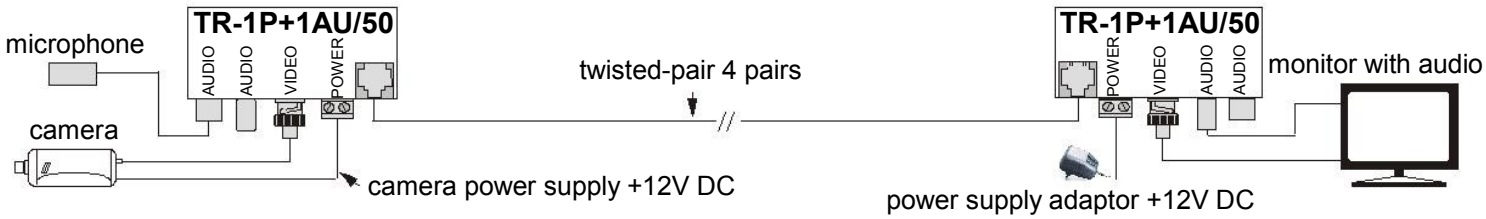
AUDIO-VIDEO TRANSFORMER TR-1P+1AU/50

The TR-1P+1AU/50 device allows to transmission of video, audio and power using UTP/STP cable. For video signal the device adjusts 75 ohms coaxial cable impedance to twisted pair cable impedance. It guarantees video signal transmission up to 400 meters. For the audio signal the device adapts 600 ohms microphone impedance to twisted pair impedance. It guarantees audio signal transmission up to 1200 meters. The video and audio signals utilize two twisted pairs of UTP/STP cable, whereas the next two are used for conveying supplying voltage. For 12 V DC source, assuming that a camera needs 235 mA and associated thermostat 500 mA (TT-12E), the supplying voltage can be sent over next distances:

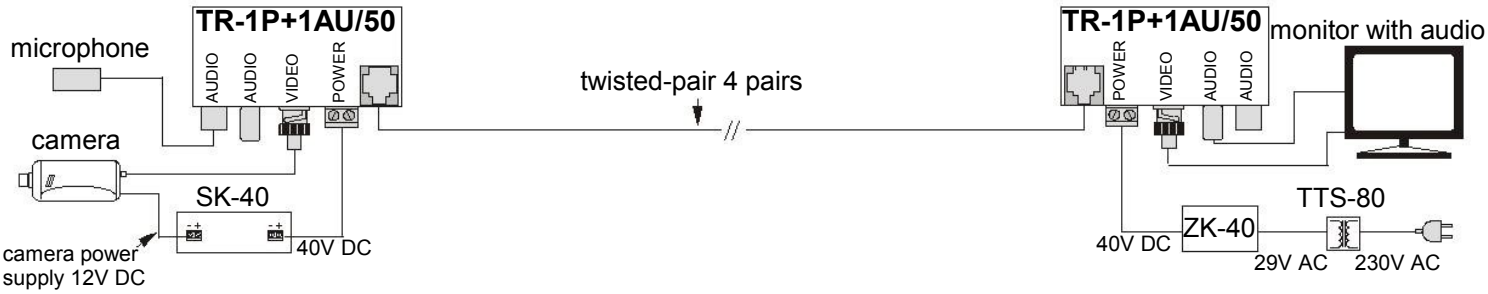
* 50 meters - for camera without thermostat
* 15 meters – for camera with thermostat

When longer distances have to be used, the proper solution is to employ the set consisting of supplier ZK-40, stabilizer SK-40, and transformer TTS-80. When applying two pairs of wires from UTP/STP cable, possible distances are given in tables. To build complete path for signal transmission, two devices are needed. One of them works as a transmitter and the second as a receiver. Audio insertion loss for 1200 meters (two devices + line) is 6 dB. Audio-Video signal transmission by twisted pair cable is cheaper than transmission by coaxial cable, and assuring good quality because the signal is transmitted differentially. It means satisfactory reduction or even elimination of interferences. Additionally, power supplying is possible with the use of the same cable; when applying supplementary means even over long distances. Cooperating audio module can be connected to lead frame or to chinch socket. It is important to connect properly supplying voltage: (+) and (-). Reverse polarity could destroy employed camera. Improper connection of video signal will cause interferences. The device is equipped with LED informing about correct connection of supplying voltage. Parameters that are given concern 5-th category UTP/STP cable with copper conductors of diameter 0.5mm (24 AWG).

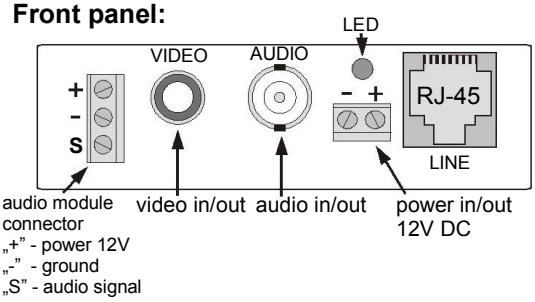
video + audio transmission + power supplying up to 50 meters (12V DC):



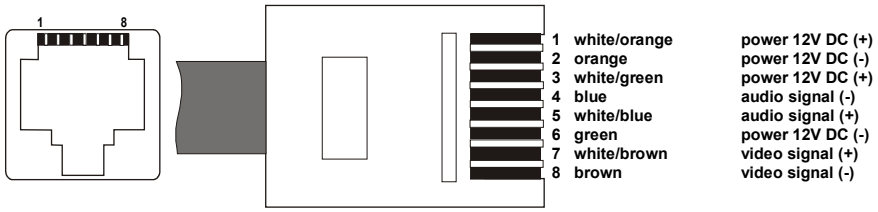
video + audio transmission + power supplying up to 400 meters (40V DC):



Front panel:



Wiring sequence inside the RJ-45 plug. T568B norm.



SPECIFICATIONS:

Number of video / audio channels	1 / 1
Video / audio maximum distance	400m / 1200m
Video in / out voltage range 75Ω (CVBS)	1Vpp
Video insertion loss	-0,5dB (at f=5MHz)
Video bandw idth	0-50MHz (-3dB)
CMRR (dB @ 5MHz)	50dB
Video and audio in / out separation	> -50dB
Audio nominal input level / RWE	1000mV / 600Ω
Audio nominal output level	1000mV
Audio insertion loss	-1,75dB (at f=1kHz)
Audio bandw idth	20Hz – 20kHz
Video coaxial cable in / out impedance	75Ω
Audio in / out minimum impedance	600Ω
Tw isted-pair cable in / out impedance	100Ω
Coaxial cable in / out socket type	BNC female
Audio in / out socket type	CHINCH female / terminals
Tw isted-pair cable in / out socket type	RJ-45 (8-pins, 4 pairs)
Pow er socket type	Terminals
Working temperature / relative humidity	-50..+55^{0}C / <95%
Dimensions (W x L x H) / w eight	118 x 65 x 30mm / 88g

Maximum distances:

at 12V DC

current (mA)	distance (m)
50	235
75	156
100	117
125	94
150	78
200	58
235	50
250	47
300	39
350	33
400	29
450	26
500	23
600	19
700	16
800	14
900	13
1000	11

at 40V DC

current (mA)	distance (m)
50	3141
100	2125
150	1549
200	1176
250	995
300	867
350	741
400	664
450	574
500	511
600	429
700	374
800	318
900	263

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