



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx CML 17.0052X

Issue No: 1

Certificate history:

Issue No. 1 (2018-12-19)

Issue No. 0 (2017-07-25)

Status: **Current**

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Date of Issue: **2018-12-19**

Applicant: **Precision Digital Corporation**
233 South Street
Hopkinton
MA 01748
United States of America

Equipment: **PD685/686 Loop Indicators**

Optional accessory:

Type of Protection: **Intrinsic safety "ia"**

Marking:

Ex ia IIC T4 Ga

Ex ia IIIC T135°C Da

Ta = -40°C to +75°C

Approved for issue on behalf of the IECEx
Certification Body:

R C Marshall

Position:

Certification Officer

Signature:
(for printed version)

Date:

2018-12-19

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Certification Management Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom





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Manufacturer: **Precision Digital Corporation**
233 South Street
Hopkinton
MA 01748
United States of America

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[GB/CML/ExTR17.0088/00](#) [GB/CML/ExTR18.0284/00](#)

Quality Assessment Report:

[GB/SIR/QAR10.0005/07](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

PD685/686 Loop Indicator

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.

Refer to Annex for full description and Conditions of Manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to Annex for Specific Conditions of Use.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1

This variation introduces the following modification:

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

Annex:

[IECEX CML 17.0052X Iss. 1 Certificate Annex.pdf](#)

Annexe to: IECEx CML 17.0052X, Issue 1
Applicant: Precision Digital Corporation
Apparatus: PD685/686 Loop Indicator



Product 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 _i = 30V	U _o = 20.7V
I _i = 175mA	I _o = 121mA
P _i = 1W	P _o = 0.47W
C _i = 0	C _i = 0
L _i = 0	L _i = 0

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 IECEx 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.

Conditions of Certification (IECEx Specific Conditions of Use)

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.

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Issue 1

This variation introduces the following modification:

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