

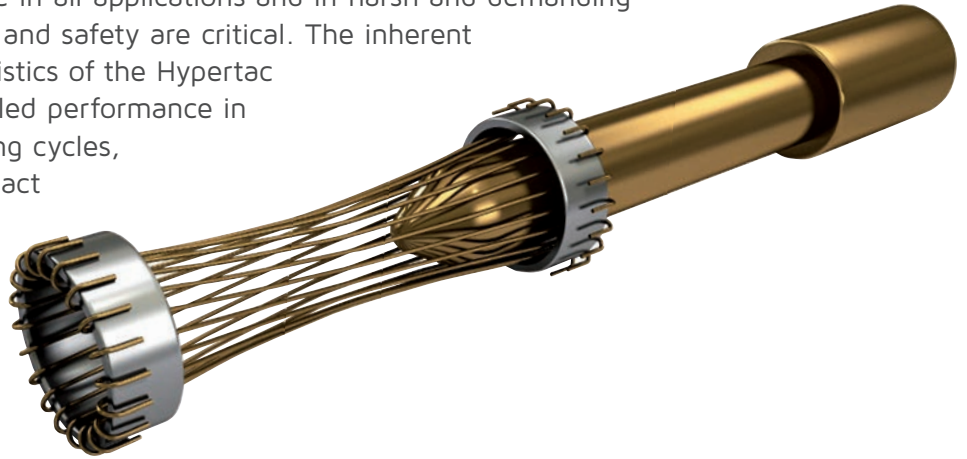
C Series

EMC Metallic Circular Connectors



Hypertac® Hyperboloid Technology

Smiths Interconnect offers an extensive range of superior contact technologies suitable for standard and custom solutions. Hypertac® (HYPERboloid conTACT) is the original superior performing hyperboloid contact technology designed for use in all applications and in harsh and demanding environments where high reliability and safety are critical. The inherent electrical and mechanical characteristics of the Hypertac hyperboloid contact ensures unrivalled performance in terms of reliability, number of mating cycles, low contact force and minimal contact resistance. The shape of the contact sleeve is formed by hyperbolically arranged contact wires, which align themselves elastically as contact lines around the pin, providing a number of linear contact paths.



Features

Benefits

Low insertion/extraction forces

The angle of the socket wires allows tight control of the pin insertion and extraction forces. The spring wires are smoothly deflected to make line contact with the pin.

High density interconnect systems

Significant reductions in size and weight of sub-system designs. No additional hardware is required to overcome mating and un-mating forces.

Long contact life

The smooth and light wiping action minimizes wear on the contact surfaces. Contacts perform up to 100,000 insertion/extraction cycles with minimal degradation in performance.

Low cost of ownership

The Hypertac contact technology will surpass most product requirements, thus eliminating the burden and cost of having to replace the connector or the entire subsystem.

Lower contact resistance

The design provides a far greater contact area and the wiping action of the wires insures a clean and polished contact surface. Our contact technology has about half the resistance of conventional contact designs.

Low power consumption

The lower contact resistance of our technology results in a lower voltage drop across the connector reducing the power consumption and heat generation within the system.

Higher current ratings

The design parameters of the contact (e.g., the number, diameter and angle of the wires) may be modified for any requirement. The number of wires can be increased so the contact area is distributed over a larger surface. Thus, the high current carried by each wire because of its intimate line contact, can be multiplied many times.

Maximum contact performance

The lower contact resistance of the Hypertac contact reduces heat build-up; therefore Hypertac contacts are able to handle far greater current in smaller contact assemblies without the detrimental effects of high temperature.

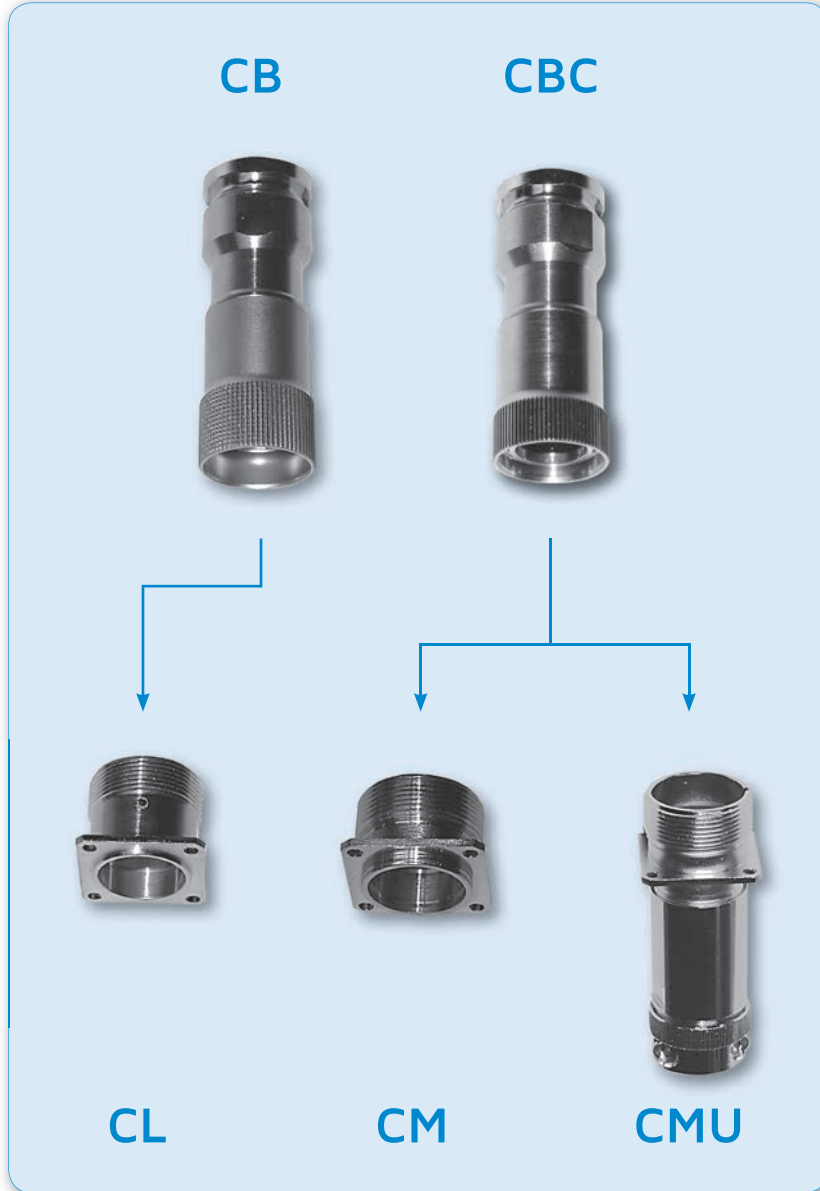
Immunity to shock & vibration

The low mass and resultant low inertia of the wires enable them to follow the most abrupt or extreme excursions of the pin without loss of contact. The contact area extends 360° around the pin and is uniform over its entire length. The 3 dimensional symmetry of the Hypertac contact design guarantees electrical continuity in all circumstances.

Reliability under harsh environments

Harsh environmental conditions require connectors that will sustain their electrical integrity even under the most demanding conditions such as shock and vibration. The Hypertac contact provides unmatched stability in demanding environments when failure is not an option.

Receptacle and Plug Compatibility



Product description



The Smiths Interconnect C Series is an IP67 circular connector with an EMC metal housing. The C Series connectors feature with a compact and small size equipped with gold plating contacts. They guarantee an excellent resistance to the high levels of shocks and vibrations on rail and industrial applications.

The connectors use the ultra-high reliability Hypertac® hyperboloid contact system renowned for delivering unflinching performance for the most demanding railway and mass transit applications.

C series is a circular metal connector series, with an IP67 sealing level and shielding capability for use in harsh environmental conditions such as high vibration levels, damp or shock. It provides long life expectancy and reduces the need of connector maintenance.

The C series connectors offer a monobloc housing to avoid any wrong assembling and sealing problems. Five coding points ensure a safe mating and prevent contacts to be broken when plugging. Cable clamps with a large cabling chamber allows a variable cable diameter range of 6-13.5 mm.

The C series proposes a shielded connection for your EMI and RFI constraints. Available with a large choice of shells, we also offer standard cable assemblies to provide a complete interconnect solution to simplify your supply chain.

EMC Shielded Metallic Circular Connectors

Features & Benefits

Superior Performance

- Hypertac® contact technology ensures immunity to shock and vibration and minimal contact resistance
- Outstanding protection against electromagnetic interference; 70db @ 10MHz
- Corrosion resistant; 500h salt spray (5%NaCl – NF C 20-711)
- Suitable to EN Railway cables

Compact, Flexible Design

- Metal shell
- Threaded coupling sleeve with self-locking mechanism
- Variable cable clamp 6-13.5mm
- Square shape receptacle for panel mount
- Contacts with solder and crimp termination available
- Compact and small size

How To Order - CB & CM & CL series

C B C 0 3 2 1 2 2 0 -- K
1 **2** **3** **4** **5** **6** **7**

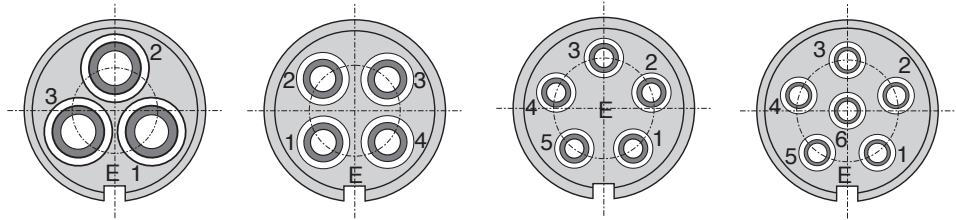
1 Series	C Series
2 Model	B Plug M Short receptacle and cable mount receptacle L Long receptacle
3 Type	_ Standard ⁽²⁾ C ⁽¹⁾ Plug short coupling sleeve (mate with CM receptacle) E Five polarized keys for M & L receptacle U Cable mount receptacle for M model
4 Layout	<p>Single polarized key</p> <p>0 3 2 3 contacts Ø 2 mm* 0 4 2 3 contacts Ø 2 mm*</p> <p>5 1 5 5 contacts Ø 1.50 mm* 6 1 5 6 contacts Ø 1.50 mm**</p> <p>5 polarized keys</p> <p>8 1 2 8 contacts Ø 1.20 mm* 1 0 1 10 contacts Ø 1.02 mm*</p> <p>1 2 1 12 contacts Ø 1.02 mm*</p>
5 Part - Polarity	<p>0 3 Plug without contact 0 4 Receptacle without contact</p> <p>1 0 Female plug** 1 1 Male plug** - except CBC⁽¹⁾</p> <p>1 2 Female plug* 1 3 Male plug* - except CBC⁽¹⁾</p> <p>2 0 Female Receptacle** except M model 2 1 Male Receptacle**</p> <p>2 2 Female Receptacle* except M model 2 3 Male Receptacle*</p>
6 Termination styles	<p>0 0 Without contact 2 0 Crimp termination</p> <p>2 1 Crimp termination only for Ø 2mm contact, 0.34 to 1.34 mm²</p>
7 Coding Tabulation	<p>Single polarized key</p> <p>α 0° 30° 45° 60° 75° 90° 105° 120° 135° 150°</p> <p>Code ■ --A --F --B --G --C --H --D --J --E</p> <p>Five polarized key</p> <p>Code --K (plug only)</p>

* Clip contact retaining system
 ** Cloc contact retaining system
 (1) CBC plug is always female
 (2) Standard plug mate only with CL receptacle

General Specifications

Single polarized key

Layout



032

042

515

615

Technical

Contact numbers & Ø	3 Ø 2 mm	4 Ø 2 mm	5 Ø 1.50 mm	6 Ø 1.50 mm
Part number male insert Cable size	CMY0322320 1.34 to 2 mm ²	CMY0422320 0.34 to 1.34 mm ²	CLY5152320 0.34 to 1.91 mm ²	CMY6152120 0.22 to 1.91 mm ²
Part number female insert Cable size	CMY0321220 1.34 to 2 mm ²	CMY0421220 0.34 to 1.34 mm ²	CLY5151220 0.34 to 1.91 mm ²	CMY6151020 0.22 to 1.91 mm ²
Part number male insert Cable size	CMY0322321 0.34 to 1.34 mm ²			
Part number female insert Cable size	CMY0321221 0.34 to 1.34 mm ²			
Insulation material	Thermoplastic	Thermoplastic	Thermoset	Thermoplastic
Contact material	Brass	Brass	Brass	Brass
Contact plating	Au/Ni	Au/Ni	Au/Ni	Au/Ni
Part number male crimp contacts	0200621-20ROG 1.34 to 2 mm ² 0200631-21ROG 0.34 to 1.34 mm ²	0201071-20ROG 0.34 to 1.34 mm ²	0150851-20ROG 0.34 to 1.91 mm ²	0150871-20-OG 0.22 to 1.91 mm ²
Part number female crimp contacts	0200342-20RN1 1.34 to 2 mm ² 0200352-21RN1 0.34 to 1.34 mm ²	0200862-20RN1 0.34 to 1.34 mm ²	0150842-20RGO 0.34 to 1.91 mm ²	0150682-20-G1 0.22 to 1.91 mm ²
Vibration withstanding	25 to 250 Hz - 5 g following NF F 61-030			
Connector life cycles	> 500 mating cycles			
Contact retention forces	> 90 N with clip	> 90 N with clip	> 70 N with clip	> 70 N with cloc

Electrical

Current rating (all contacts wired)	15 A	15 A	8 A	8 A
Testing voltage	2 750 / 2 000 V	2 750 / 2 000 V	2 800 / 2 500 V	2 200 / 2 000 V
Contact resistance	< 2 mΩ	< 2 mΩ	< 3 mΩ	< 3 mΩ
Insulation resistance	≥ 5.10 ³ MΩ			
EMC (CB connector)	> 70 db to 100 Mhz			

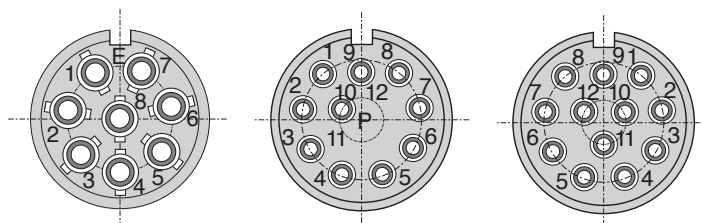
Environmental

Category	CEI 68-1 (NF C 20-700) -55°C to +125°C/56 days
Protection level	IP 67 (NF EN 60529)
Corrosion resistance	500 h. salt spray 5% Na Cl (NF C 20-711)

General Specifications

Five polarized key

Layout



812

101

121

Technical	812	101	121
Contact numbers & Ø	8 Ø 1.20 mm	10 Ø 1.02 mm	12 Ø 1.02 mm
Part number male insert Cable size	CMY8122320 0.22 to 1.91 mm ²	CMY1012320 1.34 to 2 mm ²	CMY1212320 0.22 to 0.93 mm ²
Part number female insert Cable size	CMY8121220 0.22 to 1.91 mm ²	CMY1011220 1.34 to 2 mm ²	CMY1211220 0.22 to 0.93 mm ²
Insulation material	Thermoset	Thermoset	Thermoset
Contact material	Brass	Brass	Brass
Contact plating	Au/Ni	Au/Ni	Au/Ni
Part number male crimp contacts	0120151-20ROG 0.22 to 1.91 mm ²	0100721-20ROG 0.22 to 0.93 mm ²	0100721-20ROG 0.22 to 0.93 mm ²
Part number female crimp contacts	0120182-20RG1 0.22 to 1.91 mm ²	0100612-20RGO 0.22 to 0.93 mm ²	0100612-20RGO 0.22 to 0.93 mm ²
Vibration withstanding	25 to 250 Hz - 5 g following NF F 61-030		
Connector life cycles	> 500 mating cycles		
Contact retention forces	> 70 N with clip		

Electrical

Current rating (all contacts wired)	5 A		
Testing voltage	2 400 / 2 200 V	2 800 / 2 000 V	1 000 / 1 000 V
Contact resistance	< 5 mΩ	< 6 mΩ	< 6 mΩ
Insulation resistance	≥ 5.10 ³ MΩ		
EMC (CB connector)	> 70 db to 100 Mhz		

Environmental

Category	CEI 68-1 (NF C 20-700) -55°C to +125°C/56 days
Protection level	IP 67 (NF EN 60529)
Corrosion resistance	500 h. salt spray 5% Na Cl (NF C 20-711)

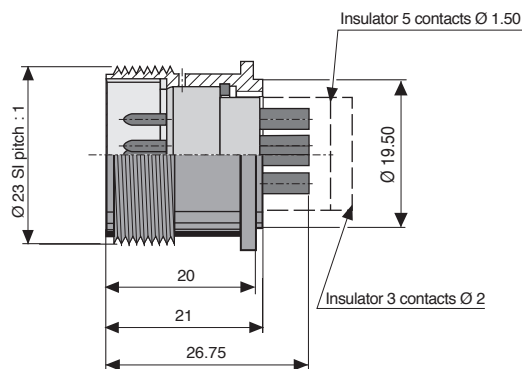
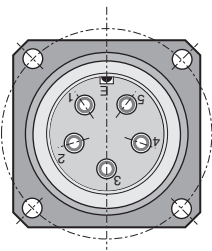
Single Polarized Connectors

Layout 032, 042, 515, 615

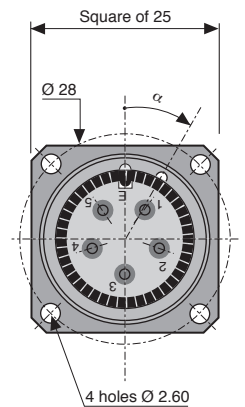
Receptacle dimensions

CL-

Wiring side

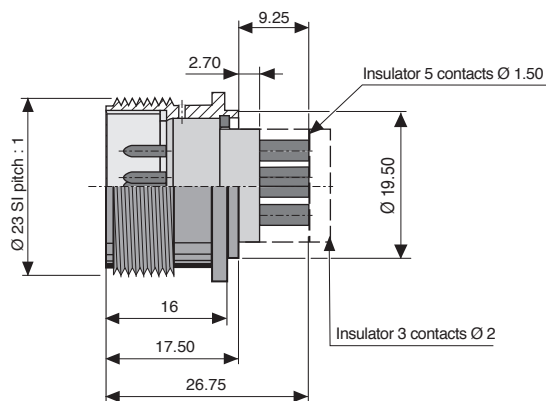
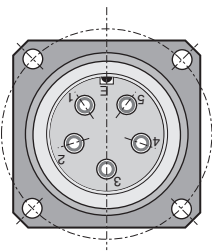


Mating side

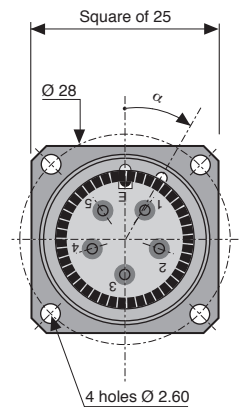


CM-

Wiring side



Mating side



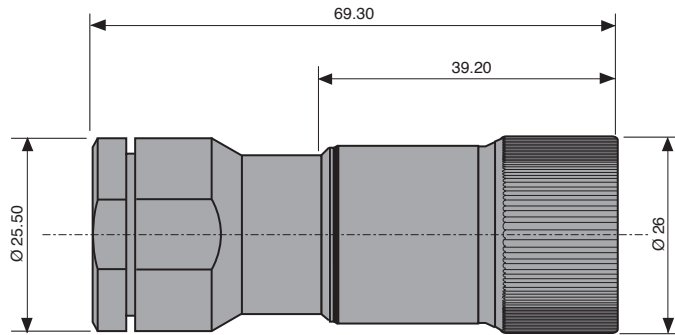
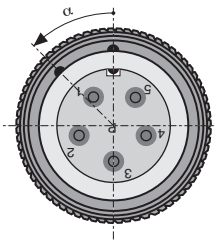
Single Polarized Connectors

Layout 032, 042, 515, 615

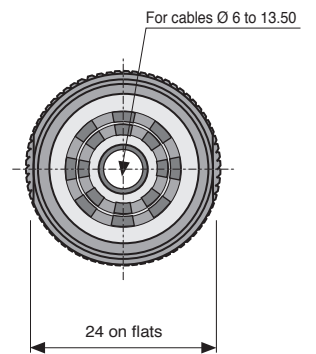
Plug dimensions

CB-

Mating side

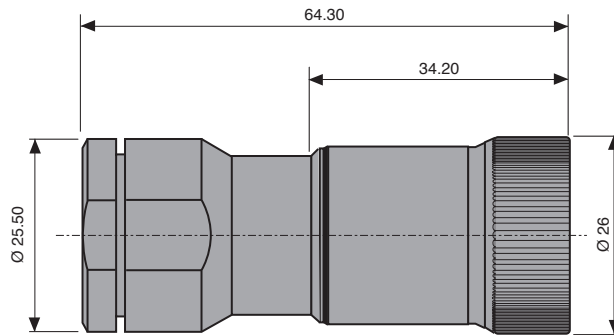
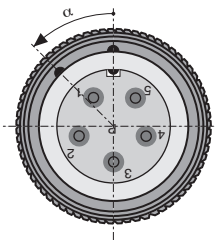


Wiring side

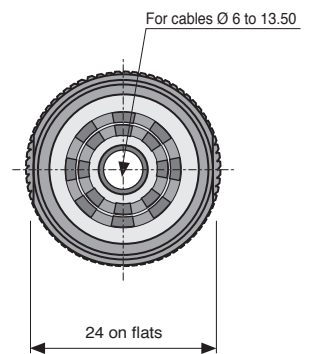


CBC

Mating side



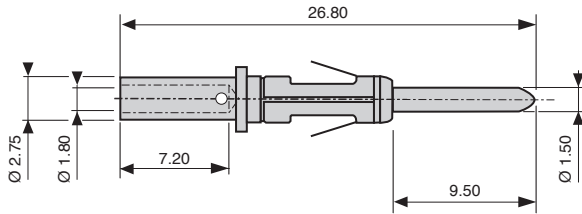
Wiring side



Contacts

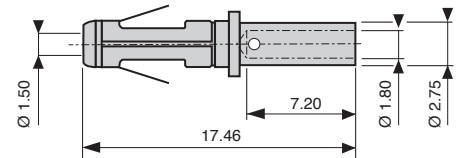
Males

Contacts \varnothing 1.50 for arrangement 515 [0.34 to 1.91 mm²]



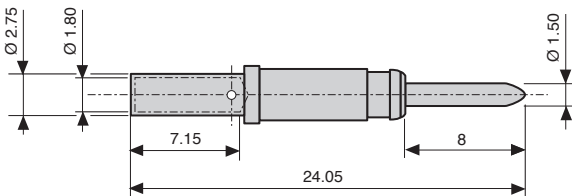
Ref: 0150851-20ROG

Females

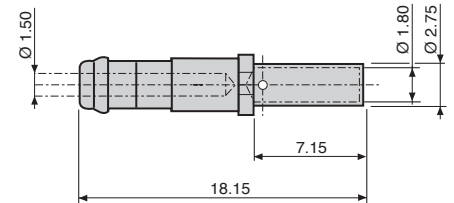


Ref: 0150842-20RGO

Contacts \varnothing 1.50 for arrangement 615 [0.22 to 1.91 mm²]

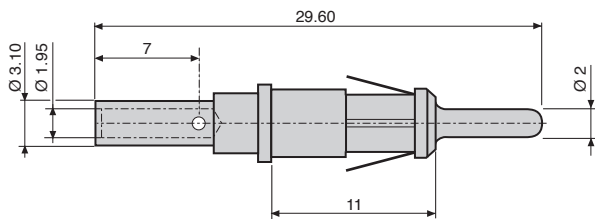


Ref: 0150871-20-OG

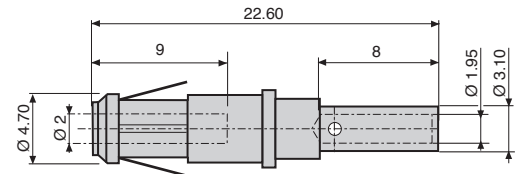


Ref: 0150682-20-G1

Contacts \varnothing 2 for arrangement 032 [1.34 to 2 mm²]

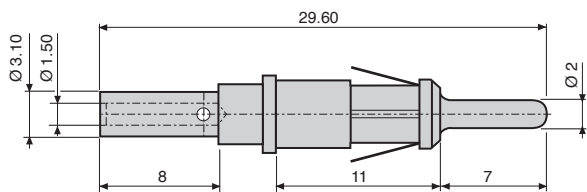


Ref: 0200621-20ROG

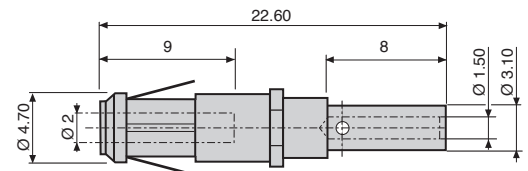


Ref: 0200342-20RN1

Contacts \varnothing 2 for arrangement 032 [0.34 to 1.34 mm²]

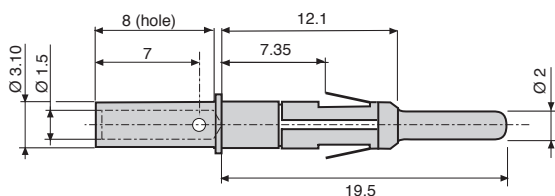


Ref: 0200631-21ROG

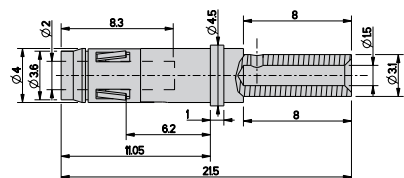


Ref: 0200352-21RN1

Contacts \varnothing 2 for arrangement 042 [0.34 to 1.34 mm²]



Ref: 0201071-20ROG



Ref: 0200862-20RN1

Dimensions are in mm

Layouts - Wiring side viewed

3 contacts Ø 2.0

Ref.

0 3 2

Contact termination

wire size: 1.34 - 2.00 mm²

wire size: 0.34 - 1.34 mm²

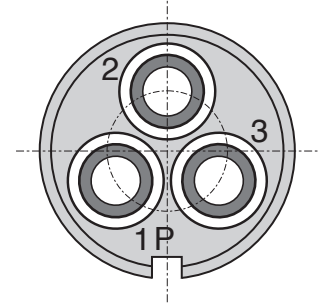
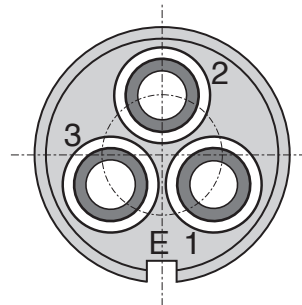
Ref.

2 0

2 1

Receptacle

Plug



4 contacts Ø 2.0

Ref.

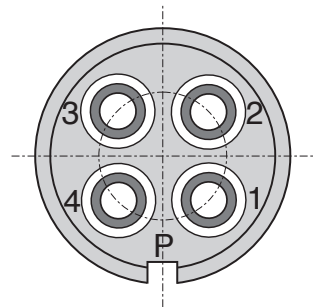
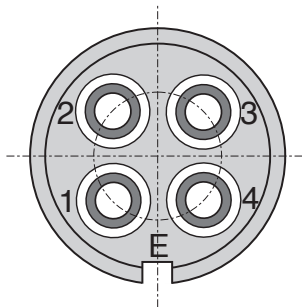
0 4 2

Contact termination

wire size: 0.34 - 1.34 mm²

Ref.

2 0



5 contacts Ø 1.5

Ref.

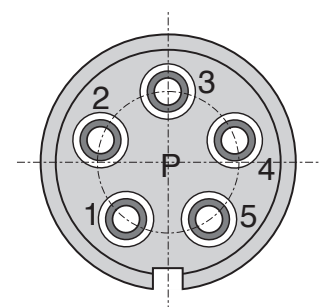
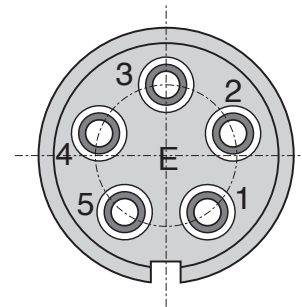
5 1 5

Contact termination

wire size: 0.34 - 1.91 mm²

Ref.

2 0



6 contacts Ø 1.5

Ref.

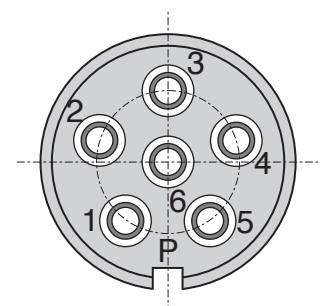
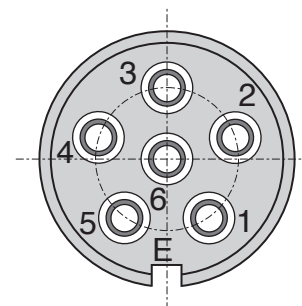
6 1 5

Contact termination

wire size: 0.22 - 1.91 mm²

Ref.

2 0



CONSULT US ABOUT ARRANGEMENTS WITH SOLDER CUP CONTACTS

Five Polarized Keys Connectors

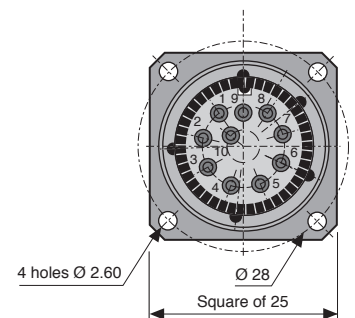
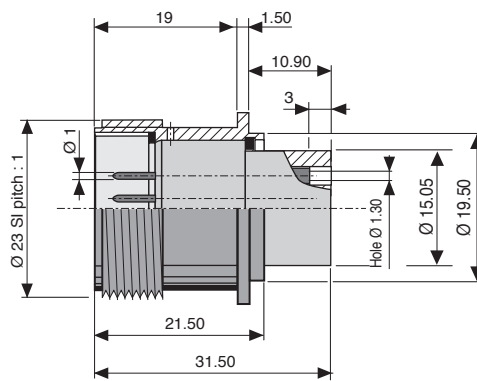
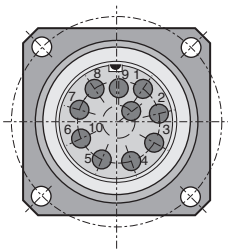
Layout 101, 121, 812

Receptacle dimensions

CLE

Wiring side

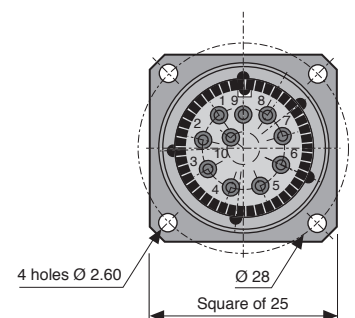
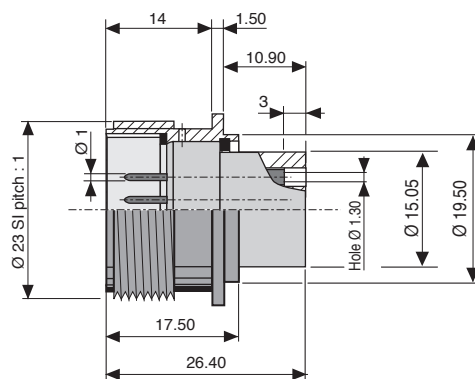
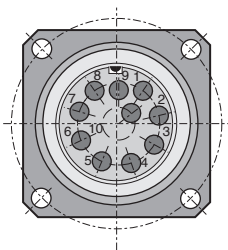
Mating side



CME

Wiring side

Mating side



Five Polarized Keys Connectors

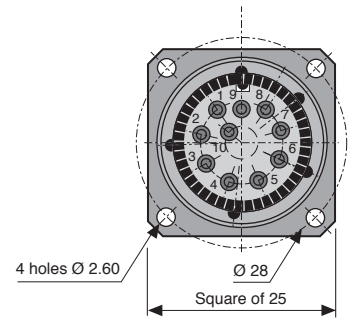
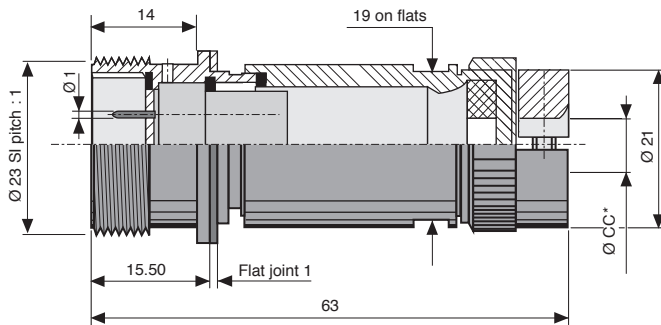
Layout 101, 121, 812

Receptacle dimensions

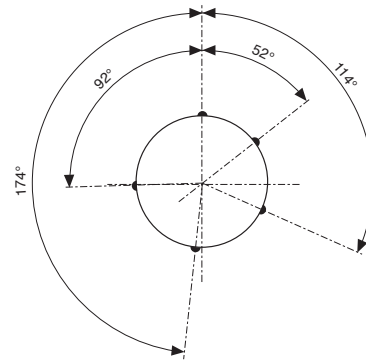
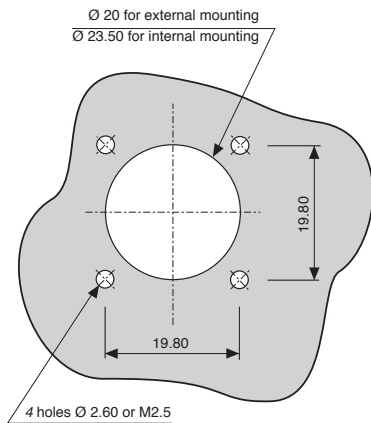
CMU

Cable receptacle

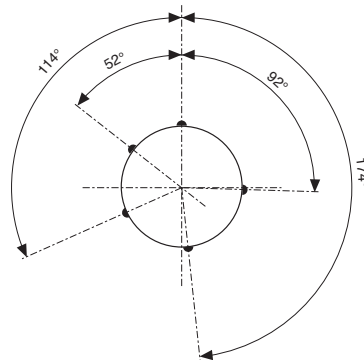
Mating side



Panel cut out and polarized key overview



CB, CBC plug polarized key overview



Five Polarized Keys Connectors

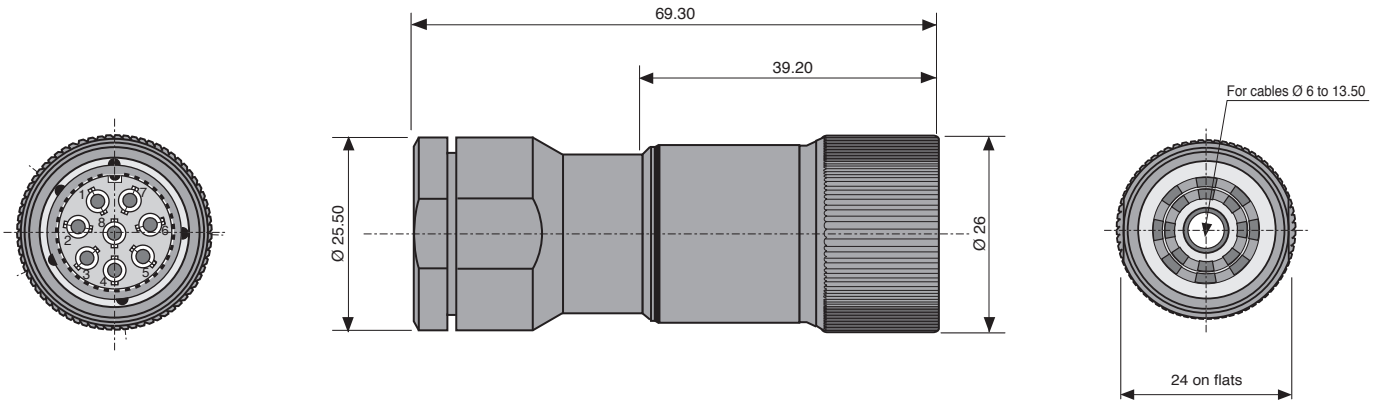
Layout 101, 121, 812

Plug dimensions

CB- --- --- --- ---K

Mating side

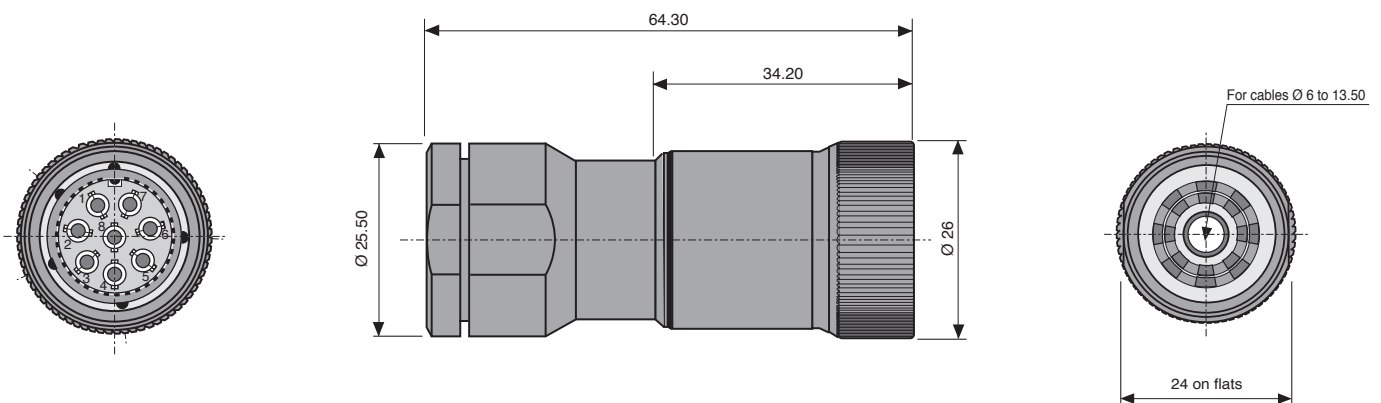
Wiring side



CBC--- --- --- ---K

Mating side

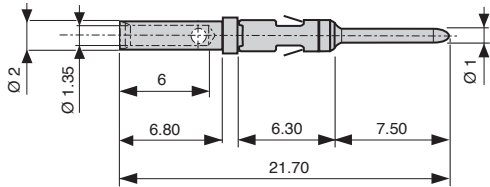
Wiring side



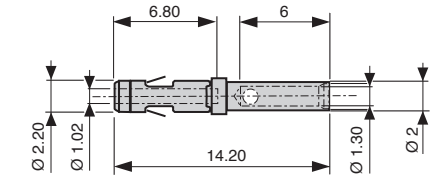
Contacts

Males

Contacts $\varnothing 1$ for arrangements 101 & 121 [0.22 to 0.93 mm²]

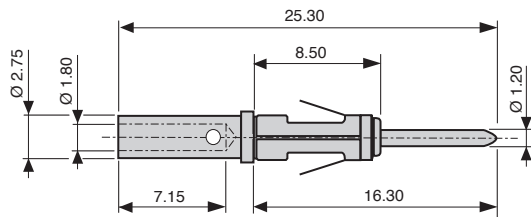


Ref: 0100721-20ROG

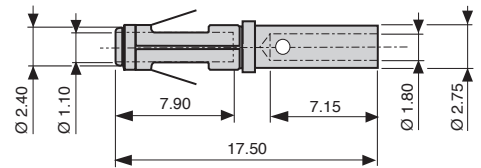


Ref: 0100612-20ROG

Contacts $\varnothing 1.20$ for arrangement 812 [0.22 to 1.91 mm²]



Ref: 0120151-20ROG



Ref: 0120182-20RG1

Arrangements - Wiring side viewed

Receptacle

Plug

8 contacts Ø 1.2

Ref.

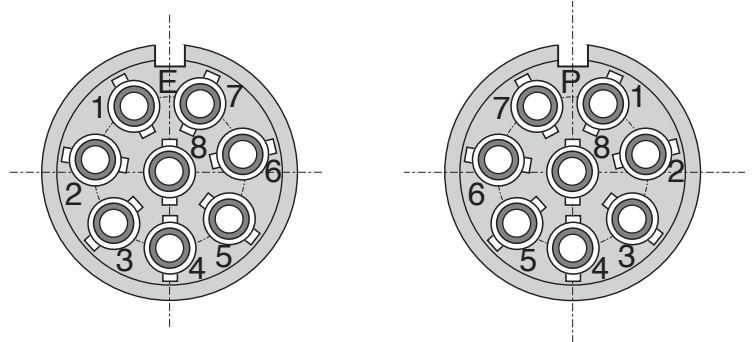
8 1 2

Contact termination

wire size: 0.22 - 1.91 mm²

Ref.

2 0



10 contacts Ø 1.0

Ref.

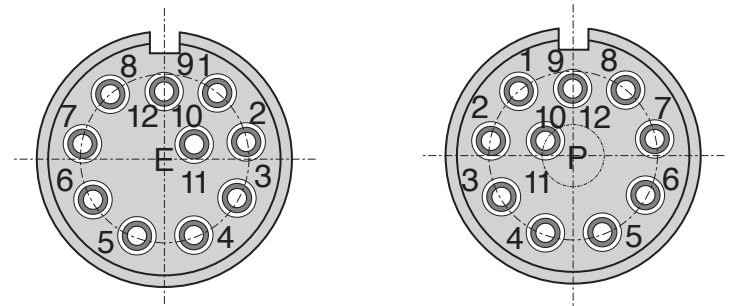
1 0 1

Contact termination

wire size: 0.22 - 0.93 mm²

Ref.

2 0



12 contacts Ø 1.02

Ref.

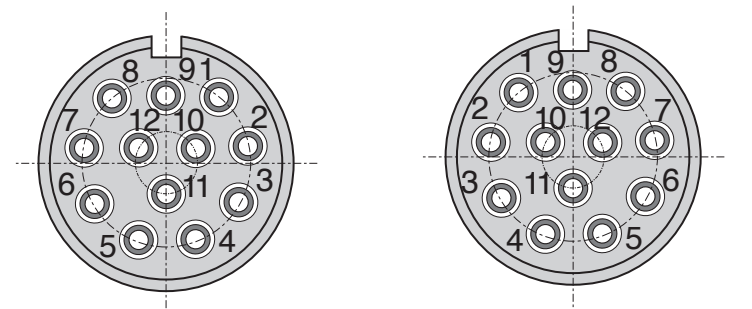
1 2 1

Contact termination

wire size: 0.22 - 0.93 mm²

Ref.

2 0



CONSULT US ABOUT ARRANGEMENTS WITH SOLDER CUP CONTACTS

Tooling

CONTACTS	CRIMPING						INSERTION	EXTRACTION
Contact part number	Crimp tool	AWG	Wire cross section	Positioner	Turret	Selector position	Tool part number	
0150 682-20-G1 0150 761-20-OG	ASTRO TOOL TGV 101	24	0.22	Without	ASTRO TOOL	2	S_051 or S_059	S_051 or S_072
		22	0.34			3		
		20	0.60			4		
		18	0.93			5		
		16	1.34			6		
	14	1.91	7					
	DANIELS FT8	24	0.22	Without	DANIELS	2		
		22	0.34			3		
		20	0.60			4		
18		0.93	5					
16		1.34	6					
14	1.91	7						
ASTRO TOOL MS 3191/1	22	0.34	SS.0150000002 HYPERTAC		Without			
	20	0.60						
	18	0.93						
	16	1.34						
	14	1.91						
0150 851-20ROG 0150 842-22RGO	ASTRO TOOL TGV 101	22	0.34	Without	ASTRO TOOL TGV 201*	3	SD-0150000005	
		20	0.60			4		
		18	0.93			5		
		16	1.34			6		
		14	1.91			7		
	DANIELS FT8	22	0.34	Without	DANIELS SH 462*	6		
		20	0.60			6		
		18	0.93			7		
		16	1.34			7		
14		1.91	7					
0200 621-20ROG 0200 342-20RN1	ASTRO TOOL TGV 101	16	1.34	Without	ASTRO TOOL TGV 202 yellow	6	SD-0200000001	
		15	1.50			6		
		14	1.91			7		
		14	2.00			7		
		14	2.00			7		
	DANIELS FT8	16	1.34	Without	DANIELS SH 463 yellow	6		
		15	1.50			6		
		15	1.91			7		
		14	2.00			7		
14		2.00	7					
0200 631-20ROG 0200 352-20RN1	ASTRO TOOL TGV 101	22	0.34	Without	ASTRO TOOL TGV 202 yellow	5	SD-0200000001	
		20	0.60			5		
		18	0.93			5		
		16	1.34			6		
		16	1.34			6		
	DANIELS FT8	22	0.34	Without	DANIELS SH 463 yellow	5		
		20	0.60			5		
		18	0.93			5		
		16	1.34			6		
16		1.34	6					
0201 071-20ROG 0200 862-20RN1	ASTRO TOOL TGV 101	22	0.34	Without	ASTRO TOOL TGV 201	3	SD-0200000003	
		20	0.60			4		
		18	0.93			5		
		16	1.34			6		
		16	1.34			6		
	DANIELS FT8	22	0.34	Without	DANIELS SH 462	5		
		20	0.60			5		
		18	0.93			5		
		16	1.34			6		
16		1.34	6					

CONTACTS	CRIMPING						INSERTION EXTRACTION	
Contact part number	Crimp tool	AWG	Wire cross section	Positioner	Turret	Selector position	Tool part number	
0100 612-20RGO 0100 721-20ROG	ASTRO TOOL TGV 101	24 22 20 18	0.22 0.38 0.60 0.93		ASTRO TOOL TGV 210	2 3 4 5	S_069	S_056
	DANIELS FT8	24 22 20 18	0.22 0.38 0.60 0.93	Without	DANIELS TP 945	2 3 4 5		
	ASTRO TOOL M22520/2.01	24 22 20 18	0.22 0.38 0.60 0.93	S_055		Without		
0120 182-20RG1 0120 151-20ROG	ASTRO TOOL TGV 101	24 22 20 18 16 14	0.22 0.38 0.60 0.93 1.34 1.91	Without	ASTRO TOOL TGV 202 blue	2 3 4 5 6 7	SD-012000002	
	DANIELS FT8	24 22 20 18 16 14	0.22 0.38 0.60 0.93 1.34 1.91	Without	DANIELS SH 462 blue	2 3 4 5 6 7		
	ASTRO TOOL MS 3191/1	24 22 20 18 16 14	0.22 0.38 0.60 0.93 1.34 1.50 1.91	SS.0150000003 HYPERTAC		Without		

How To Order - CNE & CRE series



C N E
1 2 3

1 2 1
4

1 2
5

2 0
6

1
7

5
8

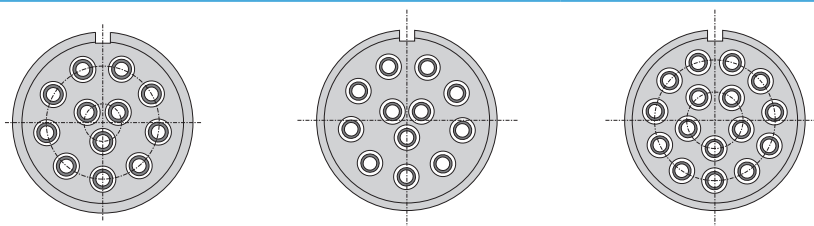
A
9

1 Series	C Series																
2 Model	N Standard shell R Long shell version																
3 Type	E Five coding key																
4 Layout	1 2 1 12 contacts Ø 1.50 mm* 1 6 1 16 contacts Ø 1.50 mm**																
5 Part - Polarity	<table border="0"> <tr> <td>PLUG</td> <td>RECEPTACLE</td> </tr> <tr> <td>0 3 Without contact</td> <td>0 4 Without contact</td> </tr> <tr> <td>1 2 Female</td> <td>2 2 Female</td> </tr> <tr> <td>1 3 Male</td> <td>2 3 Male</td> </tr> </table>	PLUG	RECEPTACLE	0 3 Without contact	0 4 Without contact	1 2 Female	2 2 Female	1 3 Male	2 3 Male								
PLUG	RECEPTACLE																
0 3 Without contact	0 4 Without contact																
1 2 Female	2 2 Female																
1 3 Male	2 3 Male																
6 Contact termination	0 0 Without contact 2 0 Crimp termination																
7 Cable clamp type	1 Straight 2 Right angle																
8 Cable clamp	<table border="0"> <tr> <td>Ø mm</td> <td>8</td> <td>10</td> <td>12</td> <td>14</td> <td>16</td> </tr> <tr> <td>Code</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> </table>	Ø mm	8	10	12	14	16	Code	1	2	3	4	5				
Ø mm	8	10	12	14	16												
Code	1	2	3	4	5												
9 Coding Tabulation	<table border="0"> <tr> <td>α</td> <td>0°</td> <td>25°</td> <td>77°</td> <td>139°</td> <td>211°</td> <td>293°</td> <td>325°</td> </tr> <tr> <td>Coding</td> <td>■</td> <td>A</td> <td>B</td> <td>C</td> <td>D</td> <td>E</td> <td>F</td> </tr> </table>	α	0°	25°	77°	139°	211°	293°	325°	Coding	■	A	B	C	D	E	F
α	0°	25°	77°	139°	211°	293°	325°										
Coding	■	A	B	C	D	E	F										

* Clip contact system
** Cloc contact system

General Specifications

Layout



121

*121M

161

Technical			
Contact numbers & Ø	12 Ø 1.50mm	12 Ø 1.50mm	16 Ø 1.50mm
Female insert plug	CNY1211220		CNY1611220
Male insert plug	CNY1211320		CNY1611320
Female insert receptacle	CNY1212220		CNY1612220
Male insert receptacle	CNY1212320	CRY1212320M	CNY1612320
Insulation material	Thermoset	Thermoset	Nylon
Contact material	Brass	Brass	Brass
Contact plating	Au/Ni	Au/Ni	Au/Ni
Female crimp contacts & wire size	0150842-20RGO 0.34 to 1.34 mm≈		0150682-20-G1 0.22 to 1.91 mm≈
Male crimp contacts & wire size	0150841-20ROG 0.34 to 1.91 mm≈	0150841-20ROG 0.34 to 1.91 mm≈	0150761-20-OG 0.22 to 1.91 mm≈
Male crimp pre-mating contacts & wire size		0150851-20ROG 0.34 to 1.91 mm≈	
Vibration withstanding	25 - 250 Hz - 5 g (following) NF F 61-030		
Connector life cycles	> 500 (mating cycles)		
Contact retention forces	> 70 N (clip)	> 70 N (clip)	> 40 N (cloc)

Electrical

Current rating (all contacts wired)	8 A	8 A	6 A
D.W.V.	2 600 VAC	2 600 VAC	1 750 VAC
Contact resistance	< 2 mΩ		
Insulation resistance	> 5.10 ³ MΩ	> 5.10 ³ MΩ	> 5.10 ³ MΩ

Environmental

Category	CEI 68-1 (NF C 20-700) -55°C to +125°C/56 days
Protection level	IP 56 (NF EN 60529)
Corrosion resistance	500 h. BS salt spray 5% Na Cl (NF C 20-711)

Notes

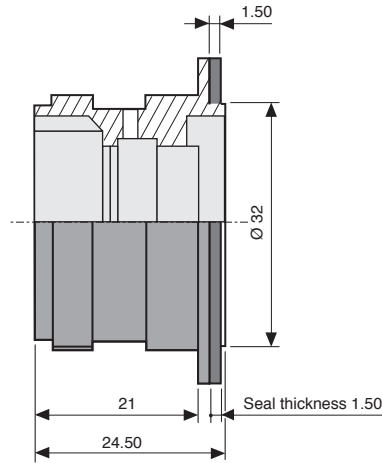
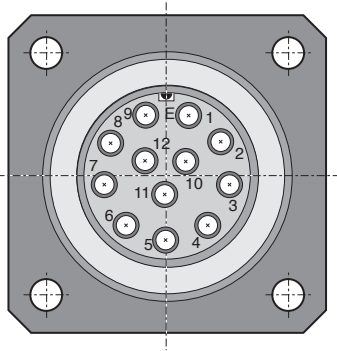
*121M: insert with 11 contacts + 1 grounding contact used only with male CRE receptacle.

Five Coding Key CNE Connectors

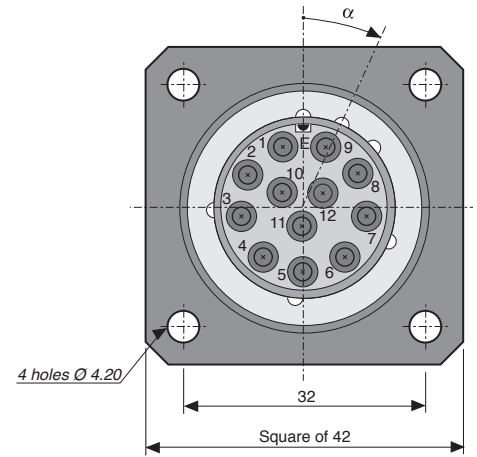
Layout 121

CNE Receptacle dimensions

Wiring side



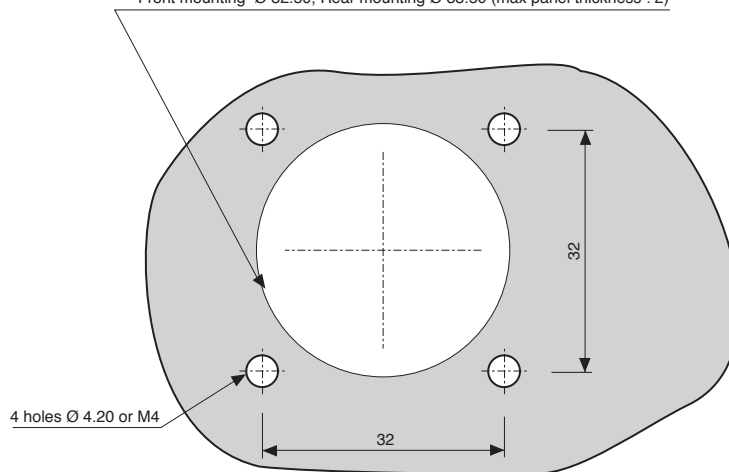
Mating side



See the coding table page 15

Panel cut out

Front mounting $\varnothing 32.50$, Rear mounting $\varnothing 33.50$ (max panel thickness : 2)



Notes:
Receptacle shown with layout # 121"
See the main layouts page 14

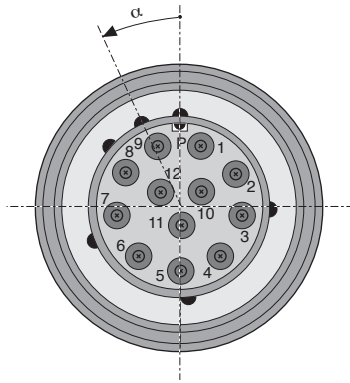
Dimensions are in mm

Five Coding Key CNE Connectors

Layout 121

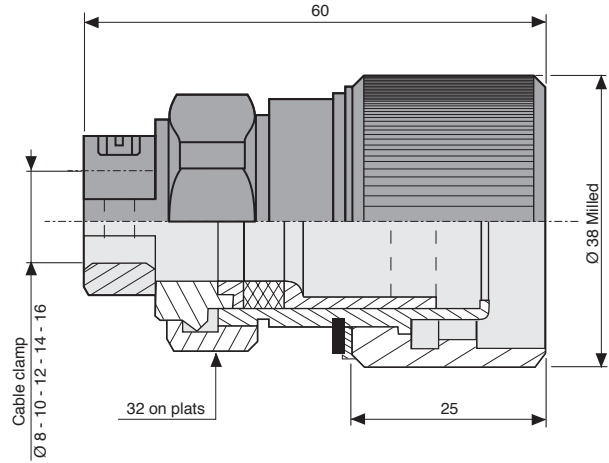
CNE Plug dimensions

Mating side

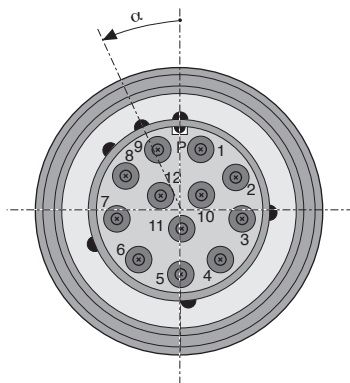


See the coding table page 15

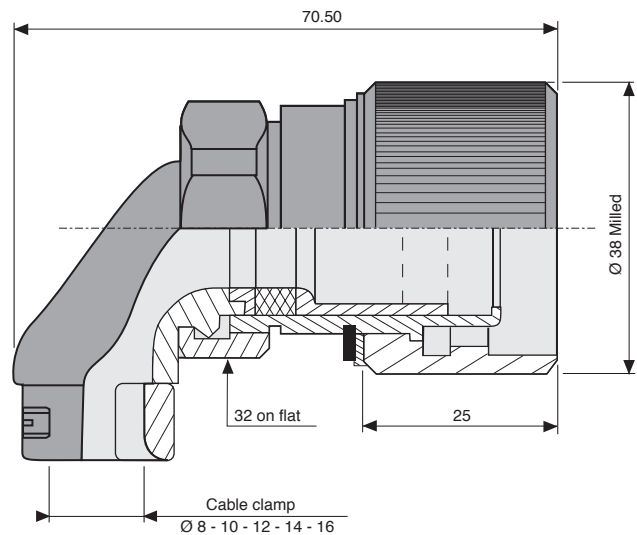
Straight



Right angle



See the coding table page 15



Notes:
Plugs shown with layout # 121"
See the main layouts page 14

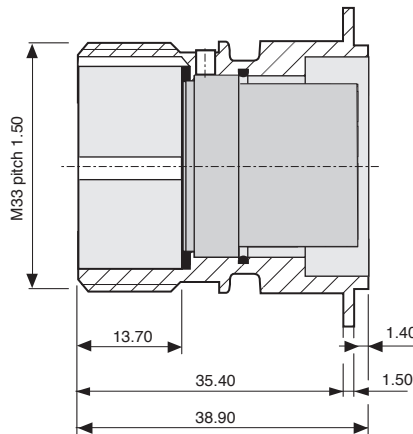
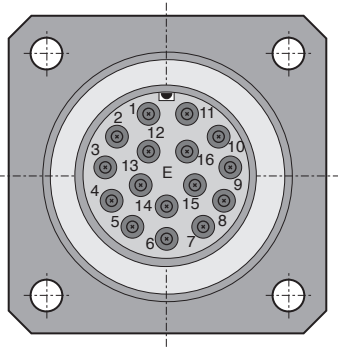
Dimensions are in mm

Five Coding Key CNE Connectors

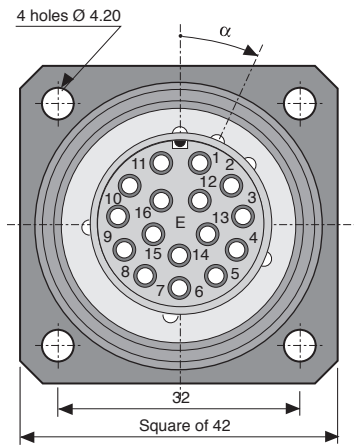
Layout 161

CRE Receptacle dimensions

Wiring side



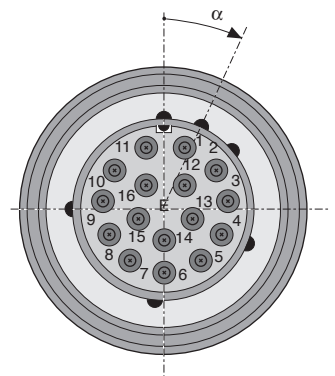
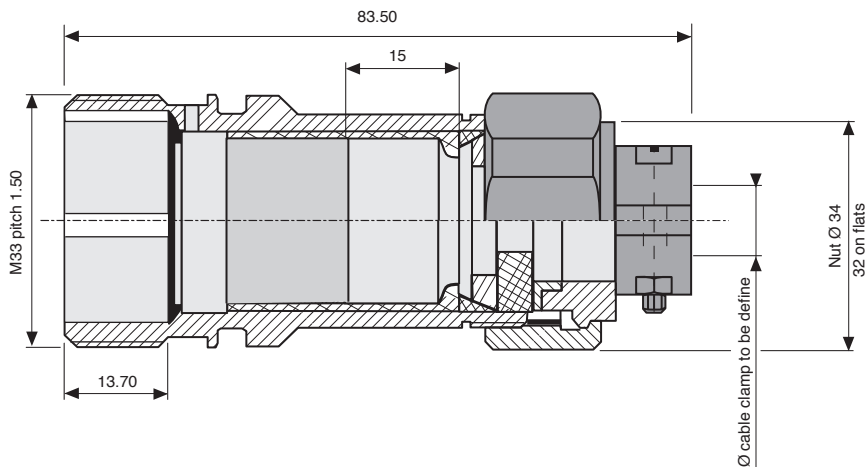
Mating side



See the coding table page 15

CRE Cable receptacle dimensions

Mating side



See the coding table page 15

Notes:
Receptacle shown with layout # 161"
See the main layouts page 14

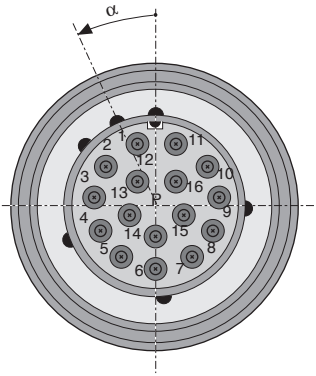
Dimensions are in mm

Five Coding Key CNE Connectors

Layout 161

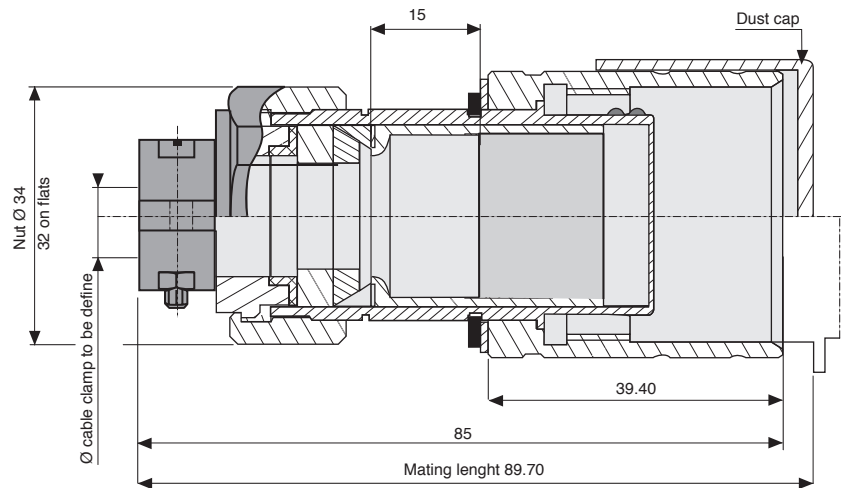
CRE Plug dimensions

Mating side



See the coding table page 15

Straight



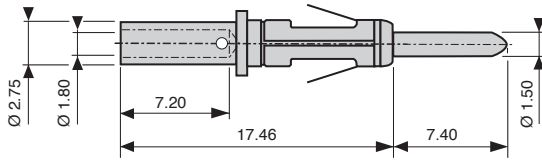
Notes:
Plugs shown with layout # 161"
See the main layouts page 14

Dimensions are in mm

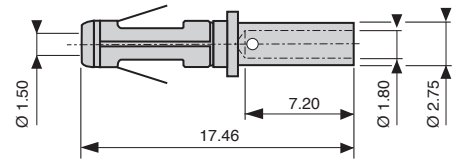
CNE & CRE Contacts Clip retention

Males

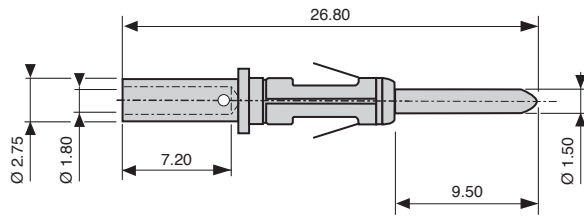
Contacts \varnothing 1.50 for insert C-Y 121 -- -- [wire size 0.34 - 1.91 mm²]



Ref: 0150841-20ROG



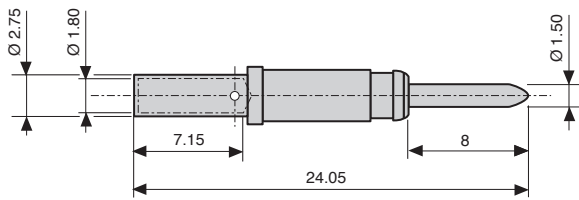
Ref: 0150842-20RGO



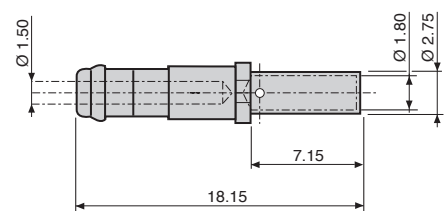
*Ref: 0150851-20ROG
insert CRY 121 -- -- M (wire size 0.34 - 1.91 mm²)

Cloc retention

Contacts \varnothing 1.50 for insert CNY 161 -- -- [wire size 0.22 - 1.91 mm²]



Ref: 0150761-20-OG



Ref: 0150682-20-G1

Notes:

*For insert CRY 121 -- -- M (11 contacts + 1 grounding contact) used only with male CRE receptacle.

Dimensions are in mm

CNE & CRE Layout wiring side views

Receptacle

Plug

12 contacts Ø 1.5

Ref.

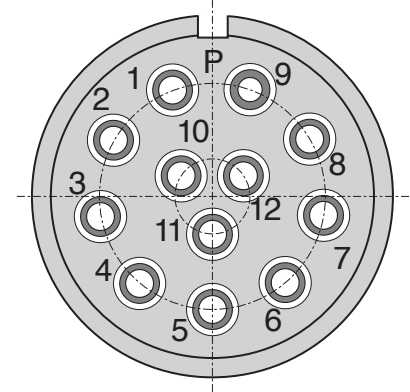
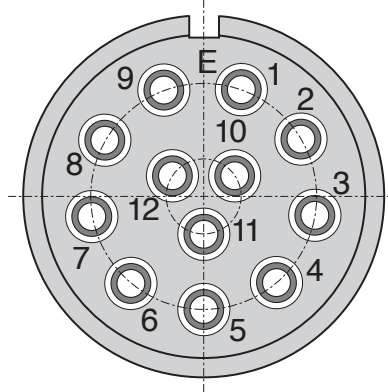
1 2 1

Contact termination

wire size: 0.34 - 1.91 mm²

Ref.

2 0



12 contacts Ø 1.5

Ref.

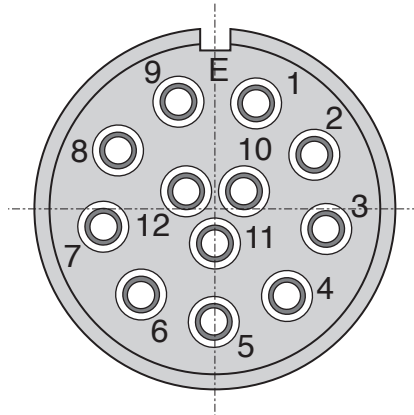
1 2 1 M

Contact termination

wire size: 0.34 - 1.91 mm²

Ref.

2 0



16 contacts Ø 1.5

Ref.

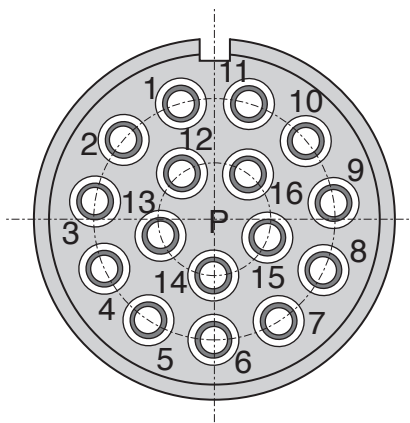
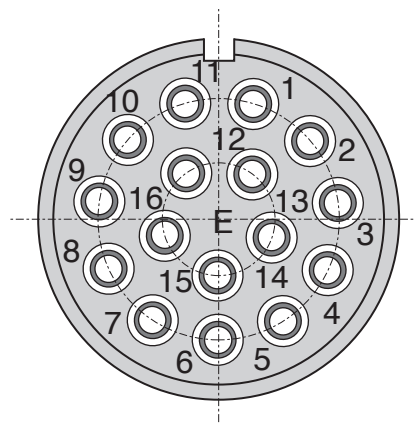
1 6 1

Contact termination

wire size: 0.13 - 1.91 mm²

Ref.

2 0

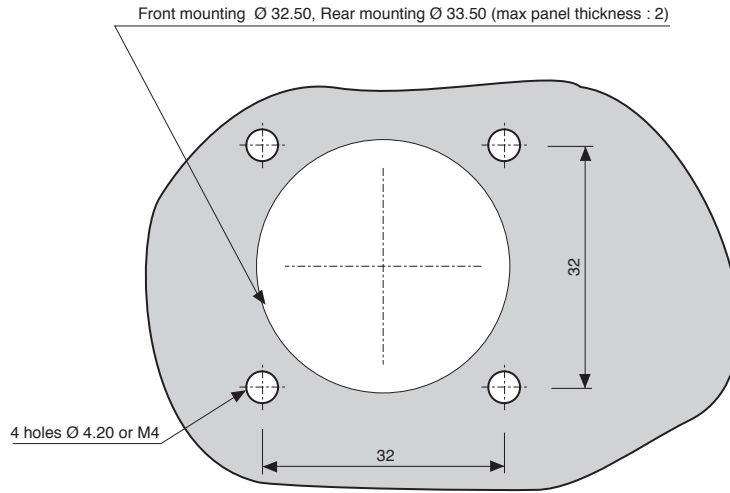


Notes:

*212M insert with 11 contacts + 1 grounding contact used only with male CRE receptacle.

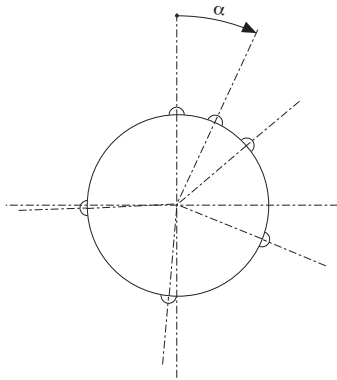
Dimensions are in mm

CNE & CRE Panel cut out

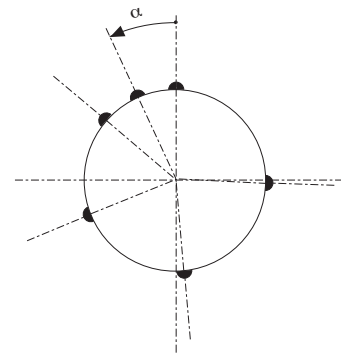


Coding table

Mating side viewed receptacle



Mating side viewed plug



α	25°	77°	139°	211°	293°	325°
Code	A	B	C	D	E	F

Wiring Tools

CONTACTS	CRIMPING						ASSEMBLY	
Contact part number	Crimp tool	AWG	Wire cross section	Positioner	Turret	Selector position	Tool part number	
							Insertion	Extraction
0150 841-20ROG 0150 851-20ROG 0150 842-20RGO	ASTRO TOOL TGV 101	22	0.34	Without	ASTRO TOOL* TGV 201	3	Without	SD-0150000005
		20	0.60			4		
		18	0.93			5		
		16	1.34			6		
		14	1.91			7		
	DANIELS FT8	22	0.34		DANIELS* SH 462	3		
		20	0.60			4		
		18	0.93			5		
		16	1.34			6		
		14	1.91			7		
0150 761-20-OG 0150 682-20-G1	ASTRO TOOL TGV 101	26	0.13	Without	ASTRO TOOL TGV 202 red insert	2	S_059 (L/RH) or S_074 (L/ZH)	S_072
		24	0.22			2		
		22	0.34			3		
		20	0.60			4		
		18	0.93			5		
		16	1.34			6		
		14	1.91			7		
	DANIELS FT8	26	0.13		DANIELS SH 463 red insert	2		
		24	0.22			2		
		22	0.34			3		
		20	0.60			4		
		18	0.93			5		
		16	1.34			6		
		14	1.91			7		

Disclaimer 2018

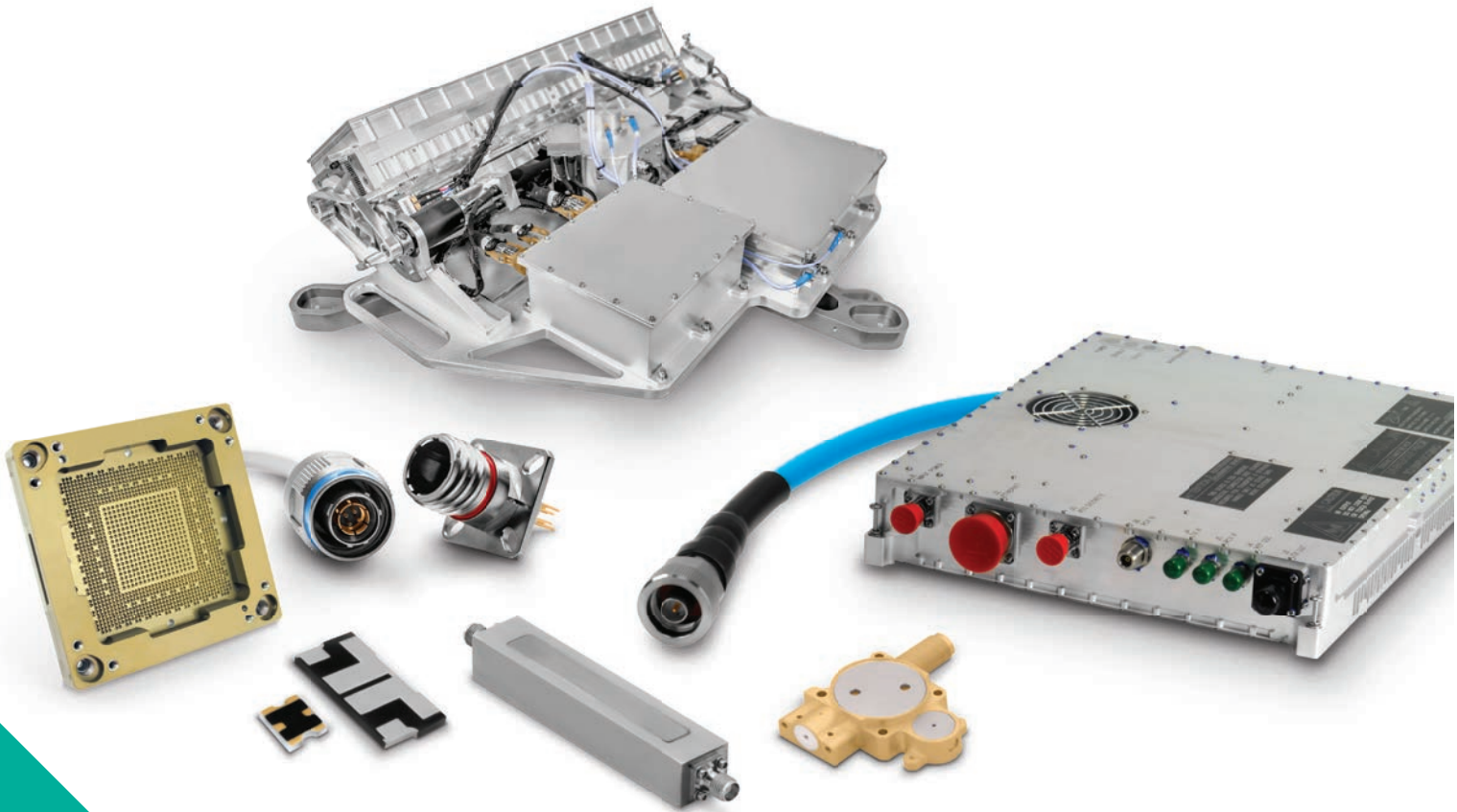
All of the information included in this catalogue is believed to be accurate at the time of printing. It is recommended, however, that users should independently evaluate the suitability of each product for their intended application and be sure that each product is properly installed, used and maintained to achieve desired results.

Smiths Interconnect makes no warranties as to the accuracy or completeness of the information, and disclaims any liability regarding its use.

Smiths Interconnect reserves the right to modify design and specifications, in order to improve quality, keep pace with technological development or meet specific production requirements.

No reproduction or use without express permission of editorial and pictorial content, in any manner.

Product Portfolio



- Antenna Systems
 - Cable Assemblies
 - Connector Solutions
 - Ferrite Components & Assemblies
 - RF Filter Components & Assemblies
 - Integrated Microwave Assemblies
 - Millimeter-Wave Solutions
 - RF Components
 - Test Sockets and WLCSP Probe Heads
 - Time & Frequency Systems

Global Support

UK Headquarters

- London, UK
+44 20 7004 1600
info.uk@smithsinterconnect.com

US Headquarters

- Stuart, FL
+1 772 286 9300
info.us@smithsinterconnect.com

Americas

- Costa Mesa, CA
+1 714 371 1100
info.us@smithsinterconnect.com
- Milpitas, CA
+1 408 957 9607 x 1125
info.us@smithsinterconnect.com
- Stuart, FL
+1 772 286 9300
info.us@smithsinterconnect.com
- Hudson, MA
+1 978 568 0451
info.us@smithsinterconnect.com
- Northampton, MA
+1 413 582 9620
info.northampton@smithsinterconnectinc.com
- Tampa, FL
+ 1 813 901 7200
info.tampa@smithsinterconnectinc.com
- Kansas City, KS
+1 913 342 5544
info.us@smithsinterconnect.com
- Salisbury, MD
+1 800 780 2169
info.us@smithsinterconnect.com
- Thousand Oaks, CA
+1 805 267 0100
info.thousandoaks@smithsinterconnectinc.com

Europe

- Deggendorf, Germany
+49 991 250 120
info.de@smithsinterconnect.com
- Genova, Italy
+39 0 10 60361
info.it@smithsinterconnect.com
- Dundee, UK
+44 1382 427 200
info.dundee@smithsinterconnect.com
- Rouen, France
+33 2 32 96 91 76
info.fr@smithsinterconnect.com
- Elstree, UK
+44 20 8236 2400
info.uk@smithsinterconnect.com

Asia

- Shanghai, China
+86 21 2283 8008
info.asia@smithsinterconnect.com
- Suzhou, China
+86 512 6273 1188
info.asia@smithsinterconnect.com
- Singapore
+65 6846 1655
info.asia@smithsinterconnect.com

more > [smithsinterconnect.com](https://www.smithsinterconnect.com) | [in](#) [twitter](#) [G+](#) [YouTube](#)