V DMH User Manual

User Guide for the V DMH Optical/Thermal PTZ Camera

Table of Contents

Change History

Version	Date	Change Summary	Author
v1.0	10/10/2017	Existing Support Articles Compiled	RE

Warranty and Support

All Visual Engineering products are supplied as standard with a 12 month 'Return to Base' warranty.

Please note: Any unauthorised product disassembly, modification or the removal of tamper proof labels will void the warranty.

In the event of a suspected product failure, users should contact the Visual Engineering support team on the telephone number +44 (0) 1206 211842 or please email us at:

support@visualengineering.co.uk

Should the fault persist or if the support team are unable to resolve the fault, it may be necessary to return the equipment.

Equipment should only be returned using the RMA (Returns Management Authorisation) process. Users should contact the support team on the above number and request an RMA number.

Introduction

The V DMH is a fully IP67 sealed weather proof pan, tilt and zoom camera with internal heating and a rain/dust wiper.

The whole camera is extremely rugged and is designed specifically for high vibration environments such as large robotic or military vehicles.

The V DMH has internal slip rings for continuous horizontal pan and supports 195° of tilt.

It is designed to carry a range of thermal imagers, including the 320x240 imager with a frame rate of 9Hz.

The standard optical camera is the Sony FCB-EV7520, 30x optical zoom block camera. This camera exceeds 520 TVL resolution and operates under several low light modes. The video outputs of both cameras are available simultaneously.

Camera control is performed over a serial RS232/485 interface and various protocols are supported, giving the full range of pan, tilt and zoom functions, in addition to preset control over a wide range of camera parameters.

Integrated sensors allow the camera to monitor its pan and tilt angle and therefore has the ability to self correct its actual position if external forces act upon it.

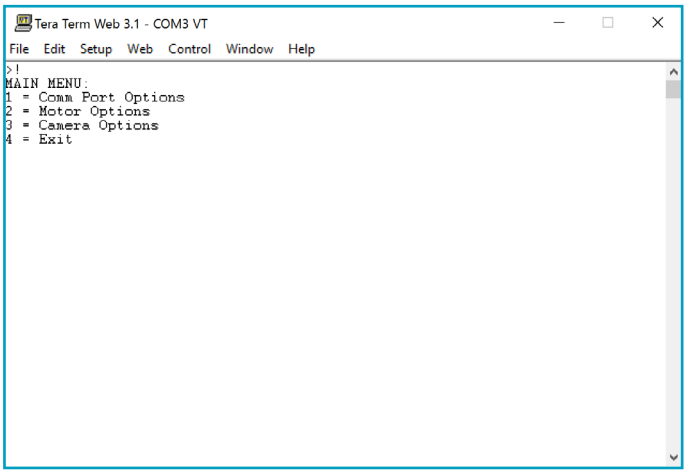
Configuring the Camera

The V DMH can be configured for a specific user profile, to include; communications, motor and camera settings. Once configured the camera will remember these settings.

The camera is configured using a menu structure on its control interface which is only accessible at power on. To access the control menu it is necessary to connect the camera to a serial comms software application, such as TeraTerm.

Boot Menu

- Connect the D-Type connector on the control cable to a Comm port on a PC.
- Open the terminal application and configure the Comm port to 9600 baud
- Re-power the camera, a > will appear and shortly after !
- As soon as the ! appears type ‘v’ ‘e’ in quick succession.
- The Main Menu shown on the right will then be displayed.
- Select the required option.
- The function of each option is described in the tables that follow.



Comm Port Options

Comm Port Options	
Description	**Options**
The serial comms standard	RS485 No Parity , RS232 No Parity, RS485 Odd Parity, RS232 Odd Parity RS485 Even Parity, RS232 Even Parity

Motor Options

Motor Options		
Sub Menu	**Description**	**Options**
Auto Position Correction	Whether the camera automatically corrects its actual position if external forces act upon it	Disabled, Enabled
Stall Detection	Detects a stall in the motor drive	Disabled, Enabled

Camera Options

Camera Options		
Sub Menu	**Description**	**Options**
Optical Camera Model	The type of Sony camera fitted to the unit at the time of manufacture	EX1020P, EV7520
Wide Angle Lens	Applicable for models where the additional wide angle camera is included	Disabled, Enabled
Thermal Camera	Selects the thermal camera model	Camera 1, Camera 2
Video Output	Only applicable to EV7520 model, selects the composite video standard output	PAL, NTSC

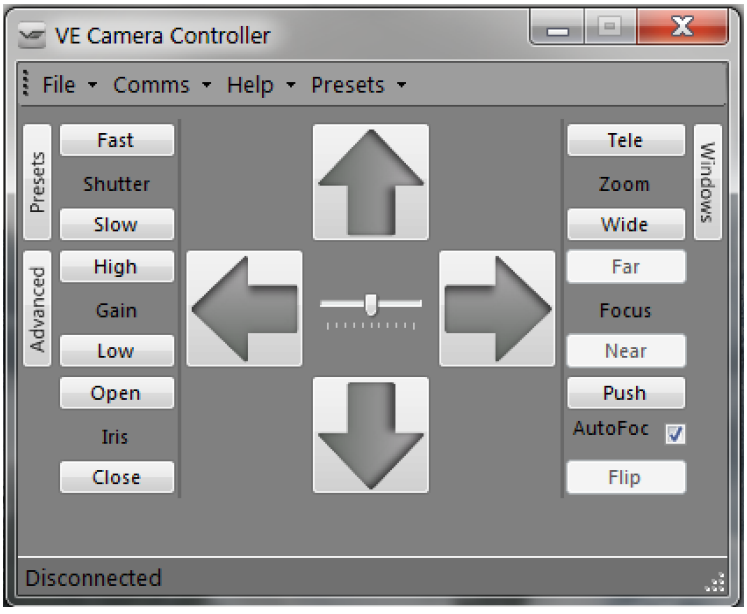
Software Control

The V DMH camera supports serial communication control over RS232 and RS485. It supports PelcoD, PelcoP & Sony Visca protocols.

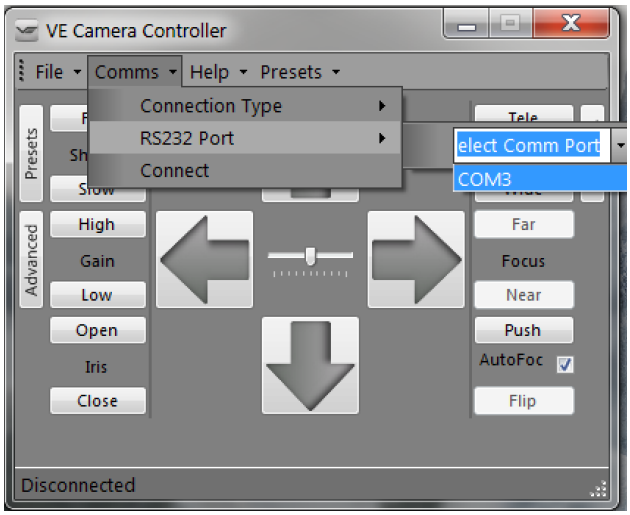
The user may choose to use a software controller of their choice or use the VE Camera Controller. This software application can be downloaded from the Visual Engineering website:

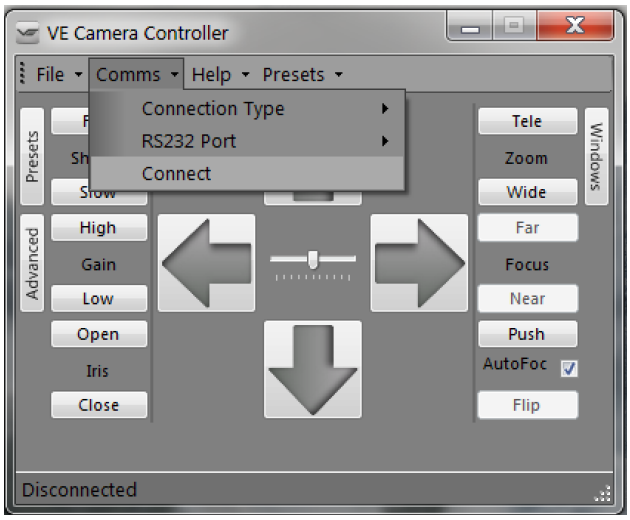
www.visualengineering.co.uk/supportdownload/9

The user should install the Software application on a PC. The image below shows what the software application looks like.

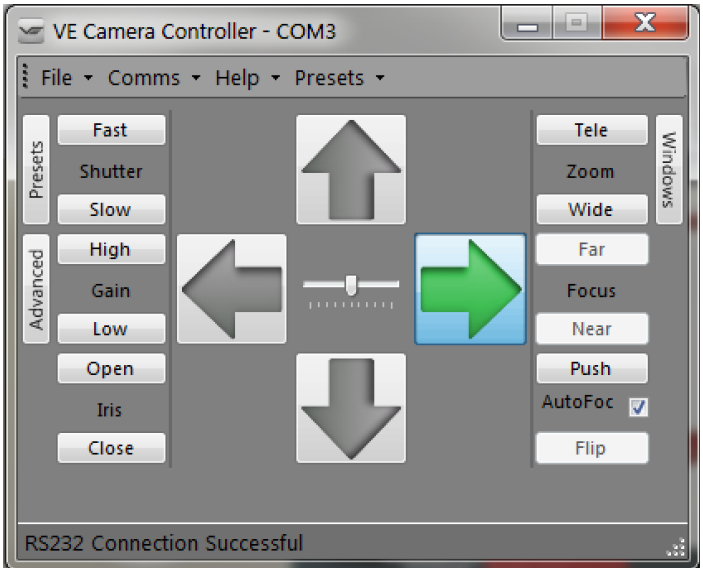


It is necessary to connect a USB to serial comms lead to the PC. The operating system of the computer will allocate this a COM port number.
Once this connection between the comms lead and the computer's operating system has been made the user can go ahead and connect the application to the COM port. In the example below the port COM3 has been selected. Now select Connect.





Now that the software application is connected to the comms lead the functions of the software can be used. In the example below the pan right command has been selected. This will cause the V DMH camera to pan right. Similar commands for pan left, tilt up & down and zoom functions can also be tried out using the intuitive software user interface.



Pinout

The V DMH is fitted with an Amphenol connector in the base of the camera. The pinout for the Amphenol connector is described in the table on the right.

Amphenol Connector	
Pin	**Signal**
1	+V
2	+V
3	Power GND
4	Power GND
5	Video 1
6	Video GND
7	Video 2
8	Video GND
9	232TX 485A
10	232RX 485B

Part Number

Part Number	
V DMH PTZ Camera	110-2809

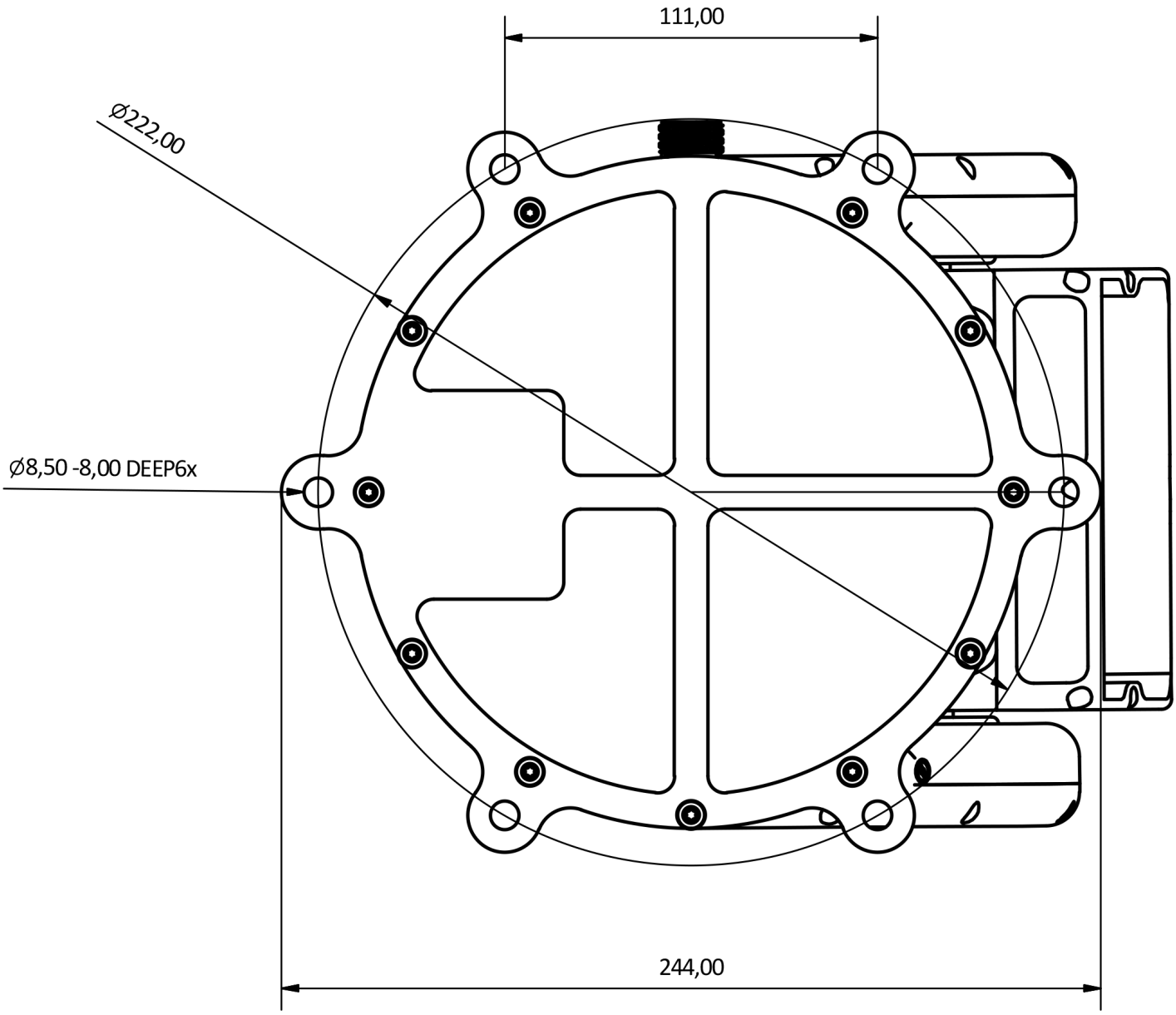
Specifications

Specifications			
Optical Sensor	1/2.8" FCB EV7520	**Tilt Range**	130° Up, 65° Down
Optical Resolution	2.4 MegaPixel	**Pan Range**	Continuous
Optical Sensitivity	<0.01 Lux Hi Sense on	**Power Requirements**	9-36VDC, 20W Unheated 50W Heated
Optical Zoom	30x	**Weight**	10kgs
Thermal Sensor	320 x 240 Pixels @9Hz	**Connection**	Amphenol D38999/24ZB35PN
Thermal Range	8-14um	**Dimensions**	ø 200mm x H 264mm
Thermal Sensitivity	<50mk	**Environmental**	IP67
Thermal Digital Zoom	2x, 4x, 8x Matched to Optical Zoom	**Casing**	Machined Aluminium

Dimensions

Overall Dimensions

Base Plate Hole Centres



Visual Engineering Technologies LTD

Kemps Farm
Stanway
Colchester
Essex
CO3 8NB
UK

THE BRITISH ASSESSMENT BUREAU
ISO9001

Tel: +44 (0)1206 211842
Web: www.visualengineering.co.uk
Email: sales@visualengineering.co.uk