

To provide a complementary support to Offshore Companies, P.C.S. Italiana S.r.l. design and manufacture an extensive range of accessories for subsea power, fibre optic cables and umbilical.

Our Accessories department can grant a suited solution for power, optical, control composite cables and umbilical solutions considering either new connections or repair necessities.

Our standard range covers up to 69 kV and we are currently developing also the 150kV level.

All our accessories follows a "universal" approach thus to be applicable for different cable/umbilical manufacturer or level/size of installation in order to have one design that fits for several uses.

Thanks to this accessories philosophy we can propose quick and reliable intervention for cables installation and "Call-off Contract for Cable Repair Service" comprising:

- Terminations
- Junction boxes (straight or vertical on top of riser, both accessible for inspection or fully sealed and inaccessible)
- Submarine Joints (with shells or universal type) for power, composit and FOC cables and umbilical
- Hang- off for cables armour (three different solutions)
- Pulling heads, Bull-noses, centralizer, bending restrictor, etc.

Our submarine power joint have been tested at 120 m depth and optical submarine joint have been tested at 2000 m. Both of them through an independent laboratory.

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PCS ITALIANA SRL

Submarine Cables & Umbilical Laying, Maintenance and Repair Service

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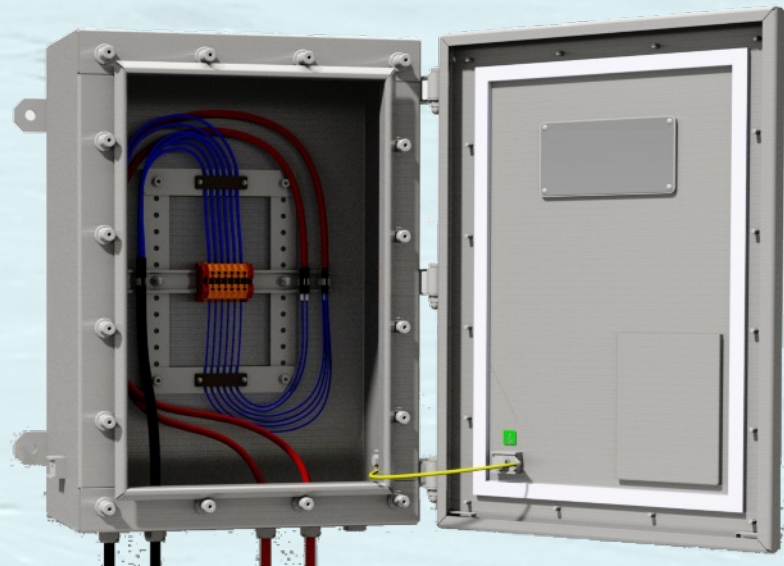
PCS CABLES LLC



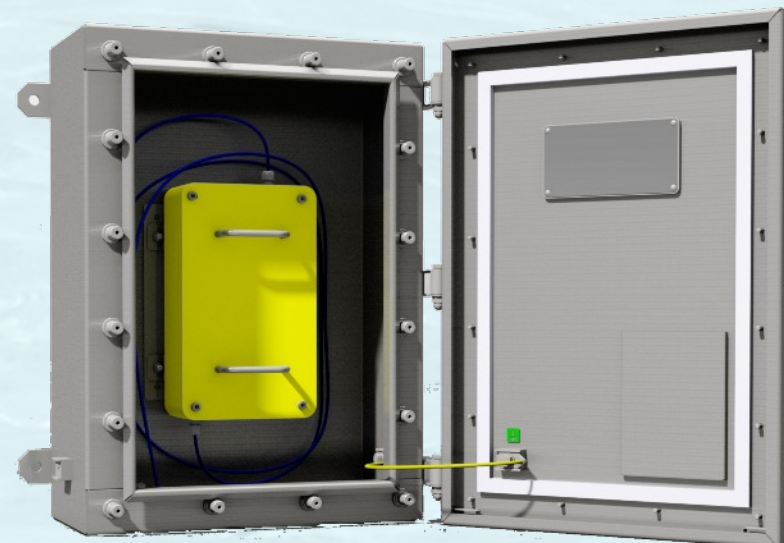
ATEX JUNCTION BOX

2017
NEW





CONTROL JB



FOC JB

Limit conditions for operation

For use in an explosive atmosphere consisting of a mixture of air and flammable substances in the form of gas, vapours, mists (G), the environmental conditions of operation are: $-20 \div +60 [^{\circ}\text{C}]$

IP 65 and/or IP 66 protection type: Ex-nA (up to 15kV) , Ex-tc , Ex-e , Ex-tb , Ex-nA op pr

Certified by **CESI**

For use in an explosive atmosphere consisting of a mixture of air and combustible dust (D), the equipment provides a level of effective protection for powders with a particle size average from $75 [\mu\text{m}]$ to higher.



POWER JB

PCS has largely expanded its capabilities for Junction Box to support Customers in different requirements and necessities and all range of fully conformity certified Power Junction Boxes is now providing ATEX and IEC-Ex Certification to comply with latest requirements of the International Standard for Hazardous Areas.

OF Junction Boxes are fully conformity certified in line with latest issue of the ATEX Standard.

A new line of Control Junction Boxes has also been implemented to provide an entire suitability for type, solution and application range for Hazardous Areas application.

Ex-e; Ex-nA and Ex-Op types are available with IP Protection range covering both IP 65 and IP 66 for any offshore application.

Additional NEMA 4.x configuration is available.

Testing and Certification process carried out by **CESI**

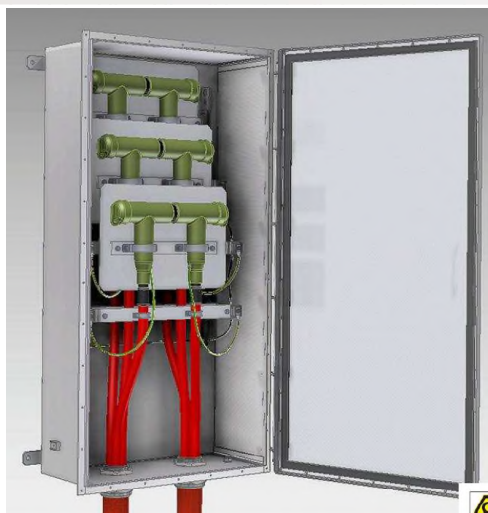


exans

ATEX/IECEx
POWER. CONTROL
AND FIBRE OPTIC

ID	CODE	L .[mm].	H .[mm].	D .[mm].
1	EE01-Ex	356	506	194
2	EE02-Ex	356	506	284
3	EE03-Ex	506	706	194
4	EE04-Ex	506	706	284
5	EE05-Ex	506	706	394
6	EE06-Ex	706	706	194
7	EE07-Ex	706	706	284
8	EE08-Ex	706	706	394
9	EE09-Ex	606	1206	394
10	EE10-Ex	606	1206	494
11	EE11-Ex	1006	1206	394
12	EE12-Ex	606	1406	394
13	EE13-Ex	606	1406	494
14	EE14-Ex	606	1606	394
15	EE15-Ex	606	1606	494
16	EE16-Ex	806	1606	394
17	EE17-Ex	806	1606	494
18	EE18-Ex	1206	1606	394
19	EE19-Ex	606	2106	394
20	EE20-Ex	606	2106	494
21	EE21-Ex	806	2106	394
22	EE22-Ex	806	2106	494
23	EE23-Ex	1206	2106	494
24	EE24-Ex	806	2456	394
25	EE25-Ex	806	2456	494
26	EE26-Ex	1206	2456	494

MV POWER JUNCTION BOX



CERTIFIED FOR INCREASED SAFETY
APPLICATION AREAS



DESCRIPTION:

Topside junction boxes for MV cables are supplied by PCS Italiana for cables transition between submarine cable and topside/land cable prior to relevant routing to the switchboard.

ATEX Junction boxes are available in different designs:

- Ex-nA type up to IP66 and up to 15 kV (+/- 10%) and 600 A with maximum cable size of 300mm²
- Ex-e type up to IP66 and up to 11 kV (+/- 10%) and 600 A with maximum cable size of 300mm² (under certification completion and available by June 2015)

Boxes can be available in SS316L or in carbon and alloy steel (in case required, painting can be foreseen).

All terminations, earthing, glands and breather relevant to the supply are comprised

Certification by CESI with Certificate No. CESI 13 ATEX 057 - IT/CES 14.....

Type: II 3G Ex-nA IIC T3 Gc II 3 D Ex tc IIIC T 152° C Dc IP 65/66

Certification by CESI with Certificate No. CESI 15 ATEX 062 - IT/CES 14.....

Type: II 2G Ex-e IIC T3 Gb II 2 D Ex tb IIIC T 152° C Db IP 66

LIMIT CONDITIONS FOR OPERATION:

For use in an explosive atmosphere consisting of a mixture of air and flammable substances in the form of gas, vapours, mists (G), the environmental conditions for operation are:

Continuous operation temperature (COT): -from 40° C to + 120° C

Pressure: from 80 to 110 (kPa) from 0.8 to 1.1 bar

Oxygen (O₂) in air: 21 (%) v/v

For use in unexplosive atmospheres consisting of a mixture of air and combustible dust (D), the equipment provides a level of effective protection for powders with a particle size average from 75 (µm) to higher.

MATERIAL:

- Main Body: Carbon steel/alloy steel or SS316L according to requirements
- Bolts & Nuts: AISI A4/70
- Inner termination: Nexans

ENTRY DATA FOR DIMENSIONING:

- Cable type and diameter
- Platform positioning

Technical drawings of the container showing top and side views with dimensions.

Top View: Shows the container's footprint with overall dimensions L (length) and H (height). Internal dimensions are labeled: $L\text{-int}$ (internal length), $H\text{-int}$ (internal height), $L\text{-lib}$ (internal length to the inside of the side rails), and $H\text{-lib}$ (internal height to the inside of the side rails). The drawing includes details of the corner fasteners and the side rail structure.

Side View: Shows the container's profile with overall dimensions D (depth) and H (height). Internal dimensions are labeled: $D\text{-int}$ (internal depth), $D\text{-lib}$ (internal depth to the inside of the side rails), $H\text{-int}$ (internal height), and $H\text{-lib}$ (internal height to the inside of the side rails). The drawing includes details of the side rail structure and the bottom rail.



ID	CODE	CATEGORY		TYPE	L [mm]	H [mm]	D [mm]	L _{int} [mm]	H _{int} [mm]	D _{int} [mm]	L _{lib} [mm]	H _{lib} [mm]	D _{lib} [mm]	weight [kg]
11	PJB-01-Ex-2A	CAT. 2	up to 10 kV	Type - A	806	1606	394	800	1600	350	676	1476	388	160
	PJB-01-Ex-3A	CAT. 3	up to 15 kV											
12	PJB-02-Ex-2A	CAT. 2	up to 10 kV	Type - A	806	1606	494	800	1600	450	676	1476	488	175
	PJB-02-Ex-3A	CAT. 3	up to 15 kV											
15	PJB-03-Ex-2A	CAT. 2	up to 10 kV	Type - A	806	2106	394	800	2100	350	676	1976	388	200
	PJB-03-Ex-3A	CAT. 3	up to 15 kV											
	PJB-03-Ex-2B	CAT. 2	up to 10 kV	Type - B										
	PJB-03-Ex-3B	CAT. 3	up to 15 kV											
16	PJB-04-Ex-2A	CAT. 2	up to 10 kV	Type - A	806	2106	494	800	2100	450	676	1976	488	220
	PJB-04-Ex-3A	CAT. 3	up to 15 kV											
	PJB-04-Ex-2B	CAT. 2	up to 10 kV	Type - B										
	PJB-04-Ex-3B	CAT. 3	up to 15 kV											
18	PJB-05-Ex-2B	CAT. 2	up to 10 kV	Type - B	806	2456	394	800	2450	350	676	2326	388	230
	PJB-05-Ex-3B	CAT. 3	up to 15 kV											
19	PJB-06-Ex-2B	CAT. 2	up to 10 kV	Type - B	806	2456	494	800	2450	450	676	2326	488	250
	PJB-06-Ex-3B	CAT. 3	up to 15 kV											

OPTICAL FIBRE SPLITTER BOX



CERTIFIED FOR INCREASED SAFETY
APPLICATION AREAS



DESCRIPTION:

Topside splitter boxes for optical fibre cables are supplied by PCS Italiana for cables transition between submarine cable and topside/land cable prior to relevant routing to the patch panel.

ATEX and NEMA 4.X splitter boxes are available in different designs and materials (SS316L or in carbon and alloy steel); painting may be available upon specific requirement

- Ex-Op type up to IP66 for optical fibre splicing up to 288 fibres

All terminations, earthing, glands and breather relevant to the supply are comprised

Certification by CESI with Certificate No. CESI 13 ATEX 058 - IT/CES 14.....

Type: II 3G Ex-nA op pr IIC T6 Gc II 3 D Ex tc IIIC T 120° C Dc IP 65/66

Certification by CESI with Certificate No. CESI 16 ATEX 004 - IT/CES 14.....

Type: II 2G Ex-nA eb op pr IIC T6 Gb II 2 D Ex tb IIIC T 120° C Dc IP 66

LIMIT CONDITIONS FOR OPERATION:

For use in an explosive atmosphere consisting of a mixture of air and flammable substances in the form of gas, vapours, mists (G), the environmental conditions for operation are:

Continuous operation temperature (COT): -from 40° C to + 120° C

Pressure: from 80 to 110 (kPa) from 0.8 to 1.1 bar

Oxygen (O₂) in air: 21 (%) v/v

For use in unexplosive atmospheres consisting of a mixture of air and combustible dust (D), the equipment provides a level of effective protection for powders with a particle size average from 75 (µm) to higher.

MATERIAL:

- Main Body: Carbon steel/alloy steel or SS316L according to requirements
- Bolts & Nuts: AISI A4/70
- Inner splicing box: Stahl or PCS

ENTRY DATA FOR DIMENSIONING:

- Cable type and diameter
- Platform positioning



CERTIFIED FOR INCREASED SAFETY APPLICATION AREAS

ID	CODE	CATEGORY		TYPE	L [mm]	H [mm]	D [mm]	L _{int} [mm]	H _{int} [mm]	D _{int} [mm]	L _{lib} [mm]	H _{lib} [mm]	D _{lib} [mm]	weight [kg]
01	OFJB-01-Ex-2A	CAT. 2	up to 72 fibre	Type - A	356	506	194	350	500	150	226	376	188	35
	OFJB-01-Ex-3A	CAT. 3												
02	OFJB-02-Ex-2A	CAT. 2	up to 48 fibre	Type - A	356	506	284	350	500	240	226	376	278	40
	OFJB-02-Ex-3A	CAT. 3												
03	OFJB-03-Ex-2A	CAT. 2	up to 72 fibre	Type - A	506	706	194	500	700	150	376	576	188	50
	OFJB-03-Ex-3A	CAT. 3												
04	OFJB-04-Ex-2A	CAT. 2	up to 96 fibre	Type - A	506	706	284	500	700	240	376	576	278	55
	OFJB-04-Ex-3A	CAT. 3												
	OFJB-04-Ex-2B	CAT. 2	up to 48 fibre	Type - B										
	OFJB-04-Ex-3B	CAT. 3												
05	OFJB-05-Ex-2A	CAT. 2	up to 144 fibre	Type - A	506	706	394	500	700	350	376	576	388	60
	OFJB-05-Ex-3A	CAT. 3												
	OFJB-05-Ex-2B	CAT. 2	up to 48 fibre	Type - B										
	OFJB-05-Ex-3B	CAT. 3												
06	OFJB-06-Ex-2A	CAT. 2	up to 144 fibre	Type - A	706	706	194	700	700	150	576	576	188	65
	OFJB-06-Ex-3A	CAT. 3												
07	OFJB-07-Ex-2A	CAT. 2	up to 192 fibre	Type - A	706	706	284	700	700	240	576	576	278	70
	OFJB-07-Ex-3A	CAT. 3												
	OFJB-07-Ex-2B	CAT. 2	up to 96 fibre	Type - B										
	OFJB-07-Ex-3B	CAT. 3												
08	OFJB-08-Ex-2A	CAT. 2	up to 288 fibre	Type - A	706	706	394	700	700	350	576	576	388	75
	OFJB-08-Ex-3A	CAT. 3												
	OFJB-08-Ex-2B	CAT. 2	up to 96 fibre	Type - B										
	OFJB-08-Ex-3B	CAT. 3												