



TP-TX02
TP-RX02
TP-TX04
TP-RX04
TP-TXMOD02
TP-RXMOD02

Two-wire and coaxial transmission system

- High transmission range of 1.5 km (with pre-emphasis in transmitter)
- Transmission of colour and monochrome video signals
- Indoor – modules mounted in 19" chassis
- Outdoor – modules fitted in weatherproof housing (IP54)
- Transmitter and receiver modules with space-saving 2-channel technology
- Receiver module suitable for equalisation of coaxial video signals
- Video failure monitoring with relay contact and LED display
- User-friendly installation and great expansion possibilities

The transmission of video signals on two-wire cables offers many benefits, ranging from the utilisation of the existing cable network, real-time transmission and interference resistance. Twisted, symmetrical, DC-coupled telecommunication cables such as telephone lines, or CAT5 cable are suitable as the two-wire cables.

- **Flexible system**

The transmission system comprises of both transmitter and receiver (equalizer) modules. An outdoor weatherproof housing can store up to two of these modules and internally, the 19" chassis can store up to 10 modules. Both the outdoor housing and 19" chassis include the power supply as standard.

- **Simple application**

BNC sockets are used for connection of the coaxial cables (19" chassis: SMB). The two-wire cables are connected to terminal strips.

- **Cost-effective**

The two-wire technology is a very cost-effective solution for transmitting pictures as it can use existing cabling infrastructure.

Technical data

Transmitter modules

	TP-TXO2	TP-TXO4	TP-TXMOD02
	2 cameras video transmitter, outdoor housing (IP54)	4 cameras video transmitter, outdoor housing (IP54)	2 cameras video transmitter, indoor (chassis mounted)
• Video inputs	2 x BNC 0.7 to 1.4 Vpp (75 Ohm)	4 x BNC 0.7 to 1.4 Vpp (75 Ohm)	2 x SMB 0.7 to 1.4 Vpp (75 Ohm)
• Video outputs two-wire	2 x two-wire terminal strips 2, 2.4, 2.8, 3.2 Vpp (adjustable to 124 Ohm, symmetric)	4 x two-wire terminal strips 2, 2.4, 2.8, 3.2 Vpp (adjustable to 124 Ohm, symmetric)	2 x two-wire terminal strips 2, 2.4, 2.8, 3.2 Vpp (adjustable to 124 Ohm, symmetric)
• Output impedance	124 Ohm	124 Ohm	124 Ohm
• Gain setting	manually selectable, pre-emphasis 8 dB at 5 MHz	manually selectable, pre-emphasis 8 dB at 5 MHz	manually selectable, pre-emphasis 8 dB at 5 MHz
• Crosstalk channel 1 – channel 2	50 dB at 5 MHz	50 dB at 5 MHz	50 dB at 5 MHz
• Over voltage protection	protection in output	protection in output	protection in output
• RI suppression	to EN 50081-1 (class B)	to EN 50081-1 (class B)	to EN 50081-1 (class B)
• Noise immunity	to IEC 61000-4	to IEC 61000-4	to IEC 61000-4
• Power requirements	± 5 VDC, 0.75 W (power supply included)	± 5 VDC, 1.5 W (power supply included)	± 5 VDC, 0.75 W (from chassis)
• Temperature of use	-10 to +50 °C	-10 to +50 °C	-10 to +50 °C
• Dimensions (W x H x D)	266 x 105 x 120 mm	266 x 105 x 120 mm	eurocard (160 x 100 mm), 30 mm high, 6 spacings

Receiver (or coaxial equalizer) modules

	TP-RXO2	TP-RXO4	TP-RXMOD02
	2 cameras video receiver, outdoor housing (IP54)	4 cameras video receiver, outdoor housing (IP54)	2 cameras video receiver, indoor (chassis mounted)
• Video input: - two-wire	2 x two-wire terminal strips 1.4 to 3.2 Vpp (up to 124 Ohm, symmetric)	4 x two-wire terminal strips 1.4 to 3.2 Vpp (up to 124 Ohm, symmetric)	2 x two-wire terminal strips 1.4 to 3.2 Vpp (up to 124 Ohm, symmetric)
- coaxial	1.0 Vpp (75 Ohm, asymmetric)	1.0 Vpp (75 Ohm, asymmetric)	1.0 Vpp (75 Ohm, asymmetric)
• Input impedance	40, 76, 90, 124 Ohm, selectable	40, 76, 90, 124 Ohm, selectable	40, 76, 90, 124 Ohm, selectable
• Video outputs coaxial	2 x BNC 1.0 Vpp (75 Ohm, asymmetric) (amplitude adjustable)	4 x BNC 1.0 Vpp (75 Ohm, asymmetric) (amplitude adjustable)	2 x SMB 1.0 Vpp (75 Ohm, asymmetric) (amplitude adjustable)
• Test output coaxial	1.0 Vpp (75 Ohm, asymmetric)	1.0 Vpp (75 Ohm, asymmetric)	1.0 Vpp (75 Ohm, asymmetric)
• Input voltage endurance	Urms = 2.5 kV	Urms = 2.5 kV	Urms = 2.5 kV
• Equalisation	0 to approx. 40 dB (5 MHz), frequency-dependent, continuously adjustable with 4 switches and 5 potentiometers	0 to approx. 40 dB (5 MHz), frequency-dependent, continuously adjustable with 4 switches and 5 potentiometers	0 to approx. 40 dB (5 MHz), frequency-dependent, continuously adjustable with 4 switches and 5 potentiometers
• Adjustment accuracy	+1 to -1.5 dB (50 Hz to 5 MHz) (cable A-2YF(L)2Y 10 x 2 x 0.8)	+1 dB to -1.5 dB (50 Hz to 5 MHz) (cable A-2YF(L)2Y 10 x 2 x 0.8)	+1 dB to -1.5 dB (50 Hz to 5 MHz) (cable A-2YF(L)2Y 10 x 2 x 0.8)

	TP-RX02 continued..	TP-RX04 continued..	TP-RXMOD02 continued..
• Gain setting	video output level manually adjustable	video output level manually adjustable	video output level manually adjustable
• Clamping	at back porch	at back porch	at back porch
• Power requirements	± 5 VDC, 2.7 W (power supply incl.)	± 5 VDC, 5.4 W (power supply incl.)	± 5 VDC, 2.7 W (directly from chassis)
• Temperature of use	-10 to +50 °C	-10 to +50 °C	-10 to +50 °C
• RI suppression	EN 50081-1 (class B)	EN 50081-1 (class B)	EN 50081-1 (class B)
• Noise immunity	IEC 61000-4	IEC 61000-4	IEC 61000-4
• Dimensions	266 x 105 x 120 mm	266 x 105 x 120 mm	eurocard (160 x 100 mm), 30 mm high, 6 spacings

Internal 19" chassis and external weatherproof housing

	TP-CH	TP-OH
	19" chassis with power supply unit	Outdoor housing with power supply unit
Power supply unit		
• Mains connection	90 to 240 V, 40 W 50/60 Hz	115/230 V, 20 W 50/60 Hz
• Protective measures	protection class II to DIN VDE 0805	protection class II to DIN VDE 0805
• Protection rating	--	IP54 to DIN 40050
Connections		
• Video input	asymmetric: SMB* plug symmetric: terminal strip	asymmetric: BNC plug symmetric: terminal strip
• Video output	asymmetric: SMB* plug symmetric: terminal strip	asymmetric: BNC plug symmetric: terminal strip
• Power supply	european appliance plug (3-pin)	european appliance plug (3-pin)
• Temperature of use	0 to +50 °C	-20 to +50 °C
• Overvoltage protection	two-wire connections protected by gas discharge beads	two-wire connections protected by gas discharge beads
• RI suppression	EN 50081-1 (class B)	EN 50081-1 (class B)
• Noise immunity	IEC 61000-4	IEC 61000-4
• Dimensions (W x H x D)	19" x 3U 482.6 x 133.3 x 250 mm	266 x 105 x 120 mm

System

• Required signal cable:	
- Two-wire transmission	twisted or stranded, DC-coupled conductor pairs of a telecommunications cable which are not individually screened
- Coaxial transmission	75 Ohm coaxial cable
• Maximum range:	
- Two-wire transmission	1500 m with wire diameter 0.8 mm, PE-insulated with pre-emphasis switched ON in the transmitter 3000 m using TP-AMP2 intermediate amplifier
- Coaxial transmission	1700 m with 48 dB attenuation at 5 MHz when using RG59 coaxial cable (approx. 2.3 dB loss per 100 m)
• Signal/noise ratio	≥ 60 dB at 0 dB equalisation, with weighting
• Differential gain	≥ 0.97 at 0 dB equalisation
• Differential phase	≤ 3° at 0 dB equalisation

*SMB is a standard mini-connector used in CCTV when there is not enough space for a BNC connector. The SMB name derives from "Sub Miniature B" (the second sub miniature design).

Details for ordering

Type	Part no.	Designation	Weight
Two-wire/coaxial transmission units in 19-inch chassis			
TP-TXMOD02	2GF5604-8BA	Double two-wire transmitter module	0.12 kg
TP-RXMOD02	2GF5604-8BB	Double receiver module	0.15 kg
TP-CH	2GF5608-8BA	19-inch chassis 3HU with power supply unit for 10 modules and adapter board for adjustment of the receiver modules	3.00 kg
Two-wire/coaxial transmission units in plastic housing			
TP-TXO2	2GF5604-8AA	Two-wire transmitter With one double transmitter module	1.72 kg
TP-TXO4	2GF5604-8AB	Two-wire transmitter With two double transmitter modules	1.84 kg
TP-RXO2	2GF5604-8AC	Two-wire receiver/coaxial equalizer With one double receiver module	1.75 kg
TP-RXO4	2GF5604-8AD	Two-wire receiver/coaxial equalizer With two double receiver modules	1.90 kg
TP-AMP2	2GF5604-8AE	Two-wire intermediate amplifier (repeater) With one double receiver module and one double transmitter module	1.87 kg
TP-OH	2GF5608-8BC	Plastic housing (IP54) to accommodate 1 or 2 modules	1.60 kg
Accessories (not included in delivery)			
TP-CHDP	2GF5608-8BB	Dummy panel set for covering unused slots, including: 4 x 2 slot dummy panel 2 x 1 slot dummy panel	0.10 kg
SIM-SMB/BNC	2GF5608-8AP	75 Ohm coaxial cable with SMB socket/BNC plug 2.5m	