

# MIC Series 400 Stainless Steel Camera

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Invented for life



- ▶ Grade 316L stainless steel construction
- ▶ Rated to an industry leading IP68
- ▶ Host of mounting and viewing options
- ▶ Integrated heater and long-life wiper
- ▶ Multi-protocol operation

The MIC Series 400 stainless steel camera has been designed to offer an extremely reliable, robust, and high quality surveillance solution for security applications that demand the very best performance, regardless of the installed environment. Precision engineered to exacting standards, the range offers numerous benefits over the use of traditional dome and PTZ cameras with a range of options available to ensure a best-fit solution is achieved.

Rated to an industry leading IP68, the vandal resistant grade 316L stainless steel camera housing has enhanced corrosion-resistant properties to provide the ultimate protection in the harshest of environments, including marine applications where the salt content of the air is especially high and constant exposure can dramatically reduce the lifespan of traditional camera and dome units.

Featuring an optically-perfect flat viewing window and integrated wiper, the MIC Series 400 stainless steel camera is able to capture razor-sharp images in even the most demanding conditions.

The brushless motor technology offers ultra-reliable, whisper-quiet operation with full 360° continuous rotation pan and 270° tilt control for exceptional viewing capability. Small-increment pan/tilt speeds, from just 0.2° per second to 90° per second, give the

user precise control. This speed control is especially important when used with video analytic systems, particularly for tracking subjects when fully zoomed in. A choice of true day/night camera modules offering up to 36x optical zoom (12x digital) are available, providing either 470 TVL NTSC/PAL typical (18x module) or 530 TVL NTSC/PAL typical (36x module). When coupled with upright, 45 degree canted, or inverted mounting capability, the MIC Series 400 stainless steel camera allows the perfect field of view to be achieved every time.

## Functions

### **Grade 316L stainless steel construction**

Anti-corrosion stainless steel construction ensures long-life and reliable operation in demanding conditions, such as maritime environments.

### **Rated to an industry leading IP68**

Subjected and certified to rigorous IP68 dust and immersion tests, the MIC Series 400 stainless steel camera is perfectly suited for installation in the most unforgiving environments.

### Host of mounting and viewing options

Faultless operation, either upright or inverted, gives the user a host of mounting and viewing possibilities. A canted option is provided for upright pole-mounted applications, allowing the base of the pole to be viewed.

### Integrated heater and wiper

Hot or cold, rain or shine – regardless of the weather, the MIC Series 400 stainless steel camera is able to capture the highest possible quality image all year around thanks to its integrated, long-life, wiper and heater.

### Multi-protocol operation

Compatible with virtually any control equipment available today, the MIC Series 400 stainless steel camera is able to seamlessly integrate with the vast majority of security systems.

## 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 |   |
|--------|---------------|---|
| Europe | CE            | AC08-10-Q012 EMC Directive, Low Voltage Directive |
| USA    | FCC           | AC08-10-Q013 CFR 47 FCC part 15:2009, Class B     |
|        | UL            | AC08-10-Q013 UL 60950-1 2nd Edition: 2007         |
| Canada | CSA           | AC08-10-Q012 CAN/CSA-C22.2 No. 60950-1-07         |

## Technical specifications

### Camera Module

|                               |  |
|-------------------------------|--|
| Image sensor                  | 1/4-inch EXview CCD, WDR (36x only)  |
| Horizontal resolution         | 18x module, 470 TVL NTSC/PAL typical<br>36x module, 530 TVL NTSC/PAL typical |
| Filter                        | Automatic mechanical IR cut filter   |
| Focus system                  | Auto or manual   |
| Iris                          | Auto or manual with slow shutter integration modes                           |
| Synchronization               | Internal / External (V-Lock)   |
| Signal/Noise ratio            | 50 dB or more  |
| Back Light Compensation (BLC) | On/Off   |
| White balance                 | Automatic  |

|                              |                          |
|------------------------------|--------------------------|
| Automatic Gain Control (AGC) | -3 to -28 dB, 2 dB steps |
| Aperture control             | 16 Steps                 |

### 18x Optical Zoom Module

|                      |  |
|----------------------|--|
| Lens                 | F=4.1 mm (wide) to 73.8 mm (tele), F1.4 to F3.0  |
| Zoom                 | 18x optical (12x digital)  |
| Angle of view        | 48° (wide) to 2.8° (tele)  |
| Minimum illumination | 0.7 lux (F1.4, 1/60s NTSC, 1/50s PAL)<br>0.11 lux (F1.4, 1/4s NTSC, 1/3s PAL)<br>0.01 lux (F1.4, 1/4s NTSC, 1/3s PAL ICR on) |
| Shutter speed        | 1/1 to 1/10,000 s (22 steps) NTSC, PAL   |

### 36x Optical Zoom Module

|                      |   |
|----------------------|---|
| Lens                 | F=3.4 mm (wide) to 122.4 mm (tele), F1.6 to F4.5  |
| Zoom                 | 36x optical (12x digital)   |
| Angle of view        | 57.8° (wide) to 1.7° (tele)   |
| Minimum illumination | 1.4 lux (1/60 s NTSC, 1/50 s PAL, typical, F1.6, 50IRE)<br>0.1 lux (1/4 s NTSC, 1/3 s PAL, typical, F1.6, 50IRE)<br>ICR-ON mode: 0.01 lux (1/4 s NTSC, 1/3 s PAL) |
| Shutter speed        | 1/4 to 1/10,000 s (20 steps) NTSC, 1/3 to 1/10,000 s (20 steps) PAL   |

### Operational

|                       |   |
|-----------------------|---|
| Auto flip             | Yes   |
| Manual flip           | Yes   |
| Dynamic privacy zones | Standard, 3D privacy masking with infinite zones  |
| Presets               | 64 telemetry presets utilizing resolver technology (using FV protocol, 10 camera set-up presets to allow ANPR, color correction etc.) |
| Preset tours          | 6 tours each with up to 32 presets  |
| Sector titles         | Yes (64 sectors) 20 characters per title  |
| Preset titles         | 20 character caption for each of the 64 presets   |
| Home position         | Yes (preset 1 or tour)  |

### Communication and Protocols

|                  |  |
|------------------|--|
| Communication    | RS485 / RS422  |
| Control protocol | Bosch or FV protocol cameras available; additional protocols supported are Pelco D, Kalatel, 360 Vision, American Dynamics, Panasonic, Molyx, VCL, and Vicon. These can be loaded using the MIC-USB485CVTR signal converter and Cam-set via a PC. Biphase control requires a Biphase to RS485 converter (MIC-BP4, available separately) installed in the MIC Series PSU to connect to Biphase equipment. |

### Connectivity

|   |   |
|---|---|
| Video   | Co-axial via composite cable  |
| Telemetry   | Twisted pair. Simplex, half and full duplex operation via composite cable   |
| MIC Universal Camera Setup Software Utility (Cam-set) | Supplied with each camera, Cam-set allows direct connection to a USB equipped PC via the MIC Series PSU or over a full duplex or IP network to provide access to all camera functions and useful diagnostic tools |
| USB to RS485 signal converter                         | Allows MIC Series cameras to connect to a PC (supplied free with MIC Series 400 stainless steel camera or available separately)   |
| Power   | Via composite cable   |

### Alarms

|                     |   |
|---------------------|---|
| Alarm inputs        | 1 tamper input (additional inputs possible with optional alarm card in PSU) |
| Alarm communication | Tamper switch (ground connection)   |

### Mechanical

|                          |   |
|--------------------------|---|
| Drive unit               | Brushless integral pan/tilt motor drive |
| Pan angle                | 360° continuous rotation                |
| Pan speed                | 6° to 90° per second (variable)         |
| Tilt angle               | 270°                                    |
| Tilt speed               | 0.2° to 90° per second (variable)       |
| Speed control            | Closed loop electronics                 |
| Preset accuracy          | ±0.56° (typical)                        |
| Proportional P/T to zoom | Yes                                     |

### Construction

|                       |                                    |
|-----------------------|------------------------------------|
| Construction material | Grade 316L stainless steel         |
| Viewing window        | Tempered flat glass                |
| Window wiper          | Standard, long-life silicone wiper |
| Heater                | Standard                           |

|                          |   |
|--------------------------|---|
| Standard colors          | Stainless Steel (no color options)  |
| Standard finish          | Stainless Steel (no finish options)   |
| Dimensions (W x H x D)   | 205 x 360 x 165 mm (8.07 x 14.17 x 6.50 in.) (upright and inverted)   |
| Weight                   | 16.5 Kg (36.38 lb) (including 4-in. (101.6 mm) pitch circle diameter (PCD) base)                                      |
| Configurations available | Upright mount or upright canted at 45° mount. (Inverted mount is possible using software setting and upright camera.) |

### Environmental

|                         |                                      |
|-------------------------|--------------------------------------|
| Operational temperature | -40 °C to +50 °C (-40 °F to +122 °F) |
| Weatherproofing         | IP68 (1m submersion for 24 hrs)      |

### Electrical

|                   |                               |
|-------------------|-------------------------------|
| Input voltage     | 18 VAC                        |
| Power consumption | 25.2 W max. (with heater off) |
|                   | 37 W max. (with heater on)    |

### Ordering information

#### MIC400STSCW13518P 18X Camera, Canted, with FV Protocol, Stainless Steel

Stainless steel, 18X, PAL, PTZ camera, Canted, FV Protocol with integrated wiper, heater and privacy function

Order number **MIC400STSCW13518P**

#### MIC400STSCW13536P 36X Camera, Canted, with FV Protocol, Stainless Steel

Stainless steel, 36X, PAL, PTZ camera, Canted, FV Protocol with integrated wiper, heater and privacy function

Order number **MIC400STSCW13536P**

#### MIC400STS UW13518P 18X Camera, Upright, with FV Protocol, Stainless Steel

Stainless steel, 18X, PAL, PTZ camera, Upright, FV Protocol with integrated wiper, heater and privacy function

Order number **MIC400STS UW13518P**

#### MIC400STS UW13536P 36X Camera, Upright, with FV Protocol, Stainless Steel

Stainless steel, 36X, PAL, PTZ camera, Upright, FV Protocol with integrated wiper, heater and privacy function

Order number **MIC400STS UW13536P**

**MIC400STSCP13518N 18X Camera, Canted, with Bosch Protocol, Stainless Steel**

Stainless steel, 18X, NTSC, PTZ camera, Canted, Bosch Protocol with integrated wiper, heater and privacy function

Order number **MIC400STSCP13518N**

**MIC400STSCP13536N 36X Camera, Canted, with Bosch Protocol, Stainless Steel**

Stainless steel, 36X, NTSC, PTZ camera, Canted, Bosch Protocol with integrated wiper, heater and privacy function

Order number **MIC400STSCP13536N**

**MIC400STSUP13518N 18X Camera, Upright, with Bosch Protocol, Stainless Steel**

Stainless steel, 18X, NTSC, PTZ camera, Upright, Bosch Protocol with integrated wiper, heater and privacy function

Order number **MIC400STSUP13518N**

**MIC400STSUP13536N 36X Camera, Upright, with Bosch Protocol, Stainless Steel**

Stainless steel, 36X, NTSC, PTZ camera, Upright, Bosch Protocol with integrated wiper, heater and privacy function

Order number **MIC400STSUP13536N**

**Accessories****MIC-24PSU-UL 24 VAC Camera Power Supply**

24 VAC, 50/60 Hz power supply for MIC Series cameras

Order number **MIC-24PSU-UL**

**MIC-115PSU-UL 115 VAC Camera Power Supply**

115 VAC, 60 Hz power supply for MIC Series cameras

Order number **MIC-115PSU-UL**

**MIC-240PSU-UL 240 VAC Camera Power Supply**

230 VAC, 50 Hz power supply for MIC Series cameras

Order number **MIC-240PSU-UL**

**UPA-2450-50 Power Supply, 220 V, 50 Hz**

Indoor, 220 VAC, 50 Hz In; 24 VAC, 50 VA Out

Order number **UPA-2450-50**

**UPA-2450-60 Power Supply, 120 V, 60 Hz**

Indoor, 120 VAC, 60 Hz In; 24 VAC, 50 VA Out

Order number **UPA-2450-60**

**MIC Cable 2M**

2 meter (6.56 ft) composite cable with plug for power, data and video for MIC Series cameras

Order number **MIC-CABLE-2M**

**MIC Cable 10M**

10 meter (32.81 ft) composite cable with plug for power, data and video for MIC Series cameras

Order number **MIC-CABLE-10M**

**MIC Cable 20M**

20 meter (62.62 ft) composite cable with plug for power, data and video for MIC Series cameras

Order number **MIC-CABLE-20M**

**MIC Cable 25M**

25 meter (82.02 ft) composite cable with plug for power, data and video for MIC Series cameras

Order number **MIC-CABLE-25M**

**MIC-BP4 Biphase Converter**

Biphase converter for non-IR versions of MIC series power supply units

Order number **MIC-BP4**

**MIC-DCA-S Deep Conduit Adapter, Silver**

Deep conduit adapter for 4 in. PCD base - grade 316 stainless steel, plain finish

Order number **MIC-DCA-S**

**MIC-SCA-S Shallow Conduit Adapter, Silver**

Shallow conduit adapter for 4 in. PCD base - grade 316 stainless steel, plain finish

Order number **MIC-SCA-S**

**MIC-SPR-S Spreader Plate, Silver**

316L stainless steel spreader plate suitable for brickwork surface mounting, plain finish

Order number **MIC-SPR-S**

**MIC-CMB-S Corner Mount Bracket, Silver**

Corner mount bracket, grade 316 stainless steel

Order number **MIC-CMB-S**

**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-S Wall Mount Bracket, Silver**

Wall mount bracket, grade 316 stainless steel (Requires MIC-SPR or MIC-PMB for secure mounting because of weight.)

Order number **MIC-WMB-S**

**MICUSB485CVTR2 USB to RS485 Signal Converter**

USB to RS485 signal converter to allow MIC Series cameras to connect to a PC, supplied with each camera

Order number **MICUSB485CVTR2**

**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-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**

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**HAC-WAS30-50 230 VAC Washer**

230 VAC washer inst. 30M 25L

Order number **HAC-WAS30-50**

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