

CVB-EX

Mil-C-5015 reverse bayonet ATEX Connectors



Standards




Certification

94/9/EC (ATEX) Directive

According to European Standards

EN 60079-0
EN 60079-1
EN 61241-0
EN 61241-1

Certificate **ICEPI 08 ATEX 03C002X**

-  I M2 Ex d I
-  II 2G Ex d IIC
-  II 2GD Ex d IIC tD A21 IP66/IP67

Application area

Suitable for **surface applications**
Group II Zones 1, 21, 2 and 22 (Gas and Dust)

Gas Group **IIC**

Suitable for **underground applications**
Group I category M2

Can be installed on devices and enclosures
designed with following type of protection

- | | |
|------------------|--------------------------|
| Explosion proof | Ex d – EN60079-1 |
| Increased safety | Ex e – EN60079-7 |
| Intrinsic safety | Ex i – EN60079-11 |
| Pressurization | Ex p – EN60079-2 |



Istituto Certificazione Europea Prodotti Industriali S.p.A.
organismo notificato n. 0068

Messrs.
DYNAMIN S.r.l.
P.za Venini, 8
VITTUONE (MI)

To the att.n of Mr. Carlo Grassi

Piacenza, 10.06.2008

SUBJECT: Verification of the conformity to the directive **94/9/EC** of Your **Connectors** series **CVB-Ex** and **CVBM-Ex**, protected by "flameproof enclosure" and by "enclosure tD".

With reference to Your request, we confirm You the conformity of the above mentioned **connectors** to the directive 94/9/EC (ATEX), with the following characteristics:

Group I cat. M2 - Group II cat. 2GD

Ex d I - Ex d IIC, Ex tD A21 IP66/67

Reference standards:

EN 60079-0 EN 60079-1 EN 61241-0 EN EN 61241-1

The relevant EC-Type Examination Certificate will bear the following number:

ICEPI 08 ATEX 03C002X

Regards

ICEPI S.p.A.
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Authorized North American Distributor



Clements National Company

6650 S. Narragansett Ave., Chicago, Illinois 60638

Toll-Free: 800-966-0016 • Fax: 708-594-2481

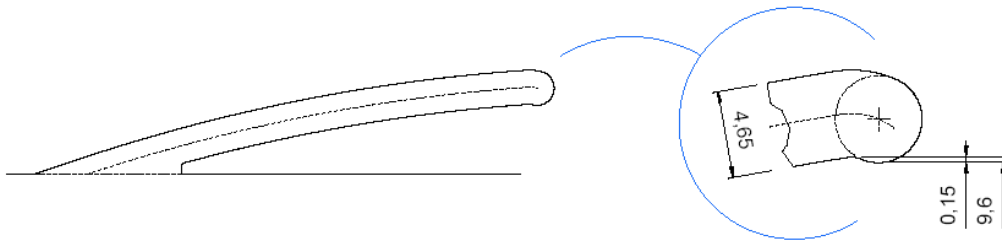
E-Mail: dnscarlson@cadillacproducts.com

Website: cadillacproducts.com

Reverse bayonet coupling system

The reverse bayonet connectors are derived from the threaded Mil-C-5015 series to provide faster coupling and anti-vibration resistance.

In this series the coupling system is composed by 3 bayonet ramps (see drawing below) machined on the external side of the receptacle connector and 3 stainless steel studs mounted inside the plug connector's coupling nut.



Characteristic

To mate connectors rotate coupling-nut 120° only
Audible, visible and tactile mating.

The bayonet ramps are resistant to damage

Advantages against the thread coupling

Fast coupling and uncoupling

Security of coupling is guaranteed and consequently improved reliability

Higher number of mating cycles

General Characteristics

- | | |
|---------------------------|--|
| ○ Working Temperature: | -40°C / +135°C |
| ○ Protection degree: | IP66/IP67 according to EN 60529 |
| ○ Shell material: | Hard anodized aluminium alloy or nickel plated brass |
| ○ Safety lock: | In threaded stainless steel hexagon socket screw |
| ○ Available arrangements: | Wide range according to Mil-C-5015 |
| ○ Shell sizes: | from 16S to 40 |
| ○ Contacts quantity: | from 2 to 150 |
| ○ Contacts termination: | Crimp or solder |



Contacts rating

Contact Size	Pin diameter mm.	Max. operating current (A)
20	1	3
18	1.42	6
16S	1.58	10
16	1.58	10
12	2.38	20
8	3.6	40
4	5.7	63
0	9.05	125

Available arrangements

5015 arrangements normally available

Arrangement	Tot ct.	AWG contacts size					
		0	4	8	12	16	18
16S-1	7					7	
16S-4	2					2	
16S-5	3					3	
16S-8	5					5	
18-1	10					10	
18-3	2				2		
18-4	4					4	
18-8	8				1	7	
18-9	7				2	5	
18-10	4				4		
18-11	5				5		
18-12	6					6	
18-19	10					10	
18-20	5					5	
18A-5	5					5	
20-3	3				3		
20-4	4				4		
20-7	8					8	
20-11	13					13	
20-15	7				7		
20-18	9				3	6	
20-24	4			2		2	
20-27	14					14	
20-29	17					17	
20-33	11					11	
20A-48	19					19	
20B-8	8				4	4	

Table 1

Authorized North American Distributor



Clements National Company

6650 S. Narragansett Ave., Chicago, Illinois 60638

Toll-Free: 800-966-0016 • Fax: 708-594-2481

E-Mail: dnscarlson@cadillacproducts.com

Website: cadillacproducts.com

Arrangements front view (male insert) by shell size

Shell size: 16S				
Arrangement	16S-1	16S-4	16S-5	16S-8
Contacts No.	7	2	3	5
Contact size	16	16	16	16

Shell size: 18						
Arrangement	18-1	18-3	18-4	18-8	18-9	18-10
No. of contacts	10	2	4	8	7	4
Contact size	16	12	16	7/16 + 1/12	5/16 + 2/12	12
Arrangement	18-11	18-12	18-19	18-20		
No. of contacts	5	6	10	5		
Contact size	12	16	16	16		

Shell size: 20					
Arrangement	20-3	20-4	20-7	20-11	20-15
No. of contacts	3	4	8	13	7
Contact size	12	12	16	16	12
Arrangement	20-18	20-24	20-27	20-29	20-33
No. of contacts	9	4	14	13	11
Contact size	6/16 + 3/12	2/16 + 2/8	16	16	16
Arrangement	20A48	20B8			
No. of contacts	19	8			
Contact size	16	4/16 + 4/12			

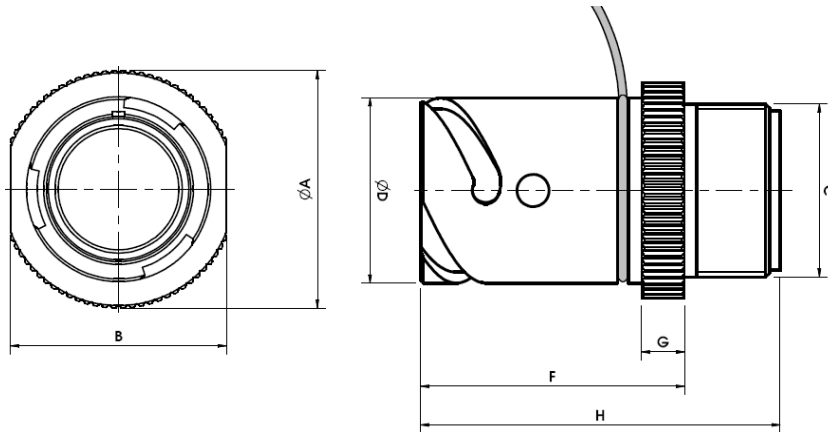


Connector shells

CVB-EX G-H-K-M-N

CVB-EX G-H-K-M-N-P shells can be screwed indirectly to the equipment enclosure or fixed into a wall trough a nut.

Provided with metric thread



Size	A	B	L	D	F	G	H
16S	37	32	3.1	27.4	40.6	6.5	53.8
18	40	34	3.1	30.8	45.1	8	66.8
20	44	40	3.1	34.2	45.1	8	66.8

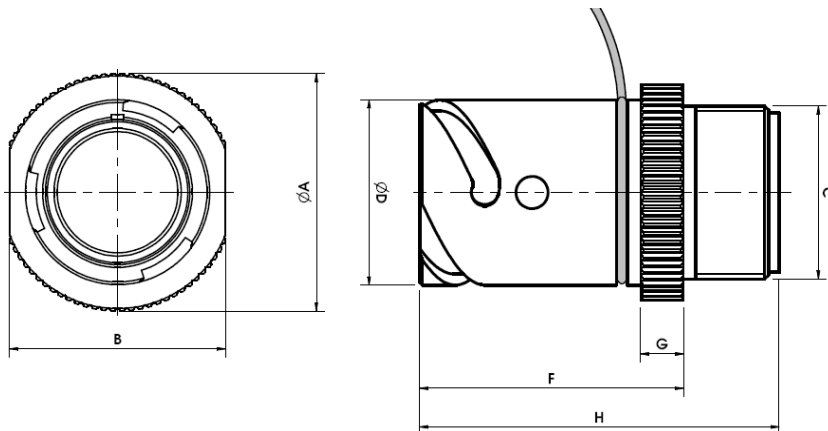
C thread

Size	G ISO 228	H R ISO 7/1	K Gk UNI 6125	M ISO 261	N NPT ASA B2.1
16S	G 3/4"	Rc 3/4"	Gk 3/4"	M 25	3/4"
18	G 3/4"	Rc 3/4"	Gk 3/4"	M 28	3/4"
20	G 1"	Rc 1"	Gk 1"	M 32	1"

CVB-EX 1

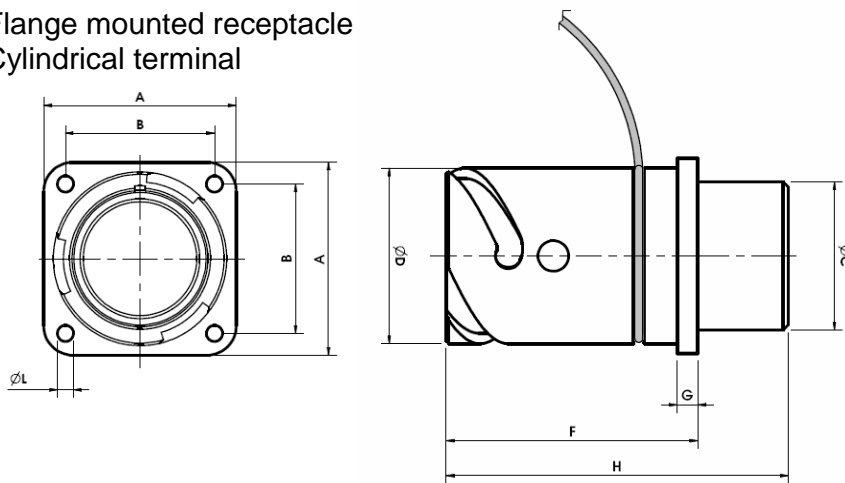


CVB-EX 1 - when used as inline receptacle requires a back shell.
 Provided UNEF thread



Size	A	B	C	L	D	F	G	H
16S	37	32	7/8"-20 UNEF-2A	3.1	27.4	40.6	6.5	53.8
18	40	34	1"-20 UNEF-2A	3.1	30.8	45.1	8	66.8
20	44	40	1/8-18 UNEF-2A	3.1	34.2	45.1	8	66.8

CVB-EX 2
 Flange mounted receptacle
 Cylindrical terminal



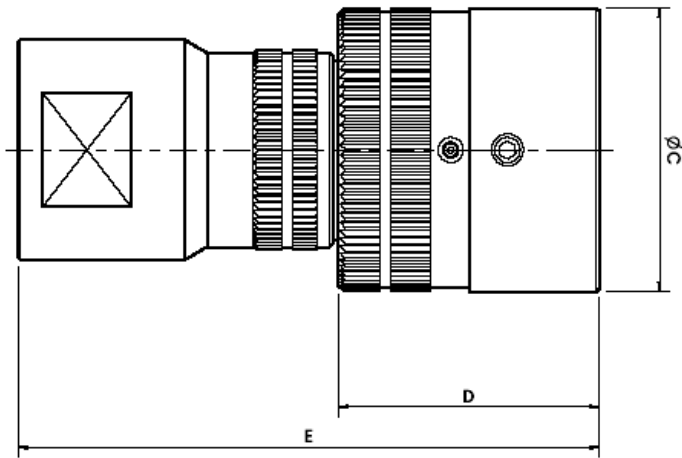
Size	A	B	C	L	D	F	G	H
16S	32.5	24.6	22.4	3.1	27.4		3.2	
18	34.9	27	25.6	3.1	30.8	45.1	4	63.1
20	38.1	29.4	28.8	3.1	34.2	45.1	4	63.1



CVB-EX 6

Inline Plug

It always requires a back shell



SIZE	C	D	E
16S	38	33.5	
18	41.6	41.5	
20	45	41.5	

E dimension depends on back shell version

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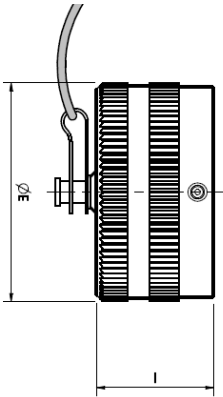
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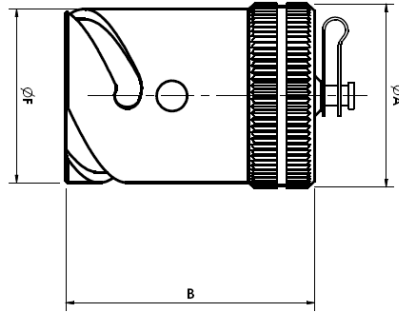
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**Caps
TVB-1**



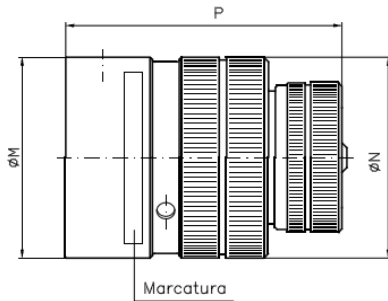
Size	E	I
16s	33	16
18	38	21.7
20	40.5	21.7

TVB-6



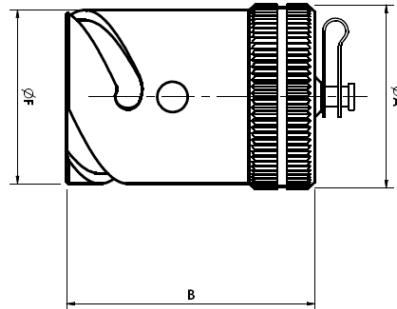
Size	A	B	F
16s	29.8	43.2	27.4
18	33	50.2	30.8
20	36.5	5.02	34.2

TVB-Ex 1



Size	M	N	P
16s	38	38	48
18	41.6	41.6	58
20	45	45	58

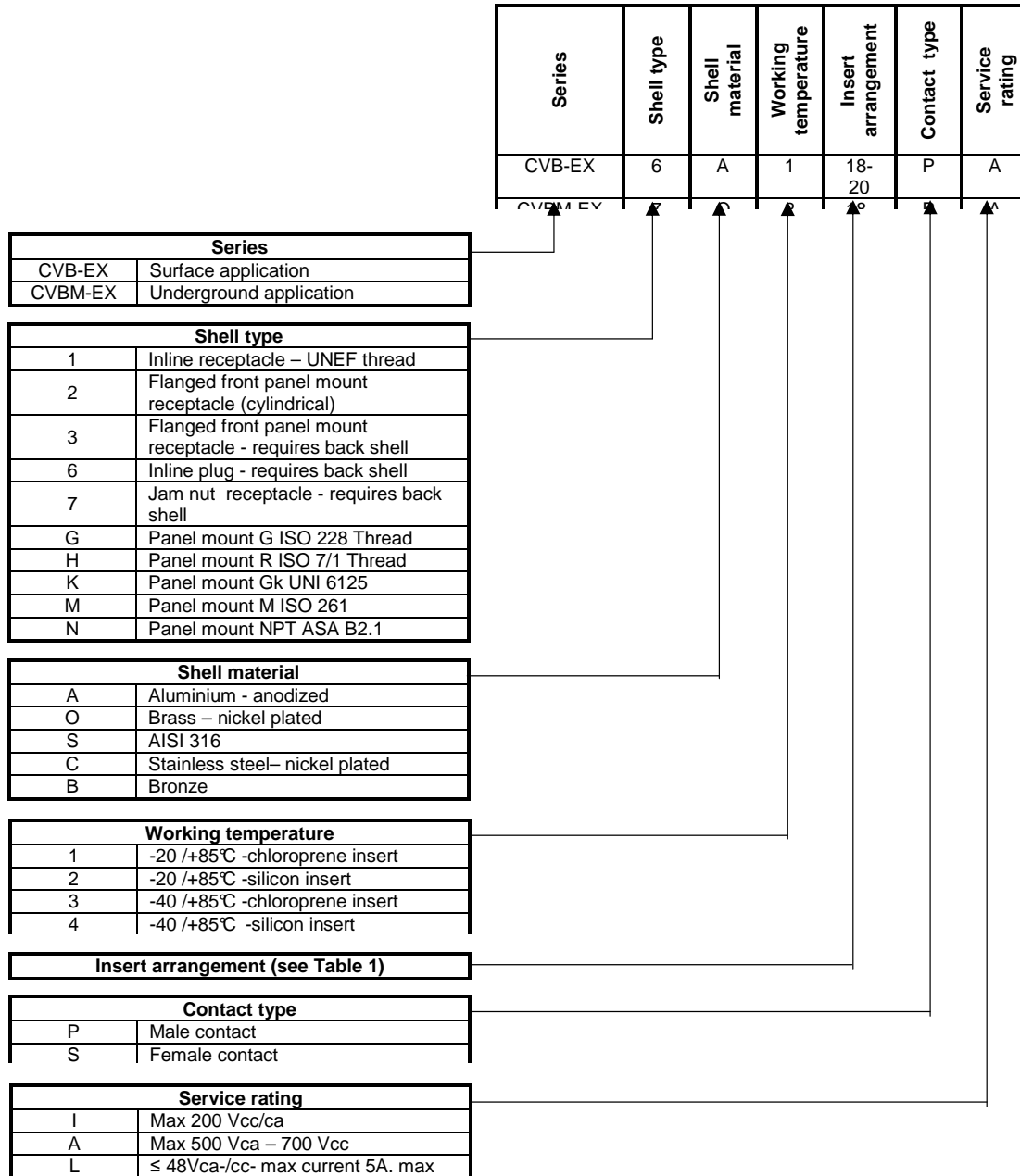
TVB-Ex-6



Size	A	B	F
16s	29.8	43.2	27.4
18	33	50.2	30.8
20	36.5	5.02	34.2

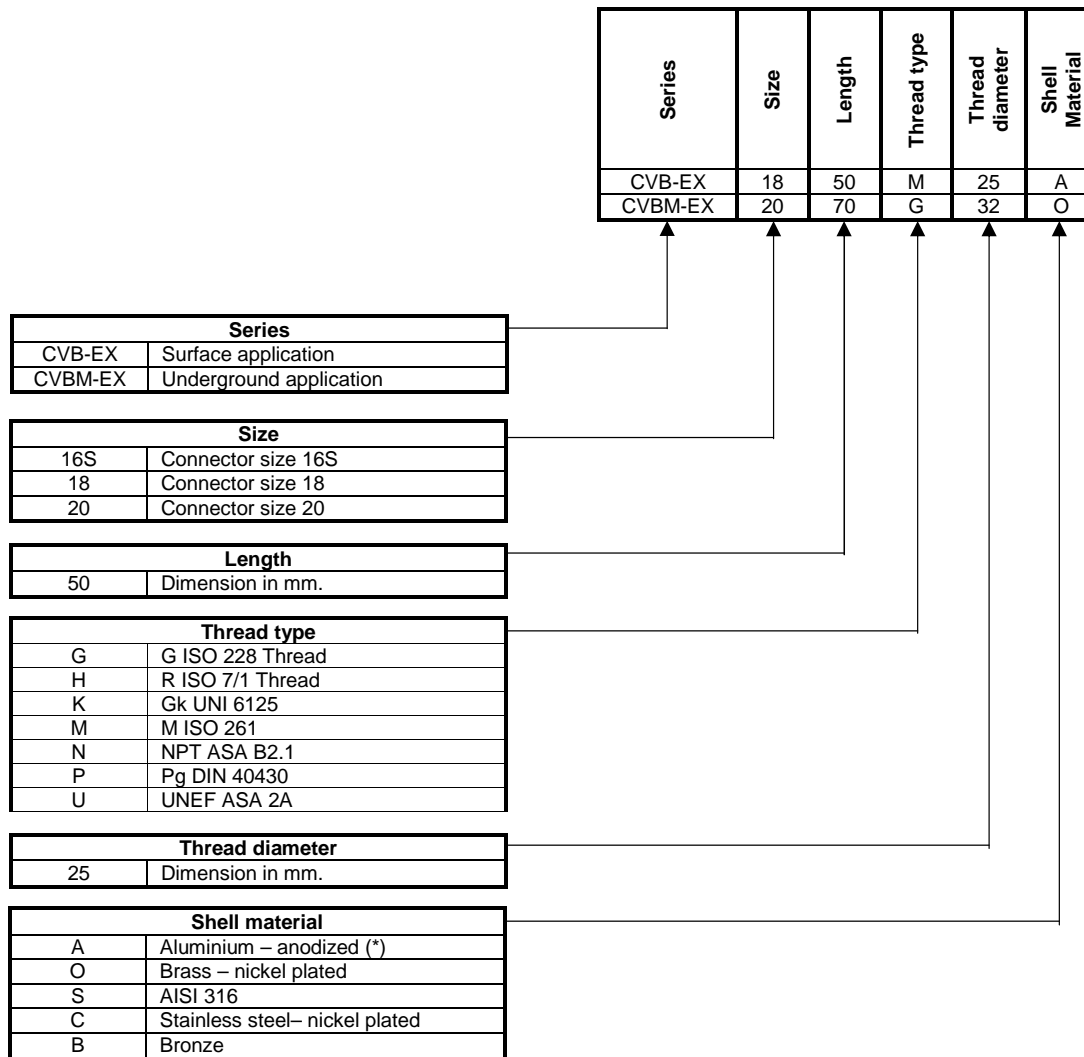


Connectors P/N explanation



Back shell P/N explanation

Plugs and some types of receptacle are supplied with back shell.



(*) Not for CVBM



Caps P/N explanation

CVB-EX normally requires caps.

Two caps versions are available:

- simple protection
- explosion proof

Series	EX	Type	Material	Working Temperature	Size	Arrangement	Pilot contacts	Modification code
TVB	-EX	1	A	1	16S	-1		
TVBM	-EX	6	O	2	20	-33	C	

Series	
TVB	Surface application
TVBM	Underground application

EX	
-	Standard cap
-EX	ATEX cap

Type	
1	For receptacles
6	For plugs

Material	
A	Aluminium – anodized (*)
O	Brass – nickel plated
S	AISI 316
C	Stainless steel– nickel plated
B	Bronze

(*) Not for TVBM

Working temperature (-EX only)	
0	-40 /+135°C (**)
1	-20 /+135°C (chloroprene)
4	-40 /+135°C (silicon)

(**) Referred to version w/out pilot circuit – silicon gasket

Size	
16S	For connector size 16S
18	For connector size 18
20	For connector size 20

Connector's arrangement (see Table 1)	

Pilot circuit (-EX only)	
S	Absent
B	Pin contacts
C	Socket contacts
D	Pin contacts and diode
E	Socket contacts and diode

Modification as specification codes	
-	Absent

