



# VAD 5100



- Unidirectional video, audio and data over one fibre
- Uncompressed 10-bit video (SNR > 67 dBw)
- High-speed data
- CD-quality audio
- Adjustment-free installation and operation
- Rack-mount and stand-alone
- SNM™ compatible

## Description

The VAD 5100 series transmitters and receivers digitize and transmit one video signal while simultaneously handling two streams of simplex data, contact closure and audio signals, all over one multimode or single-mode optical fibre. Due to the advanced 10-bit A/D conversion techniques used, a high-

quality and superbly stable video signal can be sent over very long distances without degradation. Audio is two-channel and of CD quality. The high-speed data channels are fully transparent and suitable for RS-232, RS-422/485, TTY, Manchester and biphase signals; the interfaces provide compatibility with

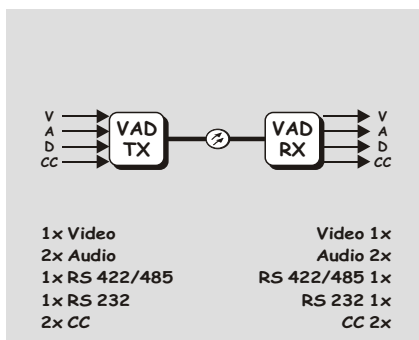
all CCTV equipment. VAD 5100 transmitters and receivers are designed to be slotted into MC 11 power supply cabinets. However, they can also be supplied as stand-alone units (/SA versions). VAD 5100 equipment is SNM™ compatible.

## Ordering information

Model	Description	Fibre type	Wavelength(s)	Budget	Housing	SNM
VAD 5110 TX VAD 5110 RX	Digital video, audio and data transmitter Digital video, audio and data receiver	MM	1310 nm	27 <sup>1</sup> dB	rack-mount	yes
VAD 5150 TX VAD 5150 RX	Digital video, audio and data transmitter Digital video, audio and data receiver	SM	1310 nm	27 dB	rack-mount	yes
VAD 5150 TX /1550 VAD 51xx /SA	Digital video, audio and data transmitter Stand-alone versions of rack-mount models	SM	1550 nm	27 dB	rack-mount stand-alone	yes yes

<sup>1</sup> Due to fibre bandwidth the maximum transmission distance may be limited to 16 km.

## Applications



## Technical Specifications

# VAD 5100

### Video

Number of channels	1
Video format	PAL/SECAM/NTSC
In-/output level	1 V <sub>pp</sub> (±3 dB)
DC restore (clamping)	On or off (selectable)
Bandwidth (-3 dB)	7.5 MHz
Sampling resolution	10-bit
Sampling rate	18 Msamples/s
Differential gain	< 1%
Differential phase	< 1°
Group delay	< 50 ns
SNR	> 67 dB (weighted)
Connector type	BNC 75 (gold plated center-pin)

### Audio

Number of channels	2 (unidirectional)
Bandwidth	20 Hz to 20 kHz
Sampling resolution	16-bit
In-/output level	0 dBV (+6 dBV max)
Total harmonic distortion	< 0.25% at nominal level
SNR	> 75 dBA
Input impedance	> 50 k or 600 bal.
Output impedance	< 50 bal.
Connector type	RJ45

### Powering

Power consumption	< 5 W (1 A inrush)
Rack-mount units	MC 10 and MC 11 power-supply cabinets
Stand-alone units (/SA)	11 to 16 Vdc (PSA 12 DC/25 or PSU 12 DC)

### Management

LED status indicators	
DC	Power-on indicator (green)
NV	No video on in- or output (red)
SYNC	Full duplex link (green), local (red) or remote synchronization error (yellow)
D1	RS-4xx data activity on input (red/green = 1/0)
D2	RS-232 data activity on input (green/off = 1/0)
Network Management	SNM™ compatible
SNM™ variables	PS Voltages, module temperature, module status, optical levels, configuration, etc

### Environmental

Operating temperature	-40 to +74°C
Relative humidity	< 95% (no condensation)
MTBF	> 100,000 h
Safety & EMC	IEC/EN 60950-1, IEC/EN 60825, IEC/EN 61000, EN 50130-4, EN 50081-1, EN 55022, FCC part 15

### Contact Closure

Number of channels	2 (unidirectional)
Input	+5 V pull-up, 10 k
Threshold	0.75 V
Output	Fail-safe, potential-free
Switch rating	2 A at 30 Vdc
Connector type	RJ45

### Data

No. of channels	2 (unidirectional)
Data interface	1x RS-232 1x RS-422/485
Interface support	Current loop / TTY / TTL / Manchester / Bi-phase
Data format	Asynchronous, serial
Data rate	DC to 128 kbit/s
Sampling rate	1.5 Msamples/sec
Connector type	RJ45

### Mechanical

Dimensions (hwxwd)	128 x 35 x 190 mm
Weight (approx.)	450 g
Housing	Rack-mount or stand-alone

Optical	VAD 5110 TX - RX	VAD 5150 TX - RX	VAD 5150 TX/1550 - RX		
Wavelength	1310 nm	1310 nm	1550 nm		
Fibre type	1x MM	1x SM	1x SM		
System budget	27 <sup>1)</sup> dB	27 dB	27 dB		
Min. link loss	2 dB	2 dB	2 dB		
Output power	0 dBm	0 dBm	0 dBm		
Input sensitivity	-2 to -27 dBm	-2 to -27 dBm	-2 to -27 dBm		
Connector type	ST	FC (others optional)	FC (others optional)		

<sup>1)</sup>: Due to fibre bandwidth the maximum transmission distance may be limited to 16 km.

