

Instructions for Operation

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Connection systems for explosion risk control

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Flameproof conductor bushing Type PLD../420, PLD../550 PLD../690, PkLD../690, PLD../1100 PLD../3300, PLD../6600 PTB 98 ATEX 1069 U	Flameproof conductor bushing Type KD../690, KD../1100 KD../6600 PTB 98 ATEX 1066 U	Flameproof conductor bushing Type PD../1100, PD../2200, PD../275 PTB 98 ATEX 1068 U
Non-sheathed cable bushing Type AD../275, AD../750, AD../1100, AD../3300 PTB 98 ATEX 1072 U	Connecting clamps Type 210-08-...-, 220-12-...-, 230-12-...- PTB 98 ATEX 3111 U	Flameproof conductor bushing Type GD../6600, GD../11000 PTB 98 ATEX 1067 U
Cable glands Type LE../.. PTB 98 ATEX 1002	Reduction sleeves Type 29-97/36-...-... PTB 98 ATEX 1003 U	Solid plugs Type 29-35/..x.x PTB 98 ATEX 1073 U

For the complete technical data, reference is made to the EC type-examination certificate.

Instructions for installation and operation

These **cable glands, flameproof conductor bushings / (non-sheathed) cable bushings, reduction sleeves and solid plugs** are designed for installation in electrical operator designed to type of protection "d", groups IIA, IIB or IIC.

Threaded holes into which **cable glands, flameproof conductor bushings / (non-sheathed) cable bushings, reduction sleeves and solid plugs** are screwed with their screw thread must comply with the requirements of EN 60079-1, section 5.3 (table 3) as a minimum.

They shall be mounted in the electrical operator in such a way that rotation and accidental loosening will be prevented. They form one structural unit. Reproducible assembly and installation conditions are documented. In accordance with EN 60079-1, section 16.2 (13.4.4), routine testing with the flameproof enclosure in compliance with section 16.1 can thus be dispensed with.

Special threads for **cable glands, flameproof conductor bushings / (non-sheathed) cable bushings, reduction sleeves and solid plugs** carry a special mark.

Cable bushings with pluggable terminal studs shall be included into the type test according to EN 60079, section 15 on the basis of the group classification of the corresponding electrical operator (groups I, IIA, IIB or IIC).

All **cable glands, flameproof conductor bushings / (non-sheathed) cable bushings, reduction sleeves and solid plugs** shall be included into the type test according to EN 60079-1, section 15.1.3 (overpressure test) on the basis of the group classification of the corresponding electrical operator (groups I, IIA, IIB or IIC) if the reference pressure exceeds 20 bar.

The cable gland shall be fixed in the electrical operator in such a way that rotation and accidental loosening will be prevented.

The **cable gland** includes a three-part set of sealing rings for each nominal cable diameter. The sealing ring shall be selected on that basis and the cap nut shall be screwed down completely.

The maximum current carrying capacity of the stud-type bushings and the connecting wires shall be established on the basis of the self-heating rate and the enclosure heating rate at the place of installation, starting from maximum permissible ambient temperatures.

Temperatures shall be related to the temperature class of the **cable glands, flameproof conductor bushings / (non-sheathed) cable bushings** when type testing the corresponding electrical operator.

The connecting wires of the cable glands shall be connected in enclosures that comply with a standardised degree of protection as specified in EN 60079-0, section 1.2.

For installation in a terminal compartment designed to IP54 protection as a minimum, the requirements set forth in EN 60079-0, sections 14.2 to 14.4 shall be complied with. Proper installation shall be demonstrated in the EC type-examination certificate issued for the corresponding electrical operator.

Maintenance

To form part of maintenance and servicing measures taken for the operator for which the **cable glands, flameproof conductor bushings / (non-sheathed) cable bushings, reduction sleeves and solid plugs** are used.

Recommended action:

Depending on the prevailing ambient and operating conditions, all components shall be regularly checked for proper service conditions. Any components and Ex-type elements found not to be without fault shall be replaced or returned to the manufacturer for repair.

Safety Notes

Explosion protection is safeguarded for the **cable glands, flameproof conductor bushings / (non-sheathed) cable bushings, reducers and blanking plugs** only when they are left in their original condition.

Explosion protection is not or no longer guaranteed if:

- the insulator is damaged, torn, or has come off
- the thread of the screwed sleeve is damaged
- the gap surface of the terminal stud has been modified (e.g. machined or damaged)
- the threads have not been tightened as specified, i.e. the torque set forth in the standard has not been complied with
- the components and Ex-type elements have not been secured to prevent accidental loosening.

For technical reasons, any repairs required must be made by the manufacturer.