MIC Series 550 Infrared Camera

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Invented for life

- ▶ Choice of 36x or 28x day/night cameras with 550 TVL, 12x digital zoom, and wide dynamic range
- ▶ Rated to an industry-leading IP68
- ▶ Advanced privacy masking; Image stabilization
- ▶ Various mounting options, including on-site canting
- ▶ Twin integrated IR illuminators

The MIC Series 550 Infrared camera combines cutting-edge technology with the latest production techniques to provide a class-leading feature set in an economical package. The MIC Series 550 range takes high quality surveillance to new levels of excellence.

As a best-fit camera for virtually any security application, it can be installed in the harshest of environments. Thanks to its IP68-rated aluminum casing, the MIC Series 550 Infrared camera functions perfectly in the most demanding conditions. This tough and vandal-resistant casing provides protection from the elements and physical attack. An integrated, long life silicone wiper, and a reversible rain shield ensure high quality images regardless of the installed environment. The brushless-motor technology offers ultra-reliable, quiet operation with full 360º continuous rotation pan and 186º tilt control for exceptional viewing capability. Small increment pan speeds from just 0.2º per second to 120º per second gives the user precise control. This speed control is especially important when used with video analytic systems, particularly for tracking subjects when fully zoomed in.

The MIC Series 550 Infrared camera incorporates Bosch's standard AutoDome controller interface supporting familiar AutoDome on-screen menus. This enhancement makes it simple to integrate and use the camera within systems that already use Bosch Auto-Dome cameras and systems.

System Overview

Twin integrated IR illuminators
Two 850 nm, long-life, LED Infrared (IR) illuminators attached directly to the camera head provide clear illumination of the camera view to 60 m (197 ft) in total darkness, ensuring high quality images regardless of the lighting conditions.

Rated to an industry-leading IP68
Subjected and certified to rigorous IP68 dust and immersion tests, MIC Series cameras are perfectly suited for installation in even the most unforgiving environments, eliminating the need for pressurization.

The camera is machined from solid aluminum and protected from corrosion by two different processes: first, it receives a coating of Alodine 5200, a chromate conversion coating of aluminum that is used in the aerospace and defense industries where a protective layer is required to improve corrosion resistance. Second, it receives a robust, powder paint coating. The camera is sealed with 'O' rings and can operate submerged in up to one (1) meter (3.3 feet) of water for sustained periods of time [a maximum duration of 24 hours]. (It is not rated to be installed permanently under water.)

Various mounting options, including on-site canting
The MIC Series 550 Infrared camera features twist-lock on-site canting functionality. This allows the camera to be installed upright, inverted, or canted (at a

45º angle) to achieve the perfect field of view. No matter the installation position, the camera will operate faultlessly.

Integrated wiper
Regardless of the weather, the MIC Series 550 Infrared camera is able to capture the highest possible quality image all year long, thanks to its integrated, long-life silicone wiper.

Multi-protocol operation
Compatible with the Bosch Bilinx and Pelco "P" and "D" protocols, the MIC Series 550 Infrared camera integrates seamlessly with existing security systems. The camera is also compatible with the Bosch converter for Biphase protocol; a second converter, sold separately, is required to use this Biphase converter.

Applications:
- General CCTV
- Town centers
- ANPR systems
- Vandalism prone areas
- Extreme environments
- Rapid deployment
- High security
- Prestigious developments
- Broadcast
- Marine/coastal
- Architectural

Functions

High-performance PTZ day/night cameras
Image control and quality are integral aspects of any PTZ camera, and the MIC Series 550 Infrared camera delivers. The camera is available with a choice of 28X and the industry-leading 36X optical zoom lens, and offers a full 12X digital zoom. Both camera options provide 550 TVL of horizontal resolution for outstanding clarity and image detail. The cameras also incorporate technology that dramatically improves the dynamic range by 128 times. Also known as Wide Dynamic Range (WDR), it results in clear image reproduction in extreme high-contrast environments. The AutoScaling (proportional zoom) and AutoPivot (automatically rotates and flips the camera) features ensure optimal control.

Day/night capabilities and outstanding sensitivity make the MIC Series 550 Infrared cameras exceptional performers in all lighting conditions. In low light, these cameras automatically switch from color to monochrome by removing the IR filter to boost the infrared illumination sensitivity, while maintaining superior image quality. For operation in the darkest conditions, the SensUp control feature automatically reduces the shutter speed to as little as one second. This increases sensitivity by more than 50 times.

In addition to low light applications, the camera is also an exceptional performer when shooting under a sodium vapor lamp (for example, a street lamp or tunnel lamp). Images under these conditions may have a yel-

lowish tint, which may make identification difficult. In the Extended ATW White Balance mode, the MIC Series 550 Infrared camera automatically compensates for the light from a sodium vapor lamp to restore objects to their original color.

With super-quick, 120°/66° per-second pan/tilt speeds, the MIC Series 550 Infrared camera outperforms other domes in its class. The camera supports 99 pre-positions and two styles of Guard Tours: Preset and Record/Playback. The preset tour has capability for up to 99 pre-positions with a configurable dwell time between pre-positions, and can be customized as to the order and frequency each preset is visited. The camera also provides support for two recorded tours, which have a combined duration of 15 minutes of movements. These are recorded macros of an operator's movements, including pan, tilt, and zoom activities, and can be played back in a continuous manner.

Superior privacy masking
The MIC Series 550 Infrared camera allows for a total of 24 individual privacy masks, with up to eight displayed in the same scene. Unlike conventional privacy masks, these can each be programmed with three, four, or even five corners to cover more complex shapes. Each mask changes size and shape smoothly and quickly – ensuring that the covered object cannot be seen. You also have a choice of colors: black, white, and blurred. Blurred comes in handy when privacy is an issue, but determining the presence of motion is still required.

Image Stabilization
As PTZ cameras continue to improve their optical zoom capabilities, image stabilization becomes critical to eliminate movement caused by unstable camera mounts. A mere quarter-inch of movement of the camera mount can shift the field of view by more than 6 m (20 feet) when the camera is zoomed to a high value. This can render images unusable. Image stabilization algorithms included with the MIC Series 550 Infrared camera reduces camera shake in both the vertical and horizontal axis, resulting in exceptional image clarity (pixel displacement up to +/- 10% for frequencies up to 10 Hz). Bosch's unique image stabilization solution does not reduce camera sensitivity, unlike competitive systems.

Ease of installation and servicing
Bosch's innovative software, the Configuration Tool for Imaging Devices (CTFID), allows technicians or operators to control the PTZ, change camera settings, and even update firmware from virtually anywhere without need for additional wiring.
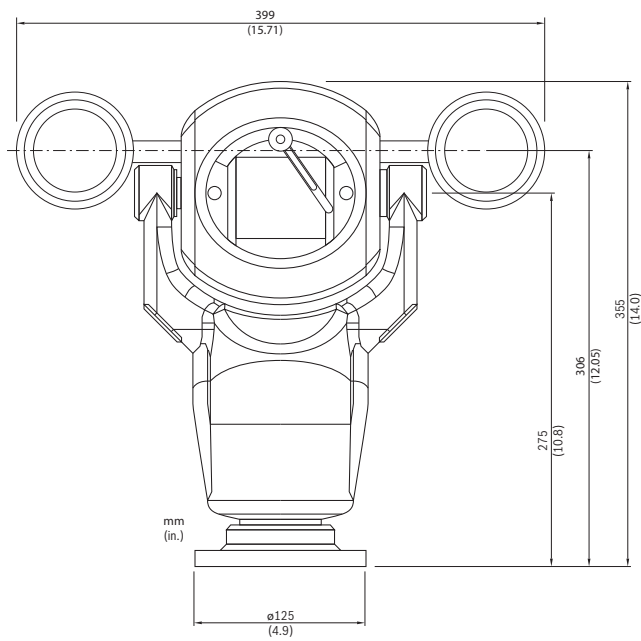
The MIC Series 550 Infrared camera has advanced built-in diagnostics to simplify service and minimize downtime. Using the On Screen Display (OSD), a technician can quickly and easily check critical parameters (such as internal temperature) to verify that the dome is functioning within acceptable operating limits.

Certifications and Approvals
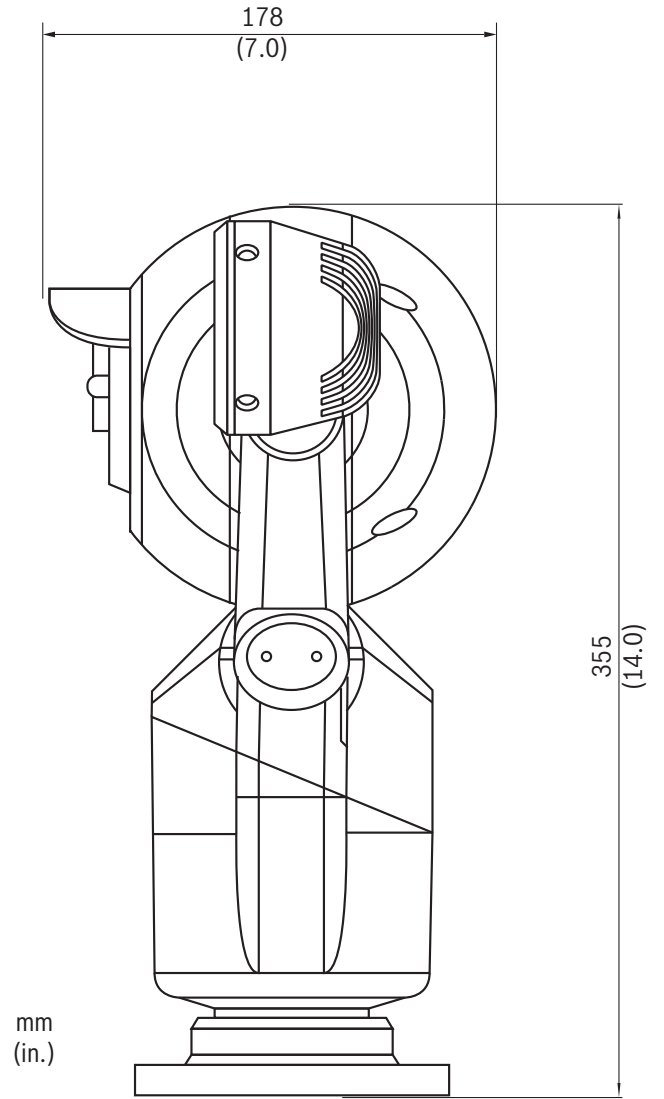
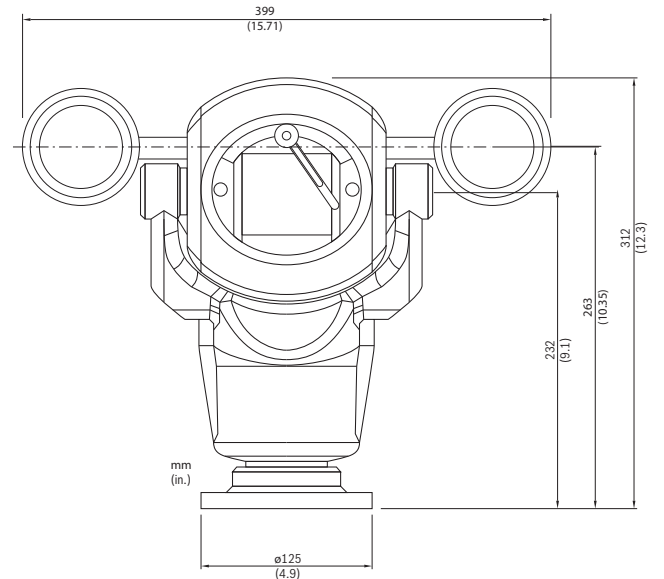|	
Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations including EN50130-4, EN61000-3-2:2006, EN61000-3-3:1995, and EN55022:2006 inc AL:2007
Safety	Complies with CE regulations, UL, EN, and IEC Standards 60950-1 & 22
Weatherproofing	IP68 (1m submersion for 24 hrs)

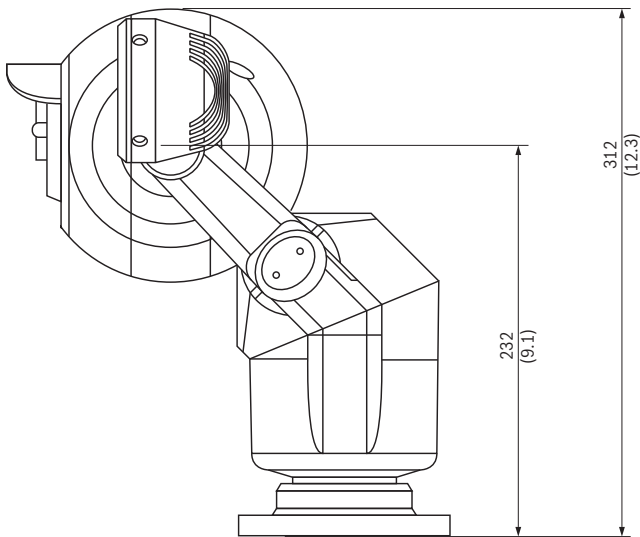| Region	Certification
USA	UL

Installation/Configuration Notes

Front detail, 90° (upright)

Side detail, 90° (upright)

Front detail, 45° (canted)

Side detail, 45° (canted)

Technical Specifications

Camera 36x Day/Night

Imager	1/4 in.-type Exview HAD CCD (progressive scan)
Effective Picture Elements	PAL: Approx. 440,000; 752(H) x 582(V) NTSC: Approx. 380,000; 768 (H) x 494 (V)
Lens	36x Zoom (3.4 to 122.4 mm) F1.6 to F4.5
Zoom Movement Speed	2.1 to 6.2 seconds, depending on model
Focus	Automatic with manual override
Iris	Automatic with manual override
Field of View	1.7° to 57.8°
Video Output	1.0 Vp-p, 75 Ohm
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)
Aperture Correction	Horizontal and vertical
Digital Zoom	12x
Horizontal Resolution	550 TVL (NTSC, PAL) typical

Sensitivity (typical) [1]	30 IRE	50 IRE
Day Mode		
SensUp Off	0.66 lux	1.4 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.04 lux	0.1 lux
Night Mode		
With infrared (IR) (B/W)	0 lux	0 lux
SensUp Off	0.104 lux	0.209 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0052 lux	0.0103 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

1 Unless otherwise stated, test conditions are: F1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC

Camera 28x Day/Night

Imager	1/4 in.-type Exview HAD CCD (progressive scan)
Effective Picture Elements	PAL: Approx. 440,000; 752(H) x 582(V) NTSC: Approx. 380,000; 768 (H) x 494 (V)
Lens	28x Zoom (3.5 to 98.0 mm) F1.35 to F3.7
Zoom Movement Speed	1.7 to 4.9 seconds, depending on model
Focus	Automatic with manual override
Iris	Automatic with manual override
Field of View	2.1° to 55.8°
Video Output	1.0 Vp-p, 75 Ohm
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)
Aperture Correction	Horizontal and vertical
Digital Zoom	12X
Horizontal Resolution	550 TVL (NTSC, PAL) typical

Sensitivity (typical) [2]	30 IRE	50 IRE
Day Mode		
SensUp Off	0.33 lux	0.66 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.02 lux	0.04 lux
Night Mode		
With infrared (IR) (B/W)	0 lux	0 lux
SensUp Off	0.066 lux	0.166 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0026 lux	0.0082 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

2 Unless otherwise stated, test conditions are: F1.35, shutter = NTSC 1/60s, PAL 1/50s; max AGC

IR Illuminators

LED Array	High-efficiency Surface Mount (SMT) LEDs
Number of LEDs	7 per lamp
Wavelength	850 nm (semi-covert)
Beam Angle	30º
IR Distance (Identification)	60 m (197 ft)
Weatherproofing	IP68
Construction Material	Aluminum with Lexan® front window

Mechanical

Drive Unit	Brushless, integral pan/tilt motor drive
Pan Range	360° continuous rotation
Tilt Angle	186.6°
Tilt range	Upright unit: -58° - +90° Canted unit: -103° - +70°
Variable Speed	Pan: 0.2°/second - 120°/second Tilt: 0.2°/second - 60°/second
Pre-position Speed	120°/second
Preset Accuracy	0.17° (typical)
Proportional Pan/Tilt to Zoom	Yes
Audible Noise	<66 dB

Electrical

	Camera	IR Illuminator
Input voltage	18 VAC nominal	26 VDC nominal
Power Consumption	18 W maximum	26 W maximum
Current Consumption	1 A maximum	1 A maximum

Miscellaneous

Sectors/Titling	16 independent sectors with 20-character titles/sector
Privacy Masking	24 individually configurable privacy masks
Pre-positions	99, each with 20-character titles
Camera Setup/Control	RS-485, Bilinx (coax); also Bosch Biphase with converter (sold separately)
Communications Protocols	Bosch (OSRD, Bilinx), Pelco P/ D (Bosch Biphase protocol converter, sold separately.)
Guard Tours	Two (2) types of tours: • Recorded tours - two (2), total duration 15 minutes • Preset tour - one (1), consisting of up to 99 scenes, consecutively and (1) customized up to 99 scenes

Window Wiper	Standard
Washer Drive	Optional washer kit (MIC-WKT Kit with washer pump drive)
Supported Languages	English, Czech*, Dutch, French, German, Italian, Polish, Portuguese, Russian*, and Spanish

* Available with separate language upload

User Connections

Power, Camera	Via composite cable
Power, IR Illuminator	Via composite cable
RS-485 Biphase ±	Control Data (Optional; requires MIC Biphase module with external power supply.)
Video	Coaxial via composite cable
Alarm Inputs	Four (4) tamper inputs

Environmental

Design Rating	IP68
Operating Temperature	-40 ℃ to +60 ℃ (-40 ℉ to +140 ℉)
Cold Start-up Temperature	-40 ℃ (-40 ℉) (Requires 30- minute warm-up prior to PTZ operations)
Storage Temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Humidity	0-100%
Wind Load	209 km/h (130 mph) (sustained) (Gusts up to 290 km/h (180 mph))
Vibration	IEC60068-2-6, Test Fc: Vibration (sinusoidal), 20m/s^2 (2.0g)
Shock	IEC60068-2-7, Test Ea: Shock, 20g

Construction

Dimensions (W x H x D)		
	Upright and Inverted	399 x 355 x 178 mm (15.71 x 14.0 x 7.0 in.)
	Canted	399 x 312 x 255 mm (15.71 x 12.3 x 10.0 in.)
Weight		7.75 kg (17.06 lbs)
Viewing Window		Tempered flat glass
Construction Material		Cast solid aluminum
Standard Colors		Black (RAL 9005), White (RAL 9010), or Grey (RAL 9006, available in specific regions)
Standard Finish		Alodine 5200 surface treatment with powder coat paint, sand finish
Window wiper		Standard, long-life silicone wiper
Canting		Twist-lock canting secured by two security screws

Ordering Information

MIC-550IRB28N 28X NTSC Infrared Camera, Black
PTZ, day/night, IR, Black, 28X, NTSC
Order number **MIC-550IRB28N**

MIC-550IRW28N 28X NTSC Infrared Camera, White
PTZ, day/night, IR, White, 28X, NTSC
Order number **MIC-550IRW28N**

MIC-550IRB36N 36X NTSC Infrared Camera, Black
PTZ, day/night, IR, Black, 36X, NTSC
Order number **MIC-550IRB36N**

MIC-550IRW36N 36X NTSC Infrared Camera, White
PTZ, day/night, IR, White, 36X, NTSC
Order number **MIC-550IRW36N**

MIC-550IRB28P 28X PAL Infrared Camera, Black
PTZ, day/night, IR, Black, 28X, PAL
Order number **MIC-550IRB28P**

MIC-550IRG28P 28X PAL Infrared Camera, Grey
PTZ, day/night, IR, Grey, 28X, PAL
Note: Available in specific regions only.
Order number **MIC-550IRG28P**

MIC-550IRW28P 28X PAL Infrared Camera, White
PTZ, day/night, IR, White, 28X, PAL
Order number **MIC-550IRW28P**

MIC-550IRB36P 36X PAL Infrared Camera, Black
PTZ, day/night, IR, Black, 36X, PAL
Order number **MIC-550IRB36P**

MIC-550IRG36P 36X PAL Infrared Camera, Grey
PTZ, day/night, IR, Grey, 36X, PAL
Note: Available in specific regions only.
Order number **MIC-550IRG36P**

MIC-550IRW36P 36X PAL Infrared Camera, White
PTZ, day/night, IR, White, 36X, PAL
Order number **MIC-550IRW36P**

Accessories

MIC-IR-24PSU-UL 24 VAC Camera/IR Power Supply
24 VAC, 50/60 Hz power supply for MIC Series cameras with Infrared Illuminators
Order number **MIC-IR-24PSU-UL**

MIC-IR-115PSU-UL 115 VAC Camera/IR Power Supply
115 VAC, 60 Hz power supply for MIC Series cameras with Infrared Illuminators
Order number **MIC-IR-115PSU-UL**

MIC-IR-240PSU-UL 240 VAC Camera/IR Power Supply
240 VAC, 50 Hz power supply for MIC Series cameras Infrared Illuminators
Order number **MIC-IR-240PSU-UL**

MIC-2M-S 2 m Shielded Composite Cable
Shielded Composite 2 m cable that provides power, telemetry and video connection from a MIC Series camera to a MIC Series power supply
Order number **MIC-2M-S**

MIC-10M-S 10 m Shielded Composite Cable
Shielded Composite 10 m cable that provides power, telemetry and video connection from a MIC Series camera to a MIC Series power supply
Order number **MIC-10M-S**

MIC-20M-S 20 m Shielded Composite Cable
Shielded Composite 20 m cable that provides power, telemetry and video connection from a MIC Series camera to a MIC Series power supply
Order number **MIC-20M-S**

MIC-25M-S 25 m Shielded Composite Cable
Shielded Composite 25 m cable that provides power, telemetry and video connection from a MIC Series camera to a MIC Series power supply
Order number **MIC-25M-S**

MIC-ALM Alarm and Washer Pump Drive Card
8 Input alarm and washer pump drive card for PSU (Not for IR PSU)
Order number **MIC-ALM**

MIC-DCA-WD Deep Conduit Adapter, White
Deep conduit adapter for 4 in. PCD base, white sand finish (RAL9010)
Order number **MIC-DCA-WD**

MIC-DCA-BD Deep Conduit Adapter, Black
Deep conduit adapter for 4 in. PCD base, black sand finish (RAL9005)
Order number **MIC-DCA-BD**

MIC-SCA-WD Shallow Conduit Adapter, White
Shallow conduit adapter for a MIC-WMB, a MIC-PMB, or a MIC-SPR mount, white sand finish (RAL9010)
Order number **MIC-SCA-WD**

MIC-SCA-BD Shallow Conduit Adapter, Black
Shallow conduit adapter for a MIC-WMB, a MIC-PMB, or a MIC-SPR, black sand finish (RAL9005)
Order number **MIC-SCA-BD**

MIC-SPR-WD Spreader Plate, White
Aluminum spreader plate suitable for brickwork surface mounting, white sand finish (RAL9010)
Order number **MIC-SPR-WD**

MIC-SPR-BD Spreader Plate, Black
Aluminum spreader plate suitable for brickwork surface mounting, black sand finish (RAL9005)
Order number **MIC-SPR-BD**

MIC-CMB-WD Corner Mount Bracket, White
Corner mount bracket, white sand finish (RAL9010)
Order number **MIC-CMB-WD**

MIC-CMB-BD Corner Mount Bracket, Black
Corner mount bracket, black sand finish (RAL9005)
Order number **MIC-CMB-BD**

MIC-PMB Pole Mount Bracket
Pole mount bracket (includes 2 x 455 mm stainless
steel banding straps for pole diameters 75 to 145 mm)
Order number **MIC-PMB**

MIC-WMB-WD Wall Mount Bracket, White
Wall mount bracket, white sand finish (RAL9010)
Order number **MIC-WMB-WD**

MIC-WMB-BD Wall Mount Bracket, Black
Wall mount bracket, black sand finish (RAL9005)
Order number **MIC-WMB-BD**

MIC-BP3 Biphase Converter
Biphase converter for IR power supplies or non-IR
power supplies without a free expansion slot available
Order number **MIC-BP3**

MIC-WKT Washer Kit
Washer kit for non infrared MIC models (includes
washer pump drive card, washer nozzle and mounting
brackets for wall and 4 in. PCD base)
Order number **MIC-WKT**

HAC-WAS05-20 24 VAC Washer
24 VAC washer inst. 4M 25L
Order number **HAC-WAS05-20**

HAC-WAS30-50 230 VAC Washer
230 VAC washer inst. 30M 25L
Order number **HAC-WAS30-50**

Software Options

VP-CFGSFT Configuration Tool for Imaging Devices
Camera configuration software for use with Bilinx cameras
eras
Order number **VP-CFGSFT**