

# velleman®

## CAMTVI10

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**CAMERA - HD-TVI - OUTDOOR - DOME PTZ - ZOOM x18 - 1080P**



USER MANUAL



**CE**



# USER MANUAL

## 1. Introduction

To all residents of the European Union

### Important environmental information about this product



This symbol on the device or the package indicates that disposal of the device after its lifecycle could harm the environment. Do not dispose of the unit (or batteries) as unsorted municipal waste; it should be taken to a specialized company for recycling. This device should be returned to your distributor or to a local recycling service. Respect the local environmental rules.

**■ If in doubt, contact your local waste disposal authorities.**

Thank you for choosing Velleman®! Please read the manual thoroughly before bringing this device into service. If the device was damaged in transit, do not install or use it and contact your dealer.

## 2. Safety Instructions

	Keep the device away from children and unauthorised users.
	<b>Risk of electric shock when opening the cover.</b>
	<b>DO NOT</b> disassemble or open the cover. There are no user-serviceable parts inside the device. Refer to an authorized dealer for service and/or spare parts.

## 3. General Guidelines

Refer to the **Velleman® Service and Quality Warranty** on the last pages of this manual.

- Familiarise yourself with the functions of the device before actually using it.
- All modifications of the device are forbidden for safety reasons. Damage caused by user modifications to the device is not covered by the warranty.
- Only use the device for its intended purpose. Using the device in an unauthorised way will void the warranty.
- Damage caused by disregard of certain guidelines in this manual is not covered by the warranty and the dealer will not accept responsibility for any ensuing defects or problems.
- Keep this device away from extreme heat.
- Protect this device from shocks and abuse. Avoid brute force when operating the device.
- DO NOT use this product to violate privacy laws or perform other illegal activities.

## 4. Features

- weatherproof
- B/W night vision (IR LEDs)
- **1080P video signal**
- vandal-proof housing
- 18 x optical zoom lens

## 5. Installation

### General Installation Guidelines

Before proceeding to installing, make sure the mounting surface:

- is thick enough to securely install an expansion bolt
- can bear at least 4 times the weight of the dome and mounting bracket.

Choose a location for the camera, keeping following guidelines in mind:

- do not install the camera in locations where extremely high or low temperatures or excessive vibrations may occur.
- avoid mounting the camera near high electro-magnetic fields.
- do not aim the camera at the sun or other extremely bright objects or reflections (e.g. metal doors).

### 5.1 Standard Settings

Please set these standard settings:

- address: 1
- baud rate: 2400 bps
- protocol: Pelco-P

See chapter **8.2 Dome** for more information on how to set the ID. Also, make sure the device ID and check ID are identical in order to set the target ID.

### 5.2 Mounting

#### Wall Mounting

1. Use the mounting bracket to determine the position of the mounting holes. Drill the holes.
2. Fix the mounting bracket onto the wall (mounting accessories not included).
3. Proceed with the connection.

#### Corner Mounting

1. Use the corner bracket to determine the position of the mounting holes. Drill the holes.
2. Fix the corner bracket onto the corner (mounting accessories not included).
3. Fix the mounting bracket onto the corner bracket using the including mounting accessories.
4. Proceed with the connection.

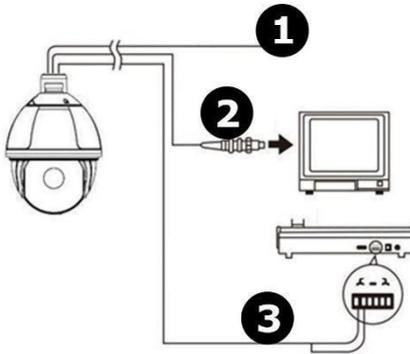
#### Pole Mounting

1. Fix the pole bracket to the pole (diameter max. 130-152 mm) using stainless hose clamps with a length of min. 15 cm.
2. Fix the mounting bracket onto the pole bracket using the including mounting accessories.
3. Proceed with the connection.

#### Ceiling Mounting

1. Use the ceiling bracket to determine the position of the mounting holes. Drill the holes.
2. Fix the ceiling base bracket to the ceiling (mounting accessories not included). If the dome is to be used outdoors, apply a thin layer of silica gel between the base and the ceiling to make the connection waterproof.
3. Fix the ceiling bracket to the base using the including mounting accessories. If the dome is to be used outdoors, apply a thin layer of silica gel between the ceiling bracket and the base to make the connection waterproof.
4. Proceed with the connection.

## 6. Connection



<b>1</b>	12 VDC power supply
<b>2</b>	coaxial cable
<b>3</b>	RS-485 connection

## 7. Operation

### 7.1 Glossary

#### **Auto-Adaptive to Protocol and Module**

This dome camera will automatically adapt to the available protocol.

#### **3D Allocation**

The user can move the image of an area to the centre.

#### **Privacy Masking**

In monitoring mode, a zone the user is not willing to display can be set as a privacy-protected area.

#### **Pattern Scan**

The scanning pattern can be saved into the memory. This camera has 4 path patterns. Each path can record 512 different instructions (during max. 15 minutes).

#### **Zero Alignment**

The zero point is that point to which the camera returns after operation.

#### **Auto Flip**

In manual scanning mode, when driving beyond the maximum tilt angle, the camera will automatically rotate 180° in horizontal direction to maintain scanning continuity.

**Focus**

The auto focus enables the camera to maintain a clear image. The camera will not automatically focus in following conditions:

- The target is not in the centre of the screen.
- Attempting to view images that are far and near at the same time.
- The target emits a strong light, e.g. a neon lamp.
- The target is behind a windowpane covered with droplets or dust.
- The target is moving quickly.
- The target is too dark or faint.

**Back Light Compensation (BLC)**

If the background light is bright, the target in the picture may appear dark. The BLC enhances exposure of the target in the centre of the picture. The camera adjusts the iris according to the centre of the picture.

**Iris Control**

Default is automatic camera aperture. The camera senses changes in ambient light through moving and automatically adjusts the lens aperture to make the output image brightness stable.

**Ratio Speed**

Intelligent pan and tilt speed is variable and depends on the zoom factor. When zooming in, the speed will decrease; when zooming out, the speed will increase.

**360° Scan**

The camera continuously scans the scene at the set speed in horizontal direction, provided that the pitch angle remains the same. In scanning status, the operator can move the joystick to exit the scanning mode.

**Preset**

After the camera keeps an arbitrary PTZ location, it will automatically move to the defined position when the preset is called.

**Guard Tour Scan**

The camera scans according to a certain edited preset order.

**Limited Points Scan**

The camera scans at a certain speed between the set left and right points. The range between these two points is 20° to 340°.

**Power-Off Memory**

The camera will automatically return to the status before the power interruption.

**Park Action**

The camera will automatically run a specific preset mode if it is not operated in the set time.

**Multilanguage OSD Menu**

The available on-screen languages are: English, German, Italian, French and Spanish.

**Temperature Control**

The camera checks the inner temperature so to manage the inner temperature.

## 7.2 Basic Operation

### Dome Control

Control the joystick up, down, left or right.

### Zoom

Press the ZOOM- or ZOOM+ button to minify or magnify the picture.

### Focus

Press the FOCUS- or FOCUS+ button to manually adjust the focus.

### Iris

Press the IRIS- or IRIS+ button to decrease or increase the image's brightness.

### Preset Point

To set a preset point: press the PRESET button, then the number and finally ENTER.

To call a preset point: press the CALL button, then the number and finally ENTER.

To delete a preset point: press the CLEAR button, then the number and finally ENTER.

## 7.3 Special Preset Points

Following presets are predefined as special functions.

preset	function
33	pan scan 180°
34	reset
35	run wiper
36	stop wiper
79	digital zoom on
80	digital zoom off
81	auto day/night
82	night
83	day
84	switch on far light
85	switch on near light

preset	function
86	BLC on
87	BLC off
88	freeze on
89	freeze off
92	A-B scan
94	OSD off
95	OSD on
96	guard tour 3
97	guard tour 2
98	guard tour 1
99	pan scan

### Remark

Some of the above presets may not be available due to the protocol limits of the used control equipment.

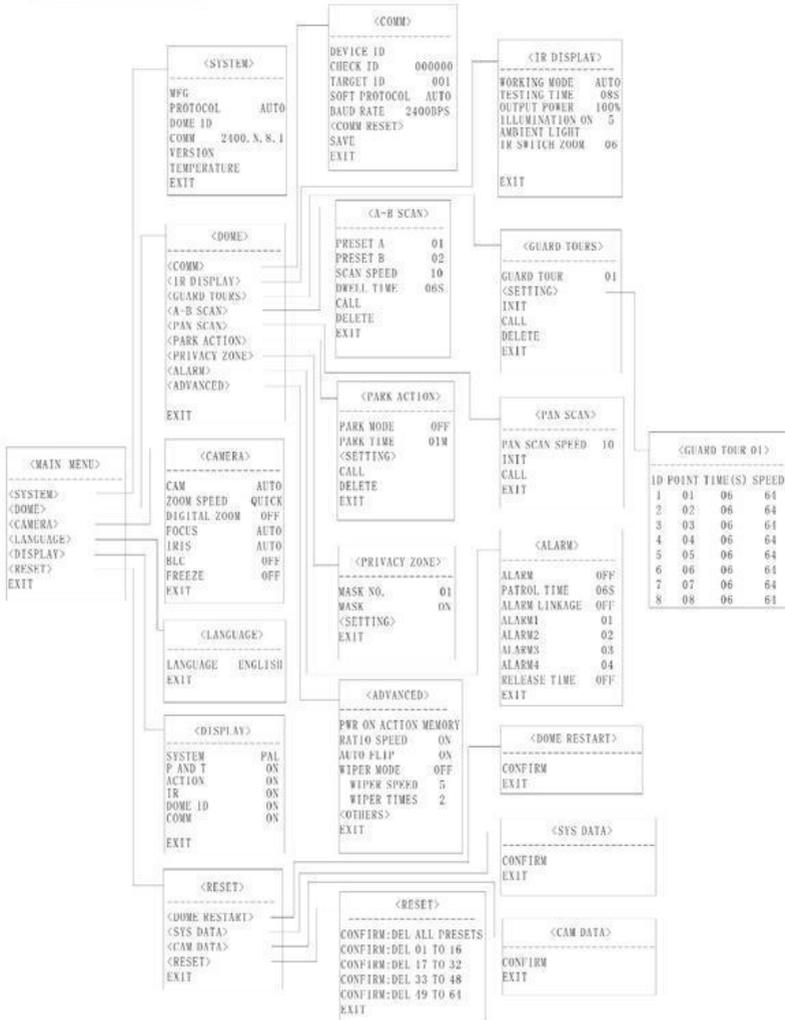
## 7.4 On-Screen Display (OSD)

Call preset 95 to enter the OSD.

- Up/down: move up/down the menu or increase/decrease the value.
- Right: enter an option, select the item or confirm.
- Left: return to the main menu or cancel.
- Angle display: XXX.XX(pan)/XXX.XX(tilt).
- ID display: lower-right corner of the screen.

Call preset 94 to exit the OSD.

8. Menu



## 8.1 System

```

<SYSTEM>
-----
MFG
PROTOCOL                                AUTO
DOME ID                                001
COMM                                    2400.N.8.1
VERSION
TEMPERATURE
EXIT

```

- MFG: Max. 15 characters displayed.
- PROTOCOL: Dome protocol.
- DOME ID: Dome address.
- COMM: In this example: 2400 (baud rate), N (check bit), 8 (data bit), 1 (start bit).
- VERSION: The version will upgrade along with the device upgrading.
- TEMPERATURE: Displays the internal temperature of the camera.

### Remark

Protocol, ID and COMM can all be set in menu <COMM>.

## 8.2 Dome

```

<DOMES>
-----
COMM
IR DISPLAY
GUARD TOURS
A-B SCAN
PAN SCAN
PARK ACTION
PRIVACY ZONE
ADVANCED
EXIT

```

### 8.2.1 Communication

```

<COMM>
-----
DEVICE ID
CHECK ID                                000000
TARGET ID                                001
SOFT PROTOCOL                            AUTO
BAUD RATE                                2400BPS
COMM RESET
SAVE
EXIT

```

```

<COMM RESET>
-----
RESET TO DIAL THE CODE

YES
EXIT

```

- DEVICE ID: Displays the camera ID (set identical to check ID).
- CHECK ID: Distinguish several cameras with the same ID (set identical to device ID).
- TARGET ID: Target ID available, ranging from 001 to 250.
- SOFT PROTOCOL: Select auto, Pelco-D or Pelco-P.
- BAUD RATE: Select the baud rate.
- COMM RESET: Reboot the camera.
- SAVE: Save the modifications. The camera will reboot after saving.

## 8.2.2 IR Display

<IR DISPLAY>	
-----	
WORKING MODE	AUTO
TESTING TIME	08S
OUTPUT POWER	100%
ILLUMINATION ON	3
AMBIENT LIGHT	
IR SWITCH ZOOM	06
EXIT	

- WORKING MODE: Select auto, black/white or color. Factory default is auto.
- TESTING TIME: Set the night/day or day/bight switching time, ranging from 02 to 15.
- OUTPUT POWER: Select 40 %, 60 %, 80 % or 100 %.
- ILLUMINATION ON: Select the grade of the IR illumination, ranging from 1 to 15. Factory default is 3.
- AMBIENT LIGHT: This option cannot be modified by the user; it will automatically change according to the environment.
- IR SWITCH ZOOM: When the zoom value reaches the demanded setting, the IR LEDs will automatically switch from near illumination to far illumination.

## 8.2.3 Guard Tours

<GUARD TOURS>	
-----	
GUARD TOUR	01
SETTING	
INIT	
RUNNING	
DELETE	
EXIT	

<GUARD TOUR 01>			
-----			
ID	POINT	TIME	SPEED
01	01	06	64
02	02	06	64
03	03	06	64
04	04	06	64
05	05	06	64
06	06	06	64
07	07	06	64
08	08	06	64

- GUARD TOUR: Select one of the guard tours.
- SETTING: Each guard tour includes max. 16 presets. Enter to modify point, dwell time and speed.
- INIT: Re-initialisation. Present point, dwell time and speed will return to factory default settings.
- RUNNING: Run the present guard tour.
- DELETE: Delete the present guard tour.

## 8.2.4 A-B Scan

<A-B SCAN>
-----
PRESET A
PRESET B
SCAN SPEED
DWELL TIME
RUNNING
DELETE
EXIT

<A-B SCAN>	
-----	
RUNNING...	
LEFT KEY TO EXIT	
PAN: XXX	TILT: XXX

- PRESET A: Set the A point for A-B scan, ranging from 0 to 64.
- PRESET B: Set the B point for A-B scan, ranging from 0 to 64.
- SCAN SPEED: Scan speed of the camera, ranging from 1 to 64
- DWELL TIME: Set the dwell between points A and B, ranging from 2 to 60s.
- RUNNING: Run the A-B scan.
- DELETE: Delete the present points A and B. Speed and dwell time will return to factory default settings.

### 8.2.5 Pan Scan

```

<PAN SCAN>
-----
PAN SCAN SPEED
INIT
RUNNING
EXIT

```

```

<PAN SCAN>
-----
RUNNING...
LEFT KEY TO EXIT

PAN: XXX           TILT: XXX

```

- PAN SCAN SPEED: Select the pan scan speed, ranging 1 to 64.
- INIT: Re-initialisation. Scan speed and tilt degree will return to factory default settings.
- RUNNING: Run the scan speed and tilt degree.

### 8.2.6 Park Action

```

<PARK ACTION>
-----
PARK MODE                OFF
PARK TIME                01M
SETTING
RUNNING
DELETE
EXIT

```

```

<PARK ACTION>
-----
PRESET 1: SAVE
PRESET 2: BACK

```

- PARK MODE: Select the park mode option.
- PARK TIME: Set the idle park time in minutes, ranging from 01 to 60.
- SETTING: Save the settings or return without saving.
- RUNNING: Run the park action.
- DELETE: Delete the present park action.

### 8.2.7 Privacy Zone

```

<PRIVACY ZONE>
-----
MASK NO.                01
MASK                    OFF
SETTING
EXIT

```

```

<PRIVACY ZONE>
-----
PRESET 1: SAVE

```

```

<PRIVACY ZONE>
-----
PRIVACY PROPOSED
TO OPEN

```

- MASK NO.: Set the mask range, ranging from 1 to 24. The range depends from the used devices.
- MASK: Select to switch the mask function on or off.
- SETTING: Set the specific parameters of the present mask.

#### Remark

It is recommended to size the mask twice the size of the target size. This function is only available on supported models.

### 8.2.9 Advanced

```

<ADVANCED>
-----
PWR ON ACTION          MEMORY
RATIO SPEED            ON
AUTO FLIP              ON
WIPER MODE             OFF
  WIPER SPEED          5
  WIPER TIMES          2
OTHERS
EXIT

```

- PWR ON ACTION: Select the power on action.
- RATIO SPEED: Switch the ratio speed on or off.
- AUTO FLIP: Switch the auto flip on or off.
- WIPER MODE: Switch the wiper mode on or off.
- WIPER SPEED: Set the wiper speed, ranging from 1 to 5.
- WIPER TIMES: Set the wiper time, ranging from 1 to 5.
- OTHERS: Other options.

### 8.3 Camera

<CAMERA>	
-----	
CAM	AUTO
ZOOM SPEED	QUICK
DIGITAL ZOOM	OFF
FOCUS	AUTO
IRIS	AUTO
BLC	OFF
FREEZE	OFF
EXIT	

- CAM: Display the information of the supported camera.
- ZOOM SPEED: Select the zoom speed.
- DIGITAL ZOOM: Switch the digital zoom on or off.
- FOCUS: Select the focussing mode.
- IRIS: Select the iris mode.
- BLC: Switch the BLC on or off.
- FREEZE: Switch the freeze function on or off.

#### Remark

The functions above are only available on supported models.

### 8.4 Language

<LANGUAGE>	
-----	
LANGUAGE	ENGLISH
EXIT	

- LANGUAGE: Set the menu language. Default setting is English.

### 8.5 Display

<DISPLAY>	
-----	
SYSTEM	PAL
P AND T	ON
ACTION	ON
IR	ON
DOME ID	ON
COMM	ON
EXIT	

- SYSTEM: Select the video system between NTSC and PAL.
- P AND T: Switch the pan and tilt degree display function on or off.
- ACTION: Display the current action.
- IR: Switch the IR function on or off.
- DOME ID: Switch the dome ID display on or off.
- COMM: Switch the communication information on or off.

## 8.6 Reset

<RESET>

-----

DOME RESTART  
 SYS DATA  
 CAM DATA  
 PRESET  
 EXIT

<RESET>

-----

CONFIRM  
  
 EXIT

<SYS DATA>

-----

CONFIRM  
 EXIT

<CAM DATA>

-----

CONFIRM  
 EXIT

<PRESET>

-----

CONFIRM: DEL ALL PRESETS  
 CONFIRM 1: DEL 01 TO 16  
 CONFIRM 2: DEL 17 TO 32  
 CONFIRM 3: DEL 33 TO 48  
 CONFIRM 4: DEL 49 TO 64  
 EXIT

- CONFIRM: Delete the presets saved by the camera.

## 9. Auto Temperature Control

The camera features a built-in fan and heater, which will cool or heat the circuit according to the ambient temperature.

## 10. Cleaning and Maintenance

The camera does not need any particular maintenance. However, it is advisable to clean it occasionally to keep it looking like new. Do not use harsh chemicals, cleaning solvents or strong detergents.

## 11. Technical Specifications

IP rating .....	IP66
pick-up element.....	1/2.8" Panasonic CMOS image sensor
number of pixels .....	1920 (H) x 1080 (V)
resolution .....	1080P video
min. illumination .....	0.1 lux
IR LEDs .....	8 x 22 mm + 6 x 16 mm LEDs
IR-cut filter .....	yes
max. IR projection distance.....	100 m
S/N ratio.....	> 50 dB (AGC off)
electronic shutter .....	-
lens.....	f5.35 - 96.3 mm
lens angle .....	58.5° - 3.6°
WDR .....	yes (D-WDR)
AGC .....	yes
white balance .....	automatic
video output.....	BNC connection
TVI signal.....	1080P
audio.....	no
power supply.....	12 VDC
current consumption .....	max. 3 A
operating temperature.....	-10 °C to 40 °C - RH max. 95 %
weight .....	6500 g

## 12. Troubleshooting

No image/action after power is applied.	Cable harness is improperly connected.	Check the orientation of the connector input.
	Input power voltage is too low.	Check the input power voltage.
	Power supply does not work.	Replace with a new power supply.
Self-test is normal but dome cannot be controlled.	Wrong communication settings.	Set the correct protocol, baud rate and address.
	Improper polarity of the control cable.	Check the polarity of the RS-485 connection.
Noise after self-test.	Mechanical obstruction.	Check and correct it.
	Camera module is not installed.	Install the camera module.
	Low power.	Check the power supply and make sure the input power is 12 VDC.
Unstable image.	Low power.	Check the power supply and make sure the input power is 12 VDC.
	Video cable is improperly connected.	Check the connection of the video cable.
Blurred image.	Camera is on manual focus.	Change to auto focus.
	The lens is dusted.	Clean the lens.
The dome cannot be controlled smoothly.	Low power.	Check the power supply and make sure the input power is 12 VDC.
	Communication distance is too long.	Make sure the distance is within the allowed range.
	The RS-485 is not properly connected.	Check the RS-485 connection.
	Too many domes connected.	Make sure not to exceed the allowed number of connected domes.

**Use this device with original accessories only. Velleman nv cannot be held responsible in the event of damage or injury resulting from (incorrect) use of this device. For more info concerning this product and the latest version of this manual, please visit our website [www.velleman.eu](http://www.velleman.eu). The information in this manual is subject to change without prior notice.**

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## **Velleman® Service and Quality Warranty**

Since its foundation in 1972, Velleman® acquired extensive experience in the electronics world and currently distributes its products in over 85 countries.

All our products fulfil strict quality requirements and legal stipulations in the EU. In order to ensure the quality, our products regularly go through an extra quality check, both by an internal quality department and by specialized external organisations. If, all precautionary measures notwithstanding, problems should occur, please make appeal to our warranty (see guarantee conditions).

### **General Warranty Conditions Concerning Consumer Products (for EU):**

- All consumer products are subject to a 24-month warranty on production flaws and defective material as from the original date of purchase.
- Velleman® can decide to replace an article with an equivalent article, or to refund the retail value totally or partially when the complaint is valid and a free repair or replacement of the article is impossible, or if the expenses are out of proportion.

You will be delivered a replacing article or a refund at the value of 100% of the purchase price in case of a flaw occurred in the first year after the date of purchase and delivery, or a replacing article at 50% of the purchase price or a refund at the value of 50% of the retail value in case of a flaw occurred in the second year after the date of purchase and delivery.

#### **• Not covered by warranty:**

- all direct or indirect damage caused after delivery to the article (e.g. by oxidation, shocks, falls, dust, dirt, humidity...), and by the article, as well as its contents (e.g. data loss), compensation for loss of profits;
- consumable goods, parts or accessories that are subject to an aging process during normal use, such as batteries (rechargeable, non-rechargeable, built-in or replaceable), lamps, rubber parts, drive belts... (unlimited list);
- flaws resulting from fire, water damage, lightning, accident, natural disaster, etc....;
- flaws caused deliberately, negligently or resulting from improper handling, negligent maintenance, abusive use or use contrary to the manufacturer's instructions;
- damage caused by a commercial, professional or collective use of the article (the warranty validity will be reduced to six (6) months when the article is used professionally);
- damage resulting from an inappropriate packing and shipping of the article;
- all damage caused by modification, repair or alteration performed by a third party without written permission by Velleman®.
- Articles to be repaired must be delivered to your Velleman® dealer, solidly packed (preferably in the original packaging), and be completed with the original receipt of purchase and a clear flaw description.
- Hint: In order to save on cost and time, please reread the manual and check if the flaw is caused by obvious causes prior to presenting the article for repair. Note that returning a non-defective article can also involve handling costs.
- Repairs occurring after warranty expiration are subject to shipping costs.
- The above conditions are without prejudice to all commercial warranties.

**The above enumeration is subject to modification according to the article (see article's manual).**

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