

CERTIFICATE OF CONFORMITY



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

2. Certificate No: FM24US0067X
3. Equipment:
(Type Reference and Name) TX Series Camera Enclosures and Pan & Tilt Units
4. Name of Listing Company: Tecnovideo Srl
5. Address of Listing Company: Via A. De Gasperi,
3, Villaverla 36030, Italy

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

PR464171 dated 17 June 2024

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM 3600:2022, FM 3615:2022, FM 3616:2022, FM 3810:2018, ANSI/UL 50E:2015, ANSI/UL 60079-0:2020, ANSI/UL 60079-1:2015, ANSI/UL 60079-31:2015, ANSI/IEC 60529:2020, ANSI/UL 61010-1:2012

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:

Models without Spotlight

Explosionproof for Class I, Division 1, Groups B, C, and D T6/T5/T4 Ta = -25°C to +60°C/+75°C/+80°C

Dust-ignitionproof for Class II/III, Division 1, Groups E, F, and G T6/T5/T4 Ta = -50°C to +60°C/+75°C/+80°C

Flameproof for Class I, Zone 1, AEx db IIC T6/T5/T4 Gb Ta = -50°C to +60°C/+75°C/+80°C

Protection by Enclosure for Zone 21, AEx tb IIIC T85°C/T100°C/T135°C Db Ta = -50°C to +60°C/+75°C/+80°C

Hazardous (Classified) Locations with an ingress protection Type 4X and IP66/67

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

17 June 2024

Date

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

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FM Approvals LLC. One Technology Way, Norwood, MA 02062 USA

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Models with Spotlight

Explosionproof for Class I, Division 1, Groups B, C, and D T5/T4 Ta =-25°C to +40°C/+60°C
Dust-ignitionproof for Class II/III, Division 1, Groups E, F, and G T5/T4 Ta =-50°C to +40°C/+60°C
Flameproof for Class I, Zone 1, AEx db IIC T5/T4 Gb Ta =-50°C to +40°C/+60°C
Protection by Enclosure for Zone 21, AEx tb IIIC T100°C/T135°C Db Ta =-50°C to +40°C/+60°C
Hazardous (Classified) Locations with an ingress protection Type 4X and IP66/67

11. The marking of the equipment shall include:

Models without Spotlight

Class I, Division 1, Groups B, C, and D T6/T5/T4 Ta =-25°C to +60°C/+75°C/+80°C
Class II/III, Division 1, Groups E, F, and G T6/T5/T4 Ta =-50°C to +60°C/+75°C/+80°C
Class I, Zone 1, AEx db IIC T6/T5/T4 Gb Ta =-50°C to +60°C/+75°C/+80°C
Zone 21, AEx tb IIIC T85°C/T100°C/T135°C Db Ta =-50°C to +60°C/+75°C/+80°C
Type 4X and IP66/67

Models with Spotlight

Class I, Division 1, Groups B, C, and D T5/T4 Ta =-25°C to +40°C/+60°C
Class II/III, Division 1, Groups E, F, and G T5/T4 Ta =-50°C to +40°C/+60°C
Class I, Zone 1, AEx db IIC T5/T4 Gb Ta =-50°C to +40°C/+60°C
Zone 21, AEx tb IIIC T100°C/T135°C Db Ta =-50°C to +40°C/+60°C
Type 4X and IP66/67

12. **Description of Equipment:**

General — The TX Series Cameras and Camera Systems (equipment) are designed for remote observation and surveillance of various industrial environments within hazardous (classified) locations. The equipment includes standalone camera housings and pan/tilt units, as well as camera systems that may include the pan/tilt unit with up to two cameras and accessories. IR spotlight version is available.

Construction — The equipment consists of a camera enclosure which can be supplied with a pan and tilt unit with terminal enclosure all of which are flameproof "db", dust-protected by enclosure "tb", and constructed from 316L stainless steel.

The camera enclosure has the option of either toughened float glass, IR germanium or Sapphire (also tilted version) windows. The IR models are supplied either with or without a fixed window guard. Windows are cemented into the window frame end caps using a silicone based cement. The pan and tilt unit can be fitted with either a single or dual camera enclosures and/or bracket.

The camera enclosure can be either fitted to the pan and tilt unit or standalone. The camera enclosure has the option to have an anti-condensation heater and/or wiper motor fitted. The terminal enclosure has the option for either a hollow Shaft with a feedthrough or a slip-ring unit to transfer power to the pan and tilt unit. The mounted cameras can use fiber-optical connections.

Different supply voltages for the units are available: up to 230VAC or up to 57VDC, depending on version. Different cable entries are available (depending on version), metric and/or NPT. Size of the cable entry is stated on the marking plate and/or near the entry.

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

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TXP Models Single Housing 24 VDC, 5.5 A, Max Power 130 W 24 VAC, 5.5 A, Max Power 130 W 120 VAC, 1.1 A, Max Power 130 W 230 VAC, 0.6 A, Max Power 130 W	TXP Models with bracket 24 VDC, 3.75 A, Max Power 90 W 24 VAC, 3.75 A, Max Power 90 W 120 VAC, 0.75 A, Max Power 90 W 230 VAC, 0.4 A, Max Power 90 W	TXF Models (Camera) 12 VDC, 3.5 A, Max Power 40 W 24 VDC, 1.7 A, Max Power 40 W 24 VAC, 1.7 A, Max Power 40 W 57 VDC, 0.8 A, Max Power 40 W 120 VAC, 0.35 A, Max Power 40 W 230 VAC, 0.2 A, Max Power 40 W
TXP Models Dual Housing 24 VDC, 7.1 A, Max Power 170 W 24 VAC, 7.1 A, Max Power 170 W 120 VAC, 1.5 A, Max Power 170 W 230 VAC, 0.8 A, Max Power 170 W	TXP dual housing (camera+spotlight) 24 VDC, 6.5 A, Max Power 155 W 24 VAC, 6.5 A, Max Power 155 W 120 VAC, 1.5 A, Max Power 155 W 230 VAC, 0.8 A, Max Power 155 W	TXF (spotlight) 24 VDC, 1.7 A, Max Power 40 W 24 VAC, 1.7 A, Max Power 40 W 120 VAC, 0.35 A, Max Power 40 W 230 VAC, 0.2 A, Max Power 40 W

13. Specific Conditions of Use:

1. Flamepaths are not for modification or repair.
2. All cover fasteners are M6x14 with property class A4-70
3. Cable entry temperature can exceed 60°C - select suitable cable and gland for the end application.
4. For fixed installation - part of the enclosure may be capable of generating electrostatic charges under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.
5. The camera must be installed in an area of low risk of impact

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
17 June 2024	Original Issue.

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ANNEX

TX Camera Stations

Description of Equipment:

TX(a)(n)(b)(c)(d) Camera stations

TX: camera housing

a:

- C: P&T Camera Housing (blank cover)
- F: Fixed Camera Housing
- H: P&T Camera Housing with rear cover

n:

- 0: camera version
- 1: IR spotlight version

b: window version

- 0: glass window without wiper
- 1: glass window with wiper
- 2: germanium window
- 3: germanium window without protective guard
- 4: sapphire window
- 5: sapphire window tilted

c: cable entries (only for TXF and TXH versions)

- A: 2x M20
- B: 2x 3/4"
- C: 2x M25
- D: 1x M20
- E: 1x 3/4"
- F: 1x M25
- G: 1x M20 + 1x M25
- H: 1x M20 + 1x 3/4"
- I: 1x M25 + 1x 3/4"
- J: 3x M20
- N: 3x 3/4"
- O: 3x M25
- P: 4x M20
- Q: 4x 3/4"
- R: 4x M25
- T: up to 4 cable entries with different threads, shown near cable entries

d:

- S: short
- M: medium
- L: long

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TXP PTZ Units/Camera Stations

Description of Equipment:

TXP(n)(a) Pan & Tilt unit/PTZ Camera Station

TXP: Pan & Tilt unit/PTZ Camera Station

n: number of camera housing(s) or bracket(s)

- 0: one bracket
- 1: one camera housing
- 2: two camera housings
- 3: one camera housing and one bracket
- 4: two brackets

a: cable entries

- A: 2x M20
- B: 2x 3/4"
- C: 2x M25
- D: 1x M20
- E: 1x 3/4"
- F: 1x M25
- G: 1x M20 + 1x M25
- H: 1x M20 + 1x 3/4"
- I: 1x M25 + 1x 3/4"

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