

CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**

2. **Certificate No:** FM17US0156X
3. **Equipment:** D Series Network Ethernet Cameras
(Type Reference and Name)

4. **Name of Listing Company:** Spectrum Camera Solutions LLC

5. **Address of Listing Company:** 8935 Almeda Genoa Road
Houston, TX 77075
USA

6. The examination and test results are recorded in confidential report number:

3061050 dated 11th May 2017

7. 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, FM Class 3616:2011,
ANSI/ISA 60079-0:2013, ANSI/UL 60079-1:2015, ANSI/ISA 60079-31:2015,
ANSI/NEMA 250:2014, ANSI/IEC 60529:R2011

8. 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.

9. 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.

10. 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, IP66/67).

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

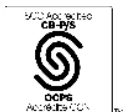
9 June 2022

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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

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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 = -20°C to +55°C, Type 4X, IP66/67

Class II/III, Division 1, Groups E, F, G, T6 Ta = -20°C to +55°C, Type 4X, IP66/67

Class I, Zone 1, AEx db IIB+H2 T6 Gb Ta = -20°C to +55°C, Type 4X, IP66/67

Zone 21, AEx tb IIIC T85°C Db Ta = -20°C to +55°C, Type 4X, IP66/67

12. **Description of Equipment:**

General /Construction - The D Series Network Ethernet Cameras are designed to provide visual monitoring in hazardous environments. The D Series Network Ethernet Cameras consist of a dual-compartment, cylindrical housing with a thread-on blind wiring compartment cover and a thread-on dome window camera compartment cover. The housings are available in either 316 stainless steel or 6061-T6 aluminium alloy. The window cover consists of a dome lens cemented in place. There are three M20 openings between the wiring compartment and the camera compartment. The openings are closed by two M20 plugs and one cemented Ethernet cable bushing. The wiring compartment contains two M20 entries. The D Series Cameras utilize the same wiring compartment and dome window cover. The main difference is the size of the camera compartment with the D100, D200, D300, D400 and D500 having an approximate housing length of 3.32 inches (84 mm), 7.75 inches (197 mm), 4.5 inches (114 mm), 5 inches (127 mm) and 5.5 inches (140 mm), respectively. The D Series cameras can also be ordered in custom housing lengths from 84 mm to 196 mm (eg. D084 to D196). 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 D Series Network Ethernet Cameras can be supplied with a variety of NRTL listed cameras (ANSI/UL/IEC/EN 60950 or 62368 listed device) complying with the IEEE 802.3af, 802.3at, 802.3at++ or 802.3bt PoE (Power over Ethernet) standard (57 Vdc max). The cameras can be powered by any listed IEEE 802.3af, 802.3at, 802.3at++ or 802.3bt 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/IEC/EN 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/IEC/EN 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 (60 W). 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 D Series Network Ethernet Cameras are rated for use in an ambient temperature range of -20°C to +55°C.

Dab-c-d-e. Network Ethernet Camera.

a = Housing length 1, 2, 3, 4 or 5 (or any three digits from 084 to 196 representing custom housing lengths in mm).

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

c = Material A or S.

d = Several characters representing the camera manufacturer's part number (may contain additional dashes).

e = Optional breather/drain BLANK or BD. (IP67 is not applicable when supplied with optional breather/drain).

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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.
3. The equipment meets the requirements according to the low level risk of mechanical danger. Therefore, the equipment shall be located and installed such that the risk of impact or other mechanical damage is reduced or avoided.

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
11 th May 2017	Original Issue.
29 th December 2017	<u>Supplement 1:</u> Report Reference: RR212300 dated 29 th December 2017. Description of the Change: Minor revision to the stainless steel pipe dimension for surface finishing. Addition of D300 and D400 camera sizes/models.
9 th August 2018	<u>Supplement 2:</u> Report Reference: 3064118 dated 9 th August 2018. Description of the Change: Addition of dust-ignitionproof, flameproof, protection by enclosure and ingress ratings. Alternate model coding added for custom lengths.
26 th January 2021	<u>Supplement 3:</u> Report Reference: RR226618 dated 26 th January 2021. Description of the Change: Revise the product description to correct minor errors and to remove references to intellectual property.
9 th June 2022	<u>Supplement 4:</u> Report Reference: PR462443 dated 9 th June 2022. Description of the Change: Class 3600 and 3615 updated to 2022 as the changes between editions are nontechnical. ANSI/IEC 60529 has been updated to the latest reaffirmed date. New dome lens backing ring and corrosion resistance of aluminium with no coating were evaluated as part of this project. Other minor documentation changes not affecting the equipment safety.

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