ORS-8 *RS-485 SPLITTER/OPTOISOLATOR* $\text{C}\epsilon$

The ORS-8 splitter allows to amplify the RS-485 signal from single transmitter (i.e.: DVR, control keyboard, PC computer) and split them to 8 independent RS-485 busses connected to the receivers (CCTV cameras). Device enables optical isolation among RS-485 outputs and among RS-485 outputs and RS-485 input. The basic application of ORS-8 is protect the CCTV system against damage due to any overvoltages existance. The overvoltages can exist on devices connected to the RS-485 bus for example as result of lightning. Device also allows to split a single RS-485 channel to 8 channels, that makes possible to use the star topology. This allows to connect each camera using the RS-485 cable up to 1200m length. So, the device helps arrange the CCTV system wiring and increases the maximal distances of the RS-485 signal transmission.

Main features:
- optical isolation among RS-485 outputs,
- optical isolation among RS-485 outputs and RS-485 input,
- increase the maximal distance for RS-485 transmission,
- enable to use the star topology instead of standard bus topology,
- protection against lightning discharges and voltage differences and strokes between devices.

SPECIFICATIONS:
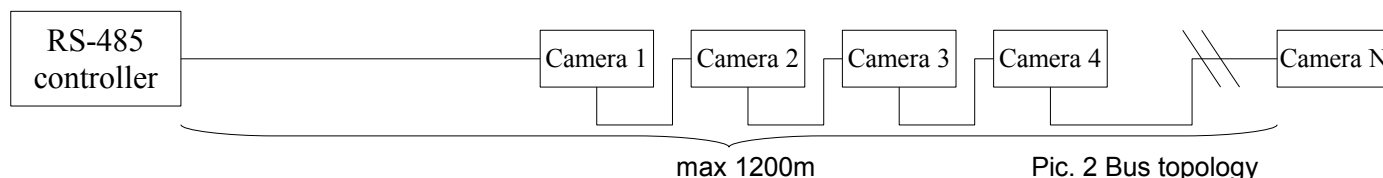|	
Number of RS-485 inputs	- 1
Number of RS-485 outputs	- 8
RS-485 transmission range	- 1200m/input, 1200m/outputs
Output/output isolation	- 1000V
Input/output isolation	- 1000V
RS-485 mode	- simplex
Transmission baudrate	- 2400 – 115200 baud
Power supply	- DC 12V/500mA
Dimensions	- 213x36x93mm
Weight	- 275g

Front panel description
On the front panel there are connectors which enable connect the device to the CCTV system. The RS-485 input (No.3, Pic.1) and the RS-485 outputs (No.4, Pic.1) are equipped with terminals, which allow to easy change the connections without the necessity to unscrew the wires. The RS-485 connectors are terminated by built-in 120Ω resistors. The unused outputs should be not connected. The LED indicator (No.1, Pic.1) informs about power supply connection to the power socket (No.2, Pic.1).
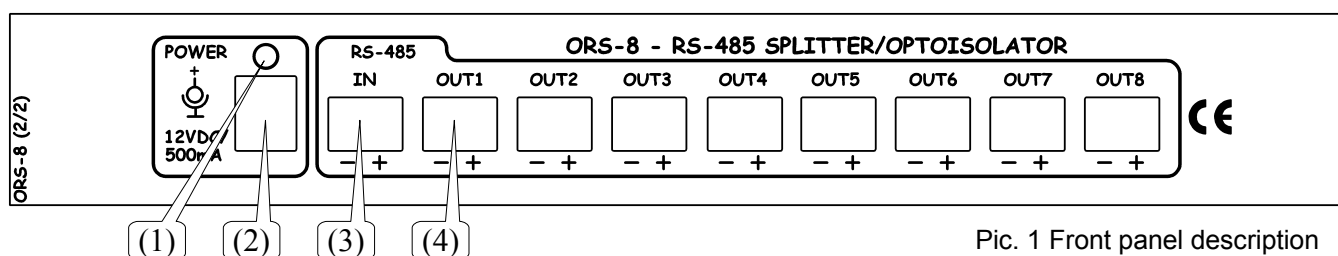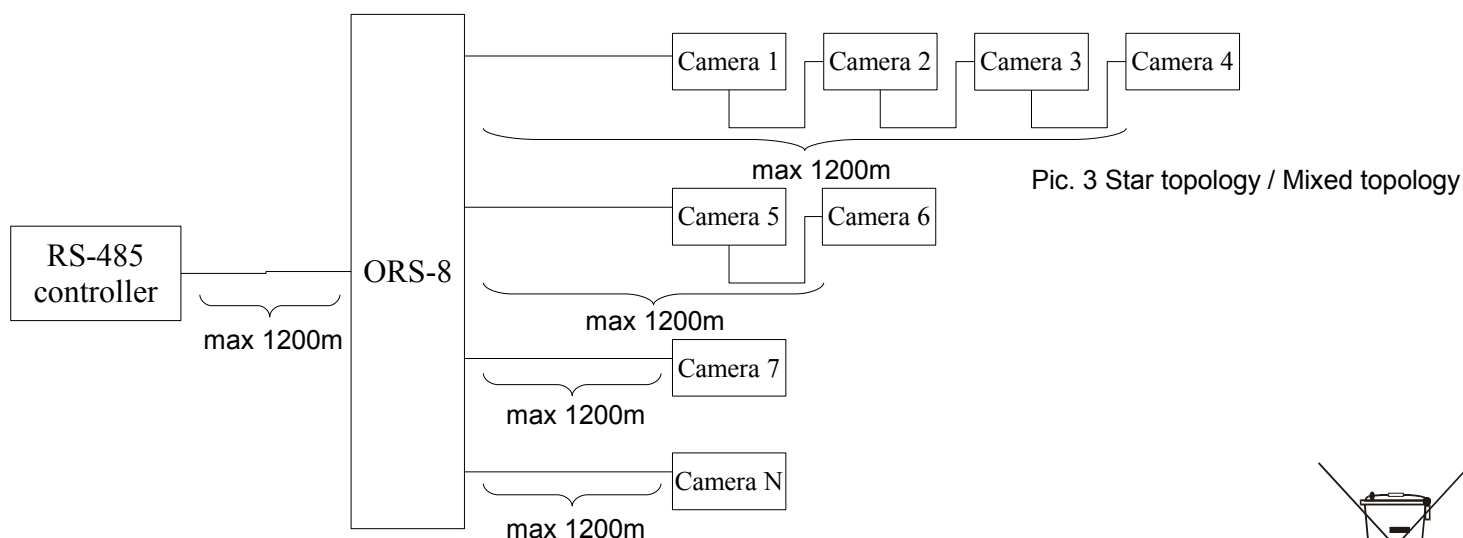

Pic. 1 Front panel description

System application diagram
The below pictures compare two CCTV systems diagrams. The first one is made as standard bus topology (without use of ORS-8 device, Pic.2). The second one is made as star / mixed topology (with using the ORS-8 device, Pic.3). The second option allows to more flexible planning CCTV system wiring.

Pic. 2 Bus topology

Pic. 3 Star topology / Mixed topology

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