

**EU Type Examination Certificate CML 25ATEX3067X Issue 0**

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **Ex Solar Panel series PFV-EX...**
- 3 Manufacturer **CORTEM S.p.A**
- 4 Address **Via Aquileia 10,  
34070 Villesse,  
Gorizia, Italy**

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

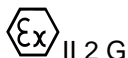
EN IEC 60079-7:2015/A1:2018

EN IEC 60079-18:2015/A1:2017

EN IEC 60079-31:2024\*

\* **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.**

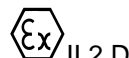
10 The equipment shall be marked with the following:



Ex eb mb IIC T... Gb

IP66

Ta = -60 °C to +\*\* °C



Ex tb IIIC T... °C Db

IP66

Ta = -60 °C to +\*\*\*°C

Refer to the equipment Description for Temperature Class and Ambient Temperature Range

## 11 Description

The Ex Solar Panel series PFV-EX... are suitable for use in explosive atmospheres with flammable gas and vapours of Group IIC and EPL Gb and flammable dust of Group IIIC and EPL Db.

At the rear part, the Solar Panel is provided with:

- “Ex mb” encapsulated enclosures including diodes.  
For the models PFV-Ex-70-12 and PVF-Ex-200-24 : a Type 2 Diode Box glued to the back of the panel which includes 2 “by-pass” diodes encapsulated (“Ex mb” type of protection).  
For the models PVF-Ex-400-24 : Up to 3 Type 1 Diode Boxes glued to the back of the panel. Each box includes one “by-pass” diode encapsulated (“Ex mb” type of protection).
- Integrated cables which shall be connected to a suitable enclosure or connectors covered by a separate certificate as Ex equipment

The models PFV-Ex-70-12, PFV-Ex-200-24, and PVF-Ex-400-24 are considered standard solar panel models. Non-standard models with intermediate power ratings may be supplied, provided they fully comply with the technical requirements and limitations specified in the manufacturer's descriptive documentation.

The Photovoltaic Panels are IP66 rated.

### Nomenclature

PFV-Ex- XXX - YY - ZZ

Where:

XXX is the Power.

YY is the Supply Voltage.

ZZ is for other specifications.

### Ambient temperature and Temperature Class:

The Solar Panel series PFV-EX... have an ambient temperature range from -60°C to +60°C depending on the temperature class as per the following table:

Max. Ambient Temperature:	Temperature Class					
	+ 40°C		+ 50°C		+ 60°C	
	Gas	Dust	Gas	Dust	Gas	Dust
<b>PVF-Ex-400-24</b>	T6	T71°C	T6	T81°C	T5	T91°C
<b>PVF-Ex-200-24</b>	T6	T71°C	T6	T81°C	T5	T91°C
<b>PVF-Ex-70-12</b>	T6	T71°C	T6	T81°C	T5	T91°C

### Dimensions and features:

Characteristics	PVF-Ex-400-24	PVF-Ex-200-24	PVF-Ex-70-12
Nominal Dimension [mm]	1737 x 1149 x 35	1335 x 785 x 35	935 x 405 x 35
Number of cells	108	54	36

**Ratings**

Model	Maximum power [W]	Open circuit voltage [V]	Short circuit current [A]	Voltage at Pmax [V]	Current at Pmax [A]	N° of by-pass Diode
<b>PVF-Ex-400-24</b>	400	41.4	12.08	34.5	11.59	3
<b>PVF-Ex-200-24</b>	200	41.6	6.09	34.2	5.85	2
<b>PVF-Ex-70-12</b>	70	23.8	3.77	19.4	3.61	2

**12 Certificate history and evaluation reports**

Issue	Date	Associated report	Notes
0	14 Nov 2025	R17880A/00	Issue of prime certificate

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. Each unit shall be subjected to routine visual inspections of the encapsulated parts in accordance with EN IEC 60079-18 Clause 9.1. There shall be no damage evident.
- iii. Each unit shall be subjected to routine dielectric strength tests in accordance with EN IEC 60079-18 Clause 9.2. The test voltage 500V shall be applied between the diode connections and the surface of the diode encapsulant. There shall be no breakdown.
- iv. The routine dielectric strength test in accordance with EN IEC 60079-7 Clause 7.1 shall be performed at 500V between each circuit and earthed metal parts. There shall be no breakdown.

**14 Specific Conditions of Use (Special Conditions)**

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

- i. The Ex Solar Panel series PFV-EX... shall only be installed in areas of a low risk of mechanical damage.
- ii. Due to the possibility of static build up, the enclosure including the by-pass diodes shall only be cleaned with a damp cloth. Refer also to user manual.
- iii. The Ex Solar Panel series PFV-EX... shall be completely covered with an opaque material during installation to prevent inadvertent charging of solar cells.
- iv. The Ex Solar Panel series PFV-EX... shall be connected to a suitable enclosure or connectors covered by a separate certificate as Ex equipment.

## Certificate Annex

**Certificate Number** CML 25ATEX3067X  
**Equipment** Solar Panel series PFV-EX...  
**Manufacturer** CORTEM S.p.A



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

### Issue 0

Drawing No	Sheets	Rev	Approved date	Title
A4-8402	1 to 9	0	14 Nov 2025	Technical Note
A3-8403	1 to 6	0	14 Nov 2025	Ex Solar Panels - Drawings