



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEx CML 16.0151X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2017-09-21

Applicant: **Cinch Connectivity Solutions, Ltd**  
11 Bilton Road, Chelmsford, Essex CM1 2UP, England  
**United Kingdom**

Equipment: **Geo-Beam™ EX**

Optional accessory:

Type of Protection: **Ex db, tb, op pr**

Marking: Ex db op pr IIC T4 Gb  
Ex tb op pr IIIC T135°C Db

Approved for issue on behalf of the IECEx  
Certification Body:

**H M Amos MIET**

Position:

**Technical Manager**

Signature:  
(for printed version)

Date:

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\_\_\_\_\_

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





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Manufacturer: **Cinch Connectivity Solutions, Ltd**  
11 Bilton Road, Chelmsford, Essex CM1 2UP, England  
**United Kingdom**

Additional  
manufacturing  
locations:

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 equipment 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 60079-1:2014-06** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

**IEC 60079-28:2015** Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation  
Edition:2

**IEC 60079-31:2013** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

This Certificate **does not** indicate compliance with 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/ExTR16.0193/00](#)

Quality Assessment Report:

[GB/CML/QAR17.0020/00](#)



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**EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The Geo-Beam EX product range includes an inline plug and box mount bulkhead and is manufactured using Stainless Steel 316.  
**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**

**Annex:**

[IECEx CML 16.0151X Annex Iss 0.pdf](#)

**Annexe to:** IECEx CML 16.0151X Issue 0  
**Applicant:** Cinch Connectivity Solutions, Ltd  
**Apparatus:** Geo-Beam Ex



## Description

Cinch Connectivity Solutions explosion proof series Geo-Beam™ EX has been designed in accordance with the ATEX directive, and IECEx 60079, for use in Zone 1 Hazardous Areas.

The Geo-Beam™ EX product range includes an inline plug and box mount bulkhead and is manufactured using Stainless Steel 316, making it able to withstand the most extreme environments. The inline plug is self-explanatory and can be used with variable Ex d cable glands. The box mount bulkhead is, as it suggests mountable to an Ex d enclosure via the M32 threaded section at the rear. In addition to this, the connector can also be used as an Inline Bulkhead when linking cables through a system. The product uses a Tri-Start Trapezoidal coupling method, giving a reduce turn and an additional locking mechanism, giving positive mating and an audible click to ensure full engagement.

A standard ATEX approved metric cable gland can be used and will fit all of the Geo-Beam™ EX connector types. The wide array of cable gland offerings allows for termination to varied cable constructions.

The range has been designed using an 8-way copper connector, focusing around a standard #16 MIL-C-39029 contact, with maximum ratings of 13A per pin and a Maximum 600V the product can be placed in a T4 (gas) & T135°C (dust) operating class. Alternatively, the Geo-Beam™ EX range can be used with a variable range of fiber optic configurations.

In addition to this the Geo-Beam™ Ex is also able to offer Hybrid version (power/signal/optical) within the same connector, below is a list of configurations available within the Geo-Beam Ex Connector Range: -

### Configurations & Inserts Types.

- 2, 4, 6 and 8 Expanded Beam Channels (Lensed Optical)
- Hybrid –expanded beam and electrical (using #16 and/or #20 pin and socket contacts).
- Up to 8 #16 Pin or Socket Contacts (all copper MIL-C-39029, all fiber MIL-PRF-29504, or mixed copper & fiber)

### Conditions of Manufacture

- i. Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.

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

- i. Do not separate when energised.
- ii. Do not disconnect / connect connectors unless all electrical/optical power is isolated at the source.
- iii. Do not disconnect / connect the connectors when a gas or dust atmosphere is present.
- iv. Do not energise an unmated connector even when dust caps are fitted.
- v. The current and voltage parameters of the electrical circuits are limited to 600V r.m.s, 13 Amps per pin [maximum 8 pin electrical connector]. These shall not be exceeded.
- vi. The cable glands used with Free Plugs and Free Receptacles shall be an appropriately approved Ex d and Ex tb type which is suitable for the type of cable used. The cable gland selection shall not affect the compliance of the connector arrangements.
- vii. The cable glands and cable insulation may reach up to 47°C above the ambient temperature. Consideration shall be given to the temperature rating of the cable and glands at high ambient.
- viii. User gland entries shall be fitted with suitable ingress seals to maintain the overall ingress protection of the connectors to IP66/7.
- ix. Optical power levels of more than 5mW/mm<sup>2</sup> and 35mW shall not be used.
- x. Ensure that the M5 captive locking screws are in place and are fully tightened before energised. Torque the screw to 1Nm.
- xi. The M5 captive locking screws are required to protect the user from un-insulated live parts, any damage to these parts means they will need replacing. Only the Cinch Connectivity Solutions, part (Part # 4513) shall be used and dis-assembly will be required and should only be carried out by an appropriately trained person in accordance with the relevant codes of practice.
- xii. The dimensions of the flamepaths shall not be modified. In the event that the unit requires repair, it shall be returned to the manufacturer.
- xiii. Use associated dust caps when the plug and socket are not in use.
- xiv. The plug and socket shall be inspected prior to connection to remove any foreign objects/dust/moisture.