TRO-8/400PV RACK VIDEO TRANSFORMER - RECEIVER WITH OVERVOLTAGE PROTECTION

The TRO-8/400PV RACK device allows to power with DC voltage eight TRN-1/400 transmitters and receive video signal from eight TRN-1/400 transmitters by four twisted-pair cables (UTP, FTP) over a distance up to 400m.

The device has built-in the overvoltage limiter, which protects all wires of the twisted-pair cable (video and power) carrying away the stroke current to the ground. It effectively protects the electronic devices.

Video signal from camera is connected to the video input of one of the TRN-1/400 transmitters. Video signals from TRN-1/400 transmitters are sent to the TRO-8/400PV-RACK receiver via twisted-pair cable. Both the transmitter and receiver adjust their impedance of 75 Ω coaxial cable to that of the outgoing twisted-pair cable, which allows the transmission of video signal up to 400 meters distance.

The TRO-8/400PV-RACK receiver delivers unstable voltage (max. 40V DC) to twisted-pair cable, and the TRN-1/400 transmitter converts it down to stable 12V DC. This allows simultaneous powering of eight cameras with thermostat. Assuming that the power consumption of the camera is 250mA, and 500mA for the thermostat (TT-12E), the power can be sent with a standard 0.5 mm twisted pair cable (24AWG) over the following distances:

LOAD	MAXIMUM DISTANCE FOR ONE CAMERA LINE-1 TO LINE-4	MAXIMUM DISTANCE FOR ONE CAMERA LINE-5 TO LINE-8
4 cameras with thermostat	420 meters	420 meters
3 cameras with thermostat	440 meters	440 meters
1 camera wiyhout thermostat	1200 meters	1200 meters
2 cameras with thermostat	480 meters	480 meters
2 cameras without thermostat	1400 meters	1400 meters
1 camera with thermostat	480 meters	480 meters
3 cameras without thermostat	1500 meters	1500 meters
4 cameras without thermostat	1700 meters	1700 meters

For distances greater than 400 meters we have to use the video signal amplifier.

All parameters concern twisted-pair cable Category 5 - copper wires: 0,5 mm diameter (24AWG).

LEDs application:

•the green LEDs informs about the fuse has gone: when the LED light is off means the fuse has gone,

the green "PWR-1" LED - the "FUSE-1" has gone,

the green "PWR-2" LED - the "FUSE-2" has gone,

•the red LEDs "I-MAX" are on when there is a current overload: the current consumption is greater than 2A - maximum current consumption is:

LINE-1 to LINE-4 - 2A LINE-5 to LINE-6 - 2A

SPECIFICATIONS:

Max. distance of the video signal transmision	400 meters	
In/out voltage range 75Ω (CVBS)	1Vpp	
Video insertion loss	-0,5dB (@ f=5MHz)	
Video bandw idth	0-50MHz (-3dB)	
CMRR (dB @ 5MHz)	50dB	
Coaxial cable outputs impedance	75Ω	
Tw isted-pair cable impedance	100Ω	
Coaxial cable outputs socket type	8 x BNC socket	
Twisted-pair cable socket type	8 x RJ-45 socket (8-pins, 4 pairs)	
Maximum output voltage (LINE)	40V DC	
Maximum output current (LINE-1 to LINE-4)	2A	
Maximum output current (LINE-5 to LINE-6)	2A	
Pow er supply	AC 230V	
Fuse 5x20 (delayed)	4A / 250V	
Case type	RACK 19", 1RU	
Operation temp. / relative humidity	from -50°C to +55°C / <95%	
Dimensions (WxHxL) / w eight	483x44x245mm / 4200g	

OVERVOLTAGE LIMITER SPECIFICATION:

Power overvoltage limiter:			
RJ-45 connector protected wires	1, 2, 3, 4, 5, 6		
Treshold voltage (wire / wire)	> 47V		
Treshold voltage (wire / ground)	> 47V		
Maximum stroke current (8/20uS)	5kA		
Reaction time	15ns		
Grounding, indirect via spark arrester	5mm bolt		
Ogranicznik przepięć video:			
RJ-45 connector protected wires	7,8		
Treshold voltage (wire / wire)	> 2,4V		
Treshold voltage (wire / ground)	> 18,4V		
Reaction time	15ns		
Capacitance	<7p		

WIRING SEQUENCE INSIDE THE RJ-45 PLUG (T568B NORM):



power supply 40V DC (+) power supply 40V DC (-) power supply 40V DC (+) power supply 40V DC (+) power supply 40V DC (+) power supply 40V DC (-) camera video signal (+) camera video signal (-)



ATTENTION! Before installation please read the next instructions:

Any installation work cannot be led during thunderstorm. The TRO-8/400PV-RACK requires good quality grounding installation.

Schematic diagram:



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