

Brief Instructions

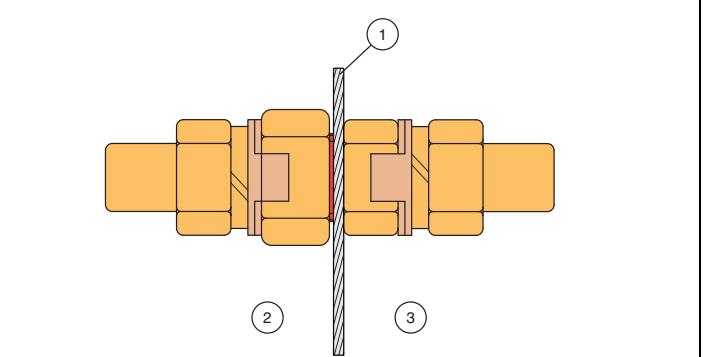
Terminal Boxes GL***.T

ENG

Pepperl+Fuchs GmbH
Lilienthalstrasse 200
68307 Mannheim, Germany
Tel. +49 621 776-0
Fax +49 621 776-1000

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- 1 Enclosure wall
- 2 Enclosure exterior
- 3 Enclosure interior

If cable glands are needed for installation, the following points must be considered:

- The cable glands used must be suitably certified for the application.
- The temperature range of the cable glands must be chosen according to the application.
- The cable glands fitted must not reduce the degree of protection.
- Metal cable glands shall be earthed.

In order to guarantee the temperature classes, ensure that power dissipation is lower than the figure stated in the certificate and in below tables of max. connection capacity. Most of the power dissipation arises from current flowing in the cables.

Select suitable conductors in order to ensure that the maximum permitted temperature of the conductors fit to the maximum permitted ambient temperature of the terminal box.

Ensure that the terminals are in good condition, and are not damaged or corroded.

Use only one conductor per terminal.

Observe the tightening torque of the terminal screws.

Use the shortest possible cable lengths and avoid small core cross-sections.

Observe the minimum bending radius of the conductors.

Insulation must extend to within 1mm of the metalwork of the terminal.

When using stranded conductors, crimp wire end ferrules on the conductor ends.

Unused cables and connection lines must be either connected to terminals or securely tied down and isolated.

Insulation by tape alone is not permitted.

If cross connects are fitted, separation walls or protective barriers may be required to preserve clearance distances.

Modifications are permitted only if approved in this instruction manual.

When installing additional components, make sure that these components are listed in the EC-type-examination certificate of the terminal box.

Only use suitably certified terminals.

Do not install fuse terminals, relays, miniature circuit breakers, contactors etc. in the enclosure.

The installer is allowed to add terminals in accordance with the maximum permitted power dissipation shown in the connection capacity tables below.

Example:

Enclosure GL8*.T with 20 terminals WDU 2.5 (current load: 6 A) and 5 terminals WDU 10 (current load: 16 A).

Assumption:

Average conductor length: 0.5 m

Maximum permissible power loss:

$$29 \text{ W Pv} = (0.242 \text{ W/m} \times 20 \times 2 \times 0.5 \text{ m}) + (0.43 \text{ W/m} \times 5 \times 2 \times 0.5 \text{ m}) \\ = 4.84 \text{ W} + 2.15 \text{ W} = 6.99 \text{ W Pv} = 6.99 \text{ W}$$

Special Conditions for Safe Use

Keep the separation distances between all non-intrinsically safe circuits and intrinsically safe circuits according to IEC/EN 60079-14.

Technical Specifications

Dissipation of copper cables in W/m

Cable CSA	Current (A)									
	1	2	4	6	10	16	20	25	32	40
1 mm ²	0.0168	0.0672	0.269	0.605	1.68	4.3	-	-	-	-
2.5 mm ²	0.00672	0.0269	0.108	0.242	0.672	1.72	2.69	4.2	-	-
4 mm ²	0.0042	0.0168	0.067	0.151	0.42	1.08	1.68	2.63	4.3	-
6 mm ²	0.0028	0.0112	0.045	0.101	0.28	0.717	1.12	1.75	2.87	4.48
10 mm ²	0.00168	0.00672	0.027	0.061	0.168	0.43	0.67	1.05	1.72	2.69

Types see type code table

Hazardous Area

ATEX certificate number SIRA 99 ATEX 3200X

IECEx certificate number IECEx SIR 06.0106X

CE number



Certification coding for ATEX/IECEx

GL**1.T Increased safety terminal enclosure	II 2 GD	Ex e IIC T* Gb Ex tb IIIC T** Db
GL**3.T Intrinsic safety terminal enclosure	II 2 GD	Ex ia IIC T* Gb Ex tb IIIC T** Db
GL**5.T Increased safety and intrinsic safety terminal enclosure	II 2 GD	Ex e IIC T* Gb Ex ia IIC T* Gb Ex tb IIIC T** Db

Ambient Conditions

Gas/dust temperature class (T*/T**)	T6/T80 °C @ Ta+40 °C
	T5/T95 °C @ Ta+55 °C (terminal insulation must be suitable for 100 °C)
IP rating	T4/T130 °C @ Ta+60 °C (terminal insulation must be suitable for 135 °C)
	Note: the temperature which a terminal is suitable for is 20 °C higher than that for which it is certified
Ambient temperature	
-40 ... 40 °C optional -50 ... 60 °C: ■ below -40 °C with appropriate cable glands ■ above 40 °C with ceramic terminals	
Mechanical	
Material	Glass fiber reinforced polyester
Finish	As moulded
Cover screw torque	2 Nm
Electrical	
Maximum voltage	Dependent on terminals and equipment fitted, but maximum must not exceed 690 V AC (GL1** ... GL4**: 440 V AC max.). See certification label.
Maximum current	Dependent on terminals, cables and equipment fitted, but maximum must not exceed 350 A. (GL1** ... GL4**: 35 A max.)
Conformity	EN 60079-0: 2012 EN 60079-7: 2007 EN 60079-11: 2012 EN 60079-31: 2009 EN 60529 IEC 60079-0: Ed 5 IEC 60079-7: Ed 4 IEC 60079-11: Ed 5 IEC 60079-31: Ed 1

Max. Connection Capacity

Max. Connection Capacity for GL* Enclosures

Max. number of conductors in relation to the cross-section and the permissible continuous current, based on terminal type WDU. GL1** ... GL4** based on terminal type AKZ.

Enclosure GL1*.T (P_{max} 7.5 W):

GL1*.T maximum permitted power dissipation to be built in: 7.5 W																
	CSA [mm ²]															
Current [A]	0.5	0.75	1	1.5	2.5	4	6	10	16	25	35	50	70	95	150	240
3	16	16	16	16	16	0	0	0	0	0	0	0	0	N/A	N/A	
6	16	16	16	16	16	0	0	0	0	0	0	0	0	N/A	N/A	
10	N/A	N/A	16	16	0	0	0	0	0	0	0	0	0	N/A	N/A	
16	N/A	N/A	N/A	16	16	0	0	0	0	0	0	0	0	N/A	N/A	
20	N/A	N/A	N/A	N/A	16	0	0	0	0	0	0	0	0	N/A	N/A	
25	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0	N/A	N/A	
35	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	N/A	N/A	
50	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	N/A	N/A	
63	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	N/A	N/A	
80	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	N/A	N/A	
100	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	N/A	N/A	
125	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	N/A	N/A	
160	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	N/A	N/A	
200	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	N/A	N/A	
250	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	N/A	N/A	

Enclosure GL2*.T (P_{max} 8 W)

GL2*.T maximum permitted power dissipation to be built in: 8 W																
	CSA [mm²]															
Current [A]	0.5	0.75	1	1.5	2.5	4	6	10	16	25	35	50	70	95	150	240

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Enclosure GL4*.T (P_{max} 9 W)

	CSA [mm ²]																	
Current [A]	0.5	0.75	1	1.5	2.5	4	6	10	16	25	35	50	70	95	150	240		
3	58	58	58	58	58	0	0	0	0	0	0	0	0	N/A	N/A			
6	58	58	58	58	58	0	0	0	0	0	0	0	0	N/A	N/A			
10	N/A	N/A	47	58	58	0	0	0	0	0	0	0	0	N/A	N/A			
16	N/A	N/A	N/A	27	46	0	0	0	0	0	0	0	0	N/A	N/A			
20	N/A	N/A	N/A	N/A	29	0	0	0	0	0	0	0	0	N/A	N/A			
25	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0	N/A	N/A			
35	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	N/A	N/A			
50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	N/A	N/A			
63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	N/A	N/A			
80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	N/A	N/A			
100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	N/A	N/A			
125	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	N/A	N/A			
160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	N/A	N/A			
200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
250	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			

Enclosure GL7*.T (P_{max} 10.4 W)

	CSA [mm ²]																	
Current [A]	0.5	0.75	1	1.5	2.5	4	6	10	16	25	35	50	70	95	150	240		
3	44	44	44	44	44	44	38	28	22	18	14	0	0	0	N/A	N/A		
6	44	44	44	44	44	44	38	28	22	18	14	0	0	0	N/A	N/A		
10	N/A	N/A	44	44	44	44	38	28	22	18	14	0	0	0	N/A	N/A		
16	N/A	N/A	N/A	27	44	44	38	28	22	18	14	0	0	0	N/A	N/A		
20	N/A	N/A	N/A	N/A	29	0	0	0	0	0	0	0	0	N/A	N/A			
25	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0	N/A	N/A			
35	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	N/A	N/A			
50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	N/A	N/A			
63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	N/A	N/A			
80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	N/A	N/A			
100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	N/A	N/A			
125	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	N/A	N/A		
160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	N/A	N/A			
200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
250	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			

Enclosure GL10*.T (P_{max} 13.8 W)

	CSA [mm ²]																	
Current [A]	0.5	0.75	1	1.5	2.5	4	6	10	16	25	35	50	70	95	150	240		
3	145	202	202	202	202	168	130	104	86	64	0	0	0	N/A	N/A			
6	36	54	72	109	182	168	130	104	86	64	0	0	0	N/A	N/A			
10	N/A	N/A	26	39	65	104	130	104	86	64	0	0	0	N/A	N/A			
16	N/A	N/A	N/A	27	44	38	28	22	18	14	0	0	0	N/A	N/A			
20	N/A	N/A	N/A	N/A	29	38	28	22	18	14	0	0	0	N/A	N/A			
25	N/A	N/A	N/A	N/A	N/A	30	28	22	18	14	0	0	0	N/A	N/A			
35	N/A	N/A	N/A	N/A	N/A	N/A	23	22	18	14	0	0	0	N/A	N/A			
50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19	18	14	0	0	0	N/A	N/A			
63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18	14	0	0	0	N/A	N/A			
80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14	0	0	0	N/A	N/A			
100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	N/A	N/A			
125	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	N/A	N/A			
160	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	N/A	N/A			
200	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
250	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			

Enclosure GL13*.T (P_{max} 31.4 W)

	CSA [mm ²]		
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Type Code

Enclosure Type	
GL	Glass fiber reinforced polyester GRP
Enclosure Size	
nn	Enclosure size from standard range
Grounding Plate	
0	none
1	galvanized steel
2	brass
3	stainless steel
Type of Explosion Protection	
0	non-Ex application
1	Ex e, Ex tb
3	Ex ia, Ex tb
5	Ex ia / Ex e, Ex tb
Enclosure Depth	
nn	enclosure depth from standard range
Type of Solution	
T	Terminal box
Variant Number	
Cxxxxxx	Configured variants
Yxxxxxx	Engineered variants

Example:

GL | 11 | 2 | 1 | D | .T | -C123456

Terminal box GRP, size 11, grounding plate brass, certified Ex e and Ex tb, enclosure depth D, configured variant