

Operating Manual

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Bushing TYP PLD /PkLD PTB 98 ATEX 1069 U IECEx PTB 08.0032U ITS23UKEX0655U II 2 G Ex db eb IIC Gb I M2 Ex db eb I Mb	Bushing TYP GD PTB 98 ATEX 1067 U IECEx PTB 08.0054 U II 2 G Ex db eb IIC Gb I M2 Ex db eb I Mb	Stud type bushing TYP PD PTB 98 ATEX 1068 U IECEx PTB 08.0052U II 2 G Ex db eb IIC Gb I M2 Ex db eb I Mb
Threaded Adapter TYP RH PTB 99 ATEX 1003U IECEx PTB 09.0006U II 2 G Ex db eb IIC Gb I M2 Ex db eb I Mb	Screw Terminals TYP 210 bis 230 PTB 98 ATEX 3111U IECEx PTB 09.0007U II 2 G Ex db eb IIC Gb I M2 Ex db eb I Mb	Blanking Elements TYP BS PTB 98 ATEX 1073U IECEx PTB 09.0003U II 2 G Ex db eb IIC Gb I M2 Ex db eb I Mb

Installation and Operating Manual

PTB0102, INTERTEK 0359

All above listed **flameproof types of bushings, threaded adapters, screw terminals and blanking elements** are licensed for installation in electrical equipment type Ex „d“ respectively “e” for group IIA, IIB, IIC.

They must be installed in electrical equipment and secured against turning and self-loosening.

They are designed as one structural unit. The reproducible assembly and installation is documented.

According to IEC/EN 60079-1 a routine test described in chapter 16.2. and C.2.1.4. with the flameproof enclosure is not necessary.

Special threads of the listed **flameproof types of bushings, threaded adapters, screw terminals and blanking elements** are especially labelled.

Schedule of limitations

- Threaded holes for **flameproof types of bushings, threaded adapters, screw terminals and blanking elements**, must comply with the minimum requirements of EN 60079-1, cause 5.2.1, cause 5.2.2 and cause 5.3 (tables 2,3,4 and 5).
- Flameproof bushings with pluggable terminal studs (guide tube bushings) must be included into the type test according to IEC/EN 60079-1, cause 15. They must correspond to group IIA, IIB or IIC.
- All **flameproof types of bushings, threaded adapters, screw terminals and blanking elements** must be included into the type test according to IEC/EN 60079-1, cause 15.2 (overpressure test) based on the corresponding group IIA, IIB or IIC, if the relative pressure according to IEC/EN 60079-1 cause 15.2.2.1 and 15.2.3.2 (table 8 IIC. 20 bar) is exceeded.
- The maximum current capacity in Amperes of the connecting wires, stud-type bushings and bushings must be calculated on following basis: the self-heating rate, the enclosure heating rate “u” and the maximum permissible ambient temperature.
- The temperature measurement has to be done on the equipment. The maximum temperature of the cable and of the compound must not be exceeded.
- The classification of the temperatures to the corresponding temperature class must be determined during the type test.
- The installation in terminal boxes must comply with the IEC/EN 60079-0 cause 14.2 to 14.4, IEC/EN 60079-7 cause 4.10.1, DIN EN 60529-9 and as a minimum IP 64 protection. The appropriate

bolting torque for threads/ threaded adapters/

blanking elements			DIN EN IEC 60079-0		DIN EN IEC 60947-1	
thread	thread lead	torque	PLD-, PD-, GD-, KD-bolt		terminals/conductor plates	
specification	(mm)	in Nm	thread	Nm	metrical standard value	Nm
M14	x1,5	10	M4	2	M1,6	0,1
M16	x1,5	15	M5	3,2	M2	0,2
M18	x1,5	15	M6	5	M2,5	0,4
M20	x1,5	25	M8	10	M3	0,5
M22	x1,5	25	M10	16	M3,2	0,6
M24	x1,5	35	M12	25	M3,5	0,8
M25	x1,5	35	M16	50	M4	1,2
M26	x1,5	35	M20	85	M4,5	1,8
M28	x1,5	35	M24	130	M5	2
M30	x1,5	50	table 16		M6	3
M32	x1,5	50			M8	6
M33	x1,5	50			M10	10
M36	x1,5	50			M12	14
M38	x1,5	50			M14	19
M40	x1,5	50			M16	25
M42	x1,5	50			M20	36
M48	x1,5	50			M24	50
M52	x1,5	50				
M52	x2	50				
M60	x2	50				
M80	x1,5	50				
M110	x1,5	50				

Operation, service and maintenance

For maintenance and service of all **flameproof types of bushings, threaded adapters, screw terminals and blanking elements** we recommend following procedure:

Depending on the environment and operating conditions the operator must check in regular time intervals the equipment based on:

The Ordinance on Industrial Safety and Health, IEC/EN 60079-14 and IEC-EN 60079-17 to check the proper conditions of all equipment.

Damaged parts or partly damaged parts of Ex equipment **only have to be changed against original spare parts or returned to the manufacturer for repair.**

installation must be verified with an EC-type examination certificate for the particular electrical equipment.

Important safety notes

The explosion protection for **flameproof types of bushings, threaded adapters, screw terminals and blanking elements** is only maintained, if they are in original state, correctly installed and used in the range of their technical specification.

The explosion protection is not or no longer guaranteed if:

- The insulator is damaged, chipped or broken
- The thread of the screwed sleeve, the drill hole of the sled wall or the thread of our threaded bushing is damaged in any way
- The gap surface of the terminal stud and or bore has been modified, machined or damaged (Ra< 6,3 must be compulsory held).
- Threads are not tightened to their specific application with the fitting torque.
- The rules of IEC/EN 60079 – 1 are not followed that the Ex equipment is secured against turning and self-loosening.
- If technical changes are made to this certified equipment. Technical changes are not allowed in any way. The ATEX / IECEx certificate of the product will be invalid.

If required, please check the particular EC-type examination certificate for complete technical details which are available at

www.emil-a-peters.de/en