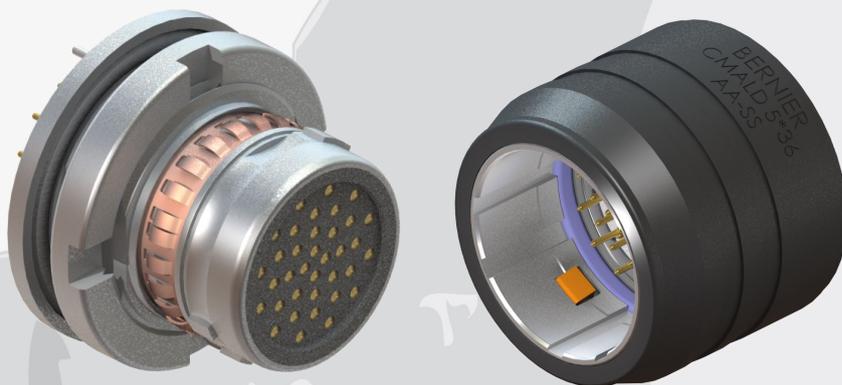


CMALD Serie

Push-Pull or Quick-Releasable Connector



... Toughness and Ergonomics allied with a high contact density configuration !

Catalog



◆ Description

BERNIER designed the CMALD line specially for harsh environments. This line presents the same appreciated characteristics than the CMA connectors with a slightly bigger shell size allowing to set up to 36 contacts. This shell size is ideal to make also other contacts arrangements with different contact sizes.

◆ Applications



Radios



Vehicules



Intercoms



Crypted data

Push-Pull

Ergonomics

Stainless steel

EMI RFI Protection

Multi-Contacts

Watertight



Optronic devices



Weapon systems



Rugged computers



Tactical equipments

◆ The Right Solution for your projects

CMALD connectors are appreciated for their flexibility to fit customer specifications. Our Design team is able to propose versions answering to your needs. Reinforcements can be applied in case of use in harder climatic, ergonomic and electromagnetic conditions.

CMALD

◆ EMC reinforcements

Options are available in order to reinforce the EMC specifications.



Ground ring « 360° »



Conductive Orings



Ground pin

CMALD standard receptacles are equipped with a ground ring giving a high EMC level. This function developed by Bernier brings a better continuity between the connectors shells and a protection on 360°

The receptacle Fluorosilicon Oring can be switched to a conductive version to establish a better conductivity between the connector and the panel.

One or several ground pins inserted in the connector shell can be set to link the chassis ground directly to the PCB.

◆ Climatic and mechanical characteristics

	CMALD
Unlocking system	Push-Pull or Quick-Releasable
Operating temperature Range	-55°C to +125°C
Endurance	5 000 operations in Push Pull version 2000 operations in Quick-releasable version
Sealing performance	IP68 (connected and disconnected)
Corrosion resistance	Salt fog : 96 hours
Fluids resistance	Oils and Hydrocarbones

◆ Electrical characteristics

	36 contacts
Working voltage	60 V _{max}
Current rating per contact	2 A _{max}
Gauge (AWG)	26
Contact type	Solder cup / For PCB
Contact resistance	≤ 10 mOhms
Insulation resistance	>1000 MOhms under 500 V _{DC}
Dielectric	500 V _{eff} at 50 Hz
EMI RFI	Yes

◆ Material and plating

	Material	Plating
Connector shell	Stainless steel	Sandblasting or Black Chrome
Insulator	PBT	-
Contacts	Copper alloy	Gold over nickel
Ground ring	Beryllium Copper	-
Backshell shell	Aluminium alloy	Black Chrome or Black anodizing



◆ Connectors

Type	Weight (Max)
CMALD 1 (Extension)	18.5g
CMALD 5 (Push-Pull plug)	24.5g
CMALD 7 (Receptacle)	23.5g

Stainless steel

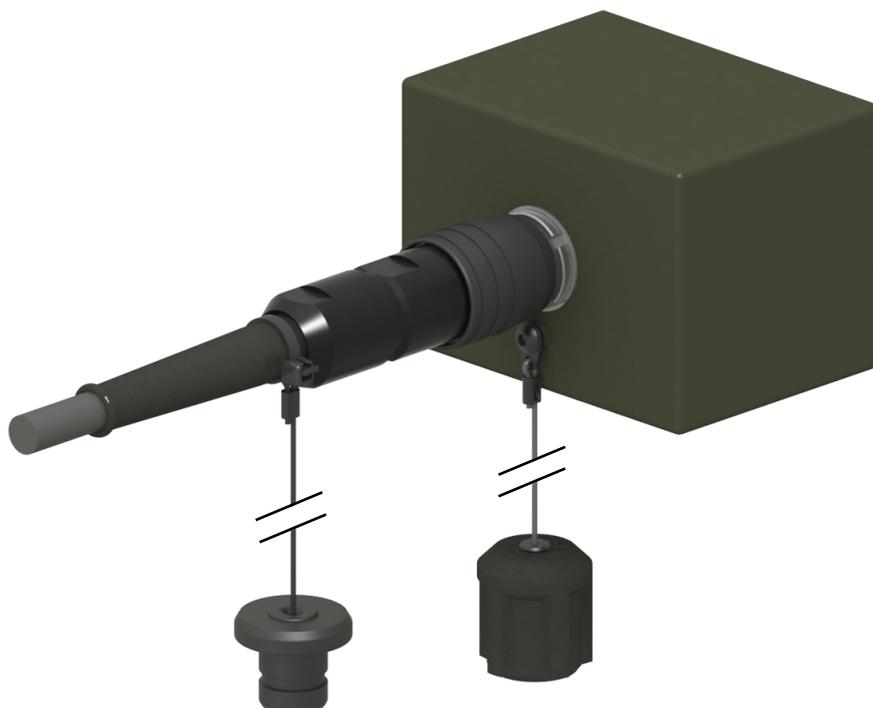
◆ Backshell

Part number	Weight (Max)
CMALD RA86-XX	16g

◆ Compatibility matrix

CMALD

	Extension Type 1	Panel through-Type 3	Dummy receptacle Type 6	Receptacle Type 7	Elbow part 90°	Elbow part 105°	Straight backshell	Elbow backshell 90°	Thermo-plastic plug cap	Metallic plug cap
Plug Type 5	●	●	●	●	●	●	●	●	●	●
Panel plug Type 18	●	●	●	●	-	-	-	-	●	●
Elbow part 90°	●	●	-	-	-	-	●	-	-	-
Elbow part 105°	●	●	-	-	-	-	●	-	-	-
Straight backshell	●	●	-	-	●	●	-	-	-	-
Elbow backshell 90°	●	●	-	-	-	-	-	-	-	-
Elastomer cap	●	●	●	●	-	-	-	-	-	-
Metallic cap	●	●	●	●	-	-	-	-	-	-



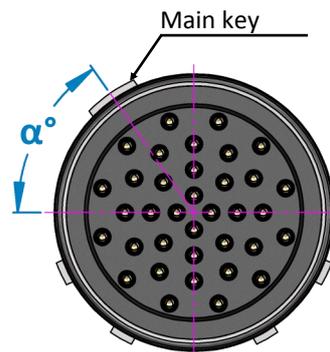
Keyways



The keyways depend on the main key position. Positions of the 4 small keys, contacts and flats of the receptacle remain the same.

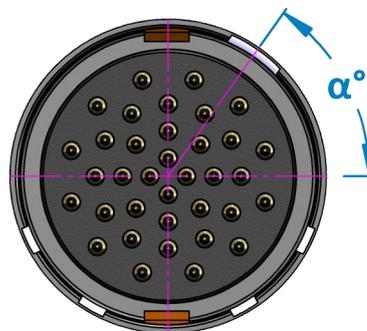
		Keyways				
		N	W	X	Y	Z
Angle α	36 contacts	55°	40°	25°	135°	155°

Receptacle - Extension front view



36 contacts

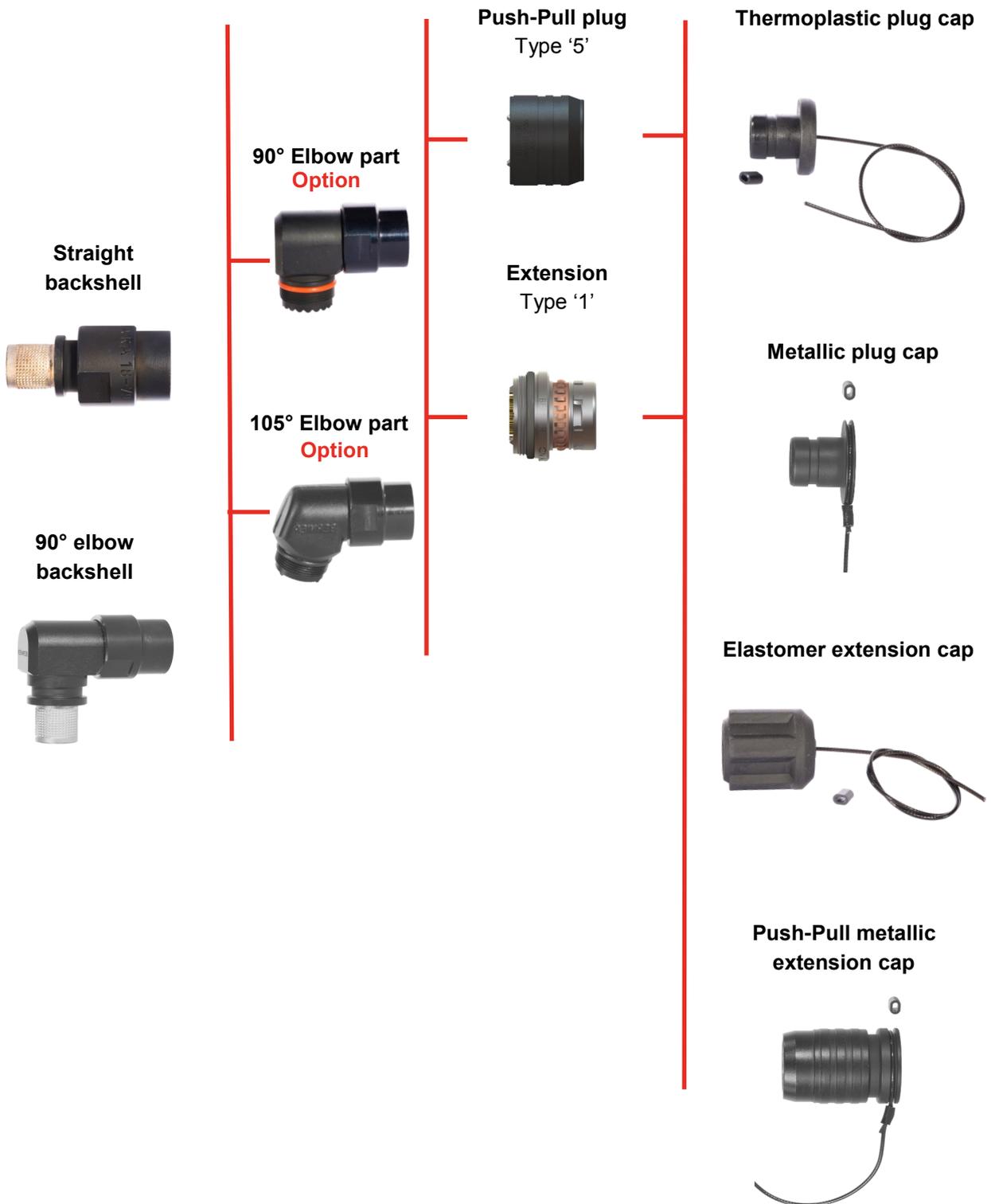
Plug Front view



36 contacts

◆ **Items mounted on cable**

CMALD



A backshell (necessary for cable assembling) must be ordered at the same time than a connector and the reverse

◆ Items mounted on panel

Elastomer receptacle cap



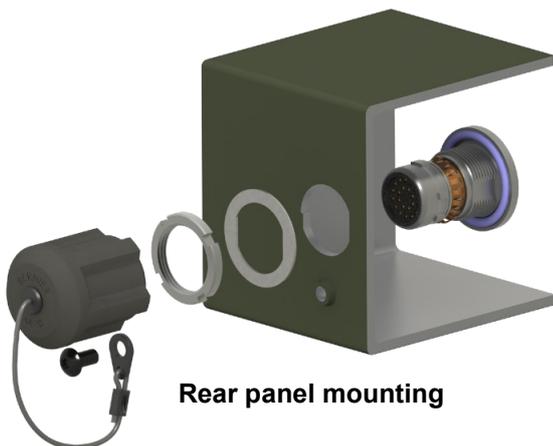
Metallic Push-Pull receptacle cap



Thermo-plastic panel plug cap



Metallic panel plug cap



Rear panel mounting

Rear panel mounting

Receptacle Type 7



Panel through * Type 3

Shutter



Front panel mounting

Push-Pull panel plug Type 18

* can accept backshell (See items mounted on cable)

◆ Connectors

Description	Code	CMALD	B	7	N	36	Y1	PM	JC
Serie	CMALD	↑							
Aspect : 'Nothing mentioned' : Sandblasted Black version (By default for type 5)	B		↑						
Connector type : Extension Panel through Plug Dummy receptacle Receptacle Panel plug	1 3 5 6 7 18			↑					
Keyways	N, W, X, Y, Z				↑				
Number of contacts	36					↑			
Contacts : 'Nothing mentionned' : Solder cup For PCB Type 7	H1						↑		
Ground pin 1 Ground pin 4 Ground pins	PM PM4S							↑	
Panel Oring : 'Nothing mentionned' : Fluorosilicon Oring Fluorosilicon charged Ni/Graph Oring Fluorosilicon charged Ag/Al Oring	JC JC1								↑

◆ Elbow parts for types 1, 3, 5

Description	Code	CMALD	RA8
Serie	CMALD	↑	↑
Elbow part	RA8, RA82	↑	↑

◆ Backshells for types 1, 3, 5

Description	Code	CMALD	RAXX	-XX
Serie	CMALD	↑	↑	↑
Backshell	RAXX	↑	↑	↑
Outer diameter	See chapter « Elbow parts and backshells »	↑	↑	↑

◆ Caps

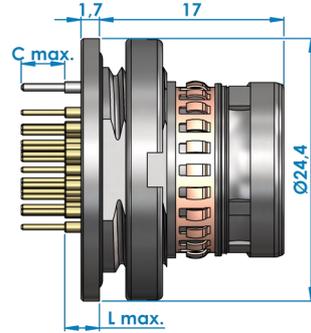
Description	Code	CMALD	BA	XX	MC	-	200	ST
Serie	CMALD	↑	↑	↑	↑	↑	↑	↑
Caps	BA	↑	↑	↑	↑	↑	↑	↑
Cap type	See chapter « caps »	↑	↑	↑	↑	↑	↑	↑
Type of fixing : Black covered stainless steel micro-cable	MC	↑	↑	↑	↑	↑	↑	↑
Fixing length (mm)	See chapter « caps »	↑	↑	↑	↑	↑	↑	↑
Termination	See chapter « caps »	↑	↑	↑	↑	↑	↑	↑

◆ Type 7 with contacts for PCB

CMALD



Contact type	L max	C max
Y1	3.2	4



Ex: CMA 7N36PM

◆ Type 6 for plug fixing, for all plug

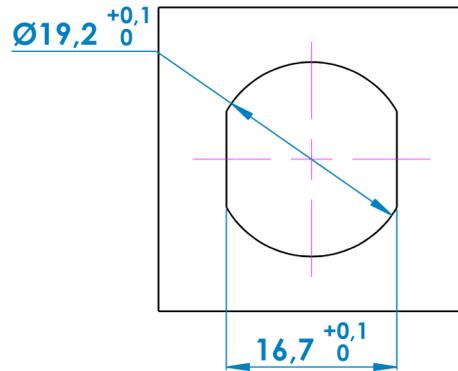
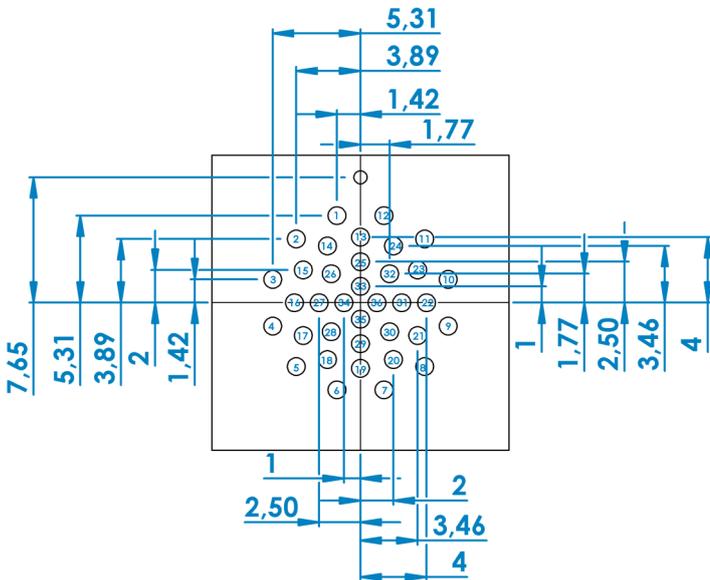


◆ Watertight shutter for CMA Type 7 panel cut



◆ PCB holing, welding side, through pins

◆ Panel cut

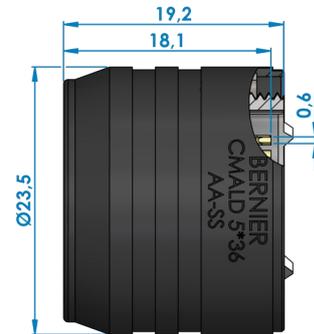


Front view side — Maximum panel thickness for CMALD receptacles : 2.8mm

◆ Type 5 Push-Pull with cup contacts



Number of contacts	Size AWG gauge
36	AWG 26



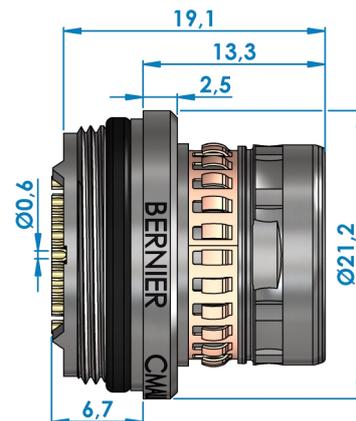
CMALD

Ex: CMALD 5N36

◆ Type 1 With solder cup contacts



Number of contacts	Size AWG gauge
36	AWG 26



Ex: CMALD 1N36

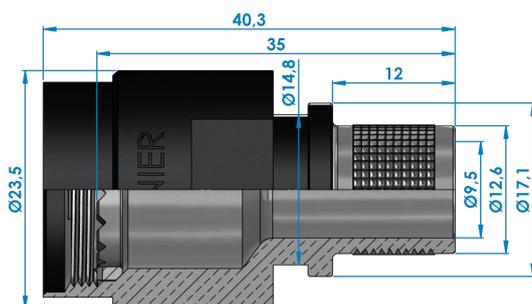
◆ Elbow part with a 105° angle



◆ Elbow part with a 90° angle



◆ Straight backshell with knurling



CMALD RA86-95

Other sizes possible, please contact us.

Backshell for cable assembling with metallic collar and heat-shrink boot (not included)

◆ 90° Elbow backshells with knurling



◆ Thermo-plastic caps for plugs



◆ Elastomer and metallic cap for receptacle types 3, 6 and 7



◆ Elastomer and metallic cap for extensions



◆ Terminations

Some terminations can accept several lanyards

Plastic clamp



Ferule



Metallic ring



Eyelet for M3 screw



Crimped eyelet for M3 screw



90° crimped eyelet for M3 screw



CMALD

CMA Serie
Push-Pull / Quick-Releaseable Connector

... For an optimum data transfer in harsh environments !

Catalog

Revised 23-JUNE-2016
www.bernier.tm.fr

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