



Model Number

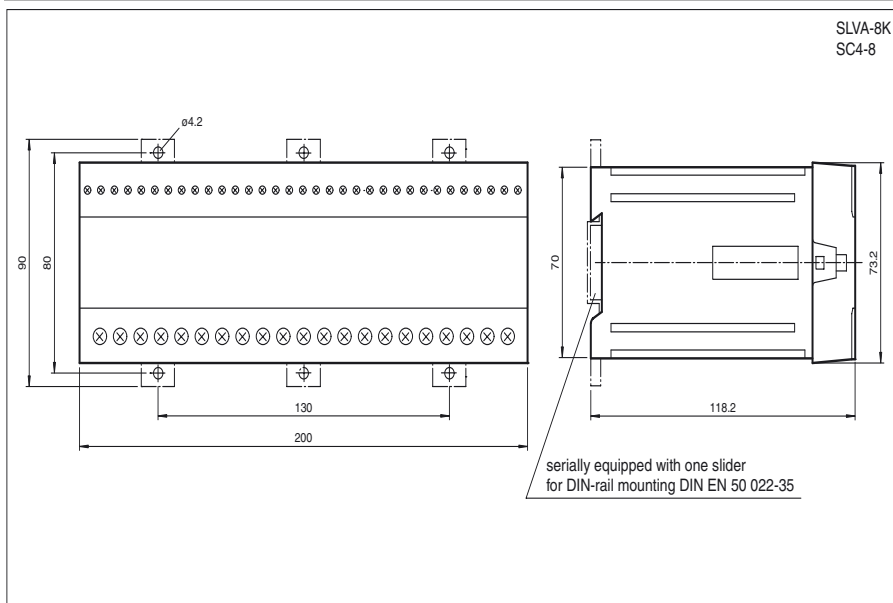
SC4-8 24VAC/DC

Safety control unit

Features

- Evaluation device for safety thru-beam sensors SLA, for safety light grids SLP and for 2 channel safety devices (emergency off)
- Self-monitoring (type 4 according to IEC/EN 61496-1)
- Muting module for safety light curtain SLC
- Consideration of special customer requirements
- Function defined on programmable memory module, in the factory
- Start/Restart disable
- Relay monitor
- Sequential and parallel muting in various operating modes
- Double muting
- Emergency muting for the correction of the material jam
- 7-segment diagnostic display
- Safety outputs OSSD, external status displays OSSD

Dimensions



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

Diagnosis display	7-segment display
Function display	LED red: OSSD off LED green: OSSD on LED yellow 8x: indicator lamp channel 1 ... 8 LED yellow: Muting status
Pre-fault indication	LED yellow flashing: Indicator lamp channel 1 ... 8

Electrical specifications

Operating voltage	U_B	24 V AC; $\pm 10\%$; 24 V DC; $\pm 15\%$
No-load supply current	I_0	400 mA
Power consumption	P_0	15 VA

Input

Activation current	approx. 8 mA
Activation time	0.05 ... 1 s
Test input	Reset-input for system test
Function input	Relay monitor, startup enable, emergency muting, max. 4 muting sensors, input for 2-channel protective device

Output

Output of the pre-fault indication	1 NC-contact alarm output: max. 48 V AC/DC, 500 mA
Safety output	2 relay outputs, compelled connection alternator contact
Signal output	Relay contacts for the switching state message of the OSSDs, start readiness, muting
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	20 ms

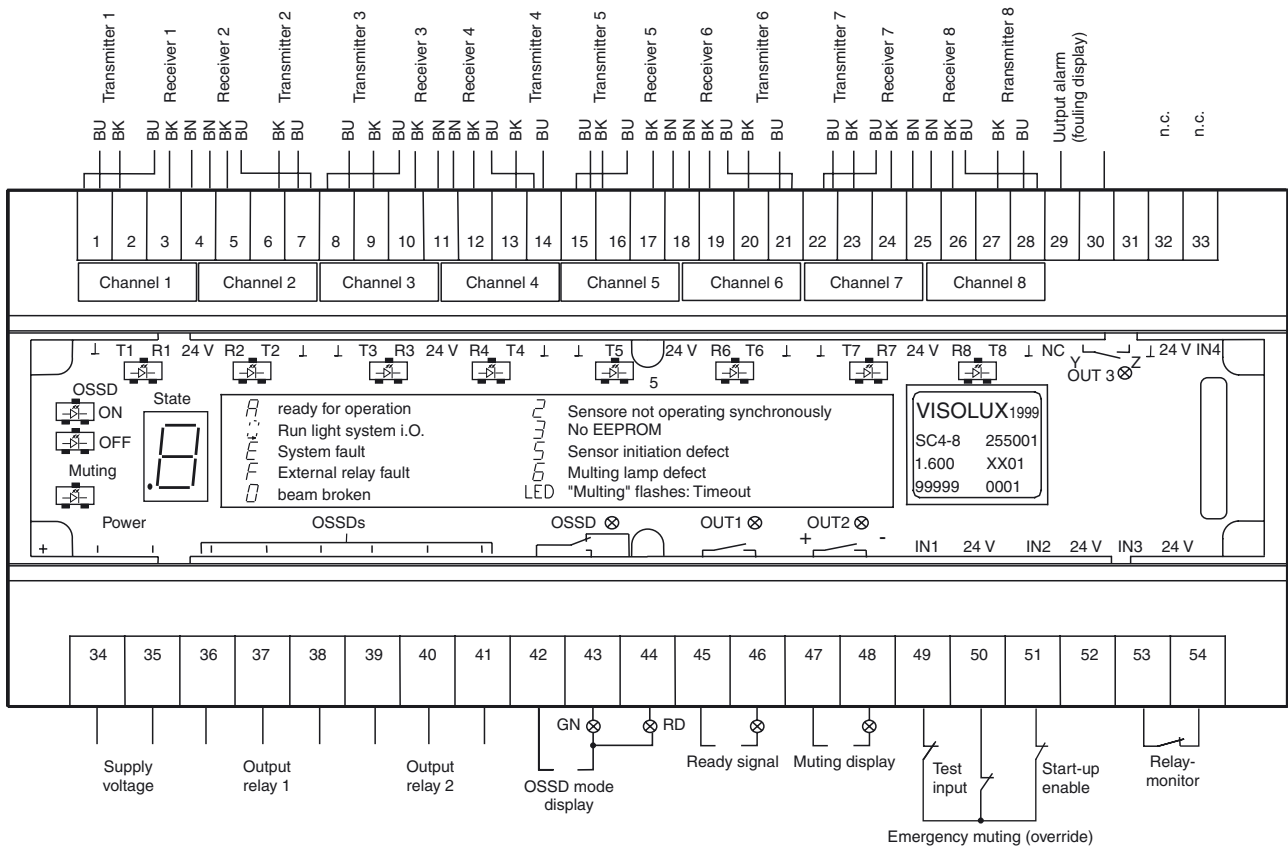
Ambient conditions

Ambient temperature	0 ... 50 °C (273 ... 323 K)
Storage temperature	-20 ... 75 °C (253 ... 348 K)

Mechanical specifications

Protection degree	IP20
Connection	Connection terminals, max. conductor cross-sectional area 1.5 mm ²
Material	
Housing	Polycarbonate/V-0
Mass	750 g

Electrical connection



Modes of operating

The mode of operation of the SC4-8 analyser unit is stored in the memory card. This memory card is located behind the transparent covering on the upper side of the analyser unit. The desired mode of operation can be programmed by the manufacturer in consultation with the user. This eliminates the possibility of changing the mode of operation unintentionally. If the memory card is missing, the analyser unit assumes the secure state and the OSSD outputs are turned off.

Indicator lamps and diagnostic display

The positions of the indicator lamps of the analyser unit are illustrated schematically in the electrical connections diagram. The 7-segment display indicates 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).

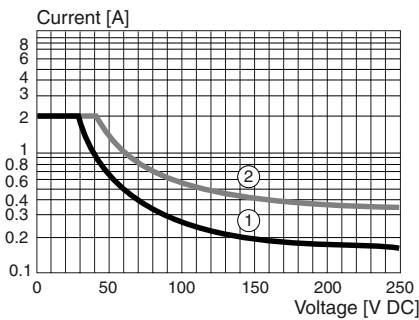
LED	Red	OSSD outputs turned off
	Green	OSSD outputs turned on
	Yellow	off: System works without muting on: System with muting flashing: Muting time error
	Yellow	Indicator lamps for channels (1-8) On = light beam free or muting sensor active Flashing = light beam free, minimum function reserve not met Off = light beam interrupted

Release date: 2009-12-14 11:25 Date of issue: 2009-12-14 T2493_ENG.xml

7-segment display		Protective field free, OSSD on (running light)
		Protective field interrupted
		Protective field free, OSSD off, ready for startup
		System error
		Simultaneity condition violation
		Memory block is missing or defective
		Short circuit in transmitter connection
		Muting lamp defective
		Error in an external magnetic switch (relay monitor)

Diagrams

Load limit curve of relay OSSD for DC-current



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