



VAD 5400



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

Description

The VAD 5400 series transceivers offer one bidirectional, digital video channel, and also transmit two streams of full-duplex audio, data and contact closure signals. VAD 5400 systems use one single-mode optical fibre. Due to the advanced 10-bit A/D conversion techniques used, a high-

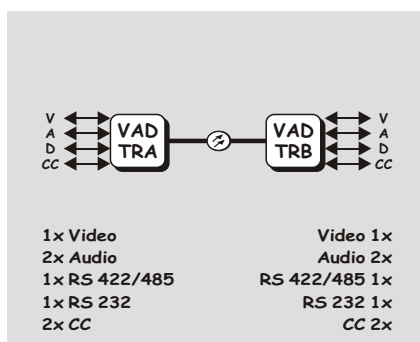
quality and superbly stable video signal can be sent over very long distances without degradation. Audio is two-channel and of CD quality. The high-speed data interfaces are suitable for RS-232/422/485, TTY, Manchester and biphase signals and adaptable for compatibility with all CCTV equipment.

The video return channel can be used for synchronisation (genlock) purposes. VAD transceivers are designed to be slotted into MC 11 power supply cabinets. However, they can also be supplied as double-height stand-alone units (/SA versions). VAD 5450 equipment is SNM™ compatible.

Ordering information

Model	Description	Fibre type	Wavelength(s)	Budget	Housing	SNM
VAD 5450 TRA	Digital video, audio and data transceiver A-side	SM	1310/1550 nm	25 dB	rack-mount	yes
VAD 5450 TRB	Digital video, audio and data transceiver B-side					
VAD 54xx /SA	Stand-alone versions of rack-mount models				stand-alone	yes

Applications



Technical Specifications

VAD 5400

Video

Number of channels	1 (full duplex)
Video format	PAL/SECAM/NTSC
In-/output level	1 Vpp (± 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 (full duplex)
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 (full duplex)
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 (full duplex)
Data interface	1x RS-232 1x RS-422/485 (2- or 4-wire)
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 71 x 190 mm
Weight (approx.)	900 g
Housing	Rack-mount or stand-alone

Optical	VAD 5450	
	TRA	TRB
Wavelength	1310 nm	1550 nm
Fibre type	1x SM	
System budget	25 dB @ 1310 nm	
Min. link loss	0 dB	
Output power	0 dBm	0 dBm
Input sensitivity	< -25 dBm	< -25 dBm
Connector type	FC (others optional)	

