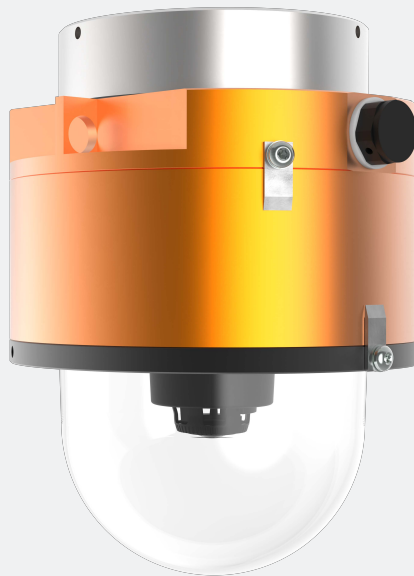# TNM-XNF9013EPT3-Z
Explosion-Proof 12MP Fisheye Camera

Key Features

AI Technology

Classified Object Type: Person/Face/Vehicle/License Plate

Support Detection Shot

Object Detection - Virtual Line (Crossing Detection), Virtual Area (Loitering/Intrusion/Enter/Exit)

Stereographic Type Fisheye Lens

Improved Image Quality

Extreme WDR (2MP@60fps) By Scene Analysis And Local contrast Enhancement

WiseNR-, Auto Prefer Shutter Control Based On AI

Resolution/Frame Rate

Original View - Max 30fps/25fps@3008x3008 (60Hz/50Hz)

Double Panorama - Max 30fps/25fps@3584x1792 (60Hz/50Hz)

Single Panorama - Max 30fps/25fps@3584x896 (60Hz/50Hz)

WiseStream - Based On AI

Next Level Cybersecurity

Device Certificate (Root CA, Pre-Installed)

TPM 2.0 (FIPS 140-2 Certified), Secure OS/Boot/Storage, Verified FW Forgery

Micro SD/SDHC/SDXC 2 Slots: Max 1TB (512GB x 2)

Reinforced Durability

IP66, NEMA 4X, IK10, Metal Shielded RJ-45

Hard-Coated Dome Bubble

H Housing MADE IN U.S.A.

IECEx · INMETRO · Ex · FM APPROVED

Description

Explosion protected X series Fisheye cameras are a perfect solution for situational awareness for large areas where you need complete coverage with no blindspots. Easily dewarp the image on-the-fly while recording the full fisheye image. No need to worry about a PTZ positioned in the wrong area.

The TNM-XNF9013EPT3-Z is a cFMus Class I/II/III, Division 1 (Groups: B, C, D, E, F, G) and IECEx & ATEX Zone 1/21 (IIB +H2/IIIC) camera system. The housing is proudly designed and manufactured in the USA to exceed the highest global industry standards for safe operation in hazardous or potentially combustible environments and in the most extreme weather conditions.

The TNM-XNF9013EPT3-Z utilizes an industry first patented multi-chambered enclosure design, with an explosion proof bulkhead used between chambers with each bulkhead including access ports to allow electrical/network connections to be safely passed through. The TNM-P9022EPT3-Z is designed with corrosion resistant marine-grade aluminum with an IP66/67 Type 4X rating for protection against water/dust particles and is certified to withstand temperatures ranging from -20°C to +55°C. The enclosure also features a patented GORE-TEX® Breather Drain membrane system incorporated into the housing design: air within the enclosure is allowed to equalize with the surrounding atmosphere, preventing interior condensation and negating any potential damage to the onboard electronics.

The TNM-XNF9013EPT3-Z utilizes 802.3at Power over Ethernet (PoE+) for power and network connectivity, providing a flexible low-voltage install solution.

General Speifications

Video

Imaging Device	1/2.3" 12MP CMOS
Resolution	Original View (1:1): 3008x3008~480x480 Double Panorama (2:1): 3584x1792~640x320 Single Panorama (1:1): 3584x896~640x160 Quad View: 3584x2688~640x640 Q1/Q2/Q3/Q4 (4:3): 1792x1344~640x480
Maximum Frame Rate	H.265/H.264: Original View - Max 30fps/25fps@3008x3008 (60Hz/50Hz) Double Panorama - Max 30fps/25fps@3584x1792 (60Hz/50Hz) Single Panorama - Max 30fps/25fps@3584x896 (60Hz/50Hz) MJPEG - Max 30fps/25fps@1080x1080 (60Hz/50Hz)
Minimum Illumination	Color: 0.39 Lux (F2.2, 1/30 sec)
Video Out	CVBS: 1.0 Vp-p / 75- Composite, 720x480(N), 720x576)P), For Installation USB: Micro USB Type B, 1280x720 for installation

Lens

Focal Length (Zoom Ratio)	1.08mm Fixed Focal
Maximum Aperture Ratio	F2.2
Angular Field of View	H: 209°/180°, V:83°
Min. Object Distance	0.5m (1.64ft)
Focus Control	Fixed

Pan/Tilt/Rotate

Pan/Tilt/Rotate Range	Lens Rotation

Operational

Camera Title	Displayed up to 85 characters
Day & Night	Auto (ICR)
Backlight Compensation	BLC, HLC, WDR, SSDR
Wide Dynamic Range	Extreme WDR (120dB)

Operational (Continued)

Digital Noise Reduction	Wise NR - (Based On AI Engine) - SSNR-
Defog	Support
Motion Detection	8ea, 8 Point Polygonal Zones
Privacy Masking	32ea, Polygonal Zones - Color: Grey/Green/Red/Blue/Black/White - Mosaic
Gain Control	Off / Max Gain / Manual
White Balance	ATW / Narrow ATW / AWC / Manual / Indoor / Outdoor
Electronic Shutter Speed	Minimum / Maximum / Anti Flicker (1/5~1/12,000sec) Prefer Shutter Control (Based On AI Engine)
Video Rotation	Flip, Mirror
Analytics	- Analytics Events Based On AI Engine: Object Detection (Person / Face / Vehicle / License Plate), IVA (Virtual Line / Area, Enter / Exit, Loitering, Direction, Appear / Disappear, Intrusion) - Analytics Events: Defocus Detection, Motion Detection, Tampering, Fog Detection, Audio Detection, Sound Classification
Business Intelligence	Based On AI Engine: People Counting, Queue Management, Heatmap
Alarm I/O	2 Configurable I/O Ports
Alarm Triggers	Analytics, Network Disconnect, Alarm Input
Alarm Events	File Upload Via FTP & E-mail Notification Via Email SD/SDHC/SDXC Recording At Event Triggers Alarm Output PTZ Preset Handover Audio Playback
Audio In	Selectable (Microphone In / Line In / Built-In Mic) Supply Voltage: 2.5VDC (4mA), Input Impedance: 2K Ohm
Audio Out	Lir e Out, Maximum Output Level: 1Vrms

Network

Ethernet	Metal Shielded RJ-45 (10 / 100 BASE-T)
Video Compression	H.265 / H.264: Main / Baseline / High, MJPEG
Audio Compression	G.711 U-Law / G.726 Selectable G.726 (ADPCM) 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC-LC: 48Kbps at 16KHz
Smart Codec	Manual (5ea Area), WiseStream- WiseStream- (Based On AI Engine)
Bitrate Control	H.264 /H.265: CBR or VBR MJPEG: VBR
Streaming	Unicast (20 users) / Multicast Multiple Streaming (Up to 10 profiles) Up To 5 Virtual Channel Support
Protocol	IPv4, IPv6, TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour, LLDP, SRTP
Security	HTTPS (SSL) Login Authentication Digest Login Authentication IP Address Filtering User Access Log 802.1X Authentication (EAP-TLS, EAP-LEAP) Device Certificate (Hanwha Techwin Root CA)
Application Programming Interface	ONVIF Profile S/G/T/M SUNAPI (HTTP API) Wisenet Open Platform

General

Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Edge Storage	Micro SD/SDHC/SDXC 2 slots - Max 1TB (512GB x 2)
Memory	4096 MB RAM, 512MB Flash

Environmental & Electrical

Operational Temperature / Humidity	-40°C ~ +60°C (-40°F ~ +140°F) / Less than 95% RH POE+ Mode 55°C (Hysteresis 5°C) Wise IR 8m (26.25ft)
Storage Temperature / Humidity	-50°C ~ +60°C (-58°F ~ +140°F) / Less than 95% RH
Input Voltage	PoE+: 12VDC, PoE: (IEEE802.3at, Class3)
Power Consumption	PoE+: Max 23.0W, Typ 9.4W, 12VDC: Max 22.0W, Typ 9.0W PoE: Max 12.95W, Typ 9.4W, 12VDC: Max 12.9W, Typ 9.0W

Mechanical

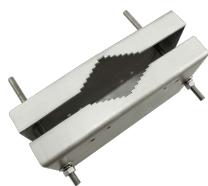|	
Color / Material	Orange / Aluminum, Anodized
RAL Code	RAL 9003
Product Weight	8.61kg (19lbs)

DORI (EN62676-4 Standard)

Detect (25PPM / 8PPF)	34.9m (114.49ft)
Observe (63PPM / 19PPF	13.9m (45.60ft)
Recognize (125PPM / 38PPF)	7.0m (22.96ft)
Identify (250PPM / 76PPF)	3.5m (11.48ft)

Certifications & Standards

EMC	FCC 47 CFR 15 Subpart B Class A ICES-3 (A) / NMB-3 (A) CE/UKCA EN 55032 Class A, EN50130-4, EN61000-3-2, EN61000-3-3 VCCI CISPR 32 Class A RCM AS/NZS CISPR 32 Class A KS C 9832 Class A, KS C 9835
Safety	UL 62368-1, CAN/CSA C22.2 No. 62368-1 IEC/EN 62471
Environment	IEC/EN 63000 IEC 60529 IP66, IEC 62262 IK10 NEMA 250 Type 4X

FM APPROVED
CERT NO. FM17US0156X

SPECTRUM CAMERA SOLUTIONS
SPECIALIZING IN EXPLOSION PROOF TECHNOLOGY

8935 ALMEDA GENOA RD.
HOUSTON, TEXAS 77075
USA

INPUT: IEEE802.3af, 23W
MODEL NUMBER: D103-A-XNF-9013-BD   SERIAL:

Class I Division 1 Groups B,C,D T6, Type 4X, IP66
Class II/III, Division 1, Groups E,F,G T6
-WARNINGS: Ta = -20°C to +55°C
-NOT INCLUDING KETONE OR ESTER ATMOSPHERES
-CONDUIT ENTRIES ARE M20 X 1.5
-DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT
-INSTALL SEAL AT ENCLOSURE ENTRY   US Patent 9917428
                                          US Patent D858611

SPECTRUM CAMERA SOLUTIONS
SPECIALIZING IN EXPLOSION PROOF TECHNOLOGY
8935 ALMEDA GENOA RD. HOUSTON, TEXAS 77075 USA

FM APPROVED

MADE IN USA
CERT NO.
FM17US0156X
FM18CA0103X

CE 2809
UKCA 1725

MODEL: D103-A-XNF-9013-BD   SERIAL:
INPUT: IEEE802.3af, 23W
Class I, Zone 1, AEx/Ex db IIB+H2 T6 Gb Ta = -20°C to +55°C, Type 4X, IP66
Zone 21, AEx/Ex tb IIIC T85°C Db Ta = -20°C to +55°C, Type 4X, IP66

Ex II 2 G Ex db IIB+H2 T6 Gb Ta = -20°C to +55°C, IP66
II 2 D Ex tb IIIC T85°C Db Ta = -20°C to +55°C, IP66
CERT NO. FM18ATEX0057X, IECEx FMG 18.0020X, FM22UKEX0028X
WARNING:DO NOT OPEN WHEN ENERGIZED OR WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT
INSTALL SEAL AT ENCLOSURE ENTRY   US Patent 9917428
www.spectrumcamera.com   US Patent D858611

SPECTRUM CAMERA SOLUTIONS
SPECIALIZING IN EXPLOSION PROOF TECHNOLOGY
8935 ALMEDA GENOA RD. HOUSTON, TEXAS 77075 USA
No. SERIE:

FABRICADO NO EUA
CERT NO. NCC 20.0083 X
MODELO: D103-A-XNF-9013-BD
ALIMENTAÇÃO:IEEE802.3af, 23W

Segurança
INMETRO

NCC 20.0083 X
Ex db IIB+H2 T6 Gb Ta = -20°C to +55C
Ex tb IIIC T85°C Db Ta = -20°C to +55°C
IP66

Ex db IIB+H2 T6 Gb
Ex tb IIC T85°C Db IP66IP67
Ta = -20°C to +55°C
NCC 20.0083 X

ATENÇÃO:
- ENTRADAS DE CABOS M20 X 1.5
- NÃO ABRA ENQUANTO UMA ATMOSFERA EXPLOSIVA PUDER ESTAR PRESENTE
- INSTALAR ANEL DE VEDAÇÃO NAS ENTRADAS
- NÃO ABRIR QUANDO ENERGIZADO
- RISCO POTENCIAL DE CARGA ELETROSTÁTICA - VER INSTRUÇÕES

-Patente EUA 9917428
-Patente EUA D858611

Accessories (Optional)

HT-SD-WM
Wall Mount Bracket

HT-SPMA-SD
Pole Mount Bracket

HT-SD-FP
Protection Cable
(supplied with camera unit,
and also available as an
optional accessory)

HT-SD-CM
Corner Mount Bracket

Secondary Retention Point

Ground Lug

Spectrum Camera Solutions | 8935 Almeda Genoa Rd. Bldg B, Houston,
Texas 77075 | 281-769-8802 | sales@spectrumcamera.com
www.spectrumcamera.com

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SPECIALIZING IN EXPLOSION PROOF TECHNOLOGY