



AS-Interface Safety Monitor

VAS-4A16L-K31

- Certified up to SIL 3 according to IEC 61508 and EN 62061 and up to PL_e according to EN 13849
- Stainless steel housing
- LC display for slave addresses and error messages
- Configuration and commissioning with configuration software
- 2 safe output relays and 2 safe electronic outputs
- 2 AS-Interface networks
- Memory card for configuration data

Safety Monitor, 16 decentralized output circuits



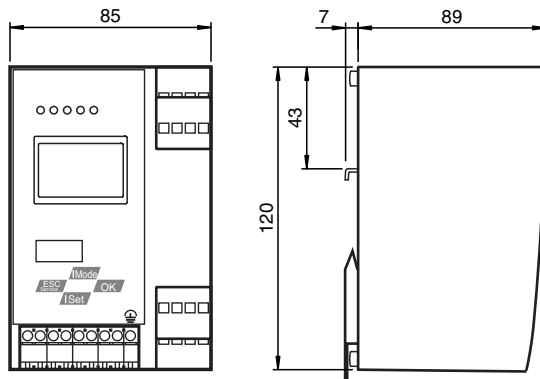
Function

The VAS-4A16L-K31 is a stainless steel safety monitor for 2 AS-Interface circuits in accordance with AS-Interface specification 3.0 with degree of protection IP20. The VAS-4A16LK31 has four inputs and four outputs. Two inputs are used for extended EDM device monitoring. Due to the 16 independent AS-Interface release circuits, several safe AS-Interface outputs are possible on one address. The K31 model is particularly suitable for installation in a control cabinet.

Two safety relays provide a safe interface to the connected consumers.

Address assignment and the transfer of the desired configuration can be performed using switches. Five LEDs located on the front panel indicate the current status of the AS-Interface segment. Local operation using the graphical display and the four switches allows all the functions covered on the other AS-Interface masters by AS-i Control Tools software to be visualized on the display. An RS 232 socket provides a way of exporting data relating to the network and operation directly from the safety monitor for extended local diagnosis purposes.

Dimensions



Technical Data

General specifications

AS-Interface specification	V3.0
PLC-Functionality	none
Duplicate address detection	from AS-Interface slaves
Earth fault detection	EFD integrated
EMC monitoring	integrated
Diagnostics function	Extended function via display
Switch-on delay	< 10 s
Response delay	< 40 ms

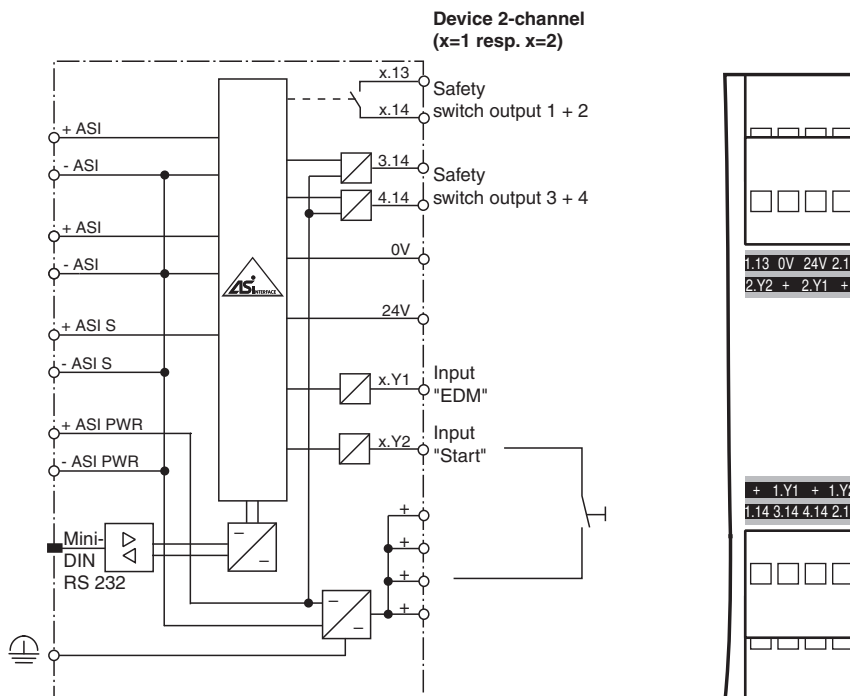
Technical Data

UL File Number	E223772 only from low voltage, limited energy source (SELV or PELV) or listed Class 2 source	
Functional safety related parameters		
Safety Integrity Level (SIL)	SIL 3	
Performance level (PL)	PL e	
MTTF _d	200 a	
B _{10d}	2 E+7	
Indicators/operating means		
Display	Illuminated graphical LC display for addressing and error messages	
LED FAULT	Error display; red LED red: Communication error red flashing: release circuit error	
LED POWER	voltage ON; LED green	
LED U AS-i 1 / U AS-i 2	AS-Interface voltage - circuit 1/circuit 2; green LED	
LED ready	off: - constantly lit: startup/restart lock active flashing: external test required	
LED AUX	ext. auxiliary voltage U _{AUX} ; LED green	
LED EDM/Start	External device monitoring circuit inputs closed, 4x yellow LEDs	
LED output circuit	Output circuit closed; 4 x green LEDs	
Button	4	
Electrical specifications		
Insulation voltage	U _i	≥ 500 V
Rated operating voltage	U _e	26.5 ... 31.6 V from AS-Interface; 24 V _{DC}
Rated operating current	I _e	≤ 200 mA from 24 V _{DC} ≤ 45 mA from AS-Interface
Interface		
Interface type	RS 232, serial	
Transfer rate	19.6 kbaud, no parity, 1 start bit, 1 stop bit, 8 data bits	
Interface 2		
Interface type	Chip card slot	
Input		
Number/Type	4 EDM/Start inputs: EDM: Inputs for the external device monitoring circuits Start: start inputs: Static switching current 4 mA at 24 V, dynamic 30 mA at 24 V (T=100 μs)	
Output		
Safety output	Output circuits 1 and 2: 2 potential-free contacts, max. contact load: 3 A _{DC-13} at 30 V _{DC} , 3 A _{AC-15} at 30 V _{AC} Output circuits 3 and 4: 2 PNP transistor outputs max. contact load: 0.5 A _{DC-13} at 30 V _{DC}	
Connection		
AS-Interface	spring terminals, removable	
Directive conformity		
Electromagnetic compatibility	EN 62026-2:2013 EN 61000-6-2:2005, EN 61000-6-4:2007	
Directive 2014/30/EU	EN 62026-2:2013 EN 61000-6-2:2005, EN 61000-6-4:2007	
Standard conformity		
Electromagnetic compatibility	EN 61000-6-2:2005, EN 61000-6-4:2007	
Degree of protection	EN 60529:2000	
AS-Interface	EN 62026-2:2013	
Shock resistance	EN 61131-2:2004	
Standards	EN 61000-6-2:2005, EN 61000-6-4:2007 EN 954-1:1996 (up to Kategorie 4), IEC 61508:2001 and EN 62061:2005 (up to SIL3) EN 13849:2008 (PL e)	
Approvals and certificates		

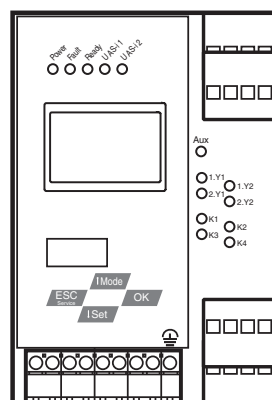
Technical Data

UL approval	An isolated source with a secondary open circuit voltage of $\leq 30 V_{DC}$ with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed. UL mark does not provide UL certification for any functional safety rating or aspects of the device.
Ambient conditions	
Ambient temperature	0 ... 55 °C (32 ... 131 °F)
Storage temperature	-25 ... 85 °C (-13 ... 185 °F)
Mechanical specifications	
Degree of protection	IP20
Material	
Housing	Stainless steel
Mass	800 g
Construction type	Low profile housing , Stainless steel

Connection






Assembly



Release date: 2021-09-27 Date of issue: 2021-09-27 Filename: 207739_eng.pdf

Accessories

	USB-0,8M-PVC ABG-SUBD9	Interface converter USB/RS 232
	VAZ-SW-SIMON+	Software for configuration of K30 Master Monitors/K31 and KE4 Safety Monitors
	VAZ-SIMON+-R2-1,8M-PS/2	Interface cable for connecting the K30/K31 Safety Monitor to a PC

Configuration

The configuration is made via the configuration software VAZ-SW-SIMON+, which runs on any Windows XP/Vista Standard-PCs.