

Safety Light Curtain Set

Finger Protection

SEMG431

Part Number



- Easy configuration via wiring
- Protection field over the entire length of the housing for an installation without protrusion
- Quick alignment through visible red light
- Slim design for easy integration

These safety light curtains confidently solve all basic tasks. The basic function protection mode, restart inhibit and protection monitoring are standard and can be easily configured. The protective field always extends up to the end of the housing without protrusion. As a result, protection is easily provided even in confined installation conditions. The adequate mounting angle ZEMX001 is included in the delivery.



Technical Data

Optical Data	
Range	0,25...6 m
Housing Length (L)	249 mm
Safety Field Height (SFH)	250 mm
Resolution	14 mm
Light Source	Red Light
Wave Length	630 nm
Max. Ambient Light	10000 Lux
Opening Angle	± 2,5 °

Electrical Data	
Sensor Type	Set
Supply Voltage	19,2...28,8 V DC
Response Time	7,6 ms
Temperature Range	-25...55 °C
Storage temperature	-25...60 °C
No. Safety Outputs (OSSDs)	2
Safety Output Voltage Drop	< 2,3 V
PNP Safety Output/Switching Current	300 mA
Signal Outputs	1
Signal Output Voltage Drop	< 2,5 V
Signal Output/Switching Current	100 mA
Short Circuit and Overload Protection	yes
Reverse Polarity Protection	yes
Protection Class	III

Mechanical Data	
Housing Material	Aluminum
Disk Material	Polycarbonate
Degree of Protection	IP65/IP67
Connection	M12 × 1
Cable Length	300 mm

Safety-relevant Data	
ESPE Type (EN 61496)	4
Safety Category (EN ISO 13849-1)	4
Performance Level (EN ISO 13849-1)	PL e
PFHD	1,60 × E-8 1/h
Service Life TM (EN ISO 13849-1)	20 a
Safety Integrity Level (EN 61508)	SIL3
Safety Integrity Level (EN 62061)	SILCL3

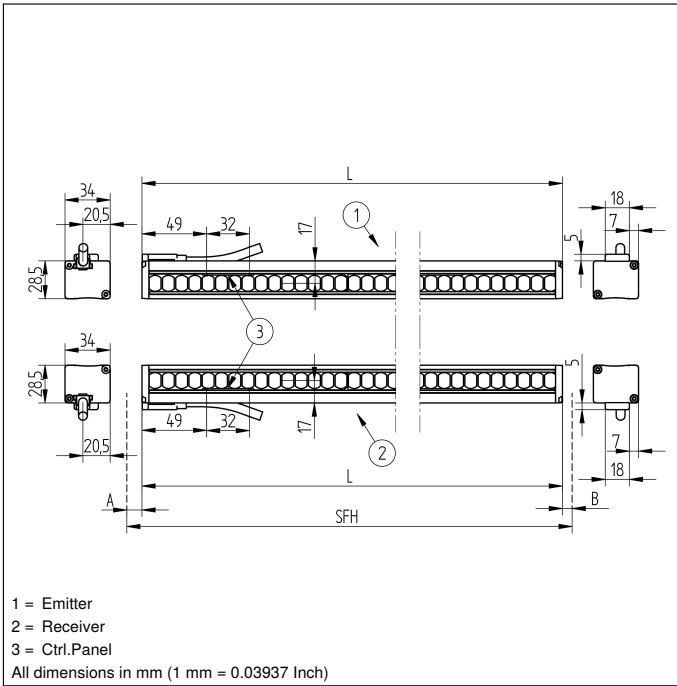
Function	
Finger Protection	yes
Restart Inhibit	yes
Safety Operating Mode	yes
Contactors Monitoring	yes

Scope of delivery	Mounting ZEMX001
Scope of delivery (Emitter; Receiver)	SEMG531; SEMG631

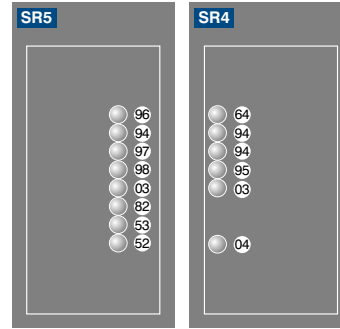
Connection Diagram No.	361	362	
Control Panel No.	SR4	SR5	
Suitable Connection Technology No.	35	89	
Suitable Mounting Technology No.	790	810	820

Complementary Products

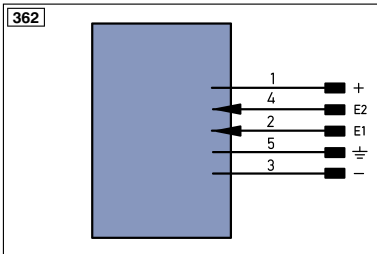
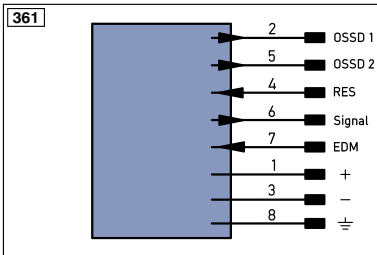
Path-Folding Mirror Z2UG002
Protection Column with Path-Folding Mirror SZ000EU125NN01
Protection Column with Protective Screen SZ000EG125NN01
Safety Relay SG4-00VA000R2, SR4B3B01S, SR4D3B01S
Software



Ctrl. Panel



- 03 = Error Indicator
- 04 = Function Indicator
- 52 = OSSD ON
- 53 = OSSD OFF
- 64 = Diagnosis/Test
- 82 = Acknowledgement Request
- 94 = Diagnosis
- 95 = Diagnosis/Large Detection Range
- 96 = Diagnosis/Signal weak
- 97 = Diagnosis/Contactor Monitoring
- 98 = Diagnosis/Synchronization



Legend

+	Supply Voltage +	PT	Platinum measuring resistor	ENa	Encoder A
-	Supply Voltage 0 V	nc	not connected	ENb	Encoder B
~	Supply Voltage (AC Voltage)	U	Test Input	AMIN	Digital output MIN
A	Switching Output (NO)	U	Test Input inverted	AMAX	Digital output MAX
Ā	Switching Output (NC)	W	Trigger Input	AOK	Digital output OK
V	Contamination/Error Output (NO)	O	Analog Output	SY In	Synchronization In
ṽ	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY OUT	Synchronization OUT
E	Input (analog or digital)	BZ	Block Discharge	Out	Brightness output
T	Teach Input	AWV	Valve Output	M	Maintenance
Z	Time Delay (activation)	a	Valve Control Output +		
S	Shielding	b	Valve Control Output 0 V		
RxD	Interface Receive Path	SY	Synchronization		
TxD	Interface Send Path	E+	Receiver-Line		
RDY	Ready	S+	Emitter-Line		
GND	Ground	\perp	Grounding		
CL	Clock	SnR	Switching Distance Reduction		
E/A	Output/Input programmable	Rx+/-	Ethernet Receive Path		
	IO-Link	Tx+/-	Ethernet Send Path		
PoE	Power over Ethernet	Bus	Interfaces-Bus A(+)/B(-)		
IN	Safety Input	La	Emitted Light disengageable		
OSSD	Safety Output	Mag	Magnet activation		
Signal	Signal Output	RES	Input confirmation		
Bl..D+/-	Ethernet Gigabit bidirect. data line (A-D)	EDM	Contactor Monitoring		
EN0..R542	Encoder 0-pulse 0-0 (TTL)	ENAR542	Encoder A/Ā (TTL)		
		ENBR542	Encoder B/B̄ (TTL)		

Wire Colors according to DIN IEC 757

BK	Black
BN	Brown
RD	Red
OG	Orange
YE	Yellow
GN	Green
BU	Blue
VT	Violet
GY	Grey
WH	White
PK	Pink
GNYE	Green/Yellow

