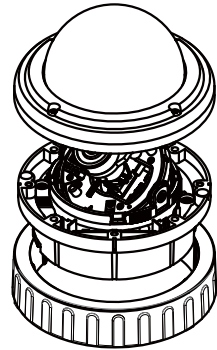


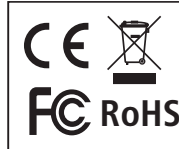
High Resolution Outdoor Dome Camera User Guide



600TVL Day / Night Color Camera

Regulatory Compliance

Emissions	FCC part 15 Class B CE: EN5011 ICES-003 EN55022 CISPR22 ANSI C63.4
Immunity	CE: EN50130-4



FCC COMPLIANCE:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced Radio/TV technician for help.
CISPR 22 WARNING:
This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
POWER SUPPLY REQUIREMENTS:
For use with listed Audio/Video product and only connected to 15W or less power supply.
*Power supply should be a NEC Class 2 / LPS Supply.
EQUIPMENT MODIFICATION CAUTION:
Equipment changes or modifications not expressly approved by seller.
The party responsible for FCC compliance could void the user's authority to operate the equipment and could create a hazardous condition.

This class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

About this Sheet

Thank you for purchasing this product. Before operating this unit, please read this sheet carefully. For detailed descriptions about the unit's specification, please refer to the following content.

Product specifications subject to change without notice. Certain product names mentioned herein may be trade names and/or registered trademarks of other companies.

Hardware Kit Contents

- T3 1/4 screws x 4
- Rubber sealing o-rings x 4
- Wall plugs x 4
- Torx key bit x 1
- Power lead x 1
- 3/4" threaded sealing plug (1/2" sealing plug fitted to enclosure) x 1
- 1/2" cable entry grommets (3/4" Grommet fitted to enclosure) x 1
- External OSD board x 1
- Rubber Caps x 4

Camera Specification

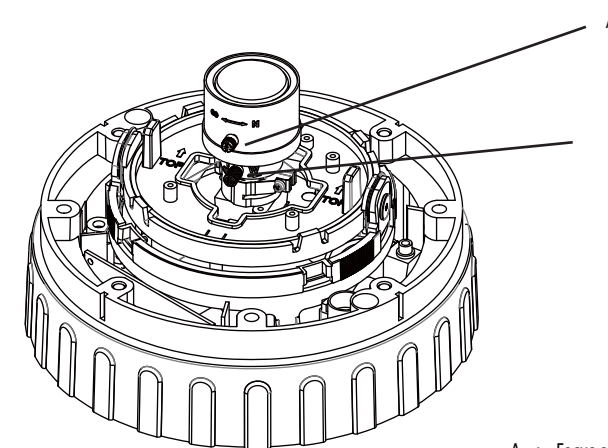
General Specifications		
TV System	NTSC	PAL
Image Sensor	1/3" Interline CCD Sensor	
Effective Picture Element	768(H)x494(V)	752(H)x582(V)
Scanning Frequency	2:1 Interlace	
	H:15734Hz V:59.9Hz	H:15625Hz V:50.0Hz
Resolution	600TV Line	
Min. Illumination	AGC Max. 0.3 Lux @ F1.2	
S/N Ratio	>50dB	
Video Output	1.0Vpp 75Ω BNC unbalanced	
Power Source	12VDC ±10% /24VAC ±20%	
Power Consumption	2.3 W Max	
Operating Temperature	-10°C~+50°C	
Storage Temperature	-20°C~+60°C	

Functional Specifications		
Lens Control	Auto/ Manual	
Backlight Compensation	2 Zone On, Off, HLC	
AGC Control	Low/ Middle/ High/ Off	
Digital Noise Reduction	On/ Off	
White Balance Control	ATW 1(2700~9700K)/ ATW2 (2000K~20000K), AWC/ MWB/ INDOOR/ OUTDOOR	
AWB	Standard Range	2700k~9700k
	EX Range	2000k~20000k
Sharpness	Level 1-31	
Day & Night	Auto/ Adjustable	
Shutter Function	MES 1/60, 1/100~1/100000, Auto	MES 1/50, 1/120~1/100000, Auto
Privacy Zone	8 Zone On/ Off	
Mirror	On/ Off	
Motion Detection	4 Zones On/ Off	
WDR Preference	ON/OFF	

Lens Specification

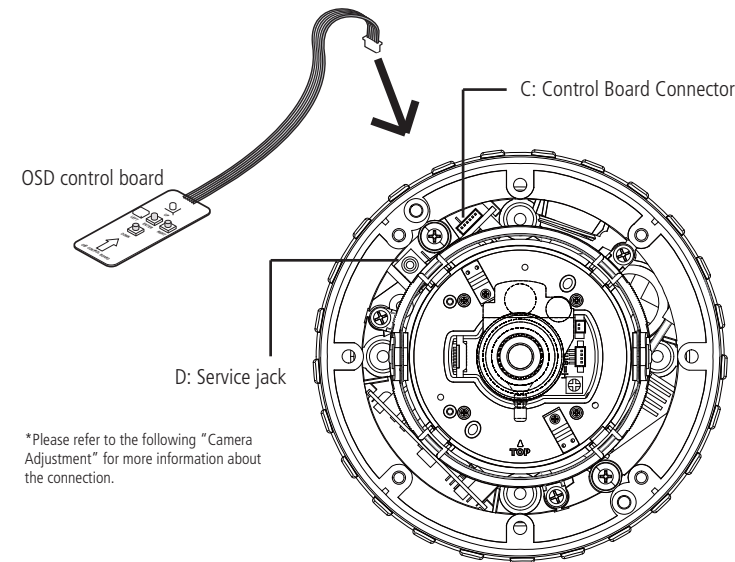
Focal Length	2.8~10mm	3~9mm	9~22mm
F-No.	F1.2	F1.2	F1.4
Iris Range	F1.2~F360	F1.2~F360	F1.4~F360
Minimum Object Distance	1.5m	0.5m	1m
Field Of View	Diagonal	125.0°~36.0°	116.2°~39.7°
	Horizontal	94.6°~28.8°	90.0°~31.8°
	Vertical	68.4°~21.6°	66.2°~23.9°
		41.9°~16.3°	32.1°~13.1°
		23.3°~9.8°	

Camera Overview



A : Focus adjuster
B : Field of view adjuster

The following illustration shows the service jack which is used to access the OSD and make any programming changes if required.



*Please refer to the following "Camera Adjustment" for more information about the connection.

Camera adjustments and programming

In addition to the levers for **Focus (A)** and **Field of View (B)**, all settings are made by keys on the OSD service board.

1. With power applied to the camera and a video monitor connected, press and hold the **MENU** key for three seconds to access the top level menu. A map of the menu options are shown in the following **Camera OSD Menu**.
2. Use the arrow keys on the control board to navigate around the OSD menu and use the **MENU** key to confirm your selections.
3. Once programming is complete choose Exit from the menu, otherwise any changes made will be lost.
4. If required, the camera can be reset to factory defaults by selecting **RESET** in the OSD menu.

Note:
DPC (Dead Pixel compensation): The camera has a feature that can cover most dead pixels that could occur over time. Select DPC under the special menu, Cover the lens to black it out then press the menu key - this may take up to 30 seconds to complete. Once complete the camera will automatically take you to back to the menu structure. If you gain access to the DPC menu and do not want to perform the function, press the up or down button to escape and you will be returned to the previous screen.

Camera OSD Menu

Day/Night	Auto	D/N Level	0~216	
		D/N Delay	1~30 Sec	
		N/D Level	0~206	
		N/N Delay	1~30 Sec	
Color	Return	Ret/End		IR Gain
				0~255
B/W	Burst	Off/On		Height
				0~15
EXT	IR Smart	Off/On	On	Width
				0~15
	IR Level	High/Low		Left/Right
				0~15
	Return	Ret/End		Top/Bottom
				Ret/End
Exposure	Shutter	1/50, FLK, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/5000, 1/10000, 1/100000, AUTO		
	Brightness	0~255		
	AGC	Off/Low/Middle/High		
	DWDR	Off/On	On	Level
				0~63
	Return	Ret/End		Return
				Ret/End
Lens	DC			
	Manual			
White balance	ATW1	Color Temp	Manual/Indoor/Outdoor	
	ATW2	Blue	0~255	
	AWC-Set	Red	0~255	
	Manual	Return	Ret/End	Area Sel.
				Area 1~2
Backlight	Off			Area State
	BLC			Off/On
				Gain
				0~25
				Height
				0~15
				Width
				0~15
				Left/Right
				0~15
				Top/Bottom
				0~15
				Return
				Ret/End
Image Adj.	Lens Shad.	Off/On	On	Level
				0~255
	2DNR	Off/On		Return
	Mirror	Off/On		Ret/End
	Font Color			Font
				0~15
	Contrast	0~255		ID & Title
				0~15
	Sharpness	0~31		Return
				Ret/End
	Display	CRT		Ped Level
				0~63
				Color Gain
				0~255
				Return
				Ret/End
				Gamma
				0~63
				Ped Level
				0~255
				Color Gain
				0~255
				Return
				Ret/End
				Gamma
				0.05~1.00
				Ped Level
				0~63
				Color Gain
				0~255
				Return
				Ret/End
				Neg. Image
				Off/On
				Return
				Ret/End
Special	Cam title	Off/On	On	Color/Pos/End
	Motion	Off/On	On	Area Sel.
				Area 1~4
				Area State
				Off/On
				Height
				0~15
				Width
				0~15
				Left/Right
				0~15
				Top/Bottom
				0~15
				Degree
				0~15
				View
				Off/On
				Return
				Ret/End
				Area Sel.
				Area 1~8
				Area State
				Off/On
				Height
				0~149
				Width
				0~199
				Left/Right
				0~200
				Top/Bottom
				0~144
				Color
				0~15
				Return
				Ret/End
Reset	Factory Reset			
EXIT				

Installation

Precautions

- Do not attempt to dismantle the camera module mounted within the dome. There are no user serviceable parts within the camera module. Refer servicing to qualified personnel.
- Handle the camera with care. Do not abuse the camera. Avoid striking or shaking it. Improper handling and storage could damage the camera.
- Do not operate the camera beyond its temperature, humidity or power source rating. Please refer to the environmental information provided overleaf.

Emissions

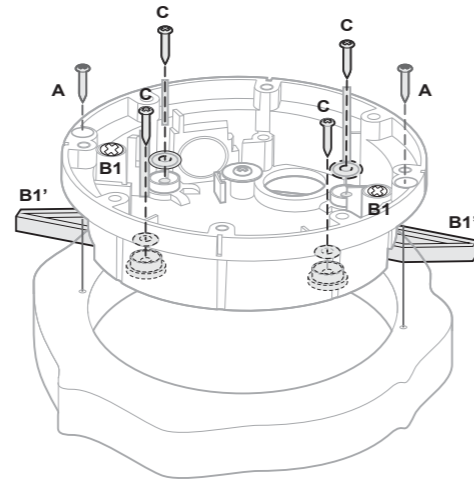
- FCC COMPLIANCE: This equipment complies with Part 15 of the FCC rules for intentional radiators and Class B digital devices when installed and used in accordance with the instruction manual. Following these rules provides reasonable protection against harmful interference from equipment operated in a commercial area. This equipment should not be installed in a residential area as it can radiate radio frequency energy that could interfere with radio communications, a situation the user would have to fix at their own expense.

Weather Resistance

- IP66 Rated

1 Prepare the dome for installation

- Remove dome cover by loosening four cover screws using the supplied Torx driver.
- Remove camera assembly (if fitted) to have the dome ready for installation.
- Choose a mounting method from A, B and C to continue to Step 2.



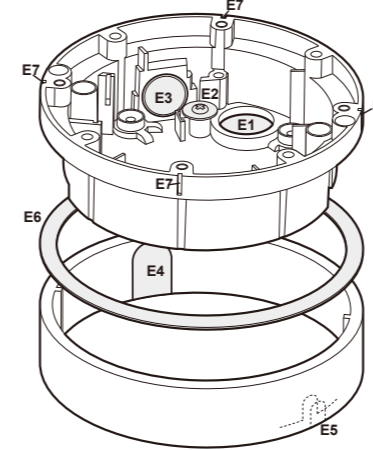
A
Flush mount using screws

B
Flush mount using locking arms
Turn silver-colored screws clockwise to first extend the locking arms and then tighten them against the mounting surface. Tighten the screws sufficiently to compress the o-ring moisture seals located underneath the screwheads, however: DO NOT OVERTIGHTEN.

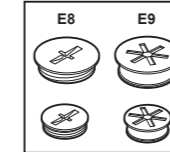
C
Surface mount using outer ring
Rubber o-rings to maintain moisture seal when fixing externally.

3 Open the required cable entry

- Two options for cable entry: either (E1) base cable entry or (E3) side cable entry.
- For surface mount, use (E3) to go with either (E4) or (E5).
- As required, rotate the outer ring to align knock-outs with side cable entry.
- Unused cable entries should be blanked with sealing plugs (E8).
- For internal applications without conduit, a slotted cable grommet (E9) should be used to prevent dust ingress.
- For external applications, conduit should be used to carry cables into the housing.



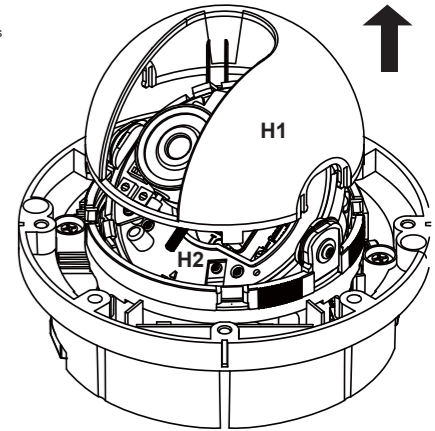
- E1: Threaded base cable entry (1/4" sealing plug (E8) and cable entry grommet (E9) supplied)
- E2: Washer and screw cable retainer
- E3: Threaded side entry (with 1/2" sealing plug (E8) fitted)
- E4: Outer ring large knock-out for conduit entry
- E5: Outer ring small knock-out for cable-only entry
- E6: Large rubber gasket
- E7: Cover index slots
- E8: Cable entry sealing plugs
- E9: Cable access grommet



6 Remove Camera Liner

Lift the camera liner (H1) from the chassis (H2) to provide full access to the camera.

H1: Camera liner
H2: Camera chassis



2 Use Template to Prepare Mounting Area

Mounting methods

- There are three mounting ways:
A: Flush mount using screws
B: Flush mount using locking arms
C: Surface mount using the outer ring
Note: Always use the template provided.

Flush mount

Create an aperture in the mounting surface to a diameter of 4.3"(110mm) as indicated by "T5".

A. Using screws:

Create two holes at template positions "T2" of diameter 1/4"(7mm) and insert a wall plug into each. Use 2 x (no.12 x 1 1/2") screws.

B. Using locking arms:

Place the enclosure (with the locking arms retracted) into the opening. Use a cross-head screwdriver to rotate the screws B1 (See Step 1) until the locking arms, face of the mounting surface. Tighten the screws sufficiently to compress the o-ring moisture seals located underneath the screwheads, however: DO NOT OVERTIGHTEN.

Surface mount

C. Using the outer ring:
Create four holes of diameter 1/4"(7mm) at template positions "T1". Use 4 x wall plugs and 4 x (no. 12 x 1 1/2") screws. When mounting externally, use a rubber o-ring at each mounting hole in the base to ensure moisture resistance.

Cable entry (in all cases)

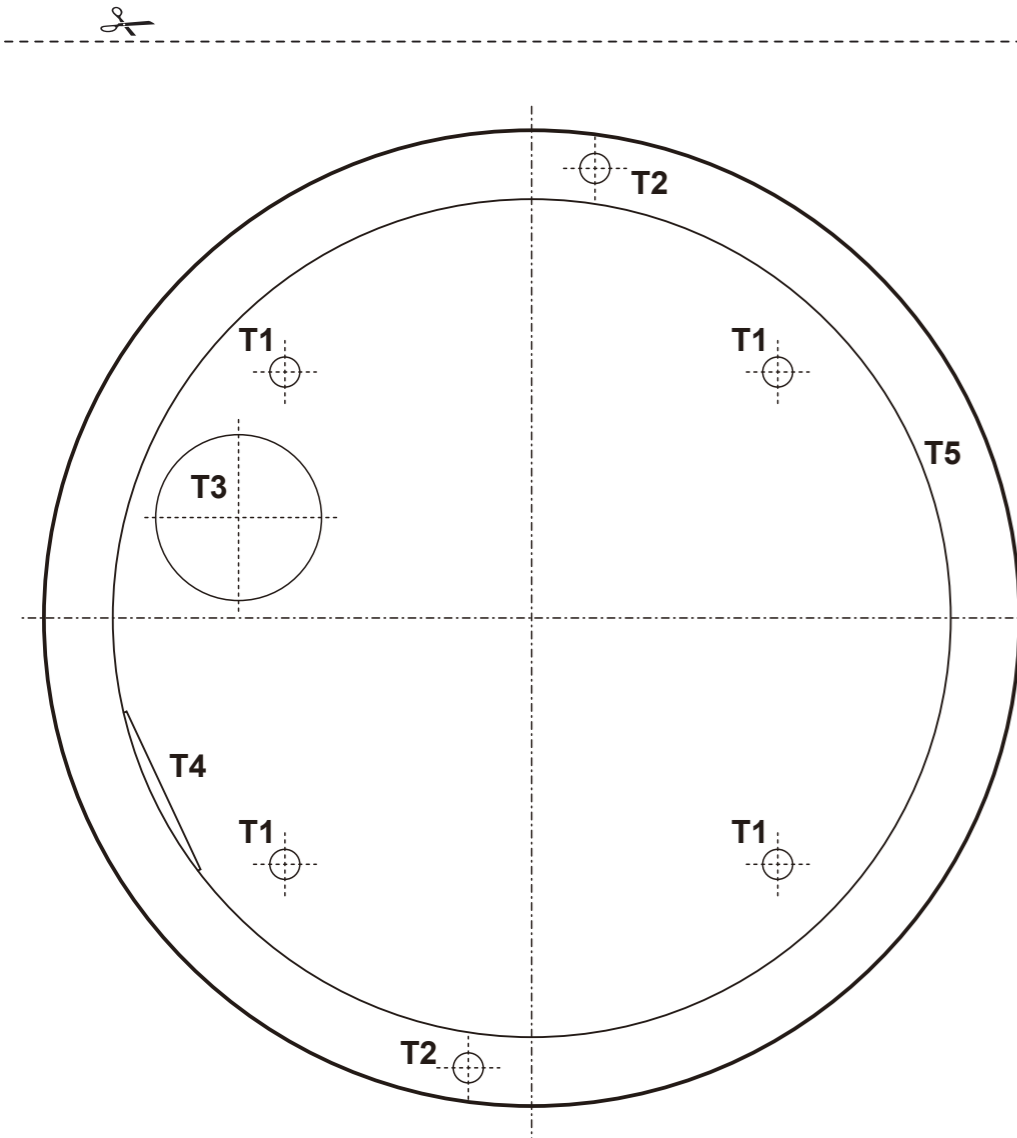
Use either the base cable entry "T3" or the side cable entry "T4" (or E3 and E4 in Step 3). Both cable entries are threaded for use with locking collars (threads are 3/4 NPT on the base and 1/2 NPT on the side knockout).

When mounting externally

When mounting externally using the four base holes, use the supplied rubber o-rings (See C in Step 1) within the mounting holes to ensure a moisture resistance. Ensure the cable entry through either knockout panels is suitably sealed against moisture ingress. Regardless of whether the locking arms are used for installation or folded away (in favor of another installation method), always ensure the locking arms screws are tight enough to compress the rubber o-rings to maintain the moisture seal.

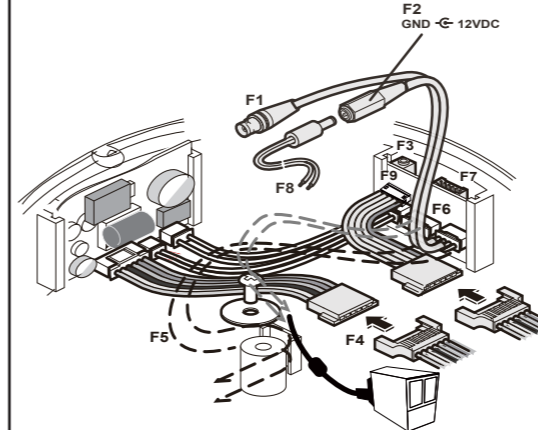
Note

- Using one of the mounting schemes discussed above, fix the dome enclosure (and outer ring, if necessary) in place.
- When flush mounting or surface mounting using the outer ring, ensure that the large rubber gasket (E6) is in place under the lip of the dome enclosure.
- IMPORTANT: If the dome is being mounted externally using the four base holes, use the supplied rubber o-rings within each of the four mounting holes of the dome base to ensure moisture resistant seals (see C in Step 1).



4 Connect the wiring

- Connect F1 and F2 to your video-out and power-in cables.
- If needed, use F8 (wire-ended adapter lead) with power supply cables. Note: (1) 12VDC: Connect the red lead to +ve and black lead to -ve. (2) 24VAC: Connect either way, polarity is not important.
- Connect the camera to F4
- To focus the camera, use F3, a service jack for temporary video connection.



NEC Class 2 / LPS Supply Required

- F1: Video output
- F2: Power 12VDC or 24VAC input
- F3: Service jack socket
- F4: Camera lead fly connector
- F5: Cable trap pillar, washer and screw
- F6: RS485/ Alarm/ Lamp
- F7: OSD controller connector
- F8: Wire-ended power adaptor lead
- F9: OSD lead to camera

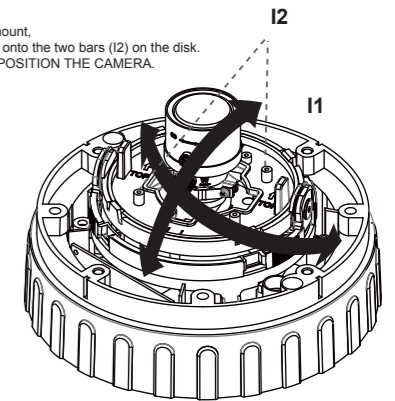
7 Adjust Camera Position and Test

Rotate and pan the camera chassis to the required position and then tighten the camera chassis locking screws.

Cautions

To avoid damage to the lens mount, tilt and pan the lens by holding onto the two bars (I2) on the disk. DO NOT USE THE LENS TO POSITION THE CAMERA.

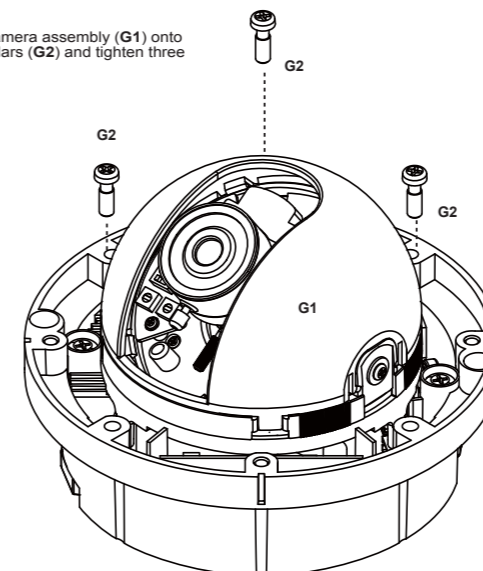
Rotate and pan the camera chassis (I1) to the required position.



Note: Do not attempt to adjust the camera position by holding the lens as this will cause damage to the camera. Make adjustments by tilting and rotating the gimble assembly. DO NOT rotate/tilt the disk beyond its maximum allowed range (350/80 degrees) or damage may occur.

5 Fit Camera Assembly

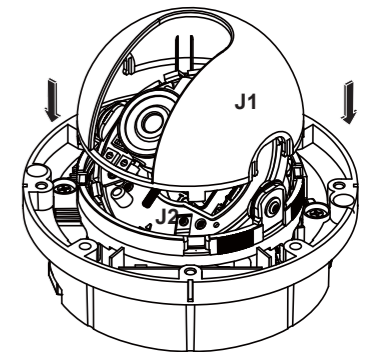
Place the complete camera assembly (G1) onto the three mounting pillars (G2) and tighten three gimbal screws.



8 Replace Camera Liner

Carefully fit the camera liner (J1) over the focussed camera so that it locates fully on the top ring of the camera chassis (J2) and provides an unobstructed view for the camera lens.

J1: Camera liner
J2: Camera chassis



9 Replace Dome Cover

Replace the dome cover (four small internal ribs within the cover locate within four corresponding index slots (E7) within the enclosure body - these restrict the lid to only four possible orientations and ensure that the cover screw holes are correctly aligned). Use the supplied Torx key to tighten the four cover screws. DO NOT OVERTIGHTEN.