

MIC1-400T underwater (stainless steel)

A&E Specifications – version 1.0

MIC1-400T underwater PTZ camera (stainless steel)

18x camera version

The fully functional PTZ camera shall be a MIC1-400T PTZ camera rated to IP68 / NEMA 4x with a high resolution 18x true day/night camera suitable for underwater use to a depth of 25 meters.

36x camera version

The fully functional PTZ camera shall be a MIC1-400T PTZ camera rated to IP68 / NEMA 4x with a high resolution 36x true day/night camera suitable for underwater use to a depth of 25 meters.

1.0 The physical attributes of the unit shall meet the following design and performance specifications:

- 1.1 The unit shall be environmentally rated to IP68 / NEMA 4x
- 1.2 The unit shall operate from +50 degrees to -20 degree centigrade temperature variations (-30° with heaters), up to hurricane force wind conditions (above 120mph winds) and underwater to a depth of 25 meters
- 1.3 The unit shall be machined from 6mm thick solid grade 316 stainless steel
- 1.4 The unit shall be classed as vandal resistant
- 1.5 The unit shall be supplied in unpainted bare metal finish
- 1.6 The unit shall have the ability to be mounted either upright, inverted or canted at 45°
- 1.7 The unit shall be no more than 16.5Kg in weight in basic configuration
- 1.8 The unit shall comply with ROHS, CE and FCC standards
- 1.9 The unit shall have dimensions of 205(W) x 360(H) x 162(D)mm
- 1.10 The unit shall feature an optically perfect, flat viewing window
- 1.11 All weatherproof seals within the unit shall last for the 3yr warranty period of the unit without need for maintenance or replacement
- 1.12 To facilitate installation the unit shall be supplied with attached 4 inch PCD base as standard with pre-drilled hole suitable for a safety chain
- 1.13 The unit shall be capable of full operation at a composite cable length of 25 metres maximum between PTZ camera head and the power supply

2.0 The unit's high speed pan/tilt drive unit shall meet or exceed the following design and performance specifications:

- 2.1 The unit shall feature precision brushless motor technology for its pan/tilt drive
- 2.2 The pan/tilt drive speed shall range from 0.2° per second to 90° per second
- 2.3 The unit shall be capable of 360° continuous rotation pan and 320° tilt
- 2.4 The unit shall utilise resolver positioning technology
- 2.5 The unit shall have a pan and tilt position accuracy of greater than 0.08°

3.0 The connectivity of the unit shall meet the following design and performance specifications:

- 3.1 Video, power and telemetry shall be supplied to the unit through Forward Vision's multi-connector via a single cable

4.0 The camera module within the PTZ unit shall meet or exceed the following design and performance specifications:

18x camera module

- 4.1 The camera module shall feature a 1/4" EXview™ CCD
- 4.2 The camera module shall be a true day/night unit
- 4.3 The camera module shall switch from day mode (colour) to night mode (monochrome) via a photocell integrated into the PTZ camera head that can be set to user selectable levels, or via the remote keyboard.
- 4.4 The camera module shall have a resolution of 470TVL(NTSC)/460TVL(PAL)
- 4.5 The camera module shall have an 18x optical zoom with 12x digital zoom
- 4.6 The camera module shall have a minimum illumination sensitivity of 0.7 lux (F1.4, 1/60s NTSC, 1/50s PAL), 0.11 lux (F1.4, 1/4s NTSC, 1/3s PAL), 0.01 lux or less (F1.4, 1/4s NTSC, 1/3s PAL, ICR ON)
- 4.7 The camera module shall have selectable on/off Backlight Compensation (BLC)
- 4.8 The camera module shall have 16 steps aperture control
- 4.9 The camera module shall have Automatic Gain Control (AGC) from -3 to -28 dB in 2dB steps
- 4.10 The camera module shall feature an automatic mechanical IR cut-filter
- 4.11 The camera module shall have a signal to noise ration of greater than 50dB
- 4.12 The camera module shall use Internal / External (V-Lock) synchronisation
- 4.13 The camera module shall have a lens that performs to F=4.1mm (WIDE) to 73.8mm (TELE), F1.4 to F3.0
- 4.14 The camera module shall have an angle of view of 48° (WIDE end) to 2.8° (TELE end)
- 4.15 The camera module shall have a shutter speed of 1/1 to 1/10,000s (22 steps) NTSC
- 4.16 The camera module itself shall have up to 10 selectable settings that can be mapped to a preset on the remote keyboard, including shutter speed and colour control for ANPR applications

36x camera module

- 4.17 The camera module shall feature a 1/4" EXview™ CCD
- 4.18 The camera module shall be a true day/night unit
- 4.19 The camera module shall switch from day mode (colour) to night mode (monochrome) via the remote keyboard.
- 4.20 The camera module shall have a resolution of 470TVL (NTSC)/460TVL(PAL)
- 4.21 The camera module shall have an 36x optical zoom with 12x digital zoom
- 4.22 The camera module shall have a minimum illumination sensitivity of 1.4 lux (1/60s NTSC, 1/50s PAL), 0.1 lux (1/4s NTSC, 1/3s PAL), 0.01 lux or less (1/4s NTSC, 1/3s PAL, ICR ON)
- 4.23 The camera module shall have selectable on/off Backlight Compensation (BLC)
- 4.24 The camera module shall have 16 steps aperture control
- 4.25 The camera module shall have Automatic Gain Control (AGC) from -3 to -28 dB in 2dB steps
- 4.26 The camera module shall feature an automatic mechanical IR cut-filter
- 4.27 The camera module shall have a signal to noise ration of greater than 50dB
- 4.28 The camera module shall use Internal / External (V-Lock) synchronisation
- 4.29 The camera module shall have a lens that performs to F=3.4mm (WIDE) to 122.4mm (TELE), F1.6 to F4.5
- 4.30 The camera module shall have an angle of view of 57.8° (WIDE end) to 1.7° (TELE end)
- 4.31 The camera module shall have a shutter speed of 1/4 to 1/10,000s (20 steps) NTSC, 1/3 to 1/10,000s (20 steps) PAL

- 4.32 The camera module itself shall have up to 10 selectable settings that can be mapped to a preset on the remote keyboard, including shutter speed and colour control for ANPR applications

5.0 The unit shall have the following operational design and performance specifications

- 5.1 The unit shall have 64 telemetry presets
- 5.2 The unit shall have preset titles of 20 characters for each preset
- 5.3 The unit shall have 6 tours, each with 32 preset positions
- 5.4 The unit shall have a random tour function
- 5.5 The unit shall have 64 sector titles, each with 20 characters
- 5.6 The unit shall have the ability to select a home position

6.0 The unit shall have the following electrical design and performance specifications:

- 6.1 Total power consumption of the standard camera without heater shall be no more than 25.2W and no more than 50W with heater option
- 6.2 The unit shall have available a Forward Vision power supply providing +18V DC from one of the following input voltages 12V DC to 24V DC, 24V AC, 115V AC & 240V AC
- 6.3 The unit shall have available an optional slim line power supply, for fitting in restricted spaces, providing +18V DC from the following input voltages 115V AC or 240V AC
- 6.4 The camera unit shall be fitted with control PCBs including a control processor, voltage regulator, brushless motor drives and connectivity of ancillary items such as heaters

7.0 The unit shall feature the following software specifications:

- 7.1 The unit shall have the ability to operate with protocols other than Forward Vision's proprietary software, programmed prior to leaving the factory:
 - 7.1.1 The unit shall be compatible with American Dynamics protocol
 - 7.1.2 The unit shall be compatible with Ernitec protocol
 - 7.1.3 The unit shall be compatible with Kalatel protocol
 - 7.1.4 The unit shall be compatible with Molyx protocol
 - 7.1.5 The unit shall be compatible with Panasonic protocol
 - 7.1.6 The unit shall be compatible with Pelco P / Pelco D protocol
 - 7.1.7 The unit shall be compatible with Philips Bosch protocol
 - 7.1.8 The unit shall be compatible with VCL protocol
 - 7.1.9 The unit shall be compatible with Vicon protocol

8.0 The unit shall have a range of options and accessories available for specific mounting and operational considerations:

- 8.1 Suitable accessories shall be available for the unit to be mounted in an upright or inverted position, either on a base, from a ceiling, on a wall or on the corner of a structure
- 8.2 The unit shall have an optional heater contained within the camera head & body
- 8.3 The unit shall have an optional safety chain
- 8.4 The unit shall have an optional 8 input alarm card (inc washer pump drive function) housed in the PSU
- 8.5 The unit shall have an optional washer pump drive card (no alarm inputs) housed in the PSU
- 8.6 The unit shall have an optional 3D, scaling perspective privacy card with unlimited zones (which is housed in the camera head)
- 8.7 The unit shall have available a Forward Vision power supply providing +18V DC from one of the following input voltages 12V DC to 24V DC, 24V AC, 115V AC & 240V AC
- 8.8 The unit shall have available slim line power supplies providing +18V DC from the following input voltages 115V AC or 240V AC

9.0 The unit shall have the following support information and equipment shipped with it:

- 9.1 The unit shall have a comprehensive operation manual and installation manual provided by CD (English)
- 9.2 The unit shall come with a comprehensive quick start guide (English)