

Description

The Ernitec Series 275 consists of two types of products, one primarily intended for linking PTZ cameras with video and control equipment, and the other for transmitting data and/or alarms 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.

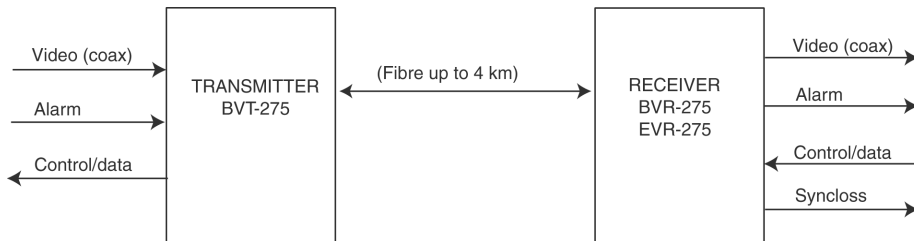
The equipment consists of a transmitter unit and two different types of receiver units for video and control transmission and one unit for bi-directional data transmission as listed below.

Type	Description
BVT-275	Transmitter unit in a IP 65 box for wall mounting. Video and control signals.
BVR-275	Receiver unit in a box for wall mounting. Video and control signals.
EVR-275	Receiver unit, Euroboard size for installation in the Ernitec RVU 200 Rack Frame. Video and control signals.
ECX-275	Transmitter and receiver unit, Euroboard size for installation in the Ernitec RVU 200 Rack Frame. Data and alarm signals

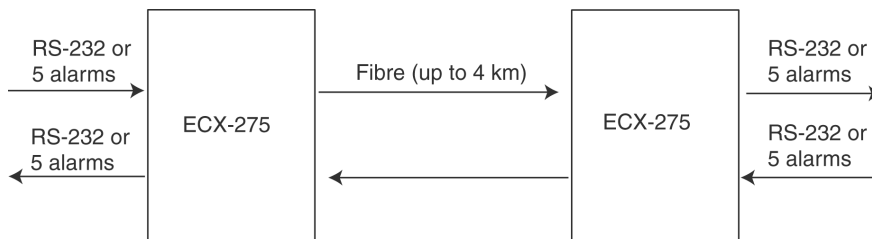
The various types of transmitters and receivers for video and control signals are fully compatible, meaning for example that a BVT transmitter can send to an EVR receiver without any problems.

The BVT-275 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



Block diagram of the ECX-275



The components of the Fibre Series 275

Fibre Transmission 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 ECX-275 is a Euroboard module designed for transmitting either RS-232 or 5 alarm/control signals. Three different operating modes are available; bi-directional RS-232 transmission, RS-232 transmission in one direction and 5 alarm/control signals in the opposite direction or finally, 5 alarm/control signals in each direction. The ECX-275 can be installed in an RVU-200 rack frame where it will take up two slots.

Specifications, data and alarm transmission unit (ECX-275)

Functionality	
Bi-directional RS-232 transmission	
RS-232 data transmission one way and 5 alarm/control signals the opposite way	
Bi-directional transmission of 5 alarm/control signals	
RS-232 specifications	
RS-232 input level:	Min. 0,8 V
RS-232 output level:	Max. 14 Vpp
Data rate:	Max. 1 Mbps. NRZ
Alarm specifications	
Alarm inputs:	5 pcs. Alarm on open contact
Input loop resistance:	Max. 300 Ω
Alarm outputs:	5 pcs. open collector, max. 25 mA each
Power output for external equipment:	12 VDC, 130 mA
Fibreoptic specifications	
Connector type:	ST-connector
Fibre type::	62,5/125 μm or 50/125 μm ¹
Transmitter type:	LED
Wave length:	850 nm
Power budget:	Min. 14 dB
Transmission length:	4000 meters
General Specifications	
Supply voltage and power consumption:	± 18 VDC unregulated, 15 W
Enclosure:	To be installed in RVU 200, requires two slots
EMI / EMC:	EN 50081-1, EN 50130-4, EN 50082
Safety:	EN 60950
Humidity:	< 85 % relative @ 1 bar
Temperature range:	0° to +55°C
Size:	Euroboard

Specifications, Ernitec RVU-200 Rack Frame

Mains power (230/115 VAC):	207 to 253 VAC, 104 to 126 VAC (by switch setting) @ 45-60 Hz
Power consumption:	Max. 110 VA
Temperature range:	0° C to +55°C
Humidity:	< 85 % relative @ 1 bar
Dimensions, H x W x D:	133 x 483 x 185 mm (19" 3 HU rack frame)
Weight (empty):	4,3 kg
EMC / EMI:	EN 50081-1, EN 50082-2, EN 50130-4
Safety:	EN 60950, EN 60742

Specifications, video and control transmission equipment

Video Specifications¹ video and control equipment (types BVT, BVR, EVR)	
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)	RS-232: 2.5 - 12 Vpp, min. 8 mA @ 2.5 Vpp RS-485: 2.5 - 12 Vpp, min. 8 mA @ 2.5 Vpp
- output (BVT)	RS-232: 10 Vpp @ 4K7 ohm RS-485: $\pm 2,4$ Vp @ 120 ohm load
Data input impedance:	
- BVR	Lo-Z
- EVR	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 μ m or 50/125 μ m ²
Transmitter type:	LED
Wavelength:	
- Video path	1300 nm nominal
- Data path	850 nm nominal
Power budget:	8 dB @ 1300 nm
General Specifications	
Supply voltage and power consumption:	
- BVT/BVR	230 VAC ± 10 %, 45 - 60 Hz (115 VAC optional), < 15 VA
- EVR	± 18 VDC unregulated, 15 W
Enclosure:	
- BVT/BVR	Boxed, IP65
- EVR	To be installed in RVU 200, requires two slots
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	160 x 90 x 150 mm
- EVR	Euroboard

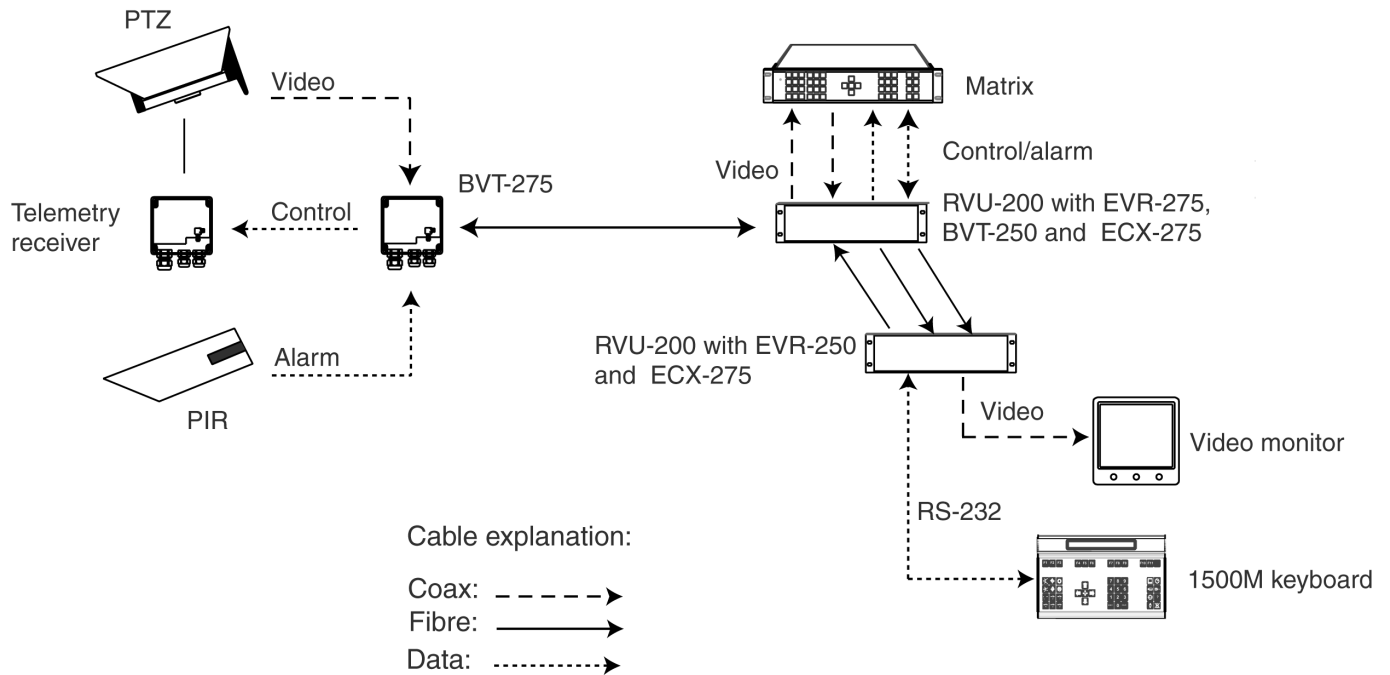
¹ All video specifications are for the equipment installed back-to-back, except where noted.

² When using 50/125 μ m 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.

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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Denmark Head Office:
 Ernitec A/S
 Hørkær 24
 2730 Herlev
 Denmark
 Phone: +45 44 50 33 00
 Fax: +45 44 50 33 33
 e-mail: ernitec@ernitec.dk
 Web: www.ernitec.com

<p>French Branch Office: Ernitec France Parc Péreire 95 rue Péreire Bat. D 78100 Saint Germain en Laye France Phone: (1) 39 21 12 00 e-mail: ernitec-fr@magic.fr</p>	<p>German Branch Office: Ernitec GmbH Stormarnring 28 22145 Stapelfeld Germany Phone: (040) 67 56 25 0 Fax: (040) 67 56 25 25 e-mail: ernitec@aol.com</p>	<p>UK Branch Office Ernitec UK, Gerrard House Worthing Road, East Preston West Sussex BN16 1AW England Phone: 01903 77 27 27 Fax: 01903 77 27 07 e-mail: sally@ernitec-uk.co.uk</p>
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