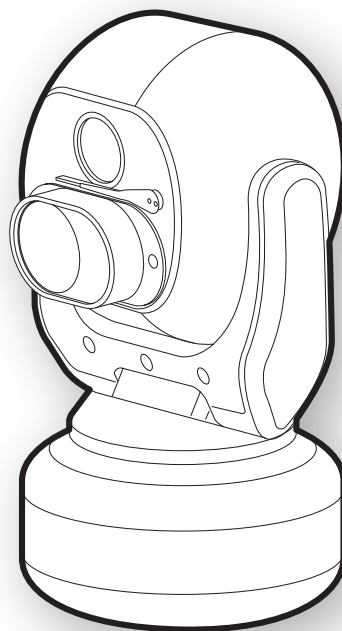
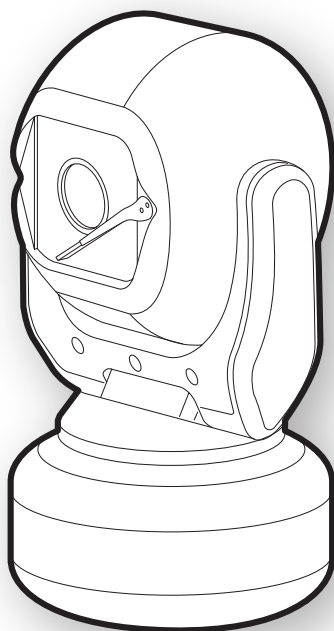




# **C-AllView & C-AllView Ti**

**installer's guide**





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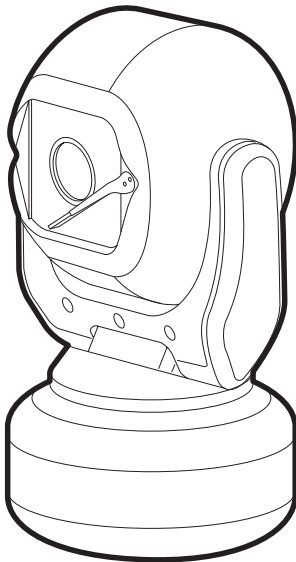
# Introduction

## Welcome

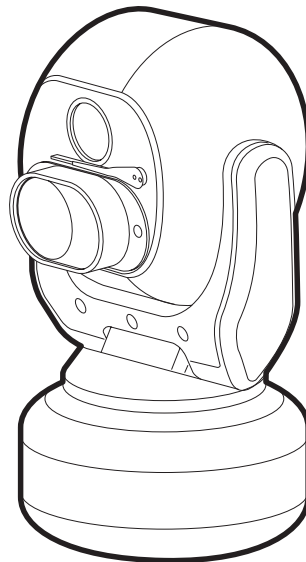
These are no ordinary cameras. Thanks to careful development and rigorous testing, these cameras are equipped to survive in harsh environments and provide enhanced features. Two main models are available to offer optical only or optical plus thermal imaging abilities.

The numerous benefits of both camera types include:

- Flat toughened glass window – scratch resistant, maintenance-free and optically correct,
- Integral Wiper – to clean away rain and deposits caused by wind, sea spray and road traffic,
- Hard anodised aluminium castings, with optional powder coating to prevent corrosion in the harshest of marine environments,
- M4 marine grade stainless steel case fastenings,
- Optional washer system,
- Optional infra-red LED illumination system,
- Day/night switching by external contact closure (optional alarm interface),
- Multiple native control protocols: Coaxial and RS485,
- Optional RS485 alarm interfaces.



**Optical only**



**Optical plus  
thermal imaging**

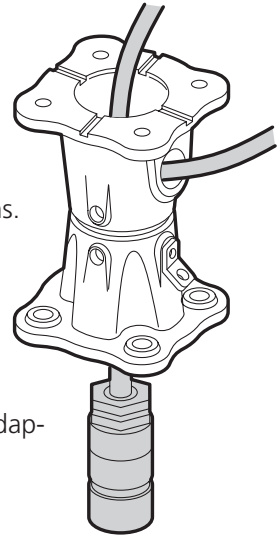
# Installation

## Camera mounting

The camera is designed to be mounted upright or hanging. By nature of its rugged construction the camera is a heavy item and thus requires a substantial and stable mounting. The camera is supplied with a mount adaptor to allow fixing to industry standard brackets, towers or columns.

The mount adaptor has two cable entry points:

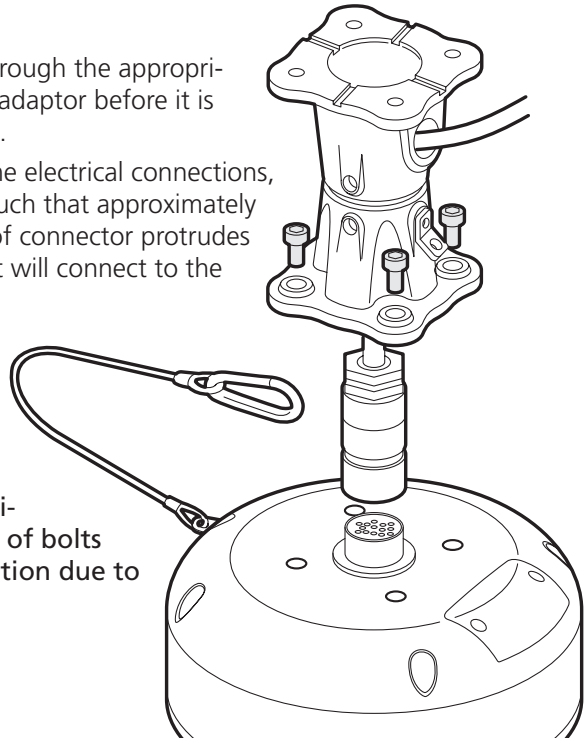
- A pass-through hole in the end plate to allow the composite cable to enter unseen from a column, tube or bracket type mounting, plus
- A conduit thread (M25) in the side wall to permit composite cable entry via a flexible conduit attached to the adaptor.



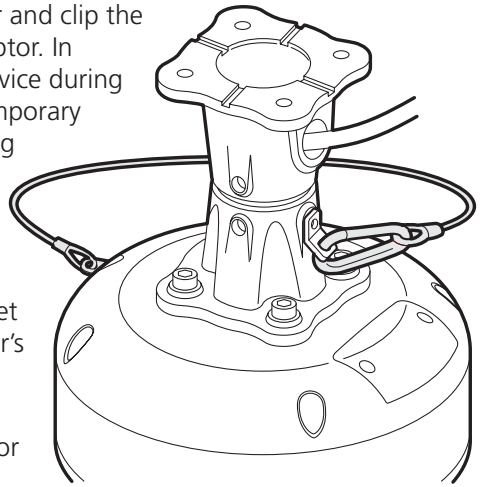
### To mount the camera

- 1 Thread the composite cable through the appropriate entry hole into the mount adaptor before it is fixed to the column or bracket.
- 2 To avoid placing strain upon the electrical connections, arrange the composite cable such that approximately 25~35mm of the weatherproof connector protrudes out from the smaller plate that will connect to the camera.
- 3 Secure the mount adaptor to the supporting structure using M8 bolts, washers and Nyloc® type nuts.

**IMPORTANT:** Always use Nyloc nuts in order to significantly reduce the possibility of bolts working loose during operation due to vibration.



- 4 Offer the camera to the mount adaptor and clip the lanyard onto the lug of the mount adaptor. In addition to being an essential safety device during operation, the lanyard is useful as a temporary hanging point when the camera is being mounted in the inverted position.
- 5 Carefully note the orientation notches of cable connector and camera socket. Align the notches accordingly and insert the connector onto the socket of the camera base. Twist the connector's retaining ring until it locks into place.
- 6 Remove the four hex head bolts from the camera base and push the connector back into the mount adaptor.
- 7 Align the four holes of the mount adaptors with those on the camera base and insert the four hex head bolts.
- 8 Tighten the bolts to approximately 1.6Kg/m. Do not over tighten bolts.

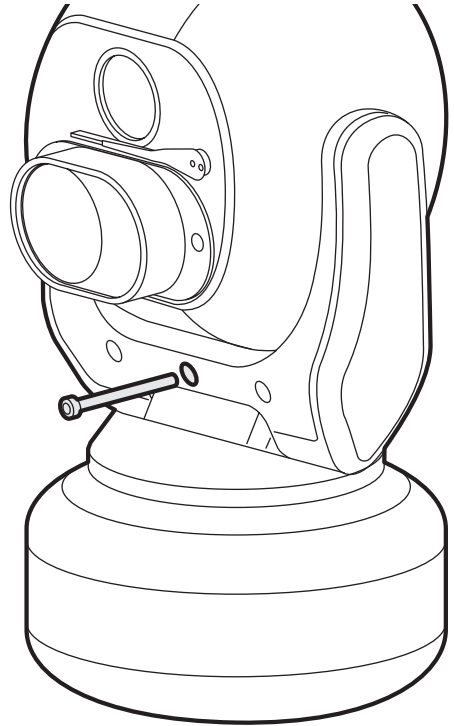


**IMPORTANT:** Ensure that the lanyard is connected to the appropriate lug on the mount adaptor when the camera mounting is complete. Also, double check all bolts for correct positioning and appropriate tightness.

### To offset the camera head

When mounting upright, the camera head can be offset to allow it a field of view clear of the pan motor section of the housing.

- 1 Unscrew and withdraw the M5 socket head retaining bolt from the middle of the front of the yoke.
- 2 Carefully tip the yoke assembly forward.
- 3 Re-insert the bolt from the rear of the yoke and tighten to approximately 0.97Kg/m. Do not over tighten the bolt.



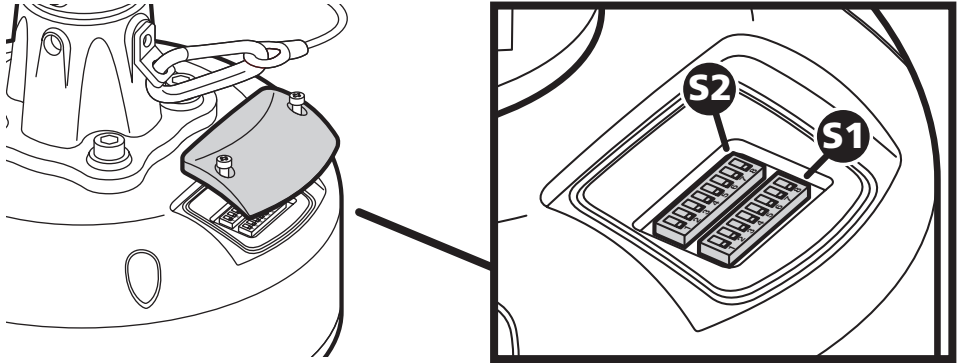
## Camera telemetry settings

Depending on the chosen protocol, telemetry control signals may be fed to the camera either via the primary co-axial video link cable or through the twisted pair cables that are included within the composite cable.

*Note: Due to limitations or software changes within some protocols, it is not always possible to implement all of the camera's features.*

All settings related to telemetry control are configured using two banks of switches (S1 and S2) located behind a removable panel within the hub of the camera.

To access the switches, remove the two retaining screws and remove the panel:



*Note: In all switch setting tables, a dash (-) means the corresponding switch is Off.*

### Device ID address (block S1, switches 1 to 8)

For protocols which use RS485 control signals via the twisted pair link within the camera's composite cable, you can determine the device ID address for the camera.

*Note: These settings are ignored for protocols that use the primary video coaxial cable to transfer telemetry signals.*

Device ID	S1-1	S1-2	S1-3	S1-4	S1-5	S1-6	S1-7	S1-8
0	-	-	-	-	-	-	-	-
1	On	-	-	-	-	-	-	-
2	-	On	-	-	-	-	-	-
3	On	On	-	-	-	-	-	-
4	-	-	On	-	-	-	-	-
5	On	-	On	-	-	-	-	-
6	-	On	On	-	-	-	-	-
7	On	On	On	-	-	-	-	-
8	-	-	-	On	-	-	-	-
9	On	-	-	On	-	-	-	-
10	-	On	-	On	-	-	-	-
11	On	On	-	On	-	-	-	-
12	-	-	On	On	-	-	-	-
13	On	-	On	On	-	-	-	-
14	-	On	On	On	-	-	-	-

Device ID	S1-1	S1-2	S1-3	S1-4	S1-5	S1-6	S1-7	S1-8
15	On	On	On	On	-	-	-	-
16	-	-	-	-	On	-	-	-
17	On	-	-	-	On	-	-	-
18	-	On	-	-	On	-	-	-
19	On	On	-	-	On	-	-	-
20	-	-	On	-	On	-	-	-
21	On	-	On	-	On	-	-	-
22	-	On	On	-	On	-	-	-
23	On	On	On	-	On	-	-	-
24	-	-	-	On	On	-	-	-
25	On	-	-	On	On	-	-	-
26	-	On	-	On	On	-	-	-
27	On	On	-	On	On	-	-	-
28	-	-	On	On	On	-	-	-
29	On	-	On	On	On	-	-	-
30	-	On	On	On	On	-	-	-
•								
127	On	On	On	On	On	On	On	-
128	-	-	-	-	-	-	-	On
129	On	-	-	-	-	-	-	On
•								

**To determine Device IDs that are not listed here**

Determine how many of the numbers shown below in bold are required to make up the value of the Device ID number that you require. If a bold number is needed to make up your number, then the corresponding switch on the S1 block should be On. For example, to make the Device ID 85, you need the values 1 + 4 + 16 + 64, thus switches S1-1, S1-2, S1-5 and S1-7 would need to be On, all others would be Off.

<b>1</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>16</b>	<b>32</b>	<b>64</b>	<b>128</b>
(S1-1)	(S1-2)	(S1-3)	(S1-4)	(S1-5)	(S1-6)	(S1-7)	(S1-8)

•								
245	On	-	On	-	On	On	On	On
246	-	On	On	-	On	On	On	On
247	On	On	On	-	On	On	On	On
248	-	-	-	On	On	On	On	On
249	On	-	-	On	On	On	On	On
250	-	On	-	On	On	On	On	On
251	On	On	-	On	On	On	On	On
252	-	-	On	On	On	On	On	On
253	On	-	On	On	On	On	On	On
254	-	On	On	On	On	On	On	On
255	On	On	On	On	On	On	On	On

## Telemetry protocol (block S2, switches 1 to 5)

Vendor	Protocol	Identity	Link	S2-1	S2-2	S2-3	S2-4	S2-5
360-Vision	C-Dome	0C VIS360	RS485	-	-	On	On	-
BBV	Serial485	12 BBV485	RS485	-	On	-	-	On
CBC OCP	OCP485	00 OCP485	RS485	-	-	-	-	-
DeView	VTC485	09 VTC485	RS485	On	-	-	On	-
Forward Vision	FV Mic1-300	0D FV300	RS485	On	-	On	On	-
Ikegami	I-LAN	0E IKILAN	RS485	-	On	On	On	-
Ikegami	RS485	0B IK485	RS485	On	On	-	On	-
Kalatel	DP	05 KALADP	RS485	On	-	On	-	-
Pelco D	D2400	0A PELD24	RS485	-	On	-	On	-
Pelco P	P4800	02 PELP48	RS485	-	On	-	-	-
Pelco P	P9600	01 PELP96	RS485	On	-	-	-	-
Philips	2400	04 PHL24	RS485	-	-	On	-	-
Philips	9600	03 PHL96	RS485	On	On	-	-	-
Samsung	SCC2000	0F SCC200	RS485	On	On	On	On	-
Samsung	SCC3000	08 SCC300	RS485	-	-	-	On	-
Sensormatic	-	06 SENSO	RS485	-	On	On	-	-
Ultrak/Honeywell	Diamond	07 ULTRK	RS485	On	On	On	-	-
VCL	-	11 VCL485	RS485	On	-	-	-	On
Baxell DC	FSK-Standard	1E BAXDC	Coaxial	-	On	On	On	On
BBV	Coaxial	1F BBVCAX	Coaxial	On	On	On	On	On
Pelco	Coaxitron	18 PELCAX	Coaxial	-	-	-	On	On

## Device termination (block S2, switch 8)

For protocols which use RS485 control signals via the twisted pair link within the camera's composite cable, you can determine whether or not the camera is terminated. The camera should be terminated whenever it is situated as either the only device connected to a controller or the last device within a chain of similar devices.

*Note: This setting is ignored for protocols that use the primary video coaxial cable to transfer telemetry signals.*

Termination	S2-8
Un-terminated	Off
Terminated	On

# Power and signal connections

## Camera power requirements

The camera can accept a range of input voltages, as follows:

Input voltages            20-36VDC or 14-26VAC

Power                        5W (standby), 15W (peak)

These figures do not include the requirements of any optional heating or cooling devices added within the camera, nor optional infra-red lighting systems.

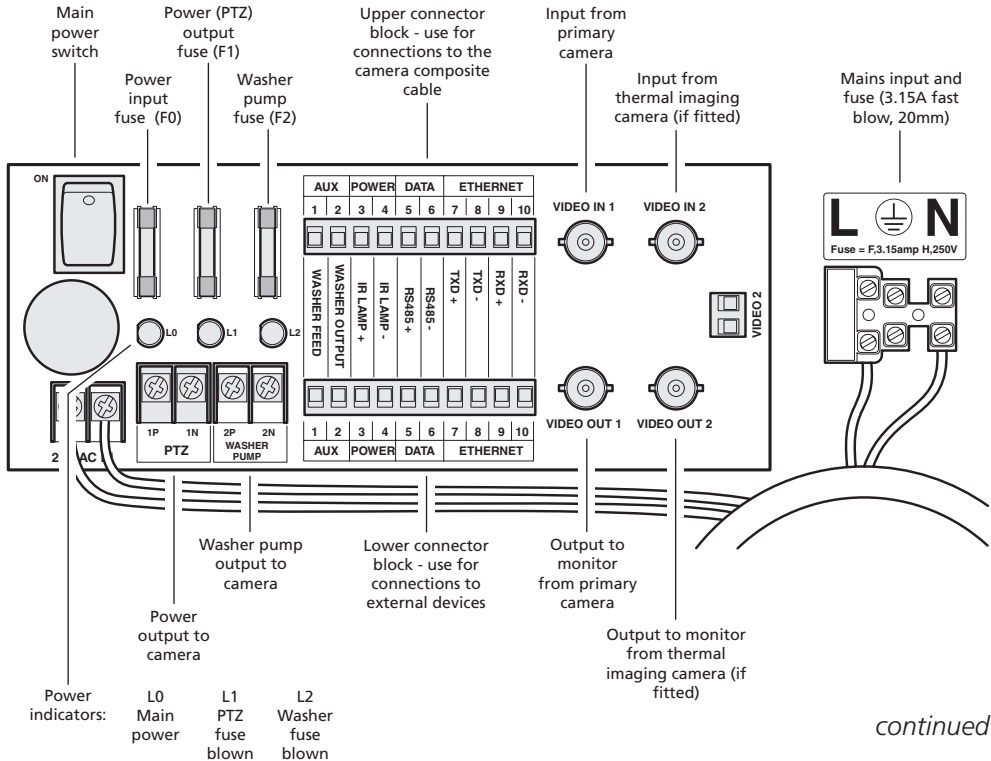
Power supply units are available for both mains feeds and low voltage DC automotive power sources:

## Mains power supply (C-ADN3 models)

The RC-PSB1 and RC-PSB2 power supplies are housed within a plastic casing rated to IP65. The power supply is capable of providing sufficient current to run the camera as well as a 24VAC washer pump (e.g. Dennard WW25).

This power supply also has built-in transient suppression and individually fused outputs for the camera and washer units, as well as spark-gap protection for video and data connections. Each output fuse has positive indication of failure, so a blown fuse can be instantly identified.

The circuit board layout is shown below:



*continued*

## Fuses

		<b>RC-PSB1</b>	<b>RC-PSB2</b>
Mains input	230VAC	3.15A	3.15A
Power input (F0)	24VAC	3.15A	5A
Power PTZ output (F1)	24VAC	2A	2A
Washer pump (F2)	24VAC	1A	2A

## Connecting the composite cable

- 1 Open one of the knock-out panels of the wiring centre box and fit a suitable cable water-sealing cable grommet.
- 2 Feed the bare ends of the composite cable in through the grommet and connect each cable within the wiring centre as follows:
  - **Primary video**  
Fit a BNC connector to coaxial cable marked as 'Video 1' and connect it to the BNC socket labelled 'VIDEO IN 1'.
  - **Secondary video** (if present)  
Fit a BNC connector to coaxial cable marked as 'Video 2' and connect it to the BNC socket labelled 'VIDEO IN 2'.
  - **Power**  
Connect the Red cable to the terminal marked 'PTZ 1P'.  
Connect the Black cable to the terminal marked 'PTZ 1N'.
  - **Washer**  
Connect the Orange cable to the upper terminal marked 'AUX1'.  
Connect the White cable to the upper terminal marked 'AUX2'.
  - **RS485 telemetry**  
Connect the Yellow cable to the upper terminal marked 'DATA 5'. Connect the Blue cable to the upper terminal marked 'DATA 6'.
  - **Earth**  
Connect the Green/Yellow cable to the Earth connection of the mains input terminal block.

The IR Lamp and Ethernet terminals are reserved for future use.

## Connecting external links

- 1 Open one or more of the knock-out panels of the wiring centre box and fit suitable cable water-sealing cable grommets, as required.
- 2 Feed the cables from the external device(s) through the grommet(s) and connect each cable within the wiring centre as follows:

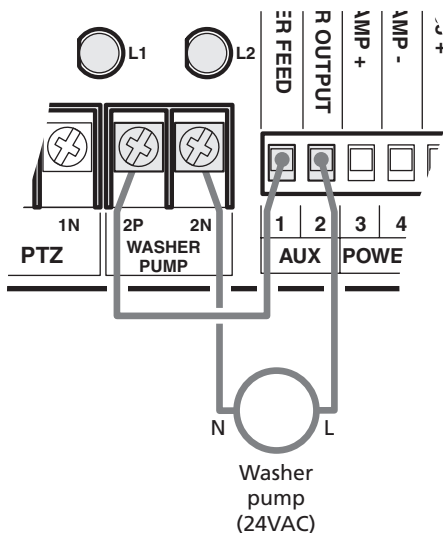
- **Primary video** - The primary video output from the camera is available at the BNC socket labelled 'VIDEO OUT 1'.

*Note: If the camera and control system are configured to use coax based telemetry, it will pass through this connector.*

- **Secondary video** - When used, the output from the thermal imaging camera is available at the BNC socket labelled 'VIDEO OUT 2'.
- **RS485 telemetry** - Connect RS485A (RS485+) to the lower terminal marked DATA 5. Connect RS485B (RS485-) to the lower terminal marked DATA 6.
- **Mains input** - Connect the mains Earth (Yellow/Green) conductor to the middle contact of the connector block. Connect the mains Live (Brown) conductor to the contact of the connector block closest to the input fuse. Connect the mains Neutral (Blue) conductor to the contact of the connector block furthest from the input fuse.

**IMPORTANT:** The supplier mains input cable to the wiring centre should have an isolator fitted and be fused according to its gauge and local electrical regulations. Failure to observe such regulations may result in injury or death.

- **Washer (or similar device)** - When a camera lens washer pump is used, make the following connections within the power supply:



The WASHER PUMP 2P and 2N contacts provide permanent 24VAC Live and Neutral power output, respectively.

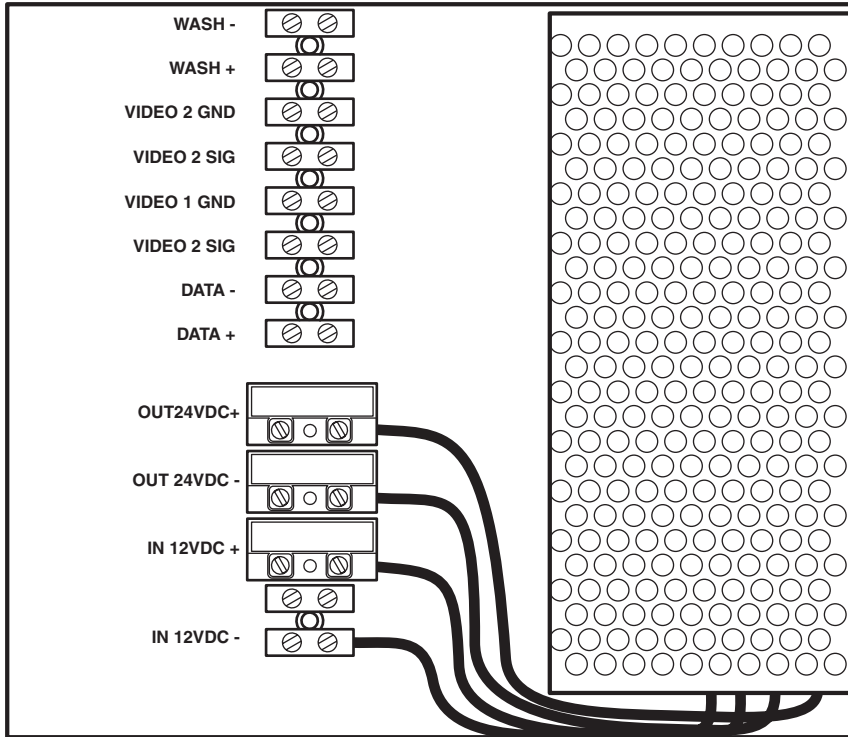
The AUX 1 and 2 contacts provide volt free relay switching under software control (via the camera menu or preset codes).

Link the WASHER PUMP 2P terminal to the AUX 1 terminal. Link WASHER PUMP 2N to the neutral terminal of the pump and connect the live terminal of the pump to AUX 2.

## Vehicle power supply (C-ADN3V models)

The power supply provided for automotive applications is housed within a plastic casing rated to IP65. The power supply consists of a sophisticated inverter which runs from a 12VDC supply and converts this to 24VAC, providing sufficient current to run the camera as well as a 24VAC washer pump (e.g. Dennard WW25). This power supply has fuse protection for the input and output power lines.

The circuit board layout is shown below:

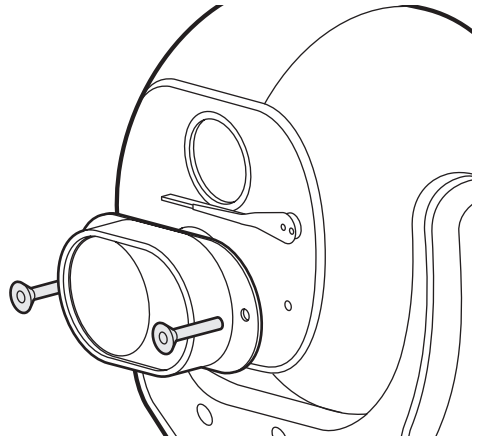


## Thermal image focusing (Ti models only)

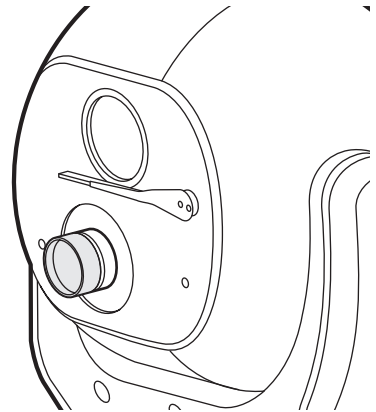
The thermal imaging cameras feature a manual focus ring which is accessible when the front lens cover is removed.

### To focus the thermal camera

- 1 Using a 2.5mm hex key, remove the two retaining screws either side of the thermal camera lens cover.
- 2 Carefully lift off the thermal imaging lens cover and keep it free from dirt or the possibility of scratching.  
Keep the two screws and the internal o-ring seal safe for reassembly.



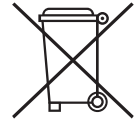
- 3 Using the keyboard controls, direct the camera towards a typical scene that will be monitored.
- 4 While viewing the output from the thermal imaging camera (either directly, if possible, or under instruction from a colleague), twist the outer lens until the thermal screen image is brought into focus.
- 5 When complete, ensure that the o-ring seal is correctly in place on the rear side of the lens cover and place it onto the camera front.
- 6 Replace the two retaining screws and tighten.



# Further information

## WEEE statement

This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waster electrical and electronic equipment (WEEE). Contact your local supplier for procedures for recycling this equipment.



## Changes to control protocols

Keyboard manufacturers may update software or protocols in their keyboards without prior warning. This may change the way in which the camera behaves in relation to keyboard operation. We can accept no responsibility for such changes in keyboard manufacturer software and/or protocols.

## Safety

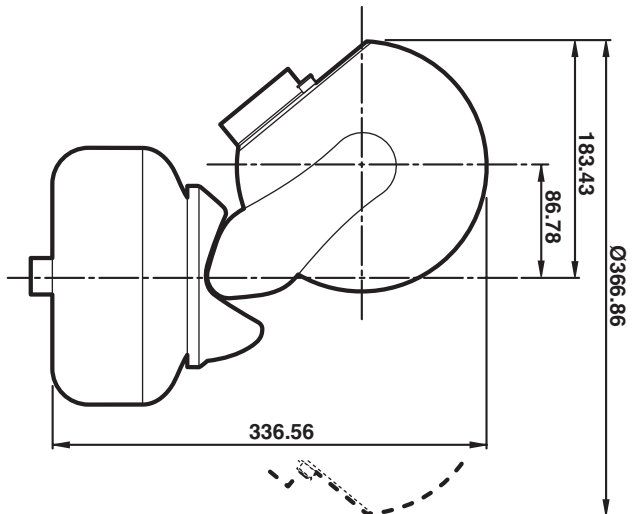
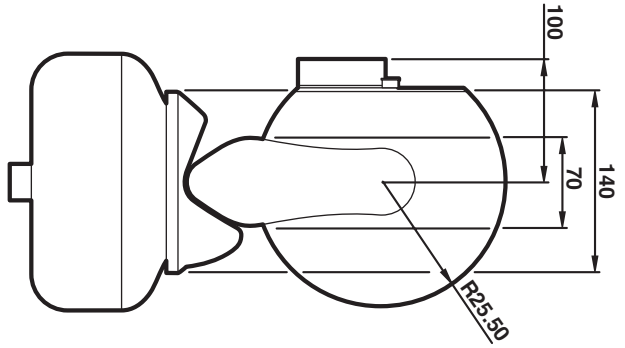
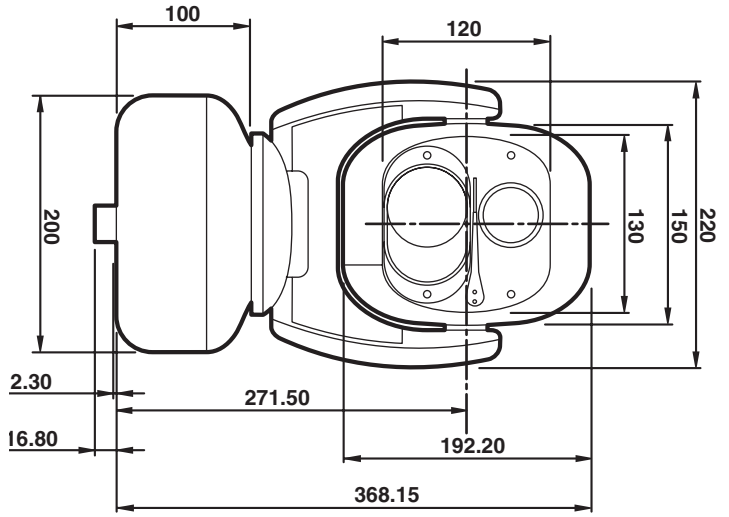
Installation of this product should only be carried out by a competent and suitably qualified engineer. If you are in doubt, you should refer the installation to a suitably qualified person.

## Disclaimer

The manufacturer reserves the right to change specifications and procedures integral to the operation, control and programming of this product at any time and without prior notice.

This manual relates to firmware versions 1.4.2 (standard) and 1.4.3 (thermal).  
V3 platforms.

# Dimensions Camera Unit



## Specifications: Mechanical and general items

Construction	Die-Cast hard anodised, powder coated aluminium, with A4 stainless fittings.	
IP Rating	IP67	
	Normal	Offset
Turning Diameter	220mm / 8.66"	370mm / 14.57"
Height	370mm / 14.57"	340mm / 13.86"
Height with adaptor	500mm / 19.68"	470mm / 18.50"
Weight (with adaptor)	7Kg (8Kg) 15.43lb (17.63lb)	
	Pan	Tilt
Rotation	360° Continuous	290°
	>180°/sec [excl. ramp]	>180°/sec [excl. ramp]
Presets	32 + WASH preset (accuracy 0.05°)	
Tours	8 Fast Preset, 8 Slow Preset, 4 x 60 second Mimic	
Tilt Flip	Configurable – Off, Bottom-Flip	
Privacy Zones	24 spherically calculated (Max 8 onscreen simultaneously)	
Telemetry	Coaxial or RS485 half duplex – multiple protocols	
Alarms	64 with optional external alarm card	
Connection	10m composite cable with 19 way IP67 Neptune connector	
Power	20-36VDC or 14-26VAC 15W peak	
Operational Temp	-20 to +50°C (-4 to 122°F)	

# Specifications: Camera modules

## Optical modules

C-AllView	C-ADN3X18YPT-B/W/G	C-ADN3X26YPT-B/W/G	C-ADN3X30YPT-B/W/G	C-ADN3X36YPT-B/W/G
C-AllView (vehicle)	C-ADN3VX18YPT-B/W/G			C-ADN3VX36YPT-B/W/G
C-AllView Ti	-	-	-	C-ATDNX36H-(see below)
Image sensor	Sony 1/4" Exview CCD			
Optical zoom	18x	26x	30x	36x
Digital zoom	12x (216x combined)	12x (312x combined)	12x (360x combined)	12x (432x combined)
Resolution	520 TVL	520 TVL	520 TVL	520 TVL
Lens (Wide to Tele.)	f=1.4mm to 73.8mm F1.4 to F3.0	f=3.5mm to 91mm F1.6 to F3.8	f=1.4mm to 105mm F1.4 to F3.0	f=3.4mm to 122.4mm F1.6 to F4.5
Angle of view	48° (W) to 2.8° (T)	54.2° (W) to 2.2° (T)	48° (W) to 2.8° (T)	48° (W) to 2.8° (T)
Min. working dist.	35mm (W) to 800mm (T)	320mm (W) to 1500mm (T)	320mm (W) to 1500mm (T)	320mm (W) to 1500mm (T)
Min. illumination	0.7 lux typical (50IRE)	1.0 lux typical (50IRE)	1/60s mode: 1.4lux (50IRE) 1/4 s mode: 0.1lx (50IRE)	1/60s mode: 1.4lux (50IRE) 1/4 s mode: 0.1lx (50IRE)

### Specifications common to all optical camera modules listed above

S/N ratio	More than 50dB
Electronic shutter	1/1 to 1/1000s
White balance	Auto, ATW, Indoor, Outdoor, One push, Manual
Gain	Auto, Manual, (-3 to 28dB, 2dB steps)
AE control	Auto, Manual
Backlight compensation	On
Privacy zone masking	On/Off

## Thermal imaging modules

C-AllView Ti	C-ATDNX36H-12-B/W/G	C-ATDNX36H-25-B/W/G	C-ATDNX36H-50-B/W/G
Detector	Amorphous Silicon Microbolometer (uncooled)		
Spectral response	7 to 14 micrometers		
Thermal sensitivity	< 50mK		
Format	320 x 240 pixels		
Refresh rate	9Hz or 25Hz		
Contrast/brightness	Advanced image processing		
Saturation temperature	1100°F +/- 10% with automatic electronic iris		
FOV	12° x 9°	25° x 19°	50° x 37.5°
Detection range	up to 1000m	up to 445m	up to 235m



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