

# CERTIFICATE OF CONFORMITY



- HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
- Certificate No:** FM18US0262X
- Equipment:** F1xx Series Network Ethernet Cameras  
**(Type Reference and Name)**
- Name of Listing Company:** Spectrum Camera Solutions LLC
- Address of Listing Company:** 8935 Almeda Genoa Road  
Houston, TX 77075  
USA
- The examination and test results are recorded in confidential report number:  
  
PR449583 dated 24<sup>th</sup> October 2018
- FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:  
  
Class 3600:2022, Class 3615:2022, ANSI/ISA 60079-0:2013, ANSI/UL 60079-1:2015,  
ANSI/ISA 60079-31:2015, ANSI/NEMA 250:2014, ANSI/IEC 60529:2004
- If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
- This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
- Equipment Ratings:**  
  
Explosionproof for Class I, Division 1, Groups B, C and D; Dust-Ignitionproof for Class II/III, Division 1, Groups E, F and G; Flameproof for Class I, Zone 1, AEx db IIB+H2 Gb; Protection by Enclosure for Zone 21, AEx tb IIIC Db hazardous (classified) locations, indoors and outdoors (Type 4X, IP66) with an ambient temperature rating of -50°C to +60°C (-40°C to +60°C for Divisions).

**Certificate issued by:**

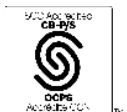
  
\_\_\_\_\_  
J.E. Marquedant  
VP, Manager - Electrical Systems

18 April 2022  
\_\_\_\_\_  
Date

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
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# SCHEDULE



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11. The marking of the equipment shall include:

Class I, Division 1, Groups B, C, D, T6 Ta = -40°C to +60°C, Type 4X, IP66

Class II/III, Division 1, Groups E, F, G, T6 Ta = -40°C to +60°C, Type 4X, IP66

Class I, Zone 1, AEx db IIB+H2 \* Gb Ta = -50°C to +60°C, Type 4X, IP66

Zone 21, AEx tb IIIC T85°C Db Ta = -50°C to +60°C, Type 4X, IP66

\*T6 without optional breather/drain

\*T5 with optional breather/drain

12. **Description of Equipment:**

**General/Construction** - The F1xx Series Network Ethernet Cameras are designed to provide CCTV monitoring in hazardous environments. The F1xx Network Ethernet Cameras are housed in an NRTL listed and certified single compartment enclosure with blind and window thread-on covers. The enclosure contains two threaded entries available as 3/4 inch NPT. The enclosure is FM Approved as Explosionproof for Class I, Division 1, Groups B, C, D; Dust-Ignitionproof for Class II/III, Division 1, Groups E, F, G; and Suitable for Class I, Zone 1, Group IIB+H2 hazardous (classified) locations, indoors and outdoors (Type 4X, IP66) under 2Y4A1.AE. The optional breather/drain is NRTL listed as Explosionproof for Class I, Division 1, Groups A, B, C, D; Flameproof for Class I, Zone 1, AEx db IIC; and Protection by enclosure for Zone 20, AEx ta IIIC hazardous (classified) locations, indoors and outdoors (Type 4X, IP66) under CSA 1055233 and UL E253914.

**Ratings** - The F1xx Series Network Ethernet Cameras can be supplied with a variety of NRTL listed or recognized cameras and devices (ANSI/UL 60950 or 62368 listed device) complying with the IEEE 802.3af or 802.3at PoE (Power over Ethernet) standard (57 Vdc max). The cameras can be powered by any listed IEEE 802.3af or 802.3at compliant power supply (to be located in the non-hazardous area). The power supply used with this product shall fulfill the requirements for Safety Extra Low Voltage (SELV) and Limited Power Source (LPS) according to ANSI/UL 60950 or 62368 or Listed Class II Power Source Equipment. The product shall be grounded either through a shielded network cable (STP) or other appropriate method. Some models have multiple power supply options including 12-28 Vdc, 20-24 Vac or PoE. The power supply options of each ANSI/UL 60950 or 62368 device shall be marked as such in accordance with the device's listing requirements. Voltage and wattage shall not exceed the maximum tested configuration of 57 Vdc (10 W) for the camera and 12-30 V (26 W) for the heater. The total maximum wattage shall not exceed 36 W in any voltage configuration and/or combination in accordance with the ANSI/UL 60950 or 62368 power requirements. Some cameras are equipped with IR light transmission to assist in low light conditions, an integral heater to minimize window and lens condensation or a piezoelectric transducer to remove water collected externally on the window. The F1xx Series Network Ethernet Cameras are rated for use in an ambient temperature range of -50°C to +60°C (-40°C to +60°C for Divisions). The camera within the enclosure may be placed in any arrangement provided that an area of at least 40% of each cross-sectional area remains free to permit unimpeded gas flow and, therefore, unrestricted development of an explosion. Separate relief areas may be aggregated provided each area has a minimum dimension in any direction of 12.5 mm.

**F1a-b-c. Network Ethernet Camera.**

a = Camera manufacturer code (two digits) 01 to 99.

b = Camera manufacturer part number (up to six digits).

c = Optional breather/drain BLANK or BD.

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## 13. Specific Conditions of Use:

1. The flameproof joints of the equipment are not intended to be repaired. Consult the manufacturer if dimensional information on the flameproof joints is necessary.
2. Follow the manufacturer's instructions to reduce the potential of an electrostatic charging hazard on the surface of the equipment in Group II and III environments.

## 14. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

## 15. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

## 16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
24 <sup>th</sup> October 2018	Original Issue.
9 <sup>th</sup> July 2019	<u>Supplement 1:</u> Report Reference: RR219243 dated 9 <sup>th</sup> July 2019. Description of the Change: Minor documentation changes not affecting the product safety. Minor corrections to the product description.
18 <sup>th</sup> April 2022	<u>Supplement 2:</u> Report Reference: RR231305 dated 18 <sup>th</sup> April 2022. Description of the Change: Class 3600 and 3615 updated to the 2022 editions as the changes from the previous editions are non-technical. Clarification of flameproof temperature code. Other minor documentation changes not affecting the equipment safety.

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