Fibre Transmission Series 275

Description

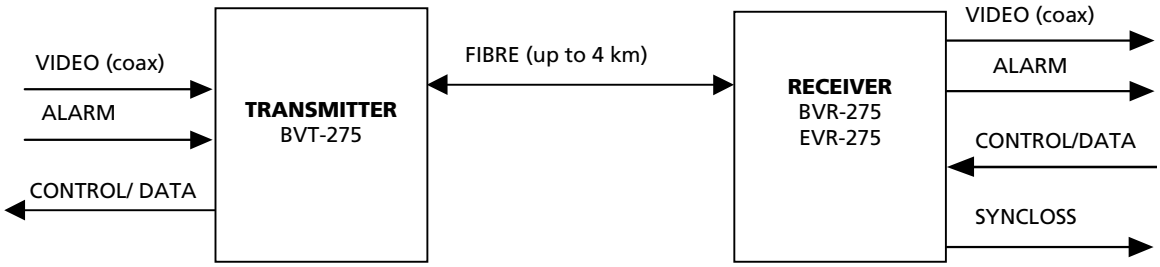
The Ernitec Series 275 is primarily intended for linking PTZ cameras with a matrix or control unit via a fibreoptic cable. The equipment is capable of transmitting video, simplex control and alarm signals on multimode fibres up to a distance of 4000 m, depending on the fibre type. The equipment has built-in AGC which automatically compensates for the loss in the optical fibre, thereby eliminating the need for adjustments during the installation.

The equipment consists of a transmitter unit and two different types of receiver units as listed below.

Type	Description
BVT-275	Transmitter unit in a box for wall mounting
BVR-275	Receiver unit in a box for wall mounting
EVR-275	Receiver unit, Euroboard size for installation in the Ernitec RVU 200 Rack Frame

The various types of transmitters and receivers are fully compatible, meaning for example that a BVT transmitter can send to an EVR receiver without any problems.

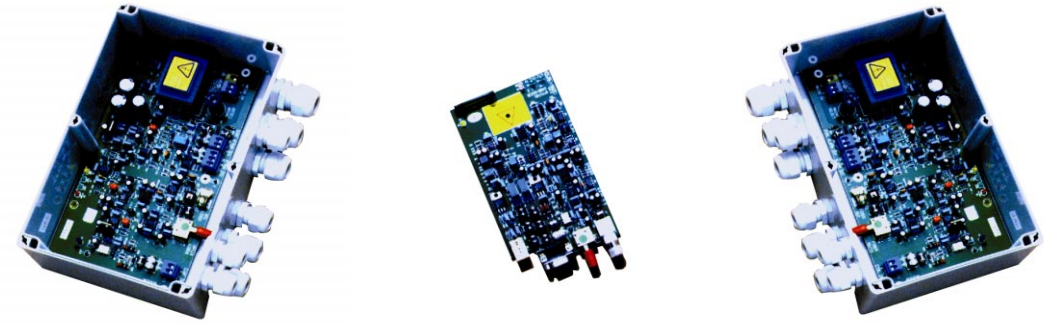
The transmitter unit is capable of transmitting a video signal and one alarm to a receiver unit and simultaneously receive a control/data signal from the same receiver unit. Similarly, the receiver unit receives the video and alarm from the transmitter and sends the control/data signal to the transmitter unit.



Block diagram of the Fibre Series 275

The BVT-275 transmitter unit has a composite video input, an alarm input, a control/data output and a fibreoptic interface.

The receiver units have a composite video output, an alarm output, a control/data input and a fibreoptic interface. The video output level can be set to 1.0 vpp or 1.2 Vpp and the frequency response may be lifted by 3 dB @ 5 MHz, all by means of jumper settings. Additionally, the receiver units feature a "SYNC LOSS" alarm output indicating problems with the transmission, for example too long fibre, the fibre is cut or there is no video input to the transmitter.



The components of the Fibre Series 275

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Specifications

Video Specifications[1] (All types)	
Video type:	525 or 625 line composite, colour or monochrome
Connector type:	75 ohm BNC
Nominal video input level (BVT):	1 Vpp
Video output level (BVR/EVR):	1 Vpp nominal, 1.2 Vpp by jumper setting
Video output HF boost (BVR/EVR):	+3 dB @ 5 MHz by jumper setting
Number of video outputs (BVR/EVR):	1
Bandwidth:	10 Hz to 8 MHz, ±1 dB
Signal to noise ratio, @4 dB attenuation:	> 50 dB unweighted, 5 MHz bandwidth
K-factor:	< 5 %
2T pulse/bar ratio:	> 95%
Luminance non-linearity:	< 5% pp
Field time distortion:	< 3%
Differential gain @ 4.43 MHz:	< 5 %
Differential phase @ 4.43 MHz:	< 5 %
Group delay, 100 Hz to 5 MHz:	< ± 15 nsec.
Control / Data and Alarm Specifications (All types)	
Data transmission type:	RS-232 Simplex or RS-485 Simplex
Data level: - input (BVR/EVR) - output (BVT)	 RS-232: 2.5 - 12 Vpp, min. 8 mA @ 2.5 Vpp RS-485: 2.5 - 12 Vpp, min. 8 mA @ 2.5 Vpp RS-232: 10 Vpp @ 4K7 ohm RS-485: ± 2,4 Vp @ 120 ohm load
Data input impedance: - BVR - EVR	 Lo-Z Lo-Z/Hi-Z, by jumper setting
Bit rate	Up to 1 Mbps
Alarm input characteristics (BVT):	NO or NC, by jumper setting
Alarm input loop resistance (BVT):	< 200 ohm
Alarm output characteristics (BVR/EVR):	NO and NC, potential free, max. 24 VDC / 1A
SYNC LOSS Alarm output (BVR):	Open collector output, I_{out} max. 5 mA / 12 VDC
SYNC LOSS Alarm output (EVR):	NO and NC, potential free, max. 24 VDC / 1A
Fibreoptic Specifications (All types)	
Connector type:	ST
Fibre type:	62.5/125 µm or 50/125 µm[2]
Transmitter type:	LED
Wavelength: - Video path - Data path	 1300 nm nominal 850 nm nominal
Power budget:	8 dB @ 1300 nm
General Specifications	
Supply voltage and power consumption: - BVT/BVR - EVR	 230 VAC ± 10 %, 45 - 60 Hz (115 VAC optional), < 15 VA ± 18 VDC unregulated, 15 W
Enclosure: - BVT/BVR - EVR	 Boxed, IP65 To be installed in RVU 200
EMI / EMC:	EN 50081-1, EN 50130-4
Safety:	EN 60950
Humidity:	< 85 % relative @ 1 bar
Temperature range:	-20° to +55°C
Size (W x H x D): - BVT/BVR - EVR	 160 x 90 x 150 mm Euroboard

[1] All video specifications are for the equipment installed back-to-back, except where noted.
[2] When using 50/125 µm fibre, the power budget must be reduced by 3 dB.

Due to Ernitec's continuous improvement of products, the specifications are liable to change without notice.

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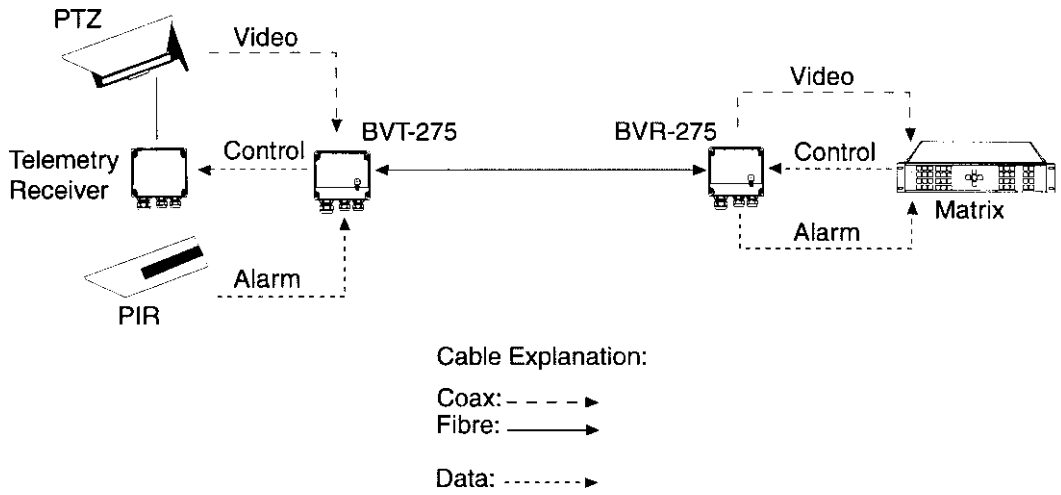
Applications

The series 275 fibre transmission equipment can for example be used for linking a PTZ camera to a matrix or control unit on one multimode fibre as shown below.



Application diagram for the Fibre Series 275

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