



1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Component intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 19ATEX1252U** Issue: **2**

4 Component: **EX and EC series empty enclosures**

5 Applicant: **Precision Digital Corporation**

6 Address: **233 South Street
Hopkinton, MA 01748
USA**

7 This component and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

8 CSA Group Netherlands B.V. notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this component has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of a component 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 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014

10 The sign 'U' is placed after the certificate number to indicate that the product assessed is a component and may be subject to further assessment when incorporated into equipment. Any limitations of use are listed in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified component. If applicable, further requirements of this Directive apply to the manufacture and supply of this component.

12 The marking of the component shall include the following:



II 2GD
Ex db IIC Gb
Ex tb IIIC Db

IP66/IP68

Project Number 80065786

Signed: J A May

Title: Director of Operations

CSA Group Netherlands B.V.
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SCHEDULE

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13 DESCRIPTION OF COMPONENT

The EX series of empty enclosures includes models EX200, EX500, EX550 and EX700 with additional suffixes. The EC series of empty enclosures includes models EC200, EC500, EC550 and EC700 with additional suffixes. The aluminium or stainless-steel enclosures are cylindrical, single or dual compartment enclosures, with solid or cemented window threaded covers with integral set screw fastener. Up to four entries may be provided in the enclosure base, available in 1/2 NPT, 3/4 NPT, 1 NPT or M20 threaded options.

Enclosure bases are provided with internal earthing and external bonding facilities, internal tapped bosses for mounting of internal components. Within the EX/EC 500, EX/EC 550 and EX/EC 700 models additional internal tapped bosses are provided adjacent to cover threads.

The single-compartment EX/EC 200, EX/EC 500 and EX/EC 700 models are provided with a single threaded cover, and available in either aluminium or stainless steel. The aluminium-only dual-compartment EX/EC 550 model is provided with two threaded covers and a solid 10.6 mm thick internal wall (i.e. separating the two compartments) within the base.

The EX/EC series are investigated as Ex Components and are not Ex Equipment, which meet IP6X requirements with a service temperature range of -55°C to +85°C. The EX/EC series are separately tested against the requirements of IEC 60529 and meets IPX6 and IPX8. The IPX8 rating corresponds with a maximum depth of 2 m for a maximum duration of 1 hour.

EC = Component Instrumentation Housing; no shipping package, used within the manufacturer's network

EX = Product Instrumentation Housing with shipping package

EX/EC series model code: EX/EC aaa-bb-c-dd-eeeeee

aaa = Model:

- 200 = small single-compartment instrument housing
- 500 = medium single-compartment instrument housing
- 550 = medium dual-compartment instrument housing
- 700 = large single-compartment instrument housing

bb = Enclosure material:

- AL = aluminium enclosure
- SS = stainless steel enclosure (not available for EX/EC 550 model)

c = Cover type:

- S = solid cover
- W = cemented window cover

dd = Conduit entries:

- 2-digit alphanumeric code indicating a combination / permutation of the following optional threaded entries: none, 1/2-14 NPT, 3/4-14 NPT, 1-11 NPT and/or M20x1.5

eeeeee = Optional cosmetic modifications:

- blank = none
- 6-digit alphanumeric code indicating cosmetic variations or specialized customer configurations

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Variation 1 - This variation introduced the following changes:

- i. Introduction of "IP68" rating; Markings, Product Description and Schedule of Limitation referencing "All entry closure devices shall be suitably certified as" were revised to include IP68 references.
- ii. Introduction to revisions to the product nomenclature to include the "EC" Series; Product Description and several Schedule of Limitations referencing "Ex Series" were revised to include the introduced EC Series.
- iii. Minor drawing revisions were made to controlled drawing DW2427 to note: the introduction of "IP68" rating, the introduction of the EC Series nomenclature, the addition of an option to use corrosion inhibiting grease as thread lubrication at manufacturing stage and to clarify the internal marking label material and location.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	28 October 2019	R80011201A	The release of the prime certificate.
1	31 October 2019	5285	Transfer of certificate Sira 19ATEX1252U from Sira Certification Service to CSA Netherlands B.V.
2	05 March 2021	R80065786A	The introduction of Variation 1.

15 SCHEDULE OF LIMITATIONS

15.1 Refer to drawing DW2427 for flameproof joint dimensions.

15.2 All entry closure devices shall be suitably certified as "Ex d", "Ex t" and "IP66/68" as applicable. Suitable thread sealing compound (non-setting, non-insulating, non-corrosive, not solvent based, suitable for the ambient rating) must be used at the NPT conduit entries to achieve the IPx8 rating while maintaining the Ex protection concept.

15.3 The EX/EC series enclosures are rated for use in an ambient and service temperature range of -55°C to +85°C. The non-metallic window cement has a COT of -55°C to +105°C. Ex Equipment utilizing the EX/EC series enclosures may require de-rating of the maximum ambient temperature, in order to maintain the service temperature ratings of the Ex Component enclosure.

15.4 "Ex t" only or dual "Ex d" and "Ex t" Ex Equipment utilizing the EX/EC series enclosures shall include the following or technically equivalent warning marking "WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS", and the following or technically equivalent Conditions of Certification / Specific Conditions of Use "Anodized or epoxy coated aluminium models must not be installed in locations where they may be subjected to conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conductive surfaces. Additionally, cleaning of the equipment should only be done with a damp cloth."

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- 15.5 “Ex d” Ex Equipment utilizing the EX/EC series enclosures shall have no holes, whether for mechanical or electrical purpose and whether blind or clear, drilled through the enclosure, with the exception of the following:
 - a. EX/EC 550 User Modification Instructions: 1/2-14 NPT or 3/4-14 NPT openings, with a minimum of 5 full threads, may be drilled and tapped through the 10.6 mm (0.4 in) thick internal wall for installation of a suitably certified bushing, in order to maintain the isolation between chambers.
- 15.6 “Ex d” Ex Equipment shall not utilize the EX/EC series enclosures to contain oil-filled circuit-breakers or contactors.
- 15.7 “Ex d” Ex Equipment may utilize the following EX/EC series enclosures to contain internal components in any arrangement, provided that ≥ 40% of each cross-sectional area remains free to permit unimpeded gas flow. Separate relief areas may be aggregated provided that each area has a minimum dimension in any direction of 12.5 mm. Otherwise, additional Explosion Reference Pressure and even Overpressure Testing may be deemed necessary.

Model series	Internal cross-sectional area	Internal volume (max)	Reference pressure (max)
EX/EC 200	70.3 mm (2.77 in)	357 cm ³ (22 in ³)	142 PSI
EX/EC 500	104.3 mm (4.11 in)	1003 cm ³ (61 in ³)	162 PSI
EX/EC 550 (dual)	104.5 mm (4.12 in)	534 cm ³ (33 in ³) 618 cm ³ (38 in ³)	165 PSI
EX/EC 700	125.5 mm (4.94 in)	2335 cm ³ (143 in ³)	156 PSI

- 16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)**
The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.
- 17 **CONDITIONS OF MANUFACTURE**
 - 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Certificates.
 - 17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

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Certificate Annexe



Certificate Number: Sira 19ATEX1252U
Component: EX and EC series empty enclosures
Applicant: Precision Digital Corporation

Issue 0

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
DW2427	1 to 22	A	18 Oct 19	EX series schedule drawing

Issue 1. No new drawings were introduced

Issue 2

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
DW2427	1 to 22	B	24 Feb 21	EX series schedule drawing

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