Electrical Power Connectors



Manufactured by **Cavotec Connectors**



Electrical Power Connectors

Who we are

Cavotec is a multi-national group of companies serving the following industries: mining and tunnelling, ports and maritime, steel and aluminium, energy and offshore, airports, general industry and automation. In the early 1960's our main focus was the design and production of motorised cable reels primarily for manufacturers of tower cranes, harbour cranes and mining equipment. Today, Cavotec is connecting mobile equipment around the world in many diverse applications.

Where we are

The Cavotec Group consists of 7 manufacturing "Centres of Excellence" located in Canada, France, Germany, Italy, Norway and Sweden and by 5 local manufacturing units located in Australia, China, Germany and the USA. For the distribution of products and providing support to customers Cavotec has 25 sales companies which, together with a network of distributors, serve more than 30 countries in five continents. The ultimate objective is to be perceived as "local everywhere".

How we work

Our aim is to work closely with our customers in order to build long-term partnerships. To achieve this aim we have created a working environment that attracts the best people, encourages them to stay and brings out their best qualities. By producing totally reliable systems and backing them with efficient service, we strive to create true customer satisfaction.













Electrical Power Connectors

Cavotec Connector's products and technology are used world-wide in many different industrial applications. These industrial applications are found in ports & terminals, mining and tunnelling, railways, steel and aluminium plants, mobile generator sets, off-shore, and other industrial mobile machines.

Cavotec Connector's products are mainly power connectors up to 660 Amp, 25kV, complete with electrical panels made from of standard components and control and signal connectors for up to 50 core cables. The manufactured products are distributed around the world by the Cavotec Sales Companies as well as by a network of selected distributors.

Cavotec Group Organisation

As shown here the Cavotec Group is organized to support its customers around the world through its manufacturing units and sales companies. Each Cavotec manufacturing company, no matter where it is located, aims at being a market leader in its field by providing innovative and reliable products to Group customers. Each Cavotec sales company, in the 25 countries where they operate, aims at better serving its local market following the Group philosophy "to be local everywhere".

Manufacturing network

Centres of Excellence

Canada

Cavotec Gantrex Canada Crane Rail Systems

France

Cavotec RMS
Spring Driven Reels

Germany

Cavotec Alfo
Spring Driven Reels
Slipring Columns
Cavotec Fladung

Cavotec Fladung
Aircraft Support Systems
Security Systems

Italy

Cavotec Specimas Motorized Cable Reels Panzerbelt Cable Protection Slipring Columns

Norway

Cavotec Micro-control Radio Remote Controls

Sweden

Cavotec Connectors *Electrical Plugs & Sockets*

New Zealand

Cavotec MoorMaster Automated Mooring Systems

Local Manufacturing

Australia

Cavotec Australia Motorized Cable Reels

China

Cavotec China Product Assembly

Sweden

Cavotec Sweden
Product Assembly

USA

Cavotec USA
Product Assembly

Group Partners

Belgium

Gantry *Crane Rail Systems*

Italy

Brevetti Stendalto Cable Chains Prysmian (Pirelli) Flexible Cables Tratos Cavi Flexible Cables

Sales network

Cavotec Sales Companies

Cavotec Australia
Cavotec Belgium*
Cavotec BeNeLux
Cavotec Brazil*
Cavotec Chile
Cavotec China
Cavotec Denmark
Cavotec Finland
Cavotec France
* Branch Office

Cavotec Germany
Cavotec Hong Kong
Cavotec India
Cavotec Italy
Cavotec Korea
Cavotec Latin America
Cavotec Mexico
Cavotec Middle East
Cavotec Norway

Cavotec Russia*
Cavotec Singapore
Cavotec Sweden
Cavotec Turkey*
Cavotec UK & Ireland
Cavotec USA

Cavotec Gantrex Canada Cavotec Gantrex South Africa





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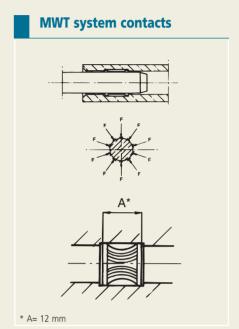
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General Information

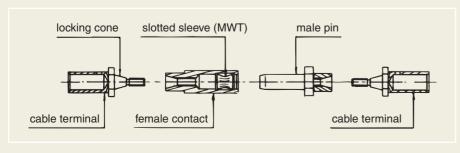
All our connectors featured in this catalogue are electrically interlocked by the pilot contacts. During the actual connection and disconnection process, the shortest pilot pin is the last one to make contact and the first one to break contact. Our power connectors can also be delivered with mechanical interlocking at the request of the customer.

The MWT system

Cavotec power connectors make use of a special technique using lammelar technology with multicontacts (Multi-Way Technology). The lamellar system MWT greatly improves the contact between the male pin and female contact. When the MWT becomes warm it expands thus increasing the contact pressure between the surfaces. This additional contact pressure allows for an exceptional current-carrying capacity relative to the size of the contacts and makes connecting and disconnecting the plug and socket easier.







MWT system contacts

Nominal Amperage
40
64
100
125
200
250
320
420
500
640
800
1000

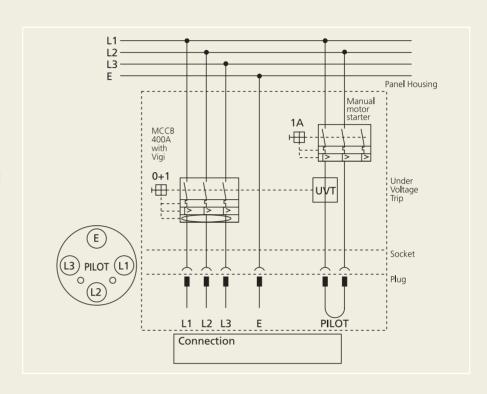
Spring loaded contacts

PIN Diameter (mm)	Nominal Amperage
3	25
4	35
6	55
9	100
20	800
25	1000

Norms and Regulations

All our connectors are electrically interlocked by the pilot contacts. To the right is a typical circuit for the pilot contacts where the pins are loop connected and the female pilot contacts are connected to the operating coil terminals of the switching device. For safety reasons, the pilots are last to connect and first to disconnect. This insures that no disconnection under load can take place. Mechanical interlocking can be provided on request.

All materials are made of marine grade aluminium and bronze. All sockets are delivered with a cover. All connectors are manufactured in accordance with NFC 63300 rules.





Power supply centre for a welding machine in Aker Shipyard, Finland.

Standards we refer to:

To ensure our high quality standard the complete product is made out of marine grade aluminium and bronze. All sockets are delivered standard with a cover. All power connectors are made in accordance with NFC 63300 rules.

Cavotec Power Connector confirm to the following standards, where applicable: NFC 20 040, VDE 0110, NFC 63300 IEC 309-1, CEE 17, BS 4343 IEC 529, DIN 40050, NFC 20010

Standard inter-protection is IP 667 on all our connectors
Standard inter-protection is IP 557 on all our power units
The standard max temperature for Cavotec connectors up 1100V is 80°C.
The high temperature range for Cavotec connectors is available for max 400°C.
Our High Voltage Push & Pull connectors are tested according to VDE 0432 List 2.

Definition of material criteria

CTI = Cross Tracking Index
PPO have a CTI = 400 moulded std insulators
POM have a CTI > 400 < 600 tooled insulators
PP have a CTI > 600 moulded insulators for IEC 309-2

Low Voltage Power Connectors < 1100V

LOW VOLTAGE

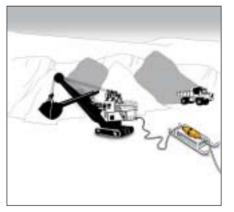
Cavotec Power Connectors for low voltage applications are robustly designed plugs and sockets for use in harsh and difficult environments. They are standard IP 66 protected and have a standard maximum temperature of 80°C. On request the maximum temperature range can be adjusted to withstand a maximum of 400°C.

Our range of power connectors for low voltage comes in various different sizes and two different operation systems. The first is the 'Push & Pull' system which has been designed to operate in environments where the connectors have to be disconnected manually or automatically several times a day. The second system consists of a connector fitted with a screw ring. This system is designed for applications where the connectors have to be disconnected by hand on a day-to-day or weekly basis. The screw ring is a fast thread with a large tolerance allowing dirt or similar material into the grooves without failure in operation.

Thanks to their robustness and versatility our power connectors are often chosen for applications in mines, tunnelling, marine applications, steel works, railways, ports, bulk and container terminals.

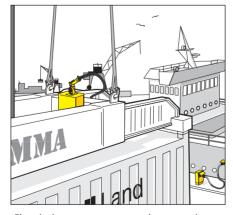


Electrical connectors are used for mobile generator sets for telecomunication networks, open pit mines and other major users of electrical power.





The illustration shows a complete electrical panel including contactor, power switch and connector for mining and tunnelling applications.



Electrical connectors are used on container spreaders and in container terminals as well as for land connection of ships, ferries, icebreakers, military vessels and in many off-shore applications. A normal application is the power supply to harbour cranes.

Size X2 Power Connector ≤ 660A Push & Pull system

Cavotec Power Connectors for low voltage applications are robustly designed plugs and sockets for use in harsh and difficult environments. They are standard IP 66 protected and have a standard maximum temperature of 80°C. On request the maximum temperature range can be adjusted to withstand a maximum of 400°C.

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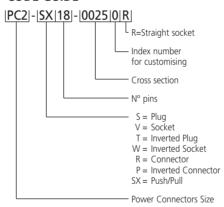
PG LENGTH TABLE Cable Gland Type SD with set screws

PG42= 32mm, cable ø 34-45mm PG36= 29mm, cable ø 26-35mm PG29= 26mm, cable ø 16-28mm PG21= 26mm, cable ø 10-20mm

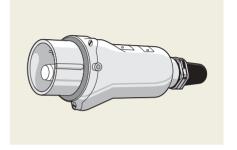
Type ZES with strain bearing

PG42= 43mm, cable ø 34-40mm PG36= 41mm, cable ø 24-34mm PG29= 34mm, cable ø 19-28mm PG21= 32mm, cable ø 13-20mm

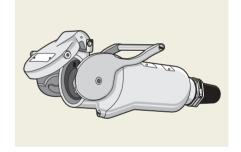
CODE GUIDE



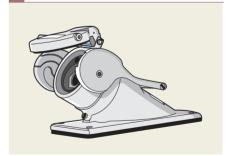
Plug/Inverted Plug, straight Push & Pull



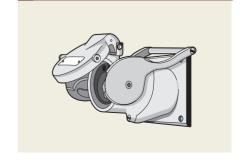
Connector, straight Push & Pull



Socket/Inverted Socket, 30° Push & Pull

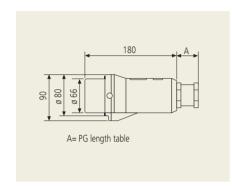


Socket/Inverted Socket, 90° Push & Pull



Size X2 Power Connector ≤ 660A Push & Pull system

Low Voltage

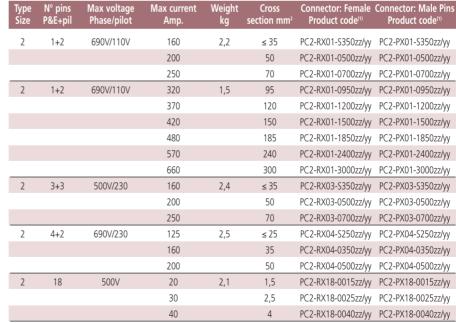


Plug/Inverted Plug, straight Push & Pull

_		J	_				
Type Size	N° pins P&E+pil	Max voltage Phase/pilot	Max current Amp.	Weight kg	Cross section mm ²	Plug: Male Pins Product code ⁽¹⁾	Inv. plug: Female Product code ⁽¹⁾
2	1+2	690V/110V	160	1,1	≤ 35	PC2-SX01-S350zz/yy	PC2-TX01-S350zz/yy
			200		50	PC2-SX01-0500zz/yy	PC2-TX01-0500zz/yy
			250		70	PC2-SX01-0700zz/yy	PC2-TX01-0700zz/yy
2	1+2	690V/110V	320	1,5	95	PC2-SX01-0950zz/yy	PC2-TX01-0950zz/yy
			370		120	PC2-SX01-1200zz/yy	PC2-TX01-1200zz/yy
			420		150	PC2-SX01-1500zz/yy	PC2-TX01-1500zz/yy
			480		185	PC2-SX01-1850zz/yy	PC2-TX01-1850zz/yy
			570		240	PC2-SX01-2400zz/yy	PC2-TX01-2400zz/yy
			660		300	PC2-SX01-3000zz/yy	PC2-TX01-3000zz/yy
2	3+3	500V/230	160	1,3	≤ 35	PC2-SX03-S350zz/yy	PC2-TX03-S350zz/yy
			200		50	PC2-SX03-0500zz/yy	PC2-TX03-0500zz/yy
			250		70	PC2-SX03-0700zz/yy	PC2-TX03-0700zz/yy
2	4+2	690V/230	125	1,4	≤ 25	PC2-SX04-S250zz/yy	PC2-TX04-S250zz/yy
			160		35	PC2-SX04-0350zz/yy	PC2-TX04-0350zz/yy
			200		50	PC2-SX04-0500zz/yy	PC2-TX04-0500zz/yy
2	18	500V	20		1,5	PC2-SX18-0015zz/yy	PC2-TX18-0015zz/yy
			30		2,5	PC2-SX18-0025zz/yy	PC2-TX18-0025zz/yy
			40		4	PC2-SX18-0040zz/yy	PC2-TX18-0040zz/yy

Part number for optional plug cover is PCX-01602-007

Connector, straight Push & Pull

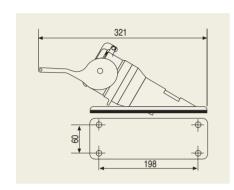


⁽¹⁾ zz, in product code stands for key position; yy, in product code stands for cable gland size.

			,,	,,
ZZ	key position	yy=Pg size	IP	Cable diameter (mm)
2	2	29	68	ø = 19-28
3	3	29	55	ø = 19-28
4	4	36	68	ø = 26-35
5	5	36	55	ø = 24-34
6	6	42	68	ø = 35-45
7	7	42	55	ø = 34-40
8	8	NOTE: specif	y cable diam.	on order
9	9			
10	10			
12	12 + all position marked (spare when several key positions are used)			
blank	12 (standard)			

A= PG length table

High temperature insulators and a fixing plate for wall mounting etc. of plug and connector are available.



Socket/Inverted Socket, 30° Push & Pull

Type Size	N° pins P&E+pil	Max voltage Phase/pilot	Max current Amp.	Weight kg	Cross section mm²	Socket: Female Product code	Inv. Socket: Male Pins Product code
2	1+2	690V/110V	160	2,2	≤ 35	PC2-VX01-S350zz/yy	PC2-WX01-S350zz/yy
			200		50	PC2-VX01-0500zz/yy	PC2-WX01-0500zz/yy
			250		70	PC2-VX01-0700zz/yy	PC2-WX01-0700zz/yy
2	1+2	690V/110V	320	1,5	95	PC2-VX01-0950zz/yy	PC2-WX01-0950zz/yy
			370		120	PC2-VX01-1200zz/yy	PC2-WX01-1200zz/yy
			420		150	PC2-VX01-1500zz/yy	PC2-WX01-1500zz/yy
			480		185	PC2-VX01-1850zz/yy	PC2-WX01-1850zz/yy
			570		240	PC2-VX01-2400zz/yy	PC2-WX01-2400zz/yy
			660		300	PC2-VX01-3000zz/yy	PC2-WX01-3000zz/yy
2	3+3	500V/230	160	2,4	≤ 35	PC2-VX03-S350zz/yy	PC2-WX03-S350zz/yy
			200		50	PC2-VX03-0500zz/yy	PC2-WX03-0500zz/yy
			250		70	PC2-VX03-0700zz/yy	PC2-WX03-0700zz/yy
2	4+2	690V/230	125	2,5	≤ 25	PC2-VX04-S250zz/yy	PC2-WX04-S250zz/yy
			160		35	PC2-VX04-0350zz/yy	PC2-WX04-0350zz/yy
			200		50	PC2-VX04-0500zz/yy	PC2-WX04-0500zz/yy
2	18	500V	20	2,1	1,5	PC2-VX18-0015zz/yy	PC2-WX18-0015zz/yy
			30		2,5	PC2-VX18-0025zz/yy	PC2-WX18-0025zz/yy
			40		4	PC2-VX18-0040zz/yy	PC2-WX18-0040zz/yy

High temperature insulators are available.

Socket/Inverted Socket, 90° Push & Pull

Type Size	N° pins P&E+pil	Max voltage Phase/pilot	Max current Amp.	Weight kg	Cross section mm ²	Socket: Female Inv. Socket: Male Pin Product code Product code
2	1+2	690V/110V	160	1,8	≤ 35	PC2-VX01-S350Rzz/yy PC2-WX01-S350Rzz/y
			200		50	PC2-VX01-0500Rzz/yyPC2-WX01-0500Rzz/yy
			250		70	PC2-VX01-0700Rzz/yy PC2-WX01-0700Rzz/y
2	1+2	690V/110V	320	2,2	95	PC2-VX01-0950Rzz/yyPC2-WX01-0950Rzz/yy
			370		120	PC2-VX01-1200Rzz/yy PC2-WX01-1200Rzz/y
			420		150	PC2-VX01-1500Rzz/yyPC2-WX01-1500Rzz/yy
			480		185	PC2-VX01-1850Rzz/yyPC2-WX01-1850Rzz/yy
			570		240	PC2-VX01-2400Rzz/yy PC2-WX01-2400Rzz/y
			660		300	PC2-VX01-3000Rzz/yy PC2-WX01-3000Rzz/y
2	3+3	500V/230	160	2,0	≤ 35	PC2-VX03-S350Rzz/yy PC2-WX03-S350Rzz/yy
			200		50	PC2-VX03-0500Rzz/yyPC2-WX03-0500Rzz/yy
			250		70	PC2-VX03-0700Rzz/yy PC2-WX03-0700Rzz/y
2	4+2	690V/230	125	2,1	≤ 25	PC2-VX04-S250Rzz/yy PC2-WX04-S250Rzz/yy
			160		35	PC2-VX04-0350Rzz/yyPC2-WX04-0350Rzz/yy
			200		50	PC2-VX04-0500Rzz/yy PC2-WX04-0500Rzz/y
2	18	500V	20	1,7	1,5	PC2-VX18-0015Rzz/yyPC2-WX18-0015Rzz/yy
			30		2,5	PC2-VX18-0025Rzz/yyPC2-WX18-0025Rzz/yy
			40		4	PC2-VX18-0040Rzz/yy PC2-WX18-0040Rzz/y

 $^{^{\}scriptscriptstyle{(1)}}$ zz, in product code stands for key position.

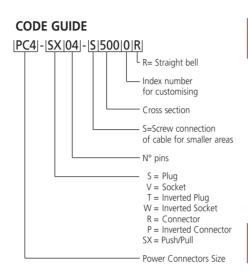
zz key position
2 2
3 3
4 4
5 5
6 6
7 7
8 8
9 9
10 10
12 12 + all pos
(spare when
blank 12 (standard

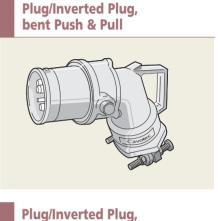
Size X4 Power Connector ≤ 250A, 1100V Push & Pull system

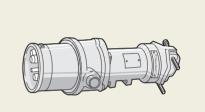
Low Voltage

The X4 size power connector with Push & Pull system is often used on applications where the connector has to frequently be connected and disconnected, either by hand or automatically. Thanks to their robust design these connectors are often used in harsh environments such as steel mills, mines, ports, terminals, etc.

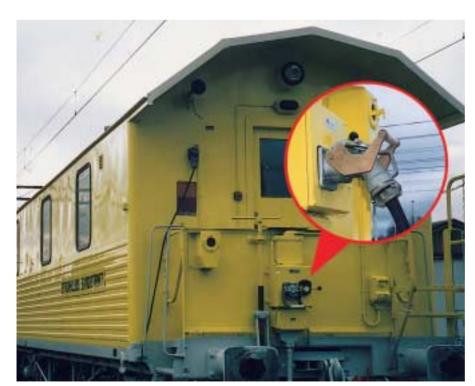
The cams are made from marine grade bronze while the mating ears in the plugs are from stainless steel. The connector has IP66 protection when connected.



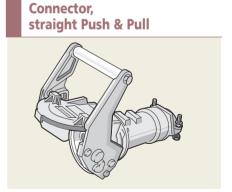


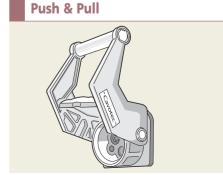


straight Push & Pull

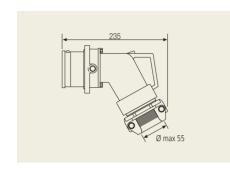


The above photo shows a typical connector application on a ballast service wagon of the Swedish Railways (Banverket).





Socket/Inverted Socket,

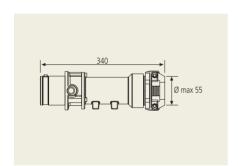


Plug/Inverted Plug, bent Push & Pull

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
4	4	160	1,9	≤ 35	PC4-SX04-S350	PC4-TX04-S350
		200		50	PC4-SX04-0500	PC4-TX04-0500
		250		70	PC4-SX04-0700	PC4-TX04-0700
4	5	125	1,9	≤ 25	PC4-SX05-S250	PC4-TX05-S250
		160		35	PC4-SX05-0350	PC4-TX05-0350
		200		50	PC4-SX05-0500	PC4-TX05-0500
		200		70	PC4-SX05-0700	PC4-TX05-0700

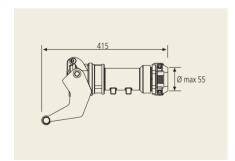
Part number for optional plug cover is PCX-01614-006

Plug/Inverted Plug, straight Push & Pull



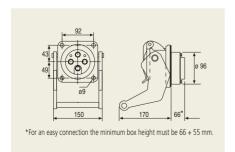
Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
4	4	160	1,8	≤ 35	PC4-SX04-S350R	PC4-TX04-S350R
		200		50	PC4-SX04-0500R	PC4-TX04-0500R
		250		70	PC4-SX04-0700R	PC4-TX04-0700R
4	5	125	1,8	≤ 25	PC4-SX05-S250R	PC4-TX05-S250R
		160		35	PC4-SX05-0350R	PC4-TX05-0350R
		200		50	PC4-SX05-0500R	PC4-TX05-0500R
		200		70	PC4-SX05-0700R	PC4-TX05-0700R

Connector, straight Push & Pull



Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Connector: Female Product code	Inv.connector: Male Product code
4	4	160	4,8	≤ 35	PC4-RX04-S350	
		200		50	PC4-RX04-0500	
		250		70	PC4-RX04-0700	
4	5	125	4,8	≤ 25	PC4-RX05-S250	
		160		35	PC4-RX05-0350	
		200		50	PC4-RX05-0500	
		200		70	PC4-RX05-0700	

Socket/Inverted Socket, Push & Pull



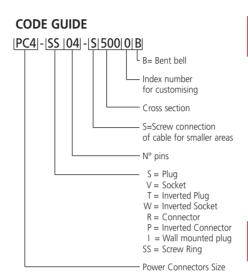
Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm ²	Socket: Female Product code	Inv.socket: Male Product code
4	4	160	1,9	≤ 35	PC4-VX04-S350	PC4-WX04-S350
		200		50	PC4-VX04-0500	PC4-WX04-0500
		250		70	PC4-VX04-0700	PC4-WX04-0700
4	5	125	1,9	≤ 25	PC4-VX05-S250	PC4-WX05-S250
		160		35	PC4-VX05-0350	PC4-WX05-0350
		200		50	PC4-VX05-0500	PC4-WX05-0500
		200		70	PC4-VX05-0700	PC4-WX05-0700

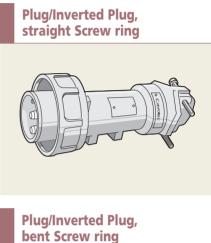
Size S4 Power Connector ≤ 250A, 1100V Screw Ring system

Low Voltage

The size S4 power connector has a screw ring and is designed for use in harsh environments where the connector only needs to be disconnected every other day. The screw type is a fast thread with a large tolerance which allows dirt or similar material into the grooves without causing any operational failure.

The sockets come standard with a cover whereas the connector can be supplied with a cover on request. The connector has IP66 protection when connected.



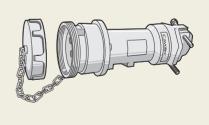




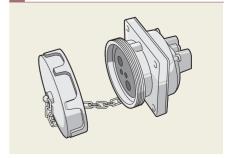


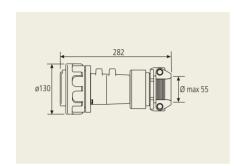
This photograph shows a Cavotec Connectors power unit used to supply power to a shotcrete machine.





Socket/Inverted Socket, Screw ring





Plug/Inverted Plug, straight Screw ring

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
4	4	160	2,4	≤ 35	PC4-SS04-S350	PC4-TS04-S350
		200		50	PC4-SS04-0500	PC4-TS04-0500
		250		70	PC4-SS04-0700	PC4-TS04-0700
4	5	125	2,4	≤ 25	PC4-SS05-S250	PC4-TS05-S250
		160		35	PC4-SS05-0350	PC4-TS05-0350
		200		50	PC4-SS05-0500	PC4-TS05-0500
		200		70	PC4-SS05-0700	PC4-TS05-0700

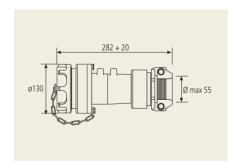
Part number for optional plug cover is PCX-01604-007

Plug/Inverted Plug, bent Screw ring

255 Ø 130 Ø max 55

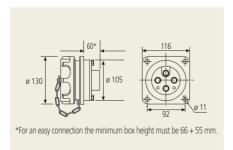
Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
4	4	160	2,5	≤ 35	PC4-SS04-S350B	PC4-TS04-S350B
		200		50	PC4-SS04-0500B	PC4-TS04-0500B
		250		70	PC4-SS04-0700B	PC4-TS04-0700B
4	5	125	2,5	≤ 25	PC4-SS05-S250B	PC4-TS05-S250B
		160		35	PC4-SS05-0350B	PC4-TS05-0350B
		200		50	PC4-SS05-0500B	PC4-TS05-0500B
		200		70	PC4-SS05-0700B	PC4-TS05-0700B

Connector, straight Screw ring



Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Connector: female Product code	Inv.connector: Male Product code
4	4	160	2,7	≤ 35	PC4-RS04-S350	
		200		50	PC4-RS04-0500	
		250		70	PC4-RS04-0700	
4	5	125	2,7	≤ 25	PC4-RS05-S250	
		160		35	PC4-RS05-0350	
		200		50	PC4-RS05-0500	
		200		70	PC4-RS05-0700	

Socket/Inverted Socket, Screw ring



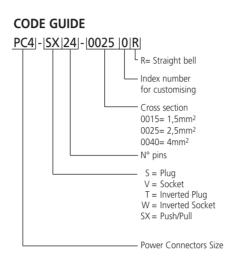
Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Socket. female Product code	Inv.connector: Male Product code
4	4	160	1,7	≤ 35	PC4-VS04-S350	PC4-WS04-S350
		200		50	PC4-VS04-0500	PC4-WS04-0500
		250		70	PC4-VS04-0700	PC4-WS04-0700
4	5	125	1,7	≤ 25	PC4-VS05-S250	PC4-WS05-S250
		160		35	PC4-VS05-0350	PC4-WS05-0350
		200		50	PC4-VS05-0500	PC4-WS05-0500
		200		70	PC4-VS05-0700	PC4-WS05-0700

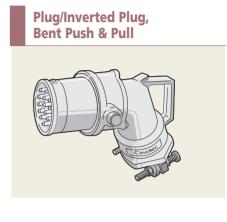
Size X4/X5 Multipin Connector 500V Push & Pull system

Low Voltage

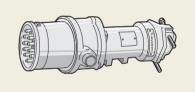
The X4/5 size multipin connector with Push & Pull System is designed to be used on applications in harsh environments such as steel mills, mines, harbours and ship-to-shore cranes, etc. where the connectors have to be disconnected frequently, either by hand or automatically.

The cams are made from marine grade bronze while the mating ears in the plugs are from stainless steel. The connector has IP66 protection when connected.



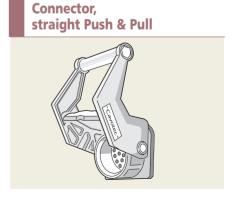


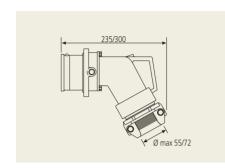
Straight Push & Pull





Plugs & Sockets of Push & Pull type are used to connect quickly and easily on various crane equipment like spreaders, vacuum-loaders, hydraulic grabs and other crane lifting equipment.



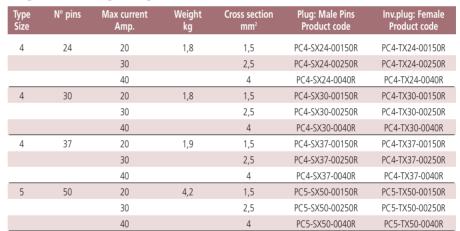


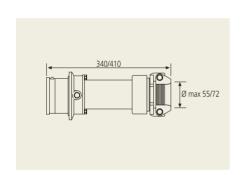
Plug/Inverted Plug, bent Push & Pull

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
4	24	20	1,9	1,5	PC4-SX24-00150	PC4-TX24-00150
		30		2,5	PC4-SX24-00250	PC4-TX24-00250
		40		4	PC4-SX24-0040	PC4-TX24-0040
4	30	20	1,9	1,5	PC4-SX30-00150	PC4-TX30-00150
		30		2,5	PC4-SX30-00250	PC4-TX30-00250
		40		4	PC4-SX30-0040	PC4-TX30-0040
4	37	20	2,0	1,5	PC4-SX37-00150	PC4-TX37-00150
		30		2,5	PC4-SX37-00250	PC4-TX37-00250
		40		4	PC4-SX37-0040	PC4-TX37-0040
5	50	20	4,2	1,5	PC5-SX50-00150	PC5-TX50-00150
		30		2,5	PC5-SX50-00250	PC5-TX50-00250
		40		4	PC5-SX50-0040	PC5-TX50-0040

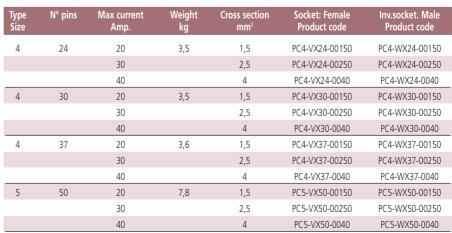
Part number for optional plug cover for size 4 is PCX-01614-006 and for size 5 it is PCX-01605-007

Plug/Inverted Plug, straight Push & Pull





Socket/Inverted Socket, Push & Pull



Pin and female connector box spanner for multipin plugs and sockets is available.

92/110 43/102 49/83 09/13 09/13 150/200 170/225 40/60*
* For an easy connection the minimum box height must be 40 + 30 mm or 60+30 mm.

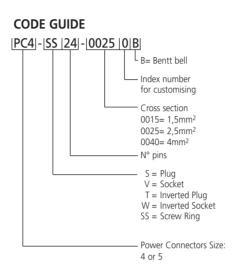
First dimension = size 4 Second dimension = size 5

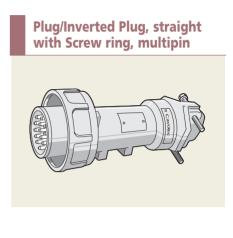
Size S4/S5 Multipin Connector 500V Screw Ring system

Low Voltage

The size S4/5 multipin connector has a screw ring and is designed for use in harsh environments where the connector only needs to be disconnected every other day. The screw type is a fast thread with a large tolerance which allows dirt or similar material into the grooves without causing any operational failure.

The sockets come standard with a cover whereas the connector can be supplied with a cover on request. The connector has IP66 protection when connected.





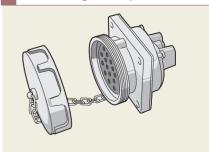




Plug/Inverted Plug, bent with Screw ring, multipin

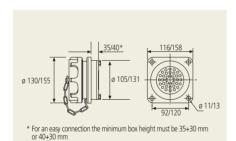


Socket/Inverted Socket with Screw ring, multipin

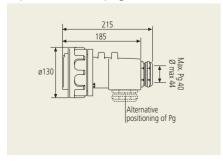


Ø130/155

215/335 Ø 130/155 Ø max 55/72



Plug size 4 Short bell - available upon request for all size 4 plugs and connectors.



First dimension = size 4 Second dimension = size 5

Plug/Inverted Plug, straight with Screw ring, multipin

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
4	24	20	2,4	1,5	PC4-SS24-00150	PC4-TS24-00150
		30		2,5	PC4-SS24-00250	PC4-TS24-00250
		40		4	PC4-SS24-0040	PC4-TS24-0040
4	30	20	2,4	1,5	PC4-SS30-00150	PC4-TS30-00150
		30		2,5	PC4-SS30-00250	PC4-TS30-00250
		40		4	PC4-SS30-0040	PC4-TS30-0040
4	37	20	2,5	1,5	PC4-SS37-00150	PC4-TS37-00150
		30		2,5	PC4-SS37-00250	PC4-TS37-00250
		40		4	PC4-SS37-0040	PC4-TS37-0040
5	50	20	4,1	1,5	PC5-SS50-00150	PC5-TS50-00150
		30		2,5	PC5-SS50-00250	PC5-TS50-00250
		40		4	PC5-SS50-0040	PC5-TS50-0040

Plug/Inverted Plug, bent with Screw ring, multipin

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
4	24	20	2,5	1,5	PC4-SS24-00150B	PC4-TS24-00150B
		30		2,5	PC4-SS24-00250B	PC4-TS24-00250B
		40		4	PC4-SS24-0040B	PC4-TS24-0040B
4	30	20	2,5	1,5	PC4-SS30-00150B	PC4-TS30-00150B
		30		2,5	PC4-SS30-00250B	PC4-TS30-00250B
		40		4	PC4-SS30-0040B	PC4-TS30-0040B
4	37	20	2,6	1,5	PC4-SS37-00150B	PC4-TS37-00150B
		30		2,5	PC4-SS37-00250B	PC4-TS37-00250B
		40		4	PC4-SS37-0040B	PC4-TS37-0040B
5	50	20	4,1	1,5	PC5-SS50-00150B	PC5-TS50-00150B
		30		2,5	PC5-SS50-00250B	PC5-TS50-00250B
		40		4	PC5-SS50-0040B	PC5-TS50-0040B

Socket/Inverted Socket with Screw ring, multipole

				J		
Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
4	24	20	1,7	1,5	PC4-VS24-00150	PC4-WS24-00150
		30		2,5	PC4-VS24-00250	PC4-WS24-00250
		40		4	PC4-VS24-0040	PC4-WS24-0040
4	30	20	1,7	1,5	PC4-VS30-00150	PC4-WS30-00150
		30		2,5	PC4-VS30-00250	PC4-WS30-00250
		40		4	PC4-VS30-0040	PC4-WS30-0040
4	37	20	1,8	1,5	PC4-VS37-00150	PC4-WS37-00150
		30		2,5	PC4-VS37-00250	PC4-WS37-00250
		40		4	PC4-VS37-0040	PC4-WS37-0040
5	50	20	2,7	1,5	PC5-VS50-00150	PC5-WS50-00150
		30		2,5	PC5-VS50-00250	PC5-WS50-00250
		40		4	PC5-VS50-0040	PC5-WS50-0040

Pin and female connector box spanner for multipin plugs and sockets is available.

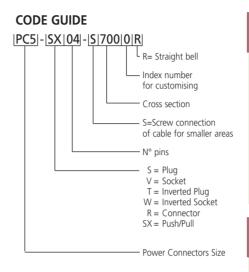
Size X5 Power Connector ≤ 420A, 1100V Push & Pull system

Low Voltage

The X5 size power connector with Push & Pull system is often used on applications where the connector has to frequently be connected and disconnected, either by hand or automatically. Thanks to their robust design these connectors are often used in harsh environments such as steel mills, mines, ports, terminals, etc.

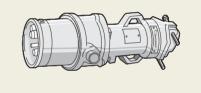
The cams are made from marine grade bronze while the mating ears in the plugs are from stainless steel.

The connector has IP66 protection when connected.





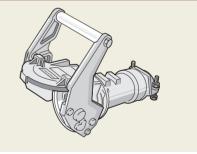
Plug/Inverted Plug, straight Push & Pull





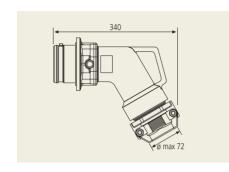
Above two X-type connectors in the harbour of Stockholm. The unique Push & Pull design assists the operators to connect the plug and socket without effort.





Socket/Inverted Socket,
Push & Pull





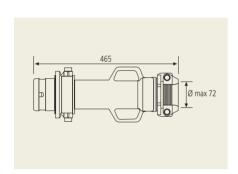
Plug/Inverted Plug, bent Push & Pull

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
5	4	250	4,5	≤ 70	PC5-SX04-S700	PC5-TX04-S700
		320		95	PC5-SX04-0950	PC5-TX04-0950
		420		120/150	PC5-SX04-1500	PC5-TX04-1500
		420		150/185	PC5-SX04-1850	PC5-TX04-1850
5	5	250	4,5	≤ 70	PC5-SX05-S700	PC5-TX05-S700
		320		95	PC5-SX05-0950	PC5-TX05-0950
		320		120/150	PC5-SX05-1500	PC5-TX05-1500
		320		150/185	PC5-SX05-1850	PC5-TX05-1850

Part number for optional plug cover is PCX-01615-006

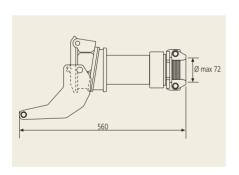
Plug/Inverted Plug, straight Push & Pull





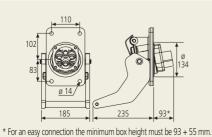
Connector, straight Push & pull

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
5	4	250	9,4	≤ 70	PC5-RX04-S700	
		320		95	PC5-RX04-0950	
		420		120/150	PC5-RX04-1500	
		420		150/185	PC5-RX04-1850	
5	5	250	9,4	≤ 70	PC5-RX05-S700	
		320		95	PC5-RX05-0950	
		320		120/150	PC5-RX05-1500	
		320		150/185	PC5-RX05-1850	



Socket/Inverted Socket, Push & Pull

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
5	4	250	7,8	≤ 70	PC5-VX04-S700	PC5-WX04-S700
		320		95	PC5-VX04-0950	PC5-WX04-0950
		420		120/150	PC5-VX04-1500	PC5-WX04-1500
		420		150/185	PC5-VX04-1850	PC5-WX04-1850
5	5	250	7,8	≤ 70	PC5-VX05-S700	PC5-WX05-S700
		320		95	PC5-VX05-0950	PC5-WX05-0950
		320		120/150	PC5-VX05-1500	PC5-WX05-1500
		320		150/185	PC5-VX05-1850	PC5-WX05-1850

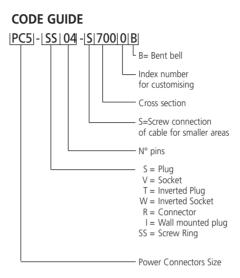


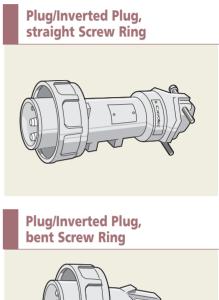
Size S5 Power Connector ≤ 420A, 1100V Screw Ring system

Low Voltage

The size S5 power connector has a screw ring and is designed for use in harsh environments where the connector only needs to be disconnected every other day. The screw type is a fast thread with a large tolerance which allows dirt or similar material into the grooves without causing any operational failure.

The sockets come standard with a cover whereas the connector can be supplied with a cover on request. The connector has IP66 protection when connected.



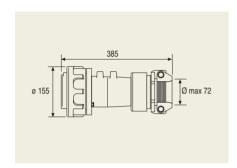












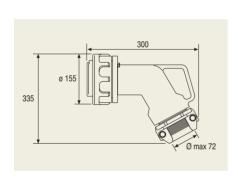
Plug/Inverted Plug, straight Screw ring

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
5	4	250	4,5	≤ 70	PC5-SS04-S700	PC5-TS04-S700
		320		95	PC5-SS04-0950	PC5-TS04-0950
		420		120/150	PC5-SS04-1500	PC5-TS04-1500
		420		150/185	PC5-SS04-1850	PC5-TS04-1850
5	5	250	4,5	≤ 70	PC5-SS05-S700	PC5-TS05-S700
		320		95	PC5-SS05-0950	PC5-TS05-0950
		320		120/150	PC5-SS05-1500	PC5-TS05-1500
		320		150/185	PC5-SS05-1850	PC5-TS05-1850

Part number for optional plug cover is PCX-01605-007

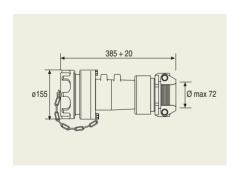
Plug/Inverted Plug, bent Screw ring

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
5	4	250	4,4	≤ 70	PC5-SS04-S700B	PC5-TS04-S700B
		320		95	PC5-SS04-0950B	PC5-TS04-0950B
		420		120/150	PC5-SS04-1500B	PC5-TS04-1500B
		420		150/185	PC5-SS04-1850B	PC5-TS04-1850B
5	5	250	4,4	≤ 70	PC5-SS05-S700B	PC5-TS05-S700B
		320		95	PC5-SS05-0950B	PC5-TS05-0950B
		320		120/150	PC5-SS05-1500B	PC5-TS05-1500B
		320		150/185	PC5-SS05-1850B	PC5-TS05-1850B

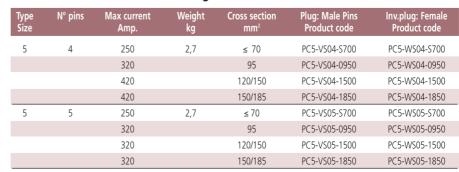


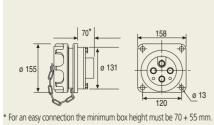
Connector, straight Screw ring

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
5	4	250	4,9	≤ 70	PC5-RS04-S700	
		320		95	PC5-RS04-0950	
		420		120/150	PC5-RS04-1500	
		420		150/185	PC5-RS04-1850	
5	5	250	4,9	≤ 70	PC5-RS05-S700	
		320		95	PC5-RS05-0950	
		320		120/150	PC5-RS05-1500	
		320		150/185	PC5-RS05-1850	



Socket/Inverted Socket, Screw ring





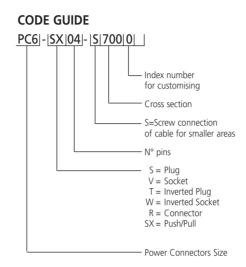
Size X6 Power Connector ≤ 660A, 1100V Push & Pull system

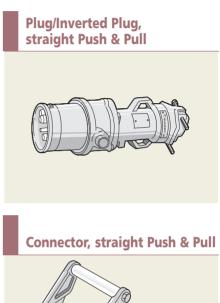
Low Voltage

The X6 size power connector with Push & Pull system is often used on applications where the connector has to frequently be connected and disconnected, either by hand or automatically. Thanks to their robust design these connectors are often used in harsh environments such as steel mills, mines, ports, terminals, etc.

The cams are made from marine grade bronze while the mating ears in the plugs are from stainless steel.

The connector has IP66 protection when connected.

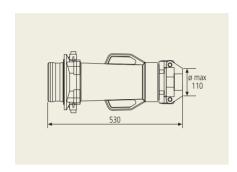






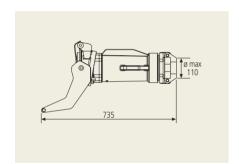






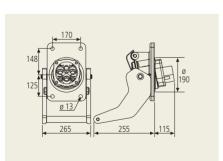
Plug/Inverted Plug, straight Push & Pull

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
6	4	300	8	95	PC6-SX04-S950	PC6-TX04-S950
		350		120	PC6-SX04-1200	PC6-TX04-1200
		420		150	PC6-SX04-1500	PC6-TX04-1500
		480		185	PC6-SX04-1850	PC6-TX04-1850
		540		240	PC6-SX04-2400	PC6-TX04-2400
		660		300	PC6-SX04-3000	PC6-TX04-3000



Connector, straight Push & pull

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm ²	Connector: Female Product code	Inv.connector: Male Product code
6	4	300	12	95	PC6-RX04-S950	
		350		120	PC6-RX04-1200	
		420		150	PC6-RX04-1500	
		480		185	PC6-RX04-1850	
		540		240	PC6-RX04-2400	
		660		300	PC6-RX04-3000	



Socket/Inverted Socket, Push & Pull

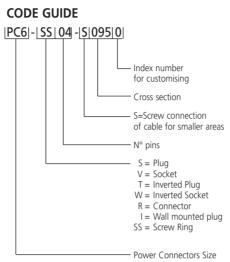
Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Socket: Female Product code	Inv.socket: Male Product code
6	4	300	10	95	PC6-VX04-S950	PC6-WX04-S950
		350		120	PC6-VX04-1200	PC6-WX04-1200
		420		150	PC6-VX04-1500	PC6-WX04-1500
		480		185	PC6-VX04-1850	PC6-WX04-1850
		540		240	PC6-VX04-2400	PC6-WX04-2400
		660		300	PC6-VX04-3000	PC6-WX04-3000

Size S6 Power Connector ≤ 660A, 1100V Screw Ring system

Low Voltage

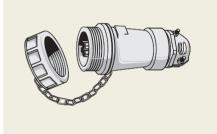
The size S6 power connector has a screw ring and is designed for use in harsh environments where the connector only needs to be disconnected every other day. The screw type is a fast thread with a large tolerance which allows dirt or similar material into the grooves without causing any operational failure.

The sockets come standard with a cover whereas the connector can be supplied with a cover on request. The connector has IP66 protection when connected.





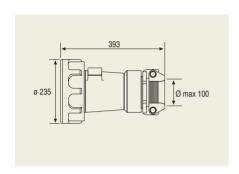






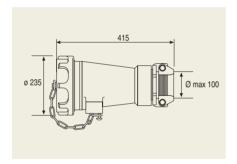


Cavotec Connectors are often used for power supply solutions for mobile harbour cranes.



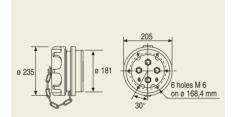
Plug/Inverted Plug, straight Screw ring

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
6	4	480	8,0	185	PC6-SS04-1850	PC6-TS04-1850
		570		240	PC6-SS04-2400	PC6-TS04-2400
		660		300	PC6-SS04-3000	PC6-TS04-3000
6	5	480	8,0	185	PC6-SS05-1850	PC6-TS05-1850
		570		240	PC6-SS05-2400	PC6-TS05-2400
		660		300	PC6-SS05-3000	PC6-TS05-3000



Connector, straight Screw ring

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	
6	4	480	8,2	185	PC6-RS04-1850	
		570		240	PC6-RS04-2400	
		660		300	PC6-RS04-3000	
6	5	480	8,2	185	PC6-RS05-1850	
		570		240	PC6-RS05-2400	
		660		300	PC6-RS05-3000	



Socket/Inverted Socket, Screw ring

Type Size	N° pins	Max current Amp.	Weight kg	Cross section mm²	Plug: Male Pins Product code	Inv.plug: Female Product code
6	4	480	6,0	185	PC6-VS04-1850	PC6-WS04-1850
		570		240	PC6-VS04-2400	PC6-WS04-2400
		660		300	PC6-VS04-3000	PC6-WS04-3000
6	5	480	6,0	185	PC6-VS05-1850	PC6-WS05-1850
		570		240	PC6-VS05-2400	PC6-WS05-2400
		660		300	PC6-VS05-3000	PC6-WS05-3000

Power Units

Low Voltage

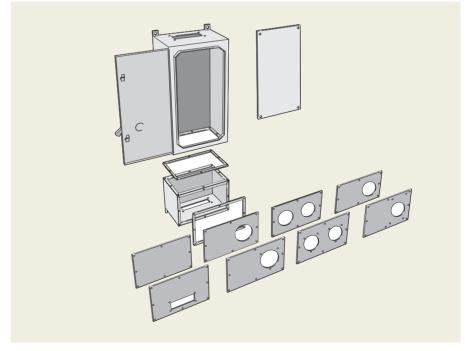
Complementary to plugs and sockets Cavotec Connectors has a standard range of power units made in 3mm hotdip galvanised steel plate designed for the same harsh environment as the plugs and sockets. The power units are built up as a modular system consisting of upper/lower modules and flanges in order to comply with different needs of available space and required functions.

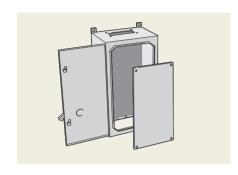
Cavotec Connectors has designed standard outlet panels for 150A to 630A with a voltage range of 380V to 1000V. These are equipped with moulded-case circuit breakers interlocked via the pilot contacts in plug and socket.

On request Cavotec Connectors supply custom made outlet panels based on module power units. Cavotec also provides power units in 2 mm AISI 316 stainless steel.









Power Units, upper module

Width mm	Height mm	Depth mm	Weight kg	Flange opening FL	Panel housing compl. with mounting plate Product code
380	380	250	17	21	PCX-76504-900
380	500	250	22	21	PCX-76504-920
380	750	250	32	21	PCX-76504-940
480	500	250	26	21	PCX-76506-920
480	750	250	36	21	PCX-76506-940



Power Units, lower module

Width mm	Height mm	Depth mm	Weight kg	Flange opening FL	Panel housing Product code	
380	250	250	8,5	21	PCX-76504-990	
480	250	250	10,5	21	PCX-76506-990	



Flange for Power Units, 4mm hot-dip galvanized steel plate

Height mm	Weight kg	Opening*	Flange Product code	Panel housing Product code
242	3	No opening	PCX-76504-300	PCX-72504-250
242	3	1 pc FL21	PCX-76504-301	PCX-72504-250
242	3	1 pc S4	PCX-76504-310	PCX-72504-250
242	3	2 pc S4	PCX-76504-320	PCX-72504-250
242	3	1 pc S5	PCX-76504-410	PCX-72504-250
242	3	1 pc X4	PCX-76504-340	PCX-72504-250
242	3	2 pc X4	PCX-76504-360	PCX-72504-250
242	3	1 pc X5	PCX-76504-440	PCX-72504-250
242	4	No opening	PCX-76506-300	PCX-72506-250
242	4	1pc FL21	PCX-76506-301	PCX-72506-250
242	4	1 pc S5	PCX-76506-410	PCX-72506-250
242	4	2 pc S5	PCX-76506-420	PCX-72506-250
242	4	1 pc X5	PCX-76506-440	PCX-72506-250
242	4	2 pc X5	PCX-76506-460	PCX-72506-250
	mm 242 242 242 242 242 242 242 242 242 2	mm kg 242 3 242 3 242 3 242 3 242 3 242 3 242 3 242 3 242 4 242 4 242 4 242 4	mm kg 242 3 No opening 242 3 1 pc FL21 242 3 1 pc S4 242 3 2 pc S4 242 3 1 pc S5 242 3 2 pc X4 242 3 2 pc X4 242 3 1 pc X5 242 4 No opening 242 4 1 pc FL21 242 4 1 pc S5 242 4 2 pc S5 242 4 1 pc X5	mm kg Product code 242 3 No opening PCX-76504-300 242 3 1 pc FL21 PCX-76504-301 242 3 1 pc S4 PCX-76504-310 242 3 2 pc S4 PCX-76504-320 242 3 1 pc S5 PCX-76504-410 242 3 1 pc X4 PCX-76504-340 242 3 2 pc X4 PCX-76504-360 242 3 1 pc X5 PCX-76504-440 242 4 No opening PCX-76506-300 242 4 1 pc FL21 PCX-76506-301 242 4 1 pc S5 PCX-76506-410 242 4 2 pc S5 PCX-76506-420 242 4 1 pc X5 PCX-76506-440

Note: Alternative openings on special request

Door locks and keys

Туре*	Size	Door Lock	Key
	mm	Product code	Product code
Triangle	10	PCX-79193-701	PCX-79193-702

Note: Alternative panel door locks are available on request

Reefer points Power Supply for Refrigerated Containers

LOW VOLTAGE

As the use of refrigerated containers to transport all kinds of good is becoming more and more common, a reliable and secure power supply is an absolute necessity.

Our R323 range has been specially developed to supply power to refrigerated containers on the quays, placed in a ground pit, on a bollard or on ships. The sockets are made of aluminium bronze or aluminium alloy, which are treated against possible corrosion. The product is manufactured according to IEC 309-1 and IEC 309-2 standards and has a special 3 o'clock positioning of the earth.



The power supply for the reefer containers has to be reliable, safe and easy to control.

Connectors characteristics

Electrical

Nominal rating: 32 A
Maximum rating: consult us
Nominal voltage: 380-415 V
Maximum voltage: consult us
Creepage Ph/ph: 20 mm
Creepage Ph/earth: 15 mm
Clearance Ph/ph: 11 mm
Clearance Ph/earth: 10 mm
Test voltage: 2 kV eff.

Installation

Cable and wiring

Max. outside ø (O.D.): 20 mm Max ø on insulation sheath: 5 mm Max ø on core (standard): 6 mm Max cross-section (HO7VK): 10 mm² For a larger cross-section, please consult us.

Contact configuration

3 poles + earth

Contacts

Type: sleeve
ø of pin: 6 mm

Protection: nickel plating
Standard wiring: screwed connection

ø bore: 5 mm

Physical

Materials

Switch socket: aluminium bronze

CU AL 9

C-breaker socket: aluminium AS 12

tropicalised

Automatic socket: AISI 316

Insert: thermo-setting

Contacts: brass
Gaskets: elastomere
Screws, bolts nuts: stainless steel
Standard cover: thermo-plastic
Standard gland top: thermo-plastic

Temperature class –40°C to +80°C.

Protection index

IP 567.

Application

Material complying with I.E.C. 309.1.2, C.E.E. 17, DIN 49462, BS 4343, with special position of earth at 3 o'clock.

For power supply of refrigerated

containers

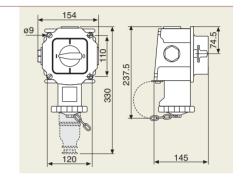
Type R323 NI **Switched socket**

The R323 NI is a waterproof and sea resistant connector that is used in many ports around the world. The housing is in bronze and is fitted with a mechanical interlock that prevents the breaker to be turned on, without first mating the plug or withdrawing the plug without first

turning of the breaker.

The power outlet is fitted with a high rated 32 Amps loadbreaker. The R323 NI has been developed and

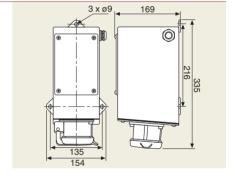
produced for over 15 years.



Type R323 A **Automatic sockets**

The R323 A is a water and sea resistant connector developed for the new type of reefer containers and reefer container ports. The housing is in stainless steel AISI 316 and with connector housing of marine grade bronze. The switching on

and off the power outlet is completely automatic by inserting the plug and withdrawing it. The MCB has a C-curve as standard, but can be fitted with other curves according to customer specifications.

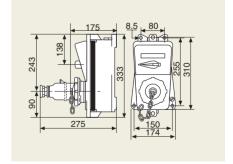




Type R323 L1 Circuit breaker sockets

The R323 L1 is an water and sea resistant connector that is used in many ports around the world. The housing is made in aluminium and with a mechanical interlock that prevents the breaker to be turned on without first mating the plug or withdrawing the plug without

turning of the breaker. The breaker is fitted with an 32 Amps MCB. The MCB has a C-curve as standard, but can be fitted with other curves according to customer specifications. The R323 L1 has been developed and produced for over 20 years.



Rackmatic *Automatic Electrical Connectors for Spreaders*

LOW VOLTAGE

The "Rackmatic" connector has been specially designed to enable the crane operator to automatically connect and disconnect the electricity supply from the head-block to the spreader. This ensures a minimum of downtime while obtaining a maximum of efficiency.

The kinematics of the "Rackmatic" connector were specially developed to enable a fast and reliable connection between the plug on the crane head-block and the self-centering receptacle on the spreader. The weight of the head-block operates the automatic covers. Despite possible misalignment between the head-block and the spreader, the guides mounted on the connector ensure that a proper and secure connection is made.



PSA in Singapore use the "Rackmatic" system for their Pasir Panjang terminal (PSA).

Rackmatic characteristics

Mechanical

- Aluminium alloy housing
- Chemical oxidation and epoxy painted
- Stainless steel fastenings
- Silver-plated brass contacts ranging from 1.5 to 6mm
- Polyamide insulating insert
- Vibration resistance up to 50G
- Shock absorption:
 - vertical: 5G
 - 40G

– lateral: 15G

Note: Customize your own configuration to your needs for signal and power. (max 60 cores)

Adjustment

A 10mm self-centering radius and 20mm level variation between spreader beam and crane head block is accepted. This is done without disturbing the electrical continuity +/- 2 degrees angular misalignment is acceptable.

Environmental

The "rackmatic" connectors have a protection index of IP56 when connected. The protection index for the receptacle is IP56 and for the plug IP23.

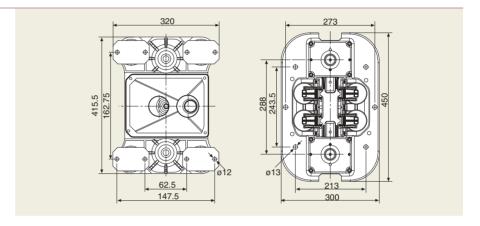
Electrical

660 V maximum voltage 15 KVA maximum power 27 A nominal rating Cable exit PG48 DIN cable clamp Cable ends fitted with crimp contacts

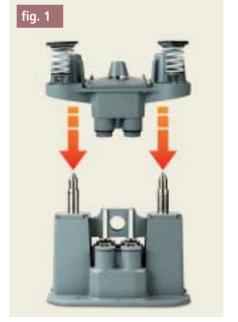
Rackmatic

Thanks to its robust design, the "Rackmatic" connectors have an excellent durability and protection index (IP56).

This enables them to operate without risk of failure under severe conditions such as extreme high temperature conditions, frost and exposure to sand and wind.



- Fig. 1 The automatic connector type
 "Rackmatic" has been tested and
 developed to withstand large
 G-forces for applications as
 spreaders, module rack systems
 and lifting devices in steel
 industries.
- **Fig. 2** The "Rackmatic" is good for at least 10.000 matings and can be configurated to every special need.







Medium voltage Power Connectors ≤ 25000V

MEDIUM VOLTAGE - INTRODUCTION

The Cavotec Group has been serving the mining and tunnelling industries with solutions for their power connector requirements. Our electrical connectors provide a flexible, convenient and reliable means of extending cables from fixed or mobile powers sources to mining, tunnelling and earthmoving equipment. They are also often used for portable junction boxes either in above- or underground applications.

The concept of replaceable cables and cable connectors on high voltage equipment has been recognised as practical for many years. Now, with increased emphasis being placed on limiting the number and frequency of temporary splices made in trailing cables, the use of permissible connectors and replaceable medium-voltage cables is gaining increasing acceptance.

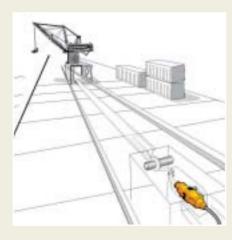
To meet this growing demand the Cavotec Group offers a range of specially designed "trailing cable connectors" to expedite cable changes and minimize downtime. Heavy-duty aluminium housings enclose impact resistant insulators which support pin-and-socket type contacts. The contacts are attached to conductors by set screws or by soldering. These connectors are X7P-1944 MSHA certified.



An open pit mining application.



A tunnelling application for power feed to a full-face drilling machine.



A quay application for power supply to harbour cranes.

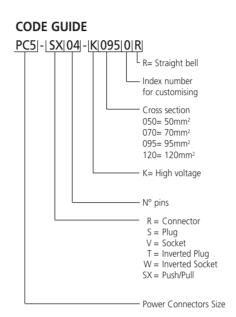
Size X5 Power Connector ≤ 350A, 7200V Push & Pull system

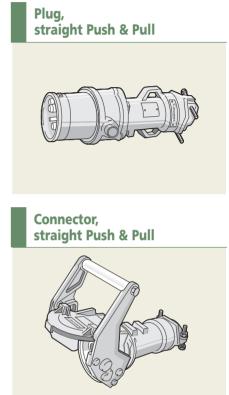
MEDIUM VOLTAGE

The X5 size power connector for medium voltage with Push & Pull system is often used on applications where the connector has to frequently be connected and disconnected, either by hand or automatically. Thanks to their robust design these connectors are often used in harsh environments such as steel mills, mines, ports, terminals, etc.

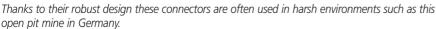
The cams are made from marine grade bronze while the mating ears in the plugs are from stainless steel.

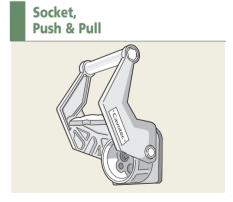
The connector has IP66 protection when connected.

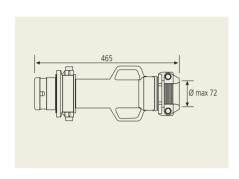










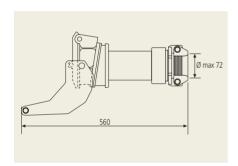


Plug/Inverted Plug, straight Push & Pull

Type Size	N° poles P&E + pil	Max. voltage phase/pilot	Max. current Amp.	Weight kg	Cross section mm²	Plug: Male Product code
5	4+2	7200V/400V	200	6	50	PC5-SX04-K0500R
			250		70	PC5-SX04-K0700R
			320		95	PC5-SX04-K0950R
			350		120	PC5-SX04-K1200R
	4+3+FO*	7200V/400V	200	6	50	PC5-SX04-K0501R
			250		70	PC5-SX04-K0701R
			320		95	PC5-SX04-K0951R
			350		120	PC5-SX04-K1201R

*FO= Fiber Optics

Part number for optional plug cover is PCX-01615-006

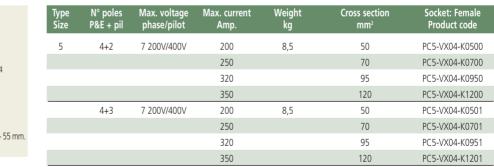


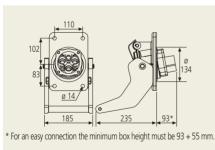
Connector, straight Push & Pull

Type Size	N° poles P&E + pil	Max. voltage phase/pilot	Max. current Amp.	Weight kg	Cross section mm ²	Connector: Female Product code
5	4+2	7200V/400V	200	10	50	PC5-RX04-K0500
			250		70	PC5-RX04-K0700
			320		95	PC5-RX04-K0950
			350		120	PC5-RX04-K1200
	4+3+FO*	7200V/400V	200	10	50	PC5-RX04-K0501
			250		70	PC5-RX04-K0701
			320		95	PC5-RX04-K0951
			350		120	PC5-RX04-K1201

*FO= Fiber Optics

Socket/Inverted Socket, Push & Pull



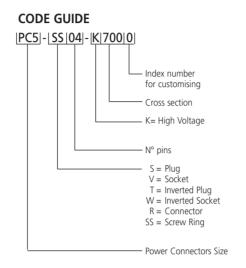


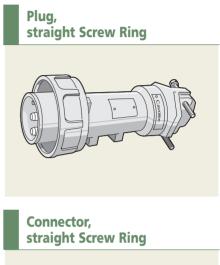
Size S5 Power Connector ≤ 320A, 7200V Screw Ring system

MEDIUM VOLTAGE

The size S5 power connector has a screw ring and is designed for use in harsh environments where the connector only needs to be disconnected every other day. The screw type is a fast thread with a large tolerance which allows dirt or similar material into the grooves without causing any operational failure.

The sockets come standard with a cover whereas the connector can be supplied with a cover on request. The connector has IP66 protection when connected.



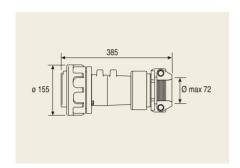








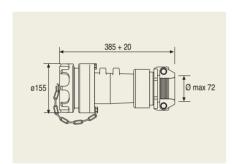
Switchgear-mounted connectors in a mine location.



Plug/Inverted Plug, straight Screw Ring

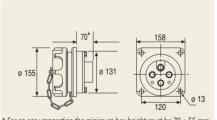
Type Size	N° poles P&E + pil	Max. voltage phase/pilot	Max. current Amp.	Weight kg	Cross section mm²	Plug: Male Product code
5	4+2	7200V/400V	200	4,6	50	PC5-SS04-K0500
			250		70	PC5-SS04-K0700
			320		95	PC5-SS04-K0950
			320		120	PC5-SS04-K1200

Part number for optional plug cover is PCX-01605-007



Connector, straight Screw Ring

Type Size	N° poles P&E + pil	Max. voltage phase/pilot	Max. current Amp.	Weight kg	Cross section mm²	Connector: Female Product code
5	4+2	7200V/400V	200	5,1	50	PC5-RS04-K0500
			250		70	PC5-RS04-K0700
			320		95	PC5-RS04-K0950
			320		120	PC5-RS04-K1200



* For an easy connection the minimum box height must be 70 + 55 mm.

Socket/Inverted Socket, Screw Ring

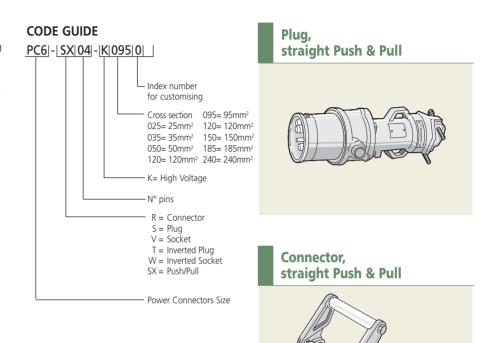
Type Size	N° poles P&E + pil	Max. voltage phase/pilot	Max. current Amp.	Weight kg	Cross section mm²	Socket: Female Product code
5	4+2	7200V/400V	200	2,9	50	PC5-VS04-K0500
			250		70	PC5-VS04-K0700
			320		95	PC5-VS04-K0950
			320		120	PC5-VS04-K1200

Size X6 Power Connector ≤ 540A, 7200V Push & Pull system

MEDIUM VOLTAGE

The X6 size power connector for medium voltage with Push & Pull system is often used on applications where the connector has to frequently be connected and disconnected, either by hand or automatically. Thanks to their robust design these connectors are often used in harsh environments such as steel mills, mines, ports, terminals, etc.

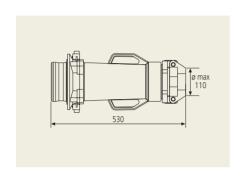
The cams are made from marine grade bronze while the mating ears in the plugs are from stainless steel. The connector has IP66 protection when connected.







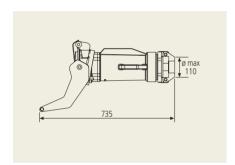




Plug/Inverted Plug, straight Push & Pull

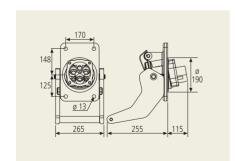
Type Size	N° poles P&E + pil	Max. voltage phase/pilot	Max. current Amp.	Weight kg	Cross section mm²	Plug: Male Product code
6	4+2	7200V/400V	300	8	95	PC6-SX04-K0950
			350		120	PC6-SX04-K1200
			420		150	PC6-SX04-K1500
			480		185	PC6-SX04-K1850
			540		240	PC6-SX04-K2400
6	4+3	7200V/400V	300	8	95	PC6-SX04-K0951
			350		120	PC6-SX04-K1201
			480		185	PC6-SX04-K1851
			420		150	PC6-SX04-K1501
			540		240	PC6-SX04-K2401





	=	3				
Type Size	N° poles P&E + pil	Max. voltage phase/pilot	Max. current Amp.	Weight kg	Cross section mm²	Connector: Female Product code
6	4+2	7200V/400V	300	12	95	PC6-RX04-K0950
			350		120	PC6-RX04-K1200
			420		150	PC6-RX04-K1500
			480		185	PC6-RX04-K1850
			540		240	PC6-RX04-K2400
6	4+3	7200V/400V	300	12	95	PC6-RX04-K0951
			320		120	PC6-SX04-K1201
			480		185	PC6-RX04-K1851
			420		150	PC6-RX04-K1501
			540		240	PC6-RX04-K2401

Socket/Inverted Socket, Push & Pull



Type Size	N° poles P&E + pil	Max. voltage phase/pilot	Max. current Amp.	Weight kg	Cross section mm²	Socket: Female Product code
6	4+2	7200V/400V	300	10	95	PC6-VX04-K0950
			350		120	PC6-VX04-K1200
			420		150	PC6-VX04-K1501
			480		185	PC6-VX04-K1851
			540		240	PC6-VX04-K2401
6	4+3	7200V/400V	300	10	95	PC6-VX04-K0951
			350		120	PC6-VX04-K1201
			420		150	PC6-VX04-K1501
			480		185	PC6-VX04-K1851
			540		240	PC6-VX04-K2401

Size S8 Power Connector ≤ 500A, 25000V Screw Ring system

MEDIUM VOLTAGE

The size S8 power connector for medium voltage has a screw ring and is designed for use in harsh environments where the connector only needs to be disconnected every other day. The screw type is a fast thread with a large tolerance which allows dirt or similar into the grooves without causing any operational failure.

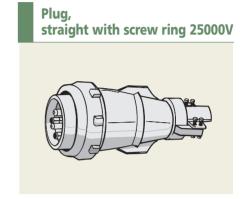
The sockets come standard with a cover whereas the connector can be supplied with a cover on request. The connector has IP66 protection when connected.

Data requested on order:

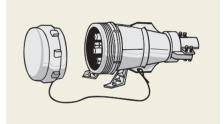
- 1. Complete Catalog Number
- 2. Line Conductor Size, Stranding
- 3. Number and Size Ground Wires
- 4. Number and Size Ground Check Wires
- 5. Diameter Over Cable Jacket

Optional Features

see page39



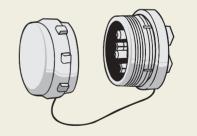
Connector, straight with screw ring 25000V

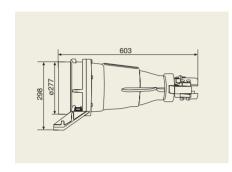




Cavotec Connectors are often used in the harsh mining and tunnelling industry.

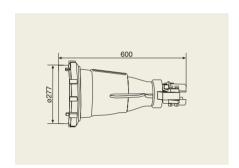






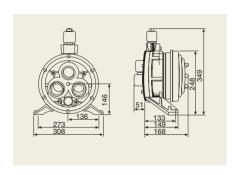
Plug, straight with screw ring 25000V

Type Size	N° poles P&E + pil	Max. voltage phase/pilot	Max. current Amp.	Weight kg	Cross section mm²	Inv.plug: Female Product code
8	4+1	15000V/220V	160	18	50	PC8-SS04-0500
			210		70	PC8-SS04-0700
			250		95	PC8-SS04-0950
			270		120	PC8-SS04-1200
			320		150	PC8-SS04-1500
			420		240	PC8-SS04-2400



Connector, straight with screw ring 25000V

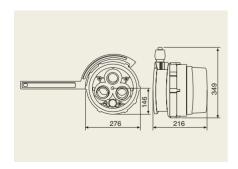
Type Size	N° poles P&E + pil	Max. voltage phase/pilot	Max. current Amp.	Weight kg	Cross section mm²	Inv.plug: Female Product code
8	4+1	15000V/220V	160	18	50	PC8-RS04-0500
			210		70	PC8-RS04-0700
			250		95	PC8-RS04-0950
			270		120	PC8-RS04-1200
			320		150	PC8-RS04-1500
			420		240	PC8-RS04-2400



Socket, with screw ring 25000V

Type Size	N° poles P&E + pil	Max. voltage phase/pilot	Max. current Amp.	Weight kg	Cross section mm²	Inv.plug: Female Product code
8	4+1	15000V/220V	160	13,5	50	PC8-VS04-0500
			210		70	PC8-VS04-0700
			250		95	PC8-VS04-0950
			270		120	PC8-VS04-1200
			320		150	PC8-VS04-1500
			420		240	PC8-VS04-2400

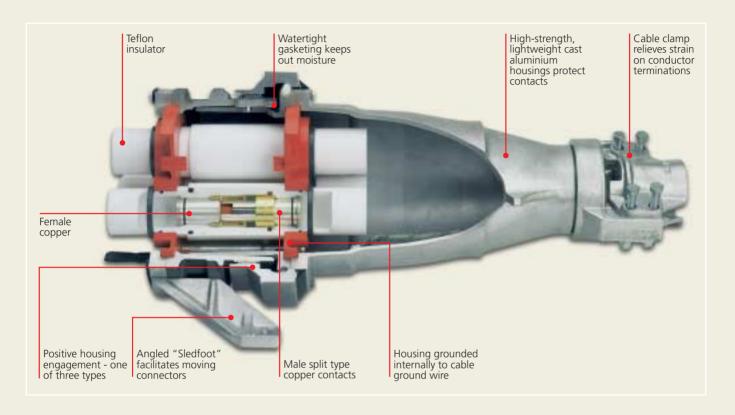
Flange mounted plug, with screw ring 25000V



Type Size	N° poles P&E + pil	Max. voltage phase/pilot	Max. current Amp.	Weight kg	Cross section mm²	Inv.plug: Female Product code
8	4+1	15000V/220V	160	13,5	50	PC8-IS04-0500
		210			70	PC8-IS04-0700
		250			95	PC8-IS04-0950
		270			120	PC8-IS04-1200
		320			150	PC8-IS04-1500
		420			240	PC8-IS04-2400

Innovative Features

MEDIUM VOLTAGE



Conversion table

AWG or MCM	Circular Mils	Cross Sectional Area mm²	Metric Conductor Size mm²
14	4110	2,08	-
	4930	2,50	2,5
12	5530	3,31	-
	7890	4,00	4,0

AWG or MCM	Circular Mils	Cross Sectional Area mm²	Metric Conductor Size mm²
1	53590	12,41	-
	98700	50,00	50,0
1/0	105600	53,48	-
2/0	133100	67,43	-
	138000	70,00	70,0
3/0	167800	85,03	-
	187000	95,00	95,0
4/0	211600	107,20	-
	237000	120,00	120,0
250 MCM	250000	126,64	-
	296000	150,00	150,0
300	300000	152,00	-
350	350000	177,35	-
	365000	185,00	185,0
400	400000	202,71	-
	474000	240,00	240,0
500	500000	253,35	-
	592000	300,00	300,0

3 end-bell sizes

Where larger, stiffer cables are involved, Cavotec Connectors offers a choice of longer, larger-entrance end-bells. Two sizes are available that can accomodate cable sizes through 4 1/4" O.D., with clamps to fit cables 1 1/4" – 4 1/4" O.D. Where end-bell extension is required for phasing conductors or applying foot to cable mounted plug, a flanged insert is available.



Telefon or harp EP insulators

Cavotec Connectors couplers offer a choice of a semi-rigid EP (Ethylene Propylene) molded insulator or a teflon insulator introduced in 1994 which has rapidly become the industry standard.



Stainless steel thread

Galling or "lock-up" of aluminium-toaluminium threads which can occur after surface films, dry lubricant or anodizing wear off, is prevented by the original Cavotec Connectors design feature. A stainless steel insert in the locking nut produces a connection which is non-corrosive and less subject to dirt accumulation, eliminating problems from aluminium-to-aluminium contact.



"Spin-on" axi-nut

Cavotec Connectors design enables easier thread starting by floating the nut. This allows the mating coupler to be partially inserted with the threads aligned, by sliding the nut, not the entire coupler. Axi-nut is factory assembled to plug body with self-lubrificated nylon ball bearings, providing a rolling rather than sliding contact which results in easier operation.



Closure Types

MEDIUM VOLTAGE

8 Pitch - Fast coupling

Cavotec Connectors supplies three methods of mechanical connection for high-voltage cable couplers. The oldest method is the 8 pitch thread. This closure incorporates axi-nut action and bluntstart, relieved-thread design, all of which contribute to easier operation and longer life. The floating axi-nut allows the plug to be inserted into the socket, the nut more easily started, and secures the coupler by compressing the o-ring seal. The "blunt-start" and "relieved-thread" features aid in preventing "first-thread rollover", common in couplers not supplied with these features, which may result in jamming of the nut.



4 Pitch - Faster coupling

A second type of closure supplied incorporates a 4-pitch acme, double-start thread, again with "blunt-start" and "relieved-thread" features.

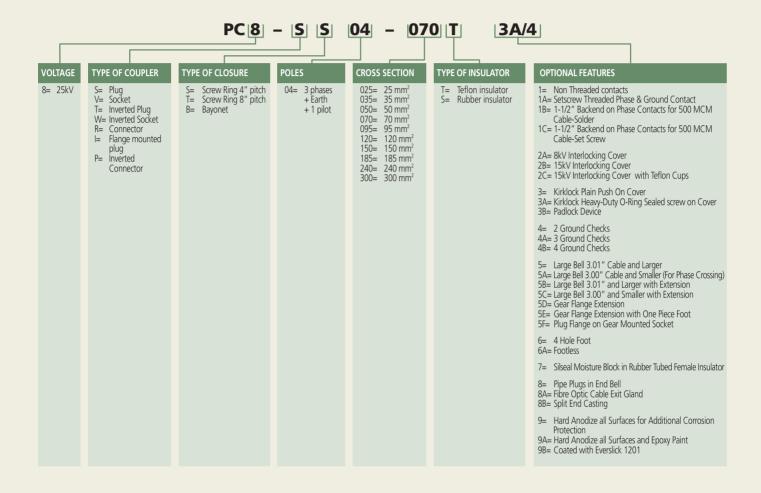
This design also includes the same axi-nut action more rapid than other brands.



No Thread - Fastest coupling

The third and best type of closure utilizes a pin-and-slot (bayonet type) design which requires only a 90° movement of the nut to lock, close and compress the "O" ring seal. Detents prevent unintentional opening due to vibration. This design lends itself to easy conversion of existing 8 or 4 pitch threaded couplers to the no-thread concept. Such a conversion requires a minimum of time (less than an hour for a set of couplers) and is economical in conversion cost. Operating time (opening or closing) is measured in seconds, rather than the 5 to 15 minutes that may be required with other types of closures.





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We are present in

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