

**From SG-SLE 04-0X1  
to SG-EFS 104/2W**

**A simple swap!**



Type	SG-SLE 04-0X1	SG-EFS 104/2W
<b>Safety classifications</b>		
ISO 13856: Reset function	without	with/without
ISO 13849-1:2015 only control unit as a pressure-sensitive protection device ISO 13856	Category 3 PL e Category 3 PL d	Category 3 PL d Category 3 PL d
MTTF <sub>D</sub>	279 years	256 years
DC <sub>avg</sub>	90%	60%
B <sub>10D</sub> [ × 10 <sup>6</sup> ]	2	1.8
<b>Times</b>		
Reaction time	< 14 ms	< 15 ms
Re-start time	< 1.8 ms	< 50 ms
<b>Control unit Inputs</b>		
Types of sensors	SM, SL, MSL, SB	SM, SP, SL, MSL, SB
Monitoring type	Resistor 22k1	Resistor 8k2
Monitoring circuits	4	1
<b>Control unit Outputs</b>		
Switching channels	1× 2-channel	1× 2-channel
Switching current (min. / max.)	10 mA / 2 A	- / 4 A
Switching capacity (max.)	500 VA / 48 W	1000 VA / 96 W
additional outputs	1 Return	1 Signal circuit
<b>Mechanical operating conditions</b>		
Attachment	Surface mounting	Mounting rail IEC 60715
IEC 60529: Degree of protection	IP65	IP20
Operating temperature	-20 to +55 °C	-25 to +55 °C
Dimensions (W × H × D)	125 × 125 × 75 mm	22.5 × 99 × 114.5 mm
<b>Variants</b>		
Part number	<b>SG-SLE 04-051</b> 1000305	<b>SG-EFS 104/2W</b> 1005196
Connecting voltage U <sub>s</sub>	DC 24 V <b>SG-SLE 04-021</b> 1000303 AC 230 V	AC/DC 24 V  A power supply unit must be connected upstream with a connecting voltage <b>AC 230 V</b> . Maysers recommends a top-hat rail power supply with an output voltage of 24 V and output power of min. 5 W (e. g. Mean Well HDR-15-24).
<b>Connections</b>		
Supply voltage	2, 4 or 3, 4	A1, A2
Sensor 1	14, 15	Y1, Y2
Sensor 2	16, 17	-
Sensor 3	18, 19	-
Sensor 4	20, 21	-
Switching channel 1	12, 13, (11)	13, 14
Switching channel 2	6, 7, (5)	23, 24
Return	8, 9, 10	-

## LED indicators

Until now			Meaning	Now				
SG-SLE 04-0X1				SG-EFS 104/2W				
Power	101	201	LED off: ○	LED on: ●	Power	Sensor	Output	Fault
○	○	○	No supply voltage		○	○	○	○
●	●	●	Control unit ready for operation		●	●	●	○
●	○	○	Sensor activated		●	○	○	○

## Successful change: the last few steps

### From surface-mounted to wall-mounted housing

The control unit SG-EFS 104/2W only has protection type IP20. When using it in the same installation location, use an additional wall-mounted housing with protection type of at least IP54.

### Replacing the sensor

Sensors of type /W22k1 must not be adapted by adding an additional resistor. They need to be replaced with sensors type /W8k2.

### Switching sensors in sequence

If you want to connect more than one sensor, then the sensors type /BK must be switched in sequence with a sensor type /W.

### An identical performance level

When determining the performance levels for a pressure-sensitive protection device according to ISO 13856, the values  $DC_{avg}$  and  $MTTF_D$  now play an important role. The connected sensors in contrast must no longer be taken into consideration due to the fault exclusions according to ISO 13849-2 Table D.8. Only the values of the control unit still apply. On the basis of a presumed high  $MTTF_D$  value of the control unit, such a pressure-sensitive protection device can only reach a maximum of PL d.

Until now	ISO 13849-1	Now
SG-SLE 04-0X1	ISO 13849-1	SG-EFS 104/2W
3	Category	3
medium	$DC_{avg}$	low
high	$MTTF_D$	high
d	achieved PL	d

The change to an equivalent pressure-sensitive protective device now just needs to be documented in your safety assessment under the relevant protective function. Finished!