

TRANSFORMER VIDEO TR-16/DC RACK

TR-16/DC-RACK is designed for video signal transmission and power sending via twisted-pair cables (UTP, FTP). The device adapts the impedance of a coaxial cable 75Ω to the impedance of twisted-pair cable ensuring video signal transmission over a distance up to 400 m. Video signal is sent over one pair of a twisted-pair cable, the remaining 3 pairs are used for supplying DC 12V power.

The TR-16/DC-RACK can be powered from one or two outer power adaptors (A or B). Each of 16 power outputs can be assigned to A or B power adaptor. The configuration is made using jumpers placed inside the device. We can set the following options:

- all outputs are powered from one DC 12V adaptor (application of **TR-1M/70**),
- the device is powered from two DC 12V adaptors (e.g.: 2 x 12V/4A) (application of **TR-1M/70**),
- some outputs are powered with DC 12V and the others with DC 40V - it enables far distance power sending (application of **TRN-1/400, ZK-40** and **29V/2.5A/AC**).

Each of output is protected by the polymer fuse and has a LED indicator, which informs about its operation (the LED light is off when the fuse operates). When one of the outputs is overloaded the resistance and polymer fuse temperature are increasing (>1000°C). The LED indicator light is off then. When the fuse is warmed up, the flowing current has small value. If the overloaded reasons are stopped, the fuse returns to the previous state. Depending on current consumption there is a voltage drop on polymer fuses: 160mV for I=0,5A; 300mV for I=0,7A.

The distances of the DC 12V power sending for various current consumption (**TR-1M/70**):

CURRENT (mA)	DISTANCE (m)
50	353
75	235
100	176
125	141
150	117
200	88
250	70
300	58
350	50
400	44
450	39
500	35
600	29
700	25
800	22
900	19
1000	17

The distances of the DC 40V power sending for various current consumption (**TRN-1/400, ZK-40** and **TTS-80**):

LOAD	MAX. DISTANCE FOR EACH CAMERA
4 cameras with thermostat	420 meters
3 cameras with thermostat	440 meters
1 camera without thermostat	1200 meters
2 cameras with thermostat	480 meters
2 cameras without thermostat	1400 meters
1 camera with thermostat	480 meters
3 cameras without thermostat	1500 meters
4 cameras without thermostat	1700 meters

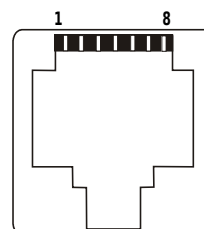
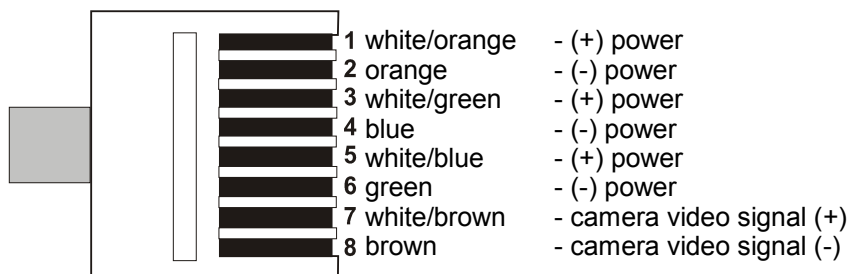
All calculations have been done for power transmission via a 0.5mm cat.5 twisted pair (24AWG).

SPECIFICATIONS:

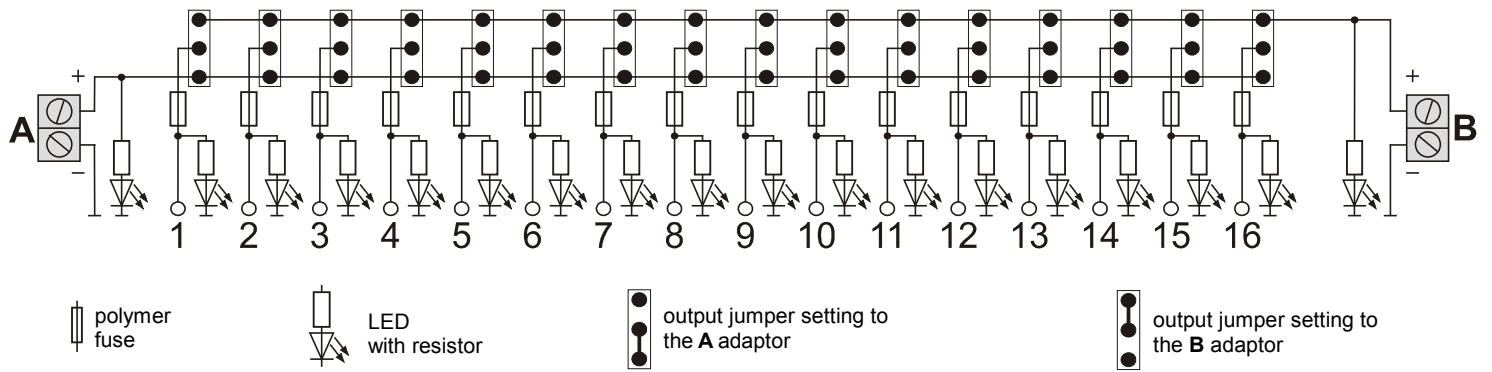
Maximum distance for video transmission	400 meters
In/out voltage range 75Ω (CVBS)	1Vpp
Video insertion loss	-0,5dB (@ f=5MHz)
Video bandwidth	0-50MHz (-3dB)
CMRR (dB @ 5MHz)	50dB
Coaxial cable outputs impedance	75Ω
Twisted-pair cable impedance	100Ω
Coaxial cable outputs socket type	16 x BNC socket
Twisted-pair cable socket type	16 x RJ-45 socket (8-pins, 4 pairs)
Power supply socket type	2.1/5.5mm socket / cable terminals
Maximum power voltage	40V DC
Maximum current for "A" connector	10A
Maximum current for "B" connector	10A
Maximum output current (1-16)	1A
Case type	RACK 19", 1RU
Operation temp. / Relative humidity	from -40°C to +55°C / <95%
Dimensions (WxHxD) / Weight:	483x44x245mm / 1250g

WIRING SEQUENCE INSIDE THE RJ-45 PLUG:

For all applications wiring sequence inside the RJ-45 plug is according to T568B norm.



Electric diagram of the transformer:



Example of the connection diagram (12 cameras powered with DC 12V, 4 cameras powered with DC 40V):

