# CONNECTORS

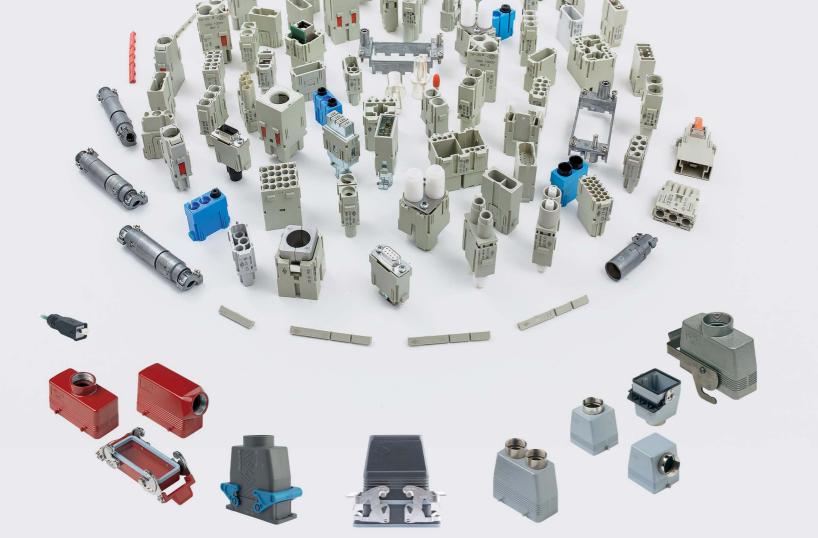


INDUSTRIA LOMBARDA MATERIALE ELETTRICO SpA has been operating in Milan since 1938, in particular in the electrotechnical sector for the manufacturing of equipment for industrial installations. ILME reflects the traditional entrepreneurial spirit of Lombardy, and has enjoyed continuous expansion for over half a century. The company has carved an important role for itself in the main world markets, also operating directly in the countries that have assumed world leadership in the field of automation, including Germany and Japan. In the electrical connection sector with applications in industrial automation, characterised by high performance and utmost reliability needs, ILME is today the acknowledged partner of many leading companies worldwide.



Some years ago, the entertainment industry has chosen the Socapex SL61 connectors to become the world wide standard for power distribution interconnect. Socapex is now worldwide known as a major connector manufacturer for entertainment applications. The brand is so famous that "Socapex" can be considered has the worldwide generic name for 19, 7 and 37 pins connectors. Some people even call it the "Soca". Socapex is the sole and only manufacturer of the Socapex SL61 connectors.





Ten 47

Ten 47 Powerline connectors are used in lighting distribution panels. Typical applications include outdoor concerts, theatres, television outdoor broadcasts. Ten 47 "Powerline" contacts are retained by means of a spring clip design that can retain the equivalent weight of 100 metres of 240mm<sup>2</sup> cable. The contacts are inserted from the rear and "snap" into position within the Insulator with no requirement for any Cotter/Dowel pin or assembly tools. A simple removal tool is supplied to release the contact from the insulator. As our clip design does not require any holes through the Insulator, it provides several advantages over the "cotter/dowel pin" design reducing assembly times by upto 50 percent.





### Multipole Connectors

Multipole Connectors					
Size 44.27 Click the size to go to the category					
6 Pin 16 amp 400 volt		24 Pin 10 amp 250 volt (crimp)		220 221	
9 pin 10 amp 400 volt				330-331	

### Size 57.27

10 Pin 16 amp 400 volt	$ \begin{array}{c} \bigcirc & 6 & 7 & 8 & 9 & 18 \\ \hline 6 & 6 & 7 & 8 & 9 & 18 \\ \hline 0 & 6 & 6 & 6 & 0 \\ \hline 1 & 2 & 5 & 4 & 5 \\ \hline 0 & 1 & 2 & 5 & 1 \\ \hline 0 & 1 & 2 & 5 & 1 \\ \hline 0 & 1 & 1 & 1 \\ \hline 0 & 1 & 2 & 1 \\ \hline 0 & 1 & 1 & 1 \\ \hline 0 & 1 & 2 & 1 \\ \hline 0 & 1 & 1 \\ \hline 0 & 1 & 1 & $	42 Pin 10 amp 250 volt (crimp)	332-335
8 Pin 16 amp 400 volt + 24 Pin 10amp 250 Volt (crimp)		18 Pin 10 amp 400 volt	332-333

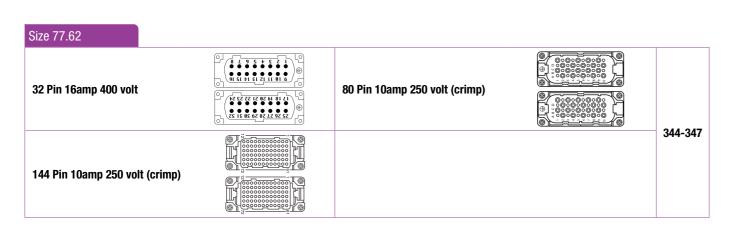
### Size 77.27

5

16 Pin 16 amp 400 volt	40 pin 10 amp 250 volt (crimp)	
72 pin 10 amp 250 volt (crimp)	6 pin 35 amp 400 volt	226 220
4 pin 80 amp 690 volt	4 Pin 80 amp 690 volt + 2 pin 16 amp 400 volt	- 336-339
6 Pin 40 amp 690 volt + 36 pin 10 amp 250 volt	12 Pin 40 amp 690 volt + 2 pin 10 amp 250 volt	
6 pin 40 amp 690volt + 12 pin 10amp 400volt		

### Size 104.27

24 pin 16amp 400 volt	64 pin 10amp 250 volt (crimp)	
108 pin 10amp 250 volt (crimp)	4 pin 80amp 690 volt + 8 pin 16amp 400 volt	340-343
6 Pin 100amp 690volt + 6 pin 16amp 400volt		



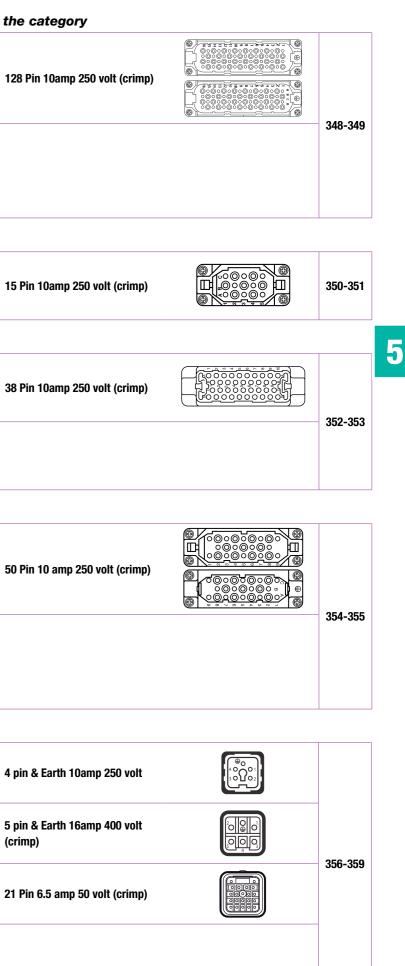
### Size 104.62 Click the size to go to the category 37 38 39 48 41 42 43 44 45 46 47 48 25 26 27 28 29 38 31 32 33 34 35 36 48 Pin 16amp 400 volt 13 14 15 16 17 18 19 28 21 22 23 24 1 2 3 4 5 6 7 8 9 18 11 12 1 2 3 4 5 6 7 8 9 18 11 12 ©₽å 540 216 Pin 10amp 250 volt (crimp) ID œ٦. 4 00000 Hø 64 Size 49.16 10 Pin 16amp 400 volt Size 66.16 16 Pin 16amp 400 volt 25 Pin 10amp 250 volt (crimp) Size 66.40 囫 0 32 Pin 16 amp 400 volt F 70 Ð **•••••**••••• R 76 Pin 10 amp 250 volt (crimp) Size 21.21 3 pin & Earth 10amp 250 volt 8pin 10amp 50 volt (crimp)t (crimp)

12 Pin 10 amp 400 volt (crimp)

2 Pin 40 amp 400 volt (crimp)



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### Multipole Connectors



### General features of multipole connectors for industrial purposes

1) Threaded cable passage in various Pg 🚯 Stainless steel closure levers and springs 👔 Contacts position identified with numbers or diameters (types with pre-code "C") or metric passage (types with pre-code "M") (9) Locking device available in two versions, in accordance with EN 60423, for cable entry devices in accordance with EN 50262 (NPT threading on request), may be located 10 Various types of handles are available: in vertically, horizontally or frontally.

2 Heavy duty enclosures in die-cast aluminium alloy or self-extinguishing thermoplastic (CK and MK series).cRUus certified Wall mounting or bulkhead housings and hoods are available, with or without fixed covers or with mobile protection covers. The types of enclosures CH-CA (Pg cable entries) 11 Unlosable insert and MH-MA (metric cable entries) have a tab that prevents the insertion of inserts series CME (all) and CMCE (only 16+2 poles), while CM (Pg) enclosures series and MM (metric) do not have any tabs and contain supplementary

guarantee a perfect closure and sealing. simple (with one lever), or double (with two (13) Contacts in silver or gold-plated brass with levers).

self-extinguishing, thermoplastic material reinforced with glass fibres; in die-cast of up to 180 °C): monoblock stainless steel special uses with temperatures of up to 180 °C).

with anti-loosening

13

12

insulating strips inside. 3 Metallic enclosures with a coated finish of epoxy-polyester with high resistance to mechanical stress and external agents. Enclosures used with temperatures of up to 180 °C and in aggressive environments are treated with special coatings. Where electromagnetic compatibility is necessary: EMC enclosures with high conductivity and high corrosion resistance surface treatment.

4 Inserts in self-extinguishing thermoplastic material reinforced with glass fibres, UL approved, with a limit working temperature from -40 °C to +125 °C. The inserts CME (all) and CMCE (only 16+2 poles) for 830V have a key that prevents the insertion of inserts for use other than that prescribed (types CM - Pg and MM - metric). For some series, inserts in PPS (polyphenylene sulphide) may be requested for special uses with temperatures of up to 180 °C.

5 Polarized inserts with asymmetric guide rails for preventing incorrect coupling. The inserts have a mechanical duration equal to or over 500 coupling cycles.

6 Inserts manufactured in conformity with EN 61984 (DIN VDE 0627 standard and are certified and identified with the UL and CSA marks.

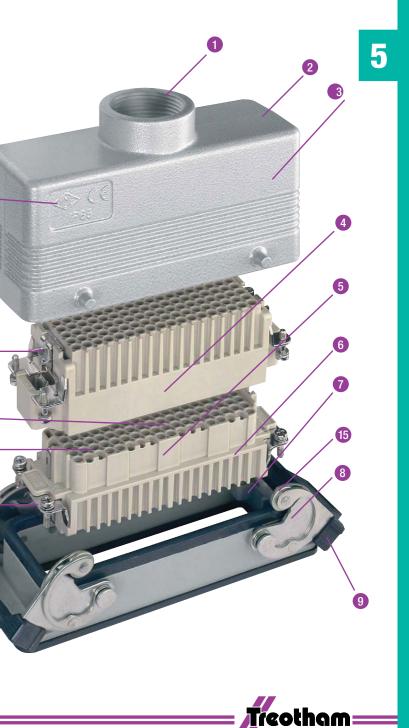
7 Special seal gaskets in vinyl nitrile elastomer or fluoro elastomer (on enclosures for use with maximum temperatures of 180 °C and for aggressive environments), in anti-aging, oilresistant, fuel-resistant, together with the cable entry devices (not supplied) provide an IP66 degree of protection for coupled connectors. Special conductive seals for EMC enclosures.

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fastening flexible washer.

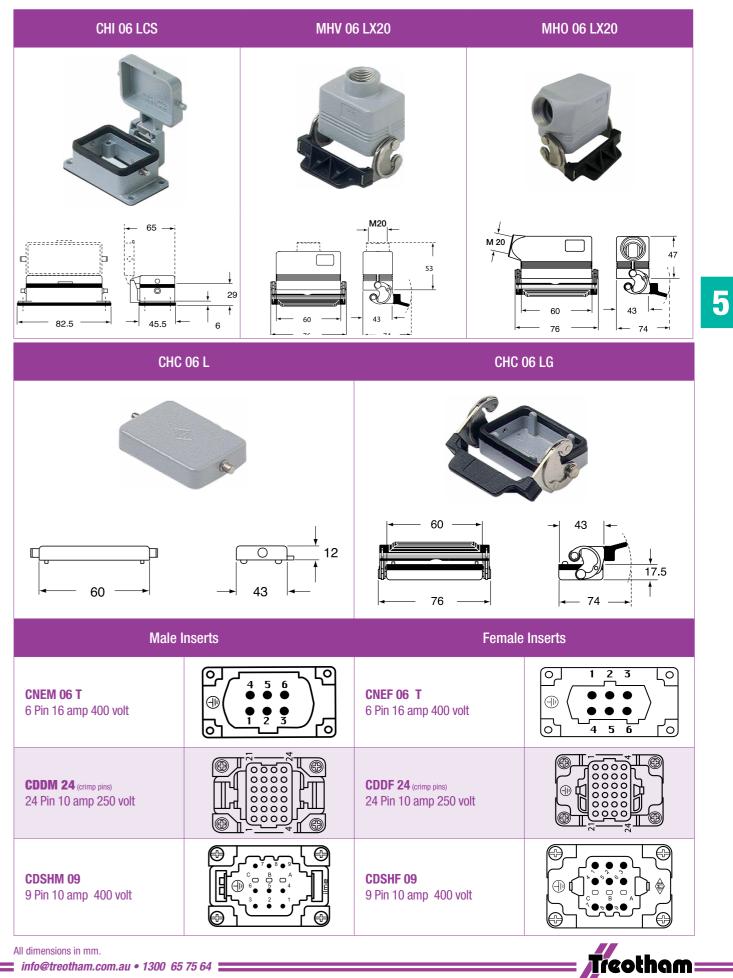
- codes on both sides of each insert and laser printed or moulded.
- connections to the conductors made via unlosable unloosened screws, spring terminal, crimping or incorporated 45° terminal block connectors (with screw or spring terminal).
- aluminium (for special use with temperatures (1) Earth terminal protection with wide contact surface.
- handles (CK, CZ, MK, MZ enclosures and for (15) Pegs and levers supplied with anti-friction rings that facilitate closure and limit wear and tear.
  - screws, **16** CE marking attesting conformity to the requirements of the Low Voltage directive 73/23/EEC and its modification 93/68/EEC.



### **CH-MH Enclosures**



### **CH-MH Enclosures**



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43

**→** 

43

### Size 44.27

### **CH-MH-MA Enclosures**

CHI 10

45.5

MHV 10.20

MHV 10.25

Size 57.27 **Double Locking** 

Ø 5.5

63.5

45

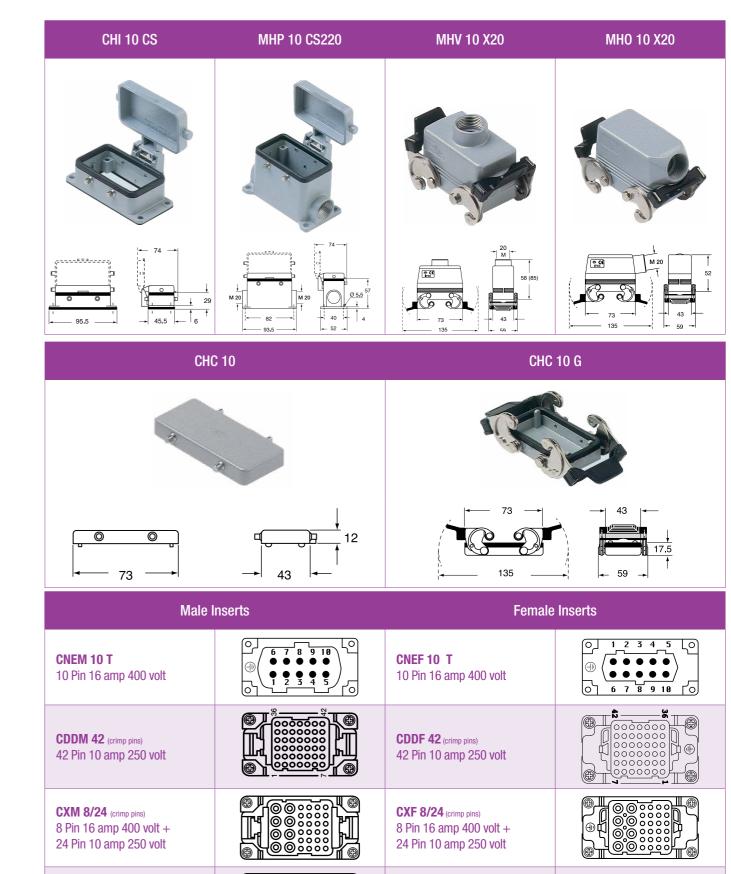
57

MAP 10.232

M 32

MHV 10 G25

### **CH-MH-MA Enclosures**



18 Pin 10 amp 400 volt

All dimensions in mm.

CDSHM 18

M 32mm

43

85

0

73

0

M 20 or 25mm IP65 0 0 43 — 73 — MAV 10.32

M 20 or 25mm **₽**65 58 0 43

93.5

MHP 10.220

M 20mm

MH0 10.20

MH0 10.25

Ø 5.5 57

52

70

43

40

52

M 32

MA0 10.32

M 32mm

MAV 10 G32

-

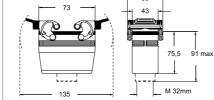
+ M25m

59di (1) (1)

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135





0

0

73

### Size 57.27 **Double Locking**

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<b>CNEF 10 T</b> 10 Pin 16 amp 400 volt	$ \begin{array}{c}         0 \\         0 \\         0 \\         $
<b>CDDF 42</b> (crimp pins) 42 Pin 10 amp 250 volt	
<b>CXF 8/24</b> (crimp pins) 8 Pin 16 amp 400 volt + 24 Pin 10 amp 250 volt	
<b>CDSHF 18</b> 18 Pin 10 amp 400 volt	

For crimp pins refer to page 367

CH-MH-MA Enclosures Size 57.27 Single locking					
CHI 10L	CHI 10 LS	MHP 10 L220	MHP 10 LS220		
		$M \xrightarrow{20}{93.5}$	M/20 $H/20$		
MHV 10 L20 MHV 10 L25		10 L20 10 L25	MHV 10 LG25		
	or M 25 58 ↓ 73 →	43			
MAV 10 L32	MAO 1	10 L32	MAV 10 LG32		
			Real		

M32

73

58

43

70

43

### **CH-MH-MA Enclosures**



Male Inserts		Female Inserts	
<b>CNEM 10 T</b> 10 Pin 16 amp 400 volt	$\bigcirc 6 7 8 9 18 \\ \bigcirc 6 6 7 8 9 18 \\ \bigcirc 6 6 6 6 6 \\ \bigcirc 6 6 6 6 6 \\ \bigcirc 6 6 6 6$	<b>CNEF 10 T</b> 10 Pin 16 amp 400 volt	$ \begin{array}{c} 0 & 1 & 2 & 3 & 4 & 5 \\  & \bullet & \bullet & \bullet & \bullet \\ $
<b>CDDM 42</b> (crimp pins) 42 Pin 10 amp 250 volt		<b>CDDF 42</b> (crimp pins) 42 Pin 10 amp 250 volt	
<b>CXM 8/24</b> (crimp pins) 8 Pin 16 amp 400 volt + 24 Pin 10 amp 250 volt		<b>CXF 8/24</b> (crimp pins) 8 Pin 16 amp 400 volt + 24 Pin 10 amp 250 volt	
<b>CDSHM 18</b> 18 Pin 10 amp 400 volt		<b>CDSHF 18</b> 18 Pin 10 amp 400 volt	
II dimensions in mm. For crimp pins refe info@treotham.com.au • 1300 65		1	Treathor

- 73

5

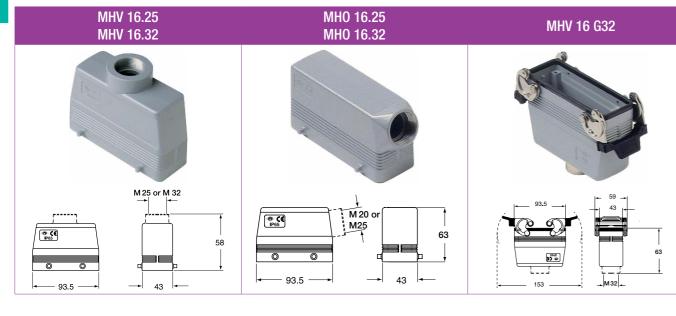
### Size 57.27 Single locking

### **CH-MH-MA Enclosures**

Size 77.27 Double Locking

CHI 16	MHP 16.225	MAP 16.240
153 $\overrightarrow{}$	$M_{25}$ $105$ $1$	$\begin{array}{c} 153 \\ M 40 \\ \hline \\ 105 \\ 117 \\ \hline \\ 117 \\ \hline \\ 57 \\ \hline \\ \\ 57 \\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $

5





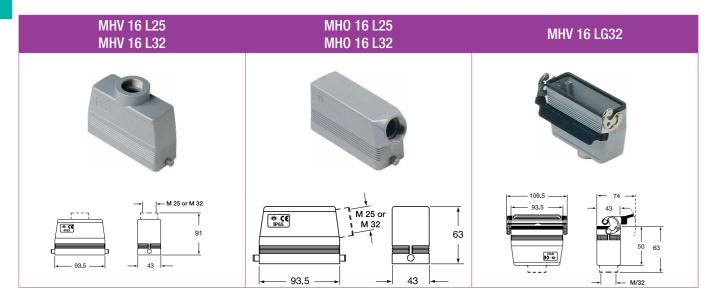
CHI 16 CS	MHP 16 CS 225	MHV 16 X25	MHO 16 X25
		S. S	G. C.
$\begin{array}{c} & & 74 \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & $			
CHC 1	16	СНС	16G
Male Inserts		Female Inserts	
<b>CNEM 16 T</b> 16 pin 16 amp 400 volt		<b>CNEF 16 T</b> 16 pin 16 amp 400 volt	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
<b>CDM 40</b> 40 pin 10 amp 250 volt (crimp)		<b>CDF 40</b> 40 pin 10 amp 250 volt (crimp)	
<b>CDDM 72</b> 72 pin 10 amp 250 volt (crimp)		<b>CDDF 72</b> 72 pin 10 amp 250 volt (crimp)	
<b>CPM 06</b> 6 pin 35 amp 400 volt		<b>CPF 06</b> 6 pin 35 amp 400 volt	
<b>CXM 4/0</b> 4 Pin 80 amp 690 volt		<b>CXF 4/0</b> 4 Pin 80 amp 690 volt	
<b>CXM 4/2</b> 4 pin 80 amp 690 volt + 2 pin 16 amp 400 volt		<b>CXF 4/2</b> 4 pin 80 amp 690 volt + 2 pin 16 amp 400 volt	
<b>CXM 6/36</b> 6 pin 40 amp 690 volt + 36 pin 10 amp 250 volt		<b>CXF 6/36</b> 6 pin 40 amp 690 volt + 36 pin 10 amp 250 volt	
<b>CXM 6/12</b> 6 pin 40 amp 690 volt + 12 pin 10 amp 400 volt		<b>CXF 6/12</b> 6 pin 40 amp 690 volt + 12 pin 10 amp 400 volt	
<b>CXM 12/2</b> 12 Pin 40 amp 690 volt + 2 pin 10 amp 250 volt		<b>CXF 12/2</b> 12 Pin 40 amp 690 volt + 2 pin 10 amp 250 volt	

### **CH-MH Enclosures**

Size 77.27 Single Locking

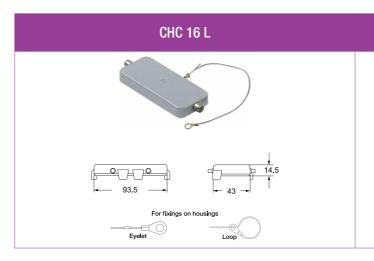
CHI 16 L	CHI 16 LS	MHP 16 L225	MHP 16 LS225
			M225 1 105 1 17 1 105 1 17 1 105 1 17 1 105

5





### **CH-MH Enclosures**



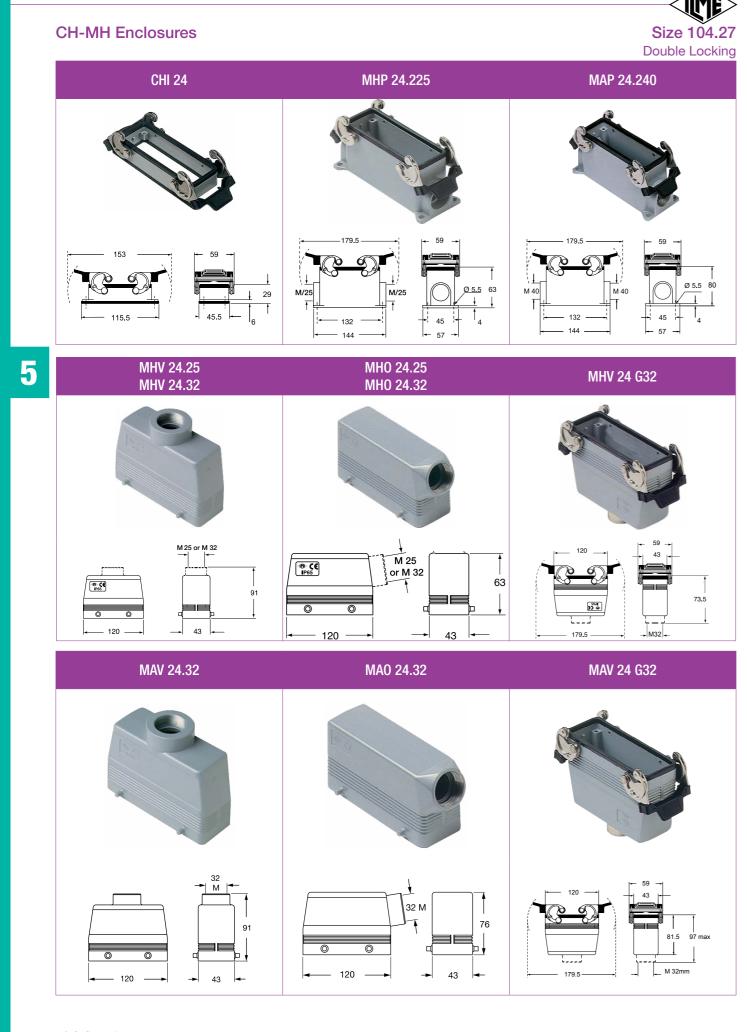
Male Inserts	Female Inserts	
<b>CNEM 16 T</b> 16 pin 16 amp 400 volt	<b>CNEF 16 T</b> 16 pin 16 amp 400 volt	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
<b>CDM 40</b> 40 pin 10 amp 250 volt (crimp)	<b>CDF 40</b> 40 pin 10 amp 250 volt (crimp)	
<b>CDDM 72</b> 72 pin 10 amp 250 volt (crimp)	<b>CDDF 72</b> 72 pin 10 amp 250 volt (crimp)	€
<b>CPM 06</b> 6 pin 35 amp 400 volt	<b>CPF 06</b> 6 pin 35 amp 400 volt	
<b>CXM 4/0</b> 4 Pin 80 amp 690 volt	<b>CXF 4/0</b> 4 Pin 80 amp 690 volt	
<b>CXM 4/2</b> 4 pin 80 amp 690 volt + 2 pin 16 amp 400 volt	<b>CXF 4/2</b> 4 pin 80 amp 690 volt + 2 pin 16 amp 400 volt	
<b>CXM 6/36</b> 6 pin 40 amp 690 volt + 36 pin 10 amp 250 volt	<b>CXF 6/36</b> 6 pin 40 amp 690 volt + 36 pin 10 amp 250 volt	
<b>CXM 6/12</b> 6 pin 40 amp 690 volt + 12 pin 10 amp 400 volt	<b>CXF 6/12</b> 6 pin 40 amp 690 volt + 12 pin 10 amp 400 volt	
<b>CXM 12/2</b> 12 Pin 40 amp 690 volt + 2 pin 10 amp 250 volt	<b>CXF 12/2</b> 12 Pin 40 amp 690 volt + 2 pin 10 amp 250 volt	

All dimensions in mm. For crimp pins refer to page 367.

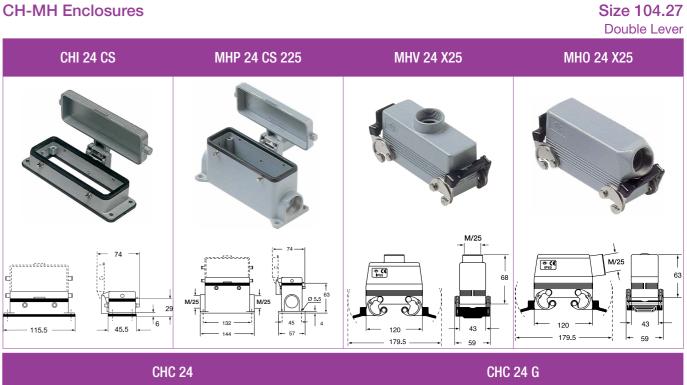
### Size 77.27 Single Locking

5





### **CH-MH Enclosures**





Male Inserts		Female Inserts	
<b>CNEM 24 T</b> 24 pin 16 amp 400 volt	0 13 14 15 16 17 18 19 28 21 22 23 24 1 2 3 4 5 6 7 8 9 18 11 12 0 1 3 4 5 6 7 8 9 18 11 12 0 1 3 4 5 6 7 8 9 18 11 12 0 1 3 4 5 6 7 8 9 18 11 12 0 1 3 4 5 6 7 8 9 18 11 12 0 1 3 4 5 6 7 8 9 18 11 12 0 1 3 4 5 6 7 8 9 18 11 12 0 1 3 4 5 6 7 8 9 18 11 12 0 1 3 4 5 6 7 8 9 18 11 12 0 1 3 4 5 6 7 8 9 18 11 12 0 1 3 4 5 6 7 8 9 18 11 12 0 1 3 4 5 6 7 8 9 18 11 12 0 1 3 4 5 6 7 8 9 18 11 12 0 1 3 4 5 6 7 8 9 18 11 12 0 1 3 4 5 6 7 8 9 18 11 12 0 1 3 5 6 7 8 9 18 11 12 0 1 3 5 6 7 8 9 18 11 12 0 1 3 5 6 7 8 9 18 11 12 0 1 3 5 6 7 8 9 18 11 12 0 1 3 5 7 8 10 12 10 12 10 12 10 12 10 12 10 10 10 10 10 10 10 10 10 10 10 10 10	<b>CNEF 24 T</b> 24 pin 16 amp 400 volt	Image: Constraint of the state of
<b>CDM 64</b> 64 pin 10 amp 250 volt (crimp)		<b>CDF 64</b> 64 pin 10 amp 250 volt (crimp)	
<b>CDDM 108</b> 108 pin 10 amp 250 volt (crimp)		<b>CDDF 108</b> 108 pin 10 amp 250 volt (crimp)	
<b>CXM 4 / 8</b> 4 pin 80 amp 690 v + 8 pin 16a 400 v		<b>CXF 4 / 8</b> 4 pin 80 amp 690 v + 8 pin 16a 400 v	
<b>CXM 6 / 6</b> 6 Pin 100 amp 690volt + 6 pin 16amp 400volt		<b>CXF 6 / 6</b> 6 Pin 100 amp 690volt + 6 pin 16 amp 400volt	
<b>CDSHM 42</b> 42 Pin 10 amp 400 volt (Squich)		<b>CDSHF 42</b> 42 Pin 10 amp 400 volt (Squich)	

All dimensions in mm. For crimp pins refer to page 367.

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Multipole Connectors

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	Female Inserts	
Image: 10 state     Image: 10 state <td< td=""><td><b>CNEF 24 T</b> 24 pin 16 amp 400 volt</td><td></td></td<>	<b>CNEF 24 T</b> 24 pin 16 amp 400 volt	
Image: Contract of the contra	<b>CDF 64</b> 64 pin 10 amp 250 volt (crimp)	@
	<b>CDDF 108</b> 108 pin 10 amp 250 volt (crimp)	
	<b>CXF 4 / 8</b> 4 pin 80 amp 690 v + 8 pin 16a 400 v	
	<b>CXF 6 / 6</b> 6 Pin 100 amp 690volt + 6 pin 16amp 400volt	
		Image: Sector of the sector

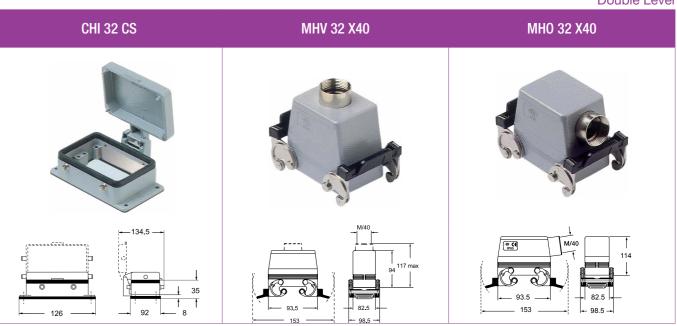
### **CH-MH-MA Enclosures**

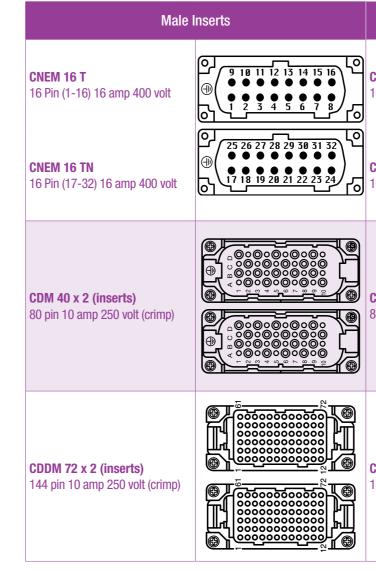
CHI 32

92

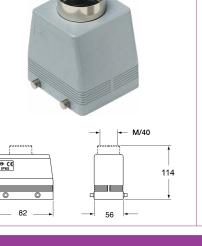


**CH-MH-MA Enclosures** 

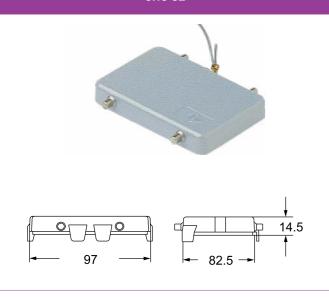




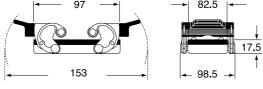
All dimensions in mm. For crimp pins refer to page 367.



**CHC 32** 











94

MH0 32.40



MHV 32 G40

94 119.5

MHP 32.240

**CHC 32G** 

5

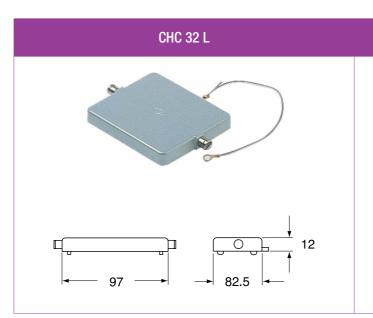
### Size 77.62 Double Lever

5

Female Inserts ړم 1 2 3 4 5 6 7 8 LO CNEF 16 T 16 Pin (1-6) 16 amp 400 volt . . . . . . . 67 9 10 11 12 13 14 15 16 ൭ 17 18 19 20 21 22 23 24 LO • • • • • • • CNEF 16 TN ⊕ 16 Pin (17-32) 16 amp 400 volt 0 25 26 27 28 29 30 31 32 0 CDF 40 x 2 (inserts) 80 pin 10 amp 250 volt (crimp) 0000000 0000000 00000000 00000000000 0000000000 CDDF 72 x 2 (inserts) 144 pin 10 amp 250 volt (crimp) P 



### **CH-MH-MA Enclosures**



Male I	nserts	Female	Inserts
<b>CNEM 16 T</b> 16 Pin (1-16) 16 amp 400 volt		<b>CNEF 16 T</b> 16 Pin (1-6) 16 amp 400 volt	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
<b>CNEM 16 TN</b> 16 Pin (17-32) 16 amp 400 volt	O (25 26 27 28 29 30 31 32 (17 18 19 20 21 22 23 24) (17 18 19 19 10) (17 18 19 10)	<b>CNEF 16 TN</b> 16 Pin (17-32) 16 amp 400 volt	
<b>CDM 40 x 2 (inserts)</b> 80 pin 10 amp 250 volt (crimp)		<b>CDF 40 x 2 (inserts)</b> 80 pin 10 amp 250 volt (crimp)	Image: 1 to 1 t
<b>CDDM 72 x 2 (inserts)</b> 144 pin 10 amp 250 volt (crimp)		<b>CDDF 72 x 2 (inserts)</b> 144 pin 10 amp 250 volt (crimp)	

All dimensions in mm. For crimp pins refer to page 367.

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82.5

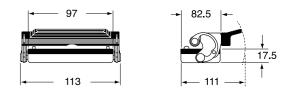
93.5

82.5 🖛

- 93.5

### Size 77.62 Single Lever





5

Size 104.62

### **CH-MH Enclosures**

 MHV 48 L40
 MHO 48 L40

 Image: Constraint of the state of the stat

### **CH-MH Enclosures**

Male I	nserts	Female	Inserts
<b>CNEM 24 T</b> 24 Pin (1-24) 16 amp 400 volt <b>CNEM 24 TN</b> 24 Pin (25-48) 16 amp 400 volt	37 38 39 48 41 42 43 44 45 46 47 48         9         25 26 27 28 29 38 31 32 33 34 35 36         13 14 15 16 17 18 19 28 21 22 23 24         9         13 14 15 16 7 18 19 28 11 12         0         13 14 15 16 7 18 19 28 11 12	<b>CNEF 24 T</b> 24 Pin (1-24) 16 amp 400 volt <b>CNEF 24 TN</b> 24 Pin (25-48) 16 amp 400 volt	1       2       3       4       5       6       7       8       9       18       11       12         Image: Constraint of the state of
<b>CDM 64 x 2</b> 128 Pin 10 amp 250 volt (crimp)		<b>CDF 64 x 2</b> 128 Pin 10 amp 250 volt (crimp)	
<b>CDDM 108</b> 108 Pin (1-108) 10 amp 250 volt (crimp) <b>CDDM 108 N</b> 108 Pin (109-216) 10 amp 250 volt (crimp)		<b>CDDF 108</b> 108 Pin (1-108) 10 amp 250 volt (crimp) <b>CDDF 108 N</b> 108 Pin (109-216) 10 amp 250 volt (crimp)	
<b>CXM 4 / 8</b> 4 pin 80 amp 690 v + 8 pin 16a 400 v		<b>CXF 4 / 8</b> 4 pin 80 amp 690 v + 8 pin 16a 400 v	
<b>CXM 6 / 6</b> 6 Pin 100 amp 690volt + 6 pin 16amp 400volt		<b>CXF 6 / 6</b> 6 Pin 100 amp 690volt + 6 pin 16amp 400volt	
<b>CDSHM 42 x 2 (inserts)</b> 42 Pin 10 amp 400 volt (Squich)		<b>CDSHF 42 x 2 (inserts)</b> 42 Pin 10 amp 400 volt (Squich)	

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### Size 104.62





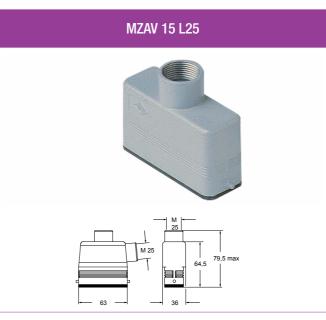
Size 49.16

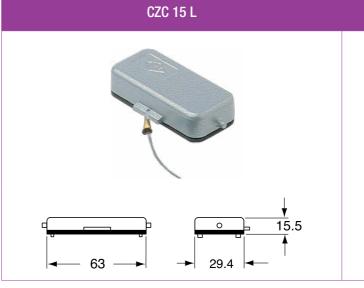
### **CZ-MZ Enclosures**

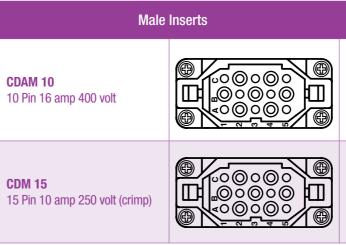


29.4

### **CZ-MZ Enclosures**



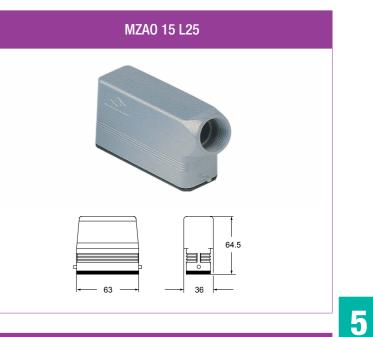




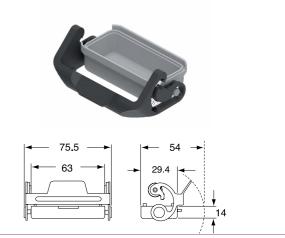
29.4

**∢** 63 →

### Size 49.16



CZC 15 LG



### Female Inserts

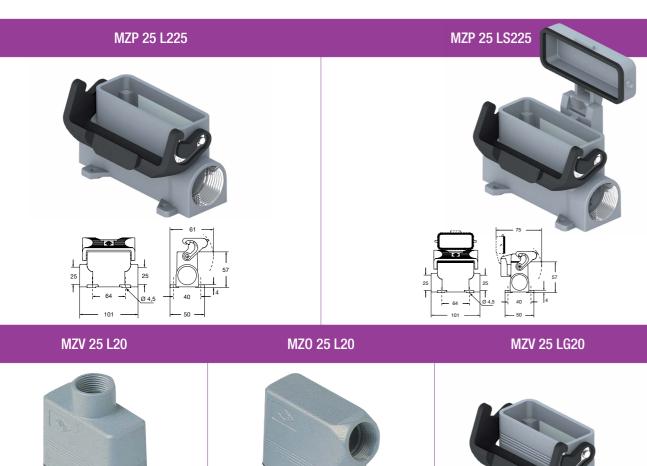
<b>CDAF 10</b> 10 Pin 16 amp 400 volt	
<b>CDF 15</b> 15 Pin 10 amp 250 volt (crimp)	



Size 66.16

### **CZ-MZ Enclosures**





M/20

64.5

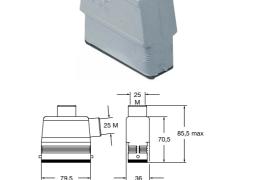
目度

→ 29.4 →

● C€ IP65

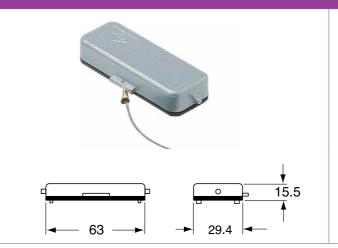
**→** 79.5

**CZ-MZ Enclosures** 



MZAV 25 L25

CZC 25 L



Male	Inserts	Femal	e Inserts
<b>CDAM 16</b> 16 Pin 16 amp 400 volt		<b>CDAF 16</b> 16 Pin 16 amp 400 volt	
<b>CDM 25</b> 25 Pin 10 amp 250 volt (crimp)		<b>CDF 25</b> 25 Pin 10 amp 250 volt (crimp)	
<b>CDDM 38</b> 38 Pin 10 amp 250 volt (crimp)		<b>CDDF 38</b> 38 Pin 10 amp 250 volt (crimp)	Looooooool Looooooool

All dimensions in mm. For crimp pins refer to page 367.

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⊕ C€ IP65

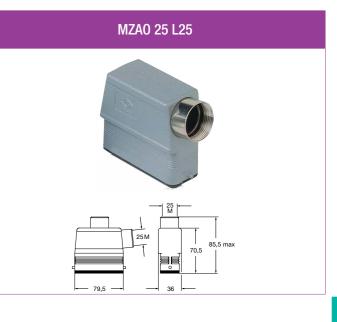
← 79.5 →

\_\_\_ 29.4 |←

352

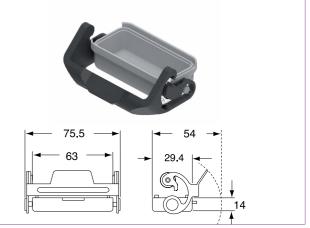
5

### Size 66.16



5

### CZC 25 LG

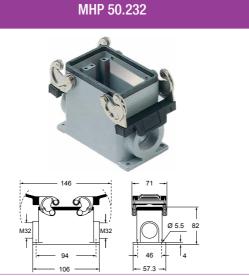




Size 66.40

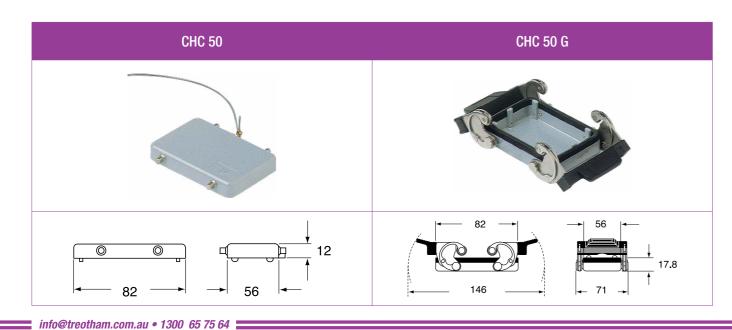
**CH-MH-MA Enclosures** 



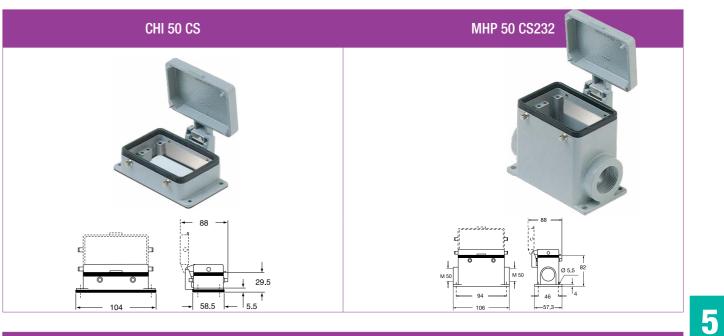


5

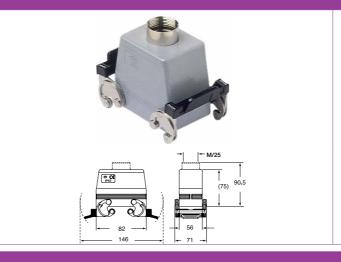
MAV 50.32 MH0 50.25 MAV 50 G32 (high construction) M/32 P65 M/25 ● **C€** IP65 , (75) <sup>90.5</sup> 75 0 0 82 56 \_\_\_\_ 82 56



**CH-MH-MA Enclosures** 



MAV 50 X25

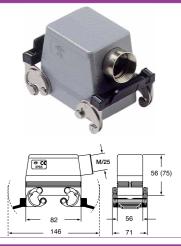


Male	Inserts	Female	e Inserts
<b>CDAM 16</b> 16 Pin (1-16) 16 amp 400 volt		<b>CDAF 16</b> 16 Pin (1-16) 16 amp 400 volt	
<b>CDAM 16 N</b> 16 Pin (17-32) 16 amp 400 volt		<b>CDAF 16 N</b> 16 Pin (17-32) 16 amp 400 volt	
<b>CDM 25 x 2 (inserts)</b> 50 Pin 10 amp 250 volt (crimp)		<b>CDF 25 x 2 (inserts)</b> 50 Pin 10 amp 250 volt (crimp)	
<b>CDDM 38 x 2 (inserts)</b> 76 Pin 10 amp 250 volt (crimp)		<b>CDDF 38 x 2 (inserts)</b> 76 Pin 10 amp 250 volt (crimp)	Image: constraint of the state of
II dimensions in mm. For crimp pins refer			Treatham

354

### Size 66.40

MHO 50 X25



### Female Inserts

### **CK-MK Plastic Enclosures**

Size 21.21





### **CK-MK Plastic Enclosures**

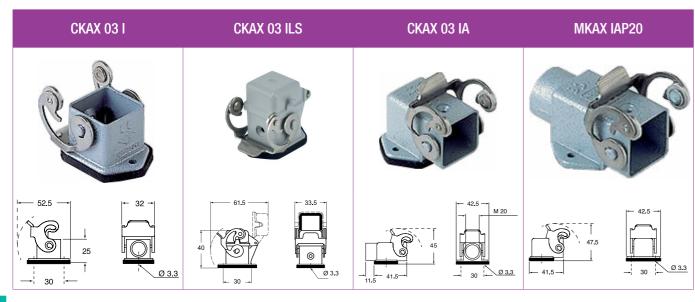
CK 03 C for female inserts	CK 03 CA for male inserts
CKF gasket & screw ki	t for IP66/IP67/IP69
Male I	nserts
<b>CKM 03</b> 3pin & Earth 10 amp 250 volt	
<b>CKM 04</b> 4pin & Earth 10 amp 250 volt	
<b>CDM 07</b> 7pin & Earth 10 amp 250 volt (crimp)	
<b>CDM 08</b> 8pin 10 amp 50 volt (crimp)	
CQM 05 5 pin & Earth 16 amp 400 volt (crimp)	
<b>CQM 12</b> 12 Pin 10 amp 400 volt (crimp)	
<b>CQM 21</b> 21 Pin 6.5 amp 50 volt (crimp)	
<b>CQ4M 02</b> 2 Pin 40 amp 400 volt (crimp)	

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### Size 21.21

	Size 21.21	
CK 03 CX for female inserts	CK 03 CXA for male inserts	
	607.8	
$\begin{array}{c} & 32 \\ \hline \\ 24 \\ \hline \\ $		
CKR ( gasket & screw kit for IP66/IP6		5
Female	Inserts	
<b>CKF 03</b> 3 pin & Earth 10 amp 250 volt		
<b>CKF 04</b> 4 pin & Earth 10 amp 250 volt		
<b>CDF 07</b> 7pin & Earth 10 amp 250 volt (crimp)		
<b>CDF 08</b> 8 pin 10 amp 50 volt (crimp)		
<b>CQF 05</b> 5 pin & Earth 16 amp 400 volt (crimp)		
<b>CQF 12</b> 12 Pin 10 amp 400 volt (crimp)		
<b>CQF 21</b> 21 Pin 6.5 amp 50 volt (crimp)		
<b>CQ4M 02</b> 2 Pin 40 amp 400 volt (crimp)		
	Treotham	
		357

### **CK-MK Metal Enclosures**

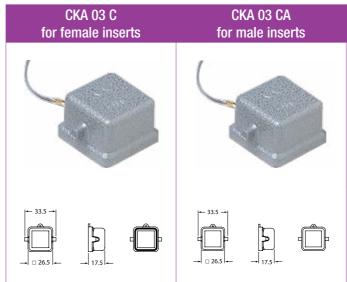




MKAX VG20 MKAX VG25 → 24 - 33 -GN 0 H - M25 -40.5 - 43 -

### CK-MK Motal Engle

Size 21.21



CKA 03 Cx for female inserts       CKAX 03 CX for male inserts       CKAX 03 CX for male inserts       CKAX 03 CX for male inserts         Image: Construction of the serts       Image: Construction of the serts <td< th=""><th colspan="3">CK-MK Metal Enclosures</th><th>Size 21.21</th><th></th></td<>	CK-MK Metal Enclosures			Size 21.21		
Image:						
Image:						
gasket & screw kit for IP66/IP67/IP69         Image: Colspan="2">Image: Colspan="2" Image: Colspa="2" Image: Colspan="2" Image: Colspa="">Ima						
Image: Construction of the stand of the						
Male Inserts       Female Inserts         CKN 03 3pin & Earth 10 amp 250 volt       Image: CKF 03 3pin & Earth 10 amp 250 volt       Image: CKF 04 4pin & Earth 10 amp 250 volt       Image: CKF 04 4pin & Earth 10 amp 250 volt       Image: CKF 04 4pin & Earth 10 amp 250 volt         CM 08 8pin 10 amp 50 volt (crimp)       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin & Earth 16 amp 400 volt       Image: CMF 05 5pin 40 amp 400 volt       Image: CM		gasket & screw k	it for IP66/IP67/IP69			
CKN 03 3pin & Earth 10 amp 250 volt       CKF 03 3 pin & Earth 10 amp 250 volt       CKF 04 4 pin & Earth 10 amp 250 volt       CKF 04 4 pin & Earth 10 amp 250 volt       CKF 04 6 pin 0 amp 250 volt         CM 08 Bpin 10 amp 50 volt (crimp)       Image: Constant 10 amp 50 volt (crimp)       Image: Constant 10 amp 50 volt (crimp)       Image: Constant 10 amp 50 volt (crimp)         CM 05 5 pin & Earth 16 amp 400 volt (crimp)       Image: Constant 16 amp 400 volt (crimp)       Image: Constant 16 amp 400						
3pin & Earth 10 amp 250 volt       Image: Circle of the second seco	Male I	nserts	Female	Inserts		
4pin & Earth 10 amp 250 volt       Image: Construction of the second secon						
8pin 10 amp 50 volt (crimp)       Image: Spin 8 pin 10 amp 50 volt (crimp)       Image: Spin 8 pin 10 amp 50 volt (crimp)         COM 05       5 pin 8 pin 8 pin 16 amp 400 volt       Image: Spin 8 pin 8 pin 16 amp 400 volt       Image: Spin 8 pin 8 pin 16 amp 400 volt         COM 12       12 Pin 10 amp 400 volt (crimp)       Image: Spin 8 pin 10 amp 400 volt (crimp)       Image: Spin 8 pin 10 amp 400 volt (crimp)       Image: Spin 8 pin 10 amp 400 volt (crimp)         COM 12       12 Pin 10 amp 400 volt (crimp)       Image: Spin 8 pin 10 amp 400 volt (crimp)       Image: Spin 8 pin 10 amp 400 volt (crimp)       Image: Spin 8 pin 10 amp 400 volt (crimp)         COM 21       12 Pin 10 amp 50 volt (crimp)       Image: Spin 8 pin 10 amp 50 volt (crimp)       Image: Spin 8 pin 10 amp 50 volt (crimp)       Image: Spin 8 pin 10 amp 400 volt (crimp)         COM 21       21 Pin 6.5 amp 50 volt (crimp)       Image: Spin 8 pin 40 amp 400 volt (crimp)       Image: Spin 40 amp 400 volt (crimp)       Image: Spin 40 amp 400 volt (crimp)         Al dimensions in mm. For crimp pins refer to page 387.       Image: Spin 40 amp 400 volt (crimp)       Image: Spin 40 amp 400 volt (crimp)       Image: Spin 40 amp 400 volt (crimp)         Al dimensions in mm. For crimp pins refer to page 387.       Image: Spin 40 amp 400 volt (crimp)       Image: Spin 40 amp 400 volt (crimp)       Image: Spin 40 amp 400 volt (crimp)						
5 pin & Earth 16 amp 400 volt       S pin & Earth 16 amp 400 volt       Image: Comp 12 (rimp)         12 Pin 10 amp 400 volt (crimp)       Image: Comp 12 (rimp)       Image: Comp 12 (rimp)         12 Pin 10 amp 400 volt (crimp)       Image: Comp 12 (rimp)       Image: Comp 12 (rimp)         COM 21 (rimp)       Image: Comp 12 (rimp)       Image: Comp 12 (rimp)         21 Pin 6.5 amp 50 volt (crimp)       Image: Comp 12 (rimp)       Image: Comp 12 (rimp)         COM 21 (rimp)       Image: Comp 12 (rimp)       Image: Comp 12 (rimp)         Comp 21 (rimp)       Image: Comp 12 (rimp)       Image: Comp 12 (rimp)         Comp 21 (rimp)       Image: Comp 12 (rimp)       Image: Comp 12 (rimp)         Comp 21 (rimp)       Image: Comp 12 (rimp)       Image: Comp 12 (rimp)         All dimensions in mm. For crimp pins refer to page 367.       Image: Comp 13 (rimp)         All dimensions in mm. For crimp pins refer to page 367.       Image: Comp 13 (rimp)						
12 Pin 10 amp 400 volt (crimp)       I 2 Pin 10 amp 400 volt (crimp)       I 2 Pin 10 amp 400 volt (crimp)         CQM 21       21 Pin 6.5 amp 50 volt (crimp)       I Pin 6.5 amp 50 volt (crimp)       I Pin 6.5 amp 50 volt (crimp)         CQ4M 02       2 Pin 40 amp 400 volt (crimp)       I Pin 40 amp 400 volt (crimp)       I Pin 40 amp 400 volt (crimp)         All dimensions in mm. For crimp pins refer to page 367.       I pin 6.5 amp 50 volt (crimp)       I pin 6.5 amp 50 volt (crimp)	5 pin & Earth 16 amp 400 volt		5 pin & Earth 16 amp 400 volt			
21 Pin 6.5 amp 50 volt (crimp)       21 Pin 6.5 amp 50 volt (crimp)         CQ4M 02       2 Pin 40 amp 400 volt (crimp)         2 Pin 40 amp 400 volt (crimp)       2 Pin 40 amp 400 volt (crimp)         All dimensions in mm. For crimp pins refer to page 367.       Image: Comparison of the page 367.         info@treotham.com.au • 1300 65 75 64       Image: Comparison of the page 367.						
2 Pin 40 amp 400 volt (crimp)       Image: Constraint of the second						
info@treotham.com.au • 1300 65 75 64						
				Treotham	359	

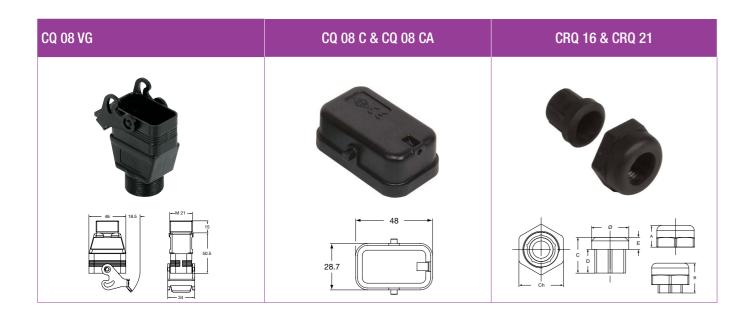
### 0:-01 01

### Thermo plastic enclosures

Size 32.13

CQ 08 I	CQ 08 IA	CQ 08 IAP
R		

CQ 08 V CQ 08 VA MQ 08 V0225 A - 28.7



### Thermoplastic enclosures size "32.13"

For use with all size "32.13" connector inserts. Characteristics of materials for CQ - MQ series.

In self-extinguishing grey RAL 7035 or jet black RAL 9005 thermoplastic material; gaskets in anti-aging, oil-resistant, grease-resistant and fuelresistant NBR vinyl nitrile elastomer;

with single-block locking lever in self-extinguishing thermoplastic material.



Male	Inserts	Female	e Inserts
<b>CQM 04/2</b> 4 Pin 40 amp + 2 Pin 10 amp (crimp)		<b>CQF 04/2</b> 4 Pin 40 amp + 2 Pin 10 amp (crimp)	
<b>CQM 08</b> 8 Pin 16 amp 500 volt (crimp)		<b>CQF 08</b> 8 Pin 16 amp 500 volt (crimp)	
<b>CQM 17</b> 17 Pin 10 amp 160 volt (crimp)		<b>CQF 17</b> 17 Pin 10 amp 160 volt (crimp)	
All dimensions in mm. For crimp pins refer info@treotham.com.au • 1300 65			Treotham

5



### MIXO Modular Units - General Overview

The MIXO series is a system of modular units for special applications that uses the traditional ILMA enclosures.

Each enclosure can house different types of connections such as: electric signals and contacts for the conduction of compressed air and liquids with pressure values of up to 8 bars.

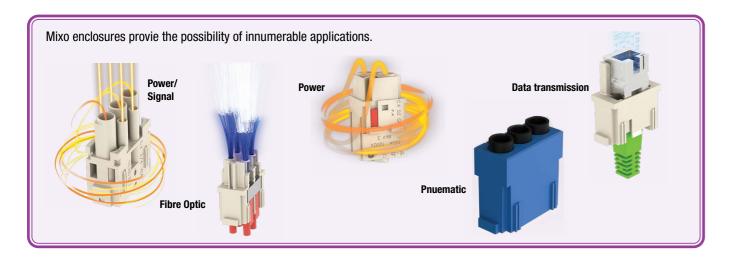
The inserts are arranged side by side to form a single **compact block** which is inserted into metalic frames with mandatory housing. Once the modules have been inserted and locked with the special tabs, the connector can then be inserted into the enclosure.

The modular system makes it easy to access a series of contacts inserted in the frame (e.g., for substitution, check or the addition of signals with new inserts for needs not forseen during the initial installation) without having to disassemble the entire connector.

ILMA Mixo series of modular connectors is an open connector system that provides versatile configuration to the users individual requirements giving the freedom to assemble a customised connector from a range of optical signals or air. The module range is continuously expanded allowing new cofigurations to be realised.

Frames	One or two-lever metalic enclosures
CX 01 T	size "49.16"
CX 02 TM/TF	size "44.27"
CX 03 TM/TF	size "57.27"
CX 04 TM/TF	size "77.27"
CX 06 TM/TF	size "104.27"
CX 04 TM/TF (x 2)	size "77.62"
CX 06 TM/TF (x 2)	size "104.62"











- Pneumatic contacts in plastic with hose barb connection.
- Pibre optic contacts SC type.
- 3 Electric contacts in silver-plated or gold-plated brass with connections to the conductors via crimping, spring clamp or axial screw.
- 4 Modular inserts of identical size with insertion system for forming the complete module and frame lock tab.
- Inserts in self-extinguishing thermoplastic material, reinforced with glass fibre. UL 94V-0 approved, with a working temperature range of -40 °C to +125 °C.
- 6 Inserts in conformance with the requirements of the EN 61984 standard and certified and marked with the UL, CSA, CQC, DNV-GL, BV, EAC marks.
- Inserts with patented "swallowtails" to prevent incorrect coupling.
- Position of contacts identified with numbers or codes on both sides of every insert.
- Male/female module carrier frames with mandatory housings and polarity, in die-cast zinc alloy.
- Module lock tab, may be divided according to the number of modules used; it guarantees a perfect stability of the modules during wiring and coupling/ uncoupling of the connectors.
- Asymmetric protective earth contacts (two per frame) with wide contact surface to prevent incorrect coupling; when two or more identical connectors of the MIXO series are used, coded pins may prevent incorrect coupling (refer to pages 684, 685 and 689).
- Captive frame fastening screws, with spring washer.
- Dummy module for unused frame slots.

### **ADVANTAGES**

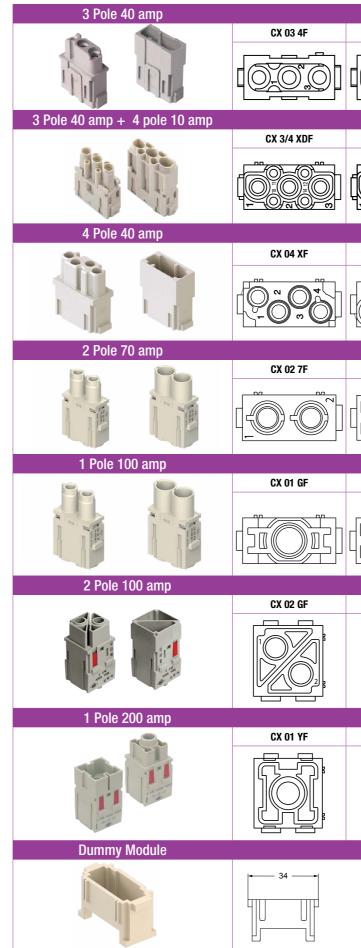
- Easy and user-friendly assembly of the complete multi-module insert before fixing it on the relevant sized metal frame;
- use of proprietary ILME technology providing each module with "swallowtails" (lateral keys/keyways), for reciprocal locking of modules and overall assembly of the insert into rigid (non hinged) frames with snap-in locking strips;
- · faster and easier assembly compared with competitor solutions (easier handling of modules as a complete block than e.g. 6 independent parts);
- intermateability at "complete connector" (modules in frame) with other industry standard products:
- robust and long lasting prevailing crimp connection technology (largely preferred over screw type technology in high vibration and shock environments).

### Mixo Modular Units - Technical Characteristics

Treotham

### **MIXO Modular Units**

12 Pole 10 amp			
	CX 12 DF	CX 12 DM	Crimp Pins To Suit
Sec.			Female CDFA
			Male CDMA
	labora		See Page 367
17 Pole 10 amp			
	CX 17 DF	CX 17 DM	Crimp Pins To Suit
			Female CDFA
		000000 ■00000 ⊑ 000000	Male CDMA
	4 <u>000000</u> H	4 <u>000000</u> 1	See Page 367
5 Pole 16 amp			
	CX 05 SF	CX 05 SM	
			Inserts come with
		HOUNT	spring loaded contacts
		THOOOLH	
6 Pole 16 amp			
	CX 06 CF	CX 06 CM	Crimp Pins To Suit
200			Female CCFA
	r <u>o</u> <u>o</u> <u>o</u>		Male CCMA
			See Page 367
8 Pole 16 amp			
	CX 08 CF	CX 08 CM	Crimp Pins To Suit
			Crimp Pins To Suit Female CCFA
		CX 08 CM	
			Female CCFA
20 Pole 16 amp			FemaleCCFAMaleCCMA
20 Pole 16 amp	СХ 20 CF	СХ 20 CM	Female     CCFA       Male     CCMA       See Page 367
20 Pole 16 amp	СХ 20 CF	СХ 20 CM	FemaleCCFAMaleCCMA
20 Pole 16 amp		СХ 20 CM	Female     CCFA       Male     CCMA       See Page 367        Crimp Pins To Suit
20 Pole 16 amp	СХ 20 CF		Female     CCFA       Male     CCMA       See Page 367        Crimp Pins To Suit     CCFA       Female     CCFA
	СХ 20 CF	CX 20 CM	Female     CCFA       Male     CCMA       See Page 367        Crimp Pins To Suit       Female     CCFA       Male     CCMA
20 Pole 16 amp 20 Pole 16 amp 3 Pole 40 amp	СХ 20 CF	CX 20 CM	FemaleCCFAMaleCCMASee Page 367Crimp Pins To SuitFemaleCCFAMaleCCMASee Page 367
	СХ 20 CF СО ОСО СХ 20 CF	СХ 20 СМ	Female     CCFA       Male     CCMA       See Page 367        Crimp Pins To Suit     CCFA       Male     CCFA       Male     CCMA       See Page 367        Crimp Pins To Suit
	СХ 20 CF СО ОСО СХ 20 CF	СХ 20 СМ	Female       CCFA         Male       CCMA         See Page 367          Crimp Pins To Suit         Female       CCFA         Male       CCMA         See Page 367          Crimp Pins To Suit         Crimp Pins To Suit          Female       CXFA
	СХ 20 CF СО ОСО СХ 20 CF	СХ 20 СМ	Female     CCFA       Male     CCMA       See Page 367        Crimp Pins To Suit     CCFA       Male     CCFA       Male     CCMA       See Page 367        Crimp Pins To Suit
3 Pole 40 amp	СХ 20 CF СО ОСО СХ 20 CF	СХ 20 СМ	Female       CCFA         Male       CCMA         See Page 367       -         Crimp Pins To Suit       -         Female       CCFA         Male       CCMA         See Page 367       -         Crimp Pins To Suit       -         Female       CCFA         Male       CCMA         See Page 367       -         Crimp Pins To Suit       -         Female       CXFA         Male       CXMA
	Image: constraint of the second se	СХ 03 4М СХ 03 4М	Female       CCFA         Male       CCMA         See Page 367       -         Crimp Pins To Suit       -         Female       CCFA         Male       CCMA         See Page 367       -         Crimp Pins To Suit       -         Female       CCFA         Male       CCMA         See Page 367       -         Crimp Pins To Suit       -         Female       CXFA         Male       CXMA
3 Pole 40 amp	СХ 20 CF СО ОСО СХ 20 CF	СХ 20 СМ	FemaleCCFAMaleCCMASee Page 367Crimp Pins To SuitFemaleCCFAMaleCCMASee Page 367Crimp Pins To SuitFemaleCXFAMaleCXFASee Page 367
3 Pole 40 amp	Image: constraint of the second se	СХ 03 4М СХ 03 4М	Female       CCFA         Male       CCMA         See Page 367       -         Crimp Pins To Suit       -         Female       CCFA         Male       CCMA         See Page 367       -         Crimp Pins To Suit       -         Female       CCFA         Male       CCMA         See Page 367       -         Crimp Pins To Suit       -         Female       CXFA         Male       CXMA
3 Pole 40 amp	Image: constraint of the second se	СХ 03 4М СХ 03 4М СХ 03 4М	FemaleCCFAMaleCCMASee Page 367Crimp Pins To SuitFemaleCCMAMaleCCMASee Page 367Crimp Pins To SuitFemaleCXFAMaleCXMASee Page 367Crimp Pins To SuitFemaleCXFAMaleCXMASee Page 367
3 Pole 40 amp	Image: constraint of the second se	СХ 03 4М СХ 03 4М СХ 03 4М	FemaleCCFAMaleCCMASee Page 367Crimp Pins To SuitFemaleCCFAMaleCCMASee Page 367Crimp Pins To SuitFemaleCXFAMaleCXMASee Page 367Crimp Pins To SuitFemaleCXFAMaleCXMASee Page 367Crimp Pins To SuitFemaleCXFAMaleCXMASee Page 367



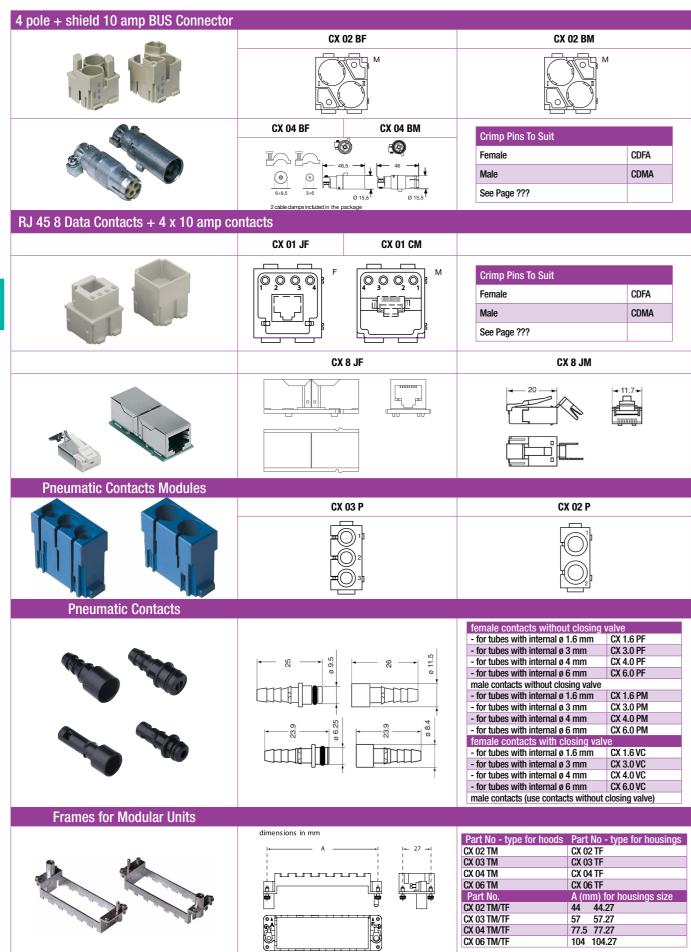
There are more combinations of modular units available.

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07.02.414			
CX 03 4M	Crimp Pins To Suit		
	.5	CXFA	
	Male	CXMA	
	See Page 367		
	-		
CX 3/4 XDM	Crimp Pins To Suit		
	Female	CXFA	
<u>Av</u> ayat	Male	CXMA	
	See Page 367		
	See I age 507		
CX 04 XM			
	Crimp Pins To Suit		
	Female	CXFA	_
	Male	CXMA	
	See Page 367		
<b>AN  </b>			
CX 02 7M	Crimp Pins To Suit		
	Female	CX7FA	
47 MTPh	Male	CX7MA	
	See Page 367		
CX 01 GM			
	Crimp Pins To Suit		
	Female	CGFA	
$4((\bigcirc))$	Male	CGMA	
	See Page 367		
CX 02 GM			
	Crimp Pins To Suit		
	Female	CGFA	
	Male	CGMA	
	See Page 367		
	<u>.</u>		
CX 01 YM			
	Crimp Pins To Suit		
	Female	CYFA	
hl( 🔾 )[d	Male	CYMA	
۲ <u>۲</u>	See Page 367		
	500 i ugo 001		
→ 14,7 ←			
	Dummer and data for the		
	Dummy module for unused f	rame seats	
		eotham	
		Koludu	

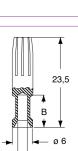
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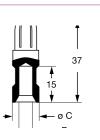
### **MIXO Modular Units**

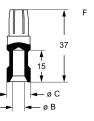


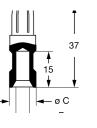
### **Crimp Pins**

Male	e Pins 10	amp Silver Plated	→    <del>&lt;</del> ø 3.2	Fema	ale Pins 1	0amp Silver Plated	
CDMA	0.3	0.14 - 0.37 mm <sup>2</sup>		CDFA	0.3	0.14 - 0.37 mm <sup>2</sup>	
CDMA	0.5	0.5 mm <sup>2</sup>		CDFA	0.5	0.5 mm <sup>2</sup>	21.6
CDMA	0.7	0.75mm <sup>2</sup>		CDFA	0.7	0.75mm <sup>2</sup>	
CDMA	1.0	1.0mm <sup>2</sup>	→	CDFA	1.0	1.0mm <sup>2</sup>	
CDMA	1.5	1.5mm <sup>2</sup>		CDFA	1.5	1.5mm <sup>2</sup>	
CDMA	2.5	<b>2.5mm</b> <sup>2</sup>		CDFA	2.5	<b>2.5mm</b> <sup>2</sup>	_ → Ø 3.5
Male	e Pins 16	amp Silver Plated		Fema	ale Pins 1	6amp Silver Plated	
CCMA	0.5	0.5 mm <sup>2</sup>	→   <del>•</del> ø 4.5	CCFA	0.5	0.5 mm <sup>2</sup>	
CCMA	0.7	0.75mm <sup>2</sup>	7.5	CCFA	0.7	0.75mm <sup>2</sup>	
CCMA	1.0	1.0mm <sup>2</sup>		CCFA	1.0	1.0mm <sup>2</sup>	22.2
CCMA	1.5	1.5mm <sup>2</sup>		CCFA	1.5	1.5mm <sup>2</sup>	7.5
CCMA	2.5	2.5mm <sup>2</sup>	ø 2.5	CCFA	2.5	2.5mm <sup>2</sup>	
CCMA	3.0	3mm <sup>2</sup>		CCFA	3.0	3mm <sup>2</sup>	→ Ø 4.5
CCMA	4.0	4mm <sup>2</sup>		CCFA	4.0	4mm <sup>2</sup>	
Male	e Pins 40	amp Silver Plated	→ → Ø A	Fema	ale Pins 4	0amp Silver Plated	
CXMA	1.5	1.5mm <sup>2</sup>	→ Ø 6	CXFA	1.5	1.5mm <sup>2</sup>	
СХМА	2.5	2.5mm <sup>2</sup>		CXFA	2.5	2.5mm <sup>2</sup>	23,5
CXMA	4.0	4mm <sup>2</sup>	<u> </u>	CXFA	4.0	4mm <sup>2</sup>	
СХМА	6.0	6mm <sup>2</sup>	29,1	CXFA	6.0	6mm <sup>2</sup>	В
			→ ◆				→ Ø6
							→ Ø A
Male	e Pins 70	amp Silver Plated		Fema	ale Pins 7	0amp Silver Plated	// N
CX7MA	10	10mm <sup>2</sup>	ø A	CX7FA	10	10mm <sup>2</sup>	
CX7MA	16	16mm <sup>2</sup>	15	CX7FA	16	16mm <sup>2</sup>	32
CX7MA	25	<b>25mm</b> <sup>2</sup>		CX7FA	25	<b>25mm</b> <sup>2</sup>	15
							ø A
Male	Pins 100	amp Silver Plated	→     →	Fema	le Pins 1(	00amp Silver Plated	(     ) T
CGMA	10	10mm <sup>2</sup>		CGFA	10	10mm <sup>2</sup>	
ounin		16mm <sup>2</sup>		CGFA	16	16mm <sup>2</sup>	37
CGMA	16	TOTITI					
	16 25	25mm <sup>2</sup>		CGFA	25	<b>25mm</b> <sup>2</sup>	15
CGMA			39,5	CGFA CGMA	25 35	25mm <sup>2</sup> 35mm <sup>2</sup>	
CGMA CGMA	25	<b>25</b> mm <sup>2</sup>					→
CGMA CGMA CGMA	25 35	25mm <sup>2</sup> 35mm <sup>2</sup>	39,5	CGMA	35	35mm <sup>2</sup>	
CGMA CGMA CGMA Male	25 35 Pins 200	25mm <sup>2</sup> 35mm <sup>2</sup>		CGMA Fema	35 le Pins 20	35mm <sup>2</sup>	
CGMA CGMA CGMA Male CYMA	25 35 Pins 200 16	25mm <sup>2</sup> 35mm <sup>2</sup> Damp Silver Plated 16mm <sup>2</sup>	39,5	CGMA Fema CYFA	35 le Pins 20 16	35mm <sup>2</sup> D0amp Silver Plated 16mm <sup>2</sup>	
CGMA CGMA CGMA Male CYMA CYMA	25 35 Pins 200 16 25	25mm <sup>2</sup> 35mm <sup>2</sup>	39,5 39,5	CGMA Fema CYFA CYFA	35 le Pins 20 16 25	35mm²       D0amp Silver Plated       16mm²       25mm²	
CGMA CGMA CGMA CGMA CYMA CYMA	25 35 Pins 200 16 25 35	25mm <sup>2</sup> 35mm <sup>2</sup> 0amp Silver Plated 16mm <sup>2</sup> 25mm <sup>2</sup> 35mm <sup>2</sup>	39,5 	CGMA Fema CYFA CYFA CYFA	35 le Pins 20 16 25 35	35mm²         D0amp Silver Plated         16mm²         25mm²         35mm²	- • C
CGMA CGMA CGMA Male CYMA CYMA	25 35 Pins 200 16 25	25mm <sup>2</sup> 35mm <sup>2</sup>	39,5 	CGMA Fema CYFA CYFA	35 le Pins 20 16 25	35mm²       D0amp Silver Plated       16mm²       25mm²	











### **Crimp Tools & Accessories for Crimp Contacts**

CCPZ TP	CCPZ RN	CCINA
Crimp Tool for 10 amp and 16 amp contacts	Crimp Tool for 10 amp, 16 amp & 40 amp contacts	Insertion Tool
A Ministerio	C A Martine With Control of Contr	CCRA
CXFZTP	Sec.	CCES
Front view showing incroporated crimping dies	Front view	Removal Tool for 10 amp contacts
Crimp Tool for series <b>CD</b> (10A) & <b>CC</b> (16A) contacts. Crimping dies and turret head are included. Insertion tool Part No. <b>CCINA</b> Removal tools <b>10amp</b> contacts Part No. <b>CCES</b>	Crimp Tool for series <b>CD</b> (10A), <b>CC</b> (16A) & <b>CX</b> (40A) contacts. Crimping dies and turret head are included. Insertion tool Part No. <b>CCINA</b> Removal tools <b>10amp</b> contacts Part No. <b>CCES</b>	A and a CCES
16 amp contcacts Part No. CQES	16 amp contcacts Part No. CQES	CQES
	40 amp contacts Part No. CXES	Removal Tool for 16 amp contacts
		Armaniti (COES
		CXES
Rear view showing incorporated turrett head positioner	Rear view showing incorporated positioner	Removal Tool for 40 amp contacts
		Arrowster & CXES

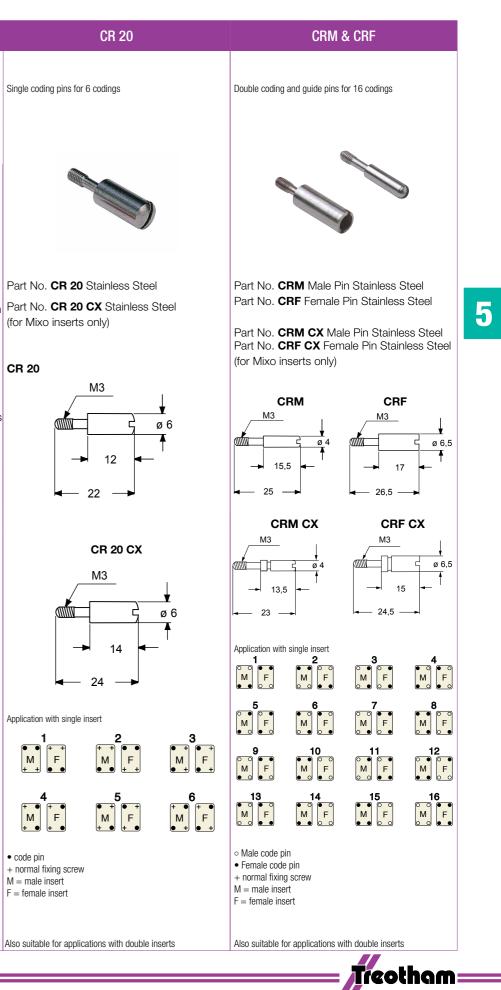
### **Coding Pins**

	CR 2
	Single coding pins for 6 codings
CR20 single coding pins CRM/CRF double coding pins	
Each series of connector inserts is made in such a way as to make incorrect coupling between inserts of different series impossible.	
When a number of identical connectors with different functions are mounted closely to- gether these must be selected in such a way as to prevent the coupling of a mobile part on a non-corresponding fixed part and conse- quent damage and breakdown.	Part No. <b>CR 20</b> Stainles Part No. <b>CR 20 CX</b> Stai (for Mixo inserts only)
Code pins are supplied to apply in place of the normal insert fastening screws (see example below).	CR 20
In this way the coupling of identical connec- tors is assured. The combination of code pins makes it possible to obtain a high number of selective couplings.	
CR20 single coding pins	<b>↓</b> 22 −
YES YES NO	CR 20
CRM & CRF double coding pins	Application with single insert
YES NO NO NO	• code pin + normal fixing screw M = male insert

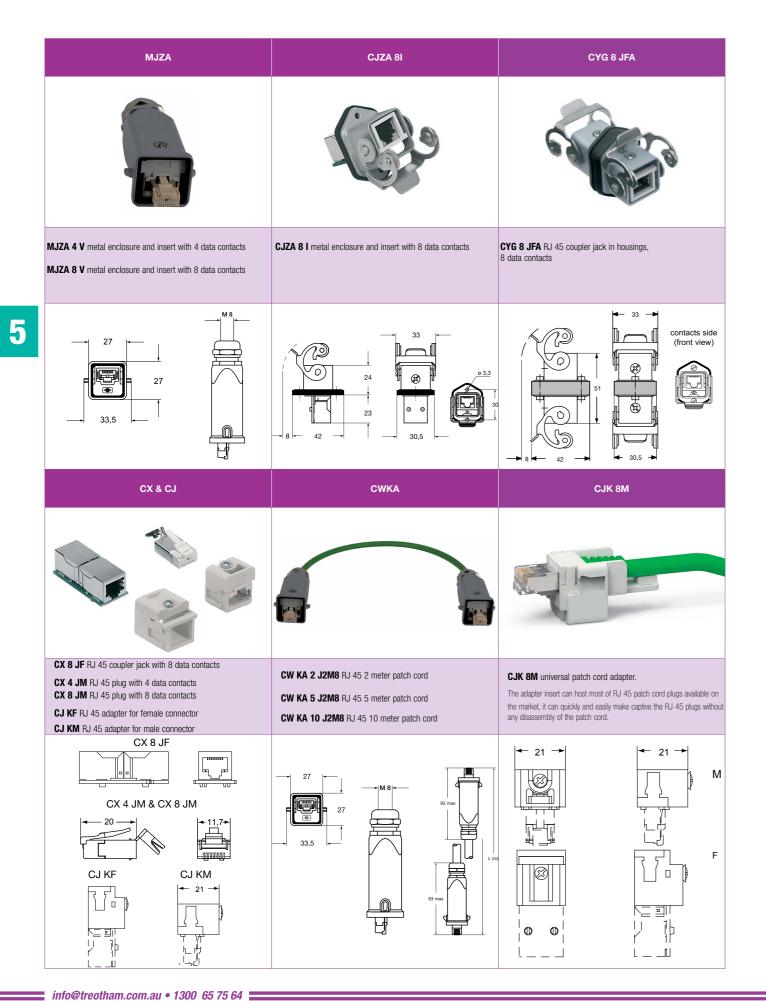
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### **RJ** 45



Series specifically developed for industrial applications where the ambient temperatures are particularly harsh (from -40°C to +180°C).

### SUM-UP OF MATERIALS USED

- $\succ$  Enclosure body made of die cast aluminium alloy
- Chromate conversion coating, RoHS 2 conform, on the enclosure body die casts
   Coated with special high temperatures resistant, red coloured thermosetting powder.
- Flange and interface sealing gaskets (as applicable) in FPK, anti-aging heat resistant fluoroelastomer Locking device with lever(s), springs and pegs in stainless steel
- Single-block locking lever handles in stainless steel (for "21.21" sized CKA...R/ MKA...R, "44.16" sized CZ...R and MZ...R, and "104.62" sized CH...R 48 ... and, MH...R 48 ... versions)
- Locking lever handles in die-cast aluminium alloy with the same special coating as the enclosure body (for CH...R 10, 16, 24 and MH...R 10, 16, 24 versions)





### 180 - The Heat Shield

### "T-Type" thermo plastic enclosures

Alongside the wide range of traditional metal enclosures for ILME multipole connectors, there is now available a new series of enclosures in self-extinguishing thermoplastic material in the most common sizes of "44.27", "57.27", "77.27" and "104.27". Quality and low cost are the main features of these enclosures. Valuable characteristics of these new enclosures:

- Cost savings of up to 50% (compared to metal housings)
- Up to 70% lighter
- Structurally solid & mechanically robust
- Chemical resistant

### 1. Construction

These enclosures are structurally solid and mechanically robust, due to their increased thickness. They are particularly resistant to the main pollutants present in industrial environments. The lever enclosure pegs are built into the enclosures. The thermoplastic material used is RAL 7012 dark grey colour and UL 94V-2 grade self extinguishing.

### 2. Gaskets

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Gaskets have been produced by means of the FIPFG technology (Formed-In-Place-Foam-Gasket). They have therefore been incorporated in the base flange on bulkhead housings for easier installation.

### 3. Levers

The locking levers have been produced in self-extinguishable thermoplastic material coloured grey RAL 7001.

### 4. Dimensions

The internal dimensions allow mounting of all connector inserts in their relevant sizes. The external dimensions of the bulkhead-mount and of the surface mount housings are similar to those of the corresponding metal housings; hole fixing centres are unchanged.

### 5. Cable entries

The housings and hoods cable entries are available with metric thread, respectively:M25 or M32 for smaller sizes "44.27" and "57.27".

• M32 or M40 for larger sizes "77.27" and "104.27".

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### 6. Marking

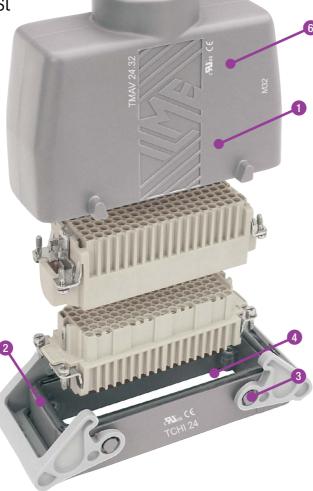
These enclosures carry CE marking as they are accessories for electrical connectors with rated operating voltage within the scope of the 2006/95/EC Low Voltage Directive.

### Limitations

With respect to enclosures in metal alloy, ILME insulating enclosures have some limitations of use in combination with particular accessories: Please contact your local Treotham office to confirm compatibility of current inserts and housings with T-Type enclosures.

### Interchangeability with other ILME series.

TCH series housings can be coupled with metal hoods; insulating hoods can be coupled with "V-Type" metal housings. The hood "57.27", "77.27" and "104.27" can be mounted on COB TCQ and COB BC frames simply by replacing the supplied levers with COB L levers (to be purchased in addition).



### Metal Hood with Plastic Base

### T-TYPE/H & T-TYPE/C

The evolution of T-TYPE insulating enclosures meets food and beverage requirements



### T-TYPE/H - PRODUCTION LINES APPLICATIONS SUM-UP

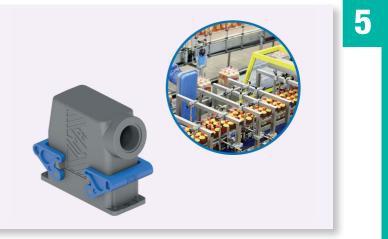
- Enclosures in thermoplastic material, dark grey RAL 7012 colour, with high thicknesses providing structural solidity and durability
- Sealing gaskets made by HNBR rubber formulated in accordance with FDA Guideline 21 CFR §177.2600
- Ambient temperature range: -40 °C / +70 °C

# T-TYPE/C - LOW TEMPERATURE APPLICATIONS SUM-UP

- The Hygienic T-TYPE/C Series enclosures have been specifically designed for food and beverage ambient temperature as low as -50 °C (range: -50 °C / +70 °C)
- This version differs from the Hygienic T-TYPE/H one for the sealing gaskets made by in accordance with FDA Guideline 21 CFR §177.2600











### **ENCLOSURES** for aggressive environments

### A cornerstore against corrosion

Series W-TYPE connector enclosures for aggressive environments is specially designed for industrial applications where particularly aggressive external agents are present (e.g. salty environments, etc.).

They are **distinguished by the jet black RAL 9005 colour** and have the following characteristics:

- chromate conversion treatment of castings RoHS 2 compliant, providing 50% improved corrosion in resistance in salt spray tests (according to UNI EN ISO 9227) compared to the previous green coloured versions;
- thermosetting epoxy powder coating (with improved resistance to chemicals compared to epoxy polyester of the standard enclosures series);
- $\succ$  FKM fluoroelastomer gaskets (with improved resistance to chemicals and aging);
- > ambient temperature limits from -40 °C to +125 °C.











### **E-Xtreme® series**

### **ADVANTAGES**

The protection is granted also in case of impact with stones and sand. The materials are able to withstand UV radiations, a wide temperature range and harsh chemicals.

Metal hoods and housings intended for **extremely demanding environments**, with special protective treatment under painting.

 $\succ$  3.000 hours in salt spray tests -



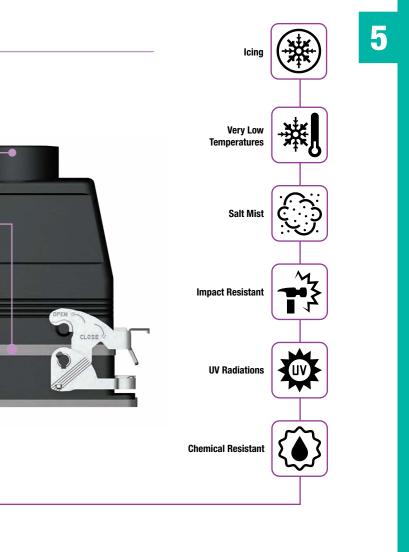
### > IP66, IP67, IP69 degree of protection (EN 60529)

- corrosion-proof aluminium with a special coating under the powder painting colour
   RAL 7016 dark grey
- FKM gasket (-40 °C...+180 °C) or silicone gasket (-60 °C...+180 °C)
- V-TYPE lever or C-TYPE lever, hoods with moulded pegs or riveted stainless steel bolts
- V-TYPE lever or C-TYPE lever, hoods with moulded pegs or riveted stainless steel bolts
- durable protection against damage caused by stone chip, icing, salt mist, UV radiations and harsh gases

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E -xtreme

Their **special patented protective coating** assures a high level of protection against the corrosion even in case of long term exposure to salt mist.







The concept of **Electromagnetic Compatibility** (EMC) is the reversal in the positive sense of what was until recently known as **Electromagnetic Interference** (EMI): **we have electromagnetic compatibility** between a device and the environment (including surrounding equipment) when there is no reciprocal electromagnetic interference or when this is within tolerable limits.

The enclosure surfaces are treated to make them extremely conductive while maintaining the necessary corrosion resistance.

The bulkhead mounting housing has a special conductive gasket. For best results the surface underneath the gasket should be conductive. Since the use of this enclosure system presupposes the use of shielded cables, the hood should comprise a special cable gland with anchoring device for the cable shield.

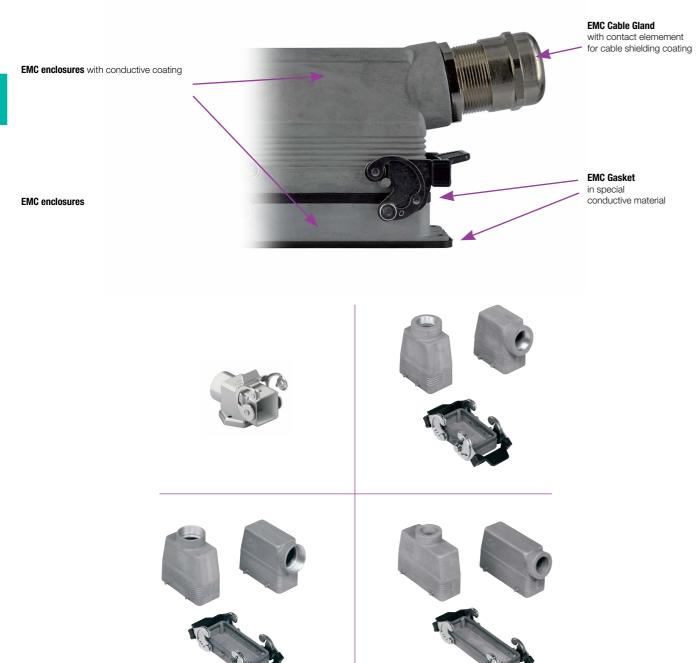
### BIG Series, based on the wide-ranging experience achieved

by ILME, introduces a significant change in the design of hoods and has been specifically designed to meet the new requirements of the wiring market. The enclosures integrate the existing range and are ideal for installations with structured and complex wiring.

### Accurate design

The large dimensions of these innovative enclosures have been chosen to offer customers an adequate space to store conductors.

The width of the new enclosures is greater than that of previous versions: 66 mm compared to the 43 mm for standard enclosures. The height of BIG enclosures has also been increased to 100 mm for sizes "44.27" and "57.27" (standard versions for high models: 70 and 72mm), and to 110 mm for sizes "77.27" and "104.27" (standard versions for high models: 76 mm).





### Multipole Connectors

### BIG











### **Central Lever**

### Easy access for robotics

Series specifically designed for industrial applications with limited installation space.

 $\succ$  These enclosures can be installed, placed side-by-side and handled in a single operation.

 $\succ$  Furthermore, the lever's shape reduces the effort required to uncouple the inner fittings.

### SUM-UP OF MATERIALS USED FOR CH..YC, CA.. YC and MA..YC, CA..YX and MF..YX series

➤ Made of die cast aluminium alloy

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- With epoxy-polyester powder coating
- Gaskets in anti-aging, oil-resistant, grease-resistant and fuel-resistant vinyl nitrile elastomer
- $\succ$  Locking device with single stainless steel lever





> The enclosures ensure the highest degree of protection from external interferences; more specifically, they protect people from accessing the hazardous components housed inside the enclosures

### Scope of application

> External interconnections in vehicles, in harsh environments and in humid areas and with sensitive interconnections requiring shielding from electromagnetic interference.

They are particularly suitable for the applications in the railway industry and any application requiring high resistance to pressure, impact and corrosion, with IP66/IP68/IP69 protection rating.

> They also ensure a good shielding for electromagnetic compatibility.

















### **IP68**

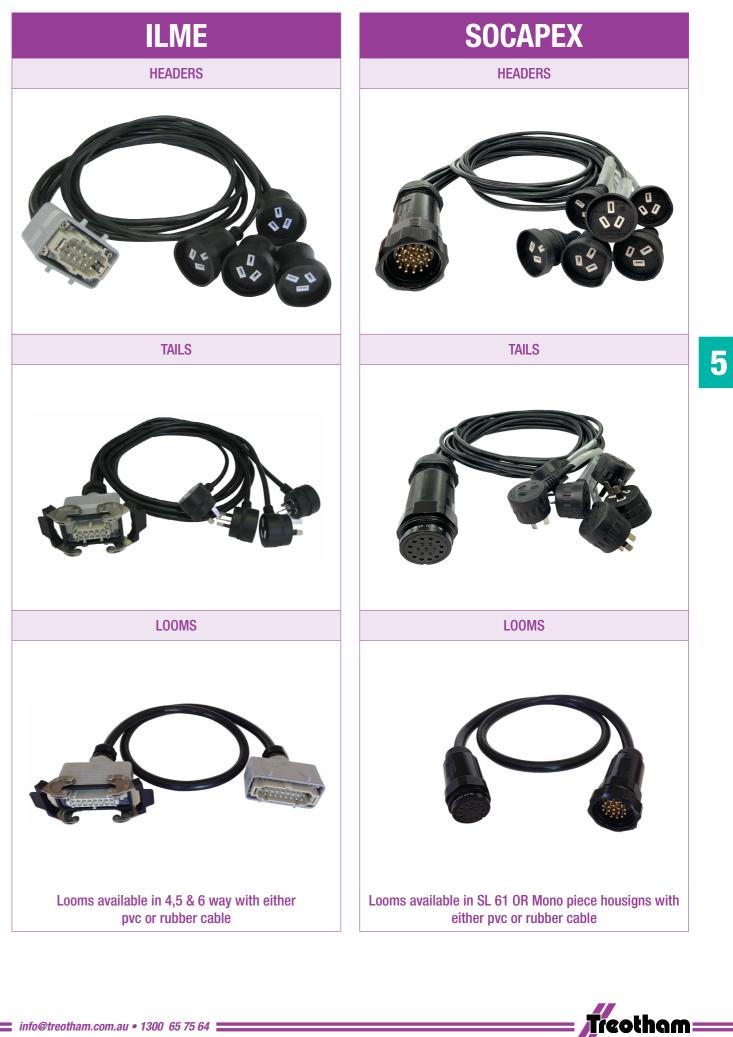






SL FMD 37Y

SL EF 37Y



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SL FFDR 37Y

## **POWERLINE CONNECTORS**

### BACKGROUND

Keyed "L" slot single pole connectors have become widely adopted in a diverse range of applications and industries.

One of the main features of early designs was the mechanically keying of the connectors to prevent possible connection errors. i.e. A Phase Line cannot be connected into Earth Line etc. It was evident that several enhancements to existing designs were possible to further improve the product but at the same time remaining intermateable.

### TYPICAL APPLICATIONS

- Power Distribution
- Utilities
- Electric Vehicles
- Railway Equipment
- Military Field Power
- Mobile Generators
- Loadbanks
- Back-up Power Systems

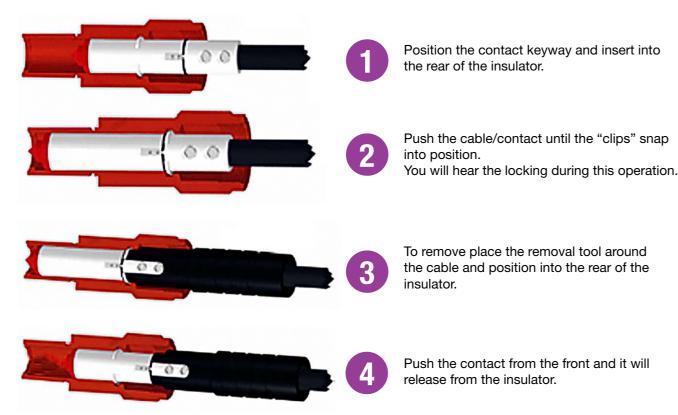
- **POWERLINE FEATURES**
- 500 Mating Cycles minimum.
- Intermateable with other versions.
- IP2X Finger Protected contacts.
- IP68 sealed when mated.

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- Remote tool required to release mated connectors.
- For use with Electrical Power Cables.
- Heavy Duty Hand Grips.
- Clip retained contacts.
- No Dowel / Cotter pin required.
- Cable sizes from 25mm<sup>2</sup> to 300mm<sup>2</sup>
- Facilitate cables up to 37mm Ø.
- High Impact Insulators.

- Harmonised Colour Coding.
- CE Compliant.
- EN/ESI compliant Creepage and Clearance distances.
- Multi-louver contact system.
- Mechanically keyed to prevent connection errors.
- Permanent Marking
- Set Screw and Crimp contact versions.
- UL94 VO Flame Retardant.
- Field Assembly & Repair.
- No special tools required.
- Daisy Chain hook up system.

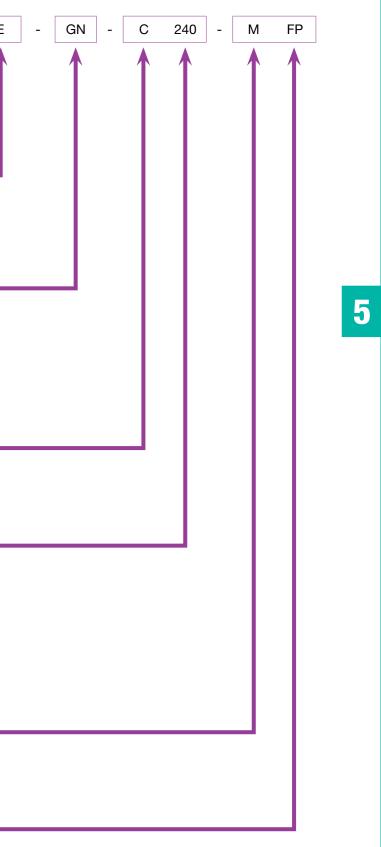
### **CLIP CONTACT RETENTION SYSTEM - Saves 50% assembly time**



Ten 47

# PART NUMBER CONFIGURATION

			CPF - E
	CONNECTOR STYLE		
	Cable Connector Cable Plug Panel Socket Panel Inlet	CCF CPF PSF PIF	
Ì	KEY POSITION		
	Earth Neutral Line 1 Line 2 Line 3	E N L1 L2 L3	
	INSULATOR COLOUR		
	Green Blue Brown Black Grey Red Yellow White	GN BU BR BK GY RD YE WH	
	CONTACT TERMINATION		
	M12 Post for up to 120mm <sup>2</sup> M12 Post for up to 300mm <sup>2</sup> Set Screw for up to 120mm <sup>2</sup> Crimp Contacts up to 300mm <sup>2</sup>	T4 T7 S C	
	CABLE CONDUCTOR SIZE		
	25mm <sup>2</sup> 35mm <sup>2</sup> 50mm <sup>2</sup> 70mm <sup>2</sup> 95mm <sup>2</sup> 120mm <sup>2</sup> 150mm <sup>2</sup> 185mm <sup>2</sup> 240mm <sup>2</sup> 300mm <sup>2</sup>	25 35 50 70 95 120 150 185 240 300	
j	CABLE EXTERNAL DIAMETER		
	15mm – 20mm 21mm – 25mm 26mm – 32mm 33mm – 37mm	S M OS M50	
	CODES		
	IP2X Contacts	FP	
	MODIFICATION CODES	Consult F Earth Green	Factory Neutral Line 1 Line 3 Black Red White



e 2 Line 3 ite Blue



### Ten 47 - Powerline, single pole, 400Amp

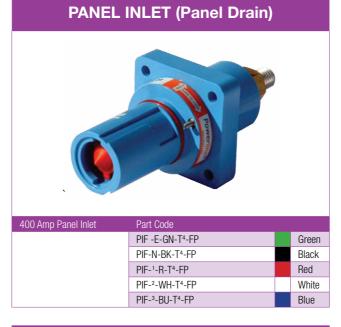


### Style "PSF"

PSF-3-BU-T4-FP

Blue

Panel Source Connectors are typically used as the Live or Supply side of the circuit and utilise a Solid Insulated contact tip to provide IP2X Finger Protection when unmated. "PSF" Connectors incorporate a slot that engages with the Locking Pin on both the mating Panel Inlet and Cable Plug connectors.



### Style "PIF"

Panel Drain Connectors utilise a spring-mounted contact with a Double Insulated Sleeve that provides IP2X Finger Protection when unmated. The "CCF" contact depresses the spring and sleeves to obtain Electrical connection. When unmated, they return automatically to the IP2X position. A Locking Pin engages with the slot on both the Panel Socket and Cable Connectors when mated.



### **CABLE CONNECTOR (Line Source)**



CCF-E-GN-S12º-M-FP Gre
CCF-N-BK-S12º-M-FP Bla
CCF-1-R-S-12º-M-FP Re
CCF-2-WH-S120-M-FP Wh
CCF-3-BU-S12º-M-FP Blu

### Style "CCF"

Line source Connectors are typically used as the Live or Supply side of the circuit and utilise a Solid Insulated contact tip to provide IP2X Finger Protection when unmated. "CCF" Connectors incorporate a slot that engages with the Locking Pin on both the mating Panel Inlet and Cable Plug connectors.

# **Compression Sleeves and Tools**

Compression Sieeves	
35mm <sup>2</sup> Compression Sleeve	CS-35
50mm <sup>2</sup> Compression Sleeve	CS-50
70mm <sup>2</sup> Compression Sleeve	CS-70
95mm <sup>2</sup> Compression Sleeve	CS-95
120mm <sup>2</sup> Compression Sleeve	CS-120
Set Screw Contact Removal Tool	REM-185P
Crimp Contact Removal Tool	REM-240P

- All connectors are IP2X Protected
- In Line Connectors are supplied as standard with Metric Cable Glands.
- · Connectors seal to IP68 when mated.
- Once mated, the connectors are separated by using a remote unlocking key.
- Panel connectors can be Front or Rear mounted on equipment.
- All connectors are mechanically keyed and individually colour coded to help prevent any possible cross connection errors.
- Plastic Push / Pull or Environmental
- Locking caps are available for all connectors.

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### Ten 47 - Powerline, single pole, 400Amp

### CABLE PLUG (Line Drain) 1200mm<sup>2</sup> Cable Plug Part Code CPF-E-GN-S12º-M-FP Green CPF-N-BK-S12º-M-FP Black Red CPF-1-R-S120-M-FP CPF-2-WH-S120-M-FP White CPF-3-BU-S120-M-FP Blue

### Style "CPF"

Line drain connectors utilise a spring-mounted contact with a Double Insulated Sleeve that provides IP2X Finger Protection when unmated. The "CCF" contact depresses the spring and sleeves to obtain Electrical connection. When unmated, they return automatically to the IP2X position. A Locking Pin engages with the slot on both the Panel Socket and Cable Connectors when mated Panel Inlet and Cable Plug connectors.



Part Code

### Ceeform



# Treoflex Soft Flex Stage Event Cables



### **Technical Data** Specially modified PVC

- Temperature range -30C to +70C
- Nominal voltage 450/750V
- Bending radius 5 x cable diameter

• Black cores with white numbers Outer sheath special PVC ensuring excellent

**Cable Structure** 

flexibility • Outer sheath colour black

### Application

Soft-Flex cable is designed for mobile power supply to stage devices. The outer sheath is made of specially modified PVC compound and guarantees excellent flexibility and resistance to Ultra Violet rays.

Part Number	No. Cores x cross-sec mm²	Outer Diameter in mm	Coper weight Kg/Km	Cable Weight Kg/Km
TA21.0015.07	7 G 1.5	10.2	101	184
TA21.0015.12	12 G 1.5	11.8	173	309
TA21.0015.18	18 G 1.5	15.3	259	440
TA21.0015.12.6E	12 x 1.5 + 6 G 1.5	15.3	259	440
TA21.0025.12	12 G 2.5	16.05	288	520
TA21.0025.18	18 G 2.5	19.3	432	764
TA21.0025.12.6E	12 x 2.5 + 6 G 2.5	19.3	432	764

# The most flexible cable on the market for Entertainment & Stage Lighting

- UV Stabilized
- Special Super Flexible Construction

• Bare copper conductors Class 5, according to PN-EN 60228 Insulation of specially modified PVC

Properties Excellent toughness and flexibility Good abrasion resistance Resistant to: UV and ozone Alcohol Animal and vegetable oils

5

ilable in 18 core with 6 earth conductors

