EPTZ 100

Day / Night Speed Dome Camera

INSTALLATION / OPERATION

EverFocus®

1 SAFETY WARNINGS

- Do not place the device near to heaters, furnaces, other heat sources or under direct solar irradiation.
- Operate the device only in locations providing the tolerable operating temperature range 0°C~40°C.
- For cleaning, make sure the device is plugged off and only use a damp cloth without acid detergent.
- Install the device only in dry and dustproof surroundings. Protect the device against any liquid's penetration.
- Avoid the penetration of any artefacts, e.g. through ventilation slots.
- Do not open the device yourself. In case of malfunction, contact your local installer or dealer. Unauthorized opening of the device will annul the warranty claim!
- Use the device only for purposes described in this manual.
- Operate the device only with the power source indicated in this user manual.

$C\epsilon$

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.

FC

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.

RoHS

This Product is RoHS compliant.

WEEE

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 lebenı

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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2 INTRODUCTION

The mini PTZ speed dome EPTZ 100 provides ideal discreet surveillance for CCTV indoor applications. Engineered with the latest Digital Slow Shutter (DSS) x128 technology, EPTZ 100 can improve CCD sensitivity, producing quality images also under low light conditions.
EPTZ 100 offers enhanced features such as privacy zones, noise reduction and 4 pattern tours with total 40 minutes duration.

2.1 FEATURES

- Compact size design for discreet surveillance (only 114 mm / 4.5" diameter)
- 100x total zoom (10x optical: 3.8 ~ 38 mm and 10x digital autofocus zoom)
- High resolution 520 TVL (colour mode), 570 TVL (b/w mode)
- Image capture in almost complete darkness with DSS 128x max.
- True day/night operation with automatic IR cut filter
- High speed pan/tilt (up to 240° /sec.)
- 360° endless pan
- Digital Noise Reduction
- 4-zone privacy masking
- RS-485 communication with EverFocus, Pelco-D and Pelco-P protocol
- 4x 10 minutes pattern tour (programmable camera movement)
- 3 alarm inputs, 1 alarm output relay
- Includes adapter for ceiling surface mount and recessed ceiling mount.

2.2 DELIVERY SCOPE

1 x Speed dome camera module
1 x Connector board
1 x Ceiling mount adapter
1 x Metal ring for recessed ceiling mount
1 x Plastic cover ring for recessed ceiling mount
1 x Drilling template for ceiling mount
1 x Accessory / screw set
1 x User manual

2.3 OPTIONAL ACCESSORIES

EPTZ 100 WLM	Wall mount bracket
EPTZ 100 CLM	Ceiling pendant mount adapter
EKB 500	Universal RS-485 controller keyboard
24 VAC power supply	(type depends on sales region)

2.4 SPECIFICATIONS

Camera

Sensor:	1/4" CCD SONY Super HAD
Effective pixels:	380.000 (NTSC), 440.000 (PAL)
Horizontal resolution:	520 TV lines (colour mode)
	570 TV lines (b/w mode)
Sensitivity:	0,7 lux (F 1.8, 50 IRE – colour mode)
	0,02 lux (F 1.8, 50 IRE – b/w mode)
	0.005 lux (DSS x 128)
Video output:	Composite 1 Vp-p (sync. negative)
S/N ratio:	over 50 dB
Sync. system:	internal
Electronic shutter:	1/60 ~ 1/120.000 NTSC, 1/50~ 1/120.000 PAL,
	automatic (ESC) or manual
Digital Slow Shutter (DSS)	up to 128 x
White balance:	auto AWC / ATW mode, manual
Back light compensation:	adjustable 3 steps / OFF
Gain:	adjustable 3 steps / OFF
Flicker cancel:	ON / OFF
DNR Dynamic Noise Reduction:	adjustable 3 steps / OFF
Day/night switching:	IRC + b/w switching manual / automatic

Lens

Zoom ratio:	10x optical autofocus zoom
	(+10x digital zoom, max. 100x)
Focus length:	f 3,8 (wide) ~ 38 (tele) mm
Aperture:	F 1.6 (wide) ~ F 2.8 (tele)
Viewing angle:	51.2° (wide end) to 5.58° (tele end)
Minimum object distance:	1,5 m
Focusing method:	auto, one-push AF, manual

Communication

Communication:	RS-485 simplex 2 wire
Built-in protocols:	EverFocus / Pelco-P / Pelco-D , setup by DIP switch
Baud rate:	2400 / 4800 / 9600 bps, setup by DIP switch
Speed dome address range:	1 ~ 255, setup by DIP switch

Alarm

Alarm:	3 inputs, 1 output, with tour / position auto triggering

PTZ / functionality

Horizontal rotation range:	360° unlimited rotation
Tilt rotation range:	90° with auto flip function
Auto pan, 2 points scanning:	adjustable speeds, adjustable end stops
Auto pan speed:	2, 6, 12, 30, 60, 120° / second
Auto pan dwell time (A-B points):	1,3,5,10,30,45 s
Preset positions:	64
Preset tours:	1 tour with first 16 positions, 4 group tours with 4 positions each,
	1 tour with individual setup up to 32 positions
Dwell time at preset position:	1 ~ 255 s
Pattern:	4 x pattern with up to 800 movements / 600 s PTZ recording each
Running to position speed:	up to 240° / sec.
Manual pan / tilt speed:	0,5° ~ 240° / sec.
Position accuracy:	0.225°

6

|	
Alarm:	3 inputs, 1 output, with tour / position auto triggering
Proportional pan speed:	yes
Privacy zones:	4 zones, free adjustable
Setup:	multiline OSD setup menu
Auto resume:	after 1, 2, 3, 4, 5 or 10 min. no activity: go to
Video output:	BNC cable socket

Power

|	
Power source:	24 V AC +/- 10%
Power consumption:	19 W max. (with PTZ motors)
	12 W max. (without PTZ motors)

Physical / environment

Connectors:	Video output: BNC cable socket
	Power/RS485/Alarm: connector cable, open cable end
	cable length: 90 cm
Ambient temperature:	0°C ~ +40°C
Humidity:	85% max
Protection rating:	IP20, for indoor applications only
Dimensions:	200 (height with ceiling mount adapter) x
	114 (diameter camera module) mm
	Details in dimension drawing
Weight:	1.5 kg (camera module incl. adapter board)
Delivery scope:	speed dome camera, connector board ceiling mount adapter, in-ceiling mount adapter, user manual, mounting accessories

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2.5   DIMENSIONS

2.5.1   Dimensions with ceiling mount adapter
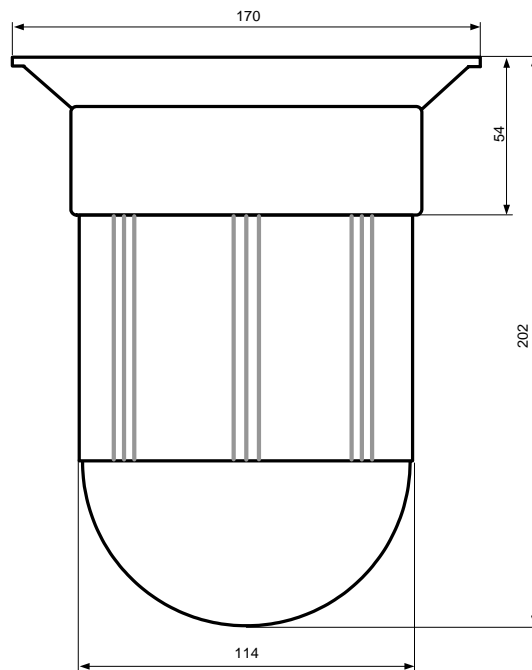
2.5.2   Dimensions with recessed ceiling mount adapter

EPTZ100_ma_en_rev03.doc
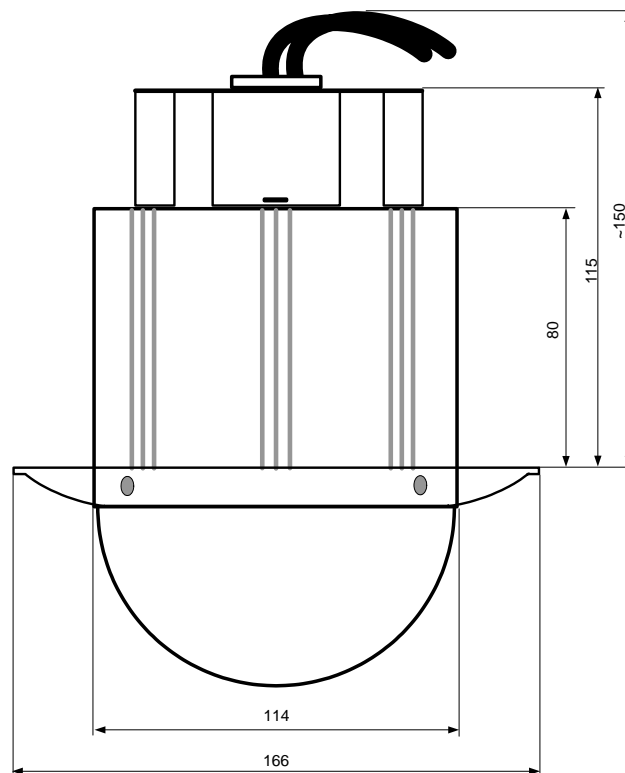
2.5.3 Dimension EPTZ 100 with wall mount bracket EPTZ 100 WLM

270

225
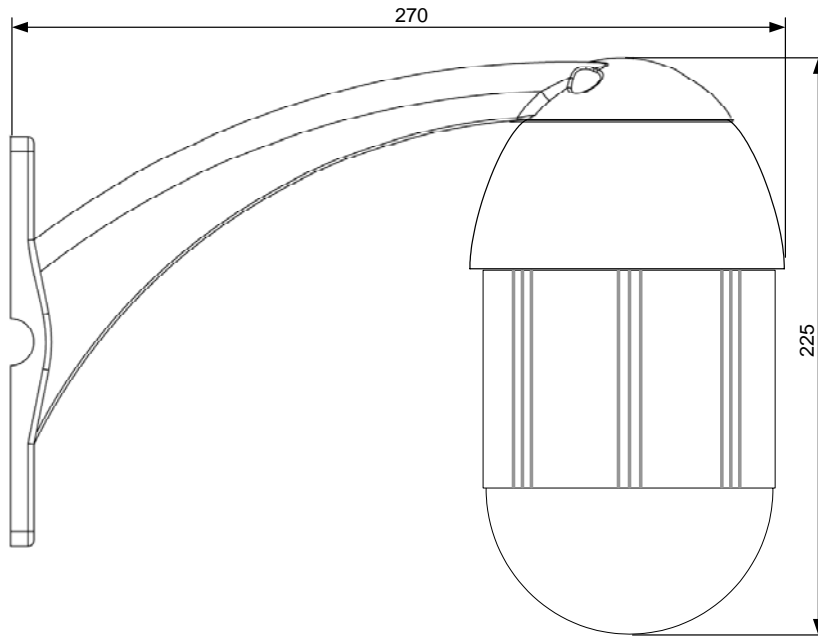
2.5.4 Dimensions wall bracket EPTZ 100 WLM

240

169,5

140

240

80

140

120

60

80
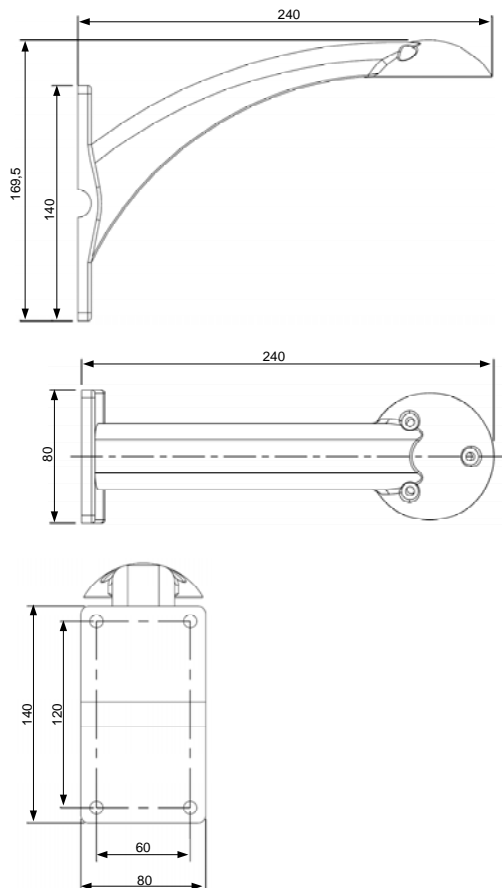
2.5.5 Dimension EPTZ 100 with ceiling pendant bracket EPTZ 100 CPM

500

120
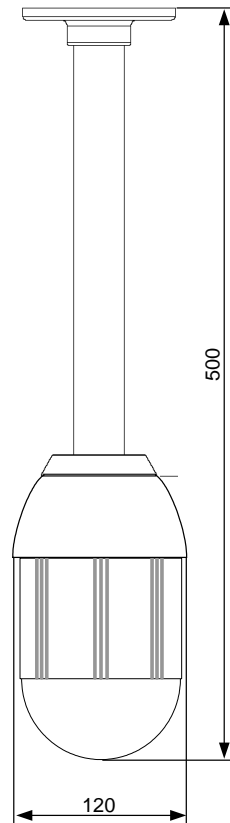
2.5.6 Dimension ceiling pendant bracket EPTZ 100 CPM

72

300

100

80

80

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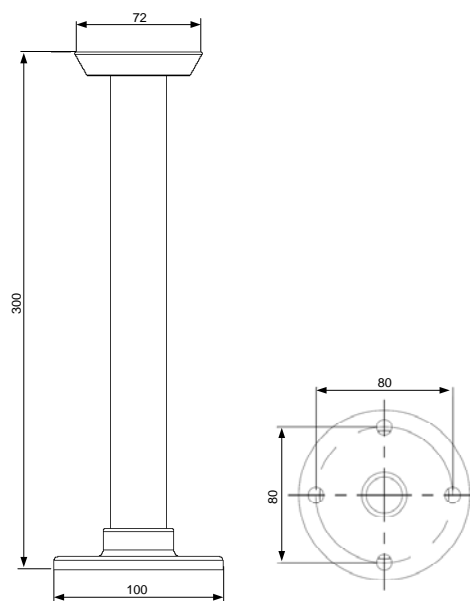
3 INSTALLATION

3.1 MECHANICAL

3.1.1 Ceiling mount

The ceiling mount accessories are included in the EPTZ 100 package.
1. Use the drilling template to mark the drilling holes.
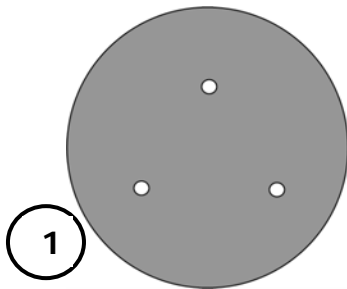
2) Click the connector board into the ceiling adapter. Follow the red arrow marks at board and ceiling adapter for correct position.
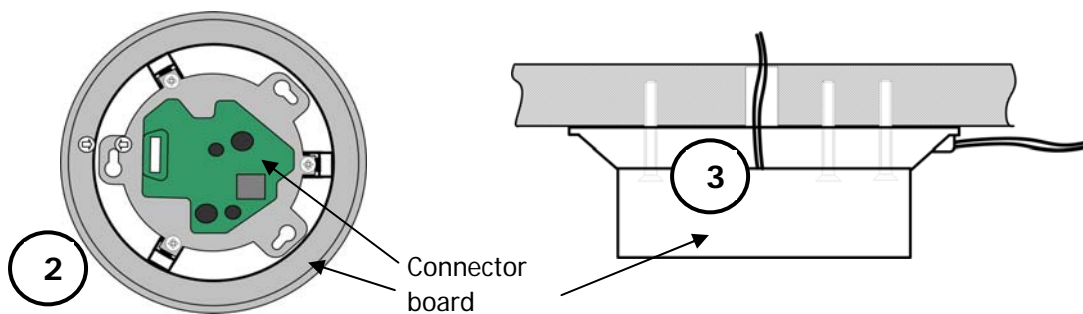
Connector
board

3) Mount the ceiling adapter and connector board to the ceiling. For the cables, use either the side outlet or a hole in the ceiling.

4) Plug the dome module in the ceiling adapter. Make sure that the position of the camera module connector fits the connector position of the connector board.

5) After plug-in, turn the camera module some degrees clockwise to latch the camera module.

Connector
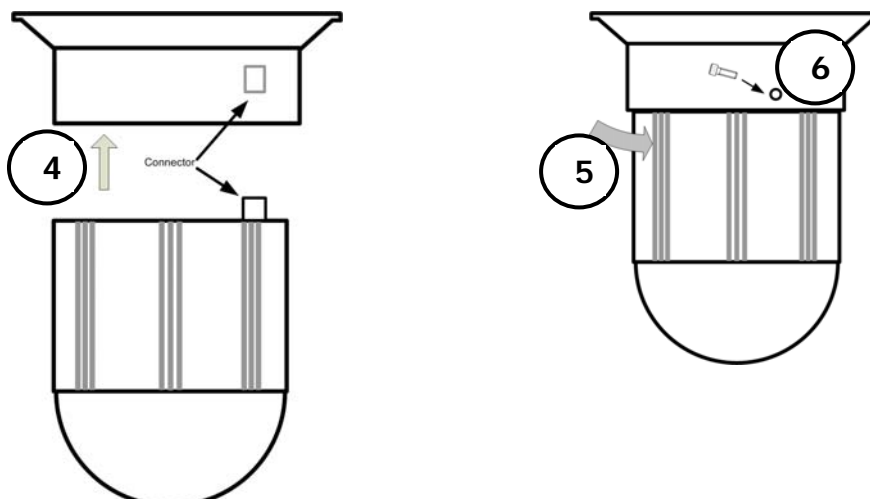
6) Use the hex key to fix the camera position with the locking screw.

3.1.2 Recessed ceiling mount

Recessed ceiling mount is possible at open ceilings. A metal ring has to be mounted at ceiling side.

1) Cut a 115mm / 4.6" hole into the ceiling.
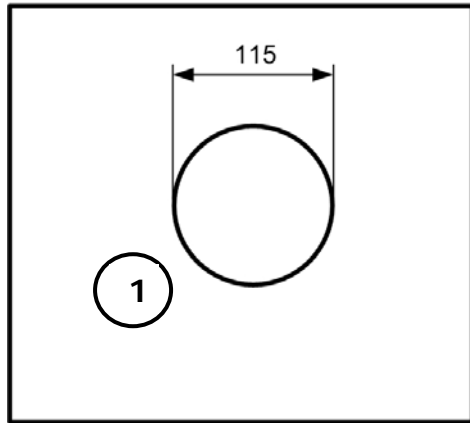
2) Drill 3 screw holes for mounting in the ceiling Use the metal ring as template for drilling holes.
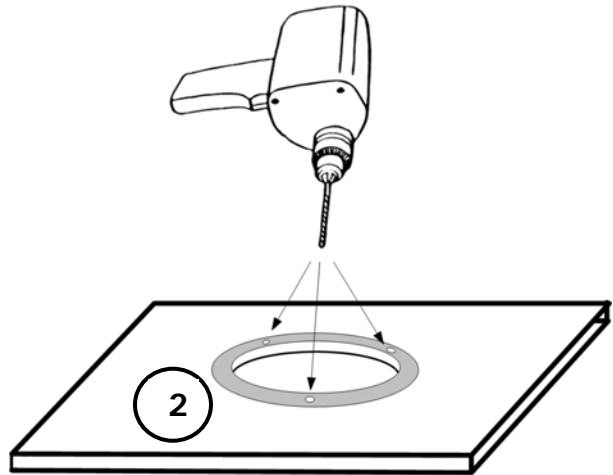
3) Plug the connector board to the dome module and latch it by turning clockwise.
4) Remove the clear dome cover and click the plastic cover ring at the dome cover with some pressure. Mount the dome cover with ring to the camera module.
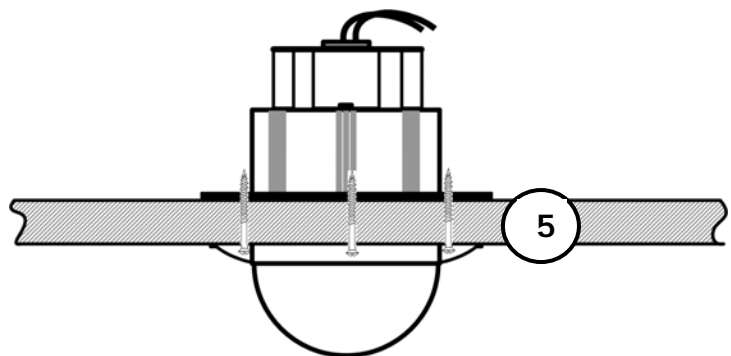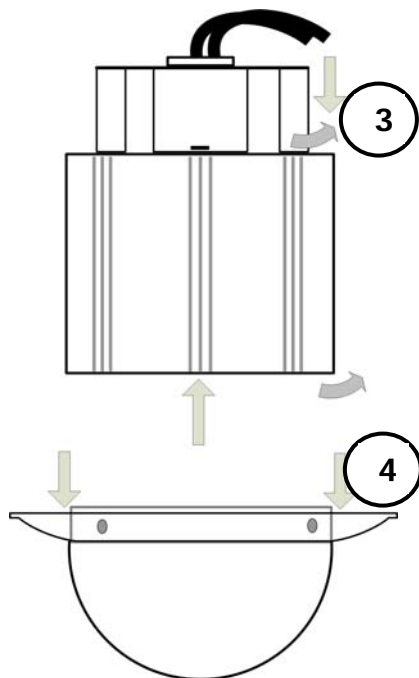
5) Position the metal ring at top side of ceiling and mount the prepared speed dome module to the metal ring with 3 tapping screws.

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3.1.3 Wall mount

Wall mount requires the optional bracket EPTZ 100 WLM.

1) Assemble the connector board to the bracket adapter by 3 M4 screws. Follow the red arrow marks at both board and ceiling adapter for correct position.
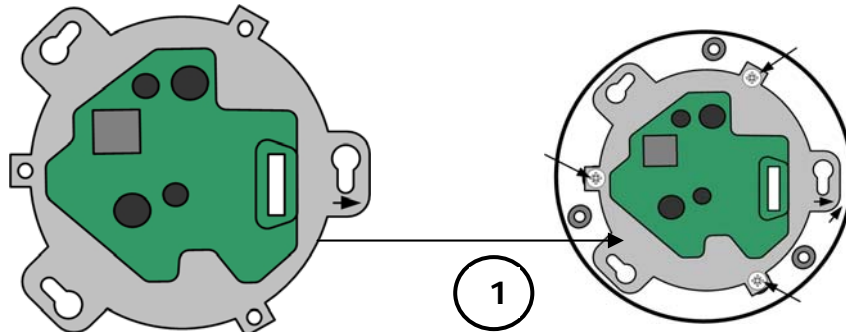
2) Remove the cable cover from the wall bracket.
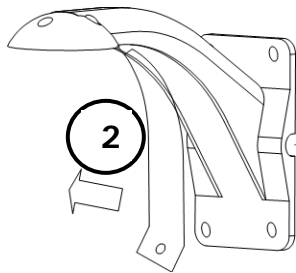
3) Mount the bracket adapter with connector board to the bracket.
4) Mount the bracket to the wall.
5) Plug the dome module in the ceiling adapter. Make sure that position of the camera module connector fits the correct position of the connector board.
6) After plug-in, turn the camera module some degrees clockwise to latch the camera module.
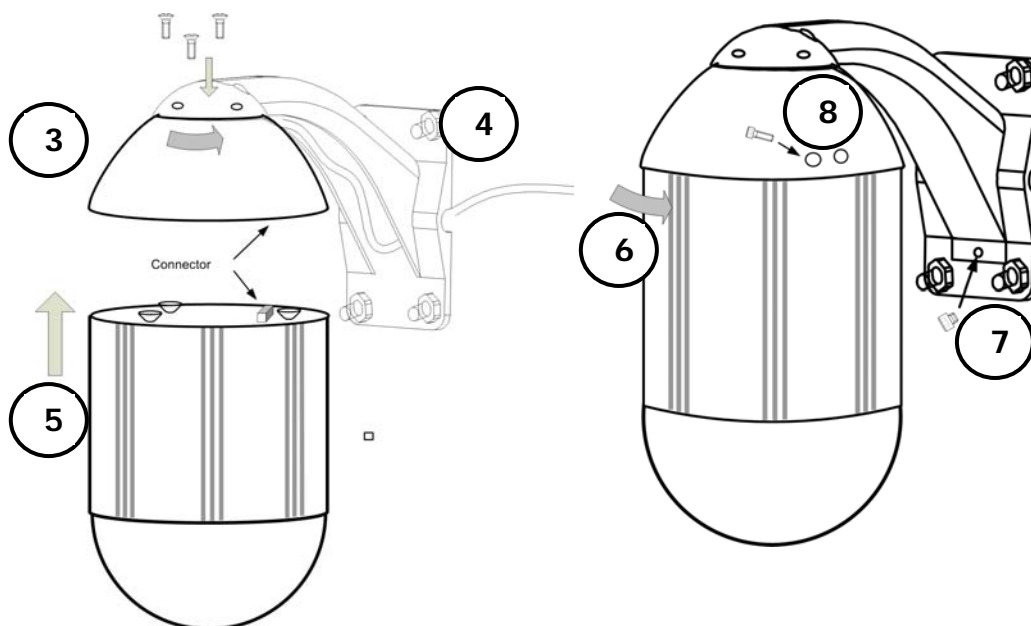
7) Assemble the cable cover.
8) Use the hex key to fix the camera position with the locking screw.

3.1.4 Ceiling pendant mount

Ceiling pendant mount requires the optional adaptor EPTZ 100 CLM.

1) Assemble the connector board to the bracket adapter by 3 M4 screws. Follow the red arrow marks at board and ceiling adapter for correct position.
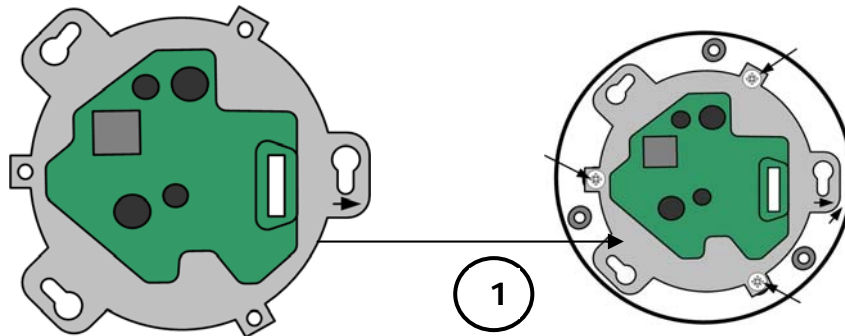
2) Mount the bracket adapter with the connector board to the EPTZ 100 CLM. For wiring, use the upper hole or side outlet of the tube.

3) Mount the EPTZ 100 CLM to the ceiling.

4) Plug the dome module in the ceiling adapter. Make sure that position of the camera module connector fits the correct position of the connector board.

5) After plug-in, turn the camera module some degrees clockwise to latch the camera module.

6) Use the hex key to fix the camera position with the locking screw.

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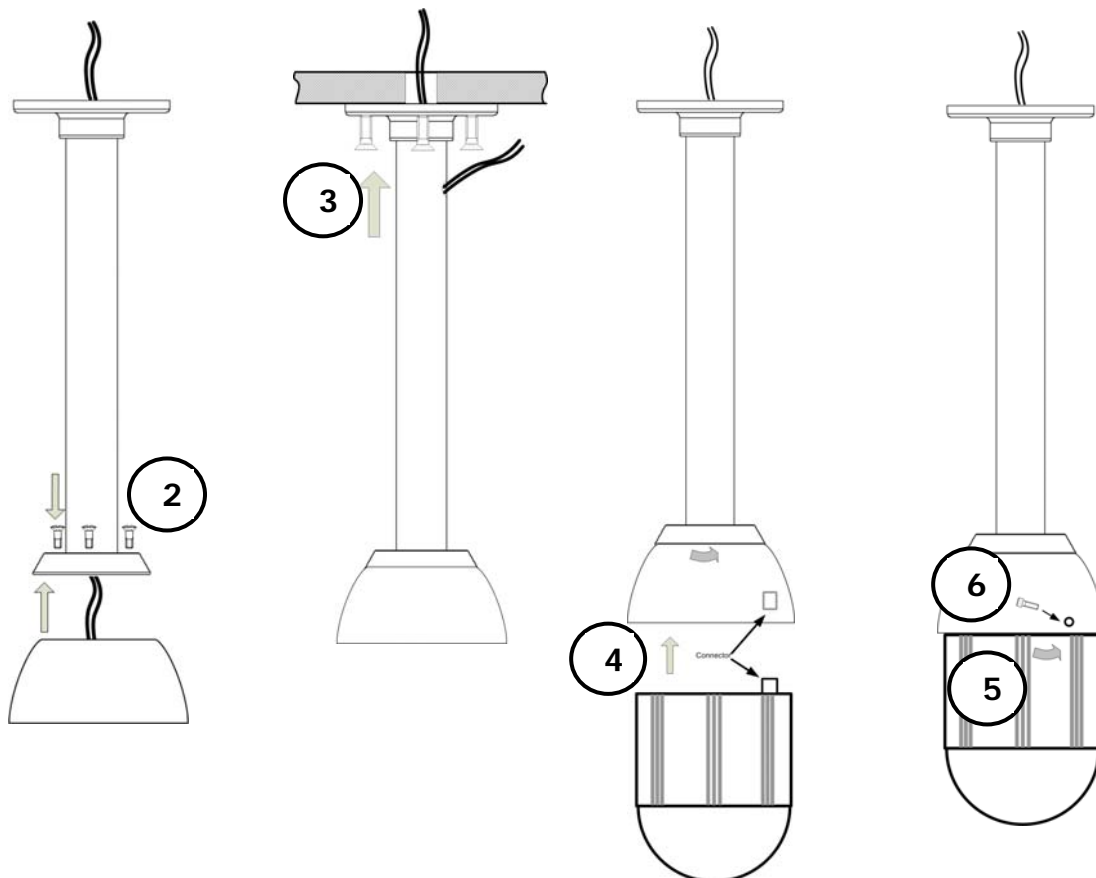
3.2 ELECTRICAL

3.2.1 Video

EPTZ 100 provides a composite 1 Vp-p video output PAL/NTSC (video system depending on ordered version) with a BNC cable socket.

Cameras and video displaying or processing equipment (DVRs, switchers etc.) require cabling with 75 Ohm video cable, e.g. RG-59, RG-12, and suitable BNC plugs.

Due to inappropriate absorbability, 50 Ohm coax cable (e.g. RG58), antenna cable and further types of coax cable are not suitable.

Make sure that the video input of the connected video device is terminated with 75 Ohm.

When interconnecting transmission lines (twisted pair, fibre optics, radio) to the speed dome, ensure the accurate receiver calibration.

3.2.2 Power

EPTZ 100 is powered by 24 VAC voltage. Connector is a 5.5 mm power cable socket.
Make sure that the used power supply complies with the power requirements of the speed dome (19 W max.). 24 VAC / 1 A power source (or higher current) is recommended.

NOTE: If the power supply is not located near the dome camera, make sure that the installation cables have sufficient diameter, otherwise the voltage drop over the power line will cause malfunction of the speed dome (min. 21.4 VAC at speed dome power input with active PTZ motors is required).
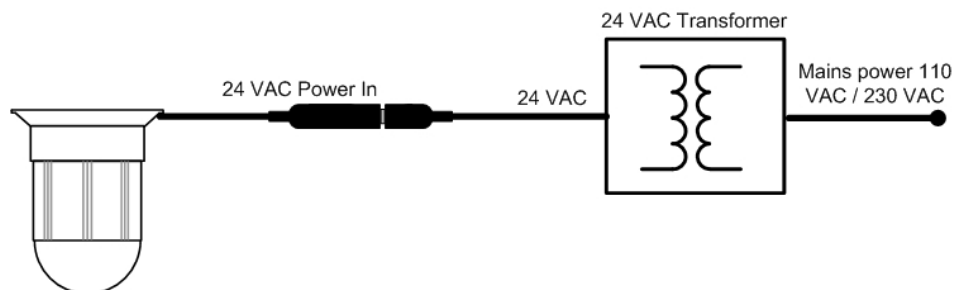
NOTE: Do not connect the power until all installation steps are done!

3.2.3 RS-485

EPTZ 100 uses RS-485 simplex wiring; the signal is transferred via a single twisted pair line. 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.

Basically, the bus should be created by serial wiring, star wiring is only permitted using signal distributors.

Maximum RS-485 bus cable length is 1200 m. Both the first and the last device are normally 120 Ohm terminated in order to minimize line reflexions.
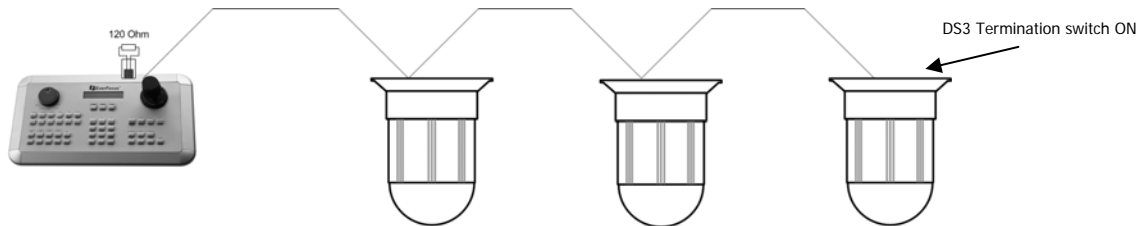
Serial RS485 installation
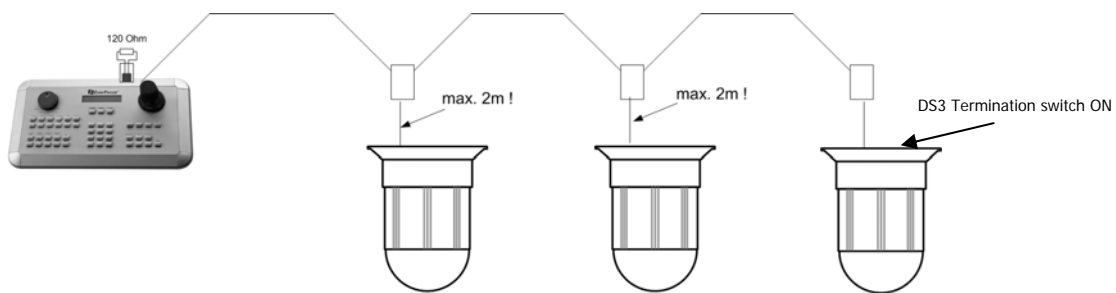
Serial RS485 installation with connector boxes and stubs
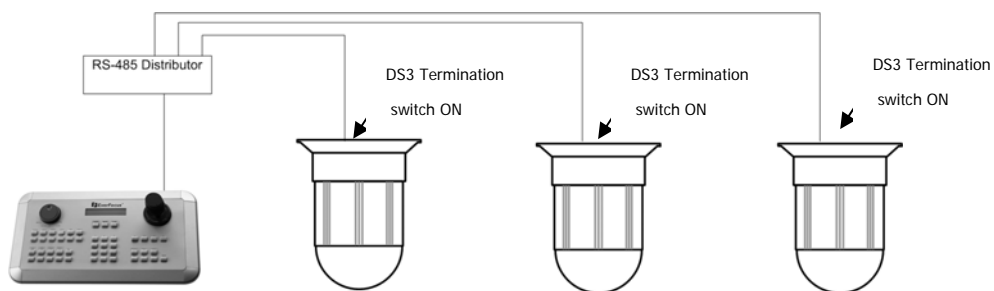
Correct RS-485 star wiring with RS-485 distributor
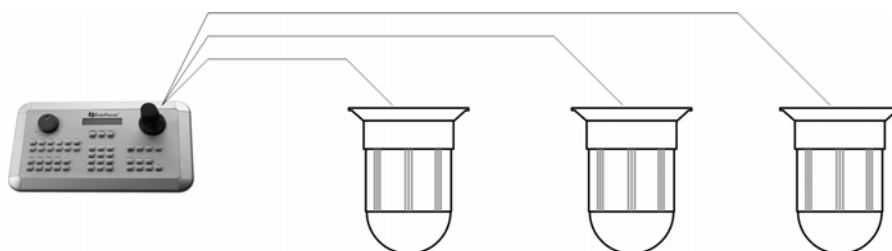
Incorrect RS-485 star wiring !

3.2.3.1 RS-485 installation with EKB 500 keyboard

For connection to EKB 500 via RS-485, it is recommended to use the EKB 500 connector box.
The drawing below shows an installation example.
Please make sure that the wires are connected with correct polarity.
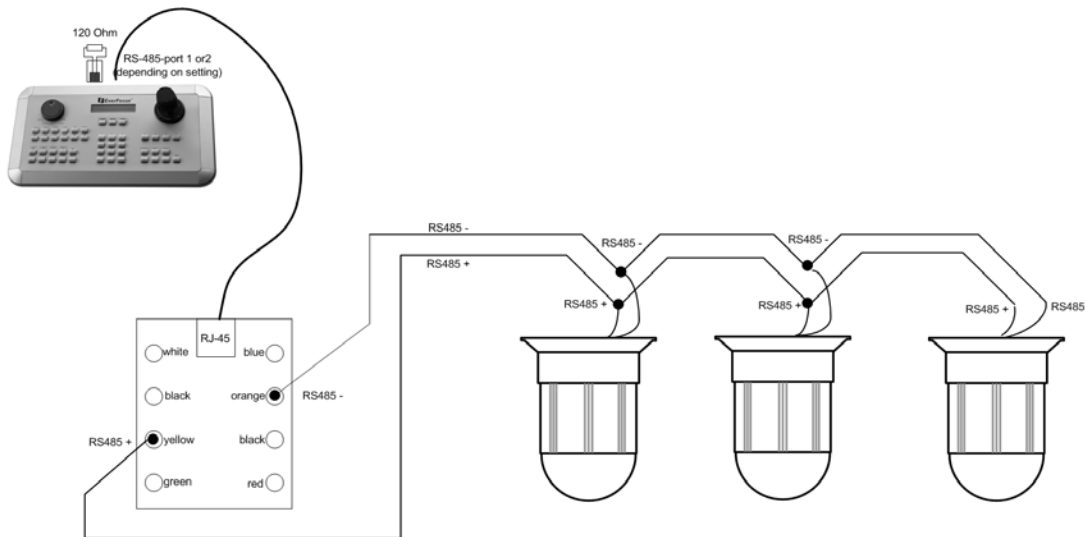
Alternatively, it is possible to connect the RS-485 wire directly to the keyboard by using a standard RJ45 plug. The pin assignment is shown in the drawing below.
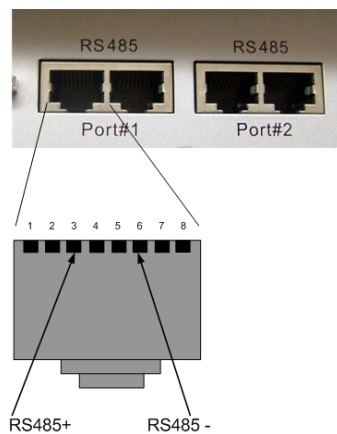
Basic communication settings for EKB 500 are explained in Appendix A. For further details, please refer to the EKB 500 user manual.

3.2.3.2 RS-485 installation with EverFocus DVR

It is possible to control the EPTZ 100 speed dome by EverFocus DVR (except 1 Ch. models) via network. A combined local control by EKB 500 keyboard and remote (network) control by DVR is also possible.

For a combined local and remote PTZ control, it is mandatory that DVR and speed dome are connected to the same RS-485 port of the EKB 500 keyboard. The RS-485 signal is looped through the DVR.
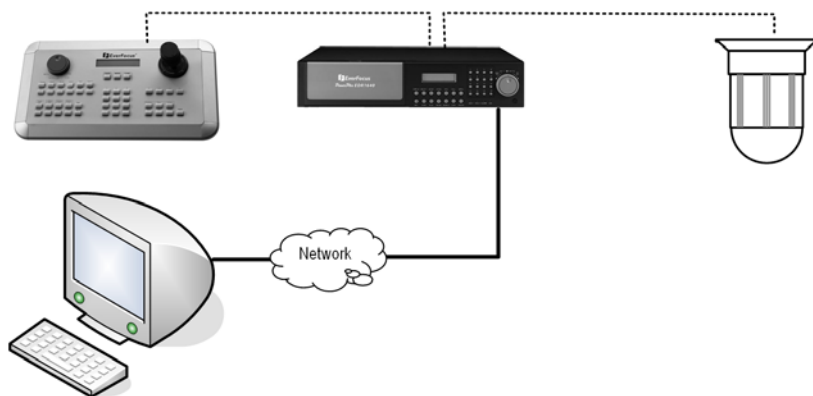
Combined local and remote PTZ control
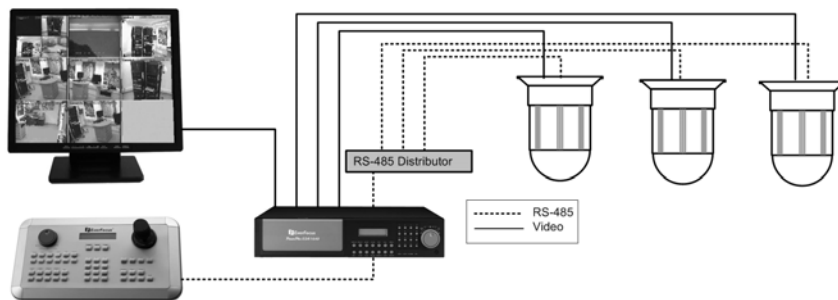
Combined local and remote PTZ control with star wring to dome and RS-485 distributor

The drawing below shows an incorrect RS-485 connection for controlling the DVR locally and remotely. With this way of installation, only local PTZ control is possible.
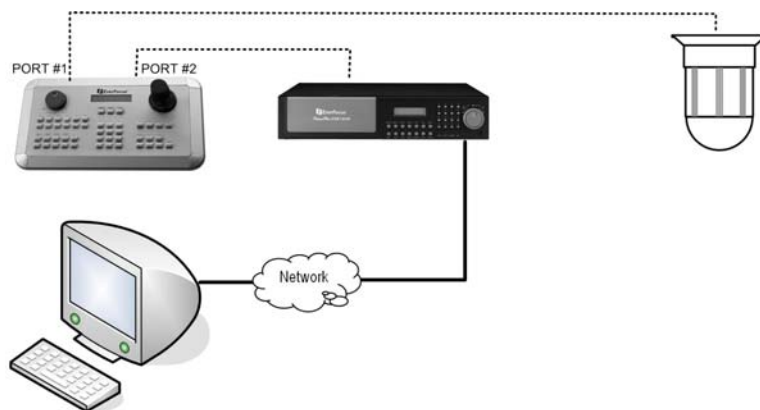
Incorrect wring for combined local and remote PTZ control

3.2.4 Alarm

EPTZ 100 provides 3 alarm input contacts and 1alarm output relay. It is also possible to trigger the alarm output relay by EKB 500 keyboard command.

For input contacts, use dry Normal Open (N.O.) contacts only.
The maximum load of output relay contacts is 30 V AC/DC 0.5 A max.

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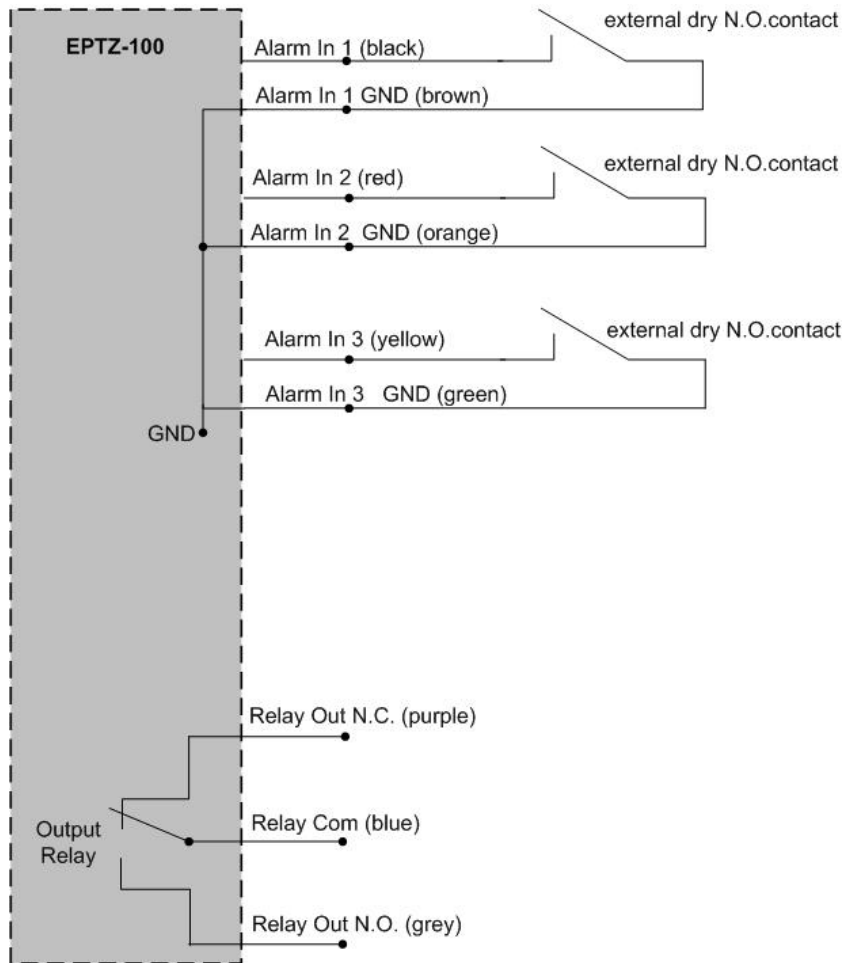
3.3   COMMUNICATION SETTINGS

The setup for general RS-485 parameters - protocol type, RS-485 address and baud rate - is done by DIP switches, located at the top of the camera module.
Correct settings are essential for communication with the dome controller.
For correct communication, all 3 parameters - protocol, baud rate and RS-485 ID- have to comply with the PTZ controller settings.
The 120 Ohm termination (DS3) is used at the last dome in the RS-485 bus for avoiding reflections in the RS-485 bus.

Location of DIP switches:
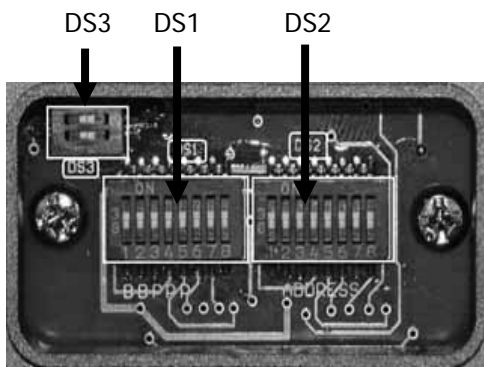
DS1: Protocol and baud rate
DS2: RS-485 ID (address)
DS3: 120 Ohm termination of RS-485 bus

3.3.1   Baud rate and Protocol

The baud rate setting is done by switch 1 and 2 of DS1:

The telemetry protocol setting is done by switch 3, 4 and 5 of DS1:

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3.3.2 RS-485 ID (address)

The RS-485 ID (address) setting is done by DIP switch DS2. The following table shows the switch positions for the possible addresses 1 ~ 255:

Switch	Address	Switch	Address	Switch	Address	Switch	Address
	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
	32		64		96		128

Switch	Address	Switch	Address	Switch	Address	Switch	Address
	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
	160		192		224		

3.3.3 RS-485 bus termination

The last device in an RS-485 bus should be terminated by 120Ohm resistor to avoid reflections on the bus (for details, please refer to chapter 3.2.3).
The termination is done by DIP switch DS3.

Termination ON   Termination OFF

3.4 INITIAL START

After finishing all installation steps, power on the EPTZ 100.
At power-up, EPTZ 100 will perform an initialization. The communication settings will briefly appear on the screen. Please check these information to ensure the correct DIP switch settings.

Example:

TYPE: EPTZ100
Firmware: 709M/809Q
BAUDRATE:9600
RS-485 ID: 1
PROTOCOL: EVERFOCUS

4 OSD MENU SETUP

4.1.1 Operation in Setup Menu

Start EPTZ menu:	If DVR Main monitor is selected ("DVR" in LCD display): CAM (hold) + MENU If no DVR main monitor is selected: MENU or CAM (hold) + MENU or alternatively in both modes: SHIFT (hold) + PRESET > 9 5 > ENTER
Switch between the settings:	JOYSTICK ↓ ↑
Enter submenus:	JOYSTICK → in CAMERA > ADVANCED SETUP: IRIS +
Change the settings:	JOYSTICK ← →
EXIT OSD menu / submenus:	Menu item EXIT/RETURN > JOYSTICK → in CAMERA > ADVANCED SETUP: IRIS -

Note: Exceptional commands are described in the OSD.

4.1.2 Menu Structure

OSD Structure Part 1:

MAIN MENU
- SYSTEM INFO
- DISPLAY
- CAMERA
- SCAN
- CONTROL
- PRIVACY MASK
- ALARM
- INITIALIZE
- EXIT

SYSTEM INFO
- TYPE
- FIRMWARE
- BAUDRATE
- RS-485 ID
- PROTOCOL

DISPLAY
- CAMERA ID
- CAMERA NAME
- PRESET NUMBER
- PRESET NAME
- PTZ POSITION

CAMERA
- ZOOM SPEED
- ADVANCED SETUP
- RESCUE MODE
- BAUDRATE
- PARITY

SCAN
- AUTO PAN
- ALL PRESET
- GROUP SCAN
- TOUR SCAN
- PATROL
- PATTERN

MAIN SETUP
- CAM TITLE
- WHITE BAL
- BACKLIGHT
- MOTION DET
- FOCUS
- EXPOSURE
- SPECIAL
- RESET

AUTO PAN
- PAN/TILT
- PAN ONLY
- CIRCLE

ALL PRESET
- SPEED
- DWELL
- RUN

GROUP SCAN
- GROUP1
- GROUP2
- GROUP3
- GROUP4

TOUR SCAN
- GROUP1
- GROUP2
- GROUP3
- GROUP4
- SPEED
- DWELL
- RUN

PATROL
- PRESET
- SPEED
- DWELL
- RUN

PATTERN 1
- RECORD
- PREVIEW
- RUN
- DELETE

FOCUS SETUP
- MODE
- ZOOM TRK
- ZOOM SPEED
- D-ZOOM
- DISP ZOOM MAG
- ZOOM POS INIT
- LENS INIT

EXPOSURE SETUP
- BRIGHTNESS
- IRIS
- SHUTTER
- AGC
- SSNR
- SENS-UP

SPECIAL SETUP
- USER PRESET
- PRIVACY
- DAY/NIGHT
- SYNC
- COMM ADJ
- IMAGE ADJ

IMAGE SETUP
- FREEZE
- H-REV
- V-REV
- SHARPNESS
- COLOUR GAIN

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OSD Structure Part 2:

MAIN MENU
SYSTEM INFO
DISPLAY
CAMERA
SCAN
CONTROL
PRIVACY MASK
ALARM
INITIALIZE
EXIT

CONTROL
AUTO RESUME
POWER ON RESUME
IMAGE FLIP

AUTO RESUME
MODE
TIME

PRIVACY MASK
MASK 1
MASK 2
MASK 3
MASK 4

MASK 1
POSITION
ENABLE

ALARM
RELAY
INPUT 1
INPUT 2
INPUT 3
OUTPUT

INITIALIZE
POWER ON RESET
CAMERA DEFAULT
FACTORY DEFAULT
LENS REFRESH
CAMERA REFRESH

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4.1.3 Main menu

After opening OSD setup the MAIN menu is shown at the screen:

MAIN MENU
SYSTEM INFO
DISPLAY
CAMERA
SCAN
CONTROL
PRIVACY MASK
ALARM
INITIALIZE
EXIT

Select a menu item with UP/DOWN, RIGHT will open submenu.

NOTE: The OSD menu has a timeout function. After 2 minutes with no activity, the OSD menu will close automatically.

4.1.4 System info

This menu shows the camera type, firmware version and communication settings.
There are no editable items in this menu.

SYSTEM INFO
TYPE   EPTZ100
FIRMWARE   709M809Q
BAUD RATE   9600
RS-485 ID   1
PROTOCOL   EVERFOCUS

4.1.5 Display

The settings in this menu define the overlay displays of the camera.

CAMERA ID
Shows the RS-485 ID on the screen:
ON: display of RS-485 ID
OFF: no display of RS-485 ID

CAMERA NAME
With setting ON, a camera title with up to 16 characters can be entered.
ON: display of camera title (with option for edit)
OFF: no title display

PRESET NUMBER
ON: display number of active preset
OFF: no preset number display

PRESET NAME
ON: display of a freely editable title (up to 16 characters) of the preset (available for presets 1 ~ 32)
OFF: no display of preset name

PTZ POSITION
ON: show coordinates for pan and tilt in degrees and zoom ratio
OFF: no PTZ position display

RETURN
Returns to main menu

4.1.6 Camera

This menu provides the camera video settings.

CAMERA

ZOOM SPEED   Zoom speed setup in 8 possible levels:
                        Level 1: slowest to Level 8: fastest

ADVANCED SETTING   Opens submenu for camera features (following chapter)

RESCUE MODE   Mode for recovering serial communication between speed dome and camera
                        module. This mode is not needed for normal setup. Keep setting OFF.
                        For details consult APPENDIX C: Troubleshooting

BAUD RATE   Baudrate display for RESCUE MODE. This parameter is not needed for normal
                        setup.
                        For details consult APPENDIX C: Troubleshooting

PARITY   Display of parity setting for RESCUE MODE. This parameter is not needed for
                        normal setup.
                        For details consult APPENDIX C: Troubleshooting

RETURN   Returns to main menu

4.1.6.1 Advanced setting (camera setup)

NOTE: This menu and its submenus require an operation different from the other EPTZ 100 OSD menus:

Switch between the settings: JOYSTICK ↓ ↑ ← →
Switch to submenu / enter: IRIS +
Leave the menu: Menu item "EXIT", confirm with IRIS +

MAIN SETUP

CAM TITLE   Alternative camera title display option. Please leave this setting OFF and use
                        "CAMERA NAME" in DISPLAY menu for editing / displaying camera title

WHITE BAL   White Balance mode:
              ATW   Auto-tracking white balance. ATW continuously checks the whole image,
                        weights all colours in the picture and updates the white level and colour
                        temperature which is suitable for constantly changing scene.
                        2 options are available for ATW indoor and outdoor. Indoor mode tends
                        to be more blue and outdoor mode adds more red to the whole image.

              AWC   Auto white balance. Camera will make colour calibration of the picture
                        for once and keep the colour temperature until the next command is
                        given. To refresh the colour, a manual trigger needs to be done to the
                        AWC when shown on the display.

           Manual   Manual adjustment of colour preference. With manual setting, the colour
                        temperature can be fixed which can be suitable for indoor and static
                        environment.
                        If the lighting is Tungsten or similar (more natural), try to either add

some blue or reduce some red; if lighting is fluorescent or within white spectrum, try to either add some red or reduce some blue.
Default values are 30 (for RED) and 40 (for BLUE); it is recommended not to set the values too far away from these two default values.

BACKLIGHT   Back light compensation improves the image quality in scenes with extreme light behind the object which usually washes out the image considerably. Back light function is used to reduce, if necessary, both exposure time and video gain to avoid over-exposure.
Use the back light compensation for sceneries with back light only; under normal light conditions, the BLC may impair the image quality.

OFF   BLC not active
LOW; MIDDLE; HIGH Levels of BLC gain. Set the level as low as possible to avoid overmodulation.

MOTION DET   EPTZ 100 does not support this feature. Please leave the setting on **OFF**.

FOCUS   Submenu for setup of focus modes and features:

ONE_PUSH The one-push function focuses the lens after each pan / tilt / zoom operation and turns autofocus off after focusing.
This mode is recommended for most applications.

AUTO   The AUTO mode enforces the lens to automatically adjust its focusing when either the object moves or the scene has changed.
NOTE: The autofocus function requires adequate illumination of the scenery. Especially in low lux environment, it is recommended to use the "One Push" autofocus mode, not the "AUTO" mode.

MANUAL   Manual mode to finetune and obtain the optimum focusing.
In certain conditions, such as weak contrast, dark sceneries etc., the autofocus function of the camera may not get the best focus position. In such case, the focus can be adjusted manually.

ZOOM TRK Zoom tracking - with setting ON, the lens tries to keep focus also during zoom in / zoom out operation.

Dependencies zoom modes:

Focus Mode	One-Push		AUTO		Manual	
	ZOOM-TRK		**ZOOM-TRK**		**ZOOM-TRK**	
Action	**ON**	**off**	**ON**	**off**	**n/a**	**off**
Change in scene	no action	no action	focusing	focusing		no action
Zooming	focusing	focusing at stop	focusing	focusing		focusing at stop
Pan/Tilt & tilting	focusing at stop	focusing at stop	focusing	focusing		no action
Go to Preset	focusing at stop	focusing at stop	focusing	focusing		no action

ZOOM SPEED   Zoom speed setting: FAST or SLOW

D-ZOOM   Value for maximum digital zoom ratio LIMIT x2 ~ x10

DISP ZOOM MAG   **ON**: Overlay display of zoom position on the screen

	ZOOM POS INIT	Defines a zoom position after powering up the camera, range is x1 ~ x10
	LENS INIT	Reset of the autofocus lens in case of malfunction
	END	Return to CAMERA ADVANCED SETTING page
EXPOSURE	**BRIGHTNESS**	Image brightness setting, range 1~100
	IRIS	Mode of the lens iris: **AUTO**: automatic iris mode **MANUAL**: manual iris operation
	SHUTTER	Electronic exposure control **ESC**: Electronic auto shutter, the shutter speed is automatically adapted to light conditions **NOTE**: This mode item is only available for setup if IRIS mode is set to "MANUAL" **MANUAL**: Manual setup of shutter speed **A.FLK**: Flickerless mode. Useful in sceneries with light sources powered with a frequency different from the camera
	AGC	Automatic Gain Control, gains video signal under low light conditions. **HIGH**: AGC ON, high gain **NORMAL**: AGC ON, normal gain **OFF**: AGC off (SSNR and SENS-UP are not available in this mode)
	SSNR	Signal noise reduction. This feature improves the signal-noise ratio under low-light conditions. **OFF**: no noise reduction **LOW, MID, HIGH**: level of noise reduction **NOTE**: this feature requires setting AGC: NORMAL or HIGH
	SENS-UP	The SENS-UP function increases the light sensitivity by interpolation of several images. **AUTO**: SENS-UP function active. Enter the submenu to enter the number of maximum interpolated pictures (2 ~ 128) **NOTE**: Please consider that a higher value creates brighter pictures, but due to the longer calculation time moving objects may appear distorted in the picture. (effect similar to longer exposure time at photo cameras) **OFF**: no SENS-UP function **NOTE**: this feature requires setting AGC: NORMAL or HIGH
	END	Return to CAMERA ADVANCED SETTING page

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SPECIAL	Submenu for advanced camera functions:	
	USER PRESET	Not supported by EPTZ 100
	PRIVACY	Keep OFF setting, privacy mask setup is done in the PRIVACY MASK menu, available in the main menu
	DAY/NIGHT	Modes of the day/night switching: **B/W** : black/white (night) mode, IR cut filter switched off **COLOUR**: colour (day) mode, IR cut filter switched on **AUTO1**: day/night switching with short delay time **AUTO2**: day/night switching with longer delay time
	SYNC:	Synchronization mode, fixed at INTERNAL mode
	COMM ADJ	Communication settings for camera interface

> **ATTENTION:**
> **Do not change any value in this submenu!**
> **Keep default settings:**
>
> | | |
> |---|---|
> | **CAM ID** | **0** |
> | **DISP CAM ID** | **OFF** |
> | **BAUD RATE** | **38400** |
> | **UART MODE** | **8-N-1** |
> | **RET PKT** | **ENABLE** |
>
> If these settings are changed for whatever reason, the communication between dome electronics and camera menu will be broken. In this case consult **APPENDIX C** for recovering camera module communication settings.

	IMAGE ADJ	**FREEZE:** Store ("freeze") current video image **H-REV**: Flips the image horizontally **V-REV**: Flips the image vertically **SHARPNESS**: Image sharpness adjustment in the range 1 ~ 30 **COLOUR GAIN**: Colour saturation adjustment in the range 1~ 50
	END	Return to CAMERA ADVANCED SETTING page
RESET	Reset of the camera parameters to factory defaults.	
EXIT	Return to CAMERA menu.	

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4.1.7 Scan

This menu contains all setup options for automatic dome modes such as autopan, preset tours and pattern.

SCAN
AUTO PAN
ALL PRESET
GROUP SCAN
TOUR SCAN
PATROL
PATTERN

AUTO PAN   **PAN/TILT**   This autopan mode performs pan and tilt movements between 2 points. The vertical movement will be processed in programmed speed from start / end point, the resulting movement is shown if the schema below:
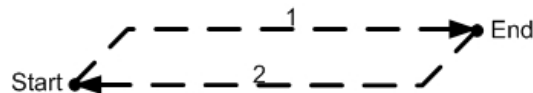
START	Left autopan limit. Move to the position and press IRIS - to store the start point.
END	Right autopan limit. Move to the position and press IRIS - to store the end point.
SPEED	Autopan speed, range from 2 (slowest) to 180 (fastest).
DWELL	Dwell time at start and end position, adjustable 1~45 seconds.
RUN	Autopan start (this function will close OSD menu)
RETURN	Return to AUTO PAN menu.

PAN ONLY   This autopan mode performs a horizontal movement between 2 points.

START	Left autopan limit. Move to the position and press IRIS - to store the start point.
END	Right autopan limit. Move to the position and press IRIS - to store the end point.
SPEED	Autopan speed, range from 2 (slowest) to 180 (fastest)
DWELL	Dwell time at start and end position, adjustable 1~45 seconds.
RUN	Autopan start (this function will close OSD menu).

		RETURN	Return to AUTO PAN menu.

CIRCLE		This autopan mode performs a continuous horizontal 360° movement.

	TILT LEVEL	Adjust the vertical position of the camera, press IRIS - to store the vertical angle.

	SPEED	Autopan speed, range from 2 (slowest) to 180 (fastest).

	RUN	Autopan start (this function will close OSD menu).

	RETURN	Return to AUTO PAN menu.

RETURN		Return to SCAN menu.

ALL PRESET This type of preset tour includes all programmed preset positions.

	SPEED	Pant/tilt speed for movement between preset positions, range from 2 (slowest) to 180 (fastest)

	DWELL	Dwell time at preset positions, adjustable 1~45 seconds (global setting for all presets).

	RUN	Start preset tour (this function will close OSD menu).

	RETURN	Return to SCAN menu.

GROUP SCAN Pre-defined preset tours with 4 preset positions each:
Group 1: preset positions 1~4
Group 2: preset positions 5~8
Group 3: preset positions 9~12
Group 4: preset positions 13~16

GROUP1	SPEED	Pant/tilt speed for movement between preset positions, range from 2 (slowest) to 180 (fastest)

	DWELL	Dwell time at preset positions, adjustable 1~45 seconds (global setting for all presets).

	RUN	Start GROUP tour (this function will close OSD menu).

	RETURN	Return to SCAN menu.

GROUP2		similar setup as Group 1

GROUP3		similar setup as Group 1

GROUP4		similar setup as Group 1

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TOUR SCAN	Combined preset tour with selected GROUP tours.		
	GROUP1	**ON:**	Group1 included in tour
		OFF:	Group1 skipped in tour
	GROUP2	**ON:**	Group 2 included in tour
		OFF:	Group 2 skipped in tour
	GROUP3	**ON:**	Group3 included in tour
		OFF:	Group3 skipped in tour
	GROUP4	**ON:**	Group4 included in tour
		OFF:	Group4 skipped in tour
	SPEED		Pant/tilt speed for movement between preset positions, range from 2 (slowest) to 180 (fastest)
	DWELL		Dwell time at preset positions, adjustable 1~45 seconds (global setting for all presets).
	RUN		Start preset tour (this function will close OSD menu).
	RETURN		Return to SCAN menu.

PATROL   The PATROL tour is the most flexible preset tour with selected presets as well as individual speed and dwell time setting for each preset. The maximum number of preset positions in this tour is 32 (preset numbers 1~32) .

PRESET x	Select a preset (1~32): **ON:** preset included in the tour **OFF:** preset skipped in the tour
SPEED	Pant/tilt speed for movement to this preset, range from 2 (slowest) to 180 (fastest)
DWELL	Dwell time at selected preset position, adjustable 1~45 seconds.
RUN	Start preset tour (this function will close OSD menu).
RETURN	Return to SCAN menu.

PATTERN   A pattern is a programmed course of camera movement. EPTZ 100 can store 4 patterns with a maximum length of 10 minutes each.

    1~4   Select a pattern for programming / checking.

        RECORD   Start the movement programming with "Go To Preset 1". All manual movements / zoomings are recorded now. The TIMER in the display counts down the available time remaining in seconds.

        PREVIEW   Shows the programmed pattern. Any pan / tilt command returns to PATTERN menu.

        RUN   Starts the selected pattern (this function will close OSD menu).

        DELETE   Deletes the selected pattern.

        RETURN   Return to SCAN menu.

RETURN   Return to MAIN menu.

4.1.8 Control

This menu provides settings for resume function after inactivity, power-up and special functions.

AUTO RESUME	**OFF/ON >**	AUTO RESUME is the reaction of the dome after a defined time of inactivity (no operator action). **ON:** auto resume activated **OFF:** auto resume not active

             MODE   Type of resume reaction:

AP(P/T)	A-B autopan (pan/tilt)
AP(C)	360° autopan (circle)
AP(P)	A-B autopan (pan only)
ALL PRESET	preset tour with all presets
GROUP1....4	GROUP preset tour 1~4
TOUR	preset tour with selected GROUPS
PATROL	preset tour with selected preset positions
PRESET x	go to preset position x

    NOTE: The HOME key of EKB 500 keyboard performs a "Go to Preset 1" command. If similar functionality is desired for AUTO RESUME, select "PRESET 1" in this menu.

            TIME   Duration of inactivity before performing the AUTO RESUME reaction, adjustable from 1 to 10 minutes.

POWER ON RESUME	**OFF/ON**	Resume action after power-up of the dome. **ON:** after dome initialization at power-up, the dome will start in the mode which is defined under AUTO RESUME. **OFF:** no resume function at power-up
IMAGE FLIP	**OFF/ON**	**ON:** image is displayed horizontally flipped ("mirror") **OFF:** normal image display
RETURN		Return to MAIN menu

4.1.9 Privacy Mask

EPTZ 100 allows for masking 4 different areas to protect private or confidential zones in the field of view.

MASK1~4   **OFF/ON** shows the status of the privacy zone:
                         ON: privacy zone masking active
                         OFF: privacy zone off
                         RIGHT enters the submenu to mask setup

       POSITION   Definition of size and position of the privacy zone:
                         Step 1: the corner in the screen marks the upper left border of the privacy
                         zone:

IRIS OPEN:NEXT STEP

                         Move the camera to the desired position and press IRIS OPEN (+) to
                         proceed.

                         Step 2: next screen shows the lower right border of the privacy zone:
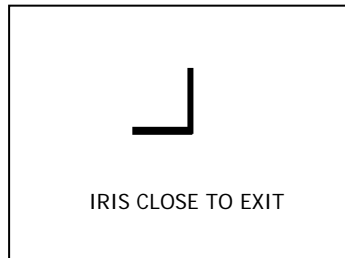
IRIS CLOSE TO EXIT

                         Move the camera to the desired position and press IRIS CLOSE (-) to
                         proceed.
                         The defined mask will appear on the screen.

       ENABLE   **ON:**   privacy zone masking active
                         OFF: privacy zone off

       RETURN   Returns to privacy mask menu.

RETURN   Returns to MAIN menu.

NOTE: If privacy masking is active, the pan / tilt speed of the dome is reduced for ensuring correct
           processing of privacy masks.

4.1.10 Alarm

In this menu, the alarm reactions for input contacts are defined.

RELAY	**OFF/ON**	It is possible to switch the output relay remotely with this menu item for test purpose: **ON:** output relay switched **OFF:** output relay not active (off)
INPUT1...3	**PRESET x**	Assignment of the preset position which is linked to alarm input. Select preset position 1~32.
OUTPUT	**OFF/ON**	**ON:** the camera will go to preset [assigned preset position in lines above] in case of alarm. In case of alarm, the camera moves to the defined preset and stays there until manual PTZ control or any programmed AUTO RESUME function is carried out **OFF:** no reaction in case of active alarm input
RETURN		Return to main menu.

4.1.11 Initialize

POWER ON RESET		**ON:** performs a PTZ initialization similar to power on **OFF:** returns to INITIALIZE menu
CAMERA DEFAULT		**ON:** reset of the camera module to factory settings **OFF:** returns to INITIALIZE menu
FACTORY DEFAULT		**ON:** reset of the pan/tilt electronics module to factory settings **OFF:** returns to INITIALIZE menu
LENS REFRESH x DAYS	**OFF,** **1...15**	Frequent initialization of zoom lens for better stability and preset precision. **OFF:** no frequent initialization **1...15:** interval in days for initialization
CAMERA REFRESH x DAYS	**OFF,** **1...15**	Frequent initialization of pan/tilt mechanism for better stability and preset precision. **OFF:** no frequent initialization **1...15:** interval in days for initialization

5 OPERATION WITH EKB 500 KEYBOARD

The following chapter describes the EPTZ 100 operation with EKB 500 keyboard (with firmware 1.5 or higher).
EPTZ 100 is optimized for protocol type EVF-2 of EKB 500 keyboard.
Basic communication settings for EKB 500 are described in APPENDIX A.
For further details, please refer to the EKB 500 user manual.

The following operating elements are available for EPTZ 100 PTZ control:
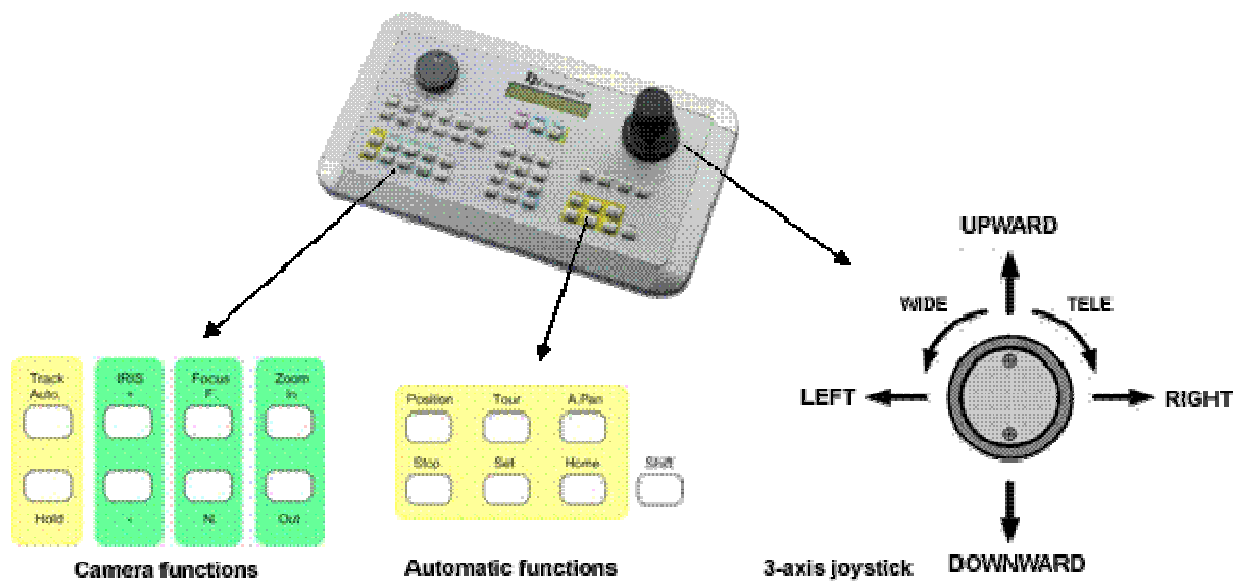
General key description:

IRIS + / -:	manual iris control, + opens iris, - closes iris
FOCUS F. / N.:	manual focus, F. TELE; N. WIDE
ZOOM IN / OUT:	zoom keys, same function as joystick rotation, IN = TELE, OUT = WIDE
POSITION:	start and save positions
TOUR:	start preset tours and pattern tours
A.PAN:	autopan, start and save automatic pan operation
HOME:	go to home position (preset position 1)
F4:	remote switching of EPTZ 100 output relay
MENU:	opens EPTZ 100 OSD setup menu
SHIFT:	switch key for second key level (depending on function)

5.1 EKB 500 OPERATION WITH EVERFOCUS PROTOCOL (EVF-2)

Operation outline

Function	Keys / operation
Open dome menu	MENU or CAM (hold) + MENU (if main monitor of DVR is selected) or SHIFT (hold)+ POSITION > 95
Switch menu functions	JOYSTICK ▼▲
Change menu settings	JOYSTICK ← →
Leave dome menu	CLR (hold) + MENU or menu item EXIT > ENTER
Pan/tilt	JOYSTICK ▼▲ ← →
Zoom TELE / WIDE	TELE: ZOOM IN or JOYSTICK rotation to the right WIDE: ZOOM OUT or JOYSTICK rotation to the left
Focus	TELE: FOCUS F. ; WIDE: FOCUS N.
Iris open / close	Open iris: IRIS + / close iris: IRIS -.
Go to position (preset)	Preset number + POSITION / POSITION + preset number > ENTER
Save position (preset)	SHIFT (hold) + POSITION > preset number > ENTER
Delete preset	CLR (hold) + POSITION > preset number > ENTER
Start patrol tour	TOUR > 1 > ENTER
Start all preset tour	TOUR > 2 > ENTER
Start preset tour Group 1	TOUR > 3 > ENTER
Start preset tour Group 2	TOUR > 4 > ENTER
Start preset tour Group 3	TOUR > 5 > ENTER
Start preset tour Group 4	TOUR > 6 > ENTER
Start preset Tour Scan	TOUR > 7 > ENTER
Start pattern 1	TOUR > 17 > ENTER
Start pattern 2	TOUR > 18 > ENTER
Start pattern 3	TOUR > 19 > ENTER
Start pattern 4	TOUR > 20 > ENTER
Start autopan	A.PAN > speed [enter any value, the speed is defined in OSD menu]> ENTER
360° autopan	SHIFT (hold) + A.PAN > speed [enter any value, the speed is defined in OSD menu]> ENTER
Start home position	HOME
Switch ON output relay	F4 > 1 > ENTER
Switch OFF output relay	CLR + F4 > 1 > ENTER
PTZ - Initialization	POSITION > 80 > ENTER

5.1.1 EPTZ 100 setup menu

Start EPTZ menu:
If DVR Main monitor is selected ("DVR" in LCD display):
CAM (hold) + MENU
If no DVR main monitor is selected:
MENU or CAM (hold) + MENU
or alternatively in both modes:
SHIFT (hold) + PRESET > 9 5 > ENTER

Switch between the settings:
JOYSTICK ↓ ↑

Enter submenus:
JOYSTICK →
in CAMERA > ADVANCED SETUP: IRIS +

Change the settings:
JOYSTICK ← →

EXIT OSD menu / submenus:
Menu item EXIT/RETURN > JOYSTICK →
in CAMERA > ADVANCED SETUP: IRIS -

Note: Exceptional commands are described in the OSD.

5.1.2 Preset positions

Up to 64 preset PTZ positions can be stored in EPTZ 100.

Save presets

SHIFT (hold) + POSITION
> [preset number] > ENTER

```
Camera:0001 Save to
Position:___[1-192]
```

Delete preset

CLR (hold) + POSITION
> [preset number] > ENTER

```
Camera:0001
Del Position:___
```

Start (go to) preset

POSITION > [preset number] > ENTER

```
Camera:0001 go to
Position:___[1-192]
```

5.1.3 Autopan

The speed for autopan function is programmed in OSD menu; the entered value for speed in EKB 500 will be ignored at start of autopan.

Activate A-B autopan (pan between 2 points)
A.PAN > any value 1~ 239 > ENTER

```
Speed:___[1-239]
[ENT] to start.
```

Activate 360° autopan
SHIFT (hold) + A.PAN > any value 1~ 239 > ENTER

5.1.4 Preset tours

EPTZ 100 provides 7 different preset tour modes. All tours are defined in OSD setup menu.

1. PATROL TOUR: Preset tour with up to 16 selected presets.
2. ALL PRESET TOUR: Preset tour with all available presets.
3. GROUP 1 TOUR: Preset tour with presets 1~4
4. GROUP 2 TOUR: Preset tour with presets 1~4
5. GROUP 3 TOUR: Preset tour with presets 1~4
6. GROUP 4 TOUR: Preset tour with presets 1~4
7. TOUR SCAN: Preset tour with defined preset GROUPS

TOUR > [tour number 1...7] > ENTER

```
Camera:0001
Run Tour:__[1-16]
```

Tour numbers: [1] PATROL TOUR
                       [2] ALL PRESET TOUR
                       [3] GROUP 1 TOUR
                       [4] GROUP 2 TOUR
                       [5] GROUP 3 TOUR
                       [6] GROUP 4 TOUR
                       [7] TOUR SCAN

Alternative for ALL PRESET TOUR:
POSITION > 99 > ENTER

5.1.5 Pattern tours

EPTZ 100 provides 4 programmed pattern tours with up to 10 minutes duration each.
The pattern tours are started with the TOUR key.

TOUR > [tour number 17...20] > ENTER

```
Camera:0001
Run Tour:__[1-16]
```

Tour numbers: [17] Pattern 1
                       [18] Pattern 2
                       [19] Pattern 3
                       [20] Pattern 4

5.1.6 Remote switching of EPTZ 100 output relay

The EKB 500 keyboard provides the option to switch the output relay of EPTZ 100 on / off.

Switch relay ON: F4 > [1] > ENTER

```
Switch Alarm Out: _
[1-8] ON
```

Alternative:
POSITION > 82 > ENTER

Switch relay OFF: CLR + F4 > [1] > ENTER

```
Switch Alarm Out: _
[1-8] OFF
```

Alternative:
POSITION > 81 > ENTER

5.2   EKB 500 OPERATION WITH PELCO-D/P PROTOCOL

NOTE: Not all EPTZ 100 functions are available in PELCO-D/P protocol. Operation for ssome functions is different to operation with EVERFOCUS protocol.

5.2.1   EPTZ 100 setup menu

Start EPTZ 100 menu:

If DVR Main monitor is selected ("DVR" in LCD display):
CAM (hold) + MENU
If no DVR main monitor is selected:
MENU or CAM (hold) + MENU
or alternatively in both modes:
SHIFT (hold) + PRESET > 9 5 > ENTER

Switch between the settings:

JOYSTICK ↓ ↑

Enter submenus:

JOYSTICK →
in CAMERA ADVANCED SETUP: IRIS +

Change the settings:

JOYSTICK ← →

EXIT OSD menu / submenus:

Menu item EXIT/RETURN > JOYSTICK →
in CAMERA ADVANCED SETUP: IRIS -

Note: Exceptional commands are described in the OSD.

5.2.2   Preset positions

Up to 64 preset PTZ positions can be stored in EPTZ 100.

Save presets

SHIFT (hold) + POSITION
> [preset number] > ENTER

```
Camera:0001 Save to
Position:___[1-192]
```

Delete preset

CLR (hold) + POSITION
> [preset number] > ENTER

```
Camera:0001
Del Position:___
```
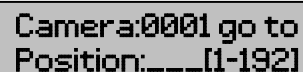
Start (go to) preset

POSITION > [preset number] > ENTER

```
Camera:0001 go to
Position:___[1-192]
```

5.2.3 Autopan

The speed for autopan function is programmed in the OSD menu; the entered value for speed in EKB 500 will be ignored at start of autopan.

Activate A-B autopan (pan/tilt between 2 points)
A.PAN   (Pelco-P only)

Alternative:
POSITION > 99 > ENTER

5.2.4 Preset tours

EPTZ 100 provides 7 different preset tour modes. All tours are defined in the OSD setup menu.

PATROL TOUR: Preset tour with up to 16 selected presets.
ALL PRESET TOUR: Preset tour with all available presets.
GROUP 1 TOUR: Preset tour with presets 1~4
GROUP 2 TOUR: Preset tour with presets 1~4
GROUP 3 TOUR: Preset tour with presets 1~4
GROUP 4 TOUR: Preset tour with presets 1~4
TOUR SCAN: Preset tour with defined preset GROUPS

POSITION > [number] > ENTER

```
Camera:0001 goto
Position:__[1-192]
```

Tour numbers: [68] TOUR SCAN
                    [69] PATROL TOUR
                    [70 or 98] ALL PRESET TOUR
                    [71] GROUP 1 TOUR
                    [72] GROUP 2 TOUR
                    [73] GROUP 3 TOUR
                    [74] GROUP 4 TOUR

5.2.5 Pattern tours

EPTZ 100 provides 4 programmed pattern tours with up to 10 minutes duration each.
The pattern tours are started with the POSITION key.

POSITION > [number] > ENTER

```
Camera:0001 goto
Position:__[1-192]
```

Numbers: [75] Pattern 1
                    [76] Pattern 2
                    [77] Pattern 3
                    [78] Pattern 4

5.2.6   Remote switching of EPTZ 100 output relay

The EKB 500 keyboard provides the option to switch the output relay of EPTZ 100 On / Off.

Switch relay ON: F4 > [1] > ENTER

```
Switch Alarm Out: _
[1-8] ON
```

Alternative:
POSITION > 82 > ENTER

Switch relay OFF: CLR + F4 > [1] > ENTER

```
Switch Alarm Out: _
[1-8] OFF
```

Alternative:
POSITION > 81 > ENTER

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6 APPENDIX A: BASIC SETTINGS AT EKB 500 KEYBOARD

The following chapter describes the basic settings in the EKB 500 keyboard to establish communication with speed dome cameras.

6.1 COM PORT SETTING - RS-485 INTERFACE SETTING

Telemetry protocol type and transmission rate are defined in this menu.

MENU > COM PORT SETTING > ENTER
Select port 1 or 2 and confirm with ENTER.

```
Port:_ (1 or 2)
Input the port.
```

Use the JOYSTICK ↑ ↓ to change the value.
Selection: 1200, 2400, 4800, 9600 Baud.
Press ENTER to confirm the setting and ESC to cancel.

```
BAUD:9600<
[ ↑ ↓ ] to change
```

The next menu is used for telemetry protocol setting.
Use the JOYSTICK ↓ ↑ to change the value.
Selection: EVF-2:   recommended protocol for optimized EKB 500 functionality
               Pelco-D
               Pelco-P

```
Protocol:EVF-2
[↑↓] to change
```

NOTE: Baud rate and protocol type have to comply with the EPTZ 100 settings for these parameters (DS1 DIP switch setting).

Press ENTER to confirm the selection and ESC to cancel.

```
Port:1 Changed
[ENT] to save
```

6.2 DEVICE SETTING > CAMERA

Define in this menu RS-485 ID (address) and connected RS-485 port:

MENU > DEVICE SETTING > CAMERA SETTING > ENTER
Camera number 1 ~ 9999 (independent from RS-485 address!)
Press Enter to confirm the setting and Esc to cancel.

```
Camera Name:___
```

Setup of the RS-485 interface which is connected to EPTZ 100, port 1 or 2.
Press Enter to confirm the setting and ESC to cancel.

```
RS485 Connected to
Port:_ [0(off)],1,2
```

Enter the RS-485 address of the EPTZ 100.

```
RS485 Address:
001
```

If the camera is connected to an EverFocus DVR, enter the DVR number and video input number.
Enter any value if no DVR is connected
(numeric entry compulsory).

```
Video Connected to
DVR:_ _ _   CH:_ _
```

Press ENTER to confirm the setting and ESC to cancel.

```
Camera:0001 changed
[ENT] to save
```

7   APPENDIX B: BASIC SETTINGS AT EVERFOCUS DVR

The following settings are required to establish RS-485 communication between DVR and speed dome:

7.1   EDR / EDVR / EDSR SERIES (EXCEPT EDSR100, EDSR100H)

1. **CAMERA** menu: enter the correct RS-485 ID (address) at the speed dome camera channel.

2. **CONTROL** menu: under "RS485" :

BAUD RATE:	set value identical to camera baud rate
PARITY:	NONE
DATA BIT:	8
STOP BIT:	1
PROTOCOL:	set protocol identical to speed dome protocol

NOTE: The RS-485 ID in **CONTROL** menu is not related to speed dome control. This RS-485 ID is used for controlling DVR by external keyboard only.

7.2   ECOR / PARAGON SERIES

1. **CAMERA** menu: enter the correct RS-485 ID (address) at the speed dome camera channel.

2. SYSTEM > I/O CONTROL menu:

BAUD RATE:	set value identical to camera baud rate
PARITY:	NONE
DATA BIT:	8
STOP BIT:	1
PROTOCOL:	set protocol identical to speed dome protocol

NOTE: The RS-485 ID in menu **I/O CONTROL** menu is not related to speed dome control. This RS-485 ID is used for controlling DVR by external keyboard only.

8 APPENDIX C: TROUBLESHOOTING

8.1 GENERAL MALFUNCTION

In case of drifted preset position or abnormal reaction of EPTZ 100 speed dome perform a reset of the dome, for the reset 3 options are possible:

Option 1:   Setup menu > INITIALIZE > POWER ON RESET
Option 2:   (GoTo) POSITION 80
Option 3:   Power off dome for min. 5 seconds, then power on

8.2 RECOVERING COMMUNICATION SETTINGS OF CAMERA MODULE

If the camera communication settings in the setup menu CAMERA > ADVANCED SETUP > SPECIAL > COMM ADJ were changed accidentally, the communication between Speed Dome and camera module may be broken.

Symptoms: a) Pan / Tilt works, but no zoom function
                  b) OSD setup works, but no access to the submenu CAMERA > ADVANCED SETUP

Correction:
Step 1:   Go in setup menu to INITIALIZE > CAMERA DEFAULT > ON and perform a camera reset. If this reset works, all settings from ADVANCED SETTING menu will be reset to factory defaults.
Check access to menu ADVANCED SETUP. If the submenu opens, the communication error is fixed.
If the problem still exists, go to STEP 2.

Step 2:   Go in setup menu to CAMERA > RESCUE MODE > set to ON
The values for BAUD RATE and PARITY will appear.

Change values for BAUD RATE and try with each changed value access to ADVANCED SETUP menu. Check also with PARITY setting ODD/EVEN.

With correct settings access to ADVANCED SETUP is possible, the submenu appears additional to the camera menu on the screen:

Switch off the CAMERA menu display by pressing IRIS + key.
Go to > SPECIAL > COMM ADJ and set / verify following default settings:
                    BAUD RATE   38400
                    UART MODE   8-N-1
                    RET PKT ENABLE
EXIT all menus.

Restart the EPTZ-100 with power OFF / ON to finish the camera setting recovery.

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