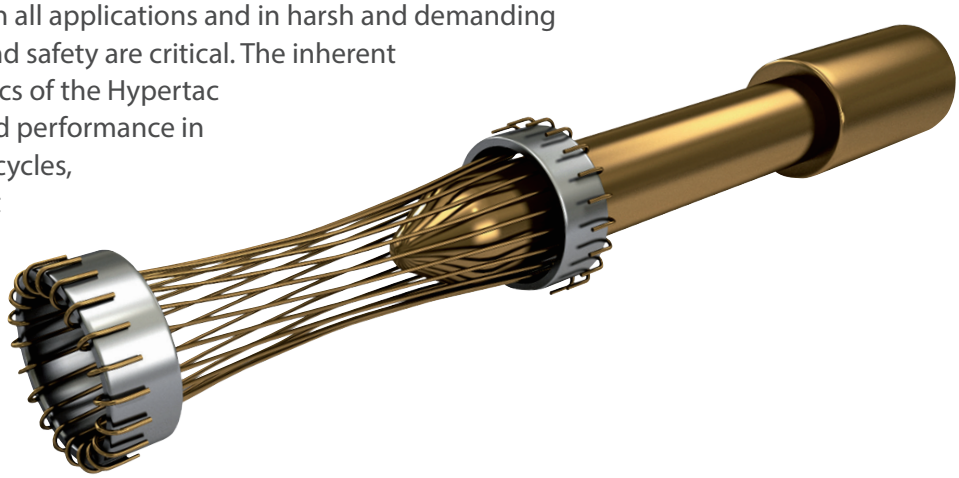
smiths interconnect

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

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.

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.

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.

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.

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.

Benefits

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.

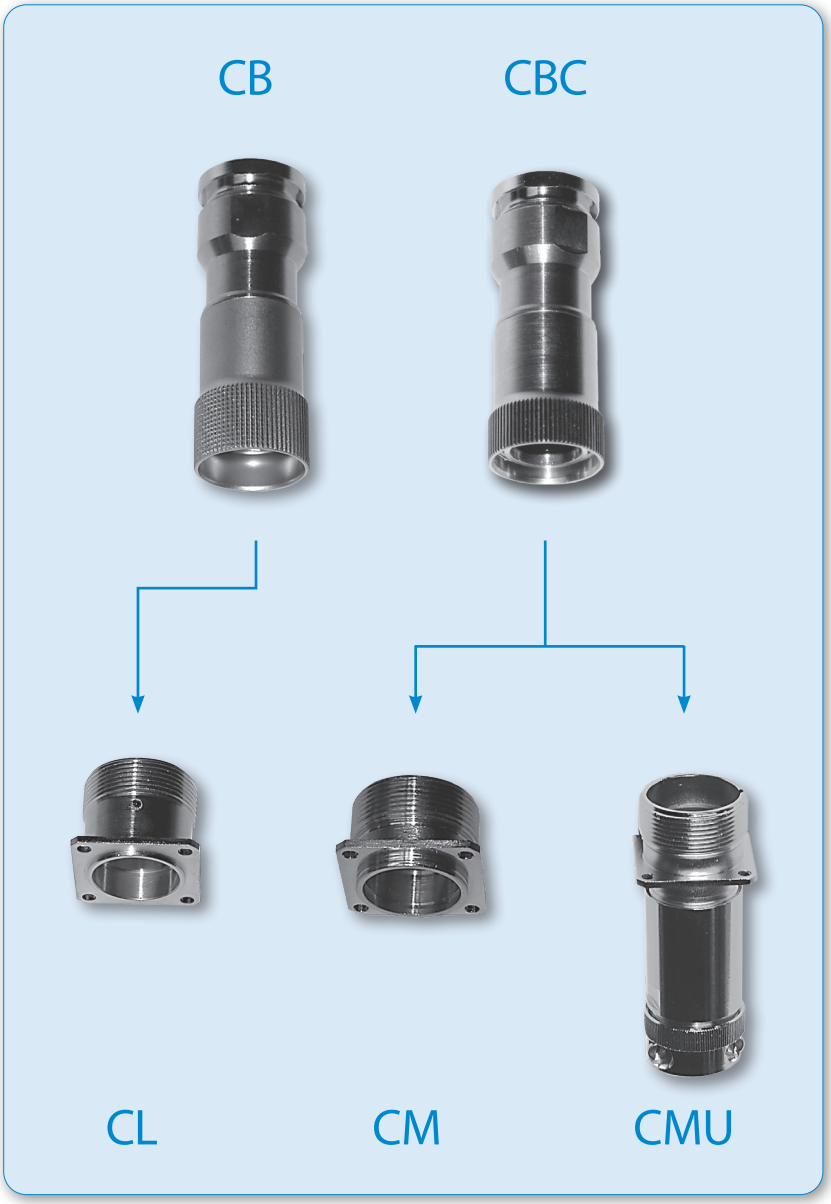
Low cost of ownership
The Hypertac contact technology will surpass most product requirements, thus eliminating the burden and cost of having to replace the connector or the entire subsystem.

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.

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.

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

EMC Shielded Metallic Circular Connectors

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 unfailing 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.

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							
-	-						
8							

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

Single polarized key

- 0 3 2 3 contacts Ø 2 mm*
- 0 4 2 3 contacts Ø 2 mm*
- 5 1 5 5 contacts Ø 1.50 mm*
- 6 1 5 6 contacts Ø 1.50 mm**

5 polarized keys

- 8 1 2 8 contacts Ø 1.20 mm*
- 1 0 1 10 contacts Ø 1.02 mm*
- 1 2 1 12 contacts Ø 1.02 mm*

5 Part - Polarity

- 0 3 Plug without contact
- 0 4 Receptacle without contact
- 1 0 Female plug**
- 1 1 Male plug** - except CBC (1)
- 1 2 Female plug*
- 1 3 Male plug* - except CBC (1)
- 2 0 Female Receptacle** except M model
- 2 1 Male Receptacle**
- 2 2 Female Receptacle* except M model
- 2 3 Male Receptacle*

6 Termination styles

- 0 0 Without contact
- 2 0 Crimp termination
- 2 1 Crimp termination only for Ø 2mm contact, 0.34 to 1.34 mm^2

7 Connector termination

- - - Standard nut for plug CB & CBC or if with coding for the receptacle CL & CM)
- - 1 Rear nut with female thread M20 x1,5 (3)
- - 2 Rear nut with female thread M16 x1,5 (3)
- - 3 Rear nut with female thread M12 x1,5 (3)
- Without coding 0° for the receptacle CL/CM/CLE/CME
- 1 1 CMU with cable-clamp Ø 6
- 1 2 CMU with cable-clamp Ø 7
- 1 3 CMU with cable-clamp Ø 8
- 1 4 CMU with cable-clamp Ø 10
- 1 5 CMU with cable-clamp Ø 12
- 1 6 CMU with cable-clamp Ø 13,5

8 Coding Tabulation

Single polarized key

a	0°	30°	45°	60°	75°	90°	105°	120°	135°	150°
Code		A	F	B	G	C	H	D	J	E

Five polarized key

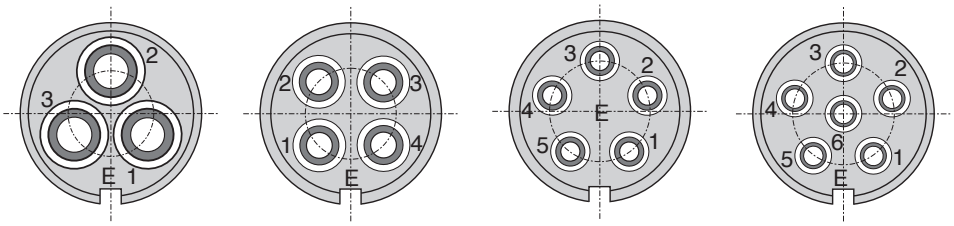
Code K (plug only)

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

General Specifications

Single polarized key

Layout

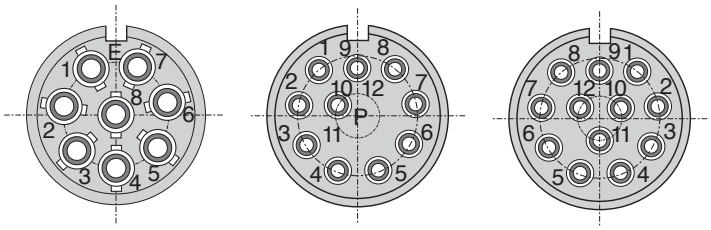


	032	042	515	615
Technical				
Contact numbers & Ø	3 Ø 2 mm	4 Ø 2 mm	5 Ø 1.50 mm	6 Ø 1.50 mm
Part number male insert Cable size	CMY0322320 1.34 to 2 mm²	CMY0422320 0.34 to 1.34 mm²	CLY5152320 0.34 to 1.91 mm²	CMY6152120 0.22 to 1.91 mm²
Part number female insert Cable size	CMY0321220 1.34 to 2 mm²	CMY0421220 0.34 to 1.34 mm²	CLY5151220 0.34 to 1.91 mm²	CMY6151020 0.22 to 1.91 mm²
Part number male insert Cable size	CMY0322321 0.34 to 1.34 mm²			
Part number female insert Cable size	CMY0321221 0.34 to 1.34 mm²			
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 mm² 0200631-21ROG 0.34 to 1.34 mm²	0201071-20ROG 0.34 to 1.34 mm²	0150851-20ROG 0.34 to 1.91 mm²	0150871-20-OG 0.22 to 1.91 mm²
Part number female crimp contacts	0200342-20RN1 1.34 to 2 mm² 0200352-21RN1 0.34 to 1.34 mm²	0200862-20RN1 0.34 to 1.34 mm²	0150842-20RG0 0.34 to 1.91 mm²	0150682-20-G1 0.22 to 1.91 mm²
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	≥ 5.10³ 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			
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 mm²	CMY1012320 1.34 to 2 mm²	CMY1212320 0.22 to 0.93 mm²
Part number female insert Cable size	CMY8121220 0.22 to 1.91 mm²	CMY1011220 1.34 to 2 mm²	CMY1211220 0.22 to 0.93 mm²
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 mm²	0100721-20ROG 0.22 to 0.93 mm²	0100721-20ROG 0.22 to 0.93 mm²
Part number female crimp contacts	0120182-20RG1 0.22 to 1.91 mm²	0100612-20RG0 0.22 to 0.93 mm²	0100612-20RG0 0.22 to 0.93 mm²
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)		

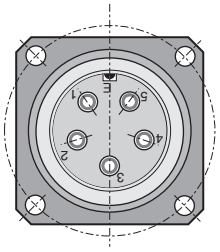
Single Polarized Connectors

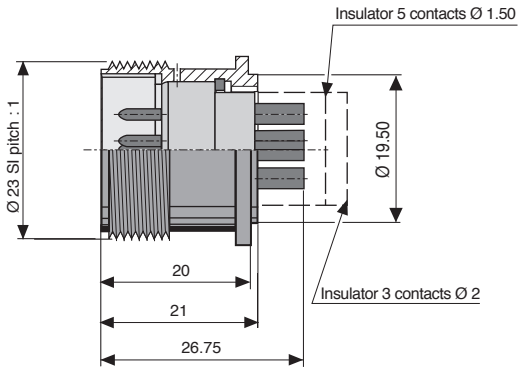
Layout 032, 042, 515, 615

Receptacle dimensions

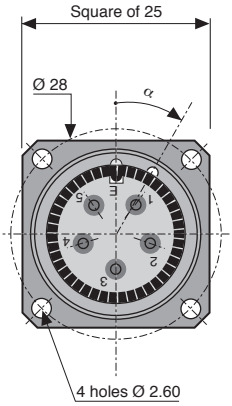
CL-

Wiring side



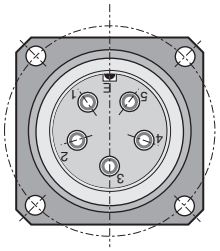


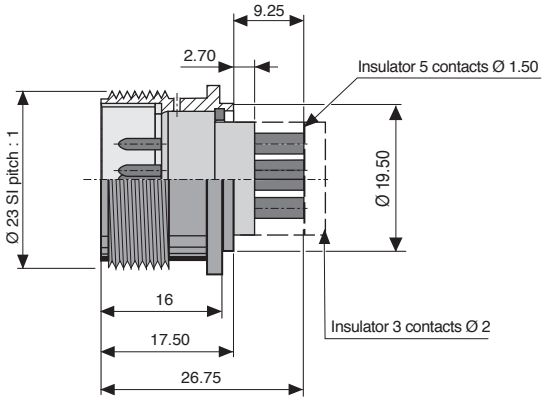
Mating side



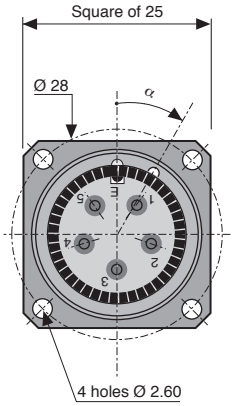
CM-

Wiring side





Mating side

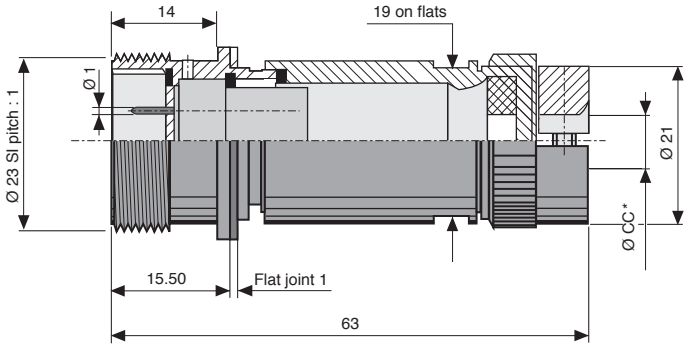


Dimensions are in mm

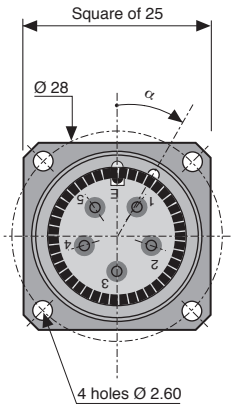
Single Polarized Connectors

Layout 032, 042, 515, 615

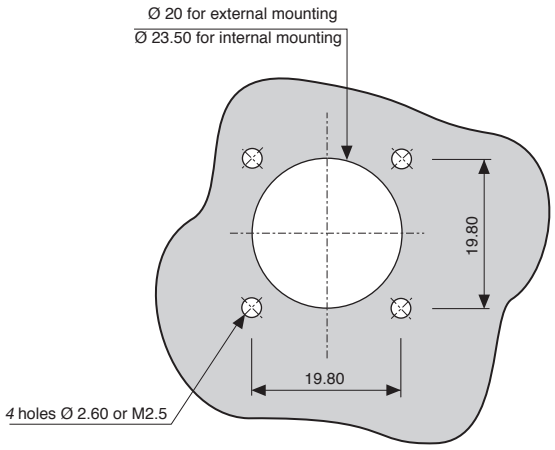
CMU cable mount receptacle dimensions



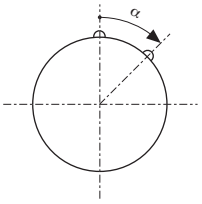
Mating side



Panel cut out



Receptacle coding tabulation



a	Code
0°	
30°	A
45°	F
60°	B
75°	G
90°	C
105°	H
120°	D
135°	J
150°	E

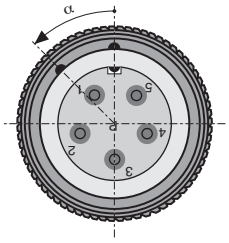
Dimensions are in mm

Single Polarized Connectors

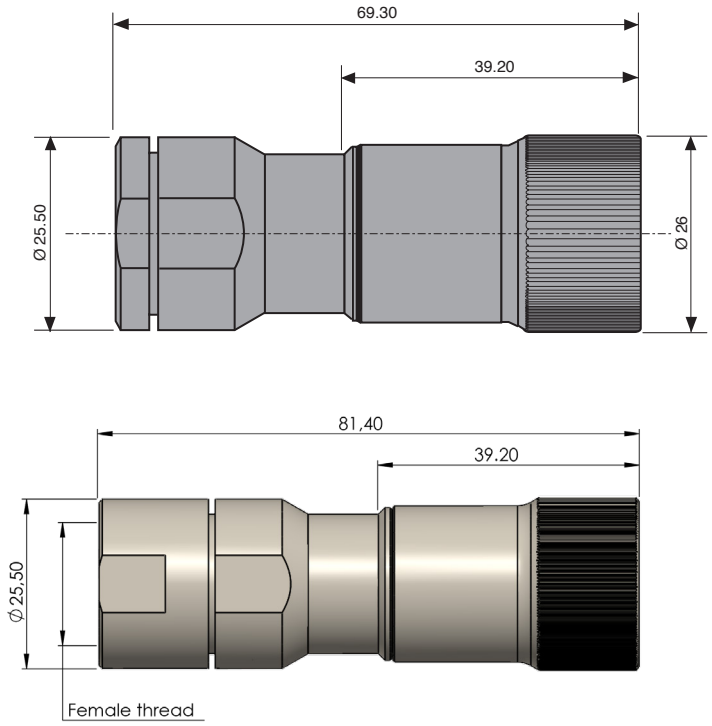
Layout 032, 042, 515, 615

Plug dimensions
CB-

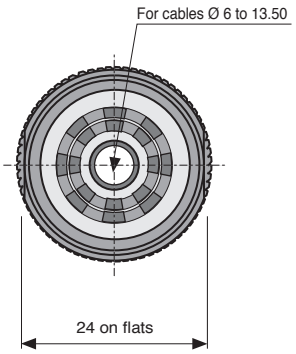
Mating side



Standard nut

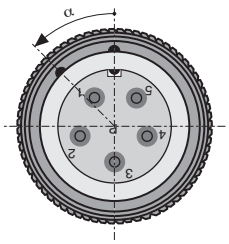


Wiring side

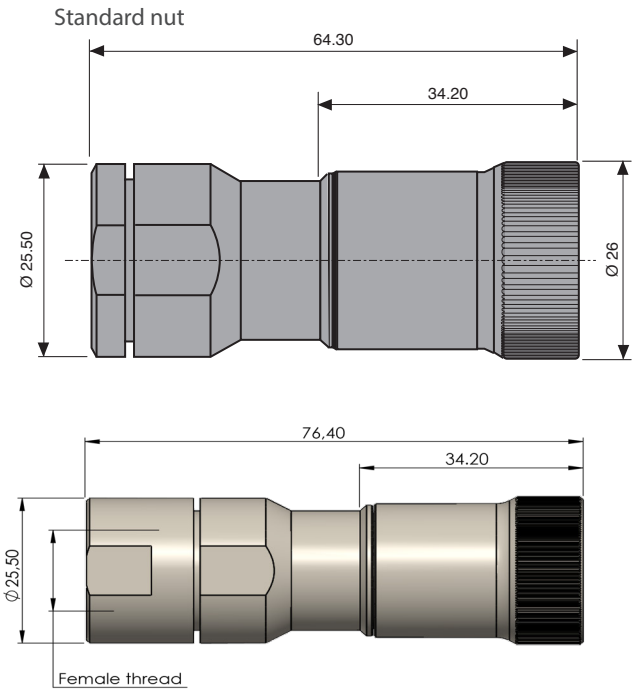


CBC

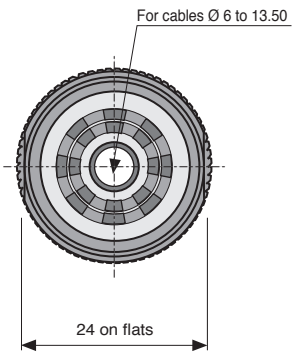
Mating side



Standard nut



Wiring side



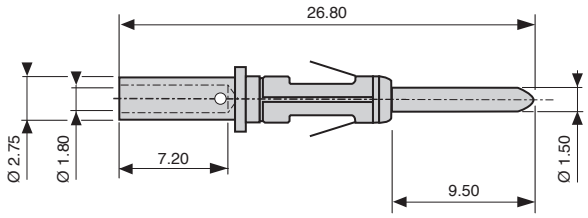
Dimensions are in mm

Contacts

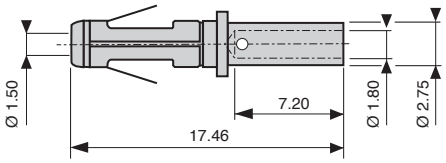
Males

Females

Contacts Ø 1.50 for arrangement 515 [0.34 to 1.91 mm²]

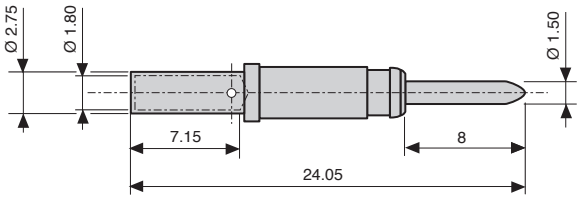


Ref: 0150851-20ROG



Ref: 0150842-20RG0

Contacts Ø 1.50 for arrangement 615 [0.22 to 1.91 mm²]



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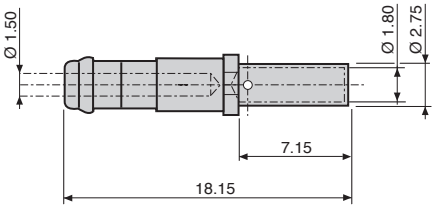
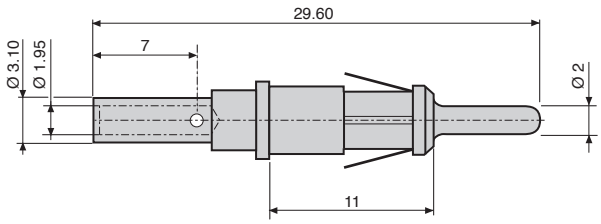
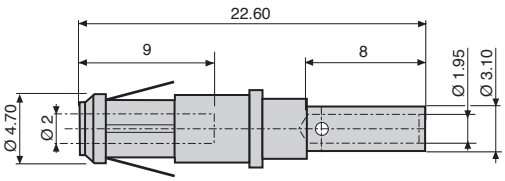


Ref: 0150682-20-G1

Contacts Ø 2 for arrangement 032 [1.34 to 2 mm²]

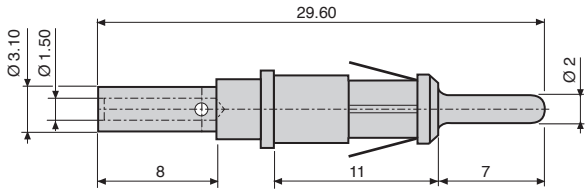


Ref: 0200621-20ROG

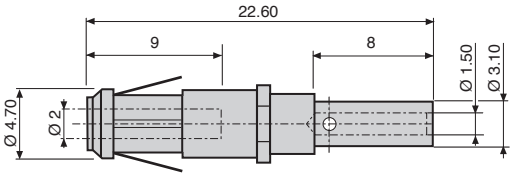


Ref: 0200342-20RN1

Contacts Ø 2 for arrangement 032 [0.34 to 1.34 mm²]

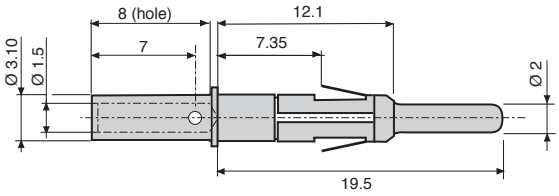


Ref: 0200631-21ROG



Ref: 0200352-21RN1

Contacts Ø 2 for arrangement 042 [0.34 to 1.34 mm²]



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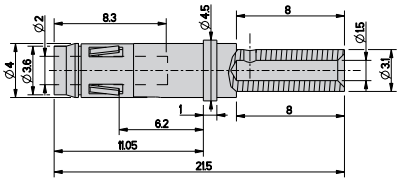


Ref: 0200862-20RN1

Dimensions are in mm

Layouts - Wiring side viewed

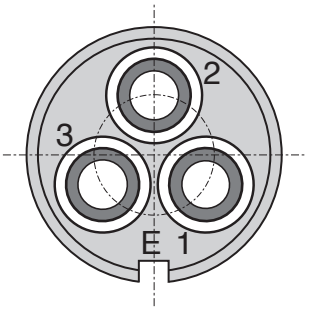
3 contacts Ø 2.0

Ref.

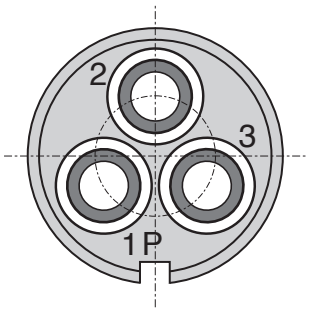
0	3	2

Contact termination	Ref.
wire size: 1.34 - 2.00 mm²	2 0
wire size: 0.34 - 1.34 mm²	2 1

Receptacle



Plug

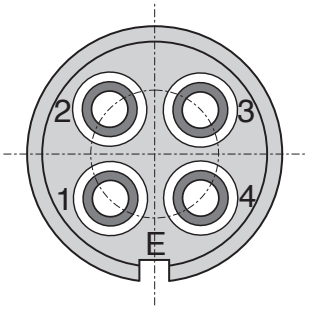


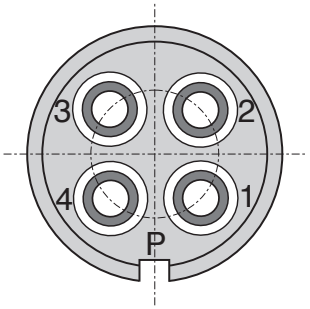
4 contacts Ø 2.0

Ref.

0	4	2

Contact termination	Ref.
wire size: 0.34 - 1.34 mm²	2 0



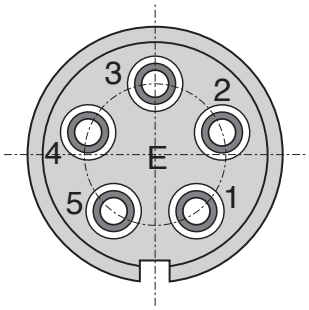


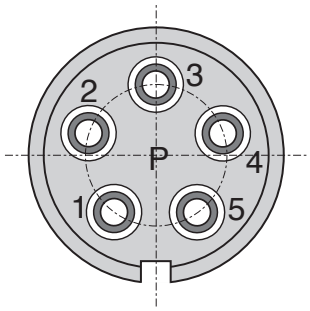
5 contacts Ø 1.5

Ref.

5	1	5

Contact termination	Ref.
wire size: 0.34 - 1.91 mm²	2 0



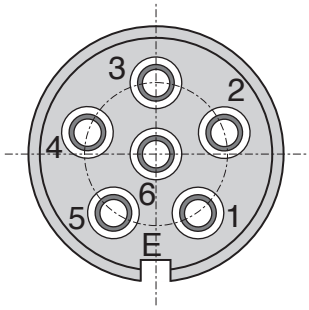


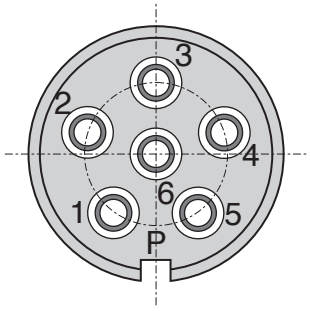
6 contacts Ø 1.5

Ref.

6	1	5

Contact termination	Ref.
wire size: 0.22 - 1.91 mm²	2 0





CONSULT US ABOUT ARRANGEMENTS WITH SOLDER CUP CONTACTS

Dimensions are in mm

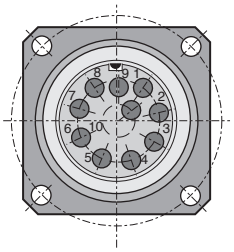
Five Polarized Keys Connectors

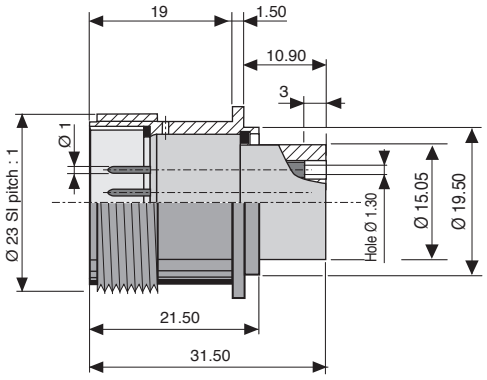
Layout 101, 121, 812

Receptacle dimensions

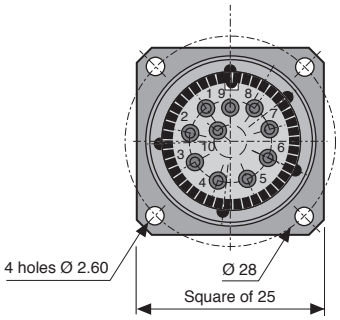
CLE

Wiring side



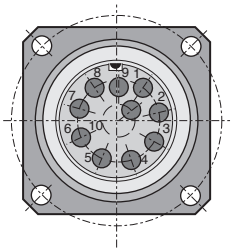


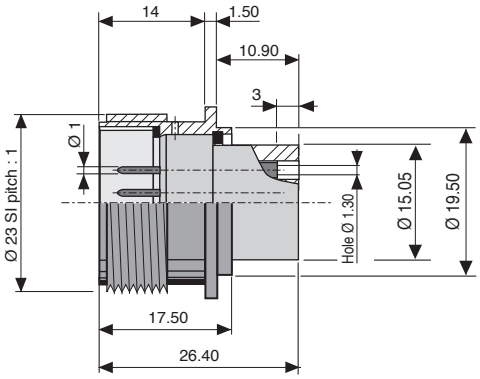
Mating side



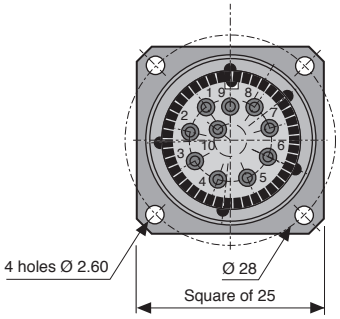
CME

Wiring side





Mating side



Dimensions are in mm

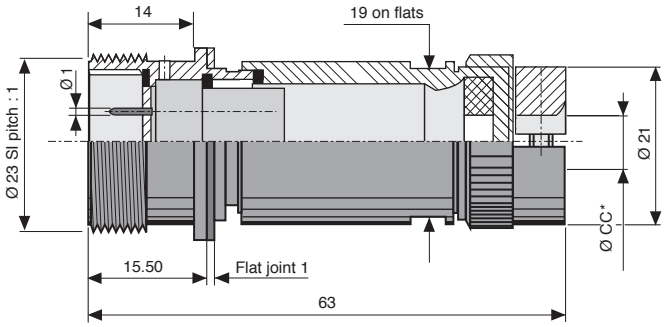
Five Polarized Keys Connectors

Layout 101, 121, 812

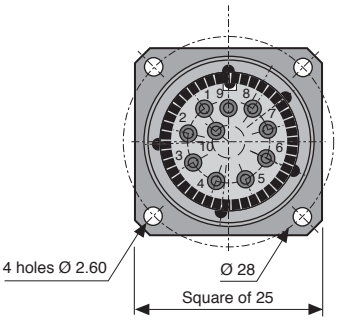
Receptacle dimensions

CMU

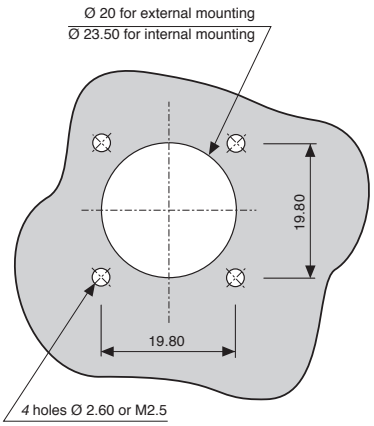
Cable receptacle

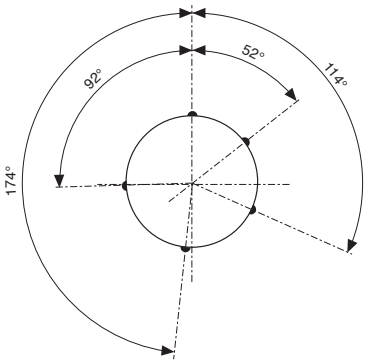


Mating side

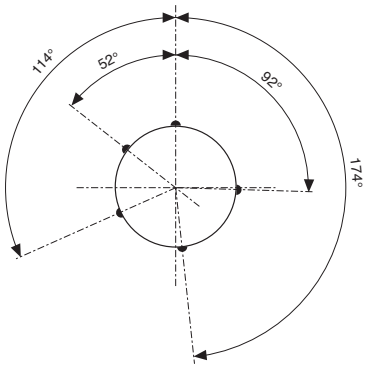


Panel cut out and polarized key overview





CB, CBC plug polarized key overview



Dimensions are in mm

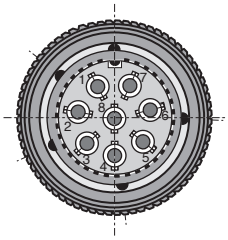
Five Polarized Keys Connectors

Layout 101, 121, 812

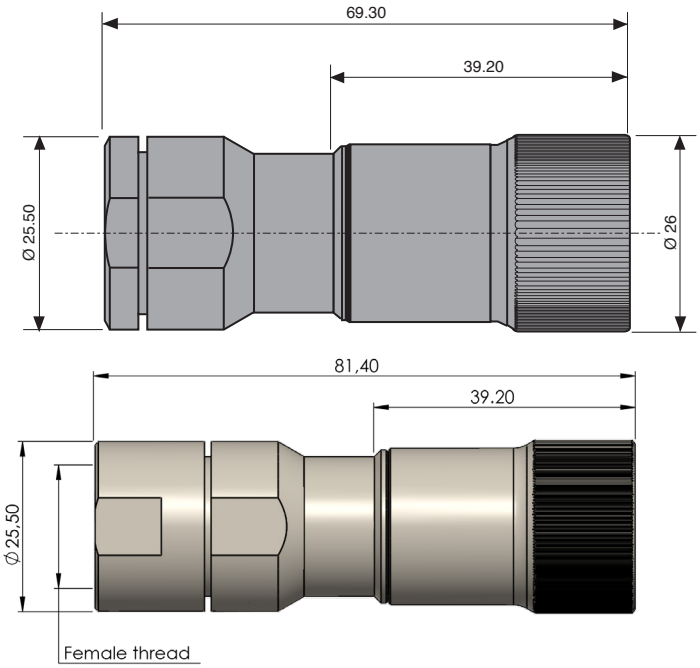
Plug dimensions

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

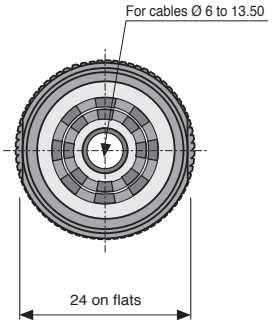
Mating side



Standard nut

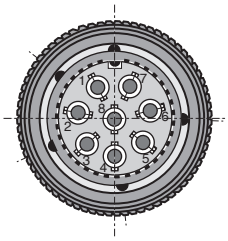


Wiring side

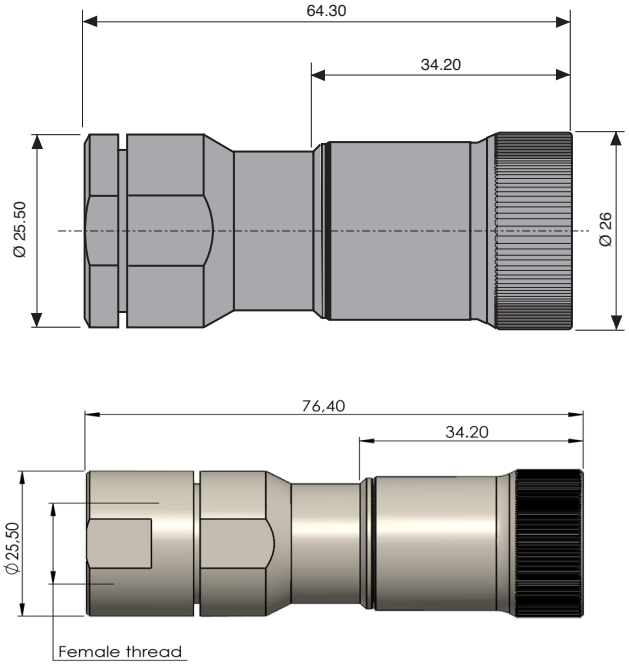


CBC--- -- -- --K

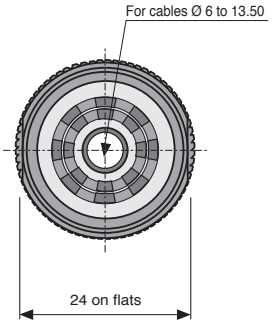
Mating side



Standard nut



Wiring side



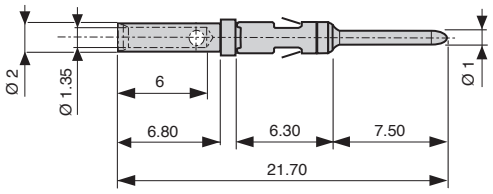
Dimensions are in mm

Contacts

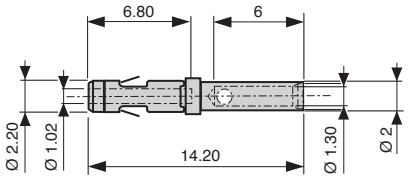
Males

Females

Contacts Ø 1 for arrangements 101 & 121 [0.22 to 0.93 mm²]

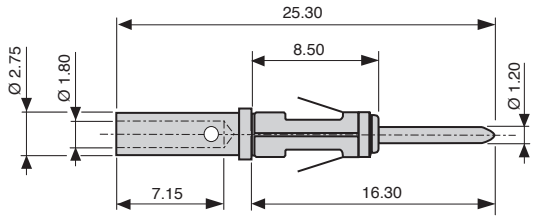


Ref: 0100721-20ROG

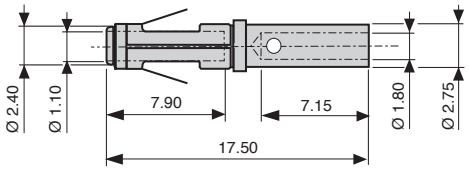


Ref: 0100612-20ROG

Contacts Ø 1.20 for arrangement 812 [0.22 to 1.91 mm²]



Ref: 0120151-20ROG



Ref: 0120182-20RG1

Dimensions are in mm

Arrangements - Wiring side viewed

8 contacts Ø 1.2

Ref.

8	1	2

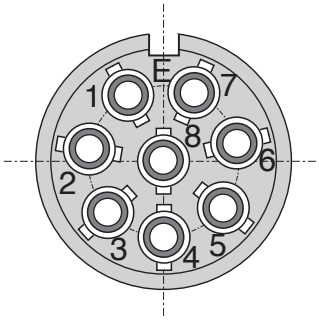
Contact termination

wire size: 0.22 - 1.91 mm²

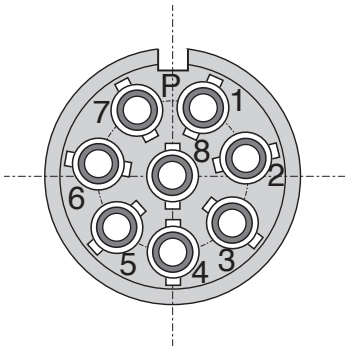
Ref.

2	0

Receptacle



Plug



10 contacts Ø 1.0

Ref.

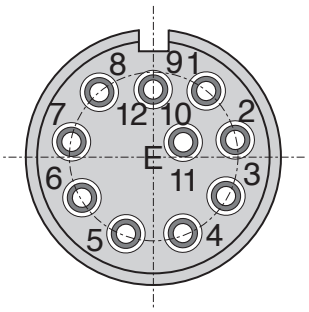
1	0	1

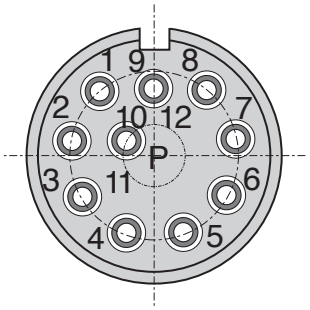
Contact termination

wire size: 0.22 - 0,93 mm²

Ref.

2	0





12 contacts Ø 1.02

Ref.

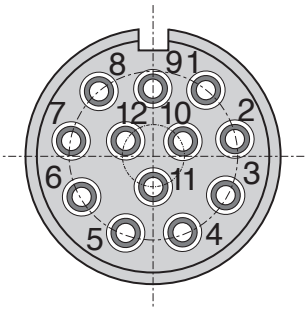
1	2	1

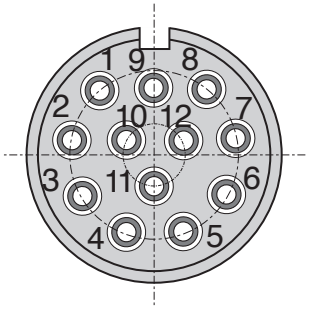
Contact termination

wire size: 0.22 - 0,93 mm²

Ref.

2	0





CONSULT US ABOUT ARRANGEMENTS WITH SOLDER CUP CONTACTS

Dimensions are in mm

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 22 20 18 16 14	0.22 0.34 0.60 0.93 1.34 1.91	Without	ASTRO TOOL TGV 202 red	2 3 4 5 6 7	S_051 or S_059	S_051 or S_072
	DANIELS FT8	24 22 20 18 16 14	0.22 0.34 0.60 0.93 1.34 1.91	Without	DANIELS SH 463 RED	2 3 4 5 6 7		
	ASTRO TOOL MS 3191/1	22 20 18 16 14	0.34 0.60 0.93 1.34 1.91	SS.0150000002 HYPERTAC		Without		
0150 851-20ROG 0150 842-22RG0	ASTRO TOOL TGV 101	22 20 18 16 14	0.34 0.60 0.93 1.34 1.91	Without	ASTRO TOOL TGV 201*	3 4 5 6 7		SD-0150000005
	DANIELS FT8	22 20 18 16 14	0.34 0.60 0.93 1.34 1.91	Without	DANIELS SH 462*	6 6 7 7 7		
0200 621-20ROG 0200 342-20RN1	ASTRO TOOL TGV 101	16 15 14 14	1.34 1.50 1.91 2.00	Without	ASTRO TOOL TGV 202 yellow	6 6 7 7		SD-0200000001
	DANIELS FT8	16 15 15 14	1.34 1.50 1.91 2.00	Without	DANIELS SH 463 yellow	6 6 7 7		
0200 631-20ROG 0200 352-20RN1	ASTRO TOOL TGV 101	22 20 18 16	0.34 0.60 0.93 1.34	Without	ASTRO TOOL TGV 202 yellow	5 5 5 6		SD-0200000001
	DANIELS FT8	22 20 18 16	0.34 0.60 0.93 1.34	Without	DANIELS SH 463 yellow	5 5 5 6		
0201 071-20ROG 0200 862-20RN1	ASTRO TOOL TGV 101	22 20 18 16	0.34 0.60 0.93 1.34	Without	ASTRO TOOL TGV 201	3 4 5 6		SD-020000003
	DANIELS FT8	22 20 18 16	0.34 0.60 0.93 1.34	Without	DANIELS SH 462	5 5 5 6		

CONTACTS	CRIMPING						INSERTION	EXTRACTION
Contact part number	Crimp tool	AWG	Wire cross section	Positioner	Turret	Selector position	Tool part number	
0100 612-20RG0 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-0120000002
	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		

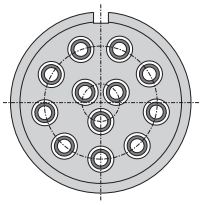
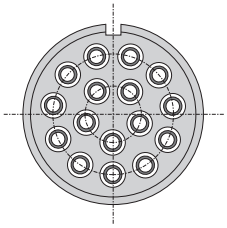
How To Order - CNE & CRE series

C	N	E	1 2 1	1 2	2 0	1	5	A
1	2	3	4	5	6	7	8	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	PLUG: 0 3 Without contact; 1 2 Female; 1 3 Male RECEPTACLE: 0 4 Without contact; 2 2 Female; 2 3 Male EXTENSION***: 0 6 Without contact; 3 2 Female; 3 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	Ø mm: 8 / 10 / 12 / 14 / 16 Code: 1 / 2 / 3 / 4 / 5
9 Coding Tabulation	a: 0° / 25° / 77° / 139° / 211° / 293° / 325° Coding: (blank) / A / B / C / D / E / F

* Clip contact system
** Cloc contact system
*** only available for the CRE configuration

General Specifications

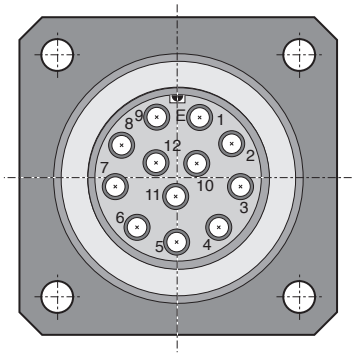
Layout	 121	 161
Technical		
Contact numbers & Ø	12 Ø 1.50mm	16 Ø 1.50mm
Female insert plug	CNY1211220	CNY1611220
Male insert plug	CNY1211320	CNY1611320
Female insert receptacle	CNY1212220	CNY1612220
Male insert receptacle	CNY1212320	CNY1612320
Insulation material	Thermoset	Nylon
Contact material	Brass	Brass
Contact plating	Au/Ni	Au/Ni
Female crimp contacts & wire size	0150842-20RG0 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≈	0150761-20-OG 0.22 to 1.91 mm≈
Male crimp pre-mating contacts & wire size		
Vibration withstanding	25 - 250 Hz - 5 g (following) NF F 61-030	
Connector life cycles	> 500 (mating cycles)	
Contact retention forces	> 70 N (clip)	> 40 N (cloc)
Electrical		
Current rating (all contacts wired)	8 A	6 A
D.W.V.	2 600 VAC	1 750 VAC
Contact resistance	< 2 mΩ	
Insulation resistance	> 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)	

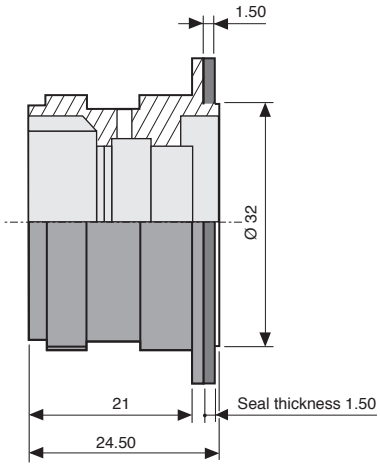
Five Coding Key CNE Connectors

Layout 121

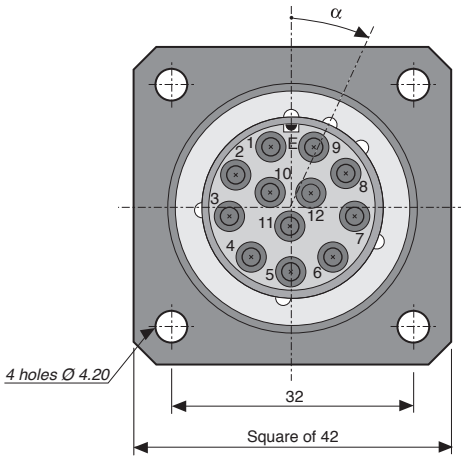
CNE Receptacle dimensions

Wiring side



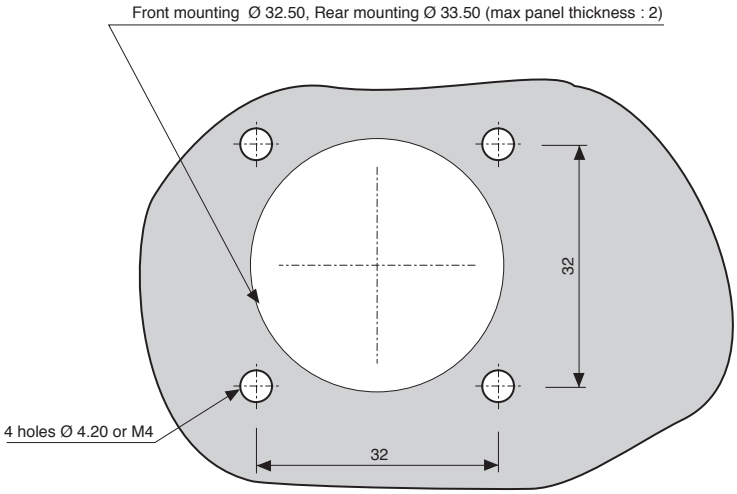


Mating side



See the coding table page 15

Panel cut out



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

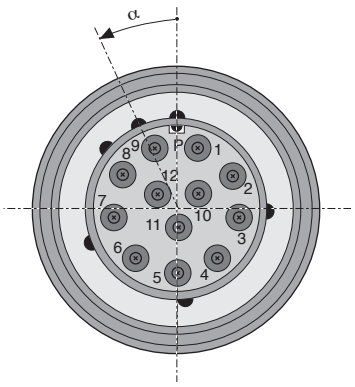
Dimensions are in mm

Five Coding Key CNE Connectors

Layout 121

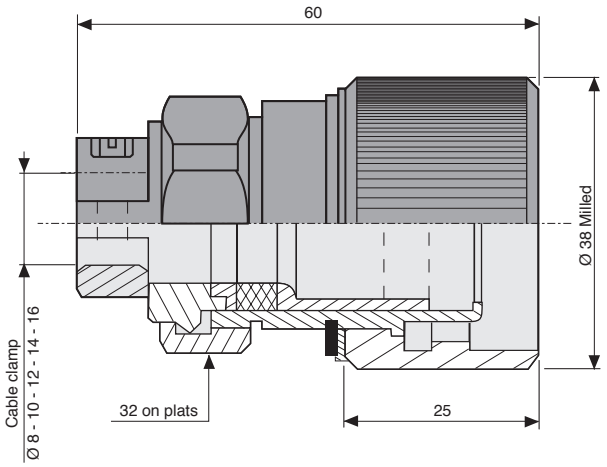
CNE Plug dimensions

Mating side

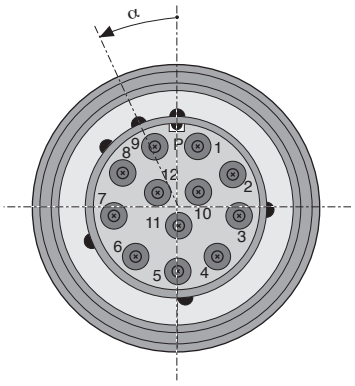


See the coding table page 15

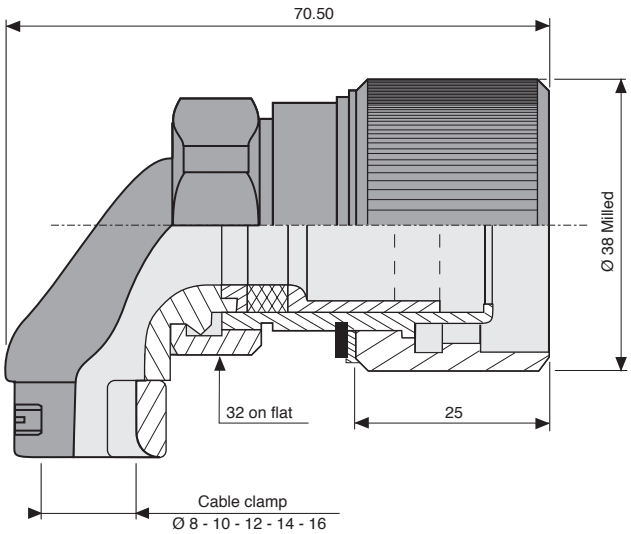
Straight



Right angle



See the coding table page 15



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

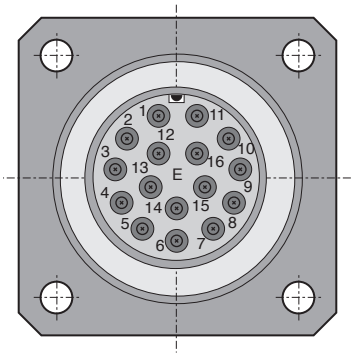
Dimensions are in mm

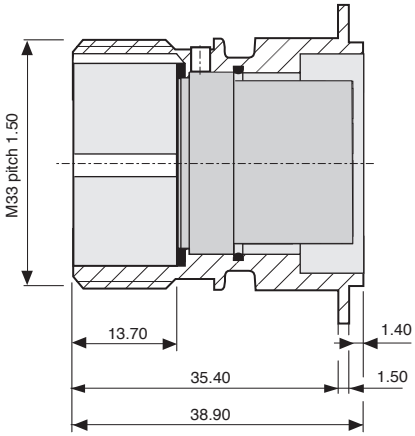
Five Coding Key CRE Connectors

Layout 161

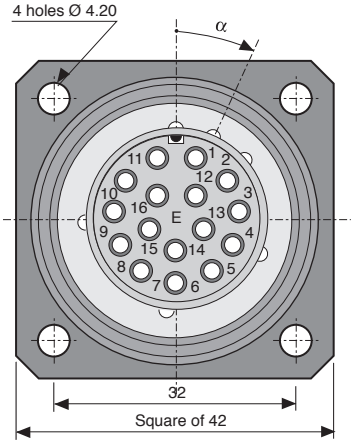
CRE Receptacle dimensions

Wiring side





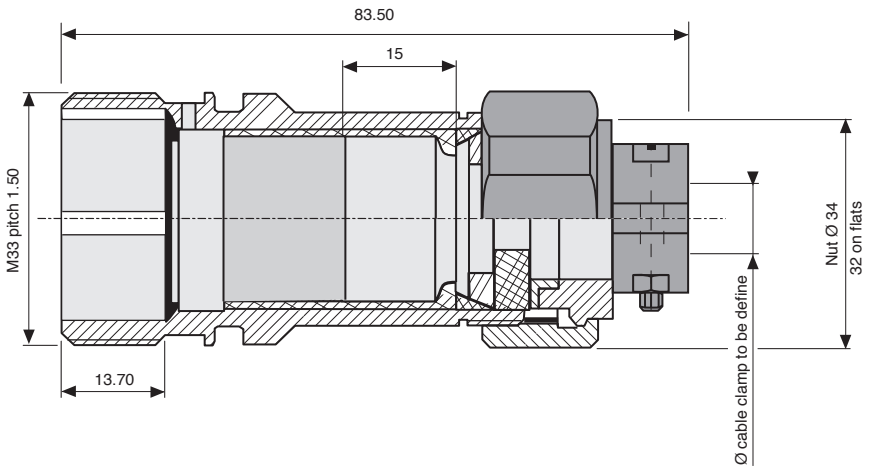
Mating side

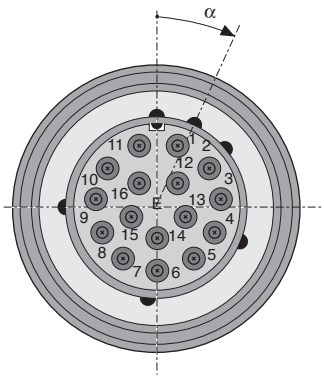


See the coding table page 15

CRE Cable receptacle dimensions

Mating side





See the coding table page 15

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

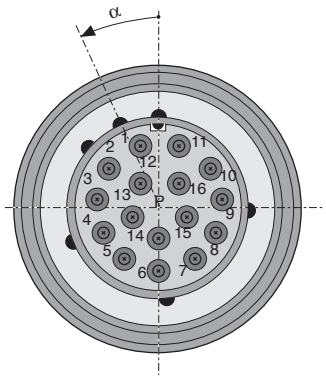
Dimensions are in mm

Five Coding Key CRE Connectors

Layout 161

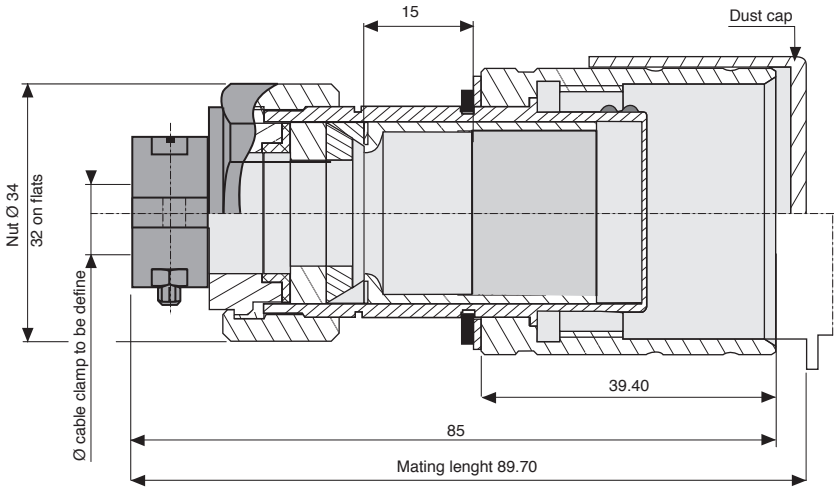
CRE Plug dimensions

Mating side



See the coding table page 15

Straight



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

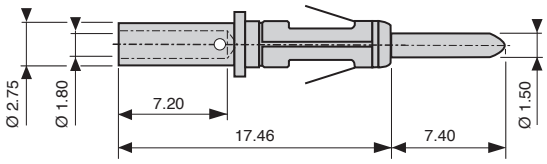
Dimensions are in mm

CNE & CRE Contacts
Clip retention

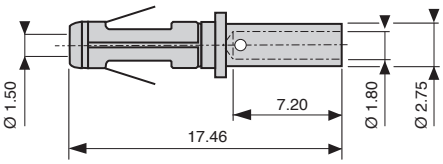
Males

Females

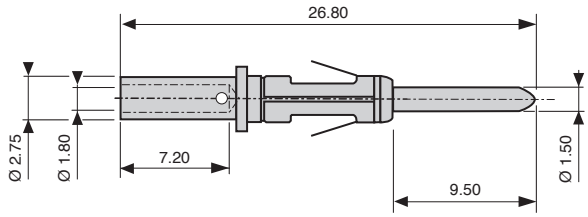
Contacts Ø 1.50 for insert C-Y 121 -- -- [wire size 0.34 - 1.91 mm²]



Ref: 0150841-20ROG



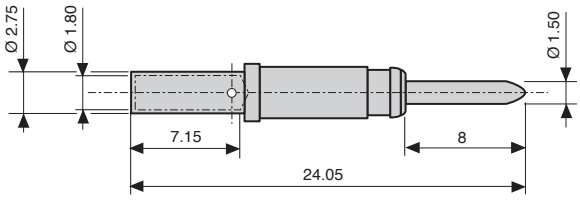
Ref: 0150842-20RG0



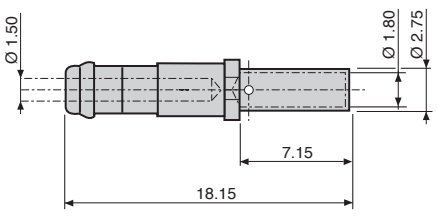
*Ref: 0150851-20ROG

Cloc retention

Contacts Ø 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

12 contacts Ø 1.5

Ref.

1	2	1

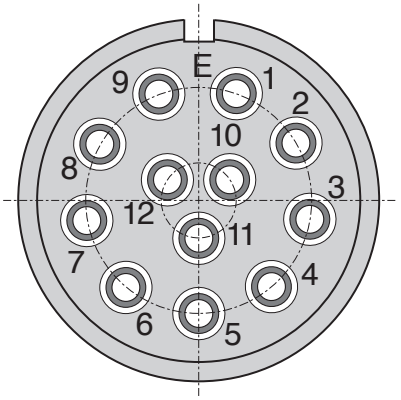
Contact termination

wire size: 0.34 - 1.91 mm²

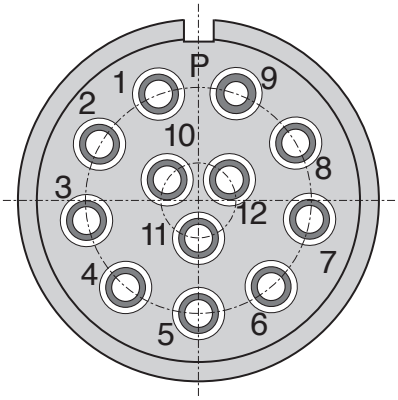
Ref.

2	0

Receptacle



Plug



16 contacts Ø 1.5

Ref.

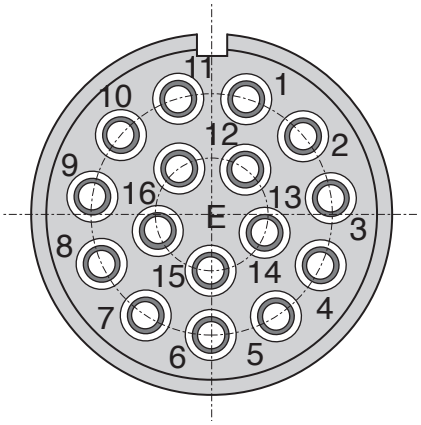
1	6	1

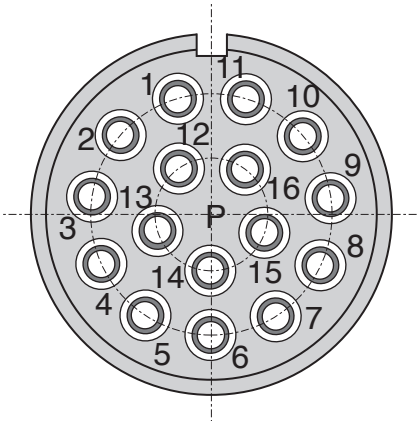
Contact termination

wire size: 0.13 - 1,91 mm²

Ref.

2	0



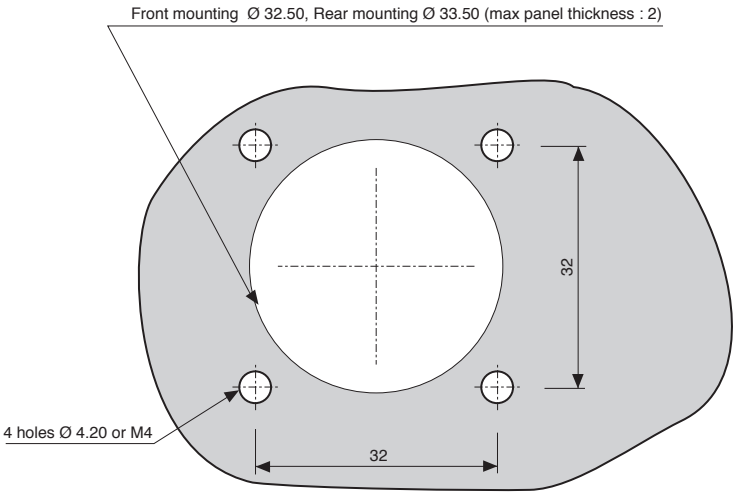


Notes:
*212M insert with11 contacts + 1 grounding contact used only with male CRE receptacle.

Dimensions are in mm

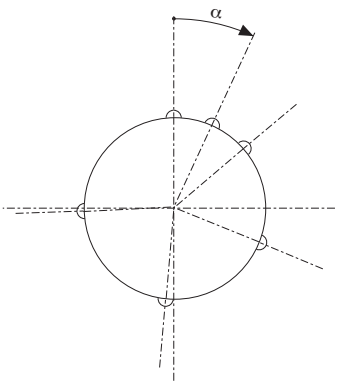
CNE & CRE

Panel cut out

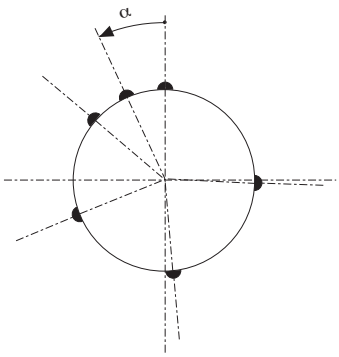


Coding table

Mating side viewed receptacle



Mating side viewed plug



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

Dimensions are in mm

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 842-20RG0	ASTRO TOOL TGV 101	22 20 18 16 14	0.34 0.60 0.93 1.34 1.91	Without	ASTRO TOOL* TGV 201	3 4 5 6 7	Without	SD-0150000005
	DANIELS FT8	22 20 18 16 14	0.34 0.60 0.93 1.34 1.91		DANIELS* SH 462	3 4 5 6 7		
0150 761-20-OG 0150 682-20-G1	ASTRO TOOL TGV 101	26 24 22 20 18 16 14	0.13 0.22 0.34 0.60 0.93 1.34 1.91	Without	ASTRO TOOL TGV 202 red insert	2 2 3 4 5 6 7	S_059 (L/RH) or S_074 (L/ZH)	S_072
	DANIELS FT8	26 24 22 20 18 16 14	0.13 0.22 0.34 0.60 0.93 1.34 1.91		DANIELS SH 463 red insert	2 2 3 4 5 6 7		

Disclaimer

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.

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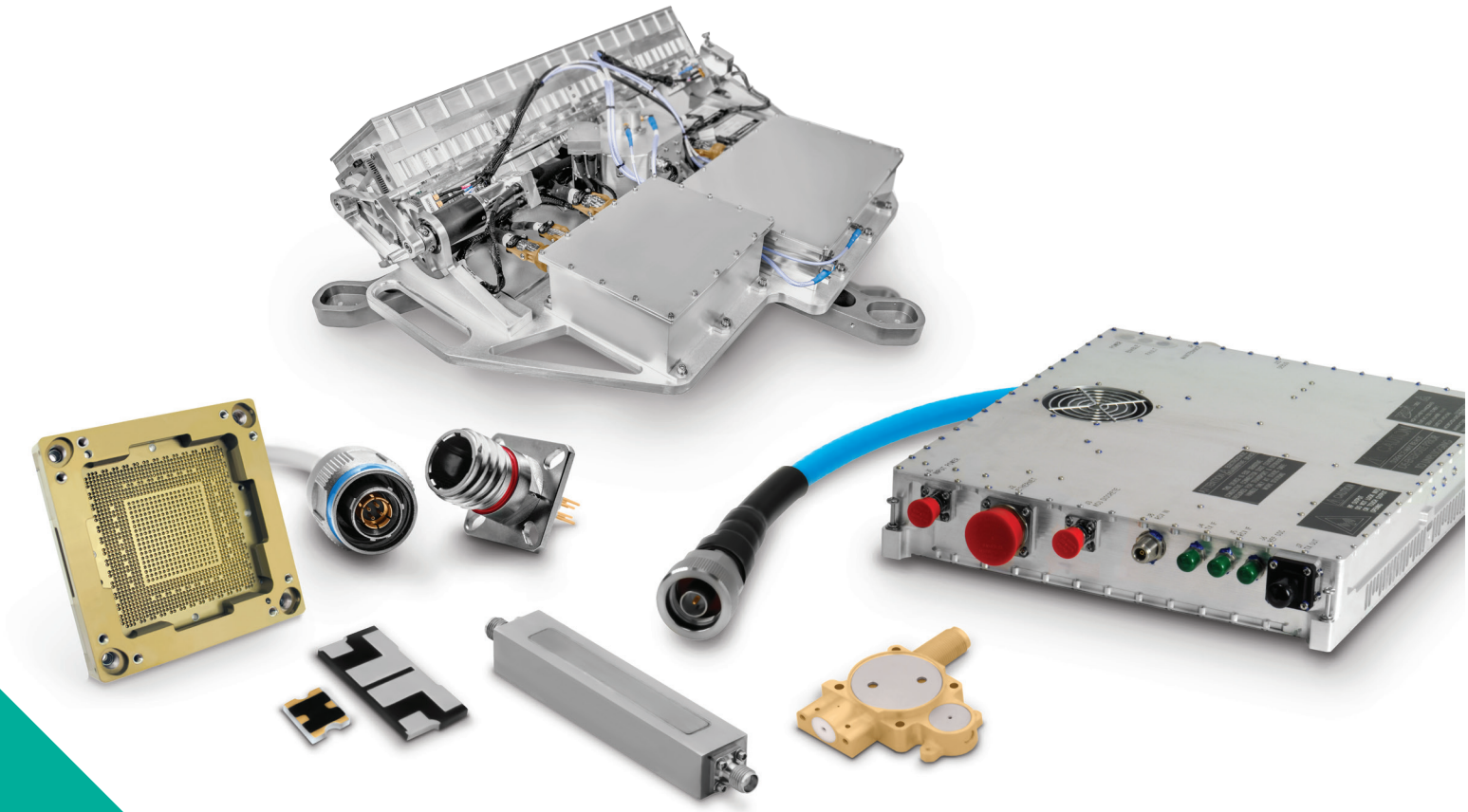
Product Portfolio



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