



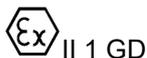
## EU Type Examination Certificate CML 17ATEX2113X Issue 1

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **PD685/686 Loop Indicator**
- 3 Manufacturer **Precision Digital Corporation**
- 4 Address **233 South Street,  
Hopkinton,  
MA 01748,  
USA**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 Certification Management Limited, Unit 1 Newport Business Park, New Port Road, Ellesmere Port CH65 4LZ, UK, Notified Body Number 2503, 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.
- 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 60079-0:2012+A11:2013

EN 60079-11:2012

- 10 The equipment shall be marked with the following:



II 1 GD

Ex ia IIC T4 Ga

Ex ia IIIC T135°C Da

-40°C ≤ Ta ≤ +75°C



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## 11 Description

The PD685/686 Loop Indicators are general purpose loop indicators with liquid crystal displays. The equipment may be powered from the 4-20mA signal being measured, or from internal batteries. Connection terminals are provided inside the equipment and the external cable enters the enclosure via conduit or a suitable cable gland.

The electronics assembly is housed in a non-metallic enclosure and the equipment is suitable for both gases and combustible dusts. Battery powered models (models with -12MC suffix) incorporate an on/off switch and LED indicator.

Intrinsic safety is achieved by limiting energy storage and discharge. Loop powered models connect to the non-hazardous area via an intrinsically safe interface device. Battery powered models provide an intrinsically safe output for connection to external equipment.

The equipment has the following safety description:

Loop powered models	Battery powered models (-12MC)
U <sub>i</sub> = 30V	U <sub>o</sub> = 20.7V
I <sub>i</sub> = 175mA	I <sub>o</sub> = 121mA
P <sub>i</sub> = 1W	P <sub>o</sub> = 0.47W
C <sub>i</sub> = 0	C <sub>i</sub> = 0
L <sub>i</sub> = 0	L <sub>i</sub> = 0

### Variation 1

This variation introduces the following change:

- i. To add a battery powered variant with loop output, model number PD685-12MC.

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	24 Jul 2017	R2017A/00	Report for the prime certificate issue.
1	19 Dec 2018	R11988A/00	The issue of variation 1

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. The manufacturer shall ensure that when the equipment is fitted with an LED and/or switch, a minimum degree of protection of IP5X is maintained.
- ii. The manufacturer shall ensure that Fuse F1 on the battery PCB is either an ATEX certified type, suitable for use in equipment requiring EPL Ga/Da for Group IIC/IIIC or is encapsulated in accordance with the requirements of IEC60079-11 Clauses 7.3 and 6.6.



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#### **14 Special Conditions for Safe Use (Conditions of Certification)**

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

- i. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. This is particularly important if the equipment is installed in a zone 0 location. In addition, the equipment shall only be cleaned with a damp cloth.
- ii. The cable entry into the enclosure shall be by means of conduit or cable gland and shall provide a minimum degree of protection of IP5X.

## Certificate Annex



**Certificate Number** CML 17ATEX2113X  
**Equipment** PD685/686 Loop Indicator  
**Manufacturer** Precision Digital Corporation

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

### Issue 0

Drawing No	Sheets	Rev	Approved date	Title
DW2414	1 to 7	A	24 Jul 2017	PD685/686 ATEX Certification Drawing

### Issue 1

Drawing No	Sheets	Rev	Approved date	Title
DW2639	1 to 8	A	19 Dec 2018	PD685 Battery-powered ATEX/IECEx Certification Drawing