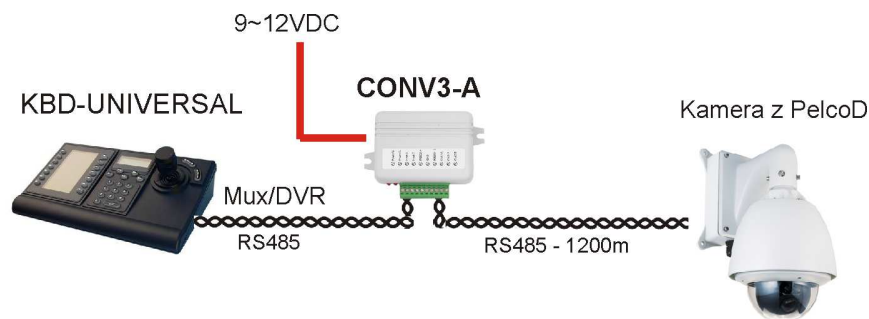# CONV3-A, CONV3-B
Protocol converters for Bosch, KBD UNIVERSAL keyboards
INSTRUCTIONS

Protocol converter is microprocessor device designed to work with UNIVERSAL KBD keyboard o Bosch company. It allows to direct control of Bosch PTZ cameras or other, which used popular Pelco-D protocol without DVR. The converter communicated with keyboard by using bidirectional RS485 interface, simulates 9-channel DIVAR DVR and it allows for take advantage of all camera functions of Enviro Dome series.
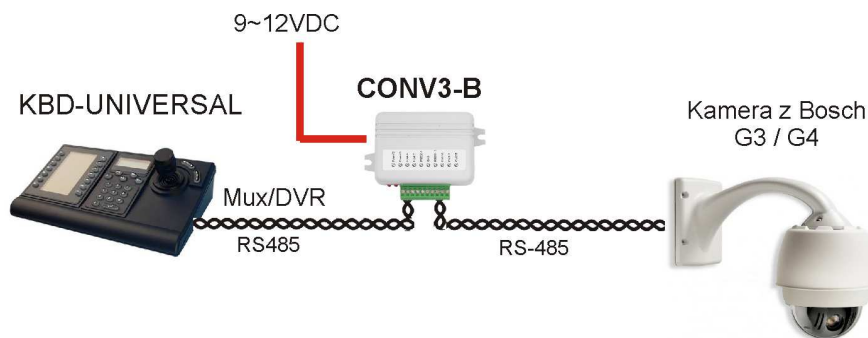
The protocol converter always initiated as DVR with address 1 and supports cameras with numbers 1~9.

1. Connection structure

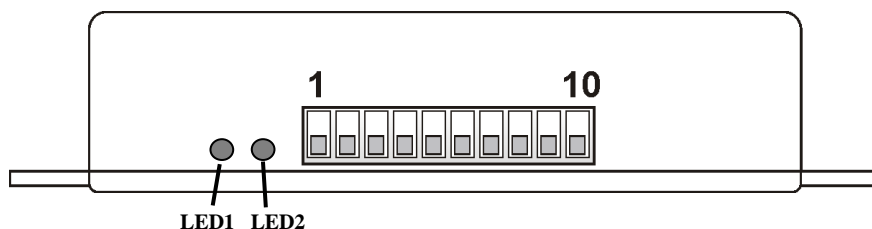The converter is connected between keyboard and PTZ cameras and need 9~12VDC power supply

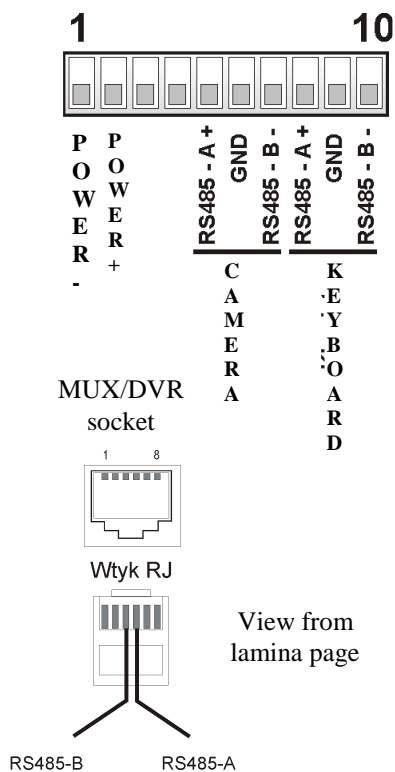**Connection diagram for CONV3-A converter**

Connection diagram for CONV3-B converter

2. Descriptions of connection switches

LED1 – communication signalization with keyboard
LED2 – transmission signalization to cameras

Ewimar Sp. z o.o.
www.ewimar.pl
export@ewimar.pl

CONV3-A/B rev 1.0

1 ... **10**

P P RS485 - A + GND RS485 - B - RS485 - A + GND RS485 - B -
O O
W W
E E
R R
- +

C K
A E
M ·Y
E ·B
R ,O
A A
R
D

MUX/DVR
socket

1 ... **8**

Wtyk RJ

View from
lamina page

RS485-B   RS485-A

Power supply +/- - used to connection 12VDC / 500mA power supply
Camera –RS-485 interface, used to cameras connections
Keyboard – RS485 interface – used to keyboard connections

RS-485 interface, should be connected always accordance with other devices **A** to **A** and **B** to **B**. The most preferred topology for RS-485 is in serial form with accompanying 120Ohm terminating resistors, which are connected of two ends of bus.

If conditions necessitate star topology, you should use RS-485 distributor, for example EW-485/2/2 or EW-485/4/1.

The picture shows signals of RS-485 in KBD UNIVERSAL keyboard.

To facilitate installation, we recommend used phone cable with RJ11 and thelephone jack, where you should do connection to CONV3 converter.

3. Descriptions of connection

SW1   SW2   OFF (up)

↓1 2 3 4 5 6 7 8   ↓1 2 3 4 5 6 7 8   ON (down)
ON   ON
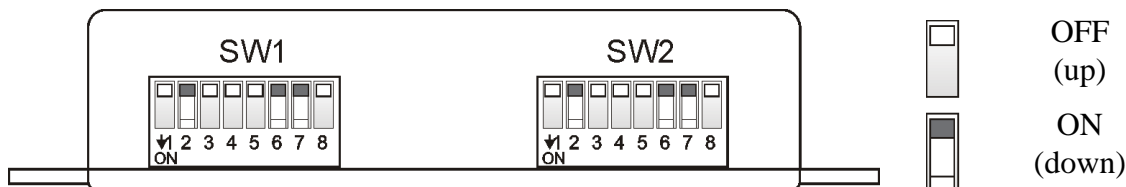
SW1 – communication configuration with keyboard
Switches 1~4 – reserved for next software version
Switche 5 – packet filtering: When switch is turned off, all data packets of keyboards are transmitted (required for Bosch protocol). When switch is turned on, repeated packets are blocked(recommended for other cameras). Bosch keyboard need 19200 baud transmission – switches 6,7 in **ON** position
Switche 8 – 120Ohm switching termination for RS485 keyboard

SW2 – configuration for cameras
Switches 1~4 – reserved for next software version
Switche 5 – choose input protocol of keyboard: **OFF – Bosch RS485 (tryb CONV3-B) , ON – Pelco-D (Tryb CONV3-A)**
Switches 6~7 – Transmission rate for RS-485 port of cameras:

2400Baud – **6,7 OFF**, 4800baud – **6 ON, 7 OFF**, 9600 baud – **6 ON, 7 OFF** , 19200 baud – **6 ON, 7 ON**
Other parameters: 8 bit data, 1 bit start, 1 bit stop, without parity.
Switche 8 – 120Ohm switching termination for RS485 keyboard

4. Startup

When you connected all cables, you should firstly connect power supply of converter, next power supply of keyboard – keyboard automatically initiates device as recorder with address 1.
In case of incorrect connection of power supply, on keyboard you should press **PROD**, to search for devices on bus.

Ewimar Sp. z o.o.
www.ewimar.pl
export@ewimar.pl

CONV3-A/B rev 1.0