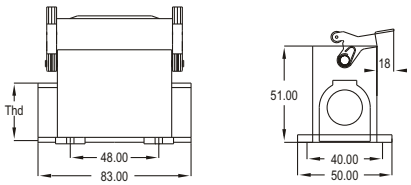
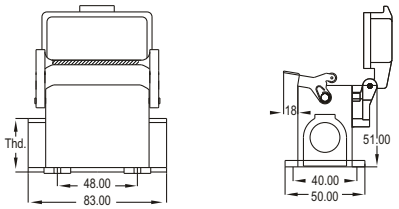
Standard Hoods / Housings for below insert (Male / Female)

Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO CA	Screw Terminal	16 A-250	10+⏚	32
ICO D	Screw Terminal	16A-250V	15+⏚	42

(Plastic Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M20 M25 PG16	1192 010 BC30 1192 010 BC31 0192 010 BC32
Hood Top Entry 			M20 M25 PG16	1192 010 BD30 1192 010 BD31 0192 010 BD32
Housing Bulkhead Mounting 				0192 010 PM43
Housing Bulkhead Mounting With Thermoplastic Cover 				0192 010 PM44
Housing Surface Mounting 			1 Side Entry M20 M25 PG16 2 Side Entry M20 M25 PG16	 1192 010 BE20 1192 010 BE21 0192 010 BE22 1192 010 BF20 1192 010 BF21 0192 010 BF22
Housing Surface Mounting With Thermoplastic Cover 			1 Side Entry M20 M25 PG16 2 Side Entry M20 M25 PG16	 1192 010 BE00 1192 010 BE01 0192 010 BE02 1192 010 BF00 1192 010 BF01 0192 010 BF02

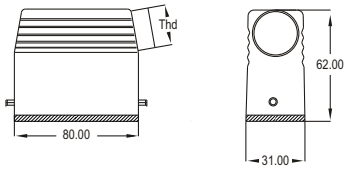
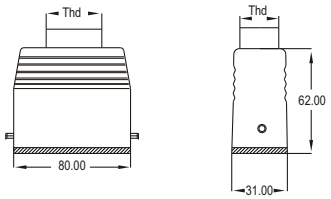
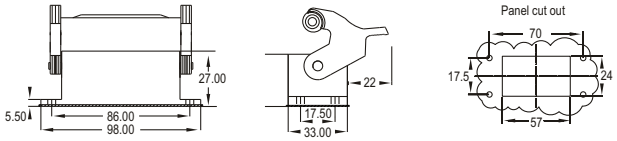
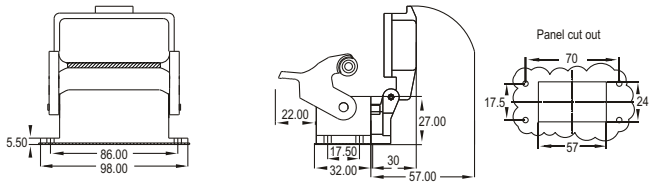
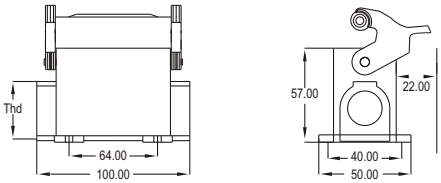
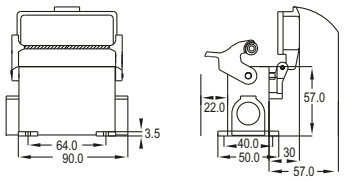
Standard Hoods / Housings
(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M20 M25 PG16	1192 010 BC80 1192 010 BC81 0192 010 BC82
Hood Top Entry 			M20 M25 PG16	1192 010 BD80 1192 010 BD81 0192 010 BD82
Housing Bulkhead Mounting 				0192 010 PM52
Housing Bulkhead Mounting With Thermoplastic Cover 				0192 010 PM55
Housing Surface Mounting 			1 Side Entry M20 M25 PG16 2 Side Entry M20 M25 PG16	1192 010 BE90 1192 010 BE91 0192 010 BE92 1192 010 BF90 1192 010 BF91 0192 010 BF92
Housing Surface Mounting With Thermoplastic Cover 			1 Side Entry M20 M25 PG16 2 Side Entry M20 M25 PG16	1192 010 BE30 1192 010 BE31 0192 010 BE32 1192 010 BF30 1192 010 BF31 0192 010 BF32

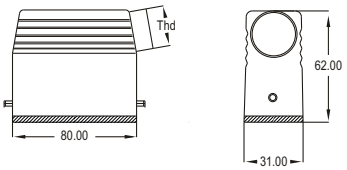
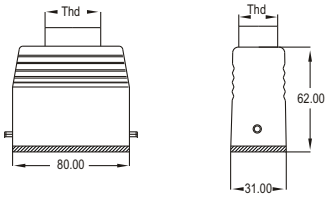
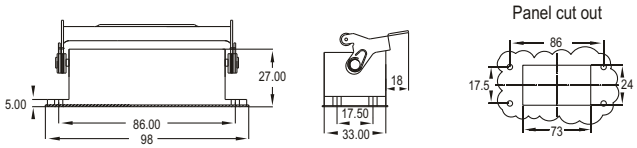
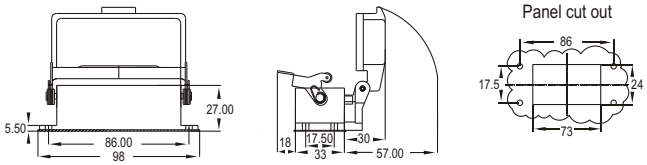
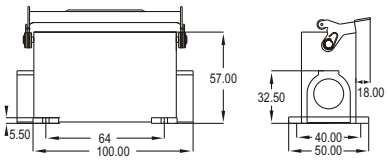
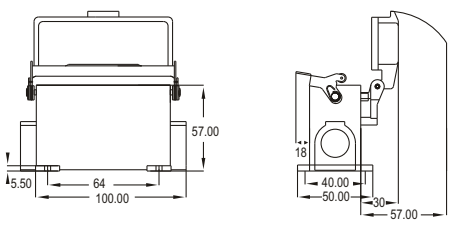
Standard Hoods / Housings for below insert (Male / Female)

Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO CA	Screw Terminal	16 A-250	16+⏚	33
ICO D	Screw Terminal	16A-250V	25+⏚	43

(Plastic Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M25 M32 PG16 PG21	1192 016 BC31 1192 016 BC32 0192 016 BC32 0192 016 BC30
Hood Top Entry 			M25 M32 PG16 PG21	1192 016 BD31 1192 016 BD32 0192 016 BD32 0192 016 BD30
Housing Bulkhead Mounting 				0192 016 PM43
Housing Bulkhead Mounting With Thermoplastic Cover 				0192 016 PM44
Housing Surface Mounting 			1 Side Entry M25 PG16 PG21 2 Side Entry M25 PG16 PG21	 1192 016 BE21 0192 016 BE22 0192 016 BE20 1192 016 BF21 0192 016 BF22 0192 016 BF20
Housing Surface Mounting With Thermoplastic Cover 			1 Side Entry M25 PG16 PG21 2 Side Entry M25 PG16 PG21	 1192 016 BE01 0192 016 BE02 0192 016 BE00 1192 016 BF01 0192 016 BF02 0192 016 BF00

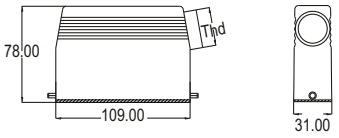
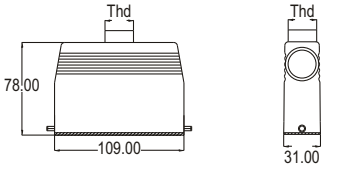
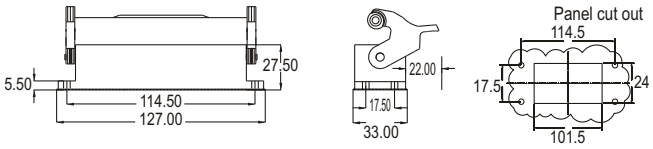
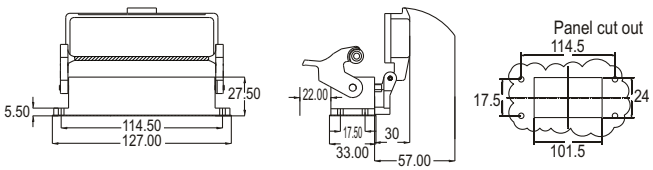
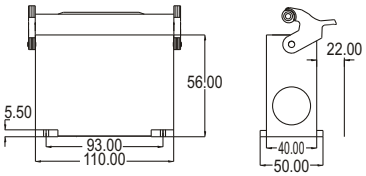
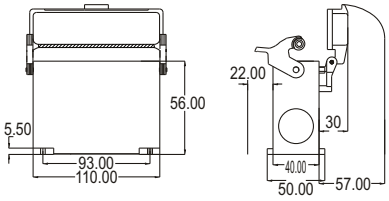
Standard Hoods / Housings
(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M25 M32 PG16 PG21	1192 016 BC81 1192 016 BC82 0192 016 BC82 0192 016 BC80
Hood Top Entry 			M25 M32 PG16 PG21	1192 016 BD81 1192 016 BD82 0192 016 BD82 0192 016 BD80
Housing Bulkhead Mounting 				0192 016 PM52
Housing Bulkhead Mounting With Thermoplastic Cover 				0192 016 PM55
Housing Surface Mounting 			M25 PG16 PG21 M25 PG16 PG21	1 Side Entry 1192 016 BE91 0192 016 BE92 0192 016 BE90 2 Side Entry 1192 016 BF91 0192 016 BF92 0192 016 BF90
Housing Surface Mounting With Thermoplastic Cover 			M25 PG16 PG21 M25 PG16 PG21	1 Side Entry 1192 016 BE31 0192 016 BE32 0192 016 BE30 2 Side Entry 1192 016 BF31 0192 016 BF32 0192 016 BF30

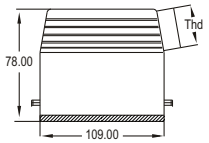
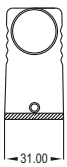
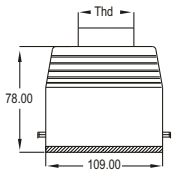
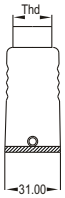
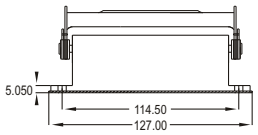
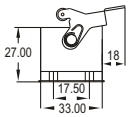
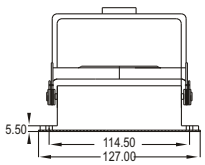
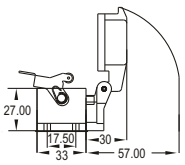
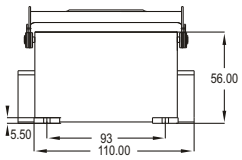
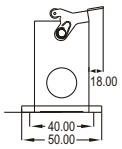
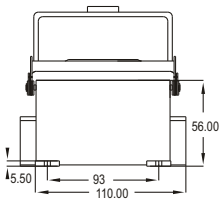
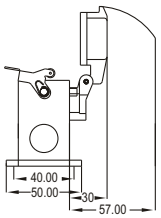
Standard Hoods / Housings for below insert (Male / Female)

Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO CA	Screw Terminal	16A- 250V	24+⏚	34

(Plastic Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part Noo.
Hood Side Entry 			M32 PG21	1192 024 BC32 0192 024 BC30
Hood Top Entry 			M32 PG21	1192 024 BD32 0192 024 BD30
Housing Bulkhead Mounting 				0192 024 PM43
Housing Bulkhead Mounting With Thermoplastic Cover 				0192 024 PM44
Housings Surface Mounting 			M32 PG21 M32 PG21	1 Side Entry 1192 024 BE22 0192 024 BE20 2 Side Entry 1192 024 BF22 0192 024 BF20
Housings Surface Mounting With Thermoplastic Cover 			M32 PG21 M32 PG21	1 Side Entry 1192 024 BE02 0192 024 BE00 2 Side Entry 1192 024 BF02 0192 024 BF00

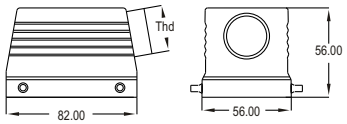
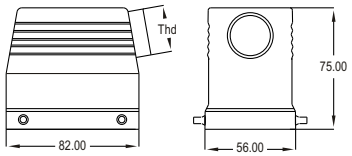
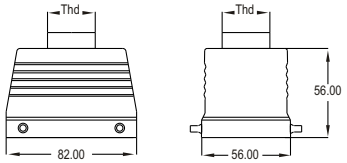
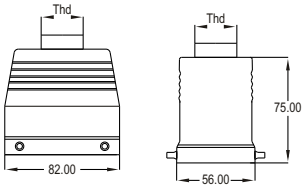
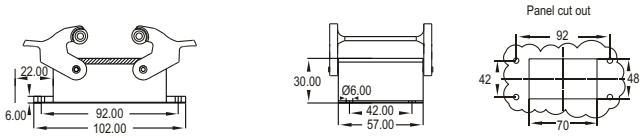
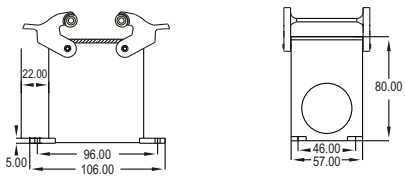
Standard Hoods / Housings
(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M32 PG21	1192 024 BC82 0192 024 BC80
Hood Top Entry 			M32 PG21	1192 024 BD82 0192 024 BD80
Housing Bulkhead Mounting 				0192 024 PM52
Housing Bulkhead Mounting With Thermoplastic Cover 				0192 024 PM55
Housings Surface Mounting 			M32 PG21 M32 PG21	1 Side Entry 1192 024 BE92 0192 024 BE90 2 Side Entry 1192 024 BF92 0192 024 BF90
Housings Surface Mounting With Thermoplastic Cover 			M32 PG21 M32 PG21	1 Side Entry 1192 024 BE32 0192 024 BE30 2 Side Entry 1192 024 BF32 0192 024 BF30

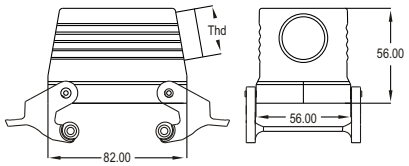
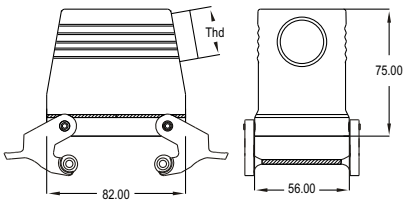
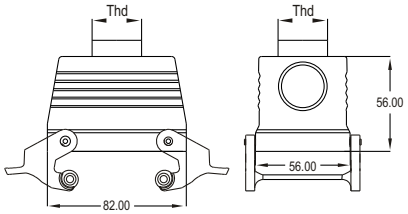
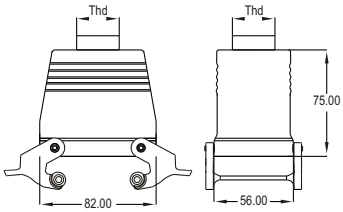
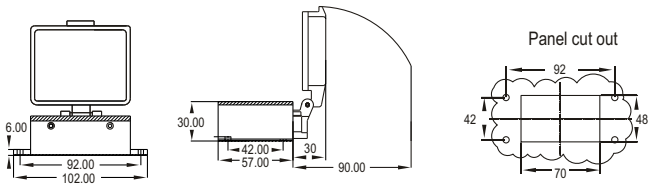
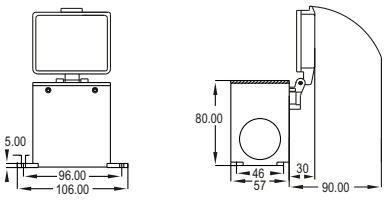
Standard Hoods / Housings for below insert (Male / Female)

Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO CA	Screw Terminal	16 A-250	32 (16x2)+⏚	35
ICO D	Crimp Terminal	10A-250V	50 (25x2)+⏚	45

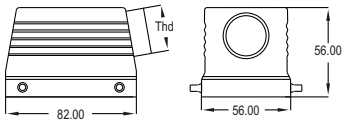
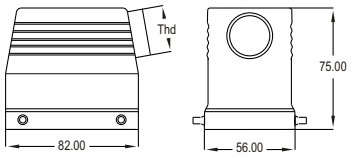
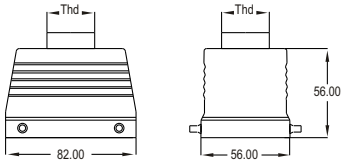
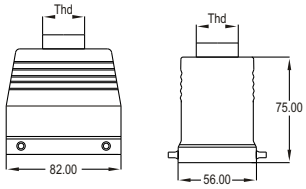
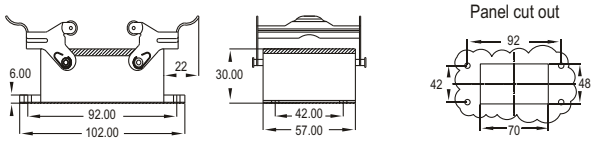
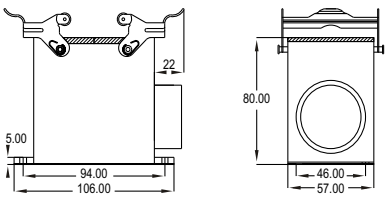
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M32 PG21	1192 032 BC12 0192 032 BC10
Hood Side Entry HC 			M40 PG29	1192 032 AC13 0192 032 AC11
Hood Top Entry 			M32 PG21	1192 032 BD12 0192 032 BD10
Hood Top Entry HC 			M40 PG29	1192 032 AD13 0192 032 AD11
Housing Bulkhead Mounting 				0192 032 PM40
Housing Surface Mounting 			1 Side Entry M32 M40 PG21 PG29 2 Side Entry M32 M40 PG21 PG29	1192 032 BE12 1192 032 BE13 0192 032 BE10 0192 032 BE11 1192 032 BF12 1192 032 BF13 0192 032 BF10 0192 032 BF11

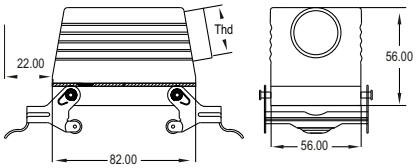
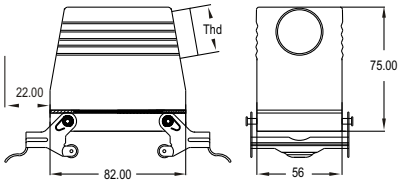
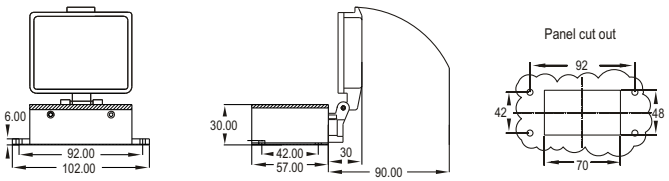
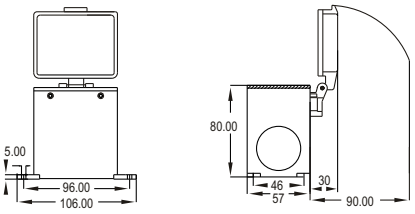
Standard Hoods / Housings
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry with Clamp 			M32 PG21	1192 032 BC22 0192 032 BC20
Hood Side Entry HC with Clamp 			M40 PG29	1192 032 AC23 0192 032 AC21
Hood Top Entry with Clamp 			M32 PG21	1192 032 BD22 0192 032 BD20
Hood Top Entry HC with Clamp 			M40 PG29	1192 032 AD23 0192 032 AD21
Housing Bulkhead Mounting With Thermoplastic Cover 				0192 032 PM45
Housing Surface Mounting With Thermoplastic Cover 			1 Side Entry M32 M40 PG21 PG29 2 Side Entry M32 M40 PG21 PG29	1192 032 BE42 1192 032 BE43 0192 032 BE40 0192 032 BE41 1192 032 BF42 1192 032 BF43 0192 032 BF40 0192 032 BF41

Standard Hoods / Housings
(Metal Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry			M32 PG21	1192 032 BC92 0192 032 BC90
Hood Side Entry HC			M40 PG29	1192 032 AC93 0192 032 AC91
Hood Top Entry			M32 PG21	1192 032 BD92 0192 032 BD90
Hood Top Entry HC			M40 PG29	1192 032 AD93 0192 032 AD91
Housing Bulkhead Mounting				0192 032 PM54
Housing Surface Mounting			1 Side Entry M32 M40 PG21 PG29 2 Side Entry M32 M40 PG21 PG29	1 Side Entry 1192 032 BE62 1192 032 BE63 0192 032 BE60 0192 032 BE61 2 Side Entry 1192 032 BF62 1192 032 BF63 0192 032 BF60 0192 032 BF61

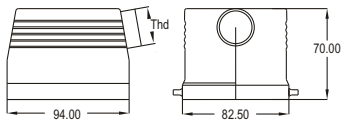
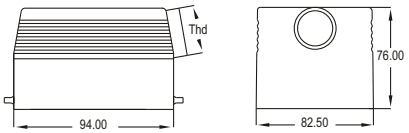
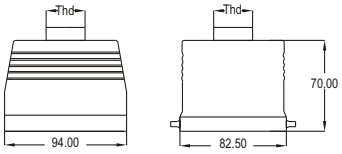
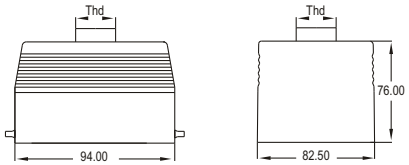
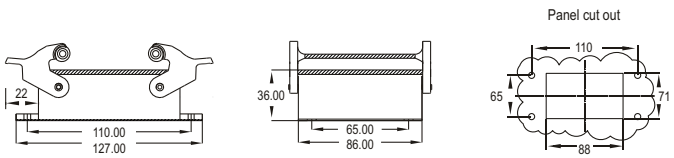
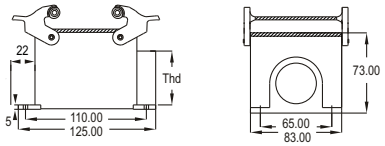
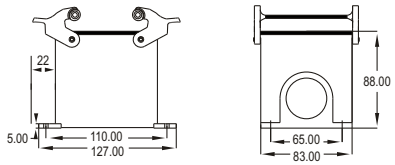
Standard Hoods / Housings
(Metal Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hoods Side Entry with Clamp 			M32 PG21	1192 032 BC42 0192 032 BC40
Hoods Side Entry HC with Clamp 			M40 PG29	1192 032 AC43 0192 032 AC41
Housing Bulkhead Mounting With Thermoplastic Cover 				0192 032 PM51
Housing Surface Mounting With Thermoplastic Cover 			1 Side Entry M32 M40 PG21 PG29 2 Side Entry M32 M40 PG21 PG29	 1192 032 BE72 1192 032 BE73 0192 032 BE70 0192 032 BE71 1192 032 BF72 1192 032 BF73 0192 032 BF70 0192 032 BF71

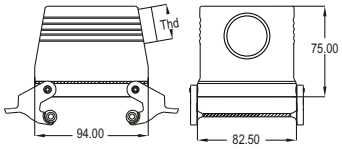
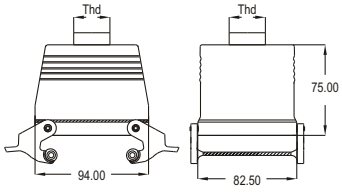
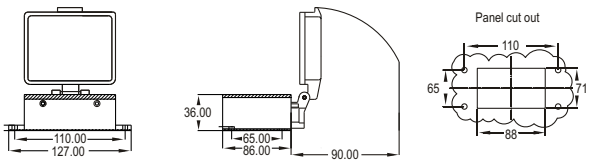
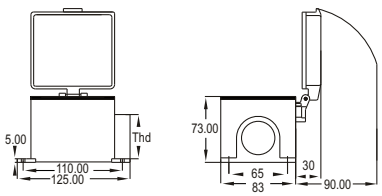
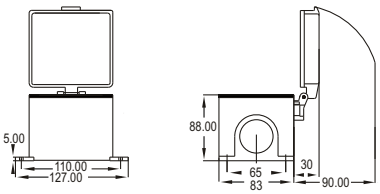
Standard Hoods / Housings for below insert (Male / Female)

Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO CA	Screw Terminal	16 A-250	48 (16x3)+⏚	36

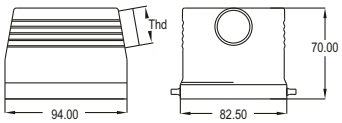
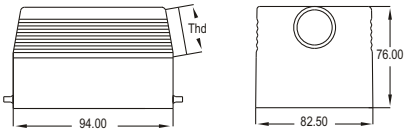
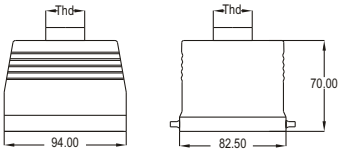
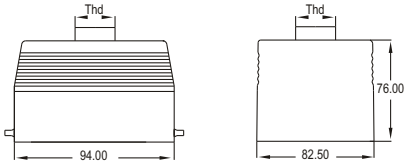
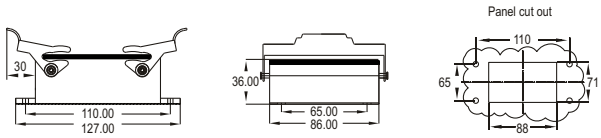
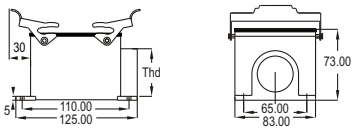
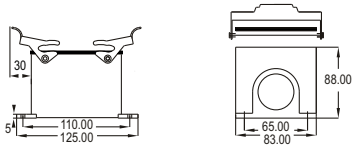
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry			M40 PG29	1192 048 BC13 0192 048 BC11
Hood Side Entry HC			M40 PG29 PG36	1192 048 AC13 0192 048 AC11 0192 048 AC15
Hood Top Entry			M40 PG29	1192 048 BD13 0192 048 BD11
Hood Top Entry HC			M40 PG29 PG36	1192 048 AD13 0192 048 AD11 0192 048 AD15
Housing Bulkhead Mounting				0192 048 PM40
Housings Surface Mounting			M32 M40 PG29 M32 M40 PG29	1 Side Entry 1192 048 BE12 1192 048 BE13 0192 048 BE11 2 Side Entry 1192 048 BF12 1192 048 BF13 0192 048 BF11
Housings Surface Mounting HC			M40 PG29 PG36 M40 PG29 PG36	1 Side Entry 1192 048 AE13 0192 048 AE11 0192 048 AE15 2 Side Entry 1192 048 AF13 0192 048 AF11 0192 048 AF15

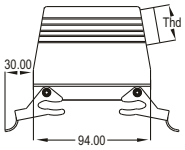
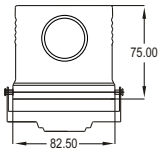
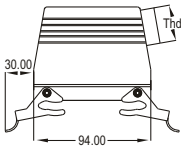
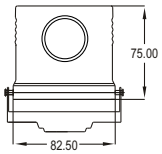
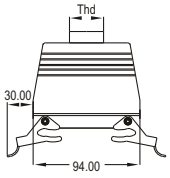
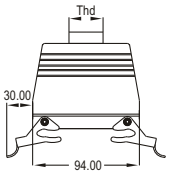
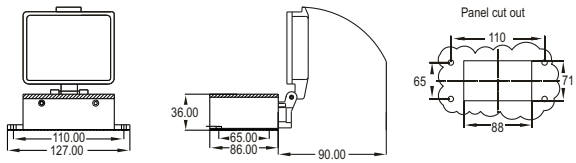
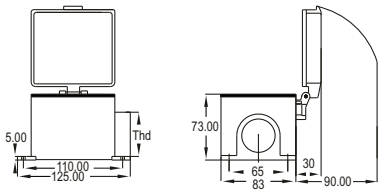
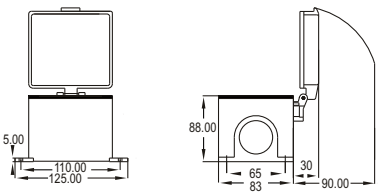
Standard Hoods / Housings
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry HC with Clamp 			M40 PG29	1192 048 AC23 0192 048 AC21
Hood Top Entry HC with Clamp 			M40 PG29	1192 048 AD23 0192 048 AD21
Housing Bulkhead Mounting With Thermoplastic cover 				0192 048 PM45
Housings Surface Mounting With Thermoplastic cover 			1 Side Entry M32 M40 PG29 2 Side Entry M32 M40 PG29	 1192 048 BE42 1192 048 BE43 0192 048 BE41 1192 048 BF42 1192 048 BF43 0192 048 BF41
Housings Surface Mounting HC With Thermoplastic cover 			1 Side Entry M40 PG29 PG36 2 Side Entry M40 PG29 PG36	 1192 048 AE43 0192 048 AE41 0192 048 AE45 1192 048 AF43 0192 048 AF41 0192 048 AF45

Standard Hoods / Housings
(Metal Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M40 PG29	1192 048 BC93 0192 048 BC91
Hood Side Entry HC 			M40 PG29 PG36	1192 048 AC93 0192 048 AC91 0192 048 AC95
Hood Top Entry 			M40 PG29	1192 048 BD93 0192 048 BD91
Hood Top Entry HC 			M40 PG29 PG36	1192 048 AD93 0192 048 AD91 0192 048 AD95
Housing Bulkhead Mounting 				0192 048 PM54
Housings Surface Mounting 			1 Side Entry M32 M40 PG29 2 Side Entry M32 M40 PG29	1192 048 BE62 1192 048 BE63 0192 048 BE61 1192 048 BF62 1192 048 BF63 0192 048 BF61
Housings Surface Mounting HC 			1 Side Entry M40 PG29 PG36 2 Side Entry M40 PG29 PG36	1192 048 AE63 0192 048 AE61 0192 048 AE65 1192 048 AF63 0192 048 AF61 0192 048 AF65

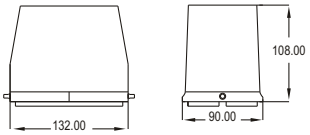
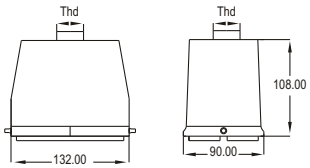
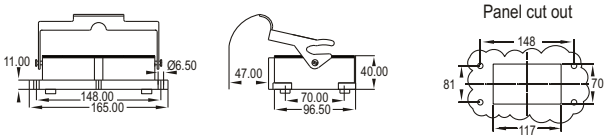
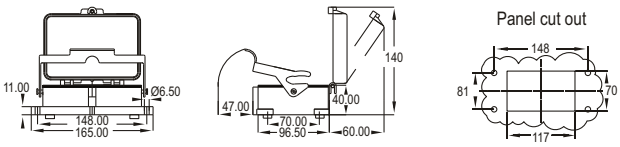
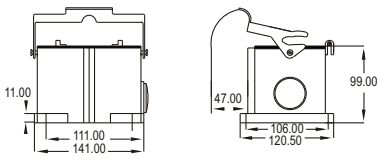
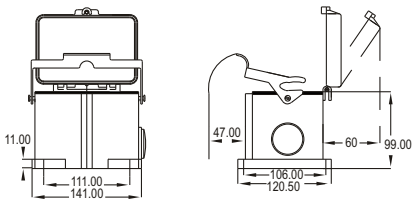
Standard Hoods / Housings
(Metal Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry with Clamp 			M40 PG29	1192 048 BC43 0192 048 BC41
Hood Side Entry HC with Clamp 			M40 PG29 PG36	1192 048 AC43 0192 048 AC41 0192 048 AC45
Hood Top Entry with Clamp 			M40 PG29	1192 048 BD43 0192 048 BD41
Hood Top Entry HC with Clamp 			M40 PG29 PG36	1192 048 AD43 0192 048 AD41 0192 048 AD45
Housing Bulkhead Mounting With Thermoplastic cover 				0192 048 PM51
Housings Surface Mounting With Thermoplastic cover 			1 Side Entry M32 M40 PG29 2 Side Entry M32 M40 PG29	 1192 048 BE72 1192 048 BE73 0192 048 BE71 1192 048 BF72 1192 048 BF73 0192 048 BF71
Housings Surface Mounting HC With Thermoplastic cover 			1 Side Entry M40 PG29 PG36 2 Side Entry M40 PG29 PG36	 1192 048 AE73 0192 048 AE71 0192 048 AE75 1192 048 AF73 0192 048 AF71 0192 048 AF75

Standard Hoods / Housings for below insert (Male / Female)

Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO CA	Screw Terminal	16 A-250	64 (16x4)+⏚	37
ICO CA	Screw Terminal	16 A-250V	72 (24x3)+⏚	38

(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry HC 			M40 M50 PG29 PG36	1192 072 AC83 1192 072 AC84 0192 072 AC81 0192 072 AC85
Hood Top Entry HC 			M40 M50 PG29 PG36	1192 072 AD83 1192 072 AD84 0192 072 AD81 0192 072 AD85
Housing Bulkhead Mounting 				0192 072 PM46
Housing Bulkhead Mounting with Thermoplastic Cover 				0192 072 PM47
Housing Surface Mounting HC 			1 Side Entry M40 M50 PG29 PG36 2 Side Entry M40 M50 PG29 PG36	1192 072 AE93 1192 072 AE94 0192 072 AE91 0192 072AE95 1192 072 AF93 1192 072 AF94 0192 072 AF91 0192 072 AF95
Housing Surface Mounting HC with Thermoplastic Cover 			1 Side Entry M40 M50 PG29 PG36 2 Side Entry M40 M50 PG29 PG36	1192 072 AE33 1192 072 AE34 0192 072 AE31 0192 072 AE35 1192 072 AF33 1192 072 AF34 0192 072 AF31 0192 072 AF35

TECHNICAL CHARACTERISTICS

SIZE 6B TO 48B

Metal Hoods & Housings IP65 (Plastic Lever)	
Material	Aluminium die -cast
Colour	Grey RAL 7037
Surface Finish	Epoxy powder coating
Locking Lever	Single/Double Clamp (Plastic)
Material	Polycarbonate with metal insert
Hoods/ Housing seal	NBR
Limiting temperatures	-40...+125°C
Degree of protection acc.to DIN EN	
60 529 for coupled connector	IP65

Metal Hoods & Housings IP65 (Metal Lever)	
Material	Aluminium die -cast
Colour	Grey RAL 7037
Surface Finish	Epoxy powder coating
Locking Lever	Single/Double Clamp (Metal)
Surface Finish	Zink Blue Plating
Hoods/ Housing seal	NBR
Limiting temperatures	-40...+125°C
Degree of protection acc.to DIN EN	
60 529 for coupled connector	IP65

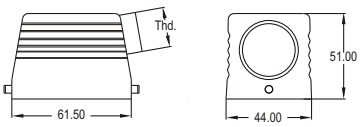
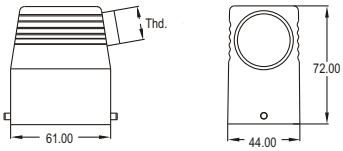
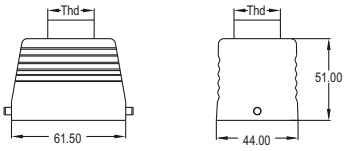
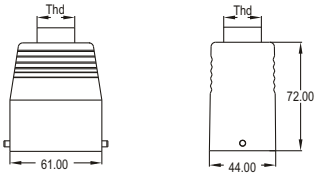
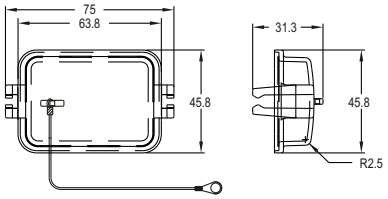
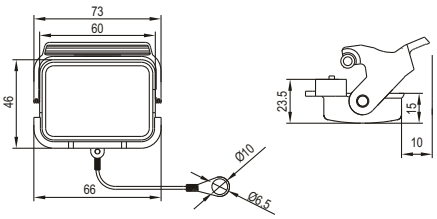
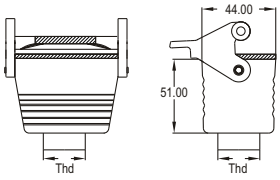
HPR - SIZE 6B, 10B, 16B & 24B

HPR Pressure tight Hoods /Housings for I IP68	
Material	Aluminium die -cast
Colour	Black
Surface	Epoxy powder coating
Locking	Screw looking
Surface Finish	Stainless steel
Hoods/ Housing seal	NBR
Limiting temperatures	-40...+125 °C
Degree of protection acc.to DIN EN	
60 529 for coupled connectorr	IP68

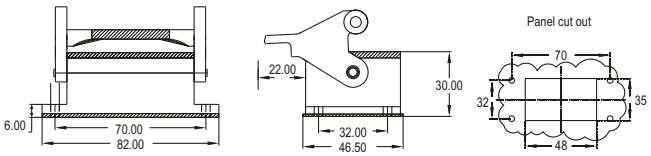
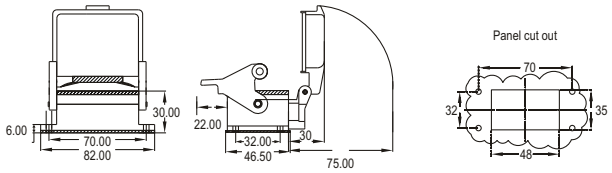
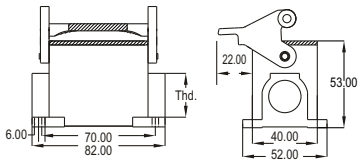
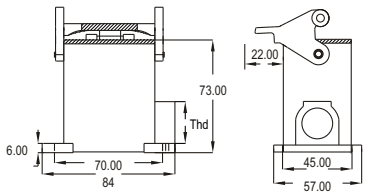
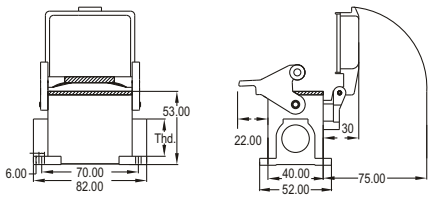
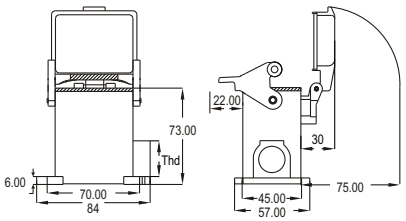
Standard Hoods / Housings for below insert (Male / Female)

Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO A	Screw Terminal	16A 500V	6+ ⏚	9
ICO AA	Screwless Spring Terminal	16A 500V	6+ ⏚	9
ICO AB	Crimp Terminal	16A 500V	6+ ⏚	9
ICO ABS	Crimp Terminal	16A 500V	10+ ⏚	19
ICO DD	Crimp Terminal	10 A-250 V	24+ ⏚	51

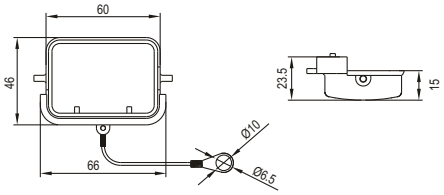
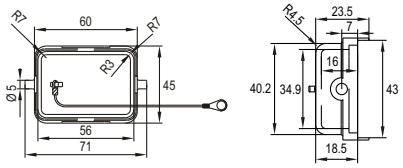
(Plastic Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M20 M25 PG13.5 PG16	1191 006 BC30 1191 006 BC31 0191 006 BC33 0191 006 BC32
Hood Side Entry HC 			M25 M32 PG21 PG29	1191 006 AC31 1191 006 AC32 0191 006 AC30 0191 006 AC31
Hood Top Entry 			M20 M25 PG13.5 PG16	1191 006 BD30 1191 006 BD31 0191 006 BD33 0191 006 BD32
Hood Top Entry HC 			M25 M32 PG21 PG29	1191 006 AD31 1191 006 AD32 0191 006 AD30 0191 006 AD31
Protection Cover for Hood Thermoplastic 				0191 006 P220
Protection Cover for Hood Metal 				0191 006 M120
Hood Cable to Cable 			M20 M25 PG13.5 PG16	1191 006 BM30 1191 006 BM31 0191 006 BM33 0191 006 BM32

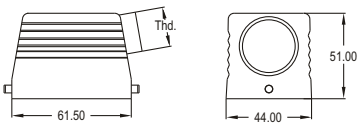
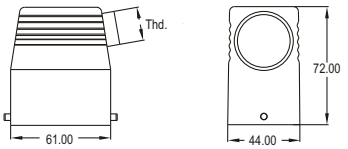
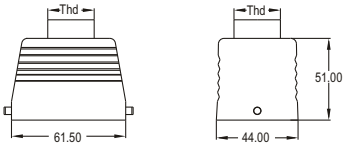
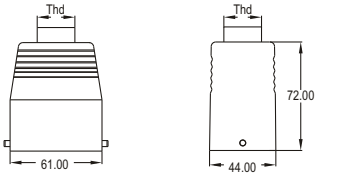
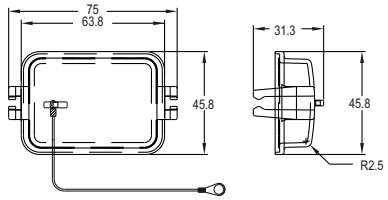
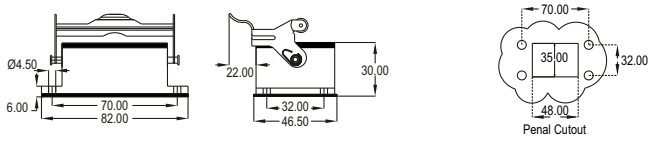
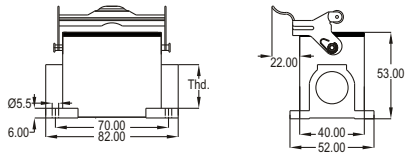
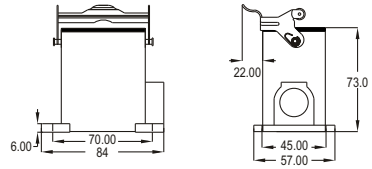
Standard Hoods / Housings
(Plastic Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Bulkhead Mounting 				0191 006 PM43
Housing Bulkhead Mounting With Thermoplastic Cover 				0191 006 PM44
Housing Surface Mounting 			1 Side Entry M20 M25 PG13.5 PG16 2 Side Entry M20 M25 PG13.5 PG16	1 Side Entry 1191 006 BE20 1191 006 BE21 0191 006 BE23 0191 006 BE22 2 Side Entry 1191 006 BF20 1191 006 BF21 0191 006 BF23 0191 006 BF22
Housing Surface Mounting HC 			1 Side Entry M32 PG21 PG29 2 Side Entry M32 PG21 PG29	1 Side Entry 1191 006 AE22 0191 006 AE20 0191 006 AE21 2 Side Entry 1191 006 AF22 0191 006 AF20 0191 006 AF21
Housing Surface Mounting With Thermoplastic Cover 			1 Side Entry M20 M25 PG13.5 PG16 2 Side Entry M20 M25 PG13.5 PG16	1 Side Entry 1191 006 BE00 1191 006 BE01 0191 006 BE03 0191 006 BE02 2 Side Entry 1191 006 BF00 1191 006 BF01 0191 006 BF03 0191 006 BF02
Housing Surface Mounting HC With Thermoplastic Cover 			1 Side Entry M25 M32 PG21 PG29 2 Side Entry M25 M32 PG21 PG29	1 Side Entry 1191 006 AE01 1191 006 AE02 0191 006 AE00 0191 006 AE01 2 Side Entry 1191 006 AF01 1191 006 AF02 0191 006 AF00 0191 006 AF01

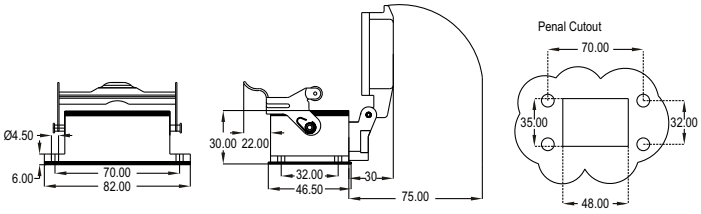
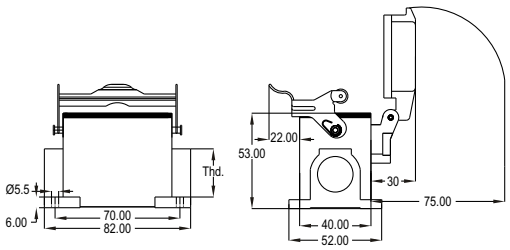
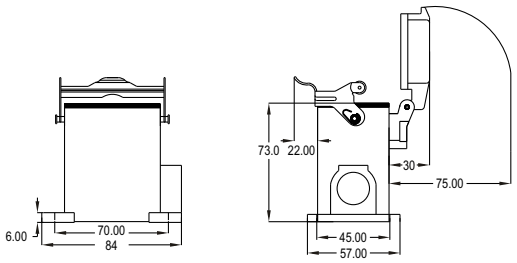
Standard Hoods / Housings

Identification	Drawing	Dimension in mm.	Thread	Part No.
Protection Cover for Housing-Metal 				0191 006 M020
Protection Cover for Housing Thermoplastic 				0191 006 P020

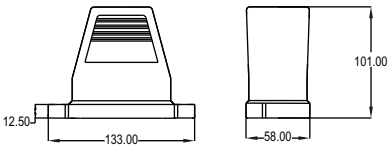
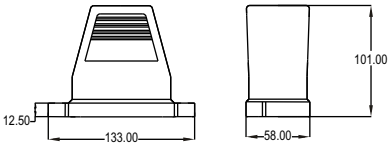
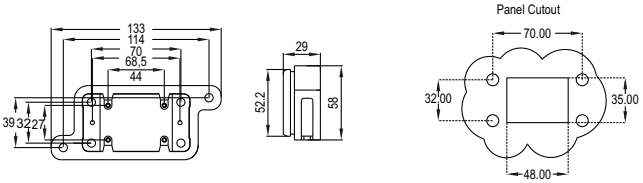
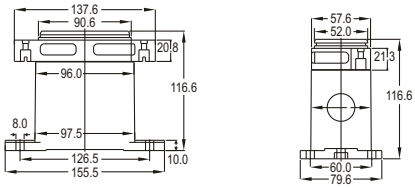
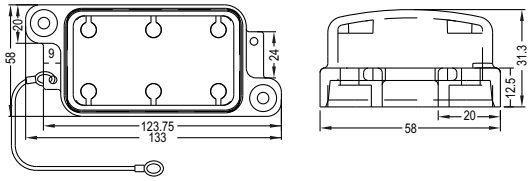
Standard Hoods / Housings
(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M20 M25 PG13.5 PG16	1191 006 BC30 1191 006 BC31 0191 006 BC33 0191 006 BC32
Hood Side Entry HC 			M25 M32 PG21 PG29	1191 006 AC31 1191 006 AC32 0191 006 AC30 0191 006 AC31
Hood Top Entry 			M20 M25 PG13.5 PG16	1191 006 BD30 1191 006 BD31 0191 006 BD33 0191 006 BD32
Hood Top Entry HC 			M25 M32 PG21 PG29	1191 006 AD31 1191 006 AD32 0191 006 AD30 0191 006 AD31
Protection Cover for Hood Thermoplastic 				0191 006 P220
Housing Bulkhead Mounting 				0191 006 PM52
Housing Surface Mounting 			M20 M25 PG13.5 PG16 M20 M25 PG13.5 PG16	1 Side Entry 1191 006 BE90 1191 006 BE91 0191 006 BE93 0191 006 BE92 2 Side Entry 1191 006 BF90 1191 006 BF91 0191 006 BF93 0191 006 BF92
Housing Surface Mounting HC 			M32 PG21 PG29 M32 PG21 PG29	1 Side Entry 1191 006 AE92 0191 006 AE90 0191 006 AE91 2 Side Entry 1191 006 AF92 0191 006 AF90 0191 006 AF91

Standard Hoods / Housings
(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Bulkhead Mounting with Thermoplastic Cover				0191 006 PM55
Housing Surface Mounting with Thermoplastic Cover				1 Side Entry
			M20	1191 006 BE30
			M25	1191 006 BE31
			PG13.5	0191 006 BE33
			PG16	0191 006 BE32
				2 Side Entry
			M20	1191 006 BF30
			M25	1191 006 BF31
			PG13.5	0191 006 BF33
			PG16	0191 006 BF32
Housing Surface Mounting HC with Thermoplastic Cover				1 Side Entry
			M32	1191 006 AE32
			PG21	0191 006 AE30
			PG29	0191 006 AE31
				2 Side Entry
			M32	1191 006 AF32
			PG21	0191 006 AF30
			PG29	0191 006 AF31

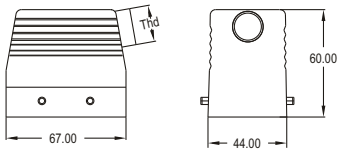
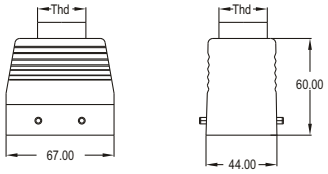
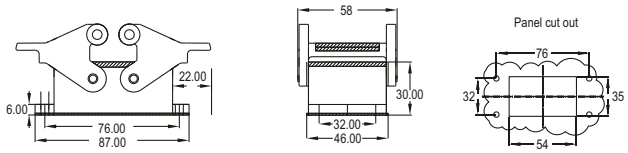
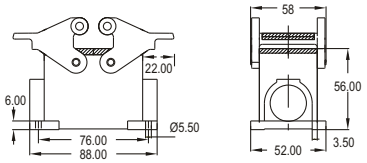
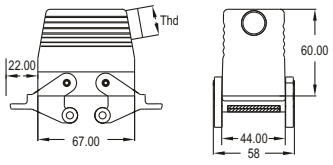
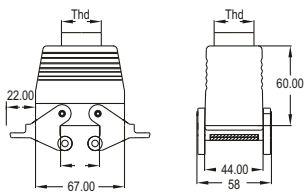
Standard Hoods / Housings

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood HPR 			M25 M32 PG16 PG21	1171 006 AC01 1171 006 AC02 0171 006 AC02 0171 006 AC00
Hood Top Entry HPR 			M25 M32 PG16 PG21	1171 006 AD01 1171 006 AD02 0171 006 AD02 0171 006 AD00
Housing Bulkhead Mounting HPR 				0171 006 PM53
Housing Surface Mounting HPR 			1 Side Entry M25 M32 PG16 PG21 2 Side Entry M25 M32 PG16 PG21	1171 006 AE81 1171 006 AE82 0171 006 AE82 0171 006 AE80 1171 006 AF81 1171 006 AF82 0171 006 AF82 0171 006 AF80
Protection Cover for Metal HPR 				0171 006 M032

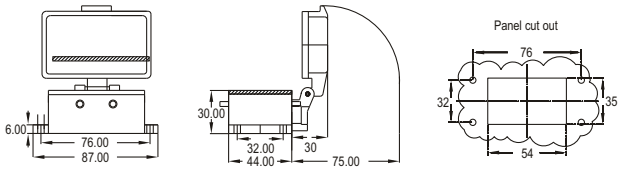
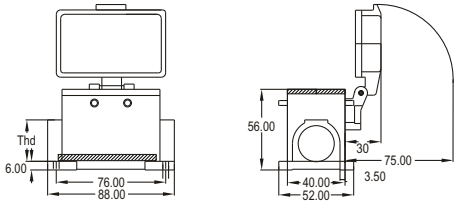
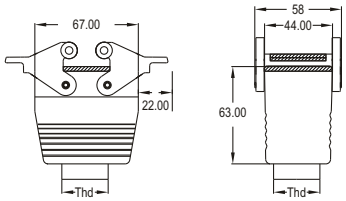
Standard Hoods / Housings for below insert (Male / Female)

Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO A	Screw Terminal	16A 500V	8+ ⏚	10

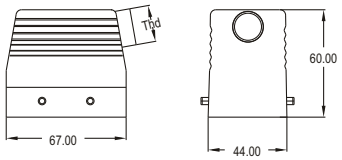
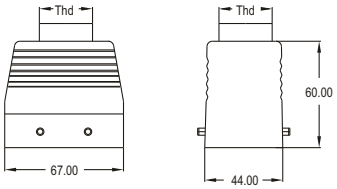
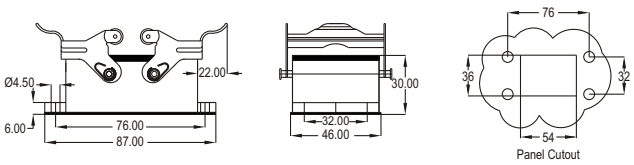
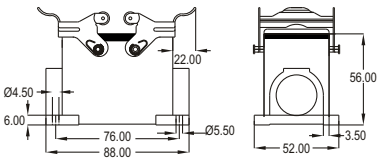
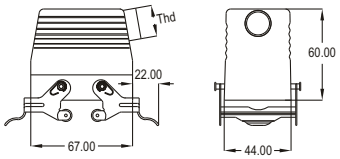
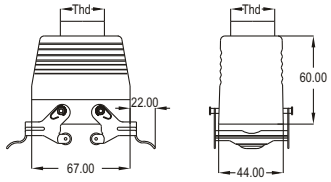
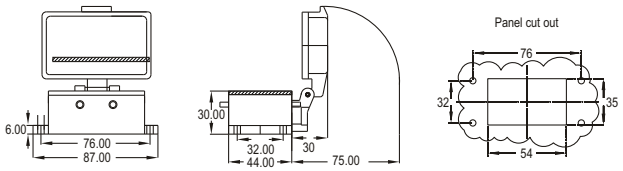
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry			M20 M25 PG13.5 PG16	1191 008 BC10 1191 008 BC11 0191 008 BC13 0191 008 BC12
Hood Top Entry			M20 M25 PG13.5 PG16	1191 008 BD10 1191 008 BD11 0191 008 BD13 0191 008 BD12
Housing Bulkhead Mounting				0191 008 PM40
Housing Surface Mounting			M20 M25 PG13.5 PG16 M20 M25 PG13.5 PG16	1 Side Entry 1191 008 BE10 1191 008 BE11 0191 008 BE13 0191 008 BE12 2 Side Entry 1191 008 BF10 1191 008 BF11 0191 008 BF13 0191 008 BF12
Hood Side Entry with Clamp			M20 M25 PG13.5 PG16	1191 008 BC20 1191 008 BC21 0191 008 BC23 0191 008 BC22
Hood Top Entry with Clamp			M20 M25 PG13.5 PG16	1191 008 BD20 1191 008 BD21 0191 008 BD23 0191 008 BD22

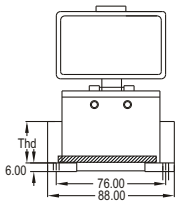
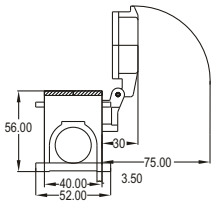
Standard Hoods / Housings
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Bulkhead Mounting With Thermoplastic Cover 				0191 008 PM45
Housing Surface Mounting With Thermoplastic Cover 			M20 M25 PG13.5 PG16 M20 M25 PG13.5 PG16	1 Side Entry 1191 008 BE40 1191 008 BE41 0191 008 BE43 0191 008 BE42 2 Side Entry 1191 008 BF40 1191 008 BF41 0191 008 BF43 0191 008 BF42
Hood Cable to Cable 			M20 M25 PG13.5 PG16	1191 008 BM10 1191 008 BM11 0191 008 BM13 0191 008 BM12

Standard Hoods / Housings
(Metal Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry			M20 M25 PG13.5 PG16	1191 008 BC90 1191 008 BC91 0191 008 BC93 0191 008 BC92
Hood Top Entry			M20 M25 PG13.5 PG16	1191 008 BD90 1191 008 BD91 0191 008 BD93 0191 008 BD92
Housing Bulkhead Mounting				0191 008 PM54
Housing Surface Mounting			M20 M25 PG13.5 PG16 M20 M25 PG13.5 PG16	1 Side Entry 1191 008 BE60 1191 008 BE61 0191 008 BE63 0191 008 BE62 2 Side Entry 1191 008 BF60 1191 008 BF61 0191 008 BF63 0191 008 BF62
Hood Side Entry with Clamp			M20 M25 PG13.5 PG16	1191 008 BC40 1191 008 BC41 0191 008 BC43 0191 008 BC42
Hood Top Entry with Clamp			M20 M25 PG13.5 PG16	1191 008 BD40 1191 008 BD41 0191 008 BD43 0191 008 BD42
Housing Bulkhead Mounting With Thermoplastic Cover				0191 008 PM51

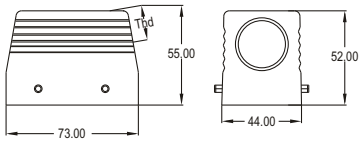
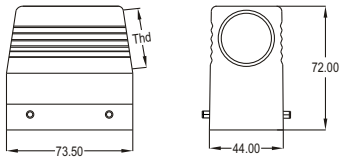
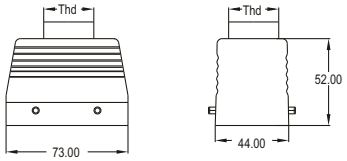
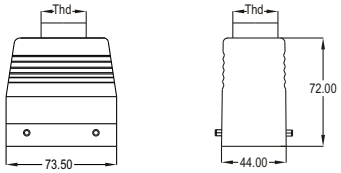
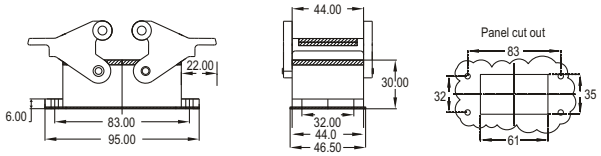
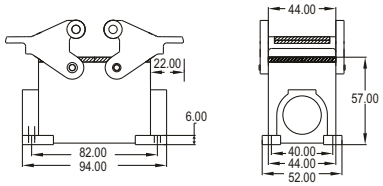
Standard Hoods / Housings
(Metal Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Surface Mounting With Thermoplastic Cover 			M20 M25 PG13.5 PG16 M20 M25 PG13.5 PG16	1 Side Entry 1191 008 BE70 1191 008 BE71 0191 008 BE73 0191 008 BE72 2 Side Entry 1191 008 BF70 1191 008 BF71 0191 008 BF73 0191 008 BF72

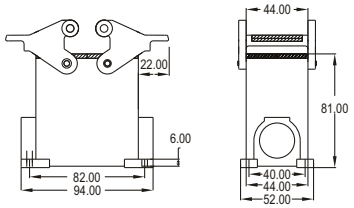
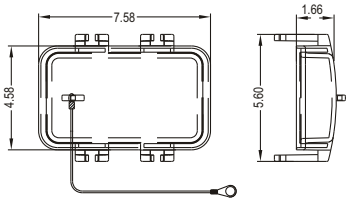
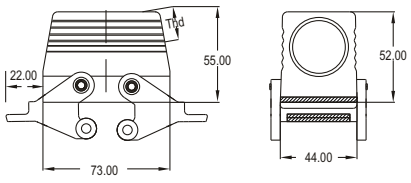
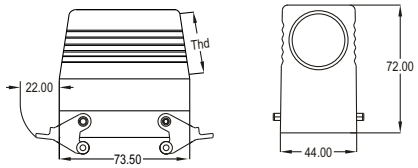
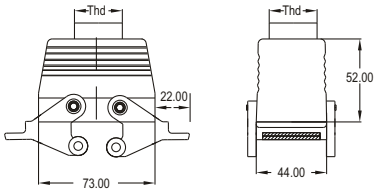
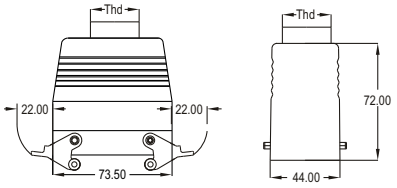
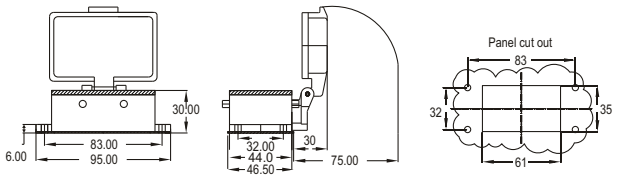
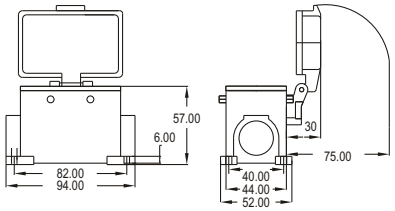
Standard Hoods / Housings for below insert (Male / Female)

Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO A	Screw Terminal	16A 500V	10+ ⏚	11
ICO AA	Screwless Spring Terminal	16A 500V	10+ ⏚	11
ICO AB	Crimp Terminal	16A 500V	10+ ⏚	11
ICO ABS	Crimp Terminal	16A 500V	18+ ⏚	20
ICO DD	Crimp Terminal	10 A-250 V	42+ ⏚	52

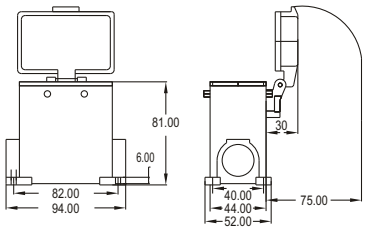
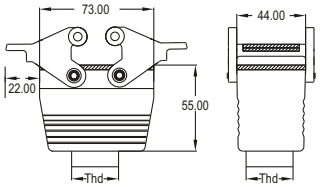
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M20 M25 PG13.5 PG16	1191 010 BC10 1191 010 BC11 0191 010 BC13 0191 010 BC12
Hood Side Entry HC 			M32 PG21 PG29	1191 010 AC12 0191 010 AC10 0191 010 AC11
Hood Top Entry 			M20 M25 PG13.5 PG16	1191 010 BD10 1191 010 BD11 0191 010 BD13 0191 010 BD12
Hood Top Entry HC 			M32 PG21 PG29	1191 010 AD12 0191 010 AD10 0191 010 AD11
Housing Bulkhead Mounting 				0191 010 PM40
Housing Surface Mounting 			M20 M25 PG16 M20 M25 PG16	1 Side Entry 1191 010 BE10 1191 010 BE11 0191 010 BE12 2 Side Entry 1191 010 BF10 1191 010 BF11 0191 010 BF12

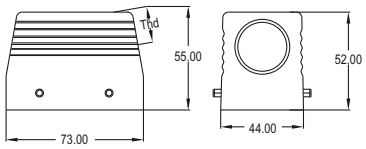
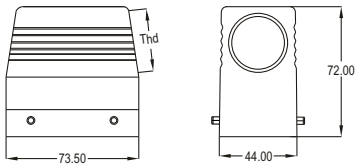
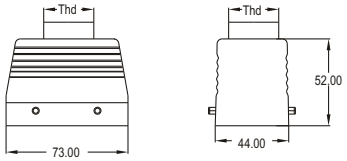
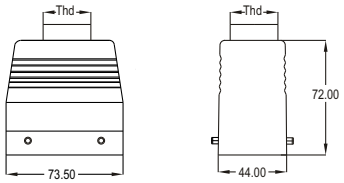
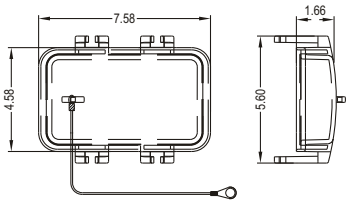
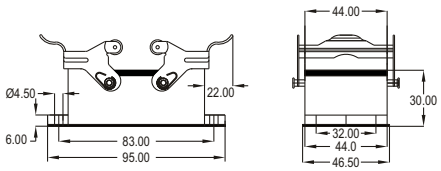
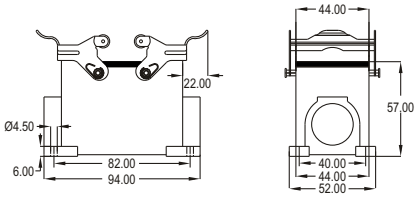
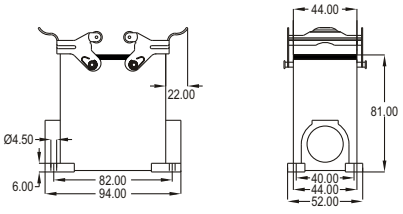
Standard Hoods / Housings
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Surface Mounting HC 			M32 PG21 PG29 M32 PG21 PG29	1 Side Entry 1191 010 AE12 0191 010 AE10 0191 010 AE11 2 Side Entry 1191 010 AF12 0191 010 AF10 0191 010 AF11
Protection Cover for Hood Thermoplastic 				0191 010 P210
Hood Side Entry with Clamp 			M20 M25 PG13.5 PG16	1191 010 BC20 1191 010 BC21 0191 010 BC23 0191 010 BC22
Hood Side Entry HC with Clamp 			M32 PG21 PG29	1191 010 AC22 0191 010 AC20 0191 010 AC21
Hood Top Entry with Clamp 			M20 M25 PG13.5 PG16	1191 010 BD20 1191 010 BD21 0191 010 BD23 0191 010 BD22
Hood Top Entry HC with Clamp 			M32 PG21 PG29	1191 010 AD22 0191 010 AD20 0191 010 AD21
Housing Bulkhead Mounting With Thermoplastic Cover 				0191 010 PM45
Housing Surface Mounting With Thermoplastic Cover 			M20 M25 PG16 M20 M25 PG16	1 Side Entry 1191 010 BE40 1191 010 BE41 0191 010 BE42 2 Side Entry 1191 010 BF40 1191 010 BF41 0191 010 BF42

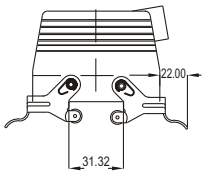
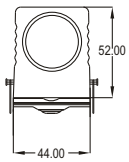
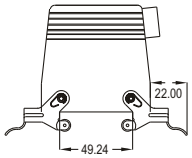
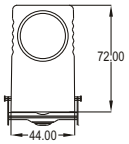
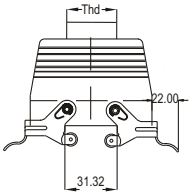
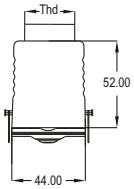
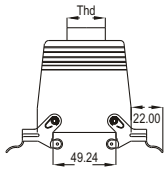
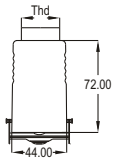
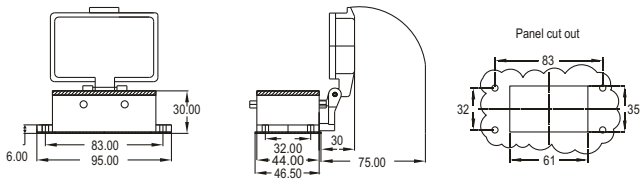
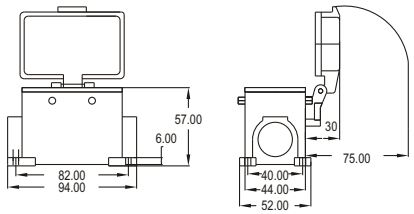
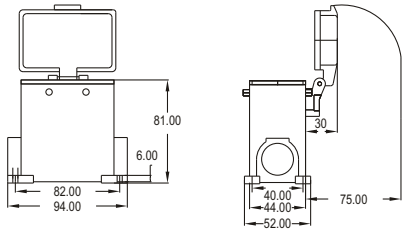
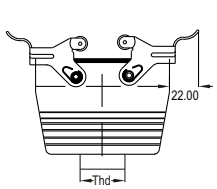
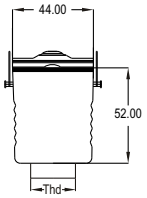
Standard Hoods / Housings
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Surface Mounting HC With Thermoplastic Cover 			M32 PG21 PG29 M32 PG21 PG29	1 Side Entry 1191 010 AE42 0191 010 AE40 0191 010 AE41 2 Side Entry 1191 010 AF42 0191 010 AF40 0191 010 AF41
Hood Cable to Cable 			M20 M25 PG13.5 PG16	1191 010 BM10 1191 010 BM11 0191 010 BM13 0191 010 BM12

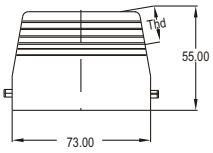
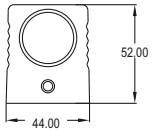
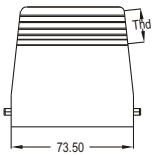
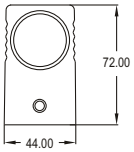
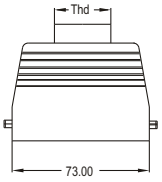
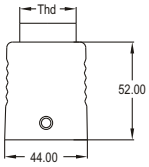
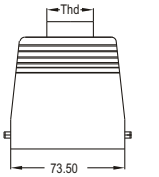
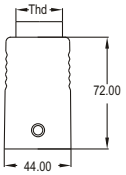
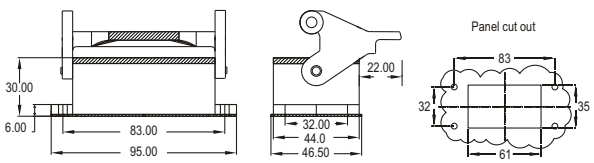
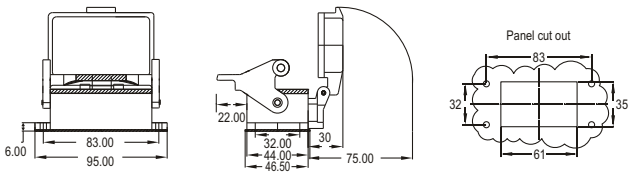
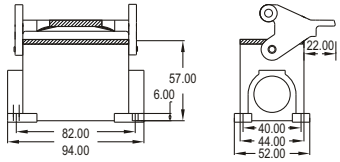
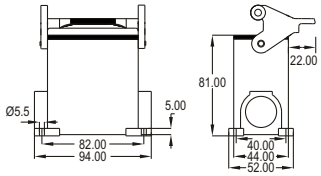
Standard Hoods / Housings
(Metal Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M20 M25 PG13.5 PG16	1191 010 BC90 1191 010 BC91 0191 010 BC93 0191 010 BC92
Hood Side Entry HC 			M32 PG21 PG29	1191 010 AC92 0191 010 AC90 0191 010 AC91
Hood Top Entry 			M20 M25 PG13.5 PG16	1191 010 BD90 1191 010 BD91 0191 010 BD93 0191 010 BD92
Hood Top Entry HC 			M32 PG21 PG29	1191 010 AD92 0191 010 AD90 0191 010 AD91
Protection Cover for Hood Thermoplastic 				0191 010 P210
Housing Bulkhead Mounting 				0191 010 PM54
Housing Surface Mounting 			M20 M25 PG16 M20 M25 PG16	1 Side Entry 1191 010 BE60 1191 010 BE61 0191 010 BE62 2 Side Entry 1191 010 BF60 1191 010 BF61 0191 010 BF62
Housing Surface Mounting HC 			M32 PG21 PG29 M32 PG21 PG29	1 Side Entry 1191 010 AE62 0191 010 AE60 0191 010 AE61 2 Side Entry 1191 010 AF62 0191 010 AF60 0191 010 AF61

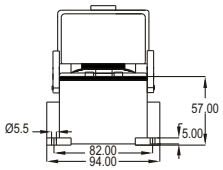
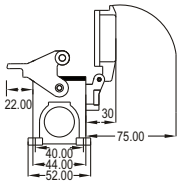
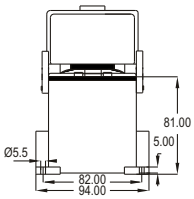
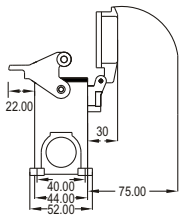
Standard Hoods / Housings
(Metal Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry with Clamp 			M20 M25 PG13.5 PG16	1191 010 BC40 1191 010 BC41 0191 010 BC43 0191 010 BC42
Hood Side Entry HC with Clamp 			M32 PG21 PG29	1191 010 AC42 0191 010 AC40 0191 010 AC41
Hood Top Entry with Clamp 			M20 M25 PG13.5 PG16	1191 010 BD40 1191 010 BD41 0191 010 BD43 0191 010 BD42
Hood Top Entry HC with Clamp 			M32 PG21 PG29	1191 010 AD42 0191 010 AD40 0191 010 AD41
Housing Bulkhead Mounting With Thermoplastic Cover 				0191 010 PM51
Housing Surface Mounting With Thermoplastic Cover 			1 Side Entry M20 M25 PG16 2 Side Entry M20 M25 PG16	1 Side Entry 1191 010 BE70 1191 010 BE71 0191 010 BE72 2 Side Entry 1191 010 BF70 1191 010 BF71 0191 010 BF72
Housing Surface Mounting HC With Thermoplastic Cover 			1 Side Entry M32 PG21 PG29 2 Side Entry M32 PG21 PG29	1 Side Entry 1191 010 AE72 0191 010 AE70 0191 010 AE71 2 Side Entry 1191 010 AF72 0191 010 AF70 0191 010 AF71
Hood Cable to Cable 			M20 M25 PG13.5 PG16	1191 010 BM90 1191 010 BM91 0191 010 BM93 0191 010 BM92

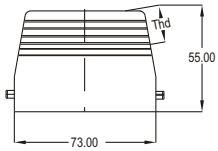
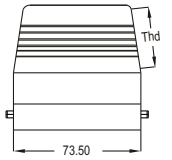
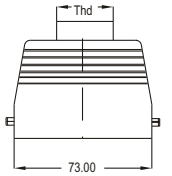
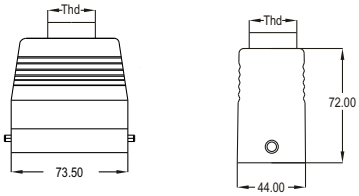
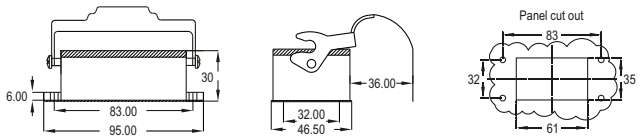
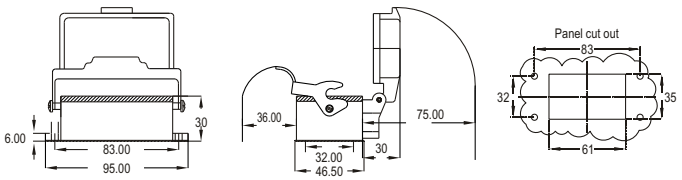
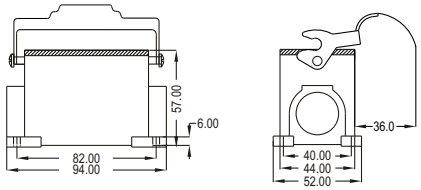
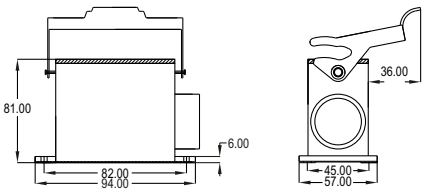
Standard Hoods / Housings
(Plastic Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M20 M25 PG13.5 PG16	1191 010 BC80 1191 010 BC81 0191 010 BC83 0191 010 BC82
Hood Side Entry HC 			M32 PG21 PG29	1191 010 AC82 0191 010 AC80 0191 010 AC81
Hood Top Entry 			M20 M25 PG13.5 PG16	1191 010 BD80 1191 010 BD81 0191 010 BD83 0191 010 BD82
Hood Top Entry HC 			M32 PG21 PG29	1191 010 AD82 0191 010 AD80 0191 010 AD81
Housing Bulkhead Mounting 				0191 010 PM43
Housing Bulkhead Mounting with Thermoplastic Cover 				0191 010 PM44
Housing Surface Mounting 			1 Side Entry M20 M25 PG16 2 Side Entry M20 M25 PG16	1191 010 BE20 1191 010 BE21 0191 010 BE22 1191 010 BF20 1191 010 BF21 0191 010 BF22
Housing Surface Mounting HC 			1 Side Entry M32 PG21 PG29 2 Side Entry M32 PG21 PG29	1191 010 AE22 0191 010 AE20 0191 010 AE21 1191 010 AF22 0191 010 AF20 0191 010 AF21

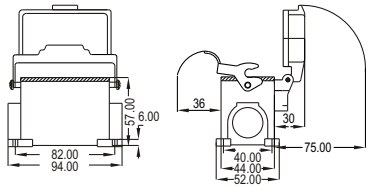
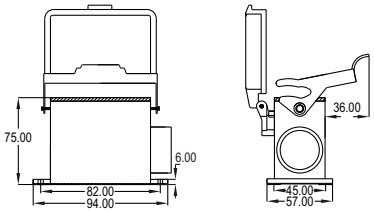
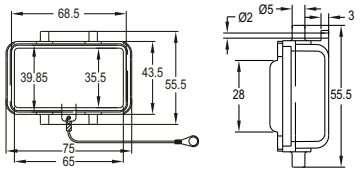
Standard Hoods / Housings
(Plastic Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Surface Mounting With Thermoplastic Cover 			M20 M25 PG16 M20 M25 PG16	1 Side Entry 1191 010 BE00 1191 010 BE01 0191 010 BE02 2 Side Entry 1191 010 BF00 1191 010 BF01 0191 010 BF02
Housing Surface Mounting HC With Thermoplastic Cover 			M32 PG21 PG29 M32 PG21 PG29	1 Side Entry 1191 010 AE02 0191 010 AE00 0191 010 AE01 2 Side Entry 1191 010 AF02 0191 010 AF00 0191 010 AF01

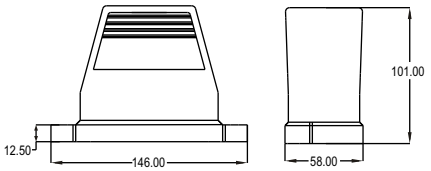
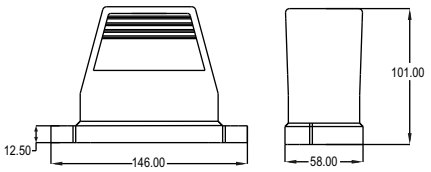
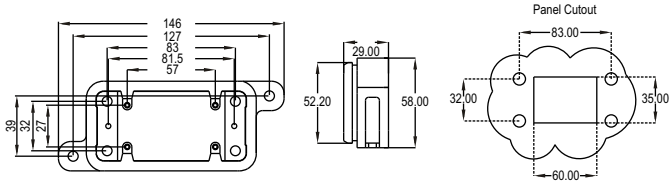
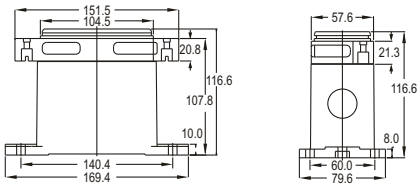
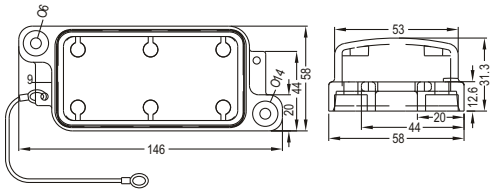
Standard Hoods / Housings
(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M20 M25 PG13.5 PG16	1191 010 BC80 1191 010 BC81 0191 010 BC83 0191 010 BC82
Hood Side Entry HC 			M32 PG21 PG29	1191 010 AC82 0191 010 AC80 0191 010 AC81
Hood Top Entry 			M20 M25 PG13.5 PG16	1191 010 BD80 1191 010 BD81 0191 010 BD83 0191 010 BD82
Hood Top Entry HC 			M32 PG21 PG29	1191 010 AD82 0191 010 AD80 0191 010 AD81
Housing Bulkhead Mounting 				0191 010 PM52
Housing Bulkhead Mounting With Thermoplastic Cover 				0191 010 PM55
Housing Surface Mounting 			M20 M25 PG16 M20 M25 PG16	1 Side Entry 1191 010 BE90 1191 010 BE91 0191 010 BE92 2 Side Entry 1191 010 BF90 1191 010 BF91 0191 010 BF92
Housing Surface Mounting HC 			M32 PG21 PG29 M32 PG21 PG29	1 Side Entry 1191 010 AE92 0191 010 AE90 0191 010 AE91 2 Side Entry 1191 010 AF92 0191 010 AF90 0191 010 AF91

Standard Hoods / Housings
(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Surface Mounting With Thermoplastic Cover 			M20 M25 PG16 M20 M25 PG16	1 Side Entry 1191 010 BE30 1191 010 BE31 0191 010 BE32 2 Side Entry 1191 010 BF30 1191 010 BF31 0191 010 BF32
Housing Surface Mounting HC With Thermoplastic Cover 			M32 PG21 PG29 M32 PG21 PG29	1 Side Entry 1191 010 AE32 0191 010 AE30 0191 010 AE31 2 Side Entry 1191 010 AF32 0191 010 AF30 0191 010 AF31
protection Cover for Housing Thermoplastic 				0191 010 P010

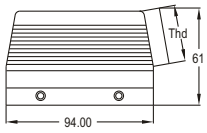
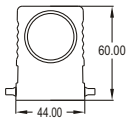
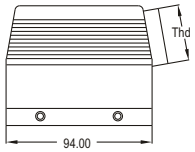
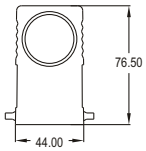
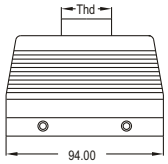
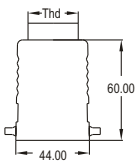
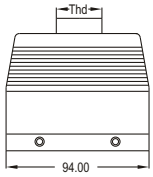
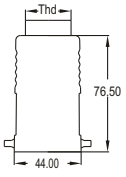
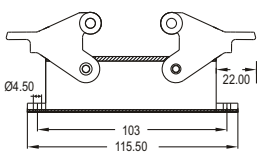
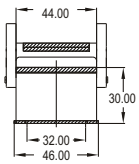
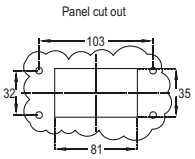
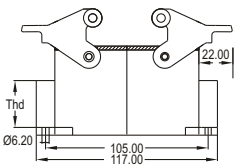
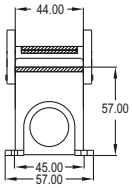
Standard Hoods / Housings

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood HPR 			M25 M32 PG21 PG29	1171 010 AC01 1171 010 AC02 0171 010 AC00 0171 010 AC01
Hood Top Entry HPR 			M25 M32 PG21 PG29	1171 010 AD01 1171 010 AD02 0171 010 AD00 0171 010 AD01
Housing Bulkhead Mounting HPR 				0171 010 PM53
Housing Surface Mounting HPR 			M25 M32 PG21 PG29 M25 M32 PG21 PG29	1 Side Entry 1171 010 AE81 1171 010 AE82 0171 010 AE80 0171 010 AE81 2 Side Entry 1171 010 AF81 1171 010 AF82 0171 010 AF80 0171 010 AF81
Protection Cover for Metal HPR 				0171 010 M032

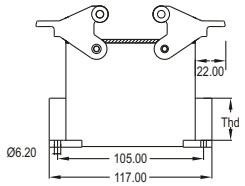
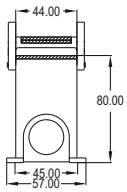
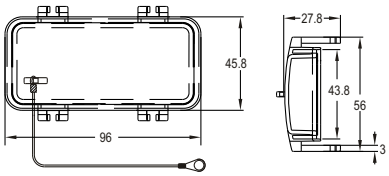
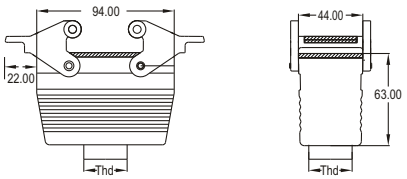
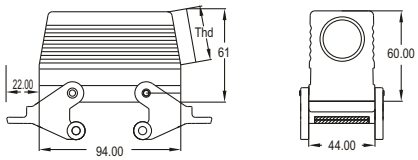
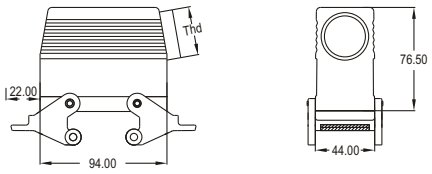
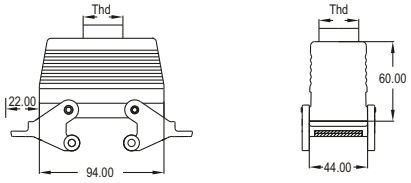
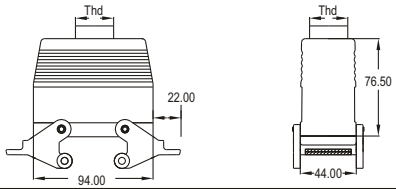
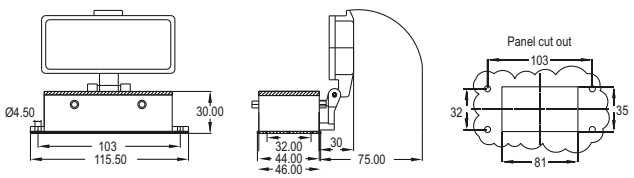
Standard Hoods / Housings for below insert (Male / Female)

Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO A	Screw Terminal	16A 500V	16+ ⏚	12
ICO AA	Screwless Spring Terminal	16A 500V	16+ ⏚	12
ICO AB	Crimp Terminal	16A 500V	16+ ⏚	12
ICO ABS	Crimp Terminal	16A 500V	32+ ⏚	21
ICO ABE	Crimp Terminal	16A 500V	40+ ⏚	27
ICO D	Crimp Terminal	10 A-250V	40+ ⏚	44
ICO DD	Crimp Terminal	10 A-250V	72+ ⏚	53
ICO B	Screw Terminal	35 A-690V	6+ ⏚	59
ICO E	Screw Terminal	80A/16A/830V/400V	4/0 & 4/2 + ⏚	63

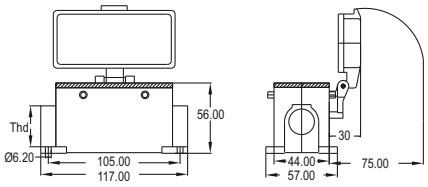
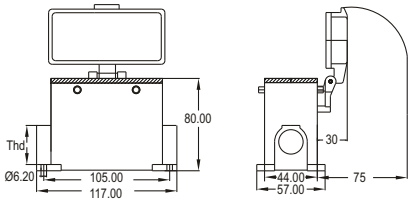
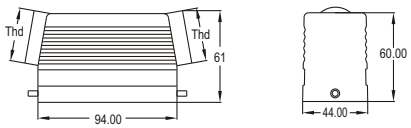
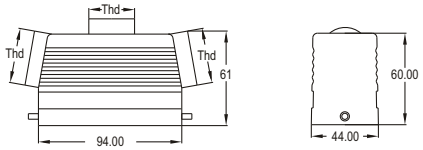
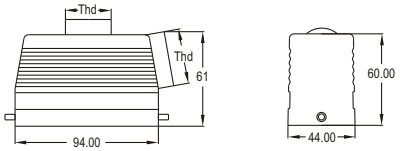
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M25 M32 PG21	1191 016 BC11 1191 016 BC12 0191 016 BC10
Hood Side Entry HC 			M32 M40 PG21 PG29	1191 016 AC12 1191 016 AC13 0191 016 AC10 0191 016 AC11
Hood Top Entry 			M25 M32 PG21	1191 016 BD11 1191 016 BD12 0191 016 BD10
Hood Top Entry HC 			M32 M40 PG21 PG29	1191 016 AD12 1191 016 AD13 0191 016 AD10 0191 016 AD11
Housing Bulkhead Mounting 	  			0191 016 PM40
Housing Surface Mounting 	 		M25 M32 PG21 M25 M32 PG21	1 Side Entry 1191 016 BE11 1191 016 BE12 0191 016 BE10 2 Side Entry 1191 016 BF11 1191 016 BF12 0191 016 BF10

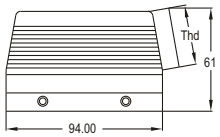
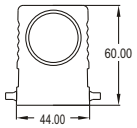
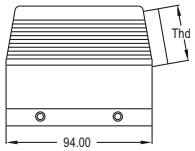
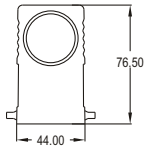
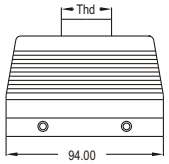
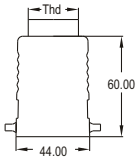
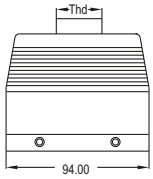
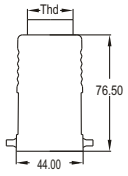
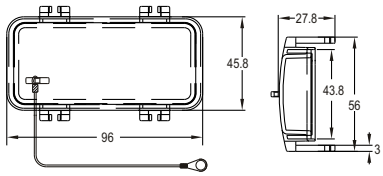
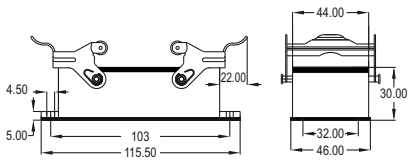
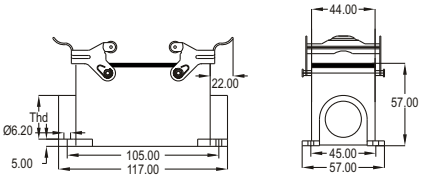
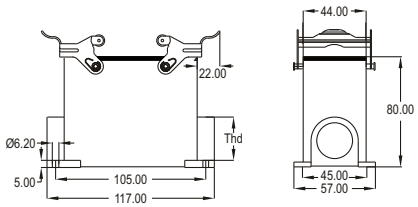
Standard Hoods / Housings
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Surface Mounting HC 			M32 M40 PG21 PG29 M32 M40 PG21 PG29	1 Side Entry 1191 016 AE12 1191 016 AE13 0191 016 AE10 0191 016 AE11 2 Side Entry 1191 016 AF12 1191 016 AF13 0191 016 AF10 0191 016 AF11
Protection Cover for Hood Thermoplastic 				0191 016 P210
Hood Cable to Cable 			M25 M32 PG21	1191 016 BM11 1191 016 BM12 0191 016 BM10
Hood Side Entry with Clamp 			M25 M32 PG21	1191 016 BC21 1191 016 BC22 0191 016 BC20
Hood Side Entry HC with Clamp 			M32 M40 PG21 PG29	1191 016 AC22 1191 016 AC23 0191 016 AC20 0191 016 AC21
Hood Top Entry with Clamp 			M25 M32 PG21	1191 016 BD21 1191 016 BD22 0191 016 BD20
Hood Top Entry HC with Clamp 			M32 M40 PG21 PG29	1191 016 AD22 1191 016 AD23 0191 016 AD20 0191 016 AD21
Housing Bulkhead Mounting With Thermoplastic Cover 				0191 016 PM45

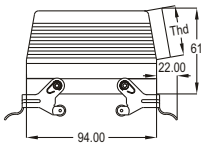
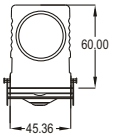
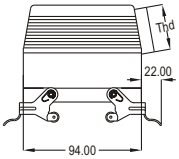
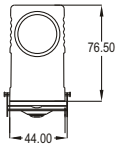
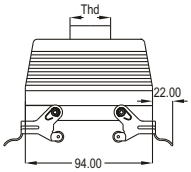
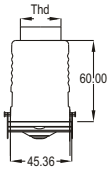
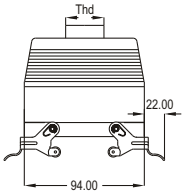
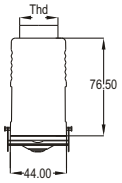
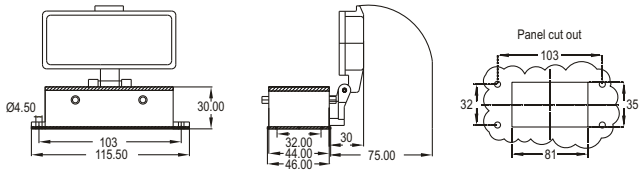
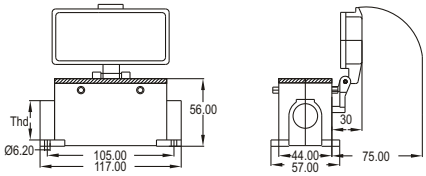
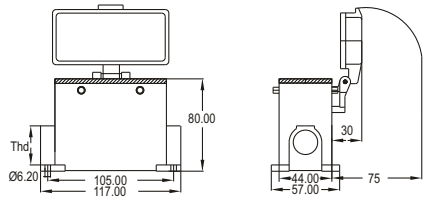
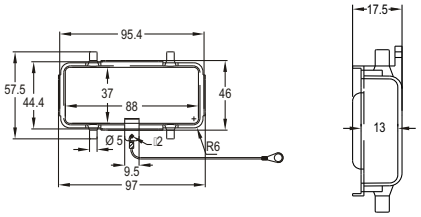
Standard Hoods / Housings
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Surface Mounting With Thermoplastic Cover			M25 M32 PG21 M25 M32 PG21	1 Side Entry 1191 016 BE41 1191 016 BE42 0191 016 BE40 2 Side Entry 1191 016 BF41 1191 016 BF42 0191 016 BF40
Housing Surface Mounting HC With Thermoplastic Cover			M32 M40 PG21 PG29 M32 M40 PG21 PG29	1 Side Entry 1191 016 AE42 1191 016 AE43 0191 016 AE40 0191 016 AE41 2 Side Entry 1191 016 AF42 1191 016 AF43 0191 016 AF40 0191 016 AF41
Hood Two Side Entry			M25 M32 PG21 PG29	1191 016 BG11 1191 016 BG12 0191 016 BG10 0191 016 BG11
Hood Three Side Entry			M25 M32 PG21 PG29	1191 016 BH11 1191 016 BH12 0191 016 BH10 0191 016 BH11
Hood One Top Entry and One Side Entry			M25 M32 PG21 PG29	1191 016 BJ11 1191 016 BJ12 0191 016 BJ10 0191 016 BJ11

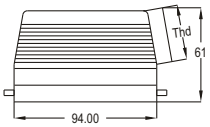
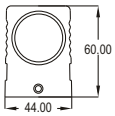
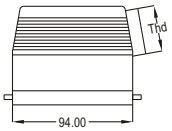
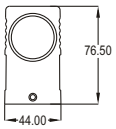
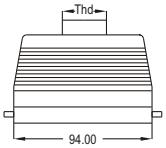
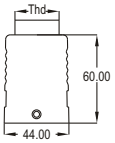
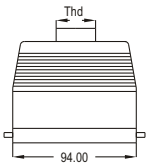
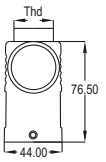
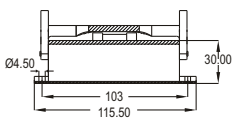
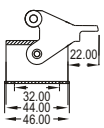
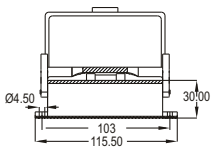
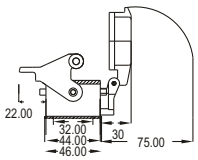
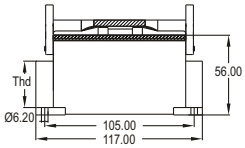
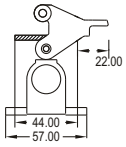
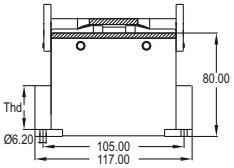
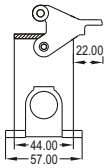
Standard Hoods / Housings
(Metal Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M25 M32 PG21	1191 016 BC91 1191 016 BC92 0191 016 BC90
Hood Side Entry HC 			M32 M40 PG21 PG29	1191 016 AC92 1191 016 AC93 0191 016 AC90 0191 016 AC91
Hood Top Entry 			M25 M32 PG21	1191 016 BD91 1191 016 BD92 0191 016 BD90
Hood Top Entry HC 			M32 M40 PG21 PG29	1191 016 AD92 1191 016 AD93 0191 016 AD90 0191 016 AD91
Protection Cover for Hood Thermoplastic 				0191 016 P210
Housing Bulkhead Mounting 				0191 016 PM54
Housing Surface Mounting 			M25 M32 PG21 M25 M32 PG21	1 Side Entry 1191 016 BE61 1191 016 BE62 0191 016 BE60 2 Side Entry 1191 016 BF61 1191 016 BF62 0191 016 BF60
Housing Surface Mounting HC 			M32 M40 PG21 PG29 M32 M40 PG21 PG29	1 Side Entry 1191 016 AE62 1191 016 AE63 0191 016 AE60 0191 016 AE61 2 Side Entry 1191 016 AF62 1191 016 AF63 0191 016 AF60 0191 016 AF61

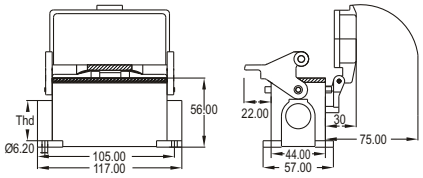
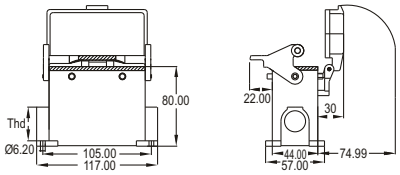
Standard Hoods / Housings
(Metal Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry with Clamp 			M25 M32 PG21	1191 016 BC41 1191 016 BC42 0191 016 BC40
Hood Side Entry HC with Clamp 			M32 M40 PG21 PG29	1191 016 AC42 1191 016 AC43 0191 016 AC40 0191 016 AC41
Hood Top Entry with Clamp 			M25 M32 PG21	1191 016 BD41 1191 016 BD42 0191 016 BD40
Hood Top Entry HC with Clamp 			M32 M40 PG21 PG29	1191 016 AD42 1191 016 AD43 0191 016 AD40 0191 016 AD41
Housing Bulkhead Mounting With Thermoplastic Cover 				0191 016 PM51
Housing Surface Mounting With Thermoplastic Cover 			M25 M32 PG21 M25 M32 PG21	1 Side Entry 1191 016 BE71 1191 016 BE72 0191 016 BE70 2 Side Entry 1191 016 BF71 1191 016 BF72 0191 016 BF70
Housing Surface Mounting HC With Thermoplastic Cover 			M32 M40 PG21 PG29 M32 M40 PG21 PG29	1 Side Entry 1191 016 AE72 1191 016 AE73 0191 016 AE70 0191 016 AE71 2 Side Entry 1191 016 AF72 1191 016 AF73 0191 016 AF70 0191 016 AF71
Protection Cover for Housing Thermoplastic 				0191 016 P010

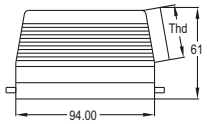
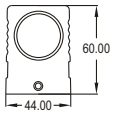
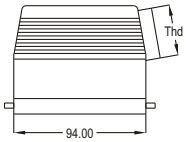
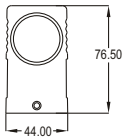
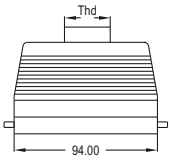
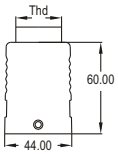
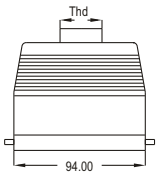
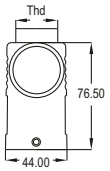
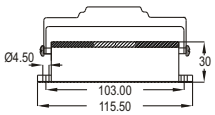
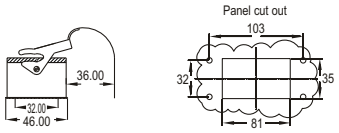
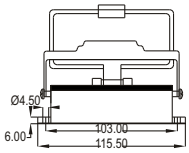
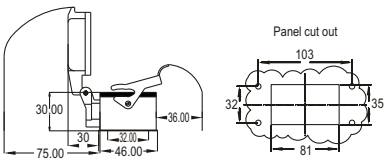
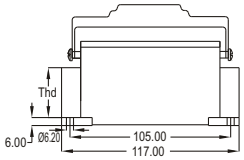
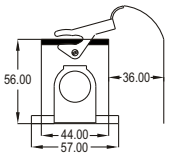
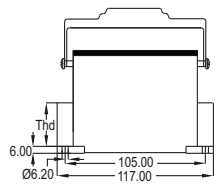
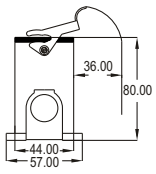
Standard Hoods / Housings
(Plastic Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M25 M32 PG21	1191 016 BC81 1191 016 BC82 0191 016 BC80
Hood Side Entry HC 			M32 M40 PG21 PG29	1191 016 AC82 1191 016 AC83 0191 016 AC80 0191 016 AC81
Hood Top Entry 			M25 M32 PG21	1191 016 BD81 1191 016 BD82 0191 016 BD80
Hood Top Entry HC 			M32 M40 PG21 PG29	1191 016 AD82 1191 016 AD83 0191 016 AD80 0191 016 AD81
Housing Bulkhead Mounting 				0191 016 PM43
Housing Bulkhead Mounting With Thermoplastic Cover 				0191 016 PM44
Housing Surface Mounting 			M25 M32 PG21 M25 M32 PG21	1 Side Entry 1191 016 BE21 1191 016 BE22 0191 016 BE20 2 Side Entry 1191 016 BF21 1191 016 BF22 0191 016 BF20
Housing Surface Mounting HC 			M32 M40 PG21 PG29 M32 M40 PG21 PG29	1 Side Entry 1191 016 AE22 1191 016 AE23 0191 016 AE20 0191 016 AE21 2 Side Entry 1191 016 AF22 1191 016 AF23 0191 016 AF20 0191 016 AF21

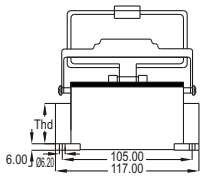
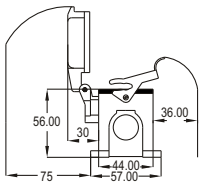
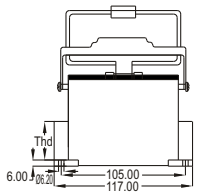
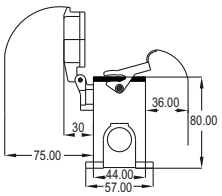
Standard Hoods / Housings
(Plastic Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Surface Mounting With Thermoplastic Cover			M25 M32 PG21 M25 M32 PG21	1 Side Entry 1191 016 BE01 1191 016 BE02 0191 016 BE00 2 Side Entry 1191 016 BF01 1191 016 BF02 0191 016 BF00
Housing Surface Mounting HC With Thermoplastic Cover			M32 M40 PG21 PG29 M32 M40 PG21 PG29	1 Side Entry 1191 016 AE02 1191 016 AE03 0191 016 AE00 0191 016 AE01 2 Side Entry 1191 016 AF02 1191 016 AF03 0191 016 AF00 0191 016 AF01

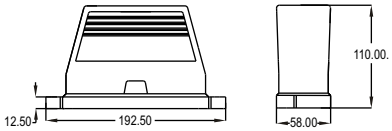
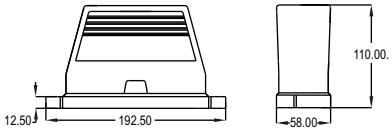
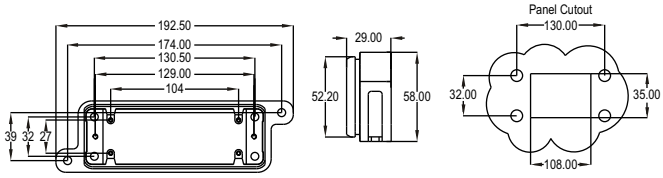
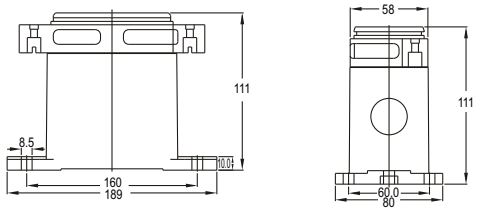
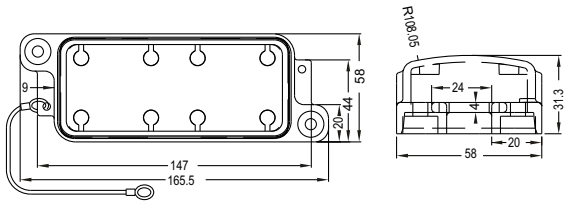
Standard Hoods / Housings
(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M25 M32 PG21	1191 016 BC81 1191 016 BC82 0191 016 BC80
Hood Side Entry HC 			M32 M40 PG21 PG29	1191 016 AC82 1191 016 AC83 0191 016 AC80 0191 016 AC81
Hood Top Entry 			M25 M32 PG21	1191 016 BD81 1191 016 BD82 0191 016 BD80
Hood Top Entry HC 			M32 M40 PG21 PG29	1191 016 AD82 1191 016 AD83 0191 016 AD80 0191 016 AD81
Housing Bulkhead Mounting 				0191 016 PM52
Housing Bulkhead Mounting With Thermoplastic Cover 				0191 016 PM55
Housing Surface Mounting 			M25 M32 PG21 M25 M32 PG21	1 Side Entry 1191 016 BE91 1191 016 BE92 0191 016 BE90 2 Side Entry 1191 016 BF91 1191 016 BF92 0191 016 BF90
Housing Surface Mounting HC 			M32 M40 PG21 PG29 M32 M40 PG21 PG29	1 Side Entry 1191 016 AE92 1191 016 AE93 0191 016 AE90 0191 016 AE91 2 Side Entry 1191 016 AF92 1191 016 AF93 0191 016 AF90 0191 016 AF91

Standard Hoods / Housings
(Metal Single / Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Surface Mounting With Thermopastic Cover 			M25 M32 PG21 M25 M32 PG21	1 Side Entry 1191 016 BE31 1191 016 BE32 0191 016 BE30 2 Side Entry 1191 016 BF31 1191 016 BF32 0191 016 BF30
Housing Surface Mounting HC with Thermoplastic Cover 			M32 M40 PG21 PG29 M32 M40 PG21 PG29	1 Side Entry 1191 016 AE32 1191 016 AE33 0191 016 AE30 0191 016 AE31 2 Side Entry 1191 016 AF32 1191 016 AF33 0191 016 AF30 0191 016 AF31

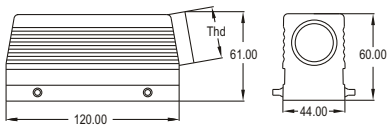
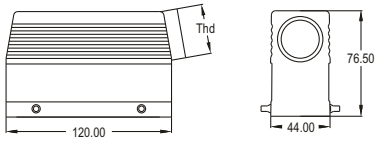
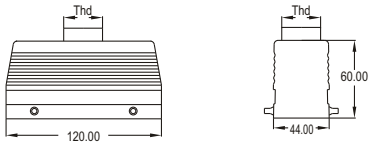
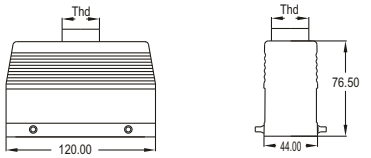
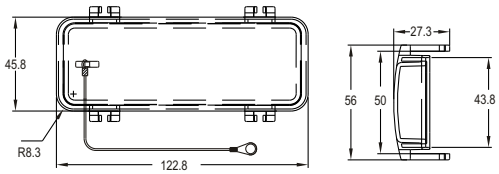
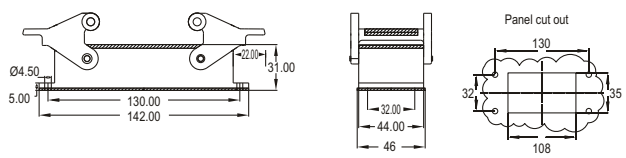
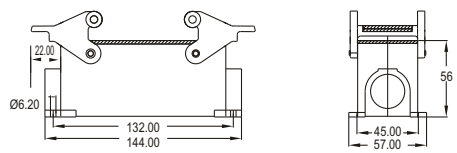
Standard Hoods / Housings

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood HPR 			M32 M40 PG21 PG29	1171 016 AC02 1171 016 AC03 0171 016 AC00 0171 016 AC01
Hood Top Entry HPR 			M32 M40 PG21 PG29	1171 016 AD02 1171 016 AD03 0171 016 AD00 0171 016 AD01
Housing Bulkhead Mounting HPR 				0171 016 PM53
Housing Surface Mounting HPR 			1 Side Entry M32 M40 PG21 PG29 2 Side Entry M32 M40 PG21 PG29	1171 016 AE82 1171 016 AE83 0171 016 AE80 0171 016 AE81 1171 016 AF82 1171 016 AF83 0171 016 AF80 0171 016 AF81
Protection Cover for Metal HPR 				0171 016 M032

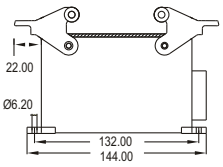
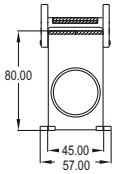
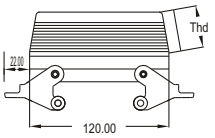
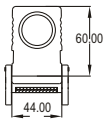
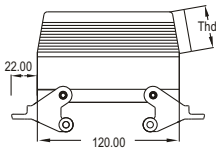
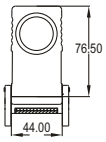
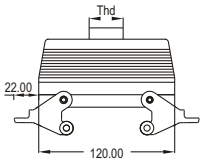
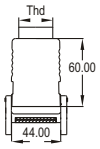
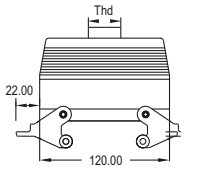
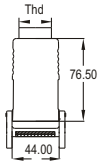
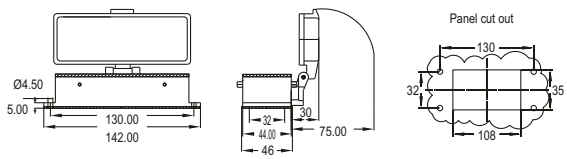
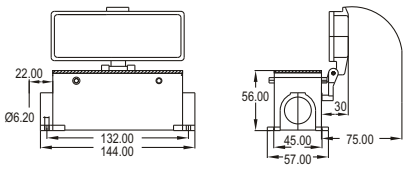
Standard Hoods / Housings for below insert (Male / Female)

Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO A	Screw Terminal	16A 500V	24+ ⏚	13
ICO AA	Screwless Spring Terminal	16A 500V	24+ ⏚	13
ICO AB	Crimp Terminal	16A 500V	24+ ⏚	13
ICO ABS	Crimp Terminal	16A 500V	46+ ⏚	22
ICO ABE	Crimp Terminal	16A 500V	64+ ⏚	28
ICO D	Crimp Terminal	10 A-250V	64+ ⏚	46
ICO DD	Crimp Terminal	10 A-250V	108+ ⏚	54
ICO E	Screw Terminal	80A-830V/16A-400V	4/8+ ⏚	65

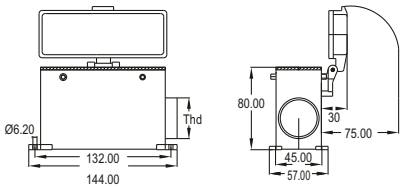
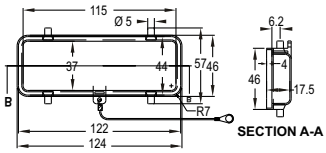
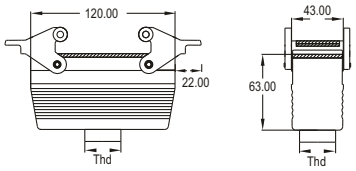
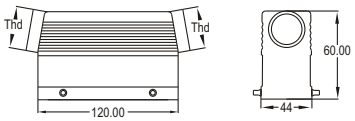
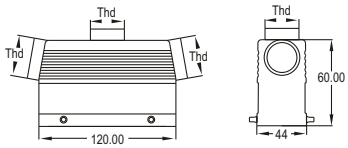
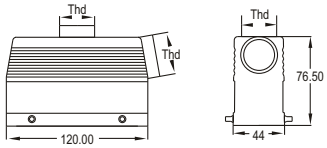
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M32 PG21	1191 024 BC12 0191 024 BC10
Hood Side Entry HC 			M32 M40 PG21 PG29	1191 024 AC12 1191 024 AC13 0191 024 AC10 0191 024 AC11
Hood Top Entry 			M32 PG21 PG29	1191 024 BD12 0191 024 BD10 0191 024 BD11
Hood Top Entry HC 			M32 M40 PG21 PG29	1191 024 AD12 1191 024 AD13 0191 024 AD10 0191 024 AD11
Protection Cover for Hood Thermoplastic 				0191 024 P210
Housing Bulkhead Mounting 				0191 024 PM40
Housings Surface Mounting 			1 Side Entry M32 PG21 2 Side Entry M32 PG21	 1191 024 BE12 0191 024 BE10 1191 024 BF12 0191 024 BF10

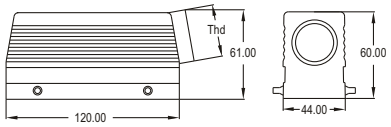
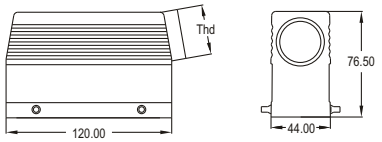
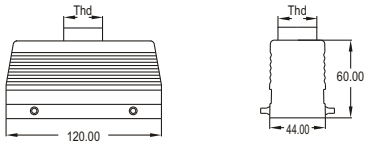
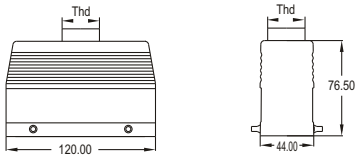
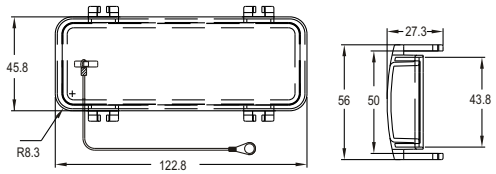
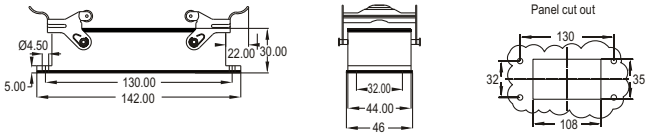
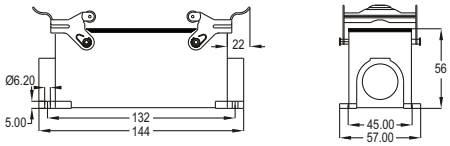
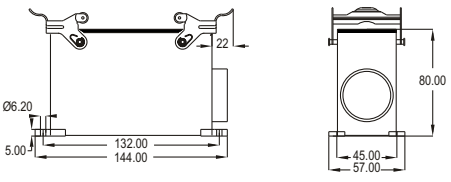
Standard Hoods / Housings
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housings Surface Mounting HC 			1 Side Entry M32 M40 PG21 PG29 2 Side Entry M32 M40 PG21 PG29	1 Side Entry 1191 024 AE12 1191 024 AE13 0191 024 AE10 0191 024 AE11 2 Side Entry 1191 024 AF12 1191 024 AF13 0191 024 AF10 0191 024 AF11
Hood Side Entry with Clamp 			M32 PG21	1191 024 BC22 0191 024 BC20
Hood Side Entry HC with Clamp 			M32 M40 PG21 PG29	1191 024 AC22 1191 024 AC23 0191 024 AC20 0191 024 AC21
Hood Top Entry with Clamp 			M32 PG21 PG29	1191 024 BD22 0191 024 BD20 0191 024 BD21
Hood Top Entry HC with Clamp 			M32 M40 PG21 PG29	1191 024 AD22 1191 024 AD23 0191 024 AD20 0191 024 AD21
Housing Bulkhead Mounting With Thermoplastic Cover 				0191 024 PM45
Housings Surface Mounting With Thermoplastic Cover 			1 Side Entry M32 PG21 2 Side Entry M32 PG21	1 Side Entry 1191 024 BE42 0191 024 BE40 2 Side Entry 1191 024 BF42 0191 024 BF40

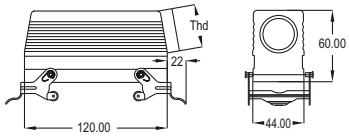
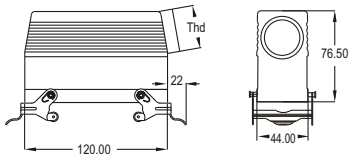
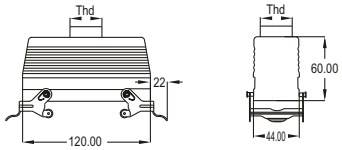
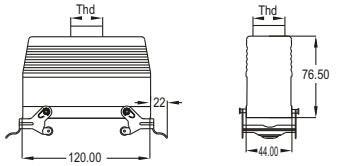
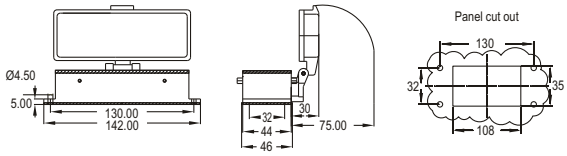
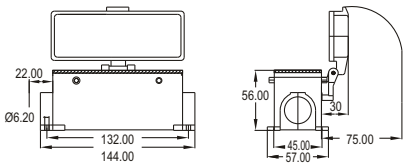
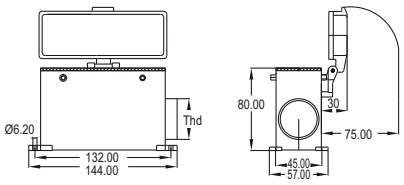
Standard Hoods / Housings
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housings Surface Mounting HC With Thermoplastic Cover			M32 M40 PG21 PG29 M32 M40 PG21 PG29	1 Side Entry 1191 024 AE42 1191 024 AE43 0191 024 AE40 0191 024 AE41 2 Side Entry 1191 024 AF42 1191 024 AF43 0191 024 AF40 0191 024 AF41
Protection Cover for Housing Thermoplastic				0191 024 P010
Hood Cable to Cable			M32 PG21	1191 024 BM12 0191 024 BM10
Hood Two Side Entry			M32 PG21	1191 024 BG12 0191 024 BG10
Hood Three Side Entry			M32 PG21	1191 024 BH12 0191 024 BH10
Hood HC One Top Entry and One Side Entry			M32 M40 PG21 PG29	1191 024 AJ12 1191 024 AJ13 0191 024 AJ10 0191 024 AJ11

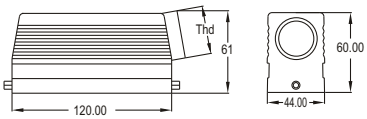
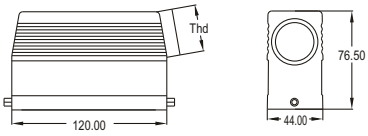
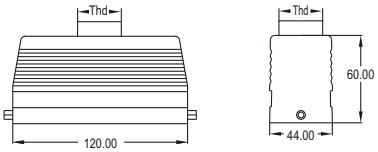
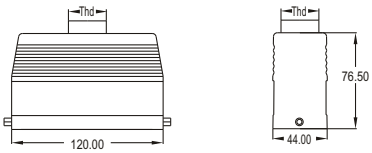
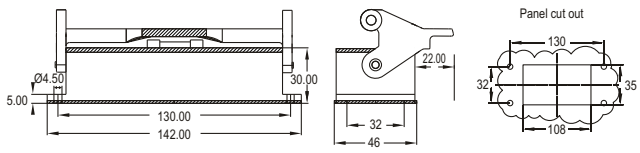
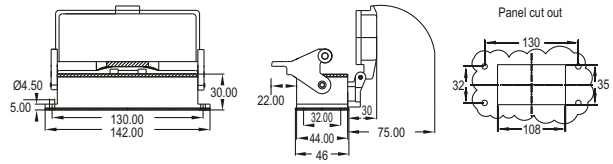
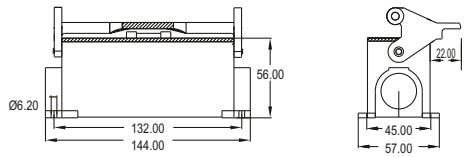
Standard Hoods / Housings
(Metal Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M32 PG21	1191 024 BC92 0191 024 BC90
Hood Side Entry HC 			M32 M40 PG21 PG29	1191 024 AC92 1191 024 AC93 0191 024 AC90 0191 024 AC91
Hood Top Entry 			M32 PG21 PG29	1191 024 BD92 0191 024 BD90 0191 024 BD91
Hood Top Entry HC 			M32 M40 PG21 PG29	1191 024 AD92 1191 024 AD93 0191 024 AD90 0191 024 AD91
Protection Cover for Hood Thermoplastic 				0191 024 P210
Housing Bulkhead Mounting 				0191 024 PM54
Housings Surface Mounting 			1 Side Entry M32 PG21 2 Side Entry M32 PG21	 1191 024 BE62 0191 024 BE60 1191 024 BF62 0191 024 BF60
Housings Surface Mounting HC 			1 Side Entry M32 M40 PG21 PG29 2 Side Entry M32 M40 PG21 PG29	 1191 024 AE62 1191 024 AE63 0191 024 AE60 0191 024 AE61 1191 024 AF62 1191 024 AF63 0191 024 AF60 0191 024 AF61

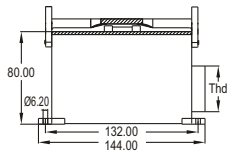
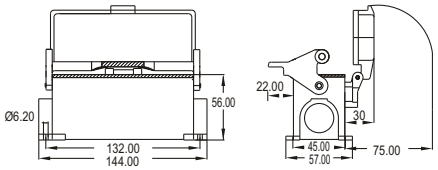
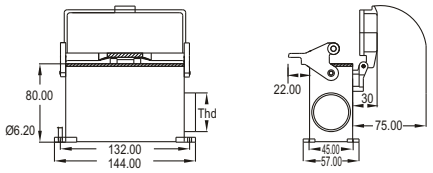
Standard Hoods / Housings
(Metal Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry with Clamp 			M32 PG21	1191 024 BC42 0191 024 BC40
Hood Side Entry HC with Clamp 			M32 M40 PG21 PG29	1191 024 AC42 1191 024 AC43 0191 024 AC40 0191 024 AC41
Hood Top Entry with Clamp 			M32 PG21 PG29	1191 024 BD42 0191 024 BD40 0191 024 BD41
Hood Top Entry HC with Clamp 			M32 M40 PG21 PG29	1191 024 AD42 1191 024 AD43 0191 024 AD40 0191 024 AD41
Housing Bulkhead Mounting With Thermoplastic Cover 				0191 024 PM51
Housings Surface Mounting With Thermoplastic Cover 			1 Side Entry M32 PG21 2 Side Entry M32 PG21	1191 024 BE72 0191 024 BE70 1191 024 BF72 0191 024 BF70
Housings Surface Mounting HC With Thermoplastic Cover 			1 Side Entry M32 M40 PG21 PG29 2 Side Entry M32 M40 PG21 PG29	1191 024 AE72 1191 024 AE73 0191 024 AE70 0191 024 AE71 1191 024 AF72 1191 024 AF73 0191 024 AF70 0191 024 AF71

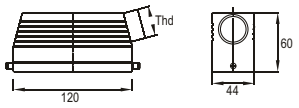
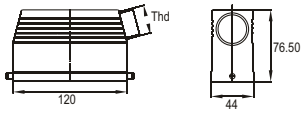
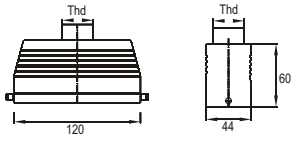
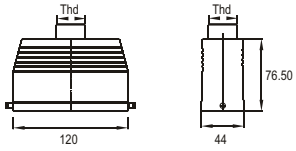
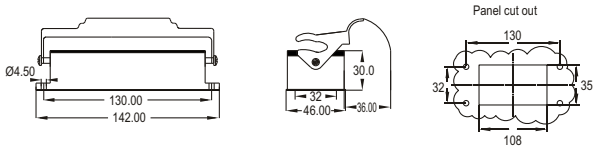
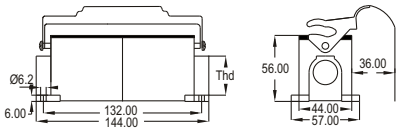
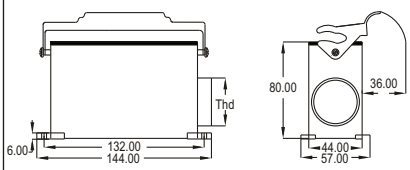
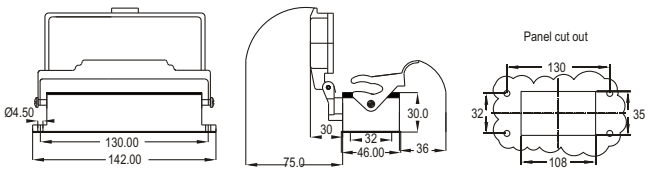
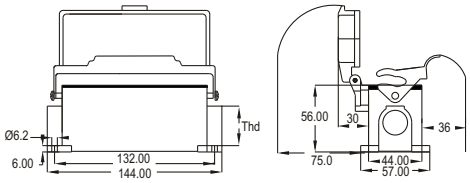
Standard Hoods / Housings
(Plastic Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M32 PG21	1191 024 BC82 0191 024 BC80
Hood Side Entry HC 			M32 M40 PG21 PG29	1191 024 AC82 1191 024 AC83 0191 024 AC80 0191 024 AC81
Hood Top Entry 			M32 PG21 PG29	1191 024 BD82 0191 024 BD80 0191 024 BD81
Hood Top Entry HC 			M32 M40 PG21 PG29	1191 024 AD82 1191 024 AD83 0191 024 AD80 0191 024 AD81
Housing Bulkhead Mounting 				0191 024 PM43
Housing Bulkhead Mounting With Thermoplastic Cover 				0191 024 PM44
Housing Surface Mounting 			1 Side Entry M32 PG21 2 Side Entry M32 PG21	 1191 024 BE22 0191 024 BE20 1191 024 BF22 0191 024 BF20

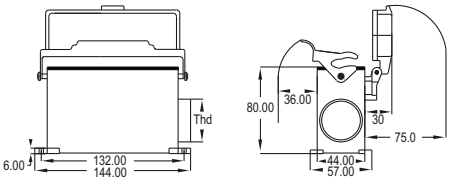
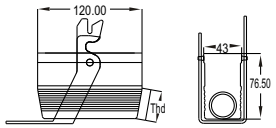
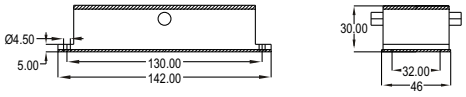
Standard Hoods / Housings
(Plastic Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Surface Mounting HC 			1 Side Entry M32 M40 PG21 PG29 2 Side Entry M32 M40 PG21 PG29	1 Side Entry 1191 024 AE22 1191 024 AE23 0191 024 AE20 0191 024 AE21 2 Side Entry 1191 024 AF22 1191 024 AF23 0191 024 AF20 0191 024 AF21
Housing Surface Mounting With Thermoplastic Cover 			1 Side Entry M32 PG21 2 Side Entry M32 PG21	1 Side Entry 1191 024 BE02 0191 024 BE00 2 Side Entry 1191 024 BF02 0191 024 BF00
Housing Surface Mounting HC With Thermoplastic Cover 			1 Side Entry M32 M40 PG29 2 Side Entry M32 M40 PG29	1 Side Entry 1191 024 AE02 1191 024 AE03 0191 024 AE01 2 Side Entry 1191 024 AF02 1191 024 AF03 0191 024 AF01

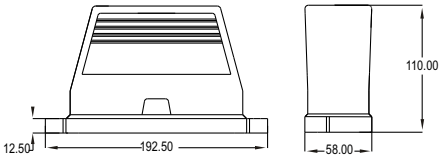
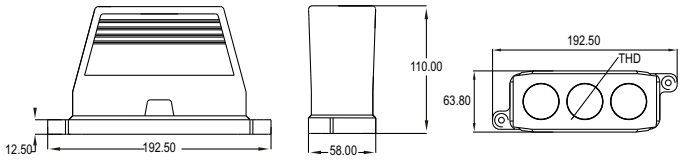
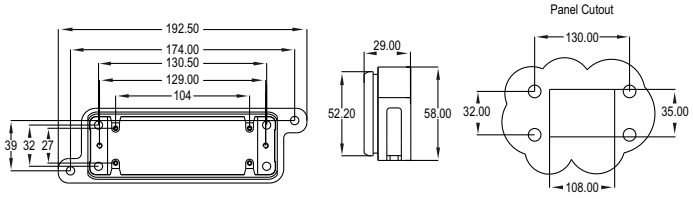
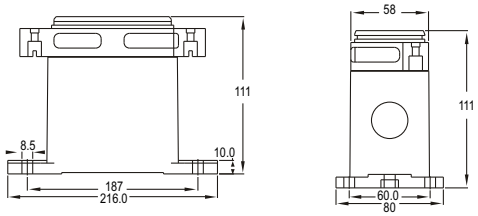
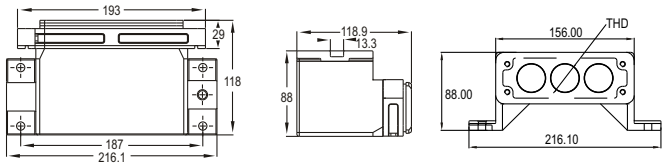
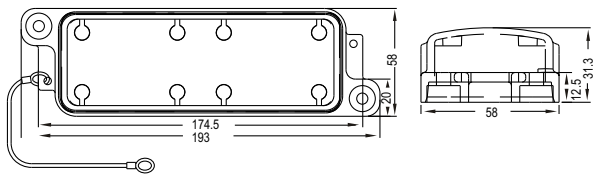
Standard Hoods / Housings
(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M32 PG21	1191 024 BC82 0191 024 BC80
Hood Side Entry HC 			M32 M40 PG21 PG29	1191 024 AC82 1191 024 AC83 0191 024 AC80 0191 024 AC81
Hood Top Entry 			M32 PG21 PG29	1191 024 BD82 0191 024 BD80 0191 024 BD81
Hood Top Entry HC 			M32 M40 PG21 PG29	1191 024 AD82 1191 024 AD83 0191 024 AD80 0191 024 AD81
Housing Bulkhead Mounting 				0191 024 PM52
Housing Surface Mounting 			M32 PG21 M32 PG21	1 Side Entry 1191 024 BE92 0191 024 BE90 2 Side Entry 1191 024 BF92 0191 024 BF90
Housing Surface Mounting HC 			M32 M40 PG21 PG29 M32 M40 PG21 PG29	1 Side Entry 1191 024 AE92 1191 024 AE93 0191 024 AE90 0191 024 AE91 2 Side Entry 1191 024 AF92 1191 024 AF93 0191 024 AF90 0191 024 AF91
Housing Bulkhead Mounting With Thermoplastic Cover 				0191 024 PM55
Housing Surface Mounting With Thermoplastic Cover 			M32 PG21 M32 PG21	1 Side Entry 1191 024 BE32 0191 024 BE30 2 Side Entry 1191 024 BF32 0191 024 BF30

Standard Hoods / Housings
(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Surface Mounting HC with Thermoplastic Cover 			1 Side Entry M32 M40 PG21 PG29 2 Side Entry M32 M40 PG21 PG29	1191 024 AE32 1191 024 AE33 0191 024 AE30 0191 024 AE31 1191 024 AF32 1191 024 AF33 0191 024 AF30 0191 024 AF31
Hood Side Entry HC with Clamp 			PG29	0191 024 AC71
Housing Bulkhead Mounting 				0191 024 PM48

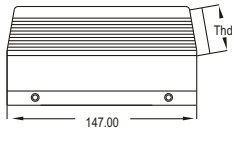
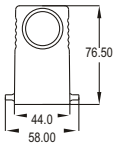
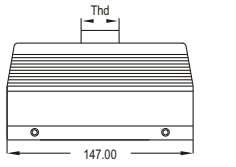
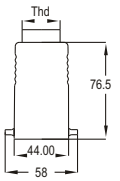
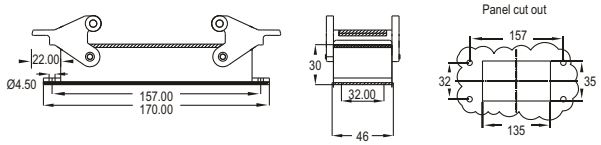
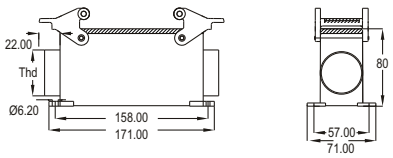
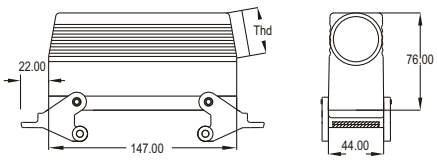
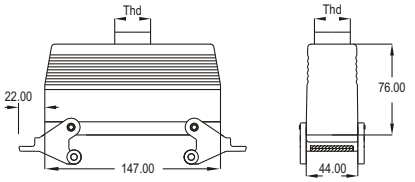
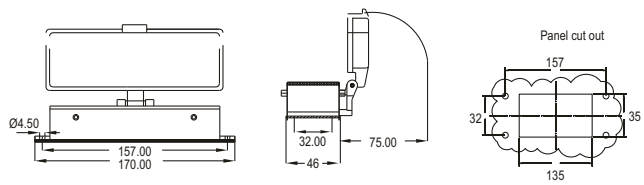
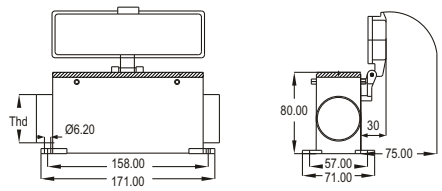
Standard Hoods / Housings

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood HPR 			M32 M40 M50 PG21 PG29	1171 024 AC02 1171 024 AC03 1171 024 AC04 0171 024 AC00 0171 024 AC01
Hood Top Entry HPR 			M20X3 M25X3 M32 M40 M50 PG21 PG29	1171 024 AO00 1171 024 AO01 1171 024 AD02 1171 024 AD03 1171 024 AD04 0171 024 AD00 0171 024 AD01
Housing Bulkhead Mounting HPR 				0171 024 PM53
Housing Surface Mounting HPR 			1 Side Entry M32 M40 PG21 PG29 2 Side Entry M32 M40 PG21 PG29	1171 024 AE82 1171 024 AE83 0171 024 AE80 0171 024 AE81 1171 024 AF82 1171 024 AF83 0171 024 AF80 0171 024 AF81
Housing Horizontal Mounting HPR 			M25X3 M32 M40 M50 PG21 PG29	1171 024 CU81 1171 024 CS82 1171 024 CS83 1171 024 CS84 0171 024 CS80 0171 024 CS81
Protection Cover for Metal HPR 				0171 024 M032

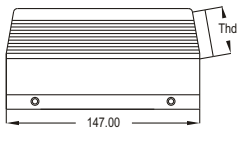
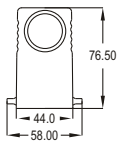
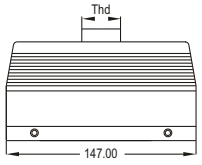
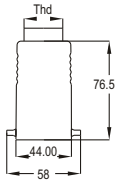
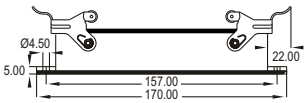
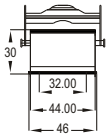
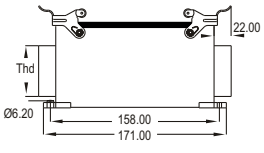
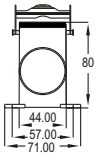
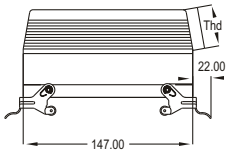
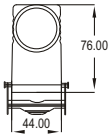
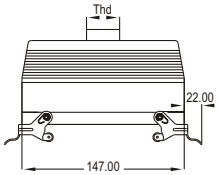
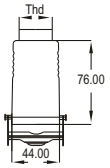
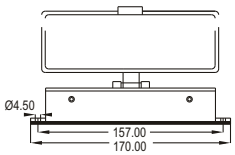
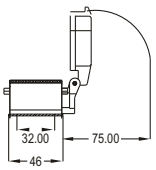
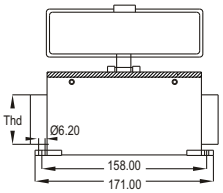
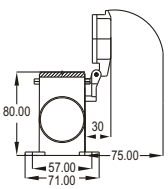
Standard Hoods / Housings for below insert (Male / Female)

Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO A	Screw Terminal	16A 500V	32+⏚	14

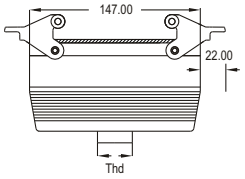
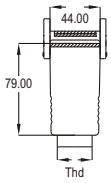
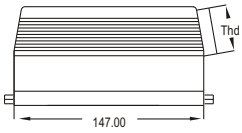
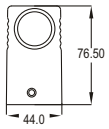
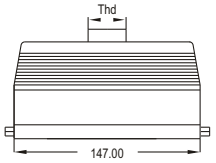
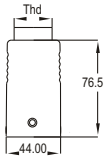
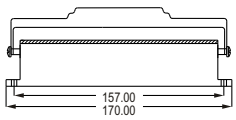
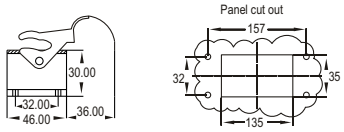
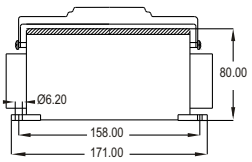
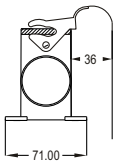
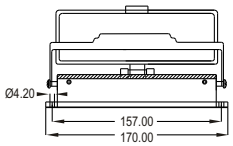
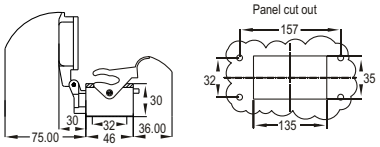
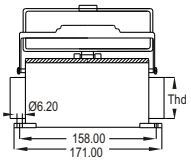
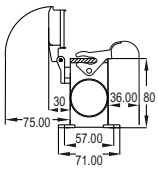
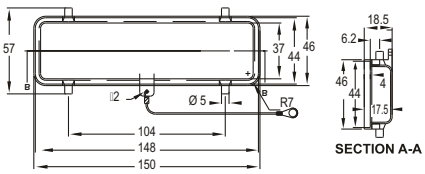
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M40 PG29	1193 032 BC13 0193 032 BC11
Hood Top Entry 			M40 PG29	1193 032 BD13 0193 032 BD11
Housing Bulkhead Mounting 				0193 032 PM40
Housing Surface Mounting 			M40 PG29 M40 PG29	1 Side Entry 1193 032 BE13 0193 032 BE11 2 Side Entry 1193 032 BF13 0193 032 BF11
Hood Side Entry with Clamp 			M40 PG29	1193 032 BC23 0193 032 BC21
Hood Top Entry with Clamp 			M40 PG29	1193 032 BD23 0193 032 BD21
Housing Bulkhead Mounting With Thermoplastic Cover 				0193 032 PM45
Housing Surface Mounting With Thermoplastic Cover 			M40 PG29 M40 PG29	1 Side Entry 1193 032 BE43 0193 032 BE41 2 Side Entry 1193 032 BF43 0193 032 BF41

Standard Hoods / Housings
(Metal Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M40 PG29	1193 032 BC93 0193 032 BC91
Hood Top Entry 			M40 PG29	1193 032 BD93 0193 032 BD91
Housing Bulkhead Mounting 				0193 032 PM54
Housing Surface Mounting 			M40 PG29 M40 PG29	1 Side Entry 1193 032 BE63 0193 032 BE61 2 Side Entry 1193 032 BF63 0193 032 BF61
Hood Side Entry with Clamp 			M40 PG29	1193 032 BC43 0193 032 BC41
Hood Top Entry with Clamp 			M40 PG29	1193 032 BD43 0193 032 BD41
Housing Bulkhead Mounting With Thermoplastic Cover 				0193 032 PM51
Housing Surface Mounting With Thermoplastic Cover 			M40 PG29 M40 PG29	1 Side Entry 1193 032 BE73 0193 032 BE71 2 Side Entry 1193 032 BF73 0193 032 BF71

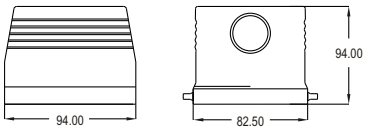
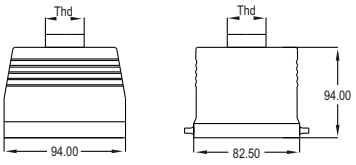
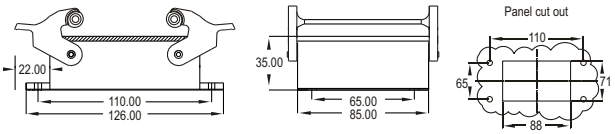
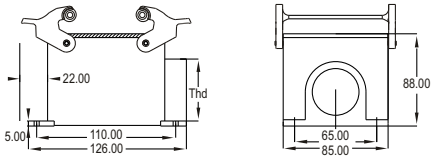
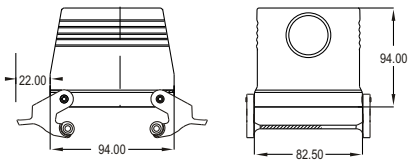
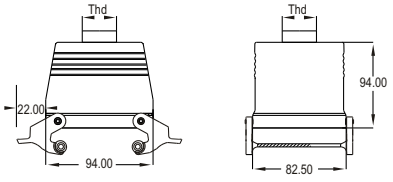
Standard Hoods / Housings
(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Cable to Cable 			M40 PG29	1193 032 BM13 0193 032 BM11
Hood Side Entry 			M40 PG29	1193 032 BC83 0193 032 BC81
Hood Top Entry 			M40 PG29	1193 032 BD83 0193 032 BD81
Housing Bulkhead Mounting 				0193 032 PM52
Housing Surface Mounting 			1 Side Entry M40 PG29 2 Side Entry M40 PG29	1193 032 BE93 0193 032 BE91 1193 032 BF93 0193 032 BF91
Housing Bulkhead Mounting With Thermoplastic Cover 				0193 032 PM55
Housing Surface Mounting With Thermoplastic Cover 			1 Side Entry M40 PG29 2 Side Entry M40 PG29	1193 032 BE33 0193 032 BE31 1193 032 BF33 0193 032 BF31
Protection Cover for Housing Thermoplastic 				0193 032 P010

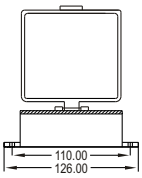
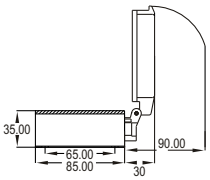
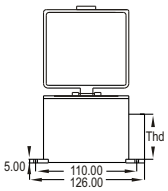
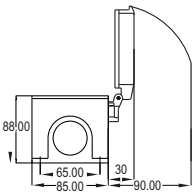
Standard Hoods / Housings for below insert (Male / Female)

Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO A	Screw Terminal	16A 500V	32(16x2)+ ⏚	15
ICO AA	Screwless Spring Terminal	16A 500V	32(16x2)+ ⏚	15
ICO AB	Crimp Terminal	16A 500V	32(16x2)+ ⏚	15
ICO ABS	Crimp Terminal	16A 500V	64 (32x2)+ ⏚	23
ICO D	Crimp Terminal	10 A-250V	80 (40x2)+ ⏚	47
ICO DD	Crimp Terminal	10 A-250V	144 (72x2)+ ⏚	55
ICO B	Screw Terminal	35 A-690V	12 (6x2)+ ⏚	60

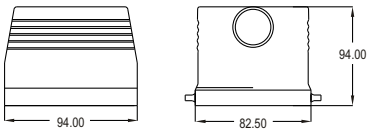
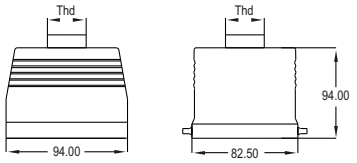
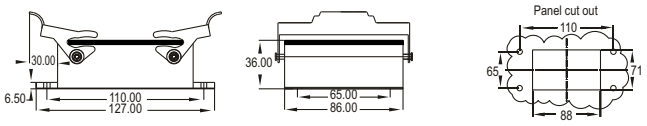
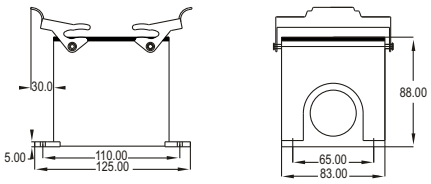
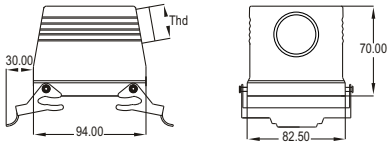
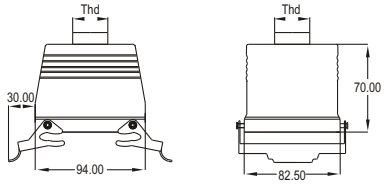
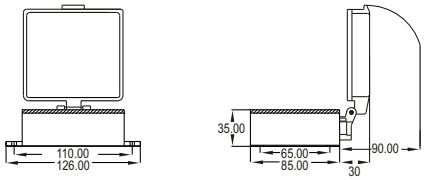
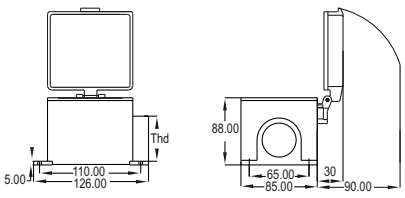
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M32 M40 PG29 PG36	1191 032 BC12 1191 032 BC13 0191 032 BC11 0191 032 BC15
Hood Top Entry 			M32 M40 PG29 PG36	1191 032 BD12 1191 032 BD13 0191 032 BD11 0191 032 BD15
Housing Bulkhead Mounting 				0191 032 PM40
Housing Surface Mounting 			1 Side Entry M32 M40 PG29 PG36 2 Side Entry M32 M40 PG29 PG36	1191 032 BE12 1191 032 BE13 0191 032 BE11 0191 032 BE15 1191 032 BF12 1191 032 BF13 0191 032 BF11 0191 032 BF15
Hood Side Entry with Clamp 			M32 M40 PG29 PG36	1191 032 BC22 1191 032 BC23 0191 032 BC21 0191 032 BC25
Hood Top Entry with Clamp 			M32 M40 PG29 PG36	1191 032 BD22 1191 032 BD23 0191 032 BD21 0191 032 BD25

Standard Hoods / Housings
(Plastic Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Housing Bulkhead Mounting With Thermoplastic Cover 				0191 032 PM45
Housing Surface Mounting With Thermoplastic Cover 			1 Side Entry M32 M40 PG29 PG36 2 Side Entry M32 M40 PG29 PG36	1 Side Entry 1191 032 BE42 1191 032 BE43 0191 032 BE41 0191 032 BE45 2 Side Entry 1191 032 BF42 1191 032 BF43 0191 032 BF41 0191 032 BF45

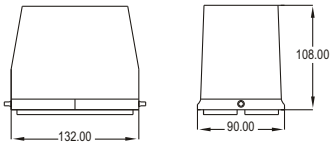
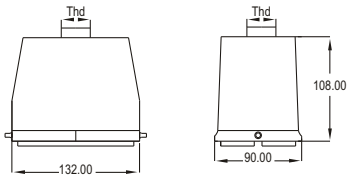
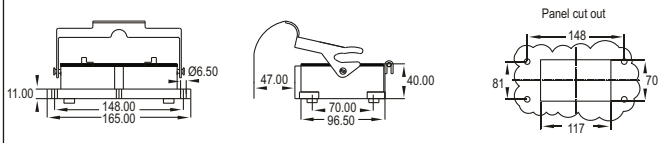
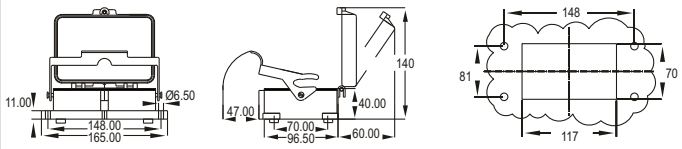
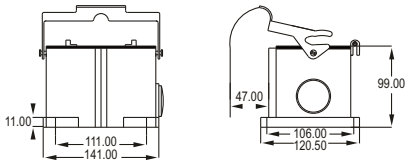
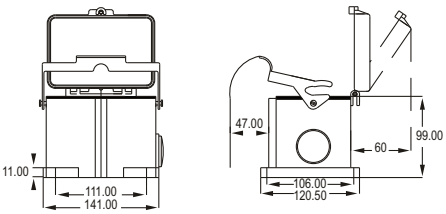
Standard Hoods / Housings
(Metal Double Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry			M32 M40 PG29 PG36	1191 032 BC92 1191 032 BC93 0191 032 BC91 0191 032 BC95
Hood Top Entry			M32 M40 PG29 PG36	1191 032 BD92 1191 032 BD93 0191 032 BD91 0191 032 BD95
Housing Bulkhead Mounting				0191 032 PM54
Housing Surface Mounting			1 Side Entry M32 M40 PG29 PG36 2 Side Entry M32 M40 PG29 PG36	1191 032 BE62 1191 032 BE63 0191 032 BE61 0191 032 BE65 2 Side Entry 1191 032 BF62 1191 032 BF63 0191 032 BF61 0191 032 BF65
Hood Side Entry with Clamp			M32 M40 PG29 PG36	1191 032 BC42 1191 032 BC43 0191 032 BC41 0191 032 BC45
Hood Top Entry with Clamp			M32 M40 PG29 PG36	1191 032 BD42 1191 032 BD43 0191 032 BD41 0191 032 BD45
Housing Bulkhead Mounting With Thermoplastic Cover				0191 032 PM51
Housing Surface Mounting With Thermoplastic Cover			1 Side Entry M32 M40 PG29 PG36 2 Side Entry M32 M40 PG29 PG36	1191 032 BE72 1191 032 BE73 0191 032 BE71 0191 032 BE75 2 Side Entry 1191 032 BF72 1191 032 BF73 0191 032 BF71 0191 032 BF75

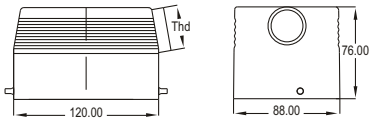
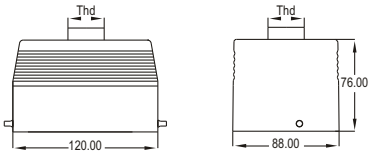
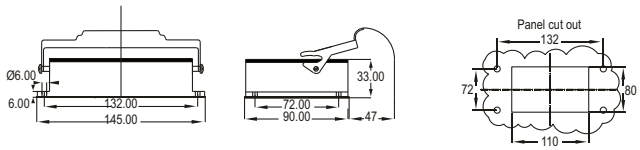
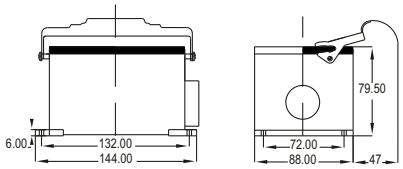
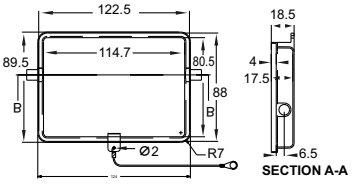
Standard Hoods / Housings for below insert (Male / Female)

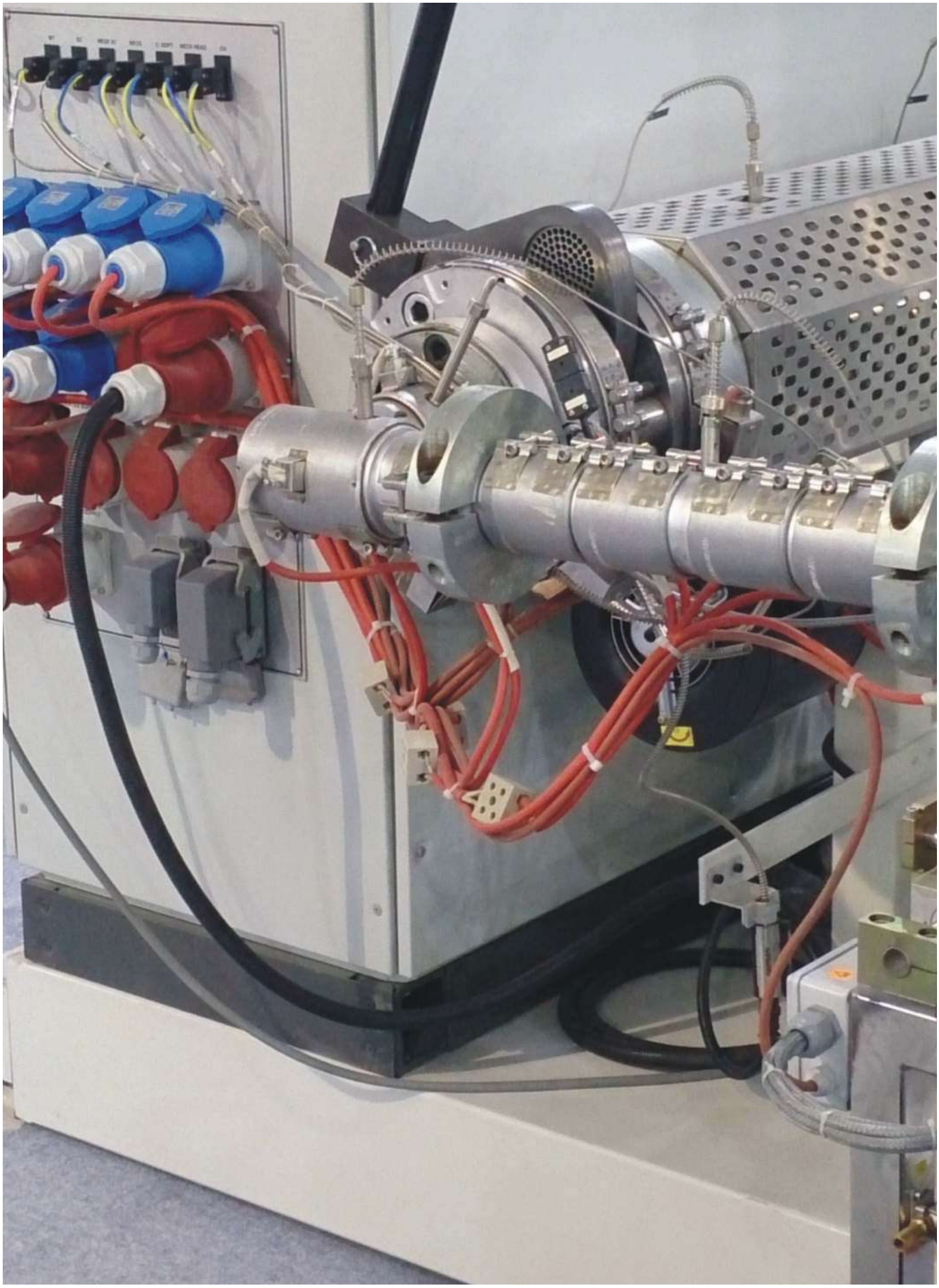
Inserts (Male/Female)	Type of terminal	Rating	No of. Pin	Page No.
ICO A	Screw Terminal	16A 500V	48 (24x2)+ ⏚	16
ICO AA	Screwless Spring Terminal	16A 500V	48 (24x2)+ ⏚	16
ICO AB	Crimp Terminal	16A 500V	48 (24x2)+ ⏚	16
ICO ABS	Crimp Terminal	16A 500V	92 (46x2)+ ⏚	24
ICO D	Crimp Terminal	10 A-250V	128 (64x2)+ ⏚	48
ICO DD	Crimp Terminal	10 A-250V	216 (108x2)+ ⏚	56

(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry HC 			M40 M50 PG29 PG36	1191 048 AC83 1191 048 AC84 0191 048 AC81 0191 048 AC85
Hood Top Entry HC 			M40 M50 PG29 PG36	1191 048 AD83 1191 048 AD84 0191 048 AD81 0191 048 AD85
Housing Bulkhead Mounting 				0191 048 PM46
Housing Bulkhead Mounting with Thermoplastic Cover 				0191 048 PM47
Housing Surface Mounting HC 			1 Side Entry M40 M50 PG29 PG36 2 Side Entry M40 M50 PG29 PG36	1 Side Entry 1191 048 AE93 1191 048 AE94 0191 048 AE91 0191 048 AE95 2 Side Entry 1191 048 AF93 1191 048 AF94 0191 048 AF91 0191 048 AF95
Housing Surface Mounting HC with Thermoplastic Cover 			1 Side Entry M40 M50 PG29 PG36 2 Side Entry M40 M50 PG29 PG36	1 Side Entry 1191 048 AE33 1191 048 AE34 0191 048 AE31 0191 048 AE35 2 Side Entry 1191 048 AF33 1191 048 AF34 0191 048 AF31 0191 048 AF35

Standard Hoods / Housings
(Metal Single Lever)

Identification	Drawing	Dimension in mm.	Thread	Part No.
Hood Side Entry 			M40 PG29	1191 048 BC83 0191 048 BC81
Hood Top Entry 			M40 PG29	1191 048 BD83 0191 048 BD81
Housing Bulkhead Mounting 				0191 048 PM52
Housing Surface Mounting 			M40 PG29 M40 M50 PG29	1 Side Entry 1191 048 BE93 0191 048 BE91 2 Side Entry 1191 048 BF93 1191 048 BF94 0191 048 BF91
Protection Cover for Housing Thermoplastic 				0191 048 P020



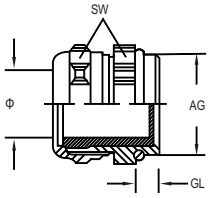
	Series	Application	Part No.
Contact Removal Tool 	for ICO D & ICO DD	for 10 Amps 250V	0120 000 ET01

	Series	Application	Part No.
Contact Removal Tool 	for ICO AB, ICO ABS, ICO ABE, ICO AQ	for 16 Amps 500V, 16 Amps 400V	0170 000 ET01

	Series	Application	Part No.
Crimping Tool 	for ICO D, ICO DD, ICO AB, ICO ABS, ICO ABE & ICO AQ	for 10 Amps 250V, 16 Amps 500V, 16 Amps 400V	0120 000 CT01

"IPAC MCG" Polyamide cable gland

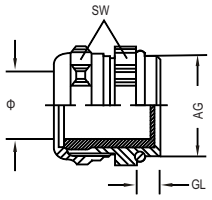
Material : Polyamide
Sealing : NBR
Degree of protection : IP65/IP68 (with O-ring)
Temperature range : -40°C...+100°C



Thread size	Clamping range (ø)	Thread diameter (AG)	Wrench size (SW)	Thread length (GL)	Part No.
PG Thread					
PG7	3-6.5	12.5	15	8.0	1000 MCG P101
PG9	4-8	15.2	19	8.0	1000 MCG P102
PG11	5-10	18.6	22	8.0	1000 MCG P103
PG13.5	6-12	20.4	23.5	10	1000 MCG P104
PG16	8-14	22.5	27	10	1000 MCG P105
PG21	13-18	28.3	33	11	1000 MCG P106
PG29	18-25	37.0	41.5	11	1000 MCG P107
PG36	22-32	47.0	51.5	13	1000 MCG P108
PG42	31-38	54.0	59	15	1000 MCG P109
PG48	37-44	59.3	65	15	1000 MCG P100
Metric Thread					
M12x1.5	3-6.5	12	15	8	1000 MCG P207
M16x1.5	5-10	16	19	8	1000 MCG P208
M20x1.5	5-12	20	23.5	8.5	1000 MCG P200
M25x1.5	13-18	25	33	8	1000 MCG P201
M32x1.5	18-21	32	42	10	1000 MCG P202
M40x1.5	22-28	40	51	10	1000 MCG P203
M50x1.5	31-36	50	58.5	12	1000 MCG P204
M63x1.5	37-47	63	65	12	1000 MCG P205

"IPAC MMCG" Metal cable gland

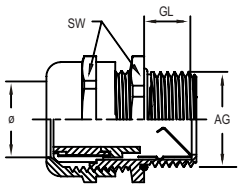
Material : Nickel-plate brass
Sealing : Nylon and NBR
Degree of protection : IP65/P68 (with O-ring)
Temperature range : -40°C...+100°C



Thread size	Clamping range (ø)	Thread diameter (AG)	Wrench size (SW)	Thread length (GL)	Part No.
PG Thread					
PG7	3-6.5	12.5	14	6	1000 MCG M101
PG9	4-8	15.2	17	6.5	1000 MCG M102
PG11	5-10	18.6	20	7	1000 MCG M103
PG13.5	6-12	20.4	22	7.5	1000 MCG M104
PG16	8-14	22.5	24	7	1000 MCG M105
PG21	13-18	28.3	30	8	1000 MCG M106
PG29	18-28	37.0	40	8	1000 MCG M107
PG36	22-32	47.0	50	12	1000 MCG M108
PG42	31-38	54.0	57	12	1000 MCG M109
PG48	37-44	59.3	65	12	1000 MCG M100
Metric Thread					
M12x1.5	3-6.5	12	14	6	1000 MCG M207
M16x1.5	4-10	16	17	6.5	1000 MCG M208
M20x1.5	6-14	20	22	8	1000 MCG M200
M25x1.5	9-18	25	27	7.5	1000 MCG M201
M32x1.5	15-25	32	35	8.5	1000 MCG M202
M40x1.5	18-28	40	45	8.5	1000 MCG M203
M50x1.5	22-35	50	57	12	1000 MCG M204
M63x1.5	37-44	63	65	12	1000 MCG M205

"IPAC EMC" Metal EMC cable gland

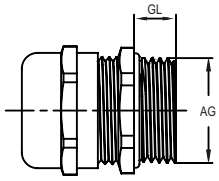
Material : Nickel-plate brass
Sealing : Nylon and NBR
Degree of protection : IP65/IP68 (with O-ring)
Temperature range : -40°C...+100°C, short-term120°C

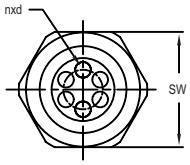


Thread size	Clamping range (ø)	Thread diameter (AG)	Wrench size (SW)	Thread length (GL)	Part No.
PG Thread					
PG7	3-6.5	12.5	14	5	1000 EMC M101
PG9	4-8	15.2	18	6	1000 EMC M102
PG11	5-10	18.6	20	6	1000 EMC M103
PG13.5	6-12	20.4	24	7	1000 EMC M104
PG16	8-14	22.5	24	7	1000 EMC M105
PG21	13-18	28.3	30	8	1000 EMC M106
PG29	18-25	37.0	40	8	1000 EMC M107
PG36	22-32	47.0	50	9	1000 EMC M108
PG42	30-38	54.0	60	9	1000 EMC M109
Metric Thread					
M12x1.5	3-6.5	12	14	5	1000 EMC M207
M16x1.5	4-8	16	20	6	1000 EMC M208
M20x1.5	6-12	20	24	7	1000 EMC M200
M25x1.5	10-16	25	27	12	1000 EMC M201
M32x1.5	15-22	32	40	13	1000 EMC M202
M40x1.5	21-30	40	45	9	1000 EMC M203
M50x1.5	30-38	50	55	9	1000 EMC M204
M63x1.5	37-44	63	70	10	1000 EMC M205

"IPAC M" Metal cable gland with multi-ex

Material : Nickel-plate brass
Sealing : Nylon and NBR
Degree of protection : IP65/IP68 (with O- ring)
Temperature range : -40°C...+100°C, short-term120°C

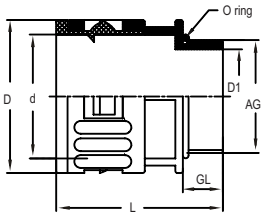




Thread size	Clamping range (ø)	Thread diameter (AG)	Wrench size (SW)	Thread length (GL)	Part No.
PG Thread					
PG9	2x3	19	17	6	1002 M03 M102
PG21	4x6	33	30	7	1004 M06 M106
PG21	3x7	33	30	7	1003 M07 M103
PG21	2x6	33	30	9	1002 M06 M106
PG21	2x7	33	30	8	1002 M07 M106
PG21	2x8	33	30	7	1002 M08 M106
PG29	4x9	40	40	8	1004 M09 M107
PG36	5x9	50	50	9	1005 M09 M108
Metric Thread					
M16x1.5	2x3	19	17	6	1002 M03 M208
M20x1.5	6x3	24	22	8	1006 M03 M200
M20x1.5	2x5	24	22	8	1002 M05 M200
M25x1.5	2x7	33	30	8	1002 M07 M201
M25x1.5	4x6	25	30	7	1004 M06 M201
M25x1.5	3x7	25	30	7	1003 M07 M201
M25x1.5	2x8	33	30	7	1002 M08 M201
M32x1.5	4x9	44	40	8	1004 M09 M202
M40x1.5	5x9	55	50	9	1005 M09 M203
M40x1.5	2x15	55	50	9	1002 M15 M203

"IPAC FCG" Cable gland for flexible conduit

Material : Polyamide
Sealing : Nylon and NBR
Degree of protection : IP65
Temperature range : -40°C...+100°C, short-term120°C



Thread size	Fits to tubing size(d)	Thread length (GL)	Bore(D1)	External diameter (D)	Total length (L)	Part No.
PG Thread						
PG7	AD10.0	9.5	7.5	17.0	34.5	1000 FCG P101
PG9	AD13.0	9.5	11.5	20.0	34.5	1000 FCG P102
PG11	AD15.8	9.5	14.0	23.0	36.0	1000 FCG P103
PG13.5	AD18.5	11.0	16.0	26.0	39.0	1000 FCG P104
PG16	AD21.2	13.0	18.0	29.5	44.0	1000 FCG P105
PG21	AD28.5	13.0	23.5	37.0	47.0	1000 FCG P106
PG29	AD34.5	11.5	30.5	43.5	47.5	1000 FCG P107
PG36	AD42.5	13.5	40.0	51.0	52.0	1000 FCG P108
Metric Thread						
M12x1.5	AD10.0	1.0	8.0	17.0	34.5	1000 FCG P207
M16x1.5	AD13.0	9.5	11.5	20.0	34.5	1000 FCG P208
M20x1.5	AD18.5	11.0	16.0	26.0	39.0	1000 FCG P200
M20x1.5	AD21.2	13.0	15.0	29.5	44.0	1000 FCG P210
M25x1.5	AD21.2	13.0	18.0	29.5	44.5	1000 FCG P201
M25x1.5	AD28.5	13.0	20.5	37.0	47.0	1000 FCG P211
M32x1.5	AD28.5	13.0	24.0	37.0	47.0	1000 FCG P202
M40x1.5	AD34.5	11.0	30.0	43.5	48.0	1000 FCG P203
M40x1.5	AD42.5	13.5	33.5	51.0	52.0	1000 FCG P213
M50x1.5	AD54.5	13.5	42.5	63.5	53.5	1000 FCG P204
M63x1.5	AD54.5	14.0	55.0	63.5	53.5	1000 FCG P205

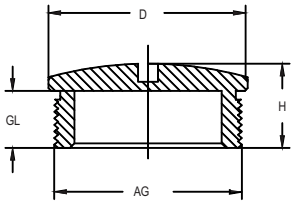
"IPAC" Polyamide Heavy Conduit

Material : Polyamide 6
Colour : Black & Grey
Flame - Retardant : V0, HB (UL94)
Degree of protection : IP68
Temperature range : -40°C...+120°C, short-term+150°C
Properties : Flexible & Excellent Tenacity, Glossy surface, Heavy-wall, High mechanical strength, Wind resistant, Anti-friction, Resistant to oil, Acid & solvents, UV-Resistant, Insulated, Free of Halogen, Phosphor & cadmium.
Application : Heavy machine tool, Machine building, Heavy equipment, Metro, Port, Electric power plant, Electric locomotive etc.

Size	ID (MM)	OD (MM)	STAT.R (MM)	DYN.R (MM)	Packing Meter /Roll	Part No.
1/4"	6.0	10.0	15	30	200	IPAC NL 206-H-10
5/16"	9.5	13.0	20	40	100	IPAC NL 206-H-13
3/8"	11.5	15.8	30	50	100	IPAC NL 206-H-16
18.5	13.5	18.5	35	60	100	IPAC NL 206-H-18
1/2"	15.5	21.2	40	70	100	IPAC NL 206-H-21
3/4"	21.5	28.5	50	100	100	IPAC NL 206-H-28
1"	27.5	34.5	60	120	50	IPAC NL 206-H-34
1-1/4"	35.5	42.5	80	150	25	IPAC NL 206-H-42
2"	46.0	54.5	100	180	25	IPAC NL 206-H-54

"IPAC SCO" Polyamide plug

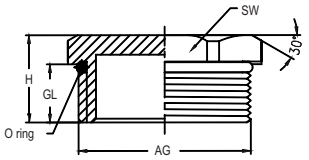
Material : Polyamide
Degree of protection : IP65/IP68 (with O-ring)
Temperature range : -40°C...+120°C



Thread size	Thread length (GL)	Height (H)	Thread diameter (AG)	External dimension(D)	Part No.
PG Thread					
PG7	6.0	10.0	12.5	15.5	1000 SCO P101
PG9	6.0	10.0	15.2	18.5	1000 SCO P102
PG11	8.0	11.5	18.6	22.0	1000 SCO P103
PG13.5	8.0	11.5	20.4	24.0	1000 SCO P104
PG16	8.0	12.0	22.5	27.0	1000 SCO P105
PG21	7.0	12.5	28.3	33.0	1000 SCO P106
PG29	8.0	12.0	37.0	43.0	1000 SCO P107
PG36	10.0	14.0	47.0	55.0	1000 SCO P108
PG42	11.0	15.5	54.0	62.0	1000 SCO P109
PG48	12.0	16.0	59.3	68.5	1000 SCO P100
Metric Thread					
M12x1.5	6.0	10.0	12.0	15.0	1000 SCO P207
M16x1.5	5.5	10.0	16.0	18.5	1000 SCO P208
M20x1.5	8.0	12.5	20.0	25.0	1000 SCO P200
M25x1.5	7.5	12.5	25.0	29.5	1000 SCO P201
M32x1.5	8.0	13.5	32.0	39.0	1000 SCO P202
M40x1.5	11.0	15.0	40.0	48.0	1000 SCO P203
M50x1.5	12.0	18.0	50.0	61.5	1000 SCO P204
M63x1.5	12.5	19.0	63.0	70.5	1000 SCO P205

"IPAC MSCO" Metal plug

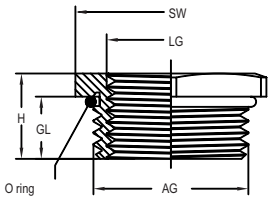
Material : Nickel-plate brass
Degree of protection : IP65/IP68 (with O-ring)
Temperature range : -40°C...+120°C



Thread size	Thread length (GL)	Height (H)	Thread diameter (AG)	External dimension(D)	Part No.
PG Thread					
PG7	5	8	12.5	14	1000 SCO M101
PG9	6	9	15.2	18	1000 SCO M102
PG11	6	10	18.6	20	1000 SCO M103
PG13.5	7	10	20.4	22	1000 SCO M104
PG16	7	10	22.5	24	1000 SCO M105
PG21	7	11	28.3	30	1000 SCO M106
PG29	8	13	37.0	40	1000 SCO M107
PG36	8	13	47.0	50	1000 SCO M108
PG42	9	15	54.0	60	1000 SCO M109
PG48	10	17	59.3	65	1000 SCO M100
Metric Thread					
M12x1.5	5	8	12	14	1000 SCO M207
M16x1.5	6	9	16	18	1000 SCO M208
M20x1.5	6	10	20	22	1000 SCO M200
M25x1.5	7	11	25	27	1000 SCO M201
M32x1.5	7	11	32	34	1000 SCO M202
M40x1.5	8	13	40	42	1000 SCO M203
M50x1.5	9	13	50	54	1000 SCO M204
M63x1.5	10	17	63	70	1000 SCO M205

"IPAC RED" Metal reducer

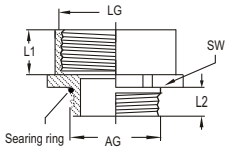
Material : Nickel-plate brass
Temperature range : -40°C...+120°C



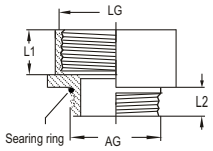
Outside thread(AG)	Inside Thread (GL)	Thread length (GL)	Total length (H)	Wrench size (SW)	Part No.
PG Thread					
PG9	PG7	6.0	9	17	1000 RED M102
PG11	PG9	7.0	11	20	1000 RED M103
PG13.5	PG11	7.0	10	22	1000 RED M104
PG16	PG13.5	7.0	11	24	1000 RED M105
PG21	PG16	7.0	11	30	1000 RED M106
PG29	PG21	8.0	13	40	1000 RED M107
PG36	PG29	9.0	13	50	1000 RED M108
PG42	PG36	9.0	15	57	1000 RED M109
PG48	PG42	10.0	15	65	1000 RED M100
Metric Thread					
M16x1.5	M12x1.5	6.0	9	17	1000 RED M208
M20x1.5	M16x1.5	7.0	10	22	1000 RED M200
M25x1.5	M20x1.5	7.0	10	27	1000 RED M201
M32x1.5	M25x1.5	8.0	11.5	35	1000 RED M202
M40x1.5	M32x1.5	8.5	13	42	1000 RED M203
M50x1.5	M40x1.5	9.0	14	57	1000 RED M204
M63x1.5	M50x1.5	11.0	14	66	1000 RED M205

"IPAC ENL" Metal Enlargement

Material : Nickel-plate brass
Shape : Round, Hexagonal
Applications : Apply to the situation of the diameter need to be reduced
Degree of protection : IP65/P68 (with O-ring)
Temperature range : -40°C...+120°C



Hexagonal metal enlargement

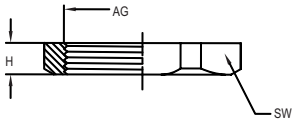


Round metal enlargement

Outside thread(AG)	Inside Thread (GL)	Out side Thread length (L2)	Inside Total length (L1)	Wrench size (SW)	Part No.
PG Thread					
PG7	PG9	5.0 / 5.0	10.0 / 10.0	17	1000 ENL M101
PG9	PG11	6.5 / 6.0	12.0 / 12.0	20	1000 ENL M102
PG11	PG13.5	6.0 / 6.0	12.0 / 12.0	22	1000 ENL M103
PG13.5	PG16	6.5 / 6.5	13.0 / 13.0	24	1000 ENL M104
PG16	PG21	6.5 / 6.5	14.0 / 14.0	30	1000 ENL M105
PG21	PG29	7.0 / 7.0	15.0 / 15.0	40	1000 ENL M106
PG29	PG36	8.0 / 8.0	15.0 / 17.0	50	1000 ENL M107
PG36	PG42	9.0 / 9.0	16.0 / 16.0	57	1000 ENL M108
PG42	PG48	9.0 / 10.0	16.0 / 16.0	65	1000 ENL M109
Metric Thread					
M12x1.5	M16x1.5	5.0 / 5.0	10.0 / 10.0	18	1000 ENL M207
M16x1.5	M20x1.5	6.0 / 6.0	12.0 / 12.0	22	1000 ENL M208
M20x1.5	M25x1.5	8.0 / 6.5	13.0 / 13.0	27	1000 ENL M200
M25x1.5	M32x2.0	7.5 / 6.5	15.0 / 15.0	35	1000 ENL M201
M32x1.5	M40x2.0	10.0 / 7.0	15.0 / 15.0	45	1000 ENL M202
M40x1.5	M50x2.0	10.0 / 9.0	16.0 / 16.0	55	1000 ENL M203
M50x1.5	M63x2.0	9.0 / 9.0	16.0 / 16.0	65	1000 ENL M204

"IPAC MLKN" Metal lock nut

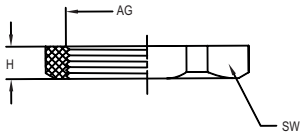
Material : Nickel-plate brass
Temperature range : -40°C...+100°C



Thread dimension(AG)	Wrench size(SW)	Thickness(H)	Part No.
PG Thread			
PG7	15	2.8	1000 LKN M101
PG9	18	2.5	1000 LKN M102
PG11	21	3.0	1000 LKN M103
PG13.5	23	3.0	1000 LKN M104
PG16	27	3.0	1000 LKN M105
PG21	30	3.5	1000 LKN M106
PG29	40	4.0	1000 LKN M107
PG36	50	4.5	1000 LKN M108
PG42	60	5.0	1000 LKN M109
PG48	65	5.5	1000 LKN M100
Metric Thread			
M12x1.5	15	2.8	1000 LKN M207
M16x1.5	18	2.2	1000 LKN M208
M20x1.5	22	3.0	1000 LKN M200
M25x1.5	27	3.0	1000 LKN M201
M32x1.5	35	3.5	1000 LKN M202
M40x1.5	50	4.5	1000 LKN M203
M50x1.5	57	5.0	1000 LKN M204
M63x1.5	70	5.5	1000 LKN M205

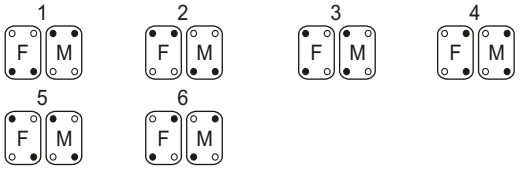
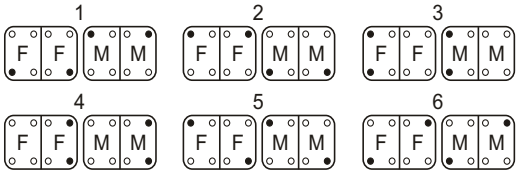
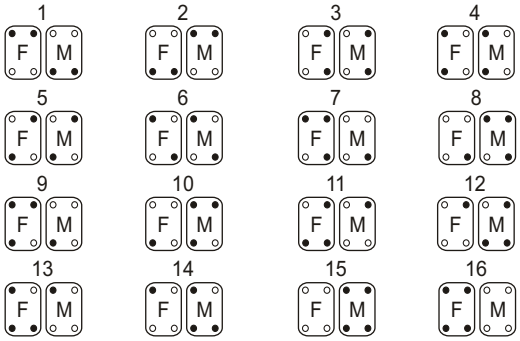
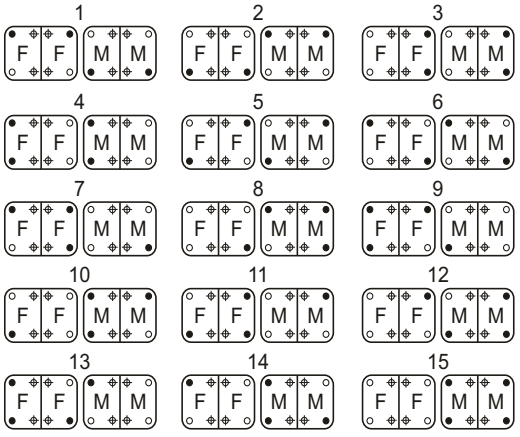
"IPAC LKN" Polyamide lock nut

Material : Polyamide
Color: Grey, Black
Temperature range : -40°C...+100°C



Thread dimension(AG)	Wrench size(SW)	Thickness(H)	Part No.
PG Thread			
PG7	19	5.0	1000 LKN P101
PG9	22	5.0	1000 LKN P102
PG11	24	5.0	1000 LKN P103
PG13.5	27	6.0	1000 LKN P104
PG16	30	6.0	1000 LKN P105
PG21	36	7.0	1000 LKN P106
PG29	45	7.0	1000 LKN P107
PG36	60	8.0	1000 LKN P108
PG42	65	8.0	1000 LKN P109
PG48	70	8.0	1000 LKN P100
Metric Thread			
M12x1.5	19	5.0	1000 LKN P207
M16x1.5	22	5.0	1000 LKN P208
M20x1.5	27	6.0	1000 LKN P200
M25x1.5	32	7.0	1000 LKN P201
M32x1.5	40	7.5	1000 LKN P202
M40x1.5	50	8.0	1000 LKN P203
M50x1.5	65	8.0	1000 LKN P204
M63x1.5	74	8.0	1000 LKN P205

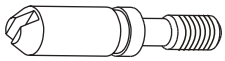
Coding Systems

		Part No.
	Coding System is applicable when identical connector with different function is mounted side by side. Coding pins are used in place normal fixing screw to avoid incorrect coupling & ensure correct coupling. The combination of a number of guide pin & bush pin make it possible to obtain a high number of selective couplings. With normal coding pin 6 combination is possible and with the Guide Pin & Bush pin 16 different combination is possible.	
Coding System with Code Pin  ● **Code Pin** ○ **Mounting Screw** F **Female Connector** M **Male Connector**	**For Connector with one insert**  **For Connector with two insert** 	0110 300 1000
Coding System with Guide Pin & Bush Pin **Guide Pin**  **Bush Pin**  ● Guide Pin ○ Bush Pin ⊕ Mounting Screw F Female Insert M Male Insert	**For Connector with one insert**  **For Connector with two insert** 	0110 100 1000 0110 200 1000

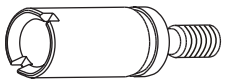
Coding Systems

Coding System with Guide Pin & Bush Pin

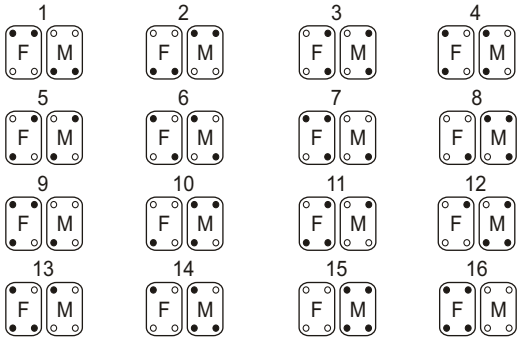
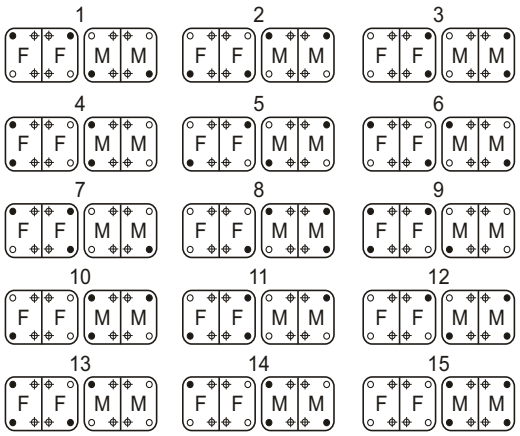
Modular Guide Pin



Modular Bush Pin

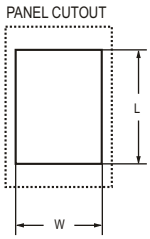


- ● Guide Pin
- ○ Bush Pin
- ⊕ Mounting Screw
- F Female Insert
- M Male Insert

		Part No.
For Connector with one insert		0310 600 1000
For Connector with two insert		0310 700 1000

FRONT PANEL INTERFACE UNIT

Technical Data



Data Connector		**Plug Connector SUB-D**
Max. Nominal Voltage		125V AC / 150V DC
Max. Nominal Current		3 A
Max. Wire Diameter		20 / 0.05 mm2
Plug Socket		**Universal Socket**
Max. Nominal Voltage		250 V AC
Max. Nominal Current		6 A, 13 A & 16 A
Max. Wire Diameter		Screw Terminals
Frame		
Material		Polyamide
Dimension (outside)	FPIU LS	113 x 65 x 17 mm
	FPIU MS	92 x 70 x 12 mm
	FPIU SS	100 x 41 x 13 mm
	FPIU CB	135 X 75 X 18 MM
Panel Cut out	FPIU LS L x W	95 x 56 mm
	FPIU MS L x W	63 x 57 mm
	FPIU SS L x W	63 x 29 mm
	FPIU CB L x W	66 X 105 MM
Suitable to wall thickness		1 to 3 mm

FPIU SS

DISCRIPTION	PART No.
Data Connector Soldering type	
With 2 Nos. of 2 Ft. USB Cable	011 0000 4C53
With 25 PIn Female Connector	011 2500 4S03
Panel Cutout - 64 X 29	

FPIU

DISCRIPTION	PART No.
RJ 45 Connector 8 Pin Metal CAT5e, Gender Changer Fitted in 3 Pin Housing with Protective Cover	014 0000 0G13
Panel Cutout - 22 x 22	

FRONT PANEL INTERFACE UNIT

FPIU MS

DISCRIPTION	PART No.
Data Connector Soldering type	
With 9 Pin Female Connector	012 9000 4S03
With 9 Pin Male Connector	012 9000 3S03
With 25 Pin Female & Blind Strip	012 2500 4S03
With 9 Pin Femael & 25 Pin Female Connector	012 2590 4S03
With 09 Pin Female & RJ45 Connector 8 Pin Metal CAT 5e	012 9000 4S13
With 25 Pin Female & RJ45 Connector 8 Pin Metal CAT5e	012 2500 4S13
With 9 Pin Female , 25 Pin Female Connector & RJ 45 8 Pin Metal CAT5e	012 2590 4S13
With 9 Pin & 25 Pin Male Connector	012 2590 3S03
With 1 USB/ 9 Pin Female & RJ45 Connector	012 9000 4S23
With 25 Pin female & 9 Pin Male Connector	012 2590 2S03
With 25 Pin Female & 25 Pin Male Insert	012 2525 2S03
With9 Pin Female & 9 Pin Male Connector	012 9090 2S03
with15 Pin Female & 9 Pin Male Connector	012 1590 2503
Plug Socket	
with 3 Pin Universal Socket 6A 250V	012 0000 0000
with 3 Pin Universal Socket 13A 250V	012 0000 0004

FPIU LS

DISCRIPTION	PART No.
Data Connector soldering type & Gender Changer	
With 25 Pin Female	013 2500 4S03
With 09 Pin Female	013 2500 4S03
With 09 Pin & 25 Pln Female Connector	013 2590 4S03
With 09 Pin Male, 9 Pin Female and RJ45 connector 8 pin Metal CAT5e Gender Changer	013 9090 2S13
With 25 Pin Female /Female & 9 Pin Female/ Female Gender Changer & RJ45 Connector 8 Pin Metal CAT 5e, Gender Changer	013 2590 4G13
With 9 Pin Female/ Female Gender Changer & RJ45 Connector 8 Pin Metal CAT 5e, Gender Changer	013 9000 4G13
With 25 Pin Female/ Female Gender Changer & RJ45 Connector 8 Pin Metal CAT 5e, Gender Changer	013 2500 4G13
With 25 Pin Female /Female & 9 Pin Female/ Female Gender Changer	013 2590 4G03
With 09 Pin Female, RJ45 Connector 8 Pin Metal CAT 5e and 2 USB with 2 Mts. Cable	013 9000 4S33
With 09 Pin Female & RJ45 Connector 8 Pin Metal CAT 5e, Gender Changer	013 9000 4S13
With 09 Pin Female / Female Gender Changer	013 9000 4G03
with RJ45/ 2USB with cable/ 15 Pin Female Gender Changer	013 1500 4G30
Plug Socket	
with 3 Pin Universal Socket 6A 250V	013 0000 0000
with 3 Pin German Socket 16 A 250V	013 0000 0001
with 3 Pin Universal Socket 13 A 250V	013 0000 0004

FPIU CB

DISCRIPTION	PART No.
Data Connector Soldering type	
With 9 Pin Female / RJ45 / 3 Pin Socket (6A 250V)	035 9000 4S10
With 9 Pin Female / RJ45 / 3 Pin Socket (13A 250V)	035 9000 4S14
With 25 Pin Female / RJ45 / 3 Pin Socket (6A 250V)	035 2500 4S10
With 25 Pin Female / RJ45 / 3 Pin Socket (13A 250V)	035 2500 4S14
With USB(with cable) / RJ45 / 3 Pin Socket (6A 250V)	035 0000 0G24
With USB(with cable) / RJ45 / 3 Pin Socket (13A 250V)	035 0000 0G20
With Four Rj45	035 0000 0G63

Machine Lamp for CNC Machine

- Input Voltage : 230V AC
- Wattage : 7 Watts
- Control Gear : CU ballast for 230V /AC
- Lumens : 455 Lm, Cool Day Light
- Machine Lamp Body : Borosilicate Glass
- Diameter : 60 MM
- Protection Grade : IP 67
- Cable Length : 2 Mts.

External Ballast Model No.	I/P Voltage	Length MM
IETL-07W -1E	230 V AC	200

Machine Lamp for CNC Machine

- Input Voltage : 24V AC/DC , 110 AC, 230V AC
- Wattage : 9 Watts
- Control Gear : Electronic Ballast for 24 V &110 V CU ballast for 230V /AC
- Lumens : 565 Lm, Cool Day Light
- Machine Lamp Body : Borosilicate Glass
- Diameter : 60 MM
- Protection Grade : IP 67
- Cable Length : 2 Mts.

External Ballast Model No.	I/P Voltage	Length MM
IETL-09W-1E	24V AC/DC	290
IETL-09W-2E	110 V AC	290
IETL-09W-3E	230V AC	290

Internal Ballast Model No	I/P Voltage	Length MM
IETL-09W-1I	24V AC/DC	465
IETL-09W–2I	110 V AC	395
IETL-09W-3I	230V AC	375

Machine Lamp for CNC Machine

- Input Voltage : 24V AC/DC , 110 AC, 230V AC
- Wattage : 11 Watts
- Control Gear : Electronic Ballast for 24 V &110 V / CU ballast for 230V /AC
- Lumens : 850 Lm, Cool Day Light
- Machine Lamp Body : Borosilicate Glass
- Diameter : 60 MM
- Protection Grade : IP 67
- Cable Length : 2 Mts.

External Ballast Model No.	I/P Voltage	Length MM
IETL-11W-1E	24V AC/DC	370
IETL-11W-2E	110 V AC	370
IETL-11W-3E	230V AC	370

Internal Ballast Model No	I/P Voltage	Length MM
IETL-11W-1I	24V AC/DC	495
IETL-11W-2I	110 V AC	495
IETL-11W-3I	230V AC	495

Machine Lamp for CNC Machine

- Input Voltage : 24V AC/DC , 110 AC, 230V AC
- Wattage : 18 (9 x 2) Watts
- Control Gear : Electronic Ballast for 24 V &110 V CU ballast for 230V /AC
- Lumens : 1150 Lm, Cool Day Light
- Machine Lamp Body : Borosilicate Glass
- Diameter : 60 MM
- Protection Grade : IP 67
- Cable Length : 2 Mts.

External Ballast Model No.	I/P Voltage	Length MM
IETL-18W-D-1E	24V AC/DC	450
IETL-18W-D-2E	110 V AC	450
IETL-18W-D-3E	230V AC	450

Internal Ballast Model No	I/P Voltage	Length MM
IETL-18W-D-1I	24V AC/DC	665
IETL-18W-D-2I	110 V AC	685
IETL-18W-D-3I	230V AC	605

Machine Lamp for CNC Machine

- Input Voltage : 24V AC/DC , 110 AC, 230V AC
- Wattage : 18 Watts
- Control Gear : Electronic Ballast for 24 V &110 V CU ballast for 230V /AC
- Lumens : 1150 Lm, Cool Day Light
- Machine Lamp Body : Borosilicate Glass
- Diameter : 60 MM
- Protection Grade : IP 67
- Cable Length : 2 Mts.

External Ballast Model No.	I/P Voltage	Length MM
IETL-18W-1E	24V AC/DC	335
IETL-18W-2E	110 V AC	335
IETL-18W-3E	230V AC	335

Internal Ballast Model No	I/P Voltage	Length MM
IETL-18W-1I	24V AC/DC	465
IETL-18W-2I	110 V AC	395
IETL-18W-3I	230V AC	375

Machine Lamp for CNC Machine

- Input Voltage : 24V AC/DC , 110 AC, 230V AC
- Wattage : 36 Watts
- Control Gear : Electronic Ballast for 24 V &110 V CU ballast for 230V /AC
- Lumens : 2500 Lm, Cool Day Light
- Machine Lamp Body : Borosilicate Glass
- Diameter : 60 MM
- Protection Grade : IP 67
- Cable Length : 2 Mts.

External Ballast Model No.	I/P Voltage	Length MM
IETL-36W-1E	24V AC/DC	595
IETL-36W-2E	110 V AC	595
IETL-36W-3E	230V AC	595

Internal Ballast Model No	I/P Voltage	Length MM
IETL-36W-1I	24V AC/DC	730
IETL-36W-2I	110 V AC	620
IETL-36W-3I	230V AC	686

CERTIFICATION

ECBT2.E337258 - Connectors for Use in Data, Signal, Control and Power Applications - Component

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GIDC MAKARPURA
VADODARA, GJ 390010 INDIA

Connectors, Model(s) Series ICO A

Marking: Company name and model designation on the device or carton.

Last Updated on 2012-02-27

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Certificate

Standard: ISO 9001:2008

Certificate Registr. No.: 85 100 001 11044

Certificate Holder: **Indo Electricals**
C-1/675, GIDC, Makarpura
Vadodara-390 010
Gujarat, India.

Scope: **Design, Development & Manufacture of industrial electrical connectors.**

Validity:

Proof has been furnished by means of an audit that the requirements of ISO 9001:2008 are met.

The due date for all future audits is 20 - 01 (dd.mm).

The certificate is valid from **2015-02-18 until 2018-02-17.**

Bangalore 2015-02-18

The Certification Body of
TÜV Rheinland (India) Pvt. Ltd.

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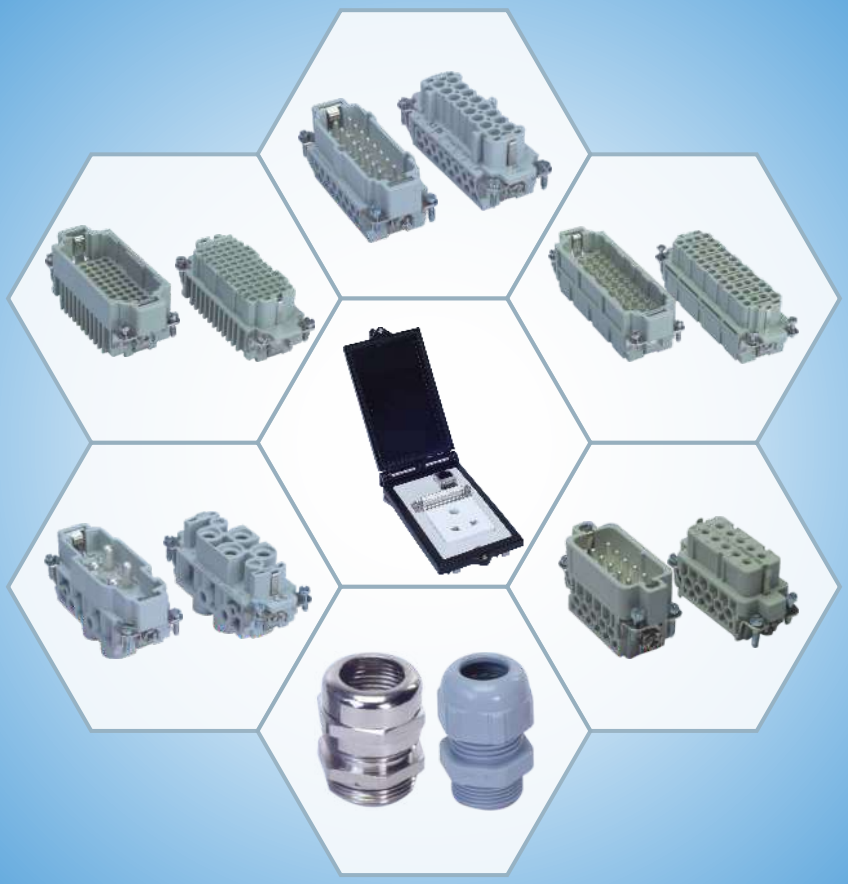

indo electricals

MANUFACTURES & ENGINEERS

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