

MIC-7602-Z30BR PTZ 2MP 30x starlight enhanced black

MIC inteox 7100i



- ▶ Starlight camera technology with excellent low-light sensitivity (color = 0.0047 lx) and High dynamic range (120 dB) (to see details in bright and dark areas simultaneously)
- ▶ Exceptional strength and ruggedness for any outdoor application including traffic monitoring (bridges, tunnels, or highways), perimeter protection, city surveillance, and mining
- ▶ Built-in Camera Trainer to train the camera to recognize user-specified target objects, such as moving and non-moving objects, to alert operators of unusual scene activity
- ▶ Edge intelligence with Intelligent Tracking and object detection even when the camera is moving
- ▶ Optional illuminator with multispectral LEDs that distribute IR light uniformly in the field (up to 550 m (1804.50 ft)) to avoid dark spots or an over-illuminated scene

Certifications and approvals

For a full list of all related certifications/standards, refer to the Product Tests Report, available on the online catalog, on the Documents tab of the product page for your device. If the document is unavailable on the product page, contact your sales representative.

Electromagnetic Compatibility (EMC)	Complies with FCC 47 CFR Part 15, ICES-003, and CE regulations, including latest versions of: EN 50130-4 EN 50121-4 (Railway applications) EN 55032 CISPR 32
Product Safety	Complies with UL, CE, CSA, EN, and IEC Standards including: UL 62368-1 UL 60950-1, Ed. 2

CAN/CSA-C22.2 No. E60950-1-07
EN 62368-1
EN 60950-1
EN 60950-22
CAN/CSA-C22.2 No. 62368-1-14
IEC 62368-1 Ed.2*
IEC 60950-1 Ed.2**
IEC 60950-22 Ed.2

Marks UL, CE, WEEE, EAC, FCC, RoHS

* Except the Steady-state test (6.2.2.2) for Australia
** Except the Steady-state test (5.4.10.2.3) for Australia

Installation/configuration notes

In the table below, an "X" identifies the power source options for MIC IP camera models.

Camera models	60 W midspan	95 W midspan	24 VAC PSU*
Models with illuminator		X	X
Models without illuminator	X	X	X

* recommended: 24V at 100VA, 4A with a slow blow fuse

Mounting Bracket Options

Bosch designed MIC IP 7100i cameras for use in outdoor applications. In an enclosed installation area (for example, in a foundry, near a furnace, etc.), temperatures outside of the camera might exceed +65 °C (+149 °F). If you install a camera in an enclosed area, make sure that the operating temperature of the camera is a maximum of +60 °C (+140 °F). Make sure that air circulates around the camera to supply cooling.

The following figure identifies the optional mounting brackets for MIC cameras. Refer to the datasheets of each bracket for details. Some brackets may not be available in all regions.

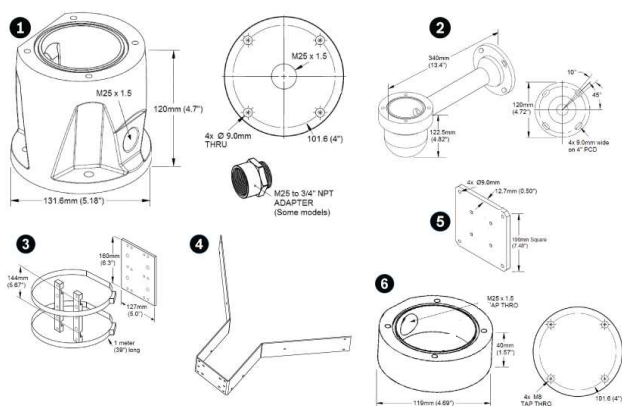


Fig. 1: Optional Mounts, MIC IP 7100i series

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|------------------------|-----------------------------|
| 1 Deep conduit adapter | 4 Corner mount bracket |
| 2 Wall mount bracket | 5 Wall mount spreader plate |
| 3 Pole mount bracket | 6 Shallow conduit adapter |

For more options, refer to the MIC IP cameras Accessory Quick Selection Guide (https://media.boschsecurity.com/fs/media/pb/media/support_1/tools/mic_ip_cameras_accessory_quick_selection_guide.pdf).

Dimensional Drawings

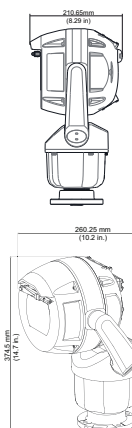
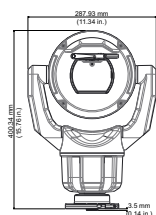


Fig. 2: Canted

Parts included

Quantity	Component
1	MIC inteoX 7100i camera
1	spanner tool [to remove and to attach the yoke caps in order to cant the camera if desired, and to remove the access plug from the camera head when installing the optional illuminator accessory (sold separately)]
1	base gasket
1	RJ45 coupler
1	MAC address labels
1	Quick Installation Guide
1	Safety instructions

Technical specifications

Imager	1/2 in. CMOS sensor
Effective Picture Elements (Pixels)	1937 x 1097 (2.12 MP)
Lens	30x motorized Zoom; 6.6 mm to 198 mm; F1.5 to F4.8
Field of view	2.1° to 58.3°
Focus	Automatic with manual override, Region per pre-position
Iris	Automatic with manual override
Digital zoom	12x

Day/night	Automatic IR cut-off filter
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Video performance - Sensitivity

(3100K, reflectivity 89%, 1/30, F1.6, 30 IRE)

Color	0.0047 lx
Monochrome	0.0013 lx

Video performance - Dynamic range

High dynamic range	120 dB
Measured according to IEC 62676 Part 5)	106 dB

Firmware

Common Product Platform	CPP13
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DORI	Distance	to	Object
	WIDE 1X	TELE 30X	Scene width
Detection 25 pixels/m (8 pixels/ft)	69 m (226 ft)	2095 m (6873 ft)	77 m (253 ft)
Observation 63 pixels/m (19 pixels/ft)	27 m (89 ft)	831 m (2726 ft)	31 m (102 ft)
Recognition 125 pixels/m (38 pixels/ft)	14 m (46 ft)	419 m (1375 ft)	15 m (49 ft)
Identification 250 pixels/m (76 pixels/ft)	7 m (23 ft)	210 m (689 ft)	8 m (26 ft)

Additional Camera Settings

Modes for viewing the video area of pre-position settings	Automatic exposure, either full-screen or defined to a specific area Focus
Gain control	AGC, Fixed, Region per pre-position
Aperture Correction	Horizontal and vertical
Electronic Shutter Speed (AES)	1/1 sec to 1/60,000 sec
Signal-to-Noise Ratio (SNR)	>55 dB
Backlight compensation (BLC)	On Off Intelligent Auto Exposure (IAE)

White balance	2000 K to 10,000 K ATW, AWB Hold, Extended ATW, Manual, Sodium Lamp Auto, Sodium Lamp
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Day/night	Monochrome Color Auto
Defog mode feature	Improves visibility when viewing foggy or other low-contrast scenes.

Noise Reduction	Intelligent Dynamic Noise Reduction
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Sectors	4, 6, 8, 9, 12, or 16 user-selectable, independent Sectors, each with 20 characters per Title
Privacy Masks	32 individually configurable Privacy Masks; maximum 8 per Pre-position; programmable with 3, 4 or 5 corners; select your own color from the color palette. With the "Auto" option, the camera selects the most prevalent of the three colors in the background scene as the pattern color. With the "Mosaic" option, the movements behind a Privacy Mask will remain visible.
Virtual Masks	24 individually configurable Virtual Masks to hide parts of the scene (background motion such as moving trees, pulsating lights, busy roads, etc.)
Pre-positions	256 Pre-positions, each with 20 characters per Title
Guard Tours	Custom Recorded Tours - two (2), total duration 30 minutes: Pre-position tour - one (1), consisting of up to 256 scenes consecutively, and one (1) customized with up to 256 user-defined scenes
Supported Languages	English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian, Spanish, Japanese, Chinese
Alarm control	Rules-based logic supports basic and complex pre-defined user-specified commands In its most basic form, a "rule" could define which input(s) should activate which output(s).
Camera status monitoring	Integrated sensors monitor operational status such as internal temperature, humidity level, incoming voltage level, vibration, and shock events.
Diagnostics	Various status conditions are tracked in the internal diagnostic log. Critical fault conditions will also be displayed on screen.

Video content analysis

Analysis type	Intelligent Video Analytics
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Configurations	Off / Global VCA / Profiles 1 - 16
Calibration	Automatic self-calibrating when height is set
Alarm rules (combinable)	Any object, Object in field, Crossing line, Entering field, Leaving field, Loitering, Following route, Idle object, Removed object, Counter, Occupancy, Crowd detection, Condition change, Similarity search, Tampering
Object filters	Duration, Size, Aspect ratio v/h, Speed, Direction, Object classes (Upright persons, Bikes, Cars, Trucks), Color

Network

Standard/Video compression	H.265, H.264 (ISO/IEC 14496), M-JPEG, JPEG
Streaming	3 fully configurable streams, with the option to activate or deactivate VCA overlays on each stream

Resolution (H x V)	Pixels
1080p HD	1920 x 1080
720p HD	1280 x 720
432p SD	768 x 432
288p SD	512 x 288

Protocols	IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP/RTCP, IGMP V2/V3, ICMP, ICMPv6, RTSP, FTP, ARP, DHCP, APIPA (Auto-IP, link local address), NTP (SNTP), DNS, DNSv6, DDNS (DynDNS.org, selfHOST.de, noip.com), SMTP, iSCSI, UPnP (SSDP), DiffServ (QoS), LLDP, SOAP, Dropbox™, CHAP, digest authentication
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Note: Dropbox is a trademark of Dropbox, Inc.

Ethernet	100BASE-TX/1000 Base-T, auto-sensing, half/full duplex, Auto-MDI-X
Encryption	TLS 1.0, TLS 1.1, TLS 1.2, AES128, AES256
Ethernet connector	RJ45
GOP structure	IP, IBP, IBBP
Camera internal delay	30 fps: 247 ms (typical)
Interoperability	ONVIF Profile S, ONVIF Profile G, ONVIF Profile T

The table that follows shows the average typical optimized bitrate, in kbits/s, for different frame rates:

The average is for the highest resolution of the camera.

FPS	H.264	H.265
30	2740	2060
15	1690	1260
2	420	310
1	260	190

Actual bitrate may vary depending on the scene, picture settings, and encoder profile settings.

Mechanical

Drive Unit	Brushless, integral pan/tilt motor drive
Supported mounting orientation	Upright, Inverted, Canted
Pan Range	360° continuous rotation
Tilt Angle	290° (with or without illuminator)
Tilt Range	(With or without illuminator) Upright: -55° to +90°; Inverted: -95° to +55°; Canted: -80° to +65°
Variable Pan Speed	0.2°/second - 120°/second
Variable Tilt Speed	0.2°/second - 90°/second
Speed of Pre-positions	120°/second
Pre-position Accuracy	+/-0.05°
Proportional Pan / Tilt to Zoom	Yes
Audible Noise	<65 dB

Electrical

Input voltage	21-30 VAC, 50/60 Hz; High Power over Ethernet 56VDC nominal
Power Consumption (typical), without illuminator	40 W
Power Consumption (typical), with illuminator	70 W
Current consumption, 24 VAC	~3.15A
Current consumption, High PoE	~1.5A

Redundant configuration	Connect both a High PoE Midspan and a separate 24 VAC power source. If either power source fails, the camera automatically switches to the other power source.
Surge protection	Built-in surge protection for power, data, and network interfaces (Refer to the A&E Specifications for details.)

Communications / Software Control

Camera Setup/Control	Via web browser [Refer to the Release Letter of your camera's firmware for specific requirements.], Bosch Configuration Manager, Bosch Video Management System (BVMS), Video Security Client (VSC), Project Assistant, or support for third party software
Software Update	Network firmware upload

Local Storage

Memory card slot	User-supplied full SD card (maximum 2 TB) (on enhanced models only) Recommended: Sony industrial SD cards with lifespan check
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User Connections

Chassis ground	Ground wire with connector lug
Input voltage, without illuminator	RJ45 connector to 60 W High PoE Midspan (NPD-6001B) or 95 W High PoE Midspan (NPD-9501A or NPD-9501-E), or 21-30 VAC, 50/60 Hz; Female-to-female RJ45 coupler included
Input voltage, with illuminator	RJ45 connector to 95 W High PoE Midspan (NPD-9501A or NPD-9501-E)* or 21-30 VAC, 50/60 Hz; Female-to-female RJ45 coupler included
Power, Camera	24 VAC (power supply)
Video and Control	RJ45 100BASE-TX Ethernet

* Must purchase NPD-9501A or NPD-9501-E in order to use the High PoE solution.

Audio

Compression	G.711, AAC, and L16 (live and recording)
Signal-to-Noise Ratio (SNR)	Audio in: 47 dBA Audio out: 50 dBA
Mode	Two-way, full duplex audio communication

User connections	Line in: 130k ohm typical / 1.0Vrms, max Line out: 0.8Vrms at 2.4 ohm, typical
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Environmental

The customer is responsible for making sure that the installation complies with the specified stresses that follow.

Note: Unit includes internal heater and fan.

Ingress Protection Rating/Standard	IEC 60529 IP66 / IP68 / Type 6P (dust and immersion) when installed on a MIC-DCA, or on a MIC wall mount with a MIC-SCA. IP67 (moisture and dust) with the IP67 Connector Kit (MIC-9K-IP67-5PK) on the connectors in the camera base. This kit is also required when using non-Bosch mounts.
External Mechanical Impact (IK Code / Impact rating)	IEC 62262 IK10 (excluding glass window)
Operating temperature	-40 °C to +65 °C (-40 °F to +149 °F)
NEMA TS 2-2003 (R2008), para 2.1.5.1 using fig. 2.1 test profile	-34 °C to +74 °C (-30 °F to +165 °F) for 15 hours
Cold Start-up Temperature	-40 °C (-40 °F) (Requires 60-minute warm-up prior to PTZ operations.)
Storage temperature	-45 °C to +70 °C (-49 °F to +158 °F)
Humidity	0-100%
Wind Load	Sustained winds up to 161 kph (100 mph) An upright camera or an inverted camera with an illuminator will hold its position in gusts up to 241 kph (150 mph). A canted camera with an illuminator will hold its position in gusts up to 257 km/h (160 mph).
Effective Projected Area (EPA)	Camera + DCA: 0.0725 m ² (0.78 ft ²) Camera + DCA + illuminator: 0.0854 m ² (0.92 ft ²)
Vibration	IEC 60068-2-6: 10-150 Hz, 1.0G (0.5G on canted unit), 10m/s ² , 20 Sweeps NEMA TS-2 Section 2.2.8: 5-30 Hz, 0.5G MIL-STD-167-1A

Shock	IEC 60068-2-27, Test Ea: Shock, half sine impulse, 11 ms, 45G (20G on canted unit), non-repetitive shocks (three shocks in each axis and in each direction) NEMA TS 2 Section 2.2.9 Shock (Impact) Test Half sine wave 11 ms, 10G
Power Service Transients	NEMA TS2 Section 2.2.7.2
Power Interruption	NEMA TS2 Section 2.2.10
MIL-STD-810 Military Standard Test Methods	MIL-STD-810-G, 501.5 High Temperature; MIL-STD-810-G, 502.5 Low Temperature; MIL-STD-810-G, 503.5 Temperature Shock; MIL-STD-810-G, 505.5 Solar Radiation; MIL-STD-810-G, 506.5 Rain; MIL-STD-810-G, 509.5 Salt Fog; MIL-STD-810-G, 510.5 Sand and Dust
Salt Mist Spray (Corrosion Test)	ISO 12944-6: C5-M (High); Aluminum Housing Components

Construction

Dimensions (W x H x D)	Without illuminator accessory or sunshield: <i>Upright, Inverted:</i> 287.93 mm x 400.34 mm x 210.65 mm (11.34 in. x 15.76 in. x 8.29 in.) <i>Canted:</i> 260.25 mm (10.2 in.) x 374.5 mm (14.7 in.)
Weight	8.7 Kg (19.2 lb)
Window	Flat glass (with defroster on enhanced models only) Defroster starts automatically at $\leq 5^{\circ}\text{C}$ (41 $^{\circ}\text{F}$).
Construction Material	Anodized cast aluminum
Window Wiper	Integrated, long-life silicone wiper
Sunshield (to prevent sun load in hot climates)	Optional (sold separately)
Cantering	On-site canting functionality
Color	Black (RAL 9005)
Standard Finish	Corrosion-resistant, powder coat paint, sand finish

Represented by:

Europe, Middle East, Africa:
Bosch Security Systems B.V.
P.O. Box 80002
5600 JB Eindhoven, The Netherlands
Phone: +31 40 2577 284
emea.securitysystems@bosch.com
emea.boschsecurity.com

Germany:
Bosch Sicherheitssysteme GmbH
Robert-Bosch-Ring 5
85630 Grasbrunn
Germany
www.boschsecurity.com

North America:
Bosch Security Systems, LLC
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
onlinehelp@us.bosch.com
www.boschsecurity.us

Asia-Pacific:
Robert Bosch (SEA) Pte Ltd, Security Systems
11 Bishan Street 21
Singapore 573943
Phone: +65 6571 2808
Fax: +65 6571 2699
apr.securitysystems@bosch.com
www.boschsecurity.asia

Ordering information

MIC-7602-Z30BR PTZ 2MP 30x starlight enhanced black

Ruggedized PTZ camera; 1080p, 30x, starlight imaging, defroster, SD card slot.

open camera platform

Black (RAL 9005). Sand finish.

Order number **MIC-7602-Z30BR | F.01U.386.563**

F.01U.381.145

Services

EWE-MIC7IF-IW 12 mths full wrty ext MIC IP 7000i

12 months warranty extension

Order number **EWE-MIC7IF-IW | F.01U.382.951**