

ExSite Enhanced Bispectral PTZ 2 Series

See the unseen: uniting thermal and visual in one explosion-proof camera



Compliant with NDA 2019
Section 889

Hazardous applications pose a unique set of challenges. Superior visibility and situational awareness is paramount when posed with varying environmental and lighting conditions. The ExSite Enhanced Bispectral PTZ 2 Series is an explosion-proof camera that combines visual and thermal imaging into a single device to optimize contextual insight. The thermal camera can accurately detect a target in most environmental conditions, while the visual camera achieves greater recognition and identification. Built with durable stainless steel, this camera is tailored for hazardous and corrosive industries, such as onshore/offshore oil and gas, manufacturing, chemical and more.

2 MP

QVGA

VGA



Features

VISUAL CAMERA

Get clear images in most weather and lighting conditions with 2 MP resolution, LowLight Technology and True Wide Dynamic Range. Get a complete picture with the smooth movement of the PTZ and see afar with long-range zoom.

EXPLOSION-PROOF

The heavy-duty housing meets stringent explosion-proof and dust-ignition-proof requirements while complying with international standards (UL, CSA, ATEX, IECEx, INMETRO, KCs, ECAS EX, UKCA and TS mark).

H-TEMPERATURE RANGE

Optimized to operate reliably even at increased temperature variances: from -40°C (-40°F) up to +60°C (+140°F).

SMART ANALYTICS WITH AUTO-TRACKING

Detects more objects with expanded object classifications and automatically tracks objects in zone for faster, decisive responses.

¹ONVIF is a trademark of Onvif, Inc.

THERMAL CAMERA

Detect heat signatures from a long distance with various resolutions, including QVGA and VGA, and choose from a variety of field-of-view options to cover wide areas.

SUPERIOR DETECTION

Never miss a single detail with a camera that provides a thermal and a visual vision for better decision-making and reduced false alarm rates.

EASY INSTALLATION

Simplify installation and ensure cost-efficiency by installing only one camera instead of two. Take advantage of flexible mounting options to suit your facility's needs, particularly in remote and challenging sites.

ONVIF® CONFORMANT

ONVIF Profile S, G, T and M conformance for easy integration with leading video management software to maximize existing investments.

For more information, contact your local Pelco sales representative today at pelco.com/about/contact-us/#form.

PELCO®

Specifications

Thermal - Image Performance QVGA

VGA

Image Sensor	320 x 256 Uncooled VOx Microbolometer	640 x 512 Uncooled VOx Microbolometer
Dynamic Range	-40°C to 225°C (-40°F to 437°F)[may vary based on operating temperature]	
Image Rate	Up to 30 fps (-1 models up to 9 fps)	
Aspect Ratio	5:4	
3D Noise Reduction Filter	Yes	
Pixel Pitch	12µm	
Spectral Range	8µm to 14µm	
Resolution Scaling	320 x 256, can be scaled up to 640 x 512	640 x 512, can be scaled down to 320 x 256
Sensitivity	NETD ≤50 mK (NETD ≤40 mK on 30 fps models when Frame Averager feature is enabled)	
Thermal Palettes	White Hot, Black Hot, Rainbow, RainHC, IronBow, Lava, Artic, GlowBow, GradedFire, Hottest	
Image Uniformity Optimization	Automatic Flat Field Correction (FFC) - Thermal and Temporal	

Thermal - Lens

QVGA

VGA

Lens	6.3 mm	18 mm	14 mm	24,4 mm
Horizontal field of view	34°	12°	32°	18°
Vertical field of view	27.2°	9.6°	25.6°	13.5°
F-number	F/1.01	F/1.04	F/1.00	F/1.00
Person (detection/ recognition/ identification) ¹	131m / 33m / 20m	381m / 95m / 59m	279m / 70m / 43m	505m / 126m / 78m
Car (detection/ recognition/ identification) ¹	608m / 152m / 94m	1753m / 438m / 270m	1296m / 324m / 199m	2506m / 627m / 386m
Ship 30m (detection/ recognition/identification) ¹	7875m / 1968m / 1230m	22500m / 5625m / 3515m	17500m / 4375m / 2734m	30500m / 7625m / 4765m

1-According to Johnson Criteria.

Visible - Image Performance

2.0 MP

Image Sensor	1/2.8" progressive scan CMOS	
Active Pixels (H x V)	1945 (H) x 1097 (V)	
Imaging Area (H x V)	5.568 mm (H) x 3.132 mm (V); 0.219 " (H) x 0.123 " (V)	
Minimum Illumination	0.03 lux (F/1.6) in color mode; 0.02 lux F/1.6) in monochrome	
Dynamic Range	Up to 120 dB	
Image Rate	Up to 60 fps	
Aspect Ratio	Down to (16:9) 384x216 or (5:4) 320x256	
Signal Noise (S/N) Ratio	More than 50 dB	
Lens	F1.6, 4.3-129 mm (30x zoom) remote focus and zoom	
Angle of View	Horizontal	(16:9) 2.34° - 65.1°
	Vertical	(16:9) 1.36° - 38.4°

Visible - Image Performance **2.0 MP**

Zoom	Up to 30x
3D Noise Reduction Filter	Yes

Visible - Image Control **2.0 MP**

Motion Detection	Pixel motion: Selectable sensitivity and threshold. Classified object detection
Electronic Shutter Control	Automatic, Manual (1/1 to 1/10,000 sec)
Iris Control	Automatic, Open, Closed
Day/Night Control	Automatic, Manual
Flicker Control	60 Hz, 50 Hz
White Balance	Automatic, Manual
Backlight Compensation	On/Off
Privacy Zones	3D, up to 64 zones
Digital Zoom	12X
Electronic Image Stabilization	Yes
Digital Defog	Adjustable/Off

Common - Image Control

Video Compression	H.264 and H.265 Pelco Smart Compression, Motion JPEG
Streaming	Multi-stream H.264, Multi-stream H.265, Motion JPEG
Presets	500 named presets
Tours	10 named tours

Network

ONVIF	ONVIF compliance Profile S, Profile T, Profile G, and Profile M (www.onvif.org)
Security	Password protection, HTTPS encryption, FIPS 140-2 L1 and onboard FIPS 140-3 L3 certified TPM, digest authentication, WS authentication, user access log, 802.1x port based authentication. Signed and encrypted firmware.
Protocols	IPv6, IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMPv3, ICMP, DHCP, Zeroconf, SNMP v2c, SNMP v3, NTCIP, SRTP

Mechanical

Dimensions (LxWxH)	453 mm x 232 mm x 398 mm; 17.84" x 9.13" x 15.7"
Weight	35 kg; 77 lbs
Construction	AISI 316L stainless steel
Finish	Electro-polished surface
Pan Movement	360° continuous, max 100°/s
Vertical Tilt	-90° to 90°

Mechanical

Maximum Pan/Tilt Speed	100°/s
Wiper	Yes
Cable Entry	2 x 3/4" NPT
Pre-set Accuracy	0.2°
Sunshield	AISI 316L stainless steel

Electrical

Local Storage	Factory installed 128GB, Micro SDXC Card.
Ports	10BASE-T/100BASE-TX, RJ45 connector (CAT5E cabling) and SFP slot
Power Consumption	120 W
Input Voltage (Power)	Ordering options: 230 VAC, 0.54 A, 50/60 Hz 24 VAC, 5A, 50/60 Hz 120 VAC, 1A, 50/60 Hz 220 VAC, 0.54A, 50/60 Hz
Input for Remote Reset	1
Alarm Inputs	1
Relay Outputs	1+1 (one relay reserved for washer pump and one configurable, 1A, 30 VAC/60 VDC max)

Environmental

Operating Temperature	-40 °C to +55 °C (-40 °F to 131 °F) in enclosed space, - 40 °C to +60 °C (-40 °F to 140 °F) with ambient convection
Storage Temperature	-40 °C to +70 °C (-40 °F to 158 °F)
Humidity	5% - 95% non-condensing
Housing Climate Control	Built-in heater and fan
Cold Start	Up to 2 hour startup delay at temperature lower than -10 °C (14 °F)
Wind Resistance	Pan and tilt operational at a maximum of 210 km/h wind (130.5 mph)
Integrated Power Supply For Washing System	24 VDC, 12 Wmax

Certifications

Certifications/Directives	cULus, CE, UKCA, ROHS, RCM, KC (220 VAC only)
Safety	UL/CSA 62368-1, EN/IEC 62368-1
Hazardous	ATEX (EN IEC 60079-0, EN 60079-1, EN 60079-31), IECEx (IEC 60079-0, IEC 60079-1, IEC 60079-31), INMETRO (ABNT NBR IEC 60079-0, ABNT NBR IEC 60079-1, ABNT NBR IEC 60079-31), UK Ex (EN IEC 60079-0, EN 60079-1, EN 60079-31), KCs (Employment and labor department 2021-22), UL listed for USA (UL 60079-0, UL 60079-1, UL 60079-31), UL listed for Canada (CAN/CSA-C22.2 NO. 60079-0, CAN/CSA-C22.2 NO. 60079-1, CAN/ CSA-C22.2 NO. 60079-31), ECAS EX (UAE.S IEC 60079-0, UAE.S IEC 60079-1, UAE.S IEC 60079-31).
Environmental and Performance	EN/IEC 60529: IP66, IP67, IP68, IP69 IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-30, IEC 60068-2-52 NEMA TS 2 para 2.2.7 - 2.2.9

Certifications

	UL50E: Type 4X and 6P
Electromagnetic Emissions	FCC Part 15 Subpart B Class A, IC ICES-003 Class A, EN 55032 Class A, EN 61000-6-4, EN 61000-3-2, EN 61000-3-3
Electromagnetic Immunity	EN 50130-4
Vibration Test	EN 50130-5, EN 60068-2-6
Warranty	3-year limited warranty. 5-year extended warranty is available.

Certifications - Marine Applications

Lloyd's Register Marine Type Approval certification (with MAXIMUS MBX communication box or with FM1010 filter)	Test Specification Number 1 (ENV1, ENV2, ENV3, ENV5)
Electromagnetic Compatibility	EN60945
Salty Fog Resistance	EN60068-2-52

Explosion-Proof Certifications

Part Number	Certification	Marking	Ambient Temperature	Cable Entry Temperature		
EXBE2230VF14M2N1B EXBE2230VF14M2N0B EXBE2230VF14M1N1B EXBE2230VF14M1N0B	DEMKO 12 ATEX 1031198X	Ex II 2 G Ex db IIC T6...T4 Gb Ex II 2 D Ex tb IIIC T85°C...T135°C Db	-40°C ≤ Ta ≤ +50°C or +65°C or +70°C	+80°C with Ta ≤ 60°C +90°C with Ta ≤ 70°C		
EXBE2230VF14ACN1B EXBE2230VF14ACN0B EXBE2230VF14M5N1B EXBE2230VF14M5N0B	IECEX ULD 11.0005X	Ex db IIC T6...T5 Gb Ex tb IIIC T85°C...T100°C Db				
EXBE2230VF24M2N1B EXBE2230VF24M2N0B EXBE2230VF24M1N1B EXBE2230VF24M1N0B	UKEx UL21UKEX2216X	Ex II 2 G Ex db IIC T6...T4 Gb Ex II 2 D Ex tb IIIC T85°C...T135°C Db				
EXBE2230VF24ACN1B EXBE2230VF24ACN0B EXBE2230VF24M5N1B EXBE2230VF24M5N0B	INMETRO UL-BR 13.0063X	Ex db IIC T6...T5 Gb Ex tb IIIC T85°C...T100°C Db				
EXBE2230QF06M2N1B EXBE2230QF06M2N0B EXBE2230QF06M1N1B EXBE2230QF06M1N0B	KCs 26-KB4BO-0117X, 26-KB4BO-0118X	Ex db IIC T6...T5 Gb Ex tb IIIC T85°C...T100°C Db				
EXBE2230QF06ACN1B EXBE2230QF06ACN0B EXBE2230QF06M5N1B EXBE2230QF06M5N0B EXBE2230QF18M2N1B EXBE2230QF18M2N0B	UL Hazardous Hazardous Location America	Class I, Zone 1, AEx db IIC T6...T4 Gb Zone 21, AEx tb IIIC T85°C...T135°C Db Class I, Div 2, Group A, B, C, D T6...T4 Class II, Div 2, Group F, G T6...T4			-40°C ≤ Ta ≤ +45°C or +55°C or +65°C	+80°C with Ta ≤ 60°C +82°C with Ta ≤ 65°C
EXBE2230QF18M1N1B EXBE2230QF18M1N0B EXBE2230QF18ACN1B EXBE2230QF18ACN0B EXBE2230QF18M5N1B EXBE2230QF18M5N0B	UL Hazardous Hazardous Location Canada	Ex db IIC T6...T4 Gb X Ex tb IIIC T85°C...T135°C Db X Class I, Div 2, Group A, B, C, D T6...T4 Class II, Div 2, Group F, G T6...T4				

Analytics Specifications

Supported Analytics Events*1

Objects in Area	The event is triggered when the selected object type moves into the region of interest. This event can be used to count objects.
Object Loitering	The event is triggered when the selected object type moves into the region of interest, then stays for an extended amount of time.
Objects Crossing Beam	The event is triggered when the specified number of objects have crossed the directional beam that is configured over the camera's field of view. The beam can be unidirectional or bidirectional.
Object Appears or Enters Area	The event is triggered by each object that enters the region of interest.
Object Not Present in Area	The event is triggered when no objects are present in the region of interest.
Objects Enter Area	The event is triggered when the specified number of objects have entered the region of interest.
Objects Leave Area	The event is triggered when the specified number of objects have left the region of interest.
Object Stops in Area	The event is triggered when an object moves into a region of interest and then stops moving for the specified threshold time.
Direction Violated	The event is triggered when an object moves in the prohibited direction of travel.
Sabotage Detection	The event is triggered when the scene unexpectedly changes.

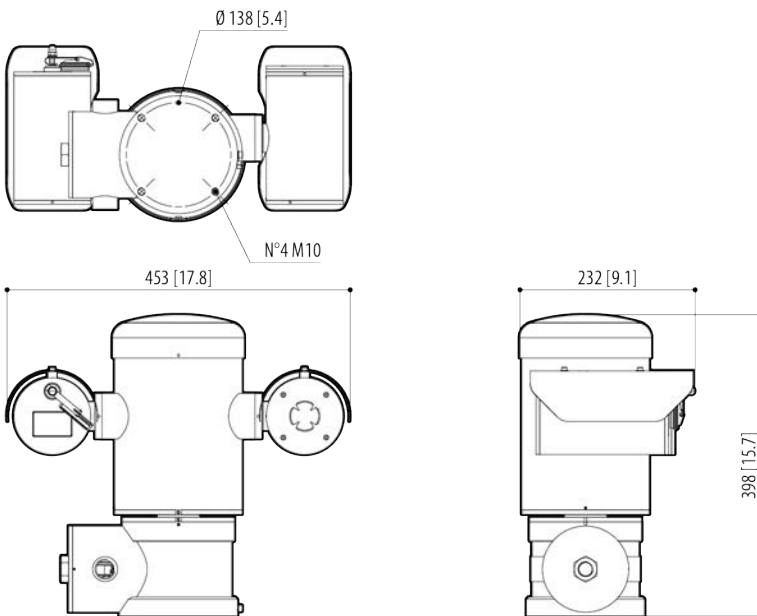
*Pelco Smart Analytics powered by Motorola Solutions.

¹Pelco Smart Analytic is supported only on visual camera sensors.

Outline Dimensions

Exsite enhanced bispectral ptz 2 series

[X.X]	INCHES
X	MM



System Model Numbers

Resolution & Lens	Power	FPS	Part Number
Sensor VGA 640x512; Lens 32°-14mm	230 Vac	9Hz	EXBE2230VF14M2N1B
		30Hz	EXBE2230VF14M2N0B
	120 Vac	9Hz	EXBE2230VF14M1N1B
		30Hz	EXBE2230VF14M1N0B
	24 Vac	9Hz	EXBE2230VF14ACN1B
		30Hz	EXBE2230VF14ACN0B
	220 Vac	9Hz	EXBE2230VF14M5N1B
		30Hz	EXBE2230VF14M5N0B
Sensor VGA 640x512; Lens 18°-24.4mm	230 Vac	9Hz	EXBE2230VF24M2N1B
		30Hz	EXBE2230VF24M2N0B
	120 Vac	9Hz	EXBE2230VF24M1N1B
		30Hz	EXBE2230VF24M1N0B
	24 Vac	9Hz	EXBE2230VF24ACN1B
		30Hz	EXBE2230VF24ACN0B
	220 Vac	9Hz	EXBE2230VF24M5N1B
		30Hz	EXBE2230VF24M5N0B
Sensor QVGA 320x256; Lens 34°-6.3mm	230 Vac	9Hz	EXBE2230QF06M2N1B
		30Hz	EXBE2230QF06M2N0B
	120 Vac	9Hz	EXBE2230QF06M1N1B
		30Hz	EXBE2230QF06M1N0B
	24 Vac	9Hz	EXBE2230QF06ACN1B
		30Hz	EXBE2230QF06ACN0B
	220 Vac	9Hz	EXBE2230QF06M5N1B
		30Hz	EXBE2230QF06M5N0B
Sensor QVGA 320x256; Lens 12°-18mm	230 Vac	9Hz	EXBE2230QF18M2N1B
		30Hz	EXBE2230QF18M2N0B
	120 Vac	9Hz	EXBE2230QF18M1N1B
		30Hz	EXBE2230QF18M1N0B
	24 Vac	9Hz	EXBE2230QF18ACN1B
		30Hz	EXBE2230QF18ACN0B
	220 Vac	9Hz	EXBE2230QF18M5N1B
		30Hz	EXBE2230QF18M5N0B

Mounting Accessories

Part #	Description
MPXCW	Corner mount adapter for use with ExSite cameras. Max load 50 kg (110 lb.). AISI 316L stainless steel.
MPXWBA	AISI 316L stainless steel wall bracket.
MPXCOL	Pole mount adapter for use with ExSite cameras. For pole diameters from 110 mm (4.3") to 150 mm (5.9"). Max load 50 kg (110 lb.). AISI 316L stainless steel.
MPXWBTA	AISI 316L stainless steel parapet or ceiling mounting bracket.

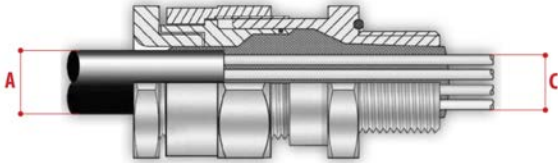
Cabling

Item	Description
MPX2CABL41	Cabling, 4m (13.1 ft), unarmored cable, barrier cable gland
MPX2CABL101	Cabling, 10m (32.8 ft), unarmored cable, barrier cable gland
MPX2CABLARM41	Cabling, 4m (13.1 ft), armored cable, barrier cable gland
MPX2CABLARM101	Cabling, 10m (32.8 ft), armored cable, barrier cable gland

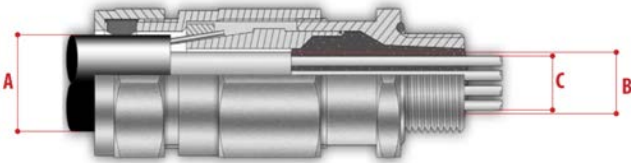
Cable Glands and Accessories 3/4" NPT

Type	Certification	Operating Temp.	Cable	Part Number	Maximum diameter of the external sheath (A)	Maximum diameter of the internal sheath (B)	Maximum diameter of the conductors bundle (C)
Barrier Cable Gland	IECEX / ATEX / EAC Ex	-60°C (-76°F) / +135°C (+275°F)	Unarmored	OCTEXB3/4P	20.0 mm (0.78 in)	-	17.8 mm (0.7in)
			Armored	OCTEXBA3/4P	16.8 - 23.9 mm (0.66-0.94 in)	20 mm (0.79 in) max	17.8 mm (0.7 in)
Cable Gland with Gasket	IECEX / ATEX / EAC Ex	-60°C (-76°F) / +100°C (+212°F)	Unarmoured	OCTEX3/4C	13.0 - 20.2 mm (0.51-0.79 in)	-	-
			Armored	OCTEXA3/4C	16.9 - 26.0 mm (0.66-1.02 in)	11.1 - 19.7 mm (0.44 - 0.78 in)	-
Plug EX 3/4"NPT	IECEX / ATEX / EAC Ex	-100°C (-148°F) / +400°C (+752°F)	-	OEXPLUG3/4P	-	-	-
Conduit Sealing Fitting	IECEX / ATEX / cCSAus / EAC Ex	-60°C (-76°F) / +80°C (+176°F)	-	OCTEXP3/4C	-	-	11.0 mm (0.43 in)

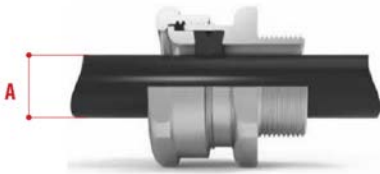
Type	Certification	Operating Temp.	Cable	Part Number	Maximum diameter of the external sheath (A)	Maximum diameter of the internal sheath (B)	Maximum diameter of the conductors bundle (C)
Reduction 3/4" NPT x 1/2" NPT	IECEX / ATEX / EAC Ex	-100°C (-148°F) / +400°C (+752°F)	-	OCTEX1/2-3/4P	-	-	-



Barrier cable gland with unarmored cable



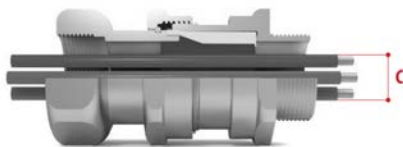
Barrier cable gland with armored cable



Cable gland with gasket with unarmored cable



Cable gland with gasket with armored cable



Conduit sealing fitting

Explosion-Proof Communication Box

A communication box includes a 3-port RJ45 and 1 SFP port Ethernet switch and 24 VAC output for powering up to one of the following:

- 2x EXC2602 fixed compact cameras
- 2x EXF2230 fixed cameras with 2x washer pump
- 1x EXP2230, EXBE2, or EXPE2 PTZ camera with 1x washer pump

Part #	Description
MBX1MAA	AISI 316L stainless steel housing, 230 VAC input.
MBX2MAA	AISI 316L stainless steel housing, 24 VAC input.
MBX3MAA	AISI 316L stainless steel housing, 120 VAC input.
MBXMP	Adapter plate for communication box to MPXCOL or MPXCW mounts. AISI 316L stainless steel housing.
MBXWRE	Wrench for opening communication boxes, MBX.
MPXCOL	Pole mount adapter for use with ExSite cameras. For pole diameters from 110 mm (4.3") to 150 mm (5.9"). Max load 50 kg (110 lb.). AISI 316L stainless steel.
MPXCW	Corner mount adapter for use with ExSite cameras. Max load 50 kg (110 lb.). AISI 316L stainless steel.

Explosion-Proof Washer

A 10L (2.6 gal) tank with integrated manual pump and delivery up to 20m (66 ft), 24 VAC/VDC input.

Part #	Description
WASEX2T4AT	ATEX certified solenoid valve.
WASEX2T4IC	IECEX certified solenoid valve.
WASEX2T4IN	INMETRO certified solenoid valve.
WASEX2T4KC	KCS certified solenoid valve (only 24 VDC).
WASEX2T4UL	cULus certified solenoid valve.
NXCOL	Pole mount adapter for use with EXF2230 cameras or explosion protected washers. For pole diameters from 110 mm (4.3") to 150 mm (5.9"). Max load 50 kg (110 lb.). AISI 316L stainless steel.
NXCW	Corner mount adapter for use with EXF2230 cameras or explosion protected washers. Max load 50 kg (110 lb.). AISI 316L stainless steel.

Ordering Information

PTZ CAMERAS

	MP	WDR	SureVision TECHNOLOGY	ANALYTICS AT HOME POSITION	LENS	ZOOM	IP66/67/68/69	Pelco SMART Compression
EXBE2-2X30	2.0	✓	✓	✓	4.3 – 129 mm	30x	✓	✓

Support

Learn more and find additional documentation at pelco.com or email support@pelco.com for specific product support.