

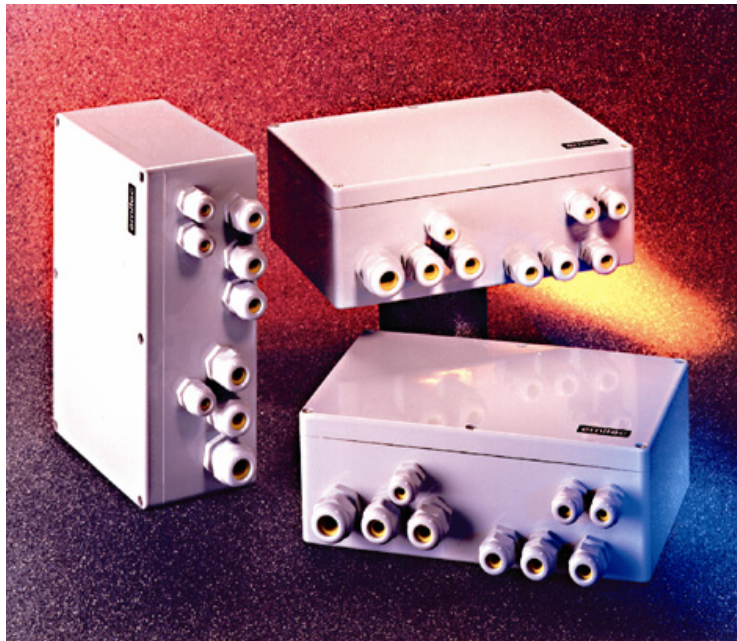
Twisted Pair – Video Transmission Series 230

ernitec

Description

The Ernitec Series 230 is a range of units capable of transmitting colour and black and white video signals on twisted pair cables up to

a distance of 2200 m. The Series 230 consists of a range of transmitter, receiver and repeater units, as listed below.



Type	Description
BVT-230	Boxed video transmitter with built-in 230 VAC power supply
BVR-230-1GV	Boxed video 1 ch. receiver with galvanic separation, built-in 230 VAC power supply
BVX-230-1GV	Boxed 1 ch. video repeater with galvanic separation, built-in 230 VAC power supply
EVT-230	Euroboard 1 ch. video transmitter to be fitted in the RVU-300 rack frame
EVR-230-1	Euroboard 1 ch. video receiver to be fitted in the RVU-300 rack frame
EVR-230-2	Euroboard 2 ch. video receiver to be fitted in the RVU-300 rack frame
EVR-230-1GV	Euroboard 1 ch. video receiver with galvanic separation to be fitted in the RVU-300 rack frame
EVR-230-2GV	Euroboard 2 ch. video receiver with galvanic separation to be fitted in the RVU-300 rack frame
RVU-300	19" 3HU rack frame for up to 16 boards type EVT-230 or EVR-230 type or a combination of both
MVTPS-225/2	Miniature video transmitter with 12 VDC camera power supply to be fitted in CHN or CHM housings

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

The transmitter units have a coax composite video input and a twisted pair output.

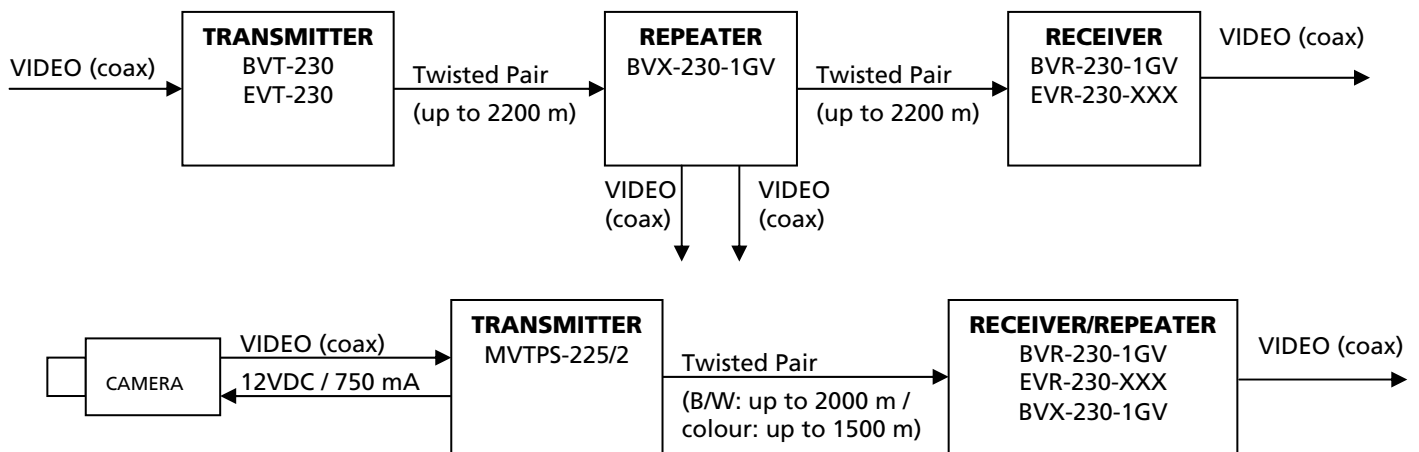
The MVTPS-225/2 is a combined twisted pair transmitter and 12 VDC camera power supply for installation in a CHN or CHM housing. The transmitter part features galvanic separation. The power supply provides 12 VDC / 750 mA for a camera.

The receiver units have a twisted pair input and a coax composite output. They also feature a galvanic separator thereby eliminating hum problems. The loss introduced by the twisted pair cable length is easily compensated on the receivers by means of three potentiometers which must be adjusted at the time of installation.

The repeater units are used when the transmission distance exceeds 2200 m. The repeaters are inserted in the transmission chain for min. every 2200 m of cable for

transmission distances up to approx. 6 km. The units have a twisted pair input, a twisted pair output and two coax composite video outputs for local monitoring. Furthermore, galvanic separation is provided between input and output.

The Series 230 is fully compatible with other Ernitec twisted pair video equipment, incl. Series 225 products. However, the specified technical data including transmission distance assumes the use of Series 230 equipment only.



Block diagram of the Twisted Pair Series 230

Specifications

Transmitter specifications (BVT/EVT/MVTPS)	
<i>Coax video input</i>	
Connector type, coax video input	75 ohm BNC
Nominal video input level, coax video input	1 Vpp (0.8 – 1.2 Vpp)
<i>Twisted pair video output</i>	
Connector type, twisted pair video output (BVT)	2 pole spring terminal
Connector type, twisted pair video output (EVT)	Removeable 5-pin spring plug
Connector type, twisted pair video output (MVTPS)	2 pole screw terminal
Video output level, twisted pair (BVT/EVT) @ 110 R LOAD	2 Vpp, 3 Vpp, 4 Vpp
Video output level, twisted pair (MVTPS) @ 120 R LOAD	2 Vpp
Frequency response (BVT)	25 Hz to 10 MHz @ +/-2 dB
Frequency response (EVT)	25 Hz to 10 MHz @ +/-2 dB
Frequency response (MVTPS)	20 Hz to 15 MHz @ -1.5 dB
Frequency boost @ 5 MHz (BVT/EVT only)	0 dB, +3 dB, +6 dB
Signal to noise ratio, weighted	> 66 dB

Specifications (con'd)

Transmitter specifications (cont.)	
Common Mode Rejection Ratio (CMRR)	> 46 dB
<i>Camera power output (MVTPS only)</i>	
Output voltage	12 VDC
Available current	750 mA
<i>General specifications</i>	
Power supply (BVT)	230 VAC +/-10% / max. 25mA / 45-60Hz.
Power supply (EVT)	+/- 15 VDC max. 100mA
Power supply (MVTPS)	85 to 265 VAC, 47 to 63 Hz
Power consumption (MVTPS)	Typ. 1 W (excl. camera consumption)
Temperature range (BVT)	-25° C to +50°C
Temperature range (EVT)	-10° C to +50°C
Temperature range (MVTPS)	-20° C to +55°C
Humidity	< 85 % @ 86-106Kpa.
Dimensions, H x W x D (BVT)	75 x 120 x 220 mm
Dimensions, H x W x D (EVT)	18 x 100 x 168 mm
Dimensions (MVTPS)	Suitable for installation in CHN and CHM housings
Protection (BVT)	IP 65
Cable glands (BVT)	1 x M20, 2 x M16
EMC	EN 6000-6-3, EN 50130-4
Safety (BVT)	EN 60950
Receiver specifications (BVR/EVR)	
<i>Twisted pair video input</i>	
Connector type, twisted pair video input (BVR)	3 pole spring terminal
Connector type, twisted pair video input (EVR)	Removeable 5-pin spring plug
Max. video input level, twisted pair (@ 110 R LOAD)	2,5Vpp, typical ≤ 2Vpp
Equalisation range	0 dB to +70 dB @ 5 MHz
Transmission distance, colour @ 0.6 mm solid CU twisted pair	2200 m.(1700 m by CAT5e cable) (BVT & EVT) 1500 m (MVTPS) (1000 m. by CAT5E cable)
Transmission distance, B/W @ 0.6 mm solid CU twisted pair	2200 m (BVT, EVT) 2000m (MVTPS)
<i>Coax video output</i>	
Connector type, coax video output (EVR)	75 ohm BNC (Coax clamp @ BVR/BVX)
Number of coax outputs	1 (for each channel)
Video output level	0.7 Vpp to 1.2 Vpp, adjustable
Frequency response	25 Hz to 10 MHz, +/-2.0 dB
Signal to noise ratio, weighted	> 66 dB
Common Mode Rejection Ratio (CMRR)	> 50 dB
<i>General specifications</i>	
Power supply (BVR)	230 VAC +/-10% / max. 25mA / 45-60Hz.
Power supply (EVR 230-2GV)	+/- 15 VDC / 140/80mA
Temperature range (BVR)	-25° C to +50°C
Temperature range (EVR)	-10° C to +50°C
Humidity	< 85 % @ 86-106Kpa.
Dimensions, H x W x D (BVR)	75 x 120 x 220 mm
Dimensions, H x W x D (EVR)	18 x 100 x 168 mm
Protection (BVR)	IP 65
Cable glands (BVR)	1 x M20, 2 x M16
EMC	EN 50130-4, EN 6000-6-3
Safety (BVR)	EN 60950

Specifications (con'd)

Rack frame specifications (RVU)	
<i>General specifications</i>	
Power supply	90-264 VAC
Power consumption	max. 500 mA @ 230VAC
DC Voltage output via psu bus	+/- 15VDC (+/-5%), Max. 4A
Temperature range	0° C to +50°C
Humidity	< 85 % @ 86-106Kpa.
Dimensions, H x D	3 HE x 180 mm
EMC	EN 50130-4, EN 6000-6-3
Safety	EN 60950
Repeater specifications (BVX)	
<i>Twisted pair video input</i>	
Connector type, twisted pair video input	3 pole spring terminal
Max. video input level, twisted pair (@ 110 R LOAD)	2,5 Vpp, typical \leq 2Vpp
Equalisation range	0 dB to +70 dB @ 5 MHz
Transmission distance, colour or B/W @ 0.6 mm solid twisted pair	2200 m. (1700 m by CAT5e cable)
<i>Twisted pair video output</i>	
Connector type, twisted pair video output	2 pole spring terminal
Video output level, twisted pair (@ 110 R LOAD)	2 Vpp, 3 Vpp, 4 Vpp
Frequency response	25 Hz to 10 MHz @ +/- 2 dB
Frequency boost @ 5 MHz	0 dB, +3 dB, +6 dB
Signal to noise ratio, weighted	> 66
Common Mode Rejection Ratio (CMRR)	> 46 dB
<i>Coax video output, local monitoring</i>	
Connector type, coax video output	75 ohm Coax clamp
Number of coax outputs	2
Video output level	0.7 Vpp to 1.2 Vpp, adjustable
Frequency response	25 Hz to 10 MHz, +/- 2 dB
Signal to noise ratio, unweighted	> 66 dB
Common Mode Rejection Ratio, CMRR	> 46 dB
<i>General specifications</i>	
Power supply	230 VAC +/-10% / max. 45mA / 45-60Hz
Temperature range	-25° C to +50°C
Humidity	< 85 % @ 86-106Kpa.
Dimensions, H x W x D	90 x 160 x 240 mm
Protection	IP 65
Cable glands (BVR)	1 x PG16, 2 x PG13,5, 3 x PG11, 3 x PG9
EMC	EN 50130-4, EN 6000-6-3
Safety	EN 60950

Ancillary Products

MVT-610 Mini transmitter

The Ernitec MVT-610 miniature twisted pair transmitter is designed for transmission of colour and B/W composite video signals on cable lengths of up to 1500 meters. This is a compact video transmitter and due to low power consumption can be connected to a built-in BNC plug and powered by a camera. The MVT-610 is fully compatible with all other Ernitec twisted pair equipment.

Specifications MVT-610

Video input voltage	1 Vpp
Impedance	75 Ω
Power input	12 VDC +/- stabilised
Current consumption	<20 mA
Video output voltage	2 Vpp @ 120R LOAD
Transmission distance	Max. 1,5 km
Frequency	8 Hz – 8 MHz
Signal/noise, weighted	>68 Db
Temperature	0 – 50° C
Humidity	Max. 85% RH
Weight	24 g
Dimensions	(\varnothing)17,5 x (L) 44 mm
Approvals	EN 55022, prEN 50082-2



CHM-PSTP/2

The Ernitec CHM-PSTP/2 is a small power supply and twisted pair transmitter, designed for supply of 12 VDC CCD cameras and fits into the Ernitec CHM-housings. The built-in twisted pair video transmitter with galvanic separation can be used on cable distances up to 1500 meters for colour signals and 2000 meters for B/W signals.

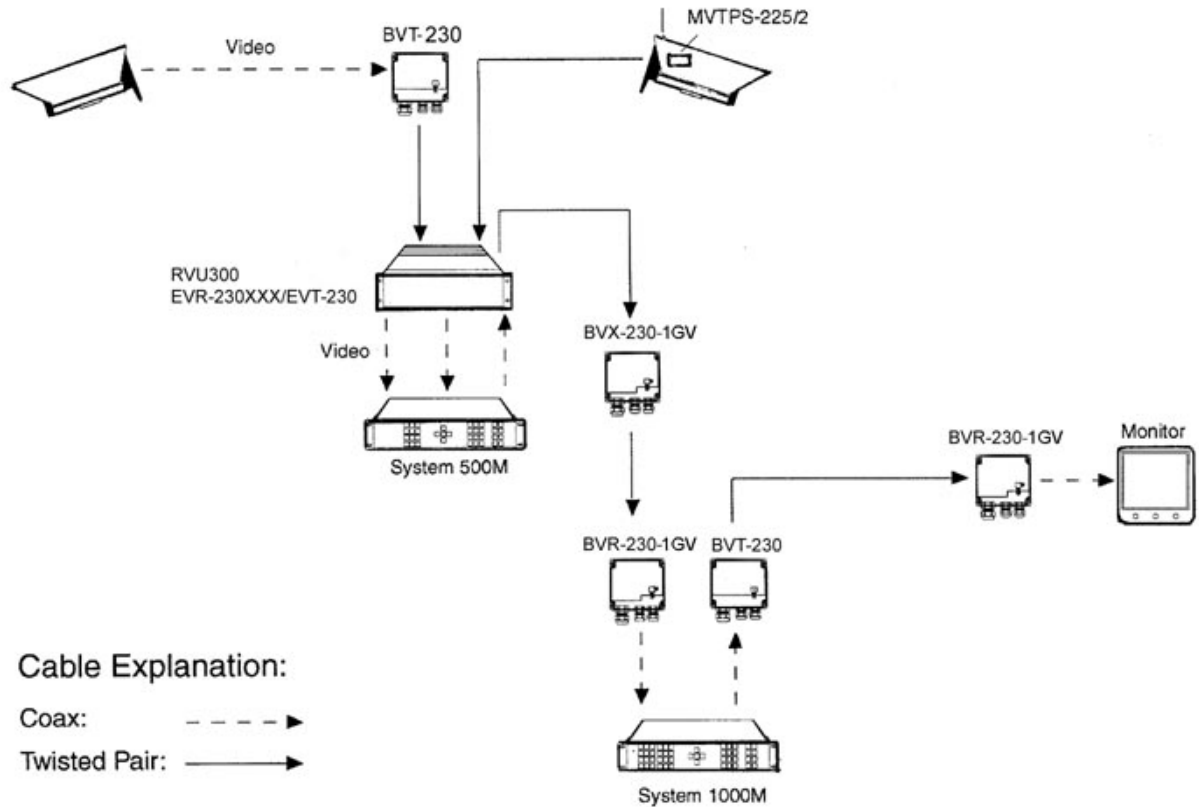
Specifications CHM-PSTP/2

Mains voltage, frequency	85 –264 VAC, 47 – 440 Hz
Power consumption	8 W
Output voltage, fully regulated	12 VDC
Current @ 0 – 55° C	400 mA
Current @ -10 - 60° C	350 mA
Video input voltage, impedance	1 Vpp, 75 Ω
Video output voltage, impedance (galvanic separated)	2 Vpp, 124 Ω
Bandwidth @ -2 dB	30 Hz – 15 MHz
Signal/noise, un-weighted	> 60 dB
Transmission dist. B/W @ 0,6 mm cable	2.000 m
Transmission dist. Colour @ 0,6 mm cable	1.500 m
Temperature range	-10° - 60° C
Humidity, non-condensing	max. 95% RH
Dimensions	(L) 103 x (W) 62 x (H) 42 mm
Weight	0,5 kg
Approvals	EN 50081-1, EN 50130-4, EN 60950 (indoor use)

Applications

The Series 230 twisted pair transmission equipment can be used in a variety of applications, such as linking a camera to a matrix, transmitting video from a remote matrix to a main matrix or from a matrix to a

remote monitor. Some of these typical applications are shown below, but please note that other applications and configurations are also possible.



Application diagram for the Twisted Pair Series 230



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