

**EPTZ 3000**

**1/4" day / night outdoor speed dome camera**



**Installation / Operation**



FW 2.x

## SAFETY WARNINGS

- Do not place the device near to heaters, furnaces, other heat sources.
- Operate the device only in locations providing the tolerable operating temperature range  $-40^{\circ}\text{C}\sim+40^{\circ}\text{C}$ .
- For cleaning, make sure the device is plugged off and only use a damp cloth without acid detergent. Care must be taken when cleaning the clear dome cover. Especially, scratch and dust will affect picture quality.
- Do not install or open the outdoor housing during rain or in humid environment.
- Do not use attachments or accessories unless recommended by the appliance of manufacturer as they may cause hazards, damage product and void warranty.
- Do not drop or subject the camera to shock and vibration as this can damage camera.
- Use the device only for purposes described in this manual.
- Operate the device only with the power source indicated in the technical data.
- In environments susceptible to electrical discharge (i.e. mounting at outdoor poles) take care for installing additional overvoltage protection equipment for power, video and control line.



ATTENTION! This is a class A product which may cause radio interference in a domestic environment; in this case, the user may be urged to take adequate measures.

This equipment has been tested and found to comply 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.



WEEE

This product is RoHS compliant.



Your EverFocus product is designed and manufactured with high quality materials and components which can be recycled and reused. This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from your household waste. Please, dispose of this equipment at your local community waste collection/recycling centre. In the European Union there are separate collection systems for used electrical and electronic product. Please, help us to conserve the environment we live in!

Ihr EverFocus Produkt wurde entwickelt und hergestellt mit qualitativ hochwertigen Materialien und Komponenten, die recycelt und wieder verwendet werden können. Dieses Symbol bedeutet, dass elektrische und elektronische Geräte am Ende ihrer Nutzungsdauer vom Hausmüll getrennt entsorgt werden sollen. Bitte entsorgen Sie dieses Gerät bei Ihrer örtlichen kommunalen Sammelstelle oder im Recycling Centre. Helfen Sie uns bitte, die Umwelt zu erhalten, in der wir leben!

The information in this manual was current upon publication. The manufacturer reserves the right to revise and improve his products.

Therefore, all specifications are subject to change without prior notice. Misprints reserved.

Please read this manual carefully before installing and using this unit. Be sure to keep it handy for later reference.

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## 1. EPTZ3000 OVERVIEW

### 1.1. Introduction

The EPTZ3000 speed dome series is designed for a wide range of CCTV applications. The main features are:

- WDR (Wide Dynamic Range) creates clear pictures in areas with difficult illumination situations
- Automatic IR-Cut filter, combined with DSS (Digital Slow Shutter), provides excellent Low-Lux performance, also with IR illumination
- Automatic, manual or contact controlled day/night switching
- Electronic auto-flip, no mechanical flip is required
- 520 colour / 570 b/w TVL
- Fast autofocus increases both search speed and precision.
- 30 x optical + 8 x digital zoom
- Support of EverFocus, Pelco-D, Pelco-P, Samsung (EI.) RS-485 protocols allows high flexibility in system installations
- Privacy zone protects your privacy
- High preset position accuracy
- 192 preset positions available
- 1 minute pattern tour
- 16 preset tours can be set, and each tour contains up to 16 positions
- Up to 256 speed domes can be supported in RS-485 bus system
- Auto heater and fan to fit wide range of temperature (outdoor models)
- 4 alarm inputs and 1 alarm output

## 1.2. Specifications

<b>Model</b>	EPTZ 3000
<b>Power Supply</b>	AC 24V
<b>Power consumption</b>	70W with heater , 18W without heater
<b>Operating temperature</b>	-40°C~+60°C,18W without heater
<b>Image device</b>	1/4", vertical double density interline CCD
<b>Zoom ratio</b>	30x optical (8x digital zoom, max 240x)
<b>Lens</b>	30x optical zoom, f=3.3 mm (wide) to 99.0 mm (tele), F1.6 to F3.2
<b>Viewing angle</b>	H: approx. 58.0° (wide) to 2.22° (tele end) V: approx. 44.8° (wide) to 1.68° (tele end)
<b>Resolution</b>	Colour: 520 TVL / b/w: 570 TVL
<b>WDR (Wide Dynamic Range)</b>	52dB
<b>Minimum illumination</b>	0.3 lux/F1.6 (50 IRE) colour; 0.05 lux/F1.6 (50 IRE) b/w
<b>Focus</b>	Auto / manual
<b>Iris Control</b>	Auto / manual
<b>Shutter selection</b>	AUTO; A.FLK; manual (1/120000~x8) selectable
<b>Operating humidity</b>	≤95%
<b>Communication</b>	RS-485
<b>Communication speed</b>	1200/2400/4800/9600bps
<b>Horizontal rotation speed</b>	0.01°/s - 360°/s (1-239 grade shift gears)
<b>Horizontal rotation range</b>	360° unlimited rotation
<b>Tilt rotation range</b>	180° pendulum motion
<b>Auto zoom speed control</b>	Control speed auto-adjusted according to zoom length change
<b>Auto Pan, 2 points scanning</b>	Adjustable speeds, adjustable end stops
<b>Auto Pan speed</b>	1 - 239 steps available
<b>Dwell time (2 points)</b>	1 - 239 seconds
<b>Preset Positions</b>	192 positions
<b>Running to position speed</b>	1 - 239 steps available,0.01°/s - 360°/s
<b>Dwell time at preset position</b>	1 - 60 seconds
<b>Tour</b>	16 groups
<b>Tour point per group</b>	16 preset positions
<b>Fan, Heater (outdoor model)</b>	Fan and heater auto starts
<b>Position Accuracy</b>	±0.1°
<b>Alarm</b>	4 inputs, 1 output, with tour/position auto triggering
<b>Proportional Pan Speed</b>	Yes
<b>Setup</b>	Protocol, baudrate, address DIP switch, other settings OSD menu
<b>Communication</b>	RS-485
<b>Implemented Protocols</b>	EVF-1, Pelco-P, Pelco-D, A-Type, Plus-D

<b>Dynamic Noise Reduction</b>	Off / low / middle / high
<b>Address editable</b>	Yes (through DIP switch)
<b>Speed Dome Address</b>	0-255
<b>Manual Pan/tilt speed</b>	Pan: 0.01° ~ 360°/s; Tilt: 0.01° ~ 360°/s
<b>Video Output</b>	BNC
<b>Safety</b>	CE, FCC
<b>Dimensions</b>	220 (W) x 310 (H) mm
<b>Weight</b>	3.2 kg

### 1.3. Delivery scope

There are 3 boxes that are housing, bulb and mechanical part with a camera module, one wall mount bracket, one power adapter and one tool box in the package. Detailed accessory list:

1 x housing

1 x bulb

1 x mechanical part with a camera module

1 x wall mount bracket

1 x power supply 24 VAC

Tool box

2 x gloves

1 x M5 Hex Allen wrench

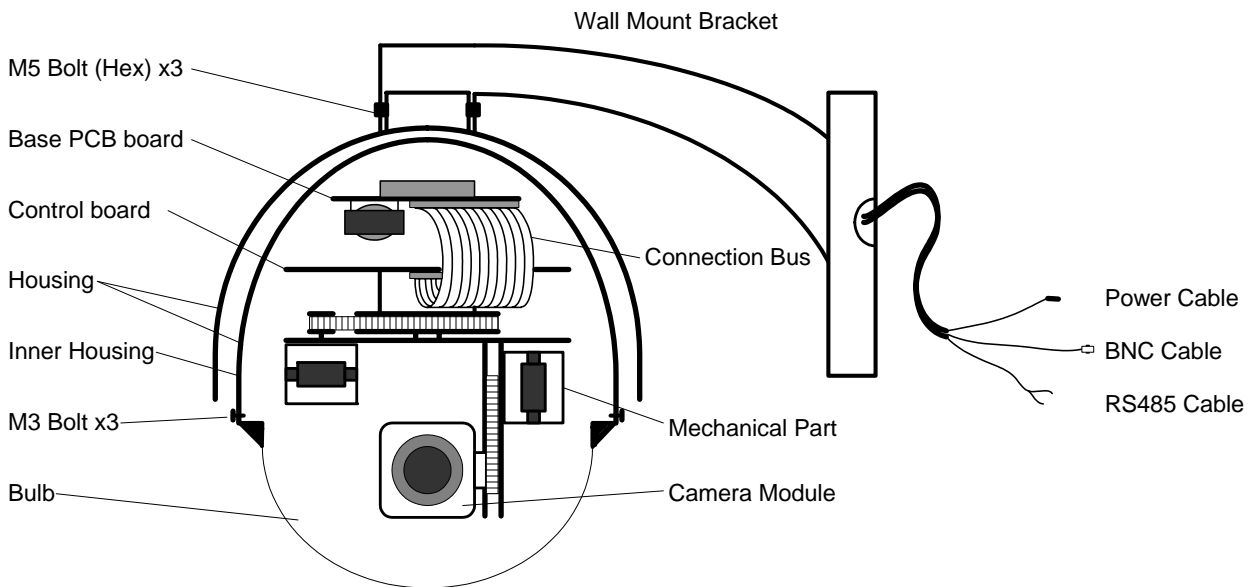
1 x pin connector

3 x M5 screw (hex) for wall mount bracket fixing

3 x M3 screw for bulb fixing

## 1.4. Mechanical Design

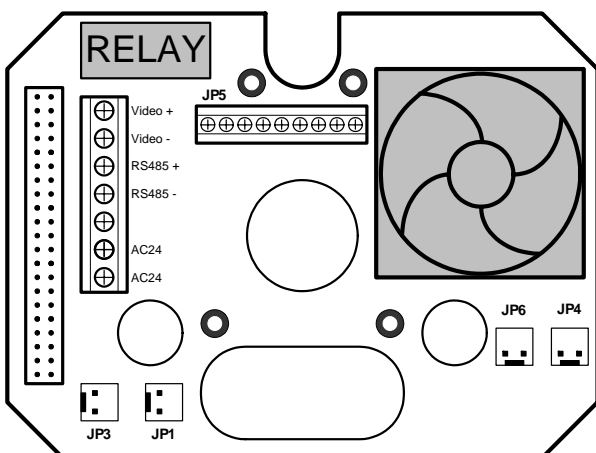
### Profile of EPTZ3000



The EPTZ housing is pre-wired with a combi-cable containing video, RS-485 and power cable.

Alternatively, the installation cables can be directly connected to the screw connector terminal on the base board. In this case, the base board has to be detached in some cases for better installation conditions.

The two-pin connectors JP1, JP3 and JP6 need to be taken off during installing. JP1 and JP3 are connectors for heater, and they can be switched. JP6 is a fan controller connector that turns the fan on/off. The 3 cables are too short to be connected to a wrong connector when putting them back.



EPTZ 3000 base board

## 2. EPTZ 3000 INSTALLATION

### 2.1. Speed dome mounting

#### Installation Requirements

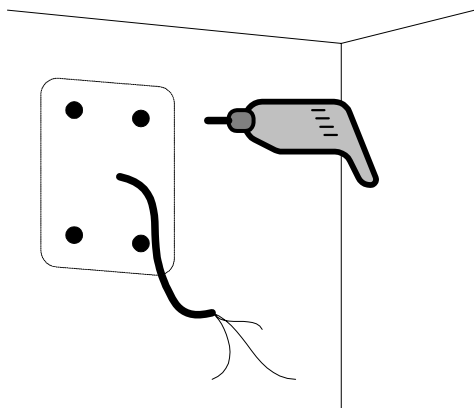
Installation should be handled by a qualified service agent and should comply with all local regulations. Service personnel should expect potential problems such as surface strength, surface material, falling objects, outer breaches, building vibration or other similar conditions.

Check for all necessary materials, and make sure that the selected installation location is suitable for the EPTZ 3000.

#### EPTZ 3000 dome camera wall mount installation

**Note:** The installation locations wall, pole or ceiling are required to support above five times the total weight of the camera assembly (about 16 kg) to avoid shaken images and dropping.

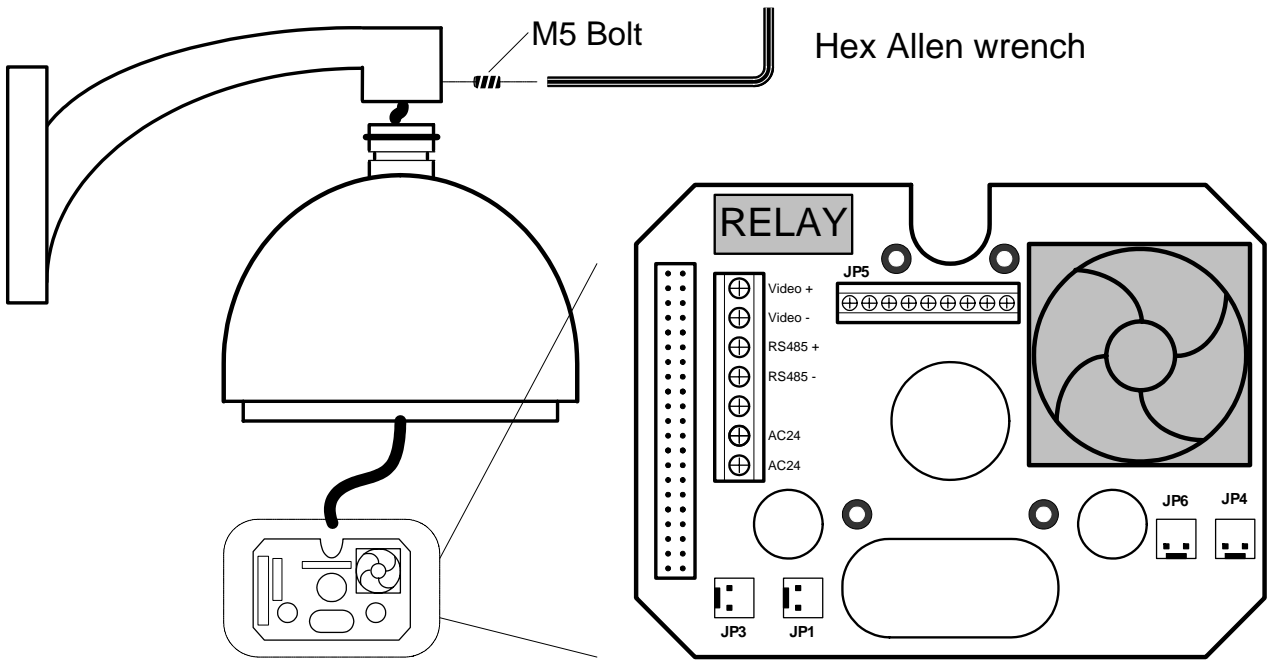
Place the wall mount bracket on the wall. Mark the center of the holes on the wall against the bracket holes. Drill 4 holes at the marks to mount 4 0.25" X 1.25" screws.



**Note:** The length of the screws depends on the surface material. The mentioned screws are used in a common concrete surface.

Thread the cable through the hole in the wall mount bracket, and screw in 4 M8 nuts for mounting the bracket.

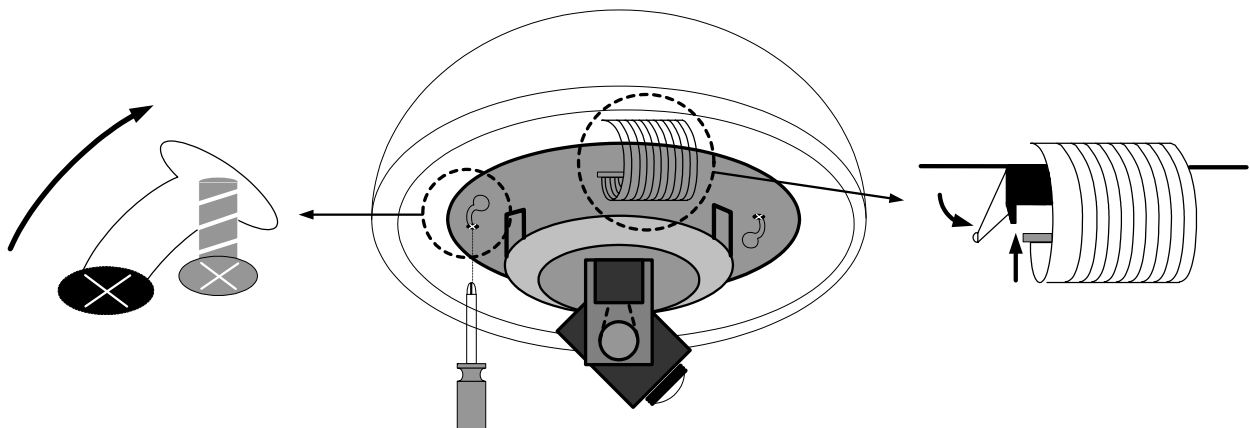
Take the housing out of the packing, and take off the PCB board (4 bolts on it) inside the housing. Thread the cable through the top of the housing. Fix the housing on the wall mount bracket, and screw in 3 M5 bolts (Hex) on the top of the bracket with the attached Hex Allen wrench to fix the housing.



Connect the cable connectors to the nodes on the PCB board, and then fix the PCB board in the housing by screwing 4 bolts on it.

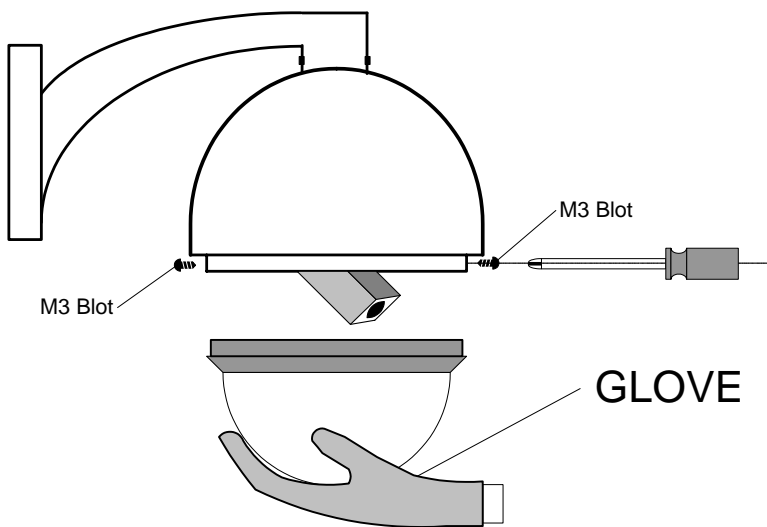
**Note:** Please consider the control line polarity. The EPTZ 3000 will not work if the control line polarity is mis-connected.

Align the two screw holes on the bottom of the mechanical part with the two bolts on the housing base and twist the mechanical part clockwise a little bit in order to engage it with the base. Screw the two bolts on the base, and then connect and fix the connection bus to the PCB board on the mechanical part.



**Note:** The camera module on the mechanical part is very sensitive. Please be careful when installing this part.

Remove the lens protection cover before installing the bulb. Align the 3 bolt holes with the 3 housing bolt holes, and screw in 3 M3 bolts with the attached small screw driver to fix the bulb.



**Note:** In order to protect the bulb from dirt and scrape, please put on the gloves before installing the bulb. Turn on the power and start to operate the EPTZ 3000.

**Note:** When turning on the power, EPTZ 3000 will enter self-inspection mode and carry out a self-testing program. After finishing self-inspection, you can start to operate the EPTZ 3000.

## 2.2. Mounting accessories

### 2.2.1. EPTZ-CPMA: ceiling pendant mount adaptor



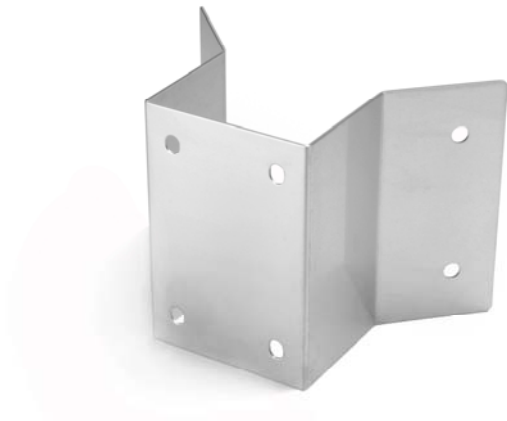
The adaptor is used for installing a speed dome on an indoor or outdoor ceiling.

### **2.2.2. EPTZ-PMA: pole mount adaptor**



The pole adaptor is used for installing a wall mount bracket to an indoor or outdoor pole.

### **2.2.3. EPTZ- CMA: corner mount adaptor**



The corner mount adaptor is used for installing a wall mount bracket to a 270° corner of indoor or outdoor walls.

## 2.3. RS-485 installation

### 2.3.1. RS-485: general RS-485 bus installation

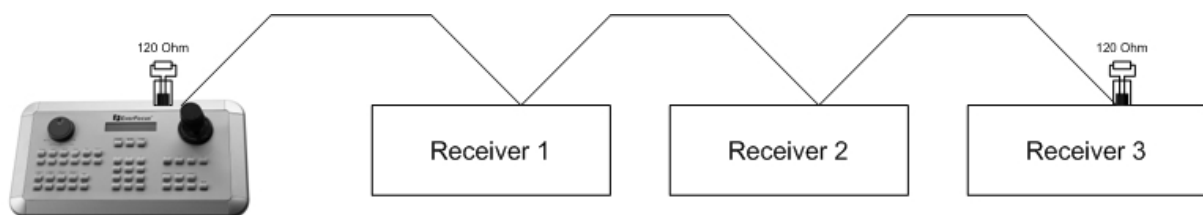
The EPTZ domes use a RS-485 simplex wiring; the signal is transferred via a single twisted pair cable.

CAT5 network cable is recommended, UTP version (unshielded) is sufficient for normal application. A shielded cable should be used if the installed cables are expected to be highly susceptible to interferences.

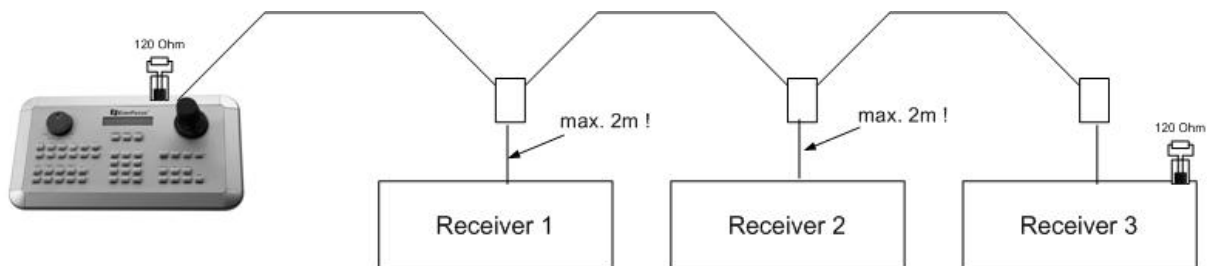
The number of devices installed in one bus is limited to 32 (expandable through signal distributors), while max. 8 EKB 500 keyboards may be installed in one system.

Basically, the bus should be created by serial wiring.

Maximum RS-485 bus cable length is 1200 m.



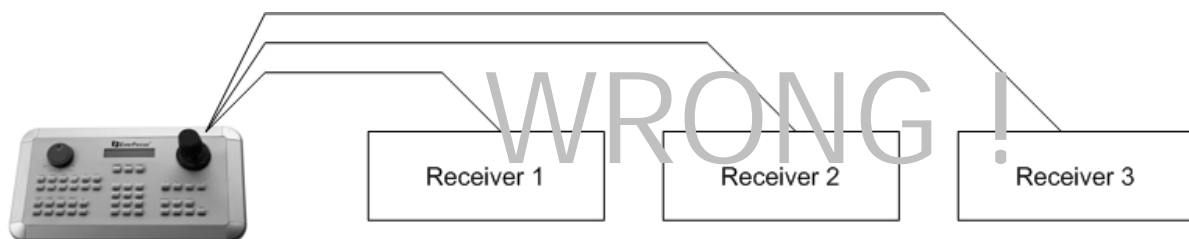
Standard serial RS-485 wiring



Standard serial RS-485 wiring with stubs

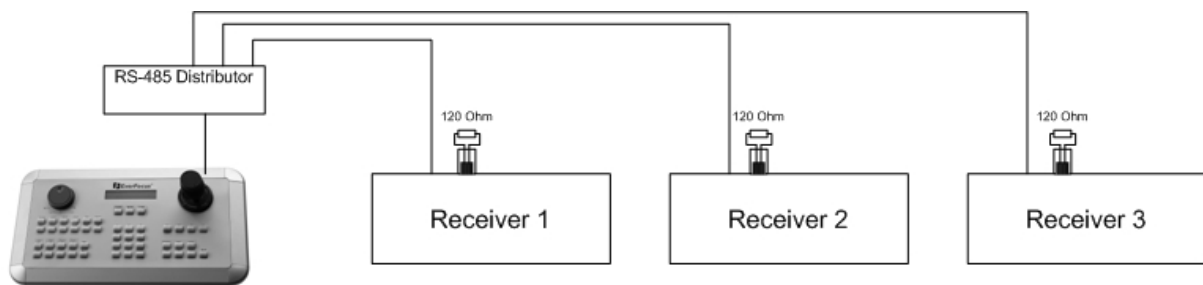
Maximum cable length from box to device is 2m using connector boxes .

Star wiring is permitted only with signal distributors.



Wrong wiring of RS-485 bus in star-topology

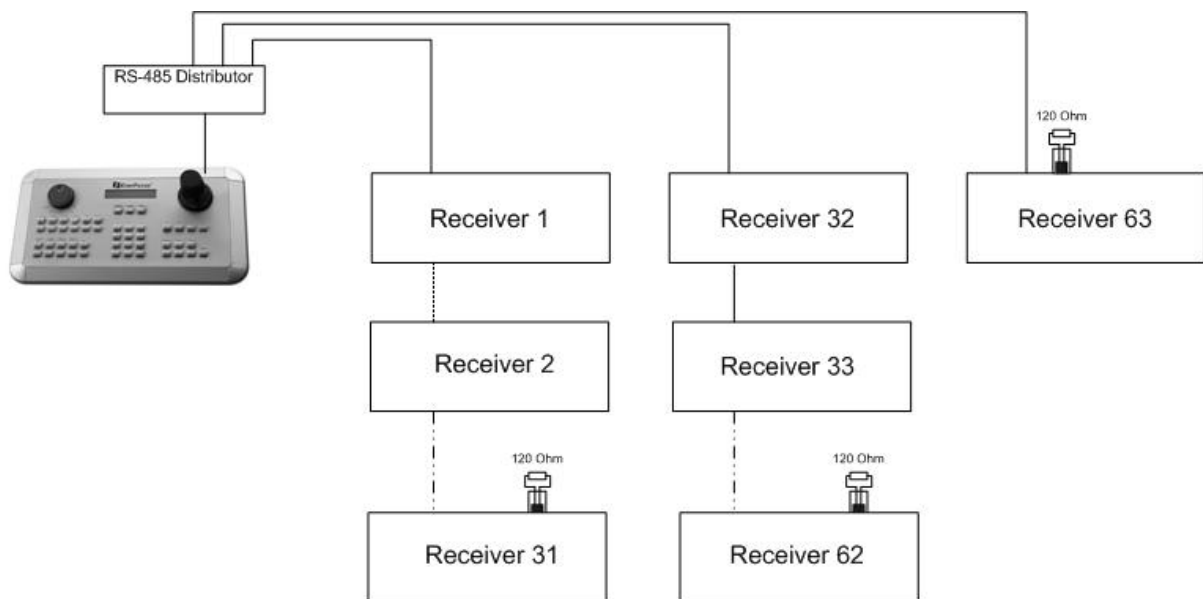
RS-485 signal distributors may be used for star wiring. The maximum system cable length can also be expanded by using these distributors, physically providing a new RS-485 bus with 1200 m cable length each at every distributor output.



Correct RS-485 in star-topology by using RS-485 distributor

In case the maximum number of 32 bus participants is exceeded, the number of connected devices can be increased by using RS-485 distributors. Each distributor output physically provides one RS-485 bus which enables the additional connection of 31 further devices (the distributor output represents one bus participant itself).

The maximum system expandability depends on the RS-485 address range of the installed devices.

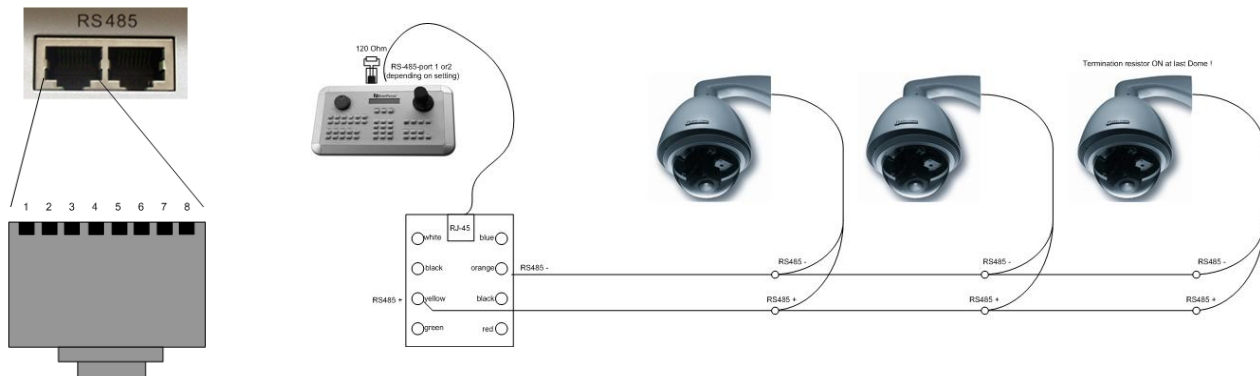


Bus extension with RS-485 distributor, each output of distributor creates a new physical RS-485 bus which can contain 32 RS-485 units.

**Note:** The RS-485 signal distributor EDA997A is unidirectional! This means that the signal only flows from the input towards the outputs. Therefore, e.g. the interconnection of several EKB 500 keyboards is not possible with this signal distributor!

### 2.3.2. RS-485: EPTZ speed dome camera connection to EKB-500

The RS-485 cable is pre-wired in the dome housing. Correct polarity (RS485+, RS485-) is mandatory, check the label on the combi-cable for correct polarity. Alternatively, the RS-485 cable can be directly installed at the screw terminal connector of the base bord.



Pins RJ-45 socket EKB500:

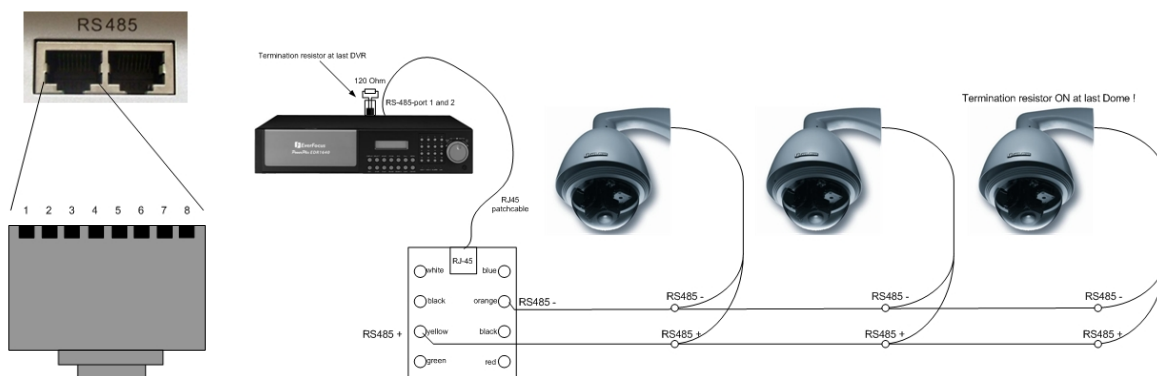
Wiring of multiple domes with EKB-500

Pin 3: RS-485 +

Pin 6: RS-485 -

### 2.3.3. RS-485: EPTZ speed dome camera connection to DVR (EDSR, EDVR, EDR (MPEG4) series)

EPTZ speed domes can be controlled by EDSR, EDVR, EDR (MPEG4) series' digital video recorders via network (no local control at DVR, keyboard required).



Pins RJ-45 socket EDR/EDVR/EDSR:

Wiring of multiple domes with EDR/EDSR

Pin 3: RS-485 +

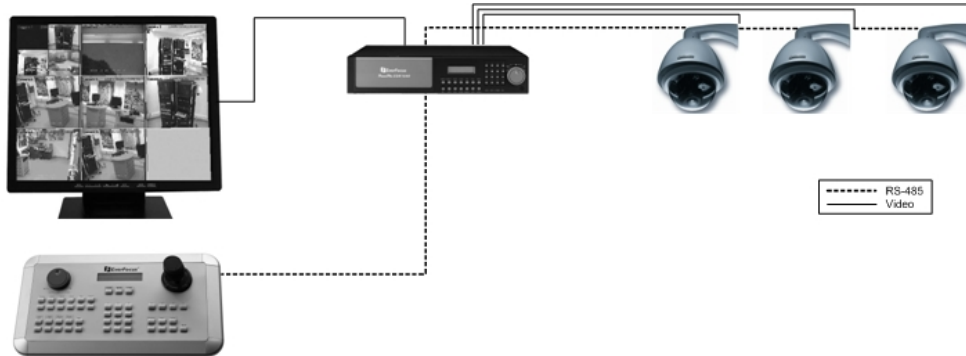
Pin 6: RS-485 -

**Note:** EPTZ control via network with DVR of the EDSR series is only recommended if operation is done by calling presets. Manual PTZ control is difficult due to delay and slow speed of video transmission.

### 2.3.4. RS-485: EKB-500, DVR and EPTZ installation at single RS-485 bus

The EPTZ speed dome can be installed in one RS-485 bus together with keyboard and DVR (EverFocus EDSR and EDR/EDVR (MPEG4) series).

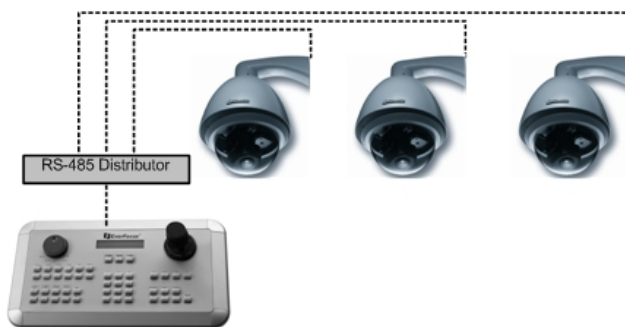
This way of installation allows for controlling the domes locally by keyboard and remotely via network and DVR (EverFocus EDSR and EDR (MPEG4) series).



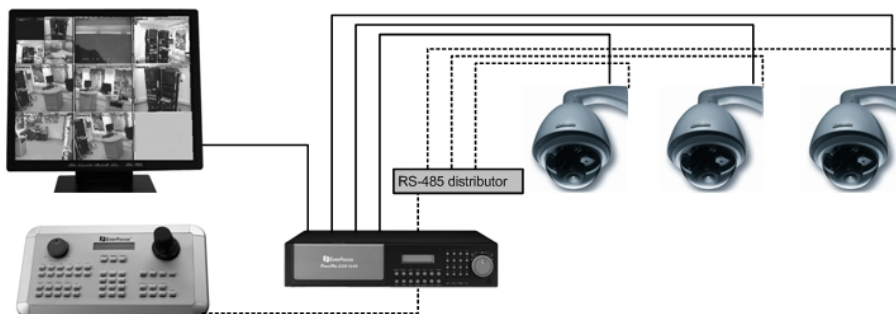
Wiring of multiple domes with EKB-500 and DVR

### 2.3.5. RS-485: examples of EPTZ installation with star-topology of RS-485 bus

Star wiring is generally not permitted for RS-485 bus. If star wiring is inevitable, it is possible to use RS-485 distributors.



Example 1: Keyboard dome installation in star-topology



Example 2: Keyboard / DVR / EPTZ installation in star-topology

## 2.4. Installation alarm contacts

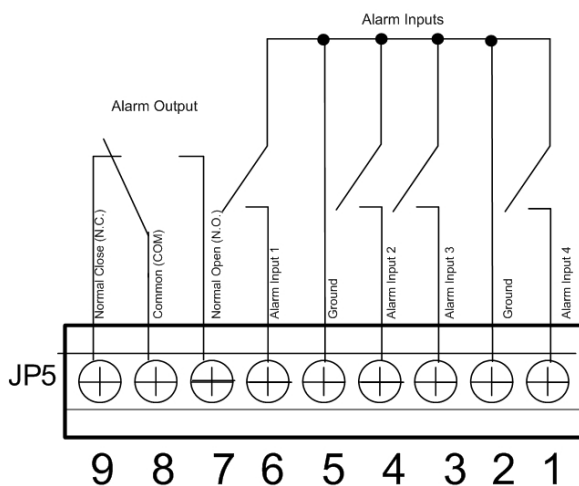
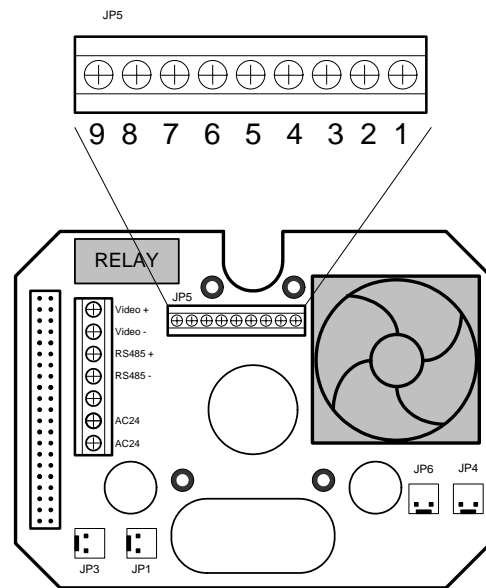
The EPTZ dome provides 4 input contacts and one alarm output relay. The connector terminal is located at the connection board in the dome housing.

The input contacts can work in N.O. (Normal Open) or N.C. (Normal Closed) mode, depending on setting in OSD menu (menu item 11. ALM-IN1 ~ 13. ALM-IN4 ). Potential-free contacts are required.

Do not connect external voltage to input contacts.

The output relay (max. load 110VAC/1A, 24VAC/2A) provides an N.O. and N.C. potential-free contact.

Pin #	Function
1	Alarm Input 4
2	Ground
3	Alarm Input 3
4	Alarm Input 2
5	Ground
6	Alarm Input 1
7	Relay Out Normal Open (N.O.)
8	Relay Out Common (COM)
9	Relay Out Normal Close (N.C.)

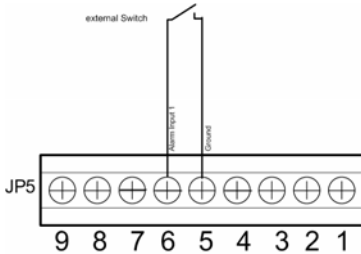


## 2.5. Installation day/night switching by external contact

Alarm input contact 1 can be used for external switching of day/night mode (e.g. by twilight switch or relay output of IR-lamp). Potential-free contact is required.

Do not connect external voltage to input contact.

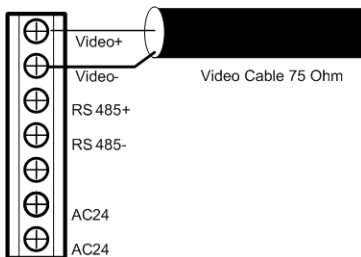
Depending on setting in OSD, menu item 10: ALM-IN, the contact can work in N.O. or N.C. mode.



## 2.6. Installation video

The video output of the dome is pre-wired. Use the BNC cable socket for connection to video installation cable.

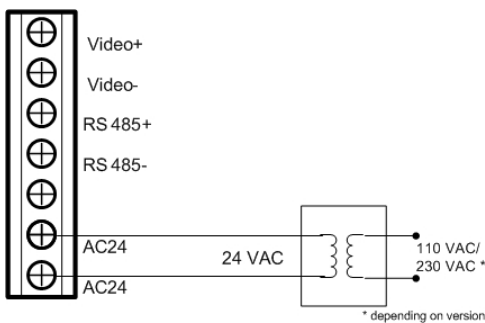
Alternatively, the installation cable can be directly connected to the screw terminal connector at the base board of the EPTZ housing.



### Installation power 24 VAC

The power input of the EPTZ camera is pre-wired. Connect the 24 VAC transformer from EPTZ package with the 5,5mm power socket of the combi-cable.

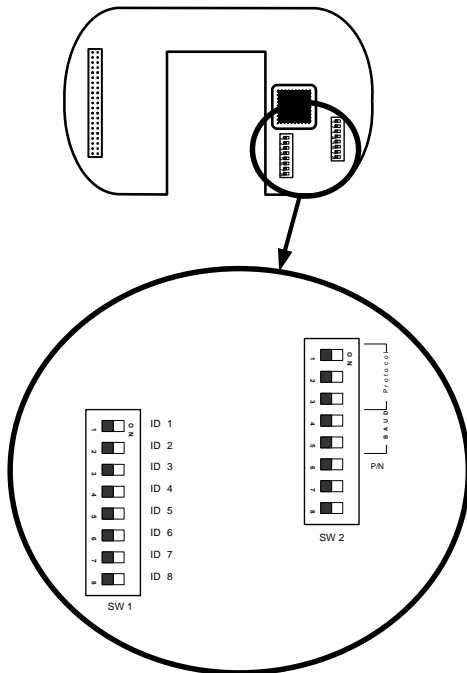
Alternatively, the 24VAC power can be directly connected to the screw terminal connector at the base board of the EPTZ housing.



## 2.7. Initial setup (address, protocol, baudrate, termination)

Initial setup includes dome address, communication protocol, transmission speed, video format and terminal resistance settings. All these settings should be confirmed before the dome is installed. The control-related settings - address, communication protocol and transmission speed - have to be set consistently with the control device such as a keyboard or a DVR.

**Note:** Please make sure that the power is off before setting and restart the EPTZ 3000 to enable a new value after changing.



SW1: 1-8 RS-485 ID setting    SW2: 1-3 Protocol type setting  
4-5 Baudrate setting  
8 Termination resistor ON/OFF

### 2.7.1. Address setting (RS-485 ID)

























































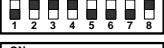







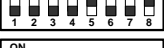


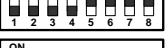

























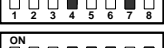
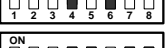
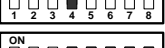


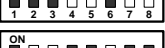
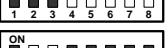
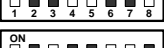

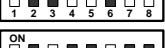
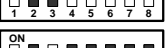


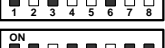
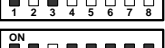










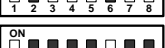
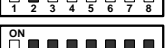



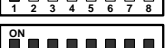
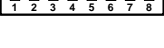
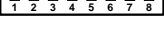
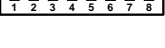
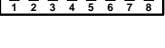
The address code of the EPTZ 3000 should be set to correspond properly with a control device to control multiple dome cameras. The address codes are made up by the dip switch SW1 (8 bits) on the PCB board. The 8 bits dip switch indicates the binary code of the address, and there are 256 addresses which can be selected ( $0 \sim 255, 2^8 = 256$ ). It also means that there are up to 256 dome cameras that can be controlled in the RS-485 network. In EverFocus RS-485 applications, the maximum number of RS-485 units (keyboards, DVR, Dome) is 32. This can be expanded by RS-485 distributors.

The dip switch setting and the indicated address are represented in the following chart.

**Note:** The factory default address is 1.

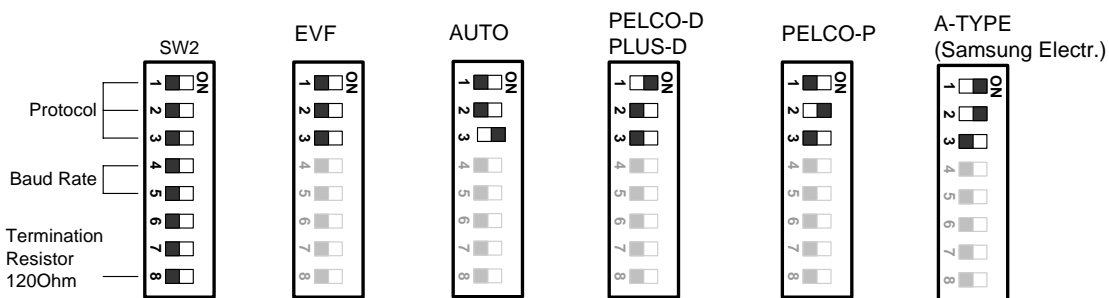
**Note:** Please make sure that the power is off before setting and restart the EPTZ 3000 to enable a new value after changing.

Switch	Address	Switch	Address	Switch	Address	Switch	Address
	0		32		64		96
	1		33		65		97
	2		34		66		98
	3		35		67		99
	4		36		68		100
	5		37		69		101
	6		38		70		102
	7		39		71		103
	8		40		72		104
	9		41		73		105
	10		42		74		106
	11		43		75		107
	12		44		76		108
	13		45		77		109
	14		46		78		110
	15		47		79		111
	16		48		80		112
	17		49		81		113
	18		50		82		114
	19		51		83		115
	20		52		84		116
	21		53		85		117
	22		54		86		118
	23		55		87		119
	24		56		88		120
	25		57		89		121
	26		58		90		122
	27		59		91		123
	28		60		92		124
	29		61		93		125
	30		62		94		126
	31		63		95		127

Switch	Address	Switch	Address	Switch	Address	Switch	Address
	128		160		192		224
	129		161		193		225
	130		162		194		226
	131		163		195		227
	132		164		196		228
	133		165		197		229
	134		166		198		230
	135		167		199		231
	136		168		200		232
	137		169		201		233
	138		170		202		234
	139		171		203		235
	140		172		204		236
	141		173		205		237
	142		174		206		238
	143		175		207		239
	144		176		208		240
	145		177		209		241
	146		178		210		242
	147		179		211		243
	148		180		212		244
	149		181		213		245
	150		182		214		246
	151		183		215		247
	152		184		216		248
	153		185		217		249
	154		186		218		250
	155		187		219		251
	156		188		220		252
	157		189		221		253
	158		190		222		254
	159		191		223		255

### 2.7.2. Communication protocol setting

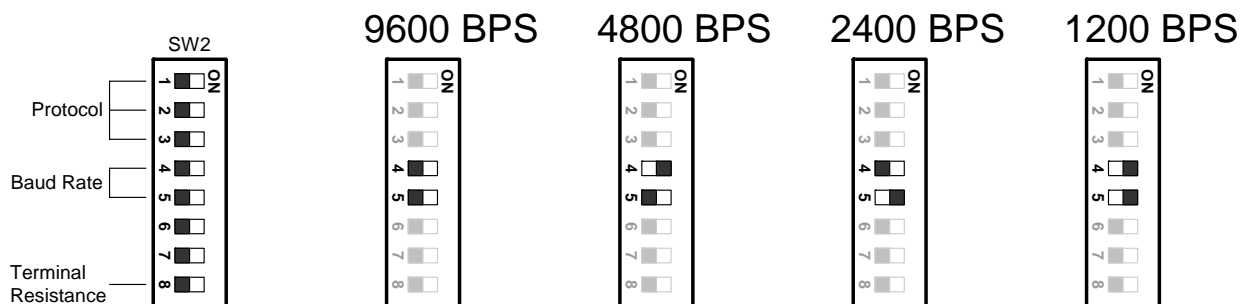
The 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> bits of the SW2 are used to set communication protocol. The factory default protocol is EVF.



**Note:** Please make sure that the power is off before setting and restart the EPTZ 3000 to enable a new value after changing. Set all the protocol switches to ON; the EPTZ 3000 will enter a self-test mode.

### 2.7.3. Transmission speed setting (baud rate setting)

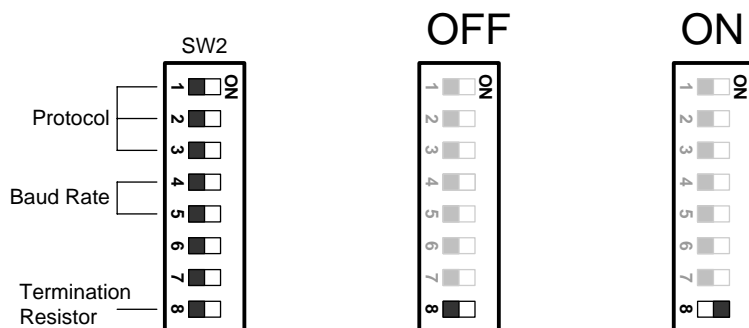
The 4<sup>th</sup> and 5<sup>th</sup> bits of the SW2 on the PCB board are used to set the baud rate. The default baud rate setting is 9600.



**Note:** Please make sure that the power is off before setting and restart the EPTZ 3000 to enable a new value after changing.

### 2.7.4. RS-485 bus termination resistor

The first and the last unit in each RS-485 bus should be terminated by 120 Ohm resistor. The 8<sup>th</sup> bit on the SW2 is a switch to enable or disable the termination. When it is switched ON, the RS-485 bus is 120 Ohm terminated.



**Note:** Please make sure that the power is off before setting and restart the EPTZ 3000 to enable a new value after changing.

# EPTZ 3000 CAMERA SETUP MENU

## 3. EPTZ3000 CAMERA SETUP MENU

### 3.1. Overview

In this section, setup and operation guide of EPTZ 3000 will be introduced.

Structure of the Setup Menu

Press **MENU** to enter the camera setup menu.

The OSD setup menu is designed in 1-line structure.

Joystick up/down to change sub-entries, and right/left to change the setting.

In some settings, **ENTER** key is required.

Hold **CLEAR** + **MENU** closes the menu (alternatively, menu item 28.EXIT > **ENTER**).

Nr.	MENU ITEM	SETTINGS / VALUES
1.	CAM-ID	XXX (RS-485 address)
2.	DZOOM	OFF / 2x / 4x / 8x
3.	FOCUS	ONE PUSH / AUTO / MAN
4.	IRIS	AUTO / MAN
5.	DAY / NIGHT	AUTO / DAY / NIGHT
6.	S.SHUTTER	4x / 8x / 12x / 16x / 32x / 64x / 128x / OFF
7.	DISPLAY	OFF / ON
8.	WBC	ONE PUSH / MAN 2000K / MAN3200K / MAN 5100K / AUTO OUTDOOR / AUTO INDOOR
9.	TITLE DISP	ON / OFF
10.	ALM-IN1	NO / NC / NIGHT NO / NIGHT NC / OFF
11.	ALM-IN2	NO / NC / OFF
12.	ALM-IN3	NO / NC / OFF
13.	ALM-IN4	NO / NC / OFF
14.	ALM-IN PRIO	1234
15.	ALM-OUT	LATCH / 3SEC / 5 SEC / 10SEC / 20SEC / 30SEC / 60 SEC / OFF
16.	WDR	OFF / LOW / MIDDLE / HIGH
17.	SHUTTER	AUTO / A.FLK / 1/60 / 1/160 / 1/250 / 1/1000 / 1/2500 / 1/10.000 / 1/120.000 / x2 / x4 / x8
18.	AGC	OFF / LOW / MIDDLE / HIGH
19.	DNR	OFF / LOW / MIDDLE / HIGH
20.	PRIVATE ZONE	OFF / ON (ON > Submenu with ENTER)
21.	AUTO REGRESS	ON / OFF

22.	MOTION	OFF / LIMIT ENT (Submenu with ENTER)
23.	TOUR	ENT (Submenu with ENTER)
24.	X CNT	0000000xxxxx
25.	Y CNT	0000000xxxxx
26.	PO CNT.	0000000xxxxx
27.	LOAD DEFAULT	Confirm with ENTER
28.	EXIT	Confirm with ENTER

### 3.2. OSD menu items

Press **MENU** to enter the camera setup menu.

Use **Joystick up/down** to change sub-entries, and right/left to change the setting.

- 1. CAM ID :** RS-485 address of the camera (display only, not editable)
  
- 2. DZOOM :** Setting of maximal digital zoom: OFF / 2x / 4x / 8x
  
- 3. FOCUS :** Operation mode of focus:
  - ONE PUSH:** Autofocus will work once after zoom operation and switch off (recommended mode for most applications, prevents the wrong focus in dark sceneries)
  - AUTO:** Autofocus works permanently
  - MAN:** Manual mode, Autofocus is off
  
- 4. IRIS :** Iris type, auto iris and manual iris are available
  - AUTO:** Auto iris is enabled, manual iris operation can override Auto iris (any camera movement switches Auto iris on again)
  - MAN:** Auto iris is disabled
  
- 5. DAY / NIGHT:** Day/night operation mode. In night mode, the IR-Cut filter will be removed and camera switches to b/w mode
  - AUTO:** If auto mode is enabled, camera will automatically switch to night mode under low lux conditions
  - NIGHT:** b/w mode, IR-Cut filter is removed (camera is IR-sensitive)
  - DAY:** Colour mode with IR-Cut filter
  
- 6. S.SHUTTER:** Limit of Digital Slow Shutter (DSS) function automatic mode:  
The DSS interpolates a number of single frames to achieve a brighter and clearer picture in low-light conditions. Higher numbers of interpolated frames result in brighter, clearer pictures

**NOTE:** A higher number of interpolated frames also means that the camera needs more time to create the video output picture. Moving objects may appear disturbed (depending on their speed). For this reason, the max. value should be set as low as possible (depending on light situation and speed of movement in scenery)

**OFF:** Digital Slow Shutter is disabled

**4x / 8x / 12x / 16x / 32x / 64x / 128x :** max value for DSS

**7. DISPLAY:** On-screen display of zoom ratio

**ON:** Display the zoom ratio

**OFF:** Disable the zoom ratio display

**8. WBC MODE :** White balance control mode

**AUTO OUTDOOR:** Auto white balance compensation with wider colour temperature range (default value)

**AUTO INDOOR:** Auto white balance compensation, reduced colour temperature range

**ONE PUSH:** One-push auto white balance mode

**MAN 2000K:** Manual white balance compensation in 2000K colour temperature.

**MAN 3200K:** Manual white balance compensation in 3200K colour temperature.

**MAN5100K:** Manual white balance compensation in 5100K colour temperature.

**Note:** WBC setting will affect the wide dynamic range or other image performance. It is important to adjust a proper value!

**9. TITLE DISP:** On-screen display of alarm text and preset positions

**ON:** Display of alarm text and preset positions

**OFF:** Disable the display

**10. ALM-IN1 SET :** Operation mode of alarm input1

**OFF:** Alarm input disabled

**N.O.:** Alarm input works as Normal Open contact. If contact closes, camera will move to preset position 1 and show "Alarm 1" on screen (if "TITLE DISP" is set to "ON").

**N.C.:** Alarm input works as Normal Closed contact. If contact opens, camera will move to preset position 1 and show "Alarm 1" on screen (if "TITLE DISP" is set to "ON").

**Night N.O.:** Dome turns to "Night mode" if external contact is open. Dome turns to "Day mode" if external contact is closed.

**Night N.C.:** Dome turns to "Night mode" if external contact is closed. Dome turns to "Day mode" if external contact is open.

**11. ALM-IN2 SET :** Operation mode of alarm input2

**OFF:** Alarm input disabled

**N.O.:** Alarm input works as Normal Open contact. If contact closes, camera will move to preset position 2 and show "Alarm 2" on screen (if "TITLE DISP" is set to "ON").

**N.C.:** Alarm input works as Normal Closed contact. If contact opens, camera will move to preset position 2 and show "Alarm 2" on screen (if "TITLE DISP" is set to "ON").

**12. ALM-IN3 SET :** Operation mode of alarm input3

**OFF:** Alarm input disabled

**N.O.:** Alarm input works as Normal Open contact. If contact closes, camera will move to preset position 3 and show "Alarm 3" on screen (if "TITLE DISP" is set to "ON").

**N.C.:** Alarm input works as Normal Closed contact. If contact opens, camera will move to preset position 3 and show "Alarm 3" on screen (if "TITLE DISP" is set to "ON").

**13. ALM-IN4 SET :** Operation mode of alarm input4

**OFF:** Alarm input disabled

**N.O.:** Alarm input works as Normal Open contact. If contact closes, camera will move to preset position 4 and show "Alarm 4" on screen (if "TITLE DISP" is set to "ON").

**N.C.:** Alarm input works as Normal Closed contact. If contact opens, camera will move to preset position 4 and show "Alarm 4" on screen (if "TITLE DISP" is set to "ON").

**14. ALM-IN PRIO :** The priority of alarms in case of simultaneous alarms

**1234:** The alarm priority is 1>2>3>4

**2341:** The alarm priority is 2>3>4>1

**3412:** The alarm priority is 3>4>1>2

**4123:** The alarm priority is 4>1>2>3

**15. ALM-OUT :** Duration time of the relay output in case of alarm and further alarm reactions (preset, title)

**OFF:** In case of alarm, the relay output is disabled, camera will move to assigned position and keep position until any further operation

**3 / 5 / 10 / 20 / 30 / 60 SEC:** Alarm time (timeout), after alarm time, relay output will switch off, the alarm text will disappear. If the camera was in automatic mode (preset tour, autopan) before, camera will return to this mode. If the camera was in manual operation position before, it will keep alarm preset position after alarm.

**LATCH:** The alarm reactions (preset, title, relay output) will not stop until there is any operation on keyboard

**16. WDR :** Wide Dynamic Range, this function improves the picture in darker areas in sceneries with high light contrasts

**LOW:** Low wide dynamic range

**MIDDLE:** Middle wide dynamic range

- HIGH:** High wide dynamic range
- OFF:** Disable wide dynamic range
- NOTE:** Higher settings of WDR may create more noise in the picture. Set the value as high as necessary.

- 17. SHUTTER :** Electronic Shutter mode (exposure control)
  - AUTO:** Standard mode, electronic shutter will adapt speed depending on light situation
  - A.FLK:** Flickerless mode, camera will auto-adjust the shutter to reduce the flicker caused by fluorescent light
  - 1/60.....1/120.000:** fixed electronic shutter value
  - X2:** 2-time slow shutter fix
  - X4:** 4-time slow shutter fix
  - X8:** 8-time slow shutter fix
  - OFF:** Disable shutter

- 18. AGC :** Auto Gain Control
  - OFF:** Auto Gain Control Off
  - LOW:** Low Auto Gain Control
  - MIDDLE:** Middle Auto Gain Control
  - HIGH:** High Auto Gain Control
  - Note:** AGC setting will affect the wide dynamic range or other image performance. It is important to adjust a proper value.

- 19. DNR:** Dynamic Noise Reduction
  - OFF:** Dynamic Noise Reduction Off
  - LOW:** Low Dynamic Noise Reduction
  - MIDDLE:** Middle Dynamic Noise Reduction
  - HIGH:** High Dynamic Noise Reduction
  - Note:** A higher DNR value may create ghost image effect at moving objects in low-light situation. Set the value as high as necessary.

- 20. PRIVATE ZONE :** Privacy zone masking.
  - ON:** Enable the privacy zone masking.
  - OFF:** Disable the privacy zone masking.

In setting "ON", press "Enter" to enter privacy zone setup mode, and the masking will turn into red. You can set the masking size and position in the privacy zone setup mode.

In this mode, press

  - "SHIFT" + "6" to increase masking horizontal size;
  - "SHIFT" + "4" to decrease masking horizontal size;
  - "SHIFT" + "2" to increase masking vertical size;

"SHIFT" + "8" to decrease masking vertical size;

Shift joystick to select the position where the masking is located.

"Enter" to confirm the size and position, and then the masking will turn into green again.

Alternative (especially for PELCO mode):

"IRIS+" starts zone setting

"FOCUS NEAR" : increase masking vertical / horizontal size

"FOCUS FAR" : decrease masking vertical / horizontal size

"IRIS -": switches between vertical/horizontal

"IRIS +" to confirm the size and position, and then the masking will turn into green again.

**21. AUTO REGRESS** : Auto regress to the shortest path during position setup. It can shorten the response delay, and increase the response performance and speed dome lifetime.

**ON:** Enable the auto regress function

**OFF:** Disable the auto regress function

**22. MOTION:** Autopan function mode

**ON:** Autopan works between 2 points (positions) A and B

**OFF:** Autopan works as endless rotation

**23. TOUR:** OSD setup of preset tour, alternative setting to the direct setting tours (without OSD menu with EKB-500 keyboard):

**TOUR SET ENT:** Press ENTER to open tour setup

**SET NUM T01A - ENT** - select tour number with JOYSTICK left / right, confirm with ENTER

**01 PRExx DWLyy -ENT-**

Change preset number xx by JOYSTICK left / right

Change dwell time yy (in sec.) with FOCUS NEAR / FAR

ENTER proceeds to next tour position

IRIS- exits tour setting

**NOTE:** This tour setting is independent from tour setting directly via EKB-500 keyboard.

The tours T01A~T16A can be started from TOUR menu in OSD, tour T01A can be started alternatively by command PRESET>97>ENTER.

These tours will not start with EKB500 command Tour>xx>ENTER

**24. X CNT :** X-axis counter. This counter counts the x axis movement, and 1 is counted when the speed dome pans 360°.

**25. Y CNT :** Y-axis counter. This counter counts the y axis movement, and 1 is counted when the speed dome tilts 180°.

**26. PO CNT :** Position counter. This counter counts the go-position times, 1 is counted when speed dome goes to a position once.

**27. LOAD DEFAULT :** Load default setting.  
Select this item and press "Enter" to load default setting.

**28. EXIT :** Exit OSD Menu  
Select this item and press "Enter" to quit setup menu.  
Press "Clr" + "Menu" at any menu position to quit setup menu.

## 4. EPTZ3000 ADDITIONAL SETUP AND OPERATION WITH EKB-500

### 4.1. Functions and operation with EverFocus protocol

#### Manual control mode

Move the joystick up/down/left/right and turn it clockwise/counterclockwise to control the speed dome.

Use the control keys - Zoom, Focus and IRIS function keys - on the keyboard to zoom in/out, focus N (near)/F (far), or IRIS +/-.

**NOTE:** Zoom in/out control keys will be disabled when entering to OSD menu mode.

#### HOME Position

If no keyboard operation is effected within a specific time, the camera will return to home position. The home position and the specific time can be set by pressing **Set** + **Home**.

If you set the time to 0 minutes, then the camera will return to home position if there is no keyboard operation within 5 seconds. This is the minimum no-action time for HOME mode.

**NOTE:** If "HOME" function is enabled, dome will go to home position immediately after powering on.

#### Auto Pan Mode

The EPTZ dome provides 2 autopan modes, depending on OSD menu setting (item 22. MOTION)

**Two point auto pan:** Press **A.Pan** to enter the autopan mode, and then the system will ask you to enter the autopan speed (1~239). Press **Enter** to start autopan.

In order to set the two points, press **Set** + **A.Pan**, and then enter the dwell time (1~127 seconds) of each point.

EPTZ 3000 begins to pan clockwise from point A to point B.

**360° auto pan:** Press **Shift** + **A.Pan** to enter the 360° autopan. System will ask you to enter 360° autopan speed (1~239). The camera will automatically turn 360°, but not tilt.

#### Position Setting

**Move to a preset position:** Press the number key and then press **Position** to focus on the number of preset position; or press **Position**, then enter the preset position number, and then press **Enter** to focus on the number of preset position.

#### Set preset position

Move the joystick to the desired preset and then press **Shift** + **Position**. The system will ask you to enter the preset position number (1~192). Press **Enter** to save the position. Up to 192 preset positions can be defined.

The following preset positions are reserved for special functions:

33 => 180 degree rotation

34 => Go to home position (if home position is set by EVF keyboard)

88 => manual setting DAY (colour) mode, not active with OSD menu setting 5.DAY/NIGHT -> AUTO

89 => manual setting NIGHT (b/w) mode, not active with OSD menu setting 5.DAY/NIGHT -> AUTO

92 => Set left limit stop (A position)

93 => Set right limit stop (B position)

96 => Stop scan

97=> Start preset tour T01A

98 => Frame scan (60 degrees / step)

Default speed is 32. It can be changed by EVF keyboard (**Shift** + **A.Pan**) setting speed.

Dwell time: default is 2 sec; value can be changed by EVF keyboard (**Set** + **A.Pan**) setting dwell time of A pos or B pos.

99 => Autopan (A-B autopan or 360 degree continuous rotation, depending on setting in item 22 - motion)

Default speed is 32. It can be changed by EVF keyboard (**Shift** + **A.Pan**) setting speed.

### Preset position parameters

Press **Set** + **Position** to set the parameters of a preset position. You can set the going-to speed (1~239), dwell time (1~239 seconds), and the title of the position. Shift the joystick right/left to change bits, and shift the joystick up/down to change the alphanumeric characters. The available alphanumeric characters are 0~9, A~Z, &, ?, !, :, ;, ., ,, /, -, and a space.

**Delete a preset position:** Press **Clr** + **Position** to delete a preset position. The system will ask you to enter the position number to be deleted; then press **Enter**.

### Preset Tour / Pattern

In the tour mode, you can set a tour for viewing. There are 16 tours and 16 preset positions in a tour that can be set.

**One-way tour mode:** Press **Tour** to enter the tour mode. The system will ask you to enter the tour number you would like to run, and starts the tour after pressing **Enter**. Before running a tour, the tour presetting is required.

**Program a one-way tour:** Press **Set** + **Tour** to preset a one-way tour. The system will ask you to enter preset position numbers (The positions need to be preset). After having entered all positions, press **Stop** to quit, and then press **Enter** to save the tour.

**To-and-from tour mode:** Press **Shift** + **Tour** to run a to-and-from tour. The system will ask you to enter the tour number you would like to run, and starts the tour after pressing **Enter**. Before running a tour, the tour presetting is required.

**Start pattern:** Press **Tour** to enter the tour mode. Enter "0" and press **Enter**. Before running the pattern, programming of a pattern is mandatory.

**Program pattern:** Press **Set** + **Tour** + **0** + **Enter** to program a pattern tour. Any PTZ movement will be recorded now for 1 minute max. Stop the pattern recording with **Stop**. After 1 minute, the recording function will be stopped automatically.

**Note:** The difference between the One-way tour mode and To-and-from tour mode is that the return modes are different. For example: There is a tour with 3 preset positions 1, 2 and 3. The camera runs 1•2•3•1•2•3 in the One-way tour mode, and 1•2•3•2•1 in the To-and-from tour mode.

### Alarm link to a position/tour

EPTZ 3000 has 4 alarm inputs that can be set to link to a position or a tour when an alarm is triggered.

**Set an alarm link:** Press **F1** to set an alarm link. Enter the alarm number, and then press **Enter**. Use the joystick up/down to select a position or a tour, enter a position or tour number, and then press **Enter** to confirm the alarm link setting.

**Delete an alarm link:** Press **Clr** + **F1** to delete an alarm link to a position/tour.

## 4.2. Functionality in Pelco-D mode

The EPTZ 3000 dome provides standard speed dome functionality also in Pelco-D mode.

Basic operations such as PTZ, save and call presets are similar to operation in EverFocus protocol.

Most important limitations: - only one preset tour is available (T01A)  
- programming of pattern tour is not possible

For some functions, special operations are required:

### OSD Menu operation

**Open OSD:** "Program Preset 95" (at EKB500: SHIFT+PRESET > 95 > ENTER )  
**ENTER** in OSD: IRIS OPEN (at EKB500: IRIS +)  
**ESC / CLOSE OSD:** IRIS CLOSE (at EKB500: IRIS -)

### PRESET TOUR

Only tour T01A is available in Pelco-D mode. Programming of the T01A tour is done in OSD menu.

**Start Preset tour:** PRESET > 97 > ENTER  
**Stop Preset tour:** any PTZ command

### AUTO PAN

The EPTZ dome provides 2 autopan modes, depending on OSD menu setting (item 22. MOTION)

**Two point auto pan (OSD item 22 MOTION: ON):** Press **PRESET>99>ENTER** to enter the autopan mode, and then the system will ask you to enter the autopan speed (1~239). Press **Enter** to start autopan.

#### Setup of left / right limit stop:

Preset 92 => Set left limit stop (A position)  
Preset 93 => Set right limit stop (B position)

**360° auto pan (OSD item 22 MOTION: OFF):** Press **Preset>99>Enter** to enter the 360° autopan. System will ask you to enter 360° autopan speed (1~239). The camera will automatically turn 360°, but not tilt.

## Summary of available special commands in Pelco-D mode

Preset	Function
33	180 degree rotation
34	Go to home position (if home position is set by EKB-500 keyboard)
88	manual set DAY (colour) mode, not active with OSD menu setting 5.DAY/NIGHT -> AUTO
89	manual set NIGHT (b/w) mode, not active with OSD menu setting 5.DAY/NIGHT -> AUTO
(save) 92	Set left limit stop (A position)
(save) 93	Set right limit stop (B position)
(save) 95	save (SHIFT) preset 95 opens OSD menu
96	Stop scan
97	Start preset tour T01A
98	<p>Frame scan (60 degrees / step)</p> <p>Default speed is 32. It can be changed by EVF Keyboard (<b>Shift</b> + <b>A.Pan</b>) setting speed. Dwell time: default is 2 sec; it can be changed by EVF Keyboard <b>Set</b> + <b>A.Pan</b> setting dwell time of A pos or B pos.</p>
99	<p>Autopan (A-B autopan or 360 degree continuous rotation, depending on setting in item 22 - motion)</p> <p>Default speed is 32. It can be changed by EVF Keyboard (<b>Shift</b> + <b>A.Pan</b>) setting speed.</p>

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