EU Type Examination Certificate CML 17ATEX3255X Issue 5

1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

2 Equipment **GR Terminal Box**

3 Manufacturer **Pepperl+Fuchs SE**

4 Address **Lilienthalstrasse 200**
68307 Mannheim
Germany

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 Eurofins CML B.V., Chamber of Commerce No 67386717, Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 12.

7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.

8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018	EN IEC 60079-7:2015+A1:2018	EN 60079-11:2012
EN 60079-28:2015	IEC 60079-31:2022	

* **Although this standard does not appear on the harmonised list, the content has been reviewed, and as it is the latest technical knowledge and addresses all the same requirements as the previous edition, it is accepted as meeting the same EHSRs of the Directive as the previous, harmonised edition. The assessment is included in the flexible scope assessment document**

10 The equipment shall be marked with the following:

Ⓔx II 2 G D

Ex eb IIC T* Gb	Ex eb op pr IIC T* Gb
Ex ia IIC T* Gb	Ex ia op pr IIC T* Gb
Ex op pr IIC T6 Gb	Ex eb ia op pr IIC T* Gb
Ex eb ia IIC T* Gb	Ex tb IIIC T**°C Db

Ta=-#°C to +40/55/65°C

"'#' Lower ambient is dependent upon components fitted but shall be no less than -60°C

'*' Refer to description for T classes "

11 Description

The GR Terminal Box is a range of increased safety, black, anti-static, glass-fibre reinforced polyester enclosures with a base and screw-down cover (with optional hinges in addition to the fixing screws). The range utilises the Ex Component certified Pepperl+Fuchs GR enclosures covered under certificate numbers IECEx CML 17.0039U and CML 17ATEX3084U. The terminal boxes are populated with DIN rail mounted, increased safety Ex Component certified terminals.

For cable entry, the terminal boxes may be provided with clearance holes, as required, machined into the top, bottom, left and right faces. An internal/external earth stud may be provided.

The enclosures may be flanged to each other to create one larger enclosure with an allowed dissipation corresponding to the new larger dimensions and they may be flanged to separately certified Ex d enclosures. A method for calculating the required reduction in allowed dissipated power to account for any heating from the neighbouring Ex d enclosures is described in this certificate.

The enclosures are available in a range of standard sizes as shown in the table 1 below, intermediate sizes are also permitted.

Design options

Enclosure type	H (mm)	W (mm)	D (mm)
GR.*.10.10.07*	100 mm	100 mm	65 mm
GR.*.13.13.09*	130 mm	130 mm	85 mm
GR.*.13.18.09*	130 mm	180 mm	91.5 mm
GR.*.18.18.10*	180 mm	180 mm	104 mm
GR.*.18.24.10*	180 mm	240 mm	104 mm
GR.*.18.36.10*	180 mm	360 mm	104 mm
GR.*.18.36.17*	180 mm	360 mm	166.5 mm
GR.*.36.36.10*	360 mm	360 mm	104 mm
GR.*.36.36.17*	360 mm	360 mm	166.5 mm
GR.*.36.36.24*	360 mm	360 mm	241.5 mm
GR.*.48.60.24*	480 mm	600 mm	241.5 mm
GR.*.36.72.17*	360 mm	720 mm	166.5 mm
GR.*.36.72.24*	360 mm	720 mm	241.5 mm
GR.*.10.10.07*	100 mm	100 mm	65 mm
GR.*.13.13.09*	130 mm	130 mm	85 mm
GR.*.13.18.09*	130 mm	180 mm	91.5 mm
GR.*.18.18.10*	180 mm	180 mm	104 mm
GR.*.18.24.10*	180 mm	240 mm	104 mm
GR.*.18.36.10*	180 mm	360 mm	104 mm
GR.*.18.36.17*	180 mm	360 mm	166.5 mm
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GR.*.36.36.17*	360 mm	360 mm	166.5 mm
GR.*.36.36.24*	360 mm	360 mm	241.5 mm
GR.*.48.60.24*	480 mm	600 mm	241.5 mm
GR.*.36.72.17*	360 mm	720 mm	166.5 mm
GR.*.36.72.24*	360 mm	720 mm	241.5 mm

Table 1

Maximum Dissipated Power for T6/T5/T4 Ta = 40°C/55°C/65°C

Enclosure type		Power (W)		
	Ta(°C)	T6/T80°C	T5/T95°C	T4/T130°C
GR.*.10.10.07*	40	6	N/A	N/A
GR.*.10.10.07*	55	-	N/A	N/A
GR.*.10.10.07*	65	-	-	N/A
GR.*.13.13.09*	40	8.1	12.4	N/A
GR.*.13.13.09*	55	-	8.1	N/A
GR.*.13.13.09*	65	-	-	N/A
GR.*.13.18.09*	40	9.7	14.9	19.9
GR.*.13.18.09*	55	-	9.7	N/A
GR.*.13.18.09*	65	-	-	N/A
GR.*.18.18.10*	40	12.3	20.6	28.7
GR.*.18.18.10*	55	-	12.3	N/A
GR.*.18.18.10*	65	-	-	N/A
GR.*.18.24.10*	40	14.5	24.3	33.8
GR.*.18.24.10*	55	-	14.5	N/A
GR.*.18.24.10*	65	-	-	14.5
GR.*.18.36.10*	40	18.8	31.4	43.9
GR.*.18.36.10*	55	-	18.8	31.4
GR.*.18.36.10*	65	-	-	18.8
GR.*.18.36.17*	40	22.3	37.3	52
GR.*.18.36.17*	55	-	22.3	37.3
GR.*.18.36.17*	65	-	-	22.3
GR.*.36.36.10*	40	31.7	53	73.9
GR.*.36.36.10*	55	-	31.7	53
GR.*.36.36.10*	65	-	-	31.7
GR.*.36.36.17*	40	37	61.8	86.3
GR.*.36.36.17*	55	-	37	61.8
GR.*.36.36.17*	65	-	-	37
GR.*.36.36.24*	40	43.3	72.4	100.9
GR.*.36.36.24*	55	-	43.3	72.4
GR.*.36.36.24*	65	-	-	43.3
GR.*.48.60.24*	40	76.8	128.3	179
GR.*.48.60.24*	55	-	76.8	128.3
GR.*.48.60.24*	65	-	-	76.8
GR.*.36.72.17*	40	61.7	103.1	143.8
GR.*.36.72.17*	55	-	61.7	103.1
GR.*.36.72.17*	65	-	-	61.7
GR.*.36.72.24*	40	70.1	117.1	163.4
GR.*.36.72.24*	55	-	70.1	117.1
GR.*.36.72.24*	65	-	-	70.1

Table 2

The maximum dissipated power in the table above was derived with the terminals used at 60% of their rated current value.

Variation 1
This variation introduced the following changes:

i. Amendment to the dust surface temperatures. They were changed from T85°C, T100°C, T135°C to T80°C, T95°C, T130°C.

Variation 2
This variation introduced the following changes:

i. To transfer the CML UK ATEX Certificates to CML BV

Variation 3
This variation introduced the following changes:

i. To update the certificate to the latest editions of the standards.

Variation 4
This variation introduced the following changes:

i. To assess the thermal effects of various mounting configurations
ii. To update to the latest version of standard: IEC 60079-31:2022 Ed 3.0

Variation 5
This variation introduced the following changes:

i. To update thermal calculation rules for the maximum power dissipation of the full range of enclosure sizes

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	29 May 2018	R11362A/00	Issue of Prime Certificate
1	19 July 2018	R11362A/01	Introduction of Variation 1
2	07 Mar 2019	R12226A/00	Transfer of Certificate to CML BV
3	12 Sep 2021	R14112AL/00	Introduction of Variation 3
4	03 Nov 2023	R15161A/00	Introduction of Variation 4
5	07 May 2025	R18019A/00	Introduction of Variation 5

Note: Drawings that describe the equipment or component are listed in the Annex.

13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

i. Where the product incorporates certified parts or safety critical components, the manufacturer of the product defined on this certificate shall continually monitor these parts/components for any modifications introduced by the manufacturer(s) of these constituent parts. If the manufacturer of any constituent part introduces any changes which affect the compliance of the certified product that is the subject of this certificate, the manufacturer is required to have this certificate updated.

ii. When terminals are supplied with the enclosure, they shall be ATEX/IECEx approved components as specified in the scheduled drawings and having a maximum insulation temperature as below. All terminals shall be installed in accordance with their Conditions of Safe Use/Schedule of Limitations/Conditions of Certification and the relevant codes of practice/wiring regulations, specifically to the minimum creepage and clearance requirements and to any limitations to ratings that may be observed due to method of installation.

Terminals shall have a minimum insulation temperature as per the table below:

Ta = +40°C	Ta = +55°C	Ta = + 65°C
≥80ºC	≥95ºC	≥105ºC

All terminals fitted shall be suitable for the lower operating temperature marked on the certification label.

iii. The lower ambient temperature shall be de-rated according to the minimum temperature limitations of the components fitted to the enclosure.

iv. Where multiple enclosures are mounted together, instructions described in the manufacturer's drawings shall be followed.

14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

i. When fitted with the fibre optic splice tray, the fibre cables shall be sufficiently supported so as to prevent strain and their minimum bend radius shall be observed and all fibre connectors shall have dust covers fitted if not used.

Certificate Annex

Certificate Number	**CML 17ATEX3255X**
Equipment	**GR Terminal Box**
Manufacturer	**Pepperl+Fuchs SE**

The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
16-1410CM-04	1 of 7	--	29 May 2018	GR terminal box - general assembly
16-1410CM-04	2 of 7	--	29 May 2018	GR terminal box - maximum power dissipation
16-1410CM-04	3 of 7	--	29 May 2018	GR terminal box - list of terminals
16-1410CM-04	4 of 7	--	29 May 2018	GR terminal box - earth stud
16-1410CM-04	5 of 7	--	29 May 2018	GR terminal box - earth / neutral bar
16-1410CM-04	6 of 7	--	29 May 2018	GR terminal box - splice tray
16-1410CM-04	7 of 7	--	29 May 2018	Label/paint exceeding ESD limitations
16-1410CM-10	1 of 2	--	29 May 2018	GR terminal box type code
16-1410CM-10	2 of 2	--	29 May 2018	GR terminal box certification label

Issue 1
None.

Issue 2
None.

Issue 3
None.

Issue 4

Drawing No	Sheets	Rev	Approved date	Title
16-1649CM-00	1 of 3	00	31 Oct 2023	Ex d/e flanged panel thermal calculation
16-1649CM-00	2 of 3	00	31 Oct 2023	Ex e flanged panel area calculation
16-1649CM-00	3 of 3	00	31 Oct 2023	Ex d/e flanged panel thermal calculation.

Issue 5

Drawing No	Sheets	Rev	Approved date	Title
16-1410CM-04	1 of 8	A	07 May 2025	GR terminal box - general assembly
16-1410CM-04	2 of 8	A	07 May 2025	GR terminal box - maximum power dissipation
16-1410CM-04	3 of 8	A	07 May 2025	GR terminal box - maximum power dissipation
16-1410CM-04	4 of 8	A	07 May 2025	GR terminal box - list of terminals

Certificate Annex

Certificate Number **CML 17ATEX3255X**

Equipment **GR Terminal Box**

Manufacturer **Pepperl+Fuchs SE**

16-1410CM-04	5 of 8	A	07 May 2025	GR terminal box - earth stud
16-1410CM-04	6 of 8	A	07 May 2025	GR terminal box - earth / neutral bar
16-1410CM-04	7 of 8	A	07 May 2025	GR terminal box - splice tray
16-1410CM-04	8 of 8	A	07 May 2025	Label/paint exceeding ESD limitations