

VAD 5300

Features

- 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 remarkably versatile VAD 5300 series transceivers digitize and transmit one video signal while simultaneously handling two streams, each of full-duplex data, contact closures and audio signals, all over one single- or multimode 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 fully


10-bit

duplex and of CD quality. The high speed interfaces are suitable for RS-232/422/ 485, TTY, Manchester and biphase, and are compatible with all CCTV equipment.

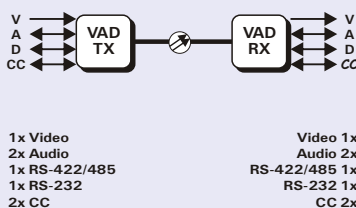
VAD transceivers are designed to be slotted into MC 11 power supply cabinets. However, they can also be supplied as stand-alone units (/SA versions). For longer links, a high-power transmitter is available (/HP option). VAD 5300 equipment is SNM™ compatible.

Ordering information

Model	Description	Fiber type	Wavelength(s)	Budget	Housing	Managed
VAD 5310 TX VAD 5310 RX	Digital video transmitter, 2-way audio and data Digital video receiver, 2-way audio and data	MM	1300/850 nm	9 dB ¹⁾	rack-mount	SNM
VAD 5350 TX VAD 5350 RX	Digital video transmitter, 2-way audio and data Digital video receiver, 2-way audio and data	SM	1310/1550 nm	21 dB	rack-mount	SNM
VAD 5350 TX /HP VAD 53xx /SA	High-power video transmitter, 2-way audio + data Stand-alone versions of rack-mount models	SM	1310/1550 nm	27 dB	rack-mount stand-alone	SNM SNM

¹⁾: Due to fibre bandwidth the maximum transmission distance may be limited to 4 km. For 50/125 μ fiber subtract 4 dB.

Applications



Technical Specifications

Video

Number of channels	1
Video format	PAL/SECAM/NTSC
In-/output level	1 V _{pp} (± 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 Ω (gold-plated centerpin)

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 kΩ or 600 W bal.
Output impedance	< 50 Ω 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 PSR 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 kΩ
Threshold	0.75 V
Output	Fail-safe, potential-free
Switch rating	2 A at 30 Vdc
Connector type	RJ45

Data

Number 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 (hxwxh)	128 x 35 x 190 mm
Weight (approximately)	450 g
Housing	Rack-mount or stand-alone

Optical	VAD 5310		VAD 5350		VAD 5350	
	TX	RX	TX	RX	TX/HP	RX
Fibre type	1x MM		1x SM		1x SM	
System budget	9 dB ¹ @ 1300 nm		21 dB @ 1310 nm		27 dB @ 1310 nm	
Min. link loss	0 dB		0 dB		6 dB @ 1310 nm	
Output power	> -16 dBm ¹	> -15 dBm ¹	> -4 dBm	> -11 dBm	> 2 dBm	> -11 dBm
Output wavelength	1300 nm	850 nm	1310 nm	1550 nm	1310 nm	1550 nm
Input sensitivity	< -35 dBm	< -25 dBm	< -35 dBm	< -25 dBm	< -35 dBm	< -25 dBm
Connector type	ST		FC (others optional)		FC (others optional)	

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