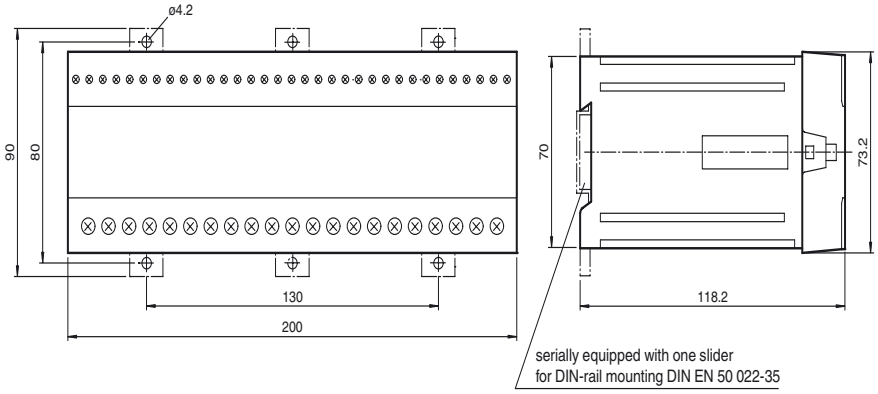
Dimensions



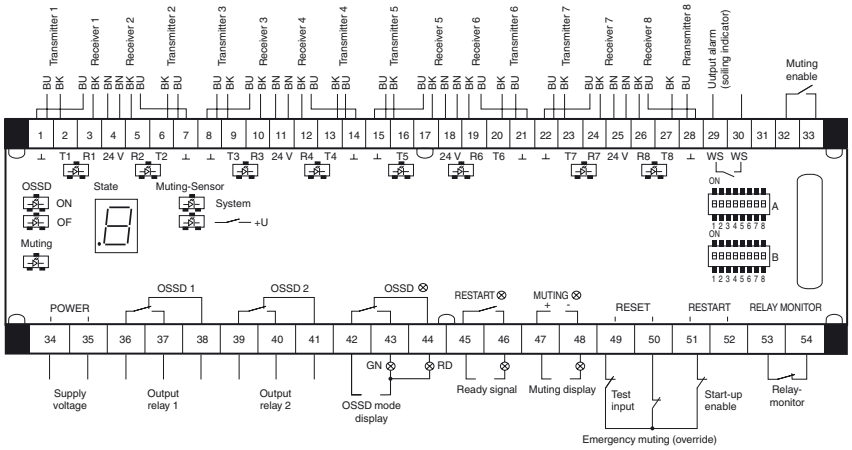
Model Number

SLVA-8K 230VAC

Features

- Self-monitoring (type 4 according to IEC/EN 61496-1)
- Evaluation device for safety thru-beam sensors SLA and for safety light grids SLP
- Operating mode can be selected by means of DIP switches
- Start/Restart disable
- Relay monitor
- Sequential and parallel muting in various operating modes
- Double muting
- Emergency muting (override) for the correction of the material jam
- Pre-fault indication
- Clearly visible LED functional display
- 7-segment diagnostic display
- Safety outputs OSSD, external status displays OSSD

Electrical connection



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Technical data

General specifications		
Approvals		TÜV; cNRTLus
Tests		IEC/EN 61496
Safety type according to IEC/EN 61496		4
Marking		CE
Operating mode		Start/restart disable, relay monitor, muting operating modes
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 3
Performance level (PL)		PL e
Category		Cat. 4
Mission Time (T_M)		20 a
PFH_d		1.97 E-9
Indicators/operating means		
Diagnostics display		7-segment display
Function display		LED red: OSSD off LED green: OSSD on LED yellow 8x: indicator lamp channel 1 ... 8 LED yellow 2x: Type of muting sensor LED yellow: Muting operation
Pre-fault indication		LED yellow flashing: Indicator lamp channel 1 ... 8
Controls		two 8-pin DIP-switches for selection of operating modes
Electrical specifications		
Operating voltage	U_B	230 V AC ± 10 %
No-load supply current	I_0	100 mA
Power consumption	P_0	13 VA
Input		
Activation current		approx. 10 mA
Activation time		0.03 ... 1 s
Test input		Reset-input for system test
Function input		Relay monitor, start release, muting enable, emergency muting, max. 4 muting sensors
Output		
Output of the pre-fault indication		1 NC-contact alarm output: 2 ... 48 V AC/DC, 1 ... 500 mA
Safety output		2 relay outputs, force guided alternating contact
Signal output		Relay contacts for the switching state message of the OSSDs
Switching voltage		20 ... 230 V AC/DC
Switching current		AC: 0.01 ... 2 A DC see diagram of limit load curve
Switch power		min. 0.06 VA / max. 460 VA
Response time		40 ms
Ambient conditions		
Ambient temperature		0 ... 50 °C (32 ... 122 °F)
Storage temperature		-20 ... 75 °C (-4 ... 167 °F)
Mechanical specifications		
Protection degree		IP20
Connection		Connection terminals, max. conductor cross-sectional area 1.5 mm^2
Material		
Housing		Polycarbonate/V-0
Mass		900 g

Operating modes

The startup/restart disable mode of operations is set in the factory. The user can change the mode of operation to adapt the evaluation unit to the application. After changing the mode of operation, a test of the effectiveness of the selected setting must always take place.
You can adjust the modes of operation of the SLVA-8K with the 16 DIP switches The DIP switches are accessible by removing the transparent covering on the upper side of the analyser unit.
2 switches in both rows A and B must be moved to the same position. It should be noted that the switch only takes effect if Switch 3 is set to the ON position.

Switch	Position	Mode of operation
1	OFF/ON	Without/with startup/restart disable (restart)
2	OFF/ON	Without/with relay monitor
3	OFF/ON	Muting off/on
4	OFF/ON	Muting sensors channel 7 and 8/5 to 8
5	OFF/ON	Single muting/double muting
6	OFF/ON	Sequential/parallel muting
7	OFF/ON	Time window-limited/protective beam limited muting
8	OFF/ON	system-external/system-internal muting sensor

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If the dip switches are turned on during operation, the analyser unit switches into secure state (outputs turned off) and the 7-segment displays shows a P. In addition, output 45/46 flashes (ready for startup).

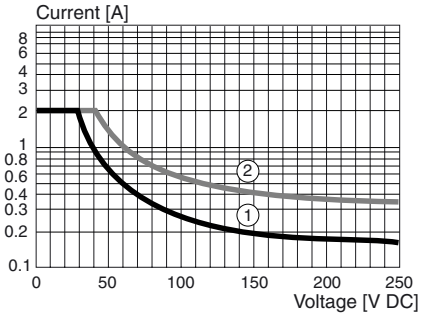
Indicator lamps and 7-segment diagnostic display

The positions of the indicator lamps of the analyser unit are illustrated schematically in the electrical connection diagram. The 7-segment display indicates the operating and error states. In the error state, the decimal point in the display flashes in addition and the status of the startup readiness output changes at a frequency of 1 Hz (once per second).

LED	Red	OSSD outputs turned off
	Green	OSSD outputs turned on
	Yellow	Muting mode selected, flashing: Muting time error
	Yellow	Indicator lamps for channels (1-8) On = light beam free or muting sensor active Flashing = light beam free, minimum function reserve not met Off = light beam interrupted
7-segment display	1	Protective field free, OSSD on (running light)
	0	Protective field interrupted
	8	Protective field free, OSSD off, ready for startup
	E	System error
	1	DIP switch setting incorrect semiconductor OSSD: Power supply voltage is missing
	2	Receiver defective
	5	Short circuit in transmitter connection
	6	Muting lamp defective
	7	Error in an external contactor (relay monitor)
	P	Selection of mode of operation via DIP switch

Diagrams

Load limit curve of relay OSSD for DC-current



1) inductive load, L/R = 40 ms
2) ohmic load

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