



Power Connector PC1-EX Size S1 - Ex

INTRODUCTION

Cavotec Connectors develops electrical connectors that improve performance and protect critical applications in demanding environments.

The Cavotec PC1-EX is an Ex rated connector designed for hazardous environment and provides a safe and easy power supply in applications such as:

- Oil and gas – Petro-chemical – Mining – Offshore – Airport

Cavotec S1 compact and light design was possible with Cavotec's MWT technology enabling smaller pins to take high current with a minimal voltage drop. Its quick disconnect features are well appreciated for the power supply of top drives, pumps and motors as well as low current applications such as portable lights, hand tools and signalling.

PRODUCT FEATURES

- Maximum voltage 690V, currents up to 30A
- 5 pole insulator assembly covering cable sizes 1,5mm², 2,5mm² and 4mm²
- Certifications/Compliances: NEMKO 13ATEX1571; IECEx NEM 14.0009 / EN 60079-0: 2012, EN 60079-1: 2007
- Ex Classification:



I M2 Ex d I Mb, -20°C ≤ Tamb ≤ +60°C
II 2G Ex d IIC T6 Gb, -20°C ≤ Tamb ≤ +60°C

- IP66 (when mated or capped – if not, protection with covers secured with a retention wire)
- Plug & socket connection through the nut, interlocked by the stopper and screw
- Standard finishes: bronze – Hardware in stainless steel
- Pins:
 - Female contacts, male pins and cable terminals are made of silver plated brass
 - High safety standard with pilot pin being shorter than the phase pins ensuring they must be connected to a circuit breaker and touching live pins
 - Interchangeable pins without dismantling the connector
- De-energize all circuits before separating
- Easy wiring with male and female insulators fully interchangeable (between plug and socket) made in Grivory HTV-4H1
- Cable terminals suit for cables of class 5, IEC 60228 – Screwed-in design for a quick and easy mounting procedure
- Cable glands: selected with sufficient Ex rating, IP66 and a continuous operating temperature up to +70°C – To be ordered separately (depending on the cable type specification)



Cavotec Connector Plug



Cavotec Connector Socket




Cavotec Connector Size 1

CERTIFICATION AND NORMS

The ATEX/IECEx certification has been made according to ATEX Directive 94/9/EC and IECEx 02, EN 60079-1, IEC 60309-2, and the certifying body is NEMKO of Norway.

The issued certificates are:

- NEMKO 05ATEX4254Q - (Cavotec Connectors)
- NEMKO 13ATEX1571 - (PC1 - Ex - S1)
- IECEx NEM 14.0009
- The classification is:

 I M2 Ex d I Mb, $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$
II 2G Ex d IIC T6 Gb, $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$

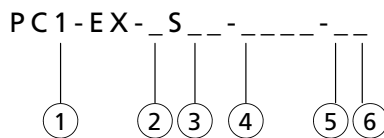


SPECIAL TOOLS

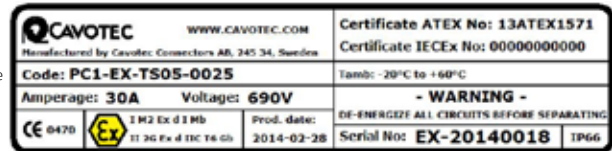
- Socket wrench, NV5 440/5, machined, for multipole/PC1 (PCX-92001-0051)
- Tool for pins (PCX-97003-5020)
- 5 mm tool for female contacts, machined for multi pole, ¼"DR.5 (PCX-92003-0051)

CODE GUIDE & FACTORY MARKING PLATE

Plug example: PC1-EX-SS05-0025



- ① Power Connector Size
- ② S = Plug
T = Inverted Plug
V = Socket
W = Inverted Socket
- ③ N° of pins
- ④ Cross section of cable (1,5; 2,5;4mm²)
- ⑤ Alternative keying (2, 4, 6, 8, 10 and 12)
Plug example: PC1-EX-SS05-0025-8
- ⑥ Housing material off standard (Bronze)



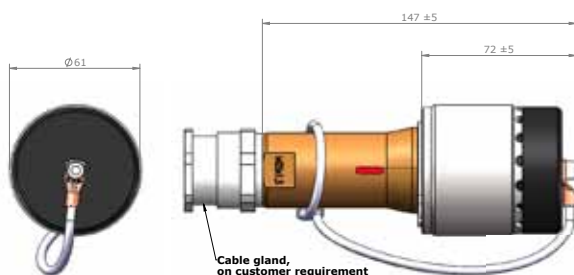
PLUG/INVERTED PLUG, SCREW RING

No Pins (P&E+pil)	Max voltage (AC) Phase	Pin Ø / Max current mm/A	Weigh kg	Cross section	Current limitations recommended CC A	Plug Male Pins Product Code	Inv. Plug: Female Female Contacts Product Code
3ph+N/P+E	690	3/30	1	1,5mm ²	20	PC1-EX-SS05-0015	PC1-EX-TS05-0015
				2,5mm ²	30	PC1-EX-SS05-0025	PC1-EX-TS05-0025
				4mm ²	30	PC1-EX-SS05-0040	PC1-EX-TS05-0040

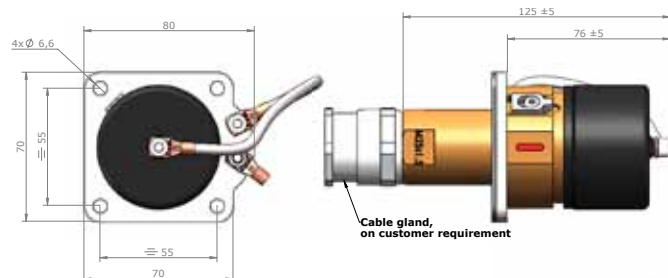
SOCKET/INVERTED SOCKET

No Pins (P&E+pil)	Max voltage (AC) Phase	Pin Ø / Max current mm/A	Weigh kg	Cross section	Current limitations recommended CC A	Socket Female Contacts Product Code	Inv. Socket: Female Male Pins Product Code
3ph+N/P+E	690	3/30	1.1	1,5mm ²	20	PC1-EX-VS05-0015	PC1-EX-WS05-0015
				2,5mm ²	30	PC1-EX-VS05-0025	PC1-EX-WS05-0025
				4mm ²	30	PC1-EX-VS05-0040	PC1-EX-WS05-0040

TECHNICAL DRAWING





















Overall dimensions of the plug



Overall dimensions of the socket

POWER CONNECTORS PRODUCT RANGE

Size	Connection type	Model name	Keying position	Accessories	Certifications	1-pole	3-pole	4-pole			5-pole	8-pole	13-pole	18-pole	25-pole	24, 30 & 37-pole	50-pole				
PC1	Screw Ring	S1	12								40A 690V 4mm ²	20A 415V 2,5mm ²	10A 230V 1,5mm ²	10A 230V 1,5mm ²							
	Screw Ring	S1	2, 4, 6, 8, 10, 12		ATEX & IECEx 						30A 690V 4mm ²	20A* 415V* 2,5mm ²	10A* 230V* 1,5mm ²	10A* 230V* 1,5mm ²							
PC2	Push&Pull	X2	2, 3, 4, 5, 6, 7, 8, 9, 10, 12 Insulator keying: 1-11	Low interlocking (PC2-VL) Wall bracket Screw terminals		660A 690V 300mm ²	250A 690V 70mm ²	200A 690V 50mm ²			200A 415V 50mm ²			40A 500V 4mm ²	40A 50V 4mm ²						
	Bayonet	B2	Double keying 1-11 55 options		ATEX & IECEx 	660A 690V 300mm ²	250A 690V 70mm ²	200A 690V 50mm ²			200A 415V 50mm ²			40A 500V 4mm ²	40A 50V 4mm ²						
PC3	Eye Bolt	K3						170A 1,1kV 50mm ²													
PC4	Push&Pull	X4	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	External FO 6ch Screw terminals				250A 1,1kV 70mm ²			200A 1,1kV 70mm ²					40A 500V 4mm ²					
	Screw Ring	S4	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	Short bell				250A 1,1kV 70mm ²			200A 1,1kV 70mm ²										
	Eye Bolt	K4						250A 1,1kV 70mm ²													
PC5	Push&Pull	X5	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	External FO 12ch Internal FO 8ch Screw terminals Kirk Key interlock Wall bracket				420A 1,1kV 185mm ² Internal fiber optic	350A 7,2kV 150mm ² 								40A 500V 4mm ²				
	Screw Ring	S5	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	Internal FO 8ch Screw terminals				420A 1,1kV 185mm ² Internal fiber optic	350A 7,2kV 150mm ²		350A 1,1kV 185mm ²										
PC6	Push&Pull	X6	6.12	External FO 18ch Internal FO 12ch Screw terminals Kirk Key interlock Wall bracket				660A 1,1kV 300mm ² Internal fiber optic	480A 7,2kV 240mm ² Internal fiber optic	500A 12kV 185mm ²	480A 1,1kV 300mm ²										
	Screw Ring	S6	6.12					660A 1,1kV 300mm ²			660A 1,1kV 300mm ²										
PC7	Eye Bolt	K7						400A 8kV 185mm ²													
PC8	Eye Bolt	K8						440A 15kV 120mm ²													
PC9	Eye Bolt	K9						440A 25kV 150mm ²													

*Available Q2 2015