ernitec

ASTRAL

3" Mini Dome

Installation

Programming

Manual

3040-00040

Dear Customer,

Thank you for purchasing the Ernitec ASTRAL 3" Mini Dome. Details of ASTRAL and other Ernitec products are available either from Ernitec, your nearest distributor, or the Ernitec Web page www.ernitec.com

Yours faithfully,
Ernitec A/S

Your ASTRAL 3" Mini Dome

You should receive with your ASTRAL, the following materials:

- Connection cable
- Power Supply
- Mounting plate
- This Manual

Versions

The following ASTRAL versions are available.

- ASTRAL 112: PAL camera, 3.7mm lens.
- ASTRAL 114: PAL camera, 6mm lens.
- ASTRAL 112-N: NTSC camera, 3.7mm lens.
- ASTARL 114-N: NTSC camera, 6mm lens.

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1. Overview

The ernitec 3” mini PTZ Dome camera is state of the art design with compact structure and easy installation, especially suitable for the middle or small surveillance market. The mini Dome can be controlled from the Ernitec keyboards, DVR and matrix range

2. Features

- High Sensitivity colour Camera
- Pan/Tilt with variable speed
- Auto Pan
- 64 Programmable Presets
- Pattern recording
- Preset sequence mode
- 380 TVL Resolution
- 1/4-inch 330,000 Pixel CCD

3. Precautions

Shipping/storage

The ASTRAL is a sophisticated product and should be protected against extreme pressure, temperature, vibration and humidity, during storage and shipment.

Installation

The ASTRAL is designed for indoor ceiling mount only.

Cleaning

To obtain best possible picture reproduction, the sphere should be cleaned periodically.
Do never touch the sphere, and clean it carefully using a soft clean cloth with a little neutral detergent.

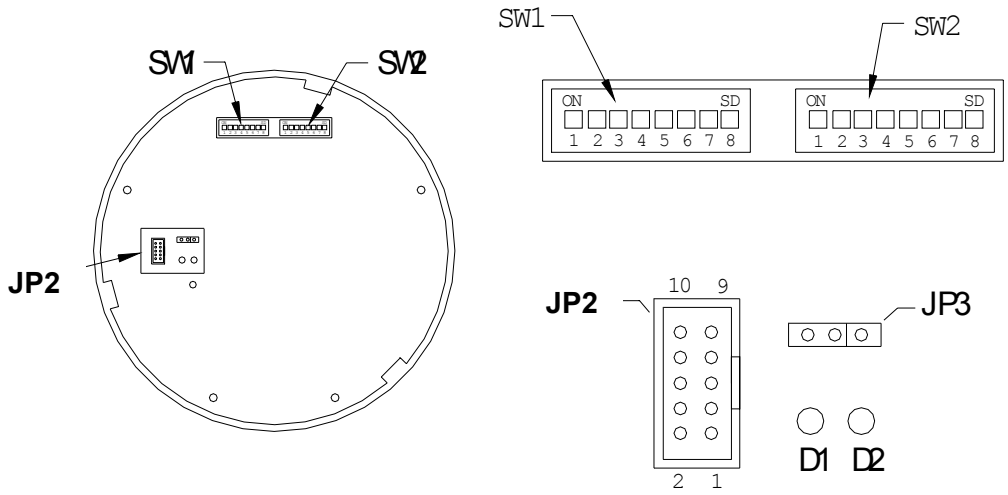
Excessive light sources

The dome camera should never be left pointing directly towards the sun or other extremely bright light sources.

4. Installation

Switch settings

The ASTRAL has two sets of configuration switches, SW1 and SW2.



Protocol (SW2)

The ASTRAL Mini Dome should be set up to use the Ernitec PTZ protocol.
Other protocols are planned, and may be implemented in future versions.

Protocol	1	2	3	4	5	6	7	8
N/A	OFF	OFF	OFF	OFF				
N/A	ON	OFF	OFF	OFF				
N/A	OFF	ON	OFF	OFF				
N/A	ON	ON	OFF	OFF				
N/A	OFF	OFF	ON	OFF				
N/A	ON	OFF	ON	OFF				
N/A	OFF	ON	ON	OFF				
N/A	ON	ON	ON	OFF				
N/A	OFF	OFF	OFF	ON				
N/A	ON	OFF	OFF	ON				
N/A	OFF	ON	OFF	ON				
N/A	ON	ON	OFF	ON				
Ernitec	OFF	OFF	ON	ON				

Baud Rate (SW2)

The baud rate is set with SW2. 2400bps must be used with Ernitec control equipment.

Baud Rate	1	2	3	4	5	6	7	8
RS485							OFF	OFF
RS485							ON	OFF
RS485							OFF	ON

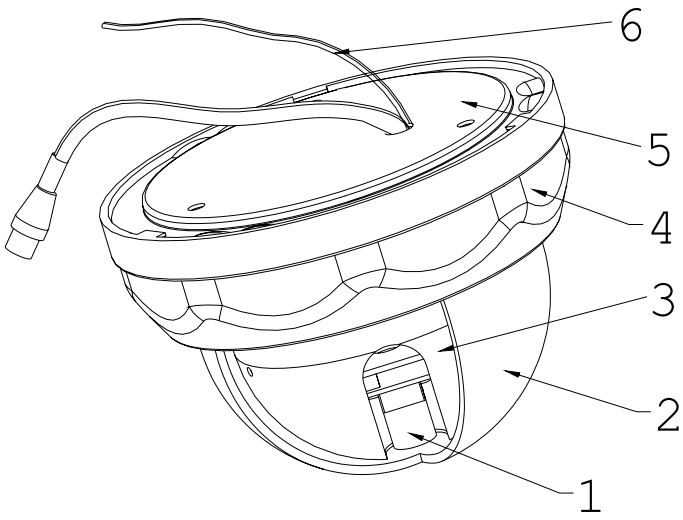
Address (SW1)

When controlling several Domes, each Dome must be assigned a unique address.

Address	1 (1)	2 (2)	3 (4)	4 (8)	5 (16)	6 (32)	7 (64)	8 (128)
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
100	OFF	OFF	ON	OFF	OFF	ON	ON	OFF
101	ON	OFF	ON	OFF	OFF	ON	ON	OFF
102	OFF	ON	ON	OFF	OFF	ON	ON	OFF
103	ON	ON	ON	OFF	OFF	ON	ON	OFF
104	OFF	OFF	OFF	ON	OFF	ON	ON	OFF
105	ON	OFF	OFF	ON	OFF	ON	ON	OFF
. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
249	ON	OFF	OFF	ON	ON	ON	ON	ON
250	OFF	ON	OFF	ON	ON	ON	ON	ON
251	ON	ON	OFF	ON	ON	ON	ON	ON
252	OFF	OFF	ON	ON	ON	ON	ON	ON
253	ON	OFF	ON	ON	ON	ON	ON	ON
254	OFF	ON	ON	ON	ON	ON	ON	ON

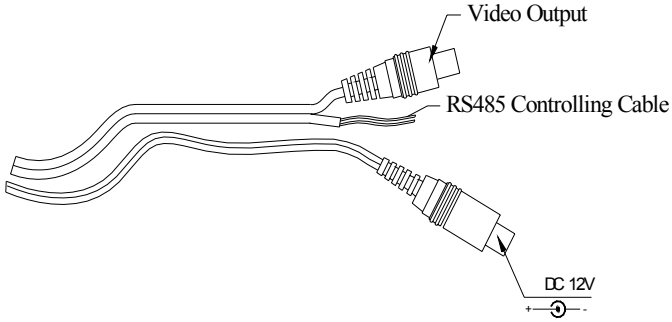
Installation

When installing the dome, please make sure that it is as far away as possible from high voltage cables, and other sources of interference.



1: Camera
2: Clear Sphere
3: Inner housing
4: Outer housing
5: Mounting plate
6: Connection cables

Connection cable

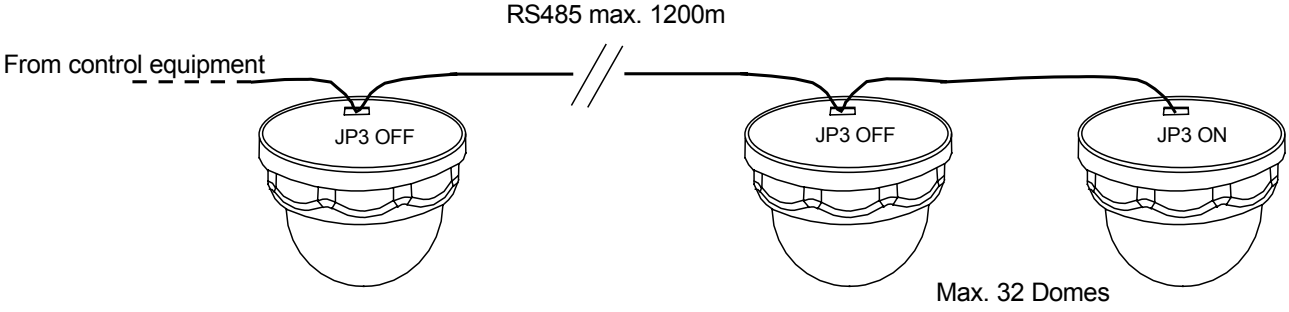


Video output

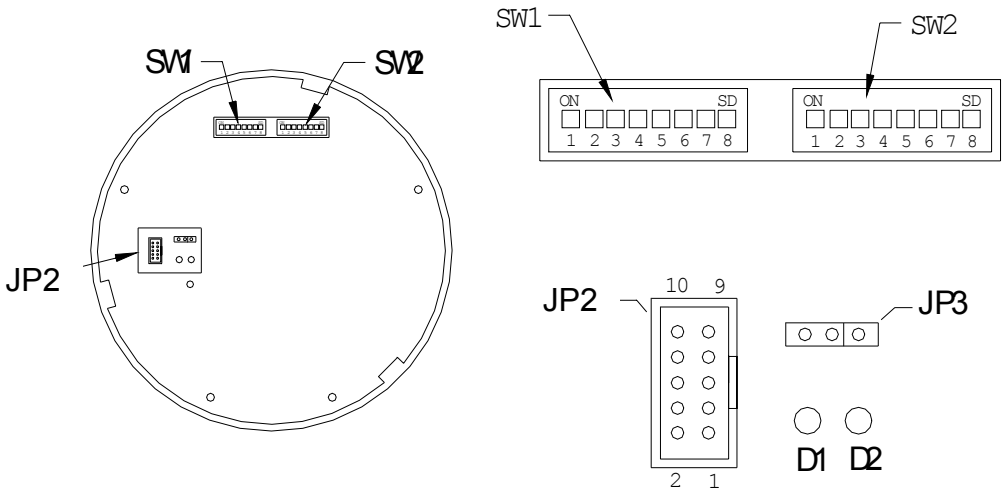
Connects to matrix, monitor, DVR, etc.

RS485 Control

Red wire: RS485 A(+)
Black wire: RS485 B(-)



Connections



JP2

The supplied connection cable plugs in to JP2.

Pin-out of JP2:

Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	In 10
+12VDC	+12VDC	GND	GND	Video	N/A	Video GND	GND	RS485+	RS485-

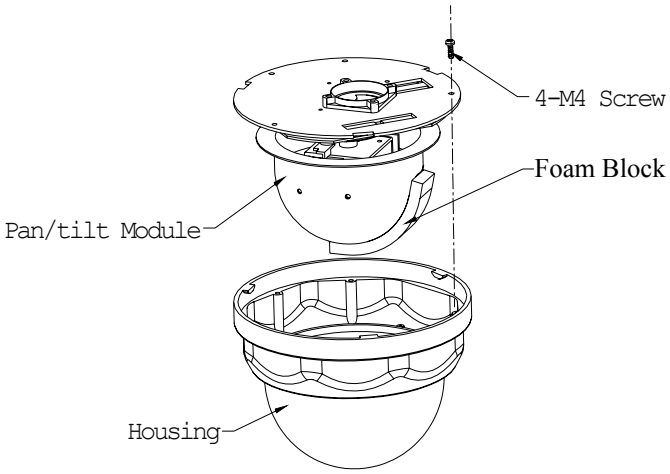
RS485 Termination (JP3)

The last dome on a Daisy-chain should be terminated with 120 ohm.
This is done by setting the link on JP3 to the 'ON' position. All other domes should have the link in the 'OFF' position.

LED D1 and D2

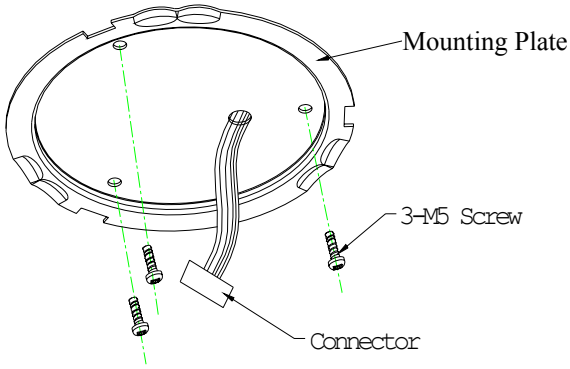
D1 is a power LED, and should be ON (red) when power is applied to the dome.
D2 is a data control LED, and should be flashing (green) when controlling the dome.

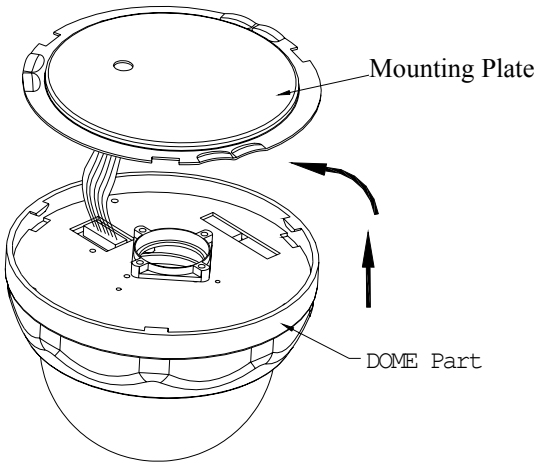
Ceiling mount



- Remove the 4 M4x10 screws and take out the pan/tilt module.
- Remove the protective foam block.
- Install the pan/tilt module again and fit the 4 M4x10 screws securely.

- Find a suitable ceiling location for the dome. Note that the dome interface board is marked with a narrow 'Unreachable Range'. This is the 5 degrees of view, which the dome can not cover.
- Cut a hole in the ceiling for the connection cables, and fit the mounting plate with 3 M5 screws suitable for the ceiling type.
- Thread the connection cables through the hole in the mounting plate and plug the connector in to JP2 on the interface board.
- Align the dome with the mounting plate and twist it securely in to place.





5. Operation

Only operations unique to the ASTRAL Mini Dome are described. For general operating instructions, please refer to the documentation of the control equipment used.
Some features may not be supported by all types of control equipment.

Operational features

- Manual pan/tilt operation.
- Up to 64 presets can be stored and called.
- Programmable preset tour.
- Auto Pan mode.
- Pattern recording. Up to 2 minutes of pan/tilt operation can be stored and replayed.

Pattern recording

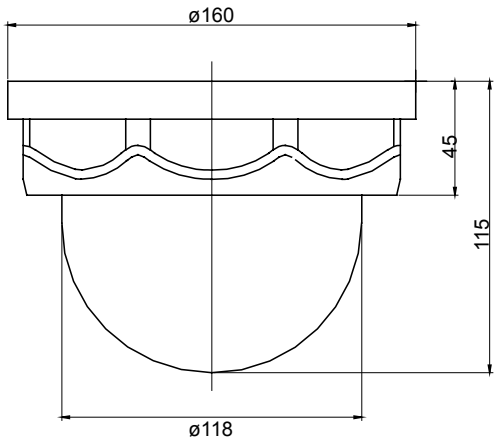
To start Pattern Recording, call [preset 115].
The Dome will now remember the next 2 minutes of pan/tilt operation, including any pauses made.
To stop Pattern Recording, save [preset 115].

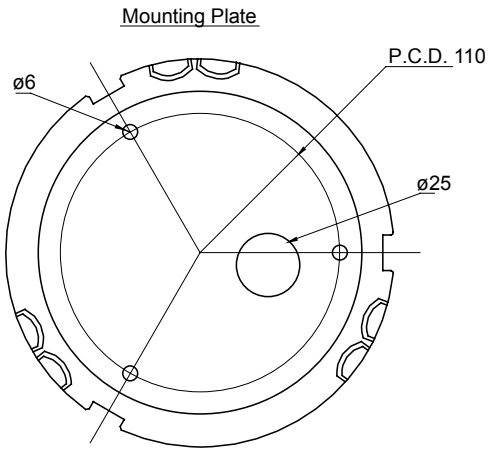
Pattern playback

To replay the stored pattern, call [preset 111].

6. Specifications

Power supply:	14VDC
Power consumption:	Approx. 1A
Camera:	1/4" colour
Synchronisation:	Internal
Scanning system:	Interlaced
Horizontal resolution:	380 TVL
Minimum illumination:	0.5 lux (without sphere)
Lens:	3.7 or 6mm
White balance:	Auto
AGC:	Auto
Video format:	PAL or NTSC
S/N ratio:	>52dB
Video output @75 ohm:	$1.0V_{pp} \pm 0.2V_{pp}$
Presets:	64
Auto pan range:	355°
Pan speed:	5 ~ 45° /sec.
Pan range:	0 ~ 355°
Tilt speed:	5 ~ 45° /sec.
Tilt range:	0 ~ 90°
Control interface:	Two-wire RS485
Baud rate:	2400, 4800, 9600, 19200bps
Weight:	700g
Humidity:	Max. 95% non-condensing
Environment temperature:	0° ~ 40°C





7. Ernitec Offices

Ernitec A/S (Headquarters)
Hørkær 24
DK-2730 Herlev
Denmark
Phone: +45 44 50 33 00
Fax: +45 44 50 33 33
ernitec@ernitec.dk
www.ernitec.com

Ernitec GmbH (German Branch Office)
Stormarnring 28
D-22145 Stapelfeld
Germany
Phone: (040) 67 56 25 0
Fax: (040) 67 56 25 25
ernitec@aol.com
www.ernitec.com

Ernitec UK (UK Branch Office)
Gerrard House
Worthing Road
East Preston
West Sussex BN16 1AW
England
Phone: 01903 77 27 27
Fax: 01903 77 27 07
sally@ernitec-uk.co.uk
www.ernitec.com

Ernitec France (French Branch Office)
No 29 arc Club du Millénaire
1025 rue Henry Becquerel
F-34036 Montpellier cedex 1
France
Phone: 04 67 15 10 15
Fax: 04 67 64 01 81
ernitec@ernitec.fr
www.ernitec.com

Ernitec ME (Middle East Office)
Hamra - Makdesi Street
Younis Center - 5th floor
Office no. 503
P.O.Box 113/5721
Beirut
Lebanon
Phone: +961 1 751 796
Fax: +961 1 751 795
malek_kabrit@ernitecme.com
www.ernitecme.com