# 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

Certificate No.: **IECEx ITS 15.0068X**

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Certificate history:

Issue 4 (2020-05-20)
Issue 3 (2019-12-05)
Issue 2 (2017-12-11)
Issue 1 (2016-11-23)
Issue 0 (2016-06-07)

Status: **Current**

Issue No: 5

Date of Issue: 2020-07-13

Applicant: **Eaton MEDC Ltd (Oxalis)**
Unit B, Sutton Parkway
Oddicroft Lane, Sutton-in-Ashfield, NG17 5FB.
**United Kingdom**

Equipment: **Pan and Tilt Cameras XB**, XF**, XP** & XT** (** relates to the size and can be either 26, 40 or 60)**

Optional accessory:

Type of Protection: **Ex db, Ex tb, Ex op pr, Ex op is, [Ex ia].**

Marking: Ex db IIC T6...T4 Gb*
Ex tb III C T135°C Db IP6X*
-**°C ≤ Ta ≤ +**°C
* Coding reflects the standard camera variant, refer to certificate appendix for further details.
** Ambient temperature varies depending upon equipment configuration, refer to certificate appendix for further details.

IECEx ITS 15.0068X

Approved for issue on behalf of the IECEx Certification Body: **P Moss**

Position: **Certification Officer**

Signature: (for printed version)

Date:

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 www.iecex.com or use of this QR Code.

Certificate issued by:

**Intertek Testing & Certification Limited**
**ITS House, Cleeve Road**
**Leatherhead**
**Surrey, KT22 7SA**
**United Kingdom**

# IECEx Certificate of Conformity



Certificate No.: **IECEx ITS 15.0068X**

Date of issue: 2020-07-13 Issue No: 5

Manufacturer: **Eaton MEDC Ltd (Oxalis)**
Unit B, Sutton Parkway, Oddicroft Lane, Sutton-in-Ashfield, NG17 5FB.
**United Kingdom**

Additional manufacturing locations: **Cooper Yuhua (Changzhou) Electronic Equipment Manufacture Co., Ltd.**
No. 60 Hehuan Road, Zhonglou Development Zone; Changzhou, Jiangsu Province,
CN-213023
P.R. CHINA
**China**

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 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

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

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

**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 Reports:

GB/ITS/ExTR15.0063/00 GB/ITS/ExTR15.0063/01 GB/ITS/ExTR15.0063/02
GB/ITS/ExTR15.0063/03 GB/ITS/ExTR15.0063/04 GB/ITS/ExTR15.0063/05

Quality Assessment Reports:

GB/BAS/QAR06.0023/09 NO/NEM/QAR13.0008/04

# IECEx Certificate of Conformity



**EQUIPMENT:**
Equipment and systems covered by this Certificate are as follows:

The Camera Housing is constructed from stainless steel AISI316L with glass windows and designed to accommodate a range of CCTV cameras, infra-red cameras, lenses and associated ancillary equipment to allow their deployment in harsh environmental conditions. The housing has facilities for optional items such as window demister/heater, internal window wiper mechanism, integral window washer pump and external sunshield.

For full equipment description refer to Annex.

**SPECIFIC CONDITIONS OF USE: YES as shown below:**

- No modifications must be made to the flamepaths of the unit without consultation of the drawings listed on the schedule.
- Temperatures could exceed 70°C at the cable gland or 80°C at the branching point, suitably rated cable must be selected.
- Use only hex socket head fasteners with property class of A4-70 for securing end covers & shafts to housings.
- When fitted, the optical fibre output from the camera housing must always be terminated within a suitably certified enclosure or safe area.
- Only armoured cable or conduit is to be utilized when fitted with a fibre optic output in order to protect the fibre optic cable.
- Precautions must be taken to avoid dust from forming layers on the equipment.
- Antennas used with equipment shall be passive with a nominal impedance of 50Ω and have a minimum degree of protection of IP6X. If the antenna utilises a wire conductor the minimum diameter shall be 0.1mm. Alternatively if a track antenna is used, the tracking shall have a minimum width of 0.4mm
- The antenna circuit does not meet the dielectric strength requirements of Clause 6.3.13. Refer to the manufacturers' instruction manual for further details.
- Dual Imager Housing variants only: Housings must only be installed in areas where there is a low risk of mechanical impact.

# IECEx Certificate of Conformity



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

Change of company name and address to:

Oxalis Group Ltd

Oxalis House, Masons Road, Stratford upon Avon, Warwickshire,CV37 9NB.

to

Eaton MEDC Ltd (Oxalis)
Unit B, Sutton Parkway, Oddicroft Lane, Sutton-in-Ashfield, NG17 5FB.

Issue 2:

1. Option of alternative design of Dual Imager Window Assembly (with circlip and raised guard).
2. Option of alternative design of 260 housing base plate.

Issue 3:

Adition of alternative lens guard design.

Issue 4:

Additional manufacturing name and address.

Issue 5:

1. Changes to gearbox shaft and Pan & Tilt Mk 2 Base as follows (Modified base to be known as the Mk3 Base):
i) Increased shaft diameter and flamepath diameter (flamepath length and gap remains the same).
ii) Change of inner bearing set with sleeve bearings.
iii) Use of a threaded joint between the gearbox shaft and base.
iv) Option of welded top cover for base.
v) Option of a brushless gearbox motor.
vi) Change of O-ring position.

2. Changes to T Body as follows:
i) Option of reduced height and width.
ii) Option of welded internal earth tag.

3. Changes to camera housings as follows:
i) Increase length of options with welded blank end cover to same as the flange design.
ii) Option of M32 thread gland entry for mounting flange.
iii) T6 / Tamb +59°C rating for IR Illuminator version and XP & XF units.

4. Changes to the camera covers as follows:
i) Option of mounting IR light assembly in wiper window (but without wiper hole).
ii) Option of fixed camera rear flange.
iii) Addition of PCB mounting holes in Pan & Tilt cover.

5. Update from IEC 60079-0:2011 Ed 6 to IEC 60079-0:2017 Ed 7.

6. Consolidation of existing GA drawings into one GA drawing covering all necessary certification requirements.

7. Exemption Overpressure Testing of Blank Covers, Blank Covers with Cable Entries and Gearbox Shaft/Flange Assemblies

**Annex:**

Annex to IECEx ITS 15.0068X Issue 5.pdf

# Annex to IECEx Certificate of Conformity

| Certificate No: | IECEx ITS 15.0068X | Issue No. 5 |
|---|---|---|
| Annex No. 1 | | |

| Technical Documents | | | |
|---|---|---|---|
| Title: | Drawing No.: | Rev. Level: | Date: |
| *CERTIFICATION DRAWINGS FOR ALL HOUSINGS AND PAN AND TILT COMBINATIONS<br>9 Sheets | OXCT-0001 | 5 | 21/07/2020 |
| *ATEX/IECEX CERTIFICATION LABEL DRAWINGS FOR UNITS WITH NO FIBRE OPTICS FITTED | OXCT-0002 | 007 | 26/06/2020 |
| *ATEX/IECEX CERTIFICATION LABEL DRAWINGS FOR UNITS WITH FIBRE OPTICS FITTED | OXCT-0003 | 007 | 26/06/2020 |
| *ATEX/IECEX CERTIFICATION LABEL DRAWINGS FOR ILLUMINATOR UNITS | OXCT-0004 | 007 | 26/06/2020 |
| *ATEX/IECEX CERTIFICATION LABEL DRAWINGS FOR UNITS CONTAINING WIRELESS TRANSMISSION WITH IS BARRIER | OXCT-0006 | 006 | 26/06/2020 |
| *Series X (XF, XP & XT) flame proof camera units – Installation & Maintenance Instructions | IMI+70-XF-XP-XT | 9.0 | 13/07/2020 |
| *Series XF flame proof camera units – Installation & Maintenance Instructions | XF CAMERA CHANZHOU I.M | A | 13/07/2020 |

Note: An * is included before the title of documents that are new or revised.

**Product Description:**

The Camera Housing is constructed from stainless steel AISI316L with glass windows and designed to accommodate a range of CCTV cameras, infra-red cameras, lenses and associated ancillary equipment to allow their deployment in harsh environmental conditions. The housing has facilities for optional items such as window demister/heater, internal window wiper mechanism, integral window washer pump and external sunshield.

The unit is 260mm to 600mm in length (dependant on model) and is constructed from 139.7mm diameter cylindrical tube and 154mm diameter end covers. The unit has a cemented window assembly in one end cover, with the opposite end cover being either a blank end plate, end plate with up to five cable entries available in M20, M25, ½" or ¾" NPT thread forms. The cable entry to the camera housing is either via a cable entry adaptor in the side of the housing tube or via the tilt motor shaft attachment flange when mounted to a Pan/Tilt unit. When fitted with Germanium windows, for use with infra-red cameras, a protective guard plate is factory fitted on the window end cover and secured in place.

The Camera Housing has welded joints and is therefore to be subjected to routine overpressure tests. The IR model is fitted with an infrared LED Illuminator which is fitted in place of a camera.

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| Annex No. 1 | | |

The integrated Pan & Tilt Unit would be used in conjunction with the Camera Housing where installations require a moveable camera.

This Pan & Tilt Unit is also constructed from AISI316L stainless steel and can be fitted with either AC fixed speed or DC variable speed motors. The Pan & Tilt Unit with integral base mount is between approx. 190mm & 282mm wide and between approx. 370mm and 430mm high. There is up to three cable entries in the base mount (dependent on model) in M20, M25, ½" or ¾" NPT thread forms. There are four spigot flamepaths, two where the end covers fit into the housing and two where the motor/gearbox assemblies connect to the housing. In addition there are 2 cylindrical flamepaths for the motor shafts allowing for the pan and tilt movement. The Mk2 and Mk3 base unit can also be provided with a M110x1.5 threaded cover for readily accessing wiring terminals. This is secured with a hexagonal grub screw . Additionally, the MK3 base includes a fixed top cover with threaded M32 entry for mounting of the associated T-Body.

The Pan & Tilt Unit has welded joints and is therefore to be subjected to routine overpressure tests.

Internal and external earthing points are provided.
Options are also available fitted with an optical output for data transmission purposes and antennas with associated barriers.

Only suitably certified cable glands, thread adaptors or blanking elements to be utilized as detailed on the certificate.
The coding the equipment is marked with is dependent upon the assembly configuration, internal power dissipation and optical accessories installed. A breakdown of the coding is given below.

Standard variants;
Ex db IIC T6...T3* Gb
Ex tb IIIC T135°C Db IP6X**
-##°C ≤ Ta ≤ +##°C

Options fitted with fibre optic outputs are marked;
Ex db op pr IIC T6...T3* Gb
Ex tb op pr IIIC T135°C Db IP6X**
-##°C ≤ Ta ≤ +##°C

IR Illuminator module variants are marked;
Ex db op is IIC T6 or T4* Gb
Ex tb op is IIIC T135°C Db IP6X**
-##°C ≤ Ta ≤ +##°C

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All of the variants above may additionally be marked [Ex ia Ga], which refers to an intrinsically safe antenna connection. The antenna accessory has only been considered for use in the 20W versions of the camera. Refer to the Table below for the suitable ambient temperature ranges of equipment incorporating an antenna.

*Note: T class and ambient temp is dependent on the assembly configuration and maximum internal power dissipation.

** Note: When fitted with an internal dissipation of 60W and upper ambient temperature of 70°C the maximum marked temperature should be marked T140°C.

The following table denotes the temperature classification for products which do not contain an antenna.

| | | Integrated Pan and Tilt | | Standalone |
|---|---|---|---|---|
| T-Class | Maximum Ambient Range^ | Pan & Tilts Max Watts Dis | Housing Max Watts Dis | Housing Max Watts Dis |
| T6 | -60°C ≤ Ta ≤ +40°C | 20 W | 20 W | 20 W |
| T5 | -60°C ≤ Ta ≤ +40°C | 40 W | 40 W | 40 W |
| T5 | -60°C ≤ Ta ≤ +65°C | 20 W | 20 W | 20 W |
| T4 | -60°C ≤ Ta ≤ +65°C | 60 W | 60 W | 60 W |
| T4 | -60°C ≤ Ta ≤ +70°C | 60 W | 40 W | 40 W |
| T4 | -60°C ≤ Ta ≤ +70°C | 50 W | 50 W | 50 W |
| T3 | -60°C ≤ Ta ≤ +70°C | 60 W | 60 W | 60 W |
| Dust T135°C | -60°C ≤ Ta ≤ +65°C | 60 W | 60 W | 60 W |
| Dust T140°C | -60°C ≤ Ta ≤ +70°C | 60 W | 60 W | 60 W |

The IR Illuminator variant may either be marked T4 in accordance with the ambient limitations detailed in the table above or T6/Tamb +59°C when the internal power dissipation is limited to the following:
IR Illuminator Housing: ≤ 8W, Camera Housing: ≤ 14W, Base/P&T Housing: ≤ 16W

The XF and XP units may also be marked T6/Tamb +59°C when the internal power dissipation is limited to the following:
Camera Housing: ≤ 14W, Base/P&T Housing: ≤ 16W



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The following table lists the permitted upper ambient temperatures when using a certified RF barrier.

| | | | Integrated Pan and Tilt | | Standalone |
|---|---|---|---|---|---|
| Barrier fitted | T-Class | Maximum Ambient Range^ | Pan & Tilts Max Watts Dis | Housing Max Watts Dis | Housing Max Watts Dis |
| Extronics & Solexy | T6 | -40°C ≤ Ta ≤ +40°C | 20 W | 20 W | 20 W |
| Extronics | T5 | -40°C ≤ Ta ≤ +50°C | 20 W | 20 W | 20 W |
| Solexy | T5 | -40°C ≤ Ta ≤ +55°C | 20 W | 20 W | 20 W |
| Extronics | Dust T135°C | -40°C ≤ Ta ≤ +50°C | 20 W | 20 W | 20 W |
| Solexy | Dust T135°C | -40°C ≤ Ta ≤ +55°C | 20 W | 20 W | 20 W |

^ The manufacturer has requested that this limit may be marked from the evaluated lower ambient to 0°C to ensure correct functionality of the equipment. This does not affect the protection offered by the enclosure.

**Routine Tests:**

• A routine overpressure test in accordance with IEC 60079-1:2014 Clause 16.1 shall be carried out on all enclosures, including all cemented window assemblies, at a pressure of 30.12bar for a period of between 10 and 60 seconds.

• There shall be no deformation or damage to the enclosures and no leakage through the cement of any of the window assemblies integrity of the welded construction shall also be verified during routine overpressure testing.

• Empty enclosures may be tested.

• The individual parts of a flameproof enclosure (for example, cover and base) can be tested separately. The test conditions shall be such that the stresses are comparable to those to which these parts are exposed in the complete enclosure.

• If required during the construction, thread inserts need to withstand the routine overpressure test also. Details must be recorded and records maintained.

Note: The following items, as referenced on drawing OXCT-0001, are exempt from routine testing:
1. Item F – End Cover with Gland Entries

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2. Item G – PCB Mounting End Cover
3. Item H – End Cover Blank
4. Item I – Combined Cover
5. Item U – Motor Gearbox M32 Thread (Shaft and Flange)
6. Item V – Free Shaft (Twin Head) M32 Thread
7. Item S & T – Motor Gearbox/Free Shaft Spigot (Shaft and Flange)



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