



Vision i Dome/VisionDome VR Installation/Configuration Manual



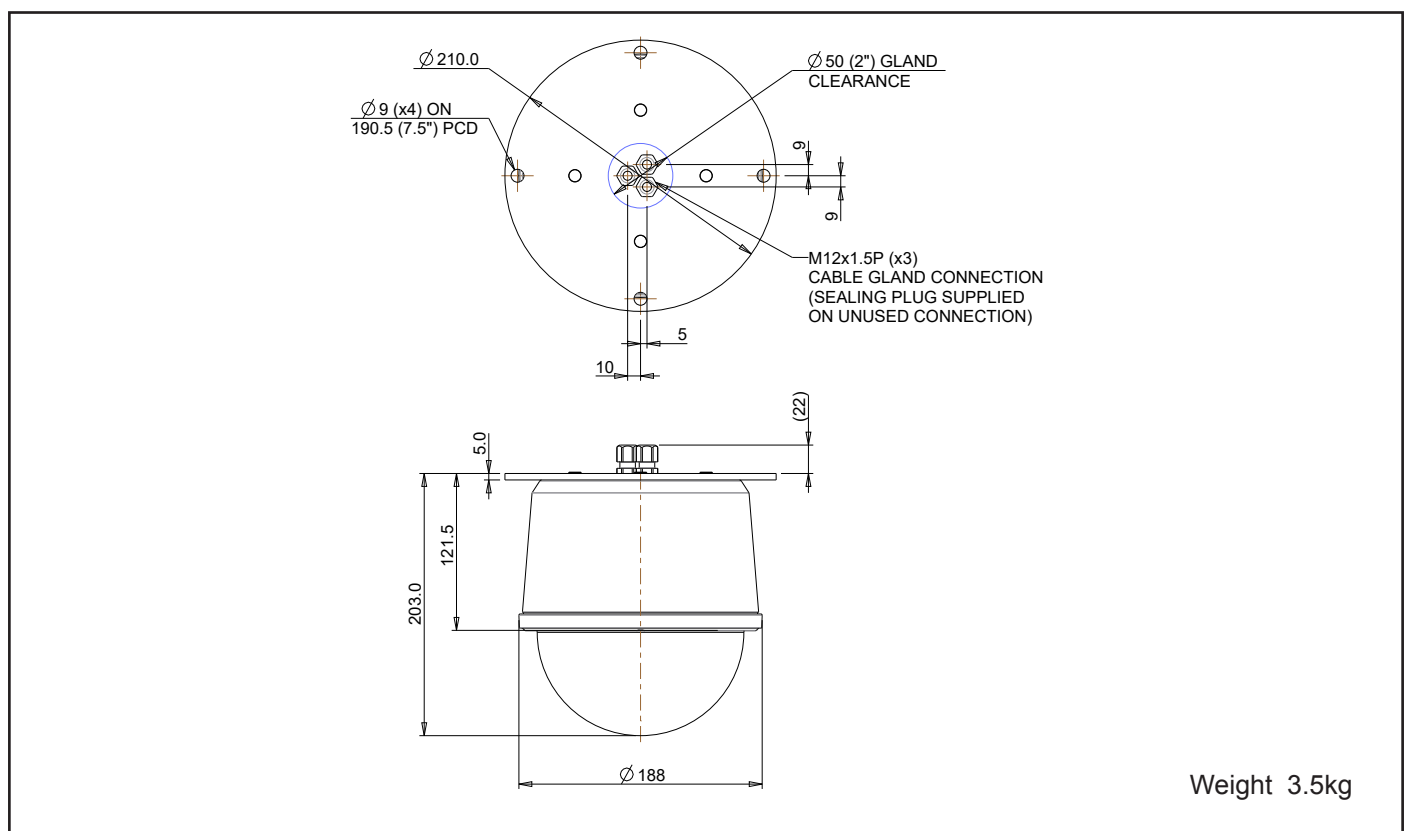
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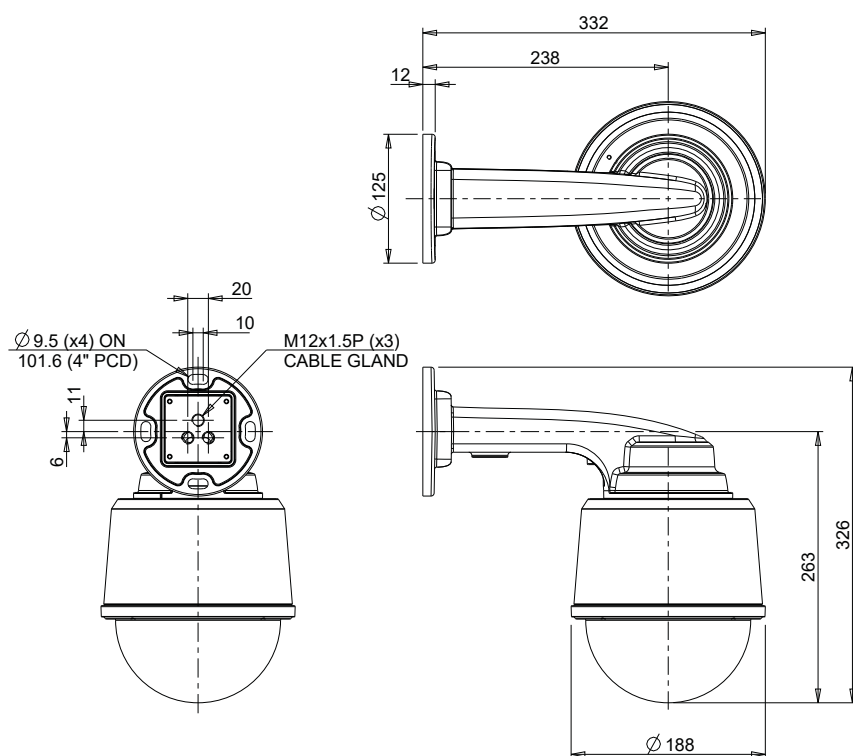
1 Safety and Precautions

1. Please read these notes before attempting to operate the 360 Vision VisionDome-HD, and keep for future reference.
2. All servicing and repairs must be handled by 360 Vision Technology.
3. Avoid pointing the camera directly towards a bright light source (sunlight), or expose the camera to intensive light situations as this may damage the camera pick-up device.
4. Installation should be carried out by suitably qualified personnel, in accordance with local codes of practice and regulations.
5. 360 Vision Technology Limited accept no liability for any damage caused by incorrect or improper installation.

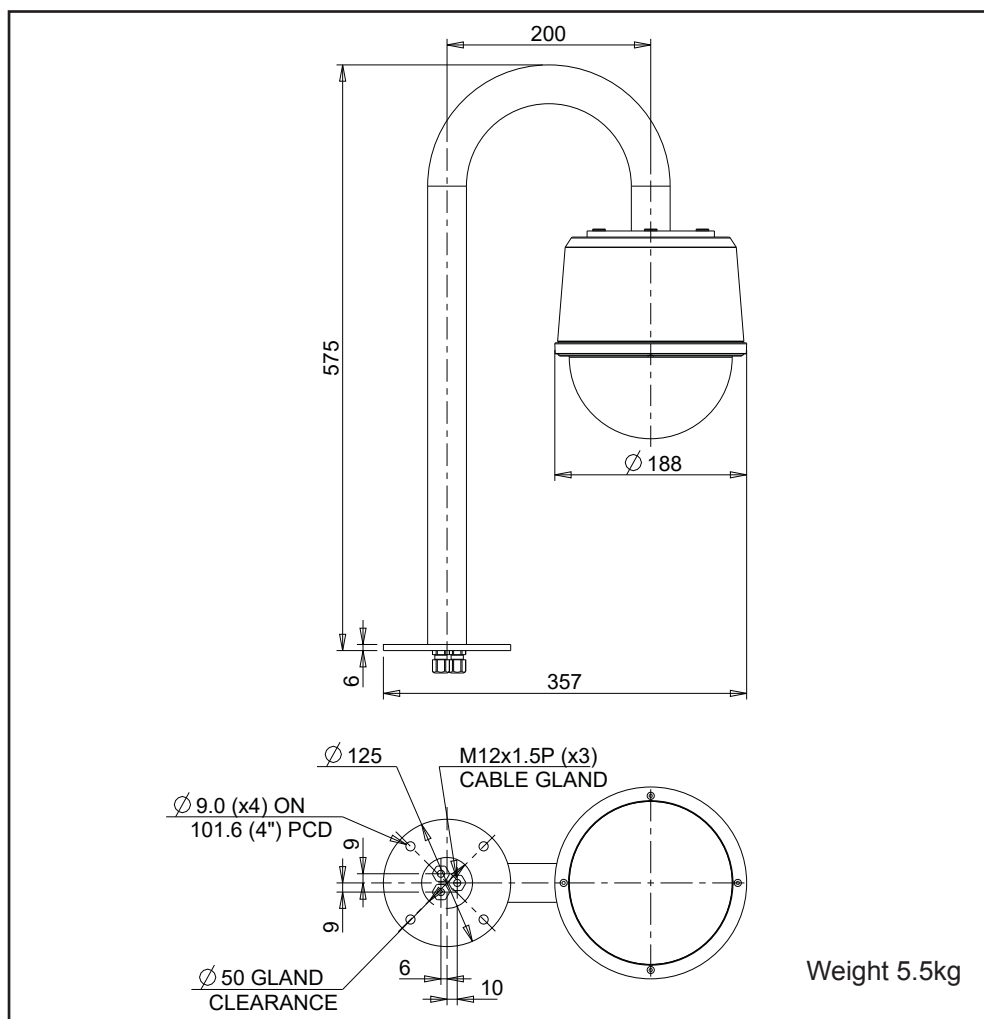
2 Housing Dimensional Drawing



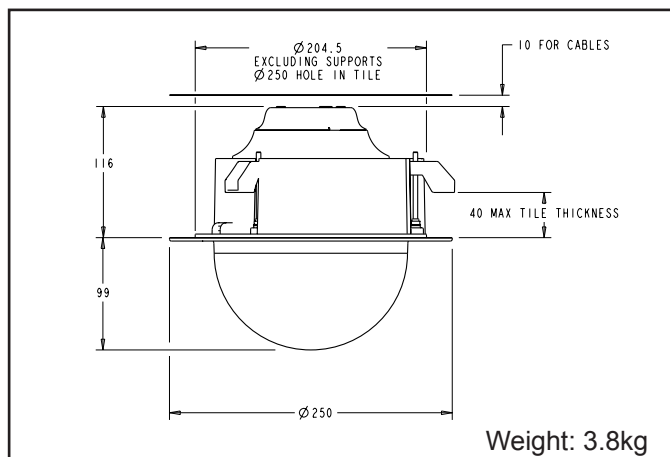
External Soffit



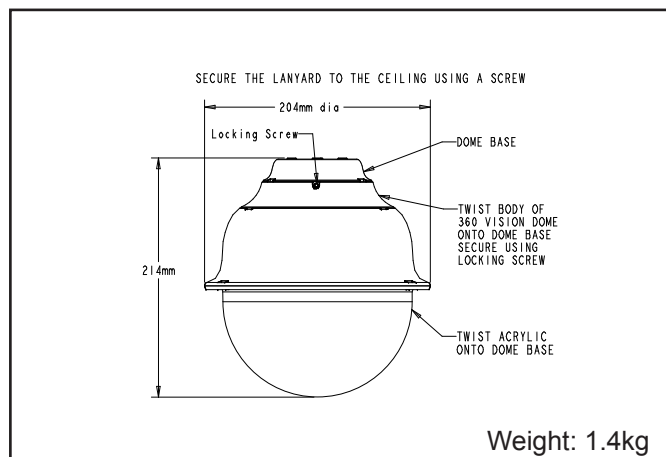
External Wall



External Swan Neck

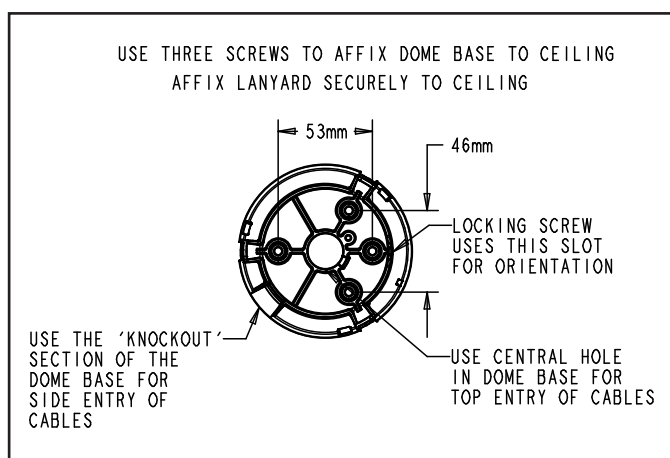


Internal False Ceiling

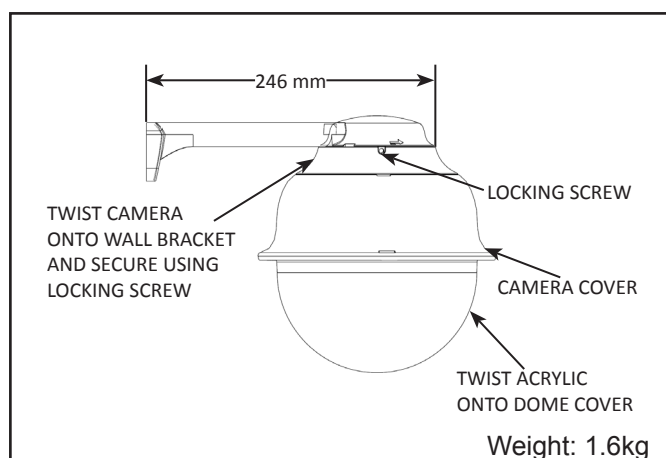


Internal Pendant

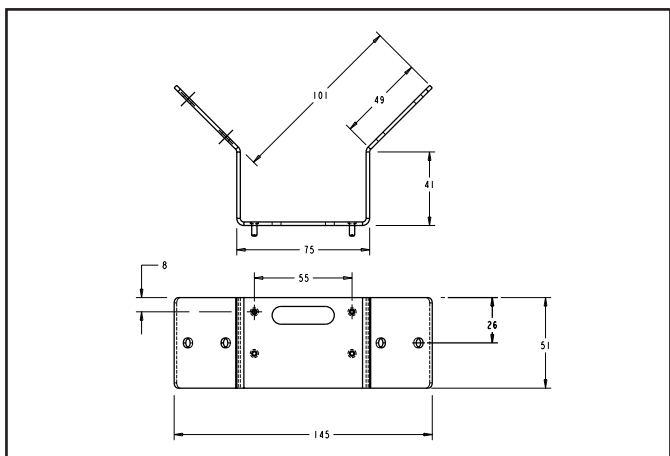
3 Bracket Dimensional Drawing



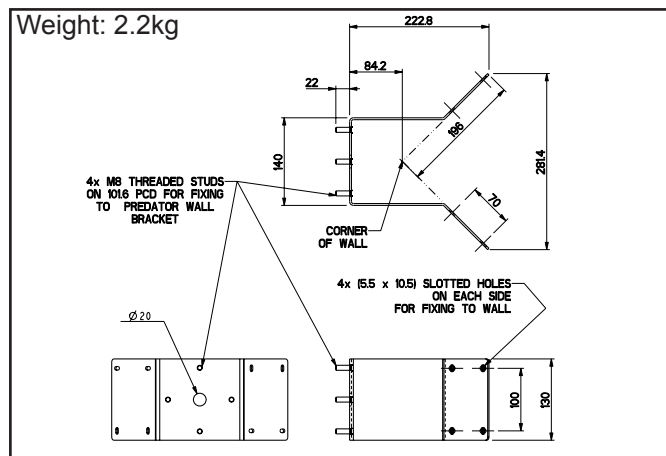
Internal Pole Bracket



Internal Wall Bracket



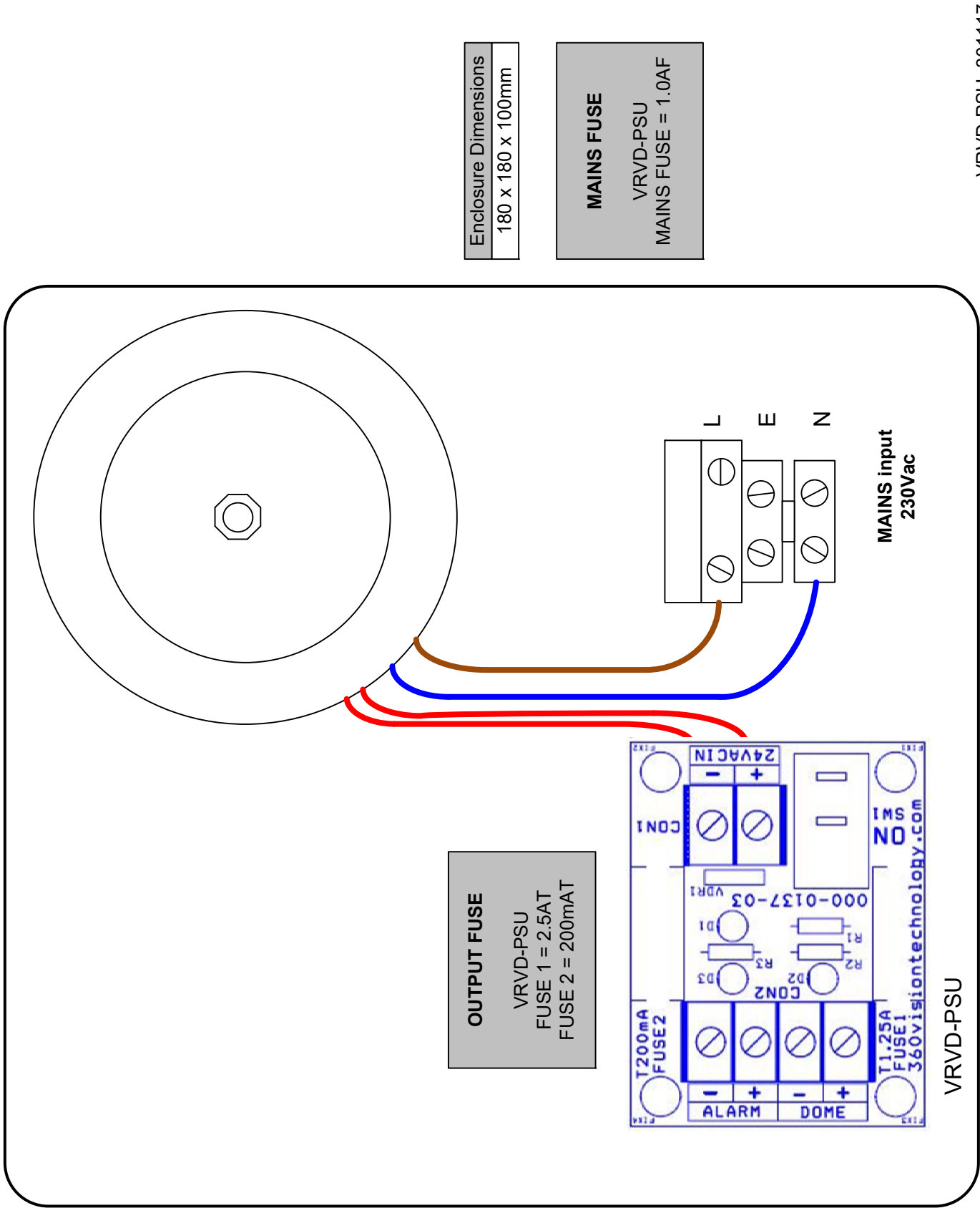
Internal Corner Bracket



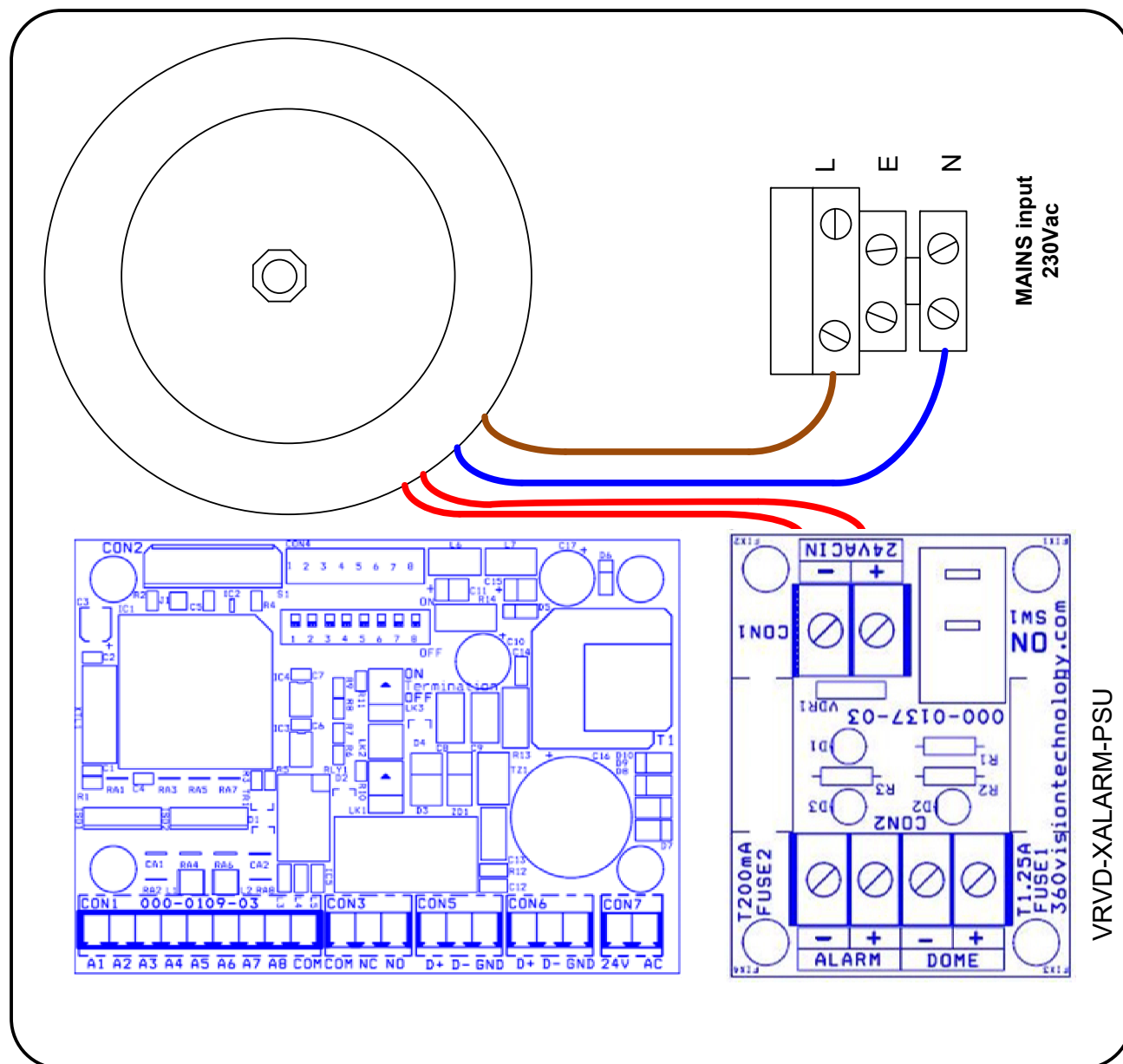
External Corner Bracket

Please use the appropriate fixings to suit the weight of the camera housing used.

4 Connections



VRVD-PSU_301117



OUTPUT FUSE

VRVD-XALARM-PSU
FUSE 1 = 2.5AT
FUSE 2 = 200mA

The VRVD-XALARM-PSU has eight normally open/normally closed (Dilswitch S1, switch 8 on) alarm inputs on connector CON1 on the alarm PCB. When using normally closed contacts, all un-used alarm inputs must be connected to alarm in common CON1. Connect switches or volts free relay outputs from PIRs or other equipment to CON1 connector so that the terminal labelled COM is connected to the appropriate alarm input (A1 to A8) when the alarm contact is activated. There is also an alarm relay which can be used to activate alarms on other equipment (DVRs etc.). The alarm relay contacts (Common – ‘C’, Normally Open – ‘NO’ and Normally Closed – ‘NC’) use connector CON3 on the alarm PCB.

When an alarm is activated, the ALARM PCB will activate the alarm relay output and will send commands to set the Visiondome to activate ‘alarm mode’. The Visiondome will save the current status (pan, tilt, lens, tour and mimic) then it will seek the preset which corresponds with the active alarm number.

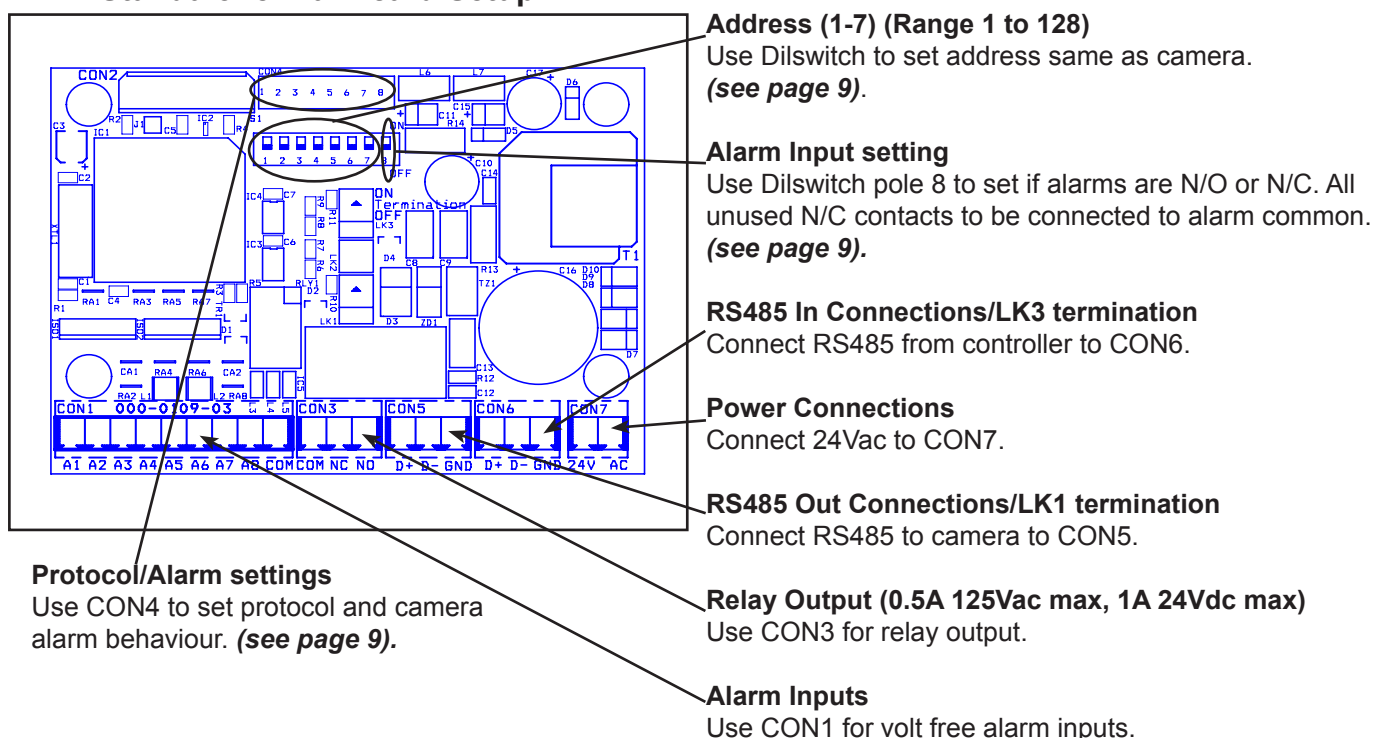
Alarm Number	Preset Number	Alarm Number	Preset Number
1	1	5	5
2	2	6	6
3	3	7	7
4	4	8	8

The alarm will remain active while the alarm input is active. After the alarm input becomes inactive, a 10 second alarm timer will start. The timer extends the alarm activity until the alarm timer expires. If the alarm input becomes active again before the timer has expired, the timer resets and will restart again when the alarm input becomes inactive and a further preset seek command is sent to the Visiondome.

If an alarm is active and a further alarm becomes active, the latest alarm will interrupt the previous alarm. (i.e. the latest alarm has highest priority) The Visiondome will seek the preset that corresponds with the new alarm. When the contacts become inactive, the Visiondome will seek the preset that corresponds with the previous highest priority alarm that is still active. When all alarms inputs are inactive the alarm timer starts. After the timer expires, the Alarm PCB sends a command to the Visiondome to end the ‘alarm mode’ and the Visiondome will return to the status position and action that had been saved when first alarm became active. (Fit a link on the alarm card CON4 position 7 to disable the automatic return to the pre-alarm status when all alarms and the alarm time have expired).

When an alarm is active and the Visiondome has automatically selected the appropriate preset, it is possible to send further commands (i.e. manual control) to the Visiondome which will override the preset which had previously been automatically selected. Each time an automatic preset seek occurs as described in the previous paragraph; the manual control will be interrupted.

4.1 Standalone Alarmcard Setup

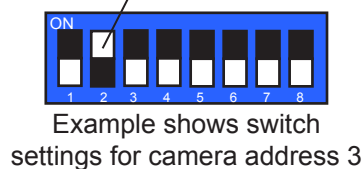


Dil Switch Settings	1-7
Address 1 to 128 range	See below

Dil Switch Settings	8
Normally Open Contacts	Off
Normally Closed Contacts (un-used inputs must be connected to common)	On

RS485 Address Settings

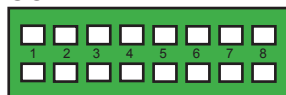
Switch is shown as white.



	01		17		33		49
	02		18		34		50
	03		19		35		51
	04		20		36		52
	05		21		37		53
	06		22		38		54
	07		23		39		55
	08		24		40		56
	09		25		41		57
	10		26		42		58
	11		27		43		59
	12		28		44		60
	13		29		45		61
	14		30		46		62
	15		31		47		63
	16		32		48		64

CON4 Settings

CON4



Protocol Settings	3	4	5	6
360 Vision	Off	Off	Off	Off
Pelco D 9600 baud	On	Off	Off	Off
Pelco D 4800 baud	Off	On	Off	Off
Pelco D 2400 baud	On	On	Off	Off
Pelco P 9600 baud	Off	Off	On	Off
Pelco P 4800 baud	On	Off	On	Off
Pelco P 2400 baud	Off	On	On	Off

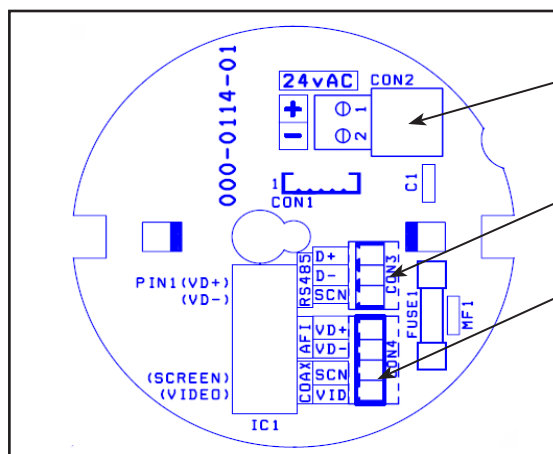
Suitable cables

	Cable Size	Internal Visiondome Maximum Distances (Using VDI-PSU)	Visiondome VR Maximum Distances (Using VRVD-PSU)
Power	0.75mm ²	75 metres	30 metres
	1.00mm ²	100 metres	40 metres
	1.25mm ²	125 metres	50 metres
	1.50mm ²	150 metres	60 metres
	2.00mm ²	250 metres	100 metres

To ensure optimum Visiondome performance these parameters must be adhered to. Failure to do so will invalidate the warranty.

Internal Vision i Dome/VisionDome Connections

The connection board is located at the top of the dome.

**Coax Video Connection board****Power Connections**

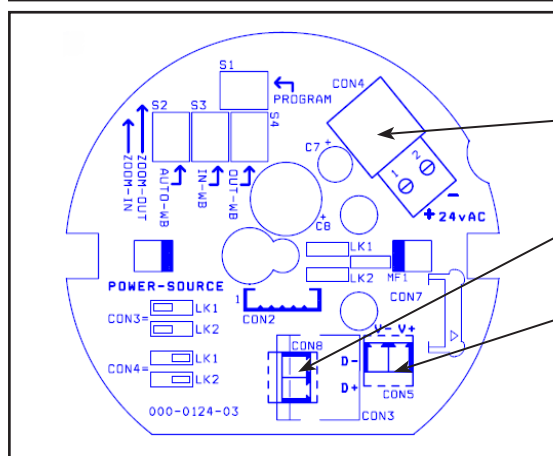
Connect 24Vac to CON2.

Data Connections

Connect RS485 (D+/D-) to Dome connection board using CON3.

Video Connections

Connect Video Coax cable (Video/Gnd) to Dome connection board using CON4.

**Active Balun Twisted Pair Video Board (Screw Terminal version)****Power Connections**

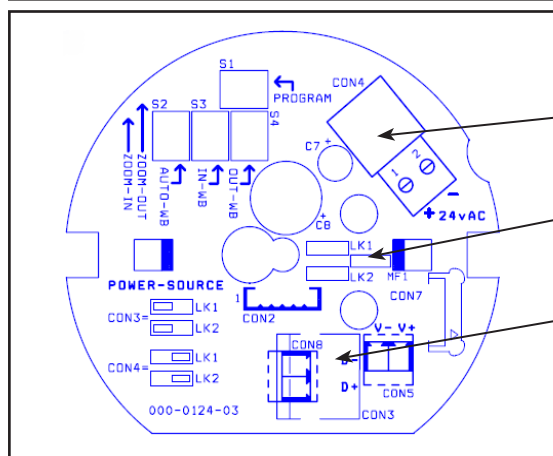
Connect 24Vac to CON4.

Data Connections

Connect RS485 (D+/D-) to Dome connection board using CON8.

Video Connections

Connect Twisted Pair Video Signal cable (V+/V-) to Dome connection board using screw terminal CON5. A Twisted Pair Video balun is required to suit cable length to receive video signal.

**Active Balun Twisted Pair Video Board (RJ45 Connector version)****Power Connections (if Required)**

Connect 24Vac to CON4.

LK1 & LK2 can be used to switch power into the camera from the RJ45 (CON3) to the two way screw connector (CON4).

Power, Video & Data Connections

Connect cable to RJ45 CON3. (Twisted Pair Video Signal Only). A Twisted Pair Video balun is required to suit cable length to receive video signal. Wiring/connection diagram shown below.

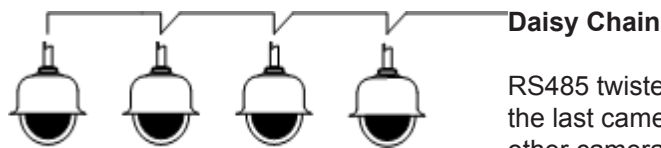
RJ45	CAT5, CAT5e, CAT6 Cable	Signal
Pin 1	White with Orange Band	Video +
Pin 2	Orange	Video -
Pin 3	White with Green Band	RS485 D+
Pin 4	Blue	AC+
Pin 5	White with Blue Band	AC+
Pin 6	Green	RS485 D-
Pin 7	White with Brown Band	AC-
Pin 8	Brown	AC-

RJ45 CON3 Connections

A Twisted Pair Video balun is required to suit cable length to receive video signal.

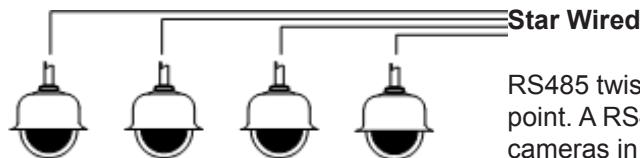
5 Basic Twisted Pair/RS485 Data Wiring

The Vision i Dome and VisionDome are capable of being controlled by either Coax Telemetry or Twisted Pair Telemetry (RS485). Below are wiring configurations for two wiring formats used for Twisted Pair Telemetry (RS485). The Visiondome VR camera is not RS485 end of line terminated, a 120Ω resistor across D+ and D- must be used if the camera is fitted at the end of the RS485.



Daisy Chain

RS485 twisted pair cable is wired to each camera in a “chain”. Only the last camera is to have the RS485 (end of line) termination on, all other cameras in the chain must have the RS485 termination off. See Section 7 for the relevant product, termination switch settings.



Star Wired

RS485 twisted pair cable is wired to each camera in a “star” from one point. A RS485 star driver/data distribution product must be used. All cameras in this wiring configuration must have the RS485 (end of line) termination on. See Section 7 for the relevant product, termination switch settings.

6 Visiondome VR Protocol/Address setup.

All Visiondome VR cameras are supplied set to 360 Vision protocol, camera twisted pair address 1. When the Visiondome VR is switched on, an OSD (On Screen Display) is shown on the image from the camera for approx 20 seconds.

PRO:360VTL CAM:0001 S
Visiondome VR Software Version

PRO: Protocol being used for telemetry (e.g. 360 Vision Technology Ltd)

CAM: Camera RS485 ID (e.g. Cam 1)

S or L: Short or Long cable run. Use the utility to set whether the coax used to send video is under or over 300m.

Second Line: Shows the Visiondome VR Software Version loaded into the camera.

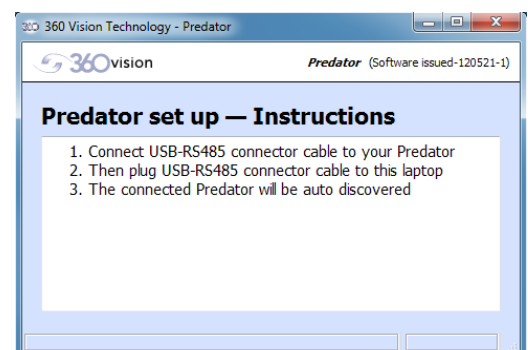
To change the above settings in the camera, 360 Predator utility software, a USB/RS485 cable (PRED-USB-485) and a laptop are required.

The Predator utility and PRED-USB-485 cable drivers can be found on the CD (shipped with the camera) or on the 360 Vision Technology web site (www.360visiontechnology.com/downloads).

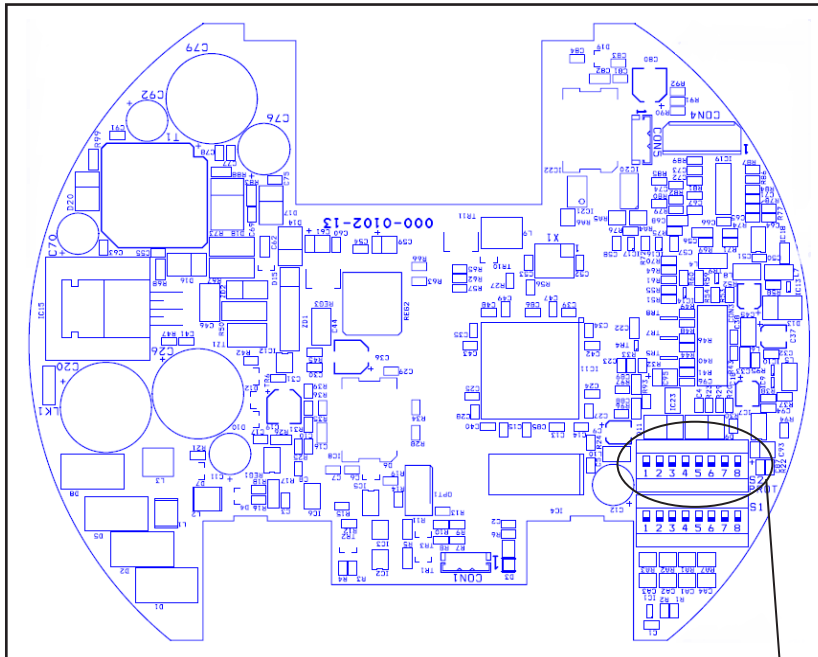
Install the software (Predator-issued-120521-1-installer.exe) on the laptop being used. Connect the RS485 end of the cable fitted with a 3 way connector to the Visiondome VR RS485. Run the utility on the laptop and then connect the USB end of the cable into the laptop. The utility will then look for new comms ports and then will look for the camera across all baud rates used.

Settings that can be altered from this software are:

- Protocol: 360 (Coax/RS485), Pelco P 2400/4800/9600, Pelco D 2400/4800/9600, Pelco Coaxitron (Extended version), VCL (Coax/RS485), Ultrak (RS485), Forward Vision (RS485), BBV/DENNARD C (FSK Coax), MARK MERCER (FSK Coax), Molyntx (RS485)
- Coax Cable length: Longer than 300m or shorter than 300m.
- RS485 Address: Used on RS485 systems only.



7 VisioniDome



7.1 Protocol Switch (S2)

Dil Switch Settings	1
Not used	Off
Not used	On

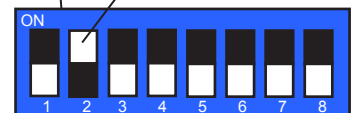
Dil Switch Settings	2
RS485 Termination Off (Not last camera in chain)	Off
RS485 Termination On (Last camera in chain)	On

Dil Switch Settings	3	4	5	6
360 Vision (Coax or RS485)	Off	Off	Off	Off
Pelco D 9600 baud (or Coaxitron Extended)	On	Off	Off	Off
Pelco D 4800 baud (or Coaxitron Extended)	Off	On	Off	Off
Pelco D 2400 baud (or Coaxitron Extended)	On	On	Off	Off
Pelco P 9600 baud (or Coaxitron Extended)	Off	Off	On	Off
Pelco P 4800 baud (or Coaxitron Extended)	On	Off	On	Off
Pelco P 2400 baud (or Coaxitron Extended)	Off	On	On	Off
BBV/Dennard (FSK Coax)	Off	Off	Off	On
Mark Mercer (FSK Coax)	On	Off	Off	On
Ultrak (RS485)	On	On	Off	On
VCL (Coax or RS485)	On	On	On	Off
Forward Vision	Off	Off	On	On
Molynx (Coax)	On	Off	On	On

Dil Switch Settings	7
Not used	Off
Not used	On

Dil Switch Settings	8
Not used	Off
Not used	On

Switch is shown as white.



Example shows switch settings for RS485 termination On, 360 Vision Protocol,

7.2 Address Switch (S1)

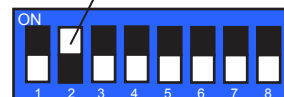
Dil Switch Settings	1-8
Dome Address 1 to 256 range	See below

8 RS485 Address Settings

Use S1 on the VisionDome for addressing.

Use S2 on the Vision i Dome for addressing (Limited to 128).

Switch is shown as white.



Example shows switch settings for camera address 3

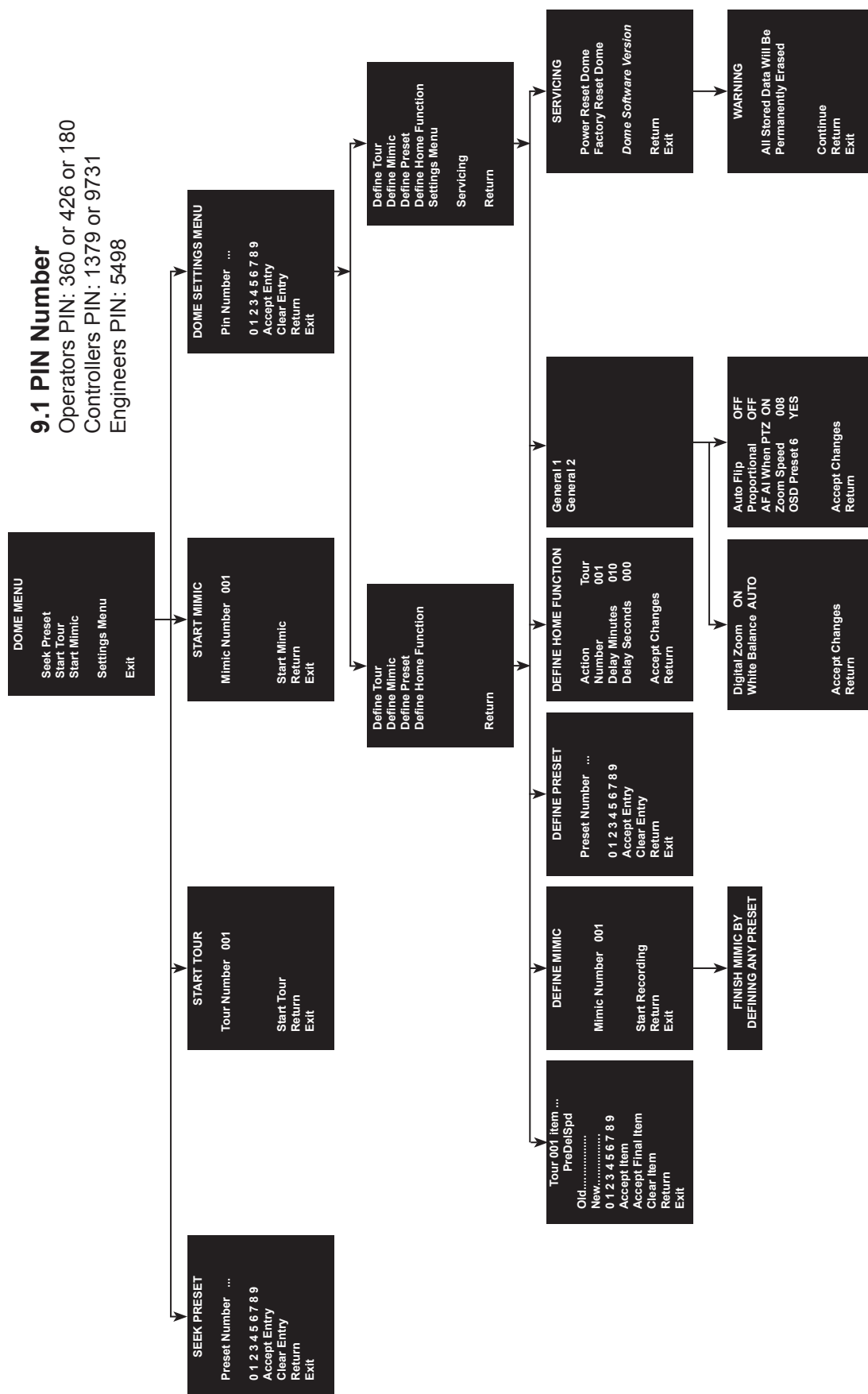
	01		17		33		49
	02		18		34		50
	03		19		35		51
	04		20		36		52
	05		21		37		53
	06		22		38		54
	07		23		39		55
	08		24		40		56
	09		25		41		57
	10		26		42		58
	11		27		43		59
	12		28		44		60
	13		29		45		61
	14		30		46		62
	15		31		47		63
	16		32		48		64

Vision i Dome Configuration

9 Vision i Dome OSD

OSD (On Screen Display) is accessed by defining/programming preset 6 or 95.

- Use the joystick up, down, left and right to navigate the menu.
- Use the joystick zoom in to highlight/select an option.
- Use joystick left and right to increment/decrement numbers.

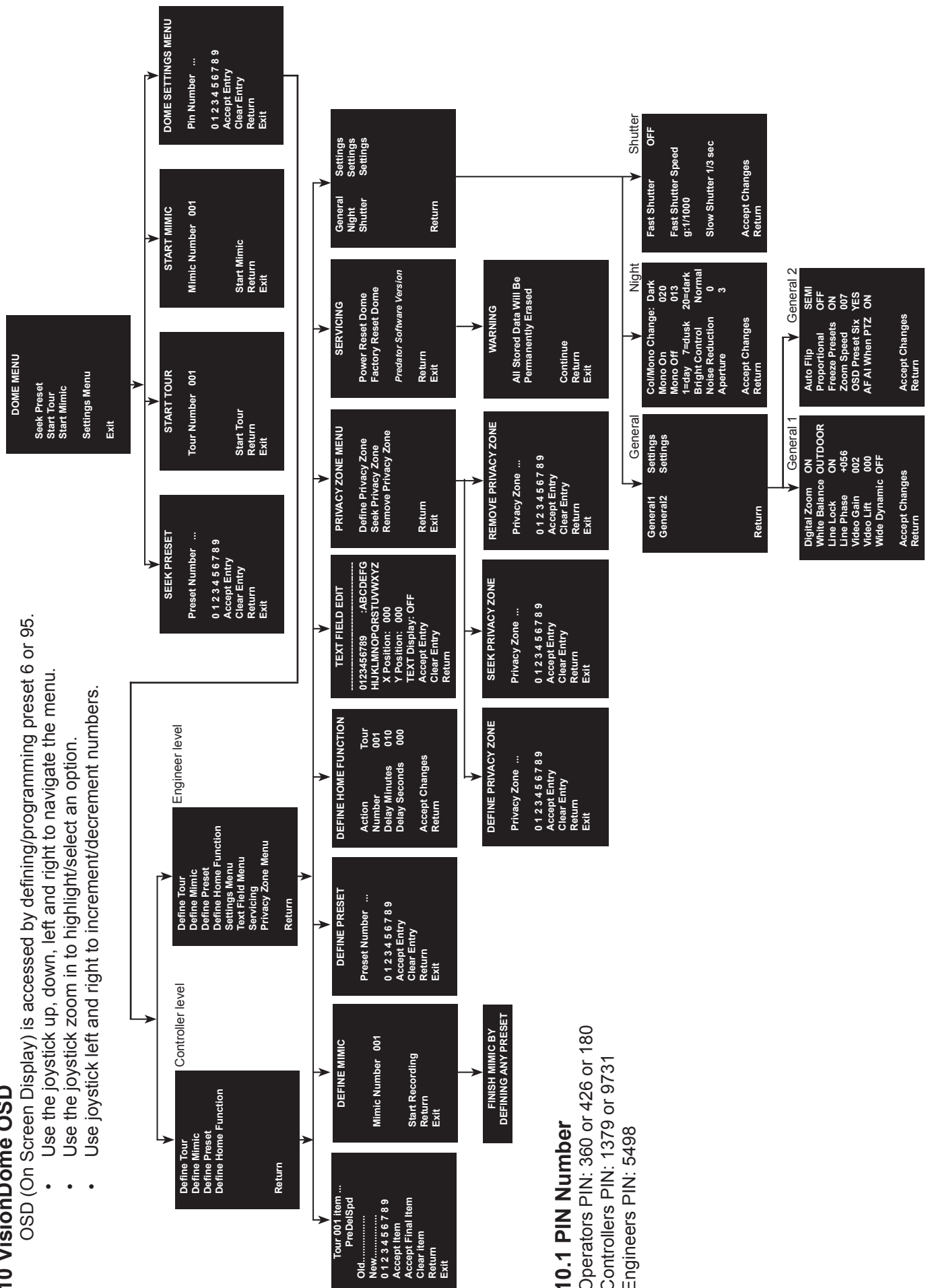


VisionDome VR Configuration

10 VisionDome OSD

OSD (On Screen Display) is accessed by defining/programming preset 6 or 95.

- Use the joystick up, down, left and right to navigate the menu.
- Use the joystick zoom in to highlight/select an option.
- Use joystick left and right to increment/decrement numbers.



10.1 PIN Number

Operators PIN: 360 or 426 or 180

Controllers PIN: 1379 or 9731

Engineers PIN: 5498

11 OSD Operation/Navigation

Dome menu

- Seek Preset
- Start Tour
- Start Mimic
- Settings Menu

Define Tour

A tour of presets is stored in the VisionDome as a list of tour points. Each tour point consists of a preset number, the dwell time for which the VisionDome will pause and the speed parameter that will be used to seek the preset. Each of the four tours of presets can contain between 2 and 360 points.

When programming a tour of presets it is necessary to first store all the required presets into the VisionDome and to define the required dwell times and speeds of travel that you will require the VisionDome to use when the tour is started.

A maximum of four individual tours of presets can be stored in each VisionDome. Each tour can have between 2 and 360 points, each point can be a preset in the range 1 to 360 (36 presets for the Vision i Dome). Different points can use any preset number, including repeats of ones that have been used before. The speed that the camera will travel at to reach the preset can be in the range 1°/sec (slowest) to 100°/sec (fastest). To seek the preset at maximum speed, set speed to 0. The delay (dwell) at each point is defined in seconds, range 1 to 100.

This page will open on Tour 1, use the joystick left and right to change to another tour. To add item 1, use the joystick to tilt down. This will highlight the number line so that the tour can be programmed. Use the joystick to navigate along the number line and zoom in to select the number. This will add the number in to the NEW tour. Add in the figures for the item/point in the tour using the sequence labelled above (PREDELSPD. PRE is preset position, DEL is delay in seconds and SPD is speed at °/second). This is how the camera will be programmed to move to a preset for a period of time at a set speed. All nine figures must be added into the item. Figures must be added in three i.e. preset 21 will be added as 021.

Example of an item/point

021005100 = Move to preset 21 for 5 seconds at 100°/sec

Highlight ACCEPT ITEM and zoom in, this will add the item/point into the tour. The OLD item/point will be shown on the screen. If these settings are acceptable, highlight the ACCEPT ITEM option and zoom in. There is no need to add in these points again. Keep adding points until the tour is complete. On the final item/point of the tour highlight and zoom in on ACCEPT FINAL ITEM. This will complete the tour programming.

Define Mimic

When a mimic tour is started, the VisionDome will perform all the actions which were defined when the mimic was programmed. Up to four mimic tours can be defined.

Before going into the OSD screen to programme a Mimic tour it is recommended to move the camera in to the start position, any movement or delay will be recorded once the recording has started.

Highlight and zoom in on START RECORDING, this will allow a mimic tour to be programmed into the camera. The mimic tour can then be used to playback any manual movement, preset seek or delay. Program a preset to end the mimic tour program.

Define Preset

Before going into the OSD screen to programme a preset, the camera must be in the position required. Once in the OSD you cannot manually move the camera.

Define Home Function

The camera will perform an ACTION (goto preset, start preset or mimic tour), after a period of inactivity. Use the NUMBER option to set which preset or tour to start, and the DELAY MINUTES/SECONDS to input the inactivity time period.

Settings Menu

General Settings

General 1

- Digital Zoom - Use this option to enable or disable digital zoom.
- White Balance - Change the camera white balance settings to suit the area.
- Line Lock - (Not available on Vision i Dome) Used to line lock the camera.
- Line Phase - (Not available on Vision i Dome) Can be used to manually adjust the line phase.
- Video Gain - (Not available on Vision i Dome) Used to adjust the video level to suit different lengths of coax cable.
- Video Lift - (Not available on Vision i Dome) Used to adjust the frequency of the video level to suit different lengths of coax cable.
- Wide Dynamic - (Not available on Vision i Dome) Enable WDR. Options available are ON, Auto and Off. Default is off.

General 2

- Auto Flip - Use this option to set how the camera behaves when full tilt down is reached.
Semi - Requires a second tilt down command, when at full tilt down to spin camera 180°.
Full - Automatically spins the camera 180°
- Proportional - Automatically reduces/increases pan/tilt speed depending on zoom ratio.
- Freeze Presets - (Not available on Vision i Dome) This option freezes the image, when moving between presets.
- Zoom Speed - Use to set preferred zoom speed, 5 is slow and 8 is fast.
- OSD Preset Six - Go into OSD using preset 95 and you can switch off OSD access using preset 6.
- AF AI When PTZ - Auto focus/iris will activate when PTZ is used, can be switched off. Default is on.

Night (Not available on Vision i Dome)

- Col/Mono Change - Col/Mono level settings can be changed to suit the site requirements. Options are dark, medium and light. Default is dark. This sets when the camera goes into 'mono mode'.
- Mono On - Range is 7 to 25. A lower value will set the level on when the scene is brighter, a higher value will set the level on when the scene is darker.
- Mono Off - Range is 1 to 20. A lower value will set the level off when the scene is brighter, a higher value will set the level off when the scene is darker.
- Bright Control - Options are automatic or normal.
- Noise Reduction - Used to reduce noise with scenes of low illumination. NR must be set to suit the environment. Default is off.
- Aperture - Can be used to increase the picture detail. Default is 3.

Shutter

- Fast Shutter - Option to enable fast shutter and set speed of the shutter.
- Slow Shutter - Option to alter the slow shutter speed. Altering this figure will have an effect on the low light capabilities of the camera.

Text Field Menu (Not available on Vision i Dome)

Navigate along alpha-numeric characters and use zoom in to select. Choose text position by inputting x and y co-ordinates. Set text display to on, if required.

Servicing

- Power Reset - This will reboot the camera, no settings will be lost.
- Factory Reset - This will reboot the camera and all the settings will be lost.
- Dome Software Version - This shows the software version of the camera.

Privacy Zone Menu (Not available on Vision i Dome)

Can be used to obscure a scene within an image e.g. private residence. Move the camera to the position required for the privacy zone before going into the camera OSD. You cannot manually move the camera once in the OSD. Use the zoom to set the size of the privacy zone. Privacy zone will cover the whole scene viewed when set.

- Define Privacy Zone - Used to set a privacy zone.
- Seek Privacy Zone - Used to seek a privacy zone.
- Remove Privacy Zone - Used to remove a privacy zone.

12 Important - Care of Painted Surfaces

The powder coating applied to the VisionDome external housing is recognised as being in the forefront for quality and finish. However, in order to preserve the aesthetic finish it is recommended that the coating is regularly cleaned.

Regular cleaning on a maximum three month interval, using warm and mild detergent must be undertaken. Abrasive cleaners including strong solvent must NOT be used at any time.

In areas where the coating may come in contact with concentrated atmospheric pollutants [marine, chemical and especially bird droppings] it would be prudent to clean more frequently e.g. monthly.

Full documentation of the cleaning schedule MUST be maintained to ensure that a warranty claim can be considered.

If damage occurs to the coating (e.g. the VisionDome is dropped, scrapped etc), repairs MUST be carried out immediately.

When the VisionDome is installed in areas where there is a high risk of damage from birds or their droppings, additional precautions and measures should be used to keep the birds away from the VisionDome e.g. fit anti-bird spikes.

13 Storage and Handling

Visiondomes should be handled with care and must not be dropped. When Visiondomes are inside the transit packaging which is used for despatch from the factory, they should not be stacked to a height of more than two Visiondomes.

When Visiondomes are being stored before installation they should be kept in the transit packaging and located in a dry indoor environment preferably between 1°C and 35°C which is dry and dust free. Humidity should such that water vapour is non-condensing. Visiondomes can be allowed to be outside this range for short periods of time (24 hours maximum) for transport (e.g. in aircraft or vans) but must never be allowed to be outside the normal operating temperature range of -40°C to +60°C even during storage.

Before installation the Visiondome should be clean and dry. (If necessary it should be cleaned and dried taking care that the cover is not scratched).

14 Warranty

This information and/or any technical information – whether received verbally or writing – is given in good faith but without warranty and this also applies where proprietary rights of third parties are involved. The information provided does not release you from your obligation to check its validity and to test the products suitability for the intended purpose(s) and use(s). The application, use and installation of the products either in isolation or in conjunction with other products used, provided and installed by you on the basis of the technical advice issued are beyond our control and therefore remain entirely your own responsibility.

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