

# Dold LG7927/ LG7928 Extension Module



Additional contacts for emergency-stop modules and safety gate monitors.

- Safe timing circuits
- 4 forcibly guided output contacts at only 22.5 mm width

According to:

- Performance Level (PL) d and category 3 to EN ISO 13849-1: 2008
- SIL Claimed Level (SIL CL) 2 to IEC/EN 62061
- Safety Integrity Level (SIL) 2 to IEC/EN 61508 and IEC/EN 61511 when connected to a suitable safety module
- Adjustable time delay
- On - Delayed / Released Delayed
- Long life stability due to digital time base

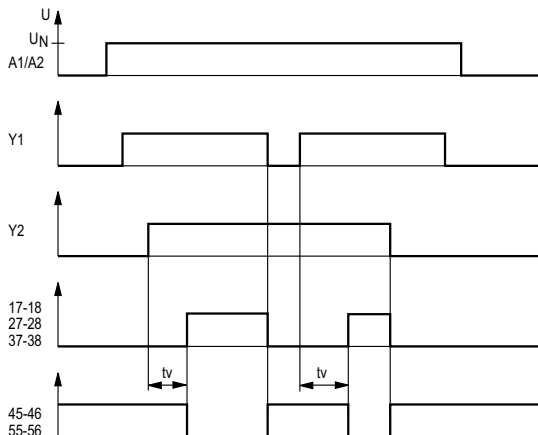
- Adjustable with or without cross fault detection
- Output: 3 N.O. contacts + 1 N.C. contact, 1 positive guided feedback contact
- LED indicator for channel 1, 2 and operation voltage



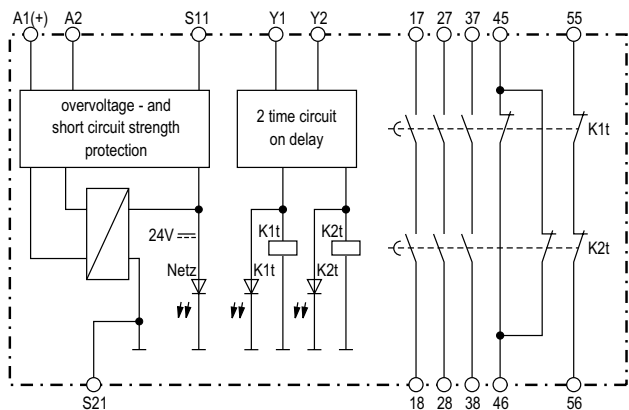
Safety Relays Selection Chart				
Part Number	Price	Marking Type	Voltage	Outputs
LG7927-97-61-10	\$125.00	On-Delayed Safety Relay Extension Model	24VAC/VDC	3 N.O. time delay (1 to 10 second) positive guided safety contact(s), 1 N.C. time delay (1 to 10 second) positive guided safety contact(s), 1 N.C. time delay monitoring contact
LG7927-97-61-60	\$125.00			3 N.O. time delay (6 to 60 second) positive guided safety contact(s), 1 N.C. time delay (6 to 60 second) positive guided safety contact(s), 1 N.C. time delay monitoring contact
LG7928-97-61-10	\$125.00	Release-Delayed Safety Relay Extension Model		3 N.O. time delay (1 to 10 second) positive guided safety contact(s), 1 N.C. time delay (1 to 10 second) positive guided safety contact(s), 1 N.C. time delay monitoring contact
LG7928-97-61-60	\$125.00			3 N.O. time delay (6 to 60 second) positive guided safety contact(s), 1 N.C. time delay (6 to 60 second) positive guided safety contact(s), 1 N.C. time delay monitoring contact

Safety Data – Values per EN ISO 13849-1	
Category	3
Performance level	PLd
MTTF <sub>d</sub>	172.3 years
DC <sub>avg</sub>	99%
Safety Data – Values per IEC/EN 62061 /IEC/EN 61508	
SIL CL	2
SIL	2
HFT (Hardware Failure Tolerance)	1
DC <sub>avg</sub>	99%
SFF	99.7%
PFHD	2.95E-10 h <sup>-1</sup>

## Function Diagram



## Block Diagram

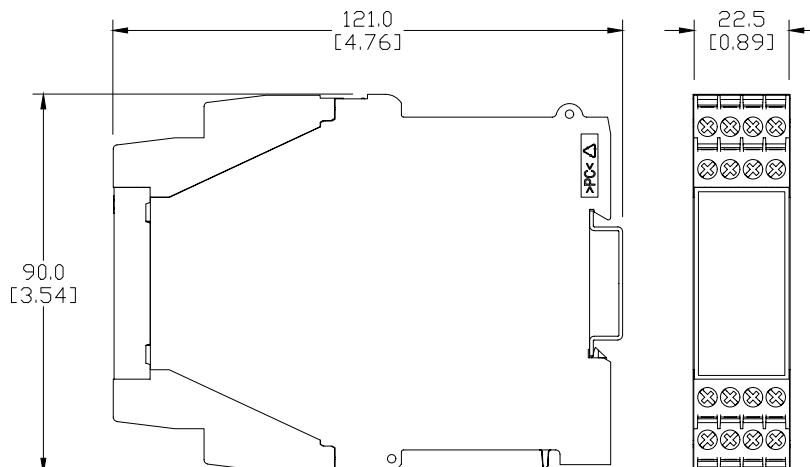


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Safety Relay Extension Module Specification Table	
General Specifications	
<b>Temperature</b>	Storage: -25°C to 85°C (-13°F to 185°F) Operating: -15°C to 55°C (5°F to 131°F)
<b>Altitude</b>	< 2,000 meters
<b>Vibration Resistance</b>	Amplitude: 0.35mm, Frequency: 10 to 55 Hz (IEC/EN 60-068-2-6)
<b>Degree of Protection</b>	Per IEC/EN 60 529. Housing: IP40; Terminals IP20
<b>Housing</b>	UL 94V-0 Thermoplastic; DIN mount 35 mm x 7.5 mm
<b>Weight</b>	approximately 190g (6.70 oz.)
<b>Agency Approvals and Standards</b>	CSA, cULus file E107778, CE, RoHS, TUV
<b>Terminal Designation per EN 50 005 Wire Connections</b>	2 x 2.5 mm <sup>2</sup> stranded ferruled (isolated) or 2 x 1.5 mm <sup>2</sup> stranded ferruled (isolated) DIN 46 228-1/-2/-3/-4 or 2 x 2.5 mm <sup>2</sup> solid per DIN 46 228-1/-2/-3 /-4
<b>Wire Fixing</b>	Plus-minus terminal screws M3.5 box terminals with wire protection.
<b>Wire Connection</b>	60degC/75degC Copper conductors only; AWG20-12 Sol/Str Torque 0.8NM
Input Specifications	
<b>Nominal Voltage</b>	24VAC/DC
<b>Voltage Range</b>	AC: 0.9 to 1.1 U <sub>N</sub> At 10% residual ripple: 0.9 to 1.1 U <sub>N</sub> ; At 48% residual ripple: 0.85 to 1.1 U <sub>N</sub>
<b>Maximum Consumption</b>	24VAC/DC: 3.5 VA/2.0 W
<b>Nominal Frequency</b>	50 to 60 Hz
<b>Control Current</b>	Control current typ. at 24V over 2 relays: 75 mA
<b>Oversvoltage Protection</b>	Internal VDR (Voltage Dependent Resistor)
Output Specifications	
<b>Electrical Contact Life</b>	To AC15 at 5A, 230V: 2.2 x 10 <sup>5</sup> switching cycles IEC/EN 60 947-5-1
<b>Mechanical Life</b>	20 x 10 <sup>6</sup> switching cycles
<b>Contact Type</b>	3 N.O. contacts + 1 N.C. contact + 1 forcibly guided feedback contact
<b>Operate/Release Time</b>	Operate typ at U <sub>N</sub> : DC - 2.2 mA.; AC - 3.1mA. Release typ at U <sub>N</sub> : 35 ms.
<b>Nominal Output Voltage</b>	24VDC/24VAC
<b>Thermal Current (I<sub>th</sub>)</b>	Max. 5A per contact. See quadratic total current limit curve in installation manual.
<b>Short Circuit Strength</b>	Max fuse rating: 6A gl (IEC/EN 60 9470-5-1); Line circuit breaker: B6A
<b>Switching Capacity IEC/EN 60 947-5-1</b>	AC 15: N.O. contacts: 3A/230V; N.C. contacts: 2A/230VAC DC 13: N.O. contacts: 2A/24V; N.C. contacts: 2A/24VDC; N.O. contact: 4A/24V at 0.1Hz
<b>Switching Frequency</b>	Max. 1,200 switching cycles/hr
<b>Agency Approvals and Standards</b>	cULus file E107778, CE, RoHS

To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at [www.automationdirect.com](http://www.automationdirect.com)

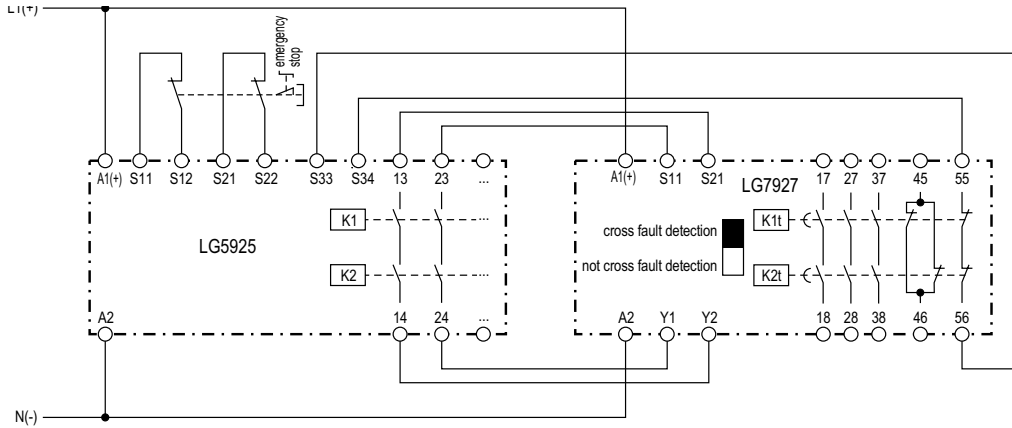
## Dimensions mm [in]



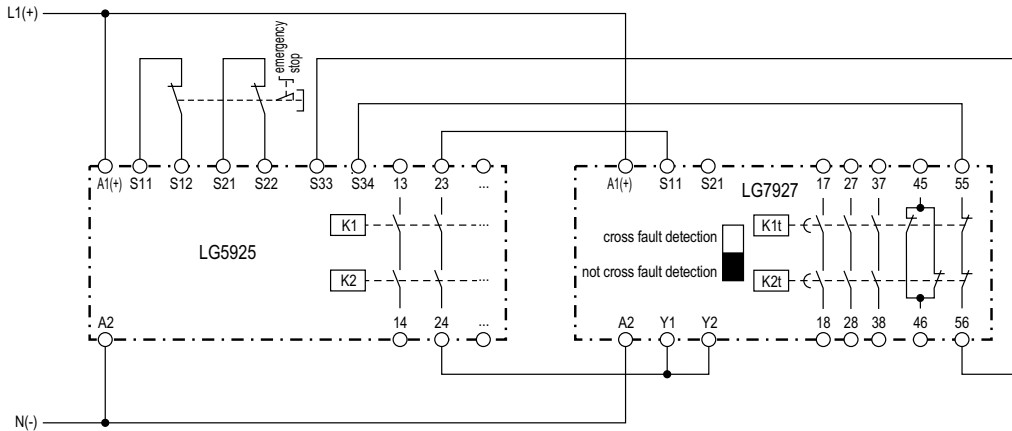
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# Dold LG7927/LG7928 Extension Module

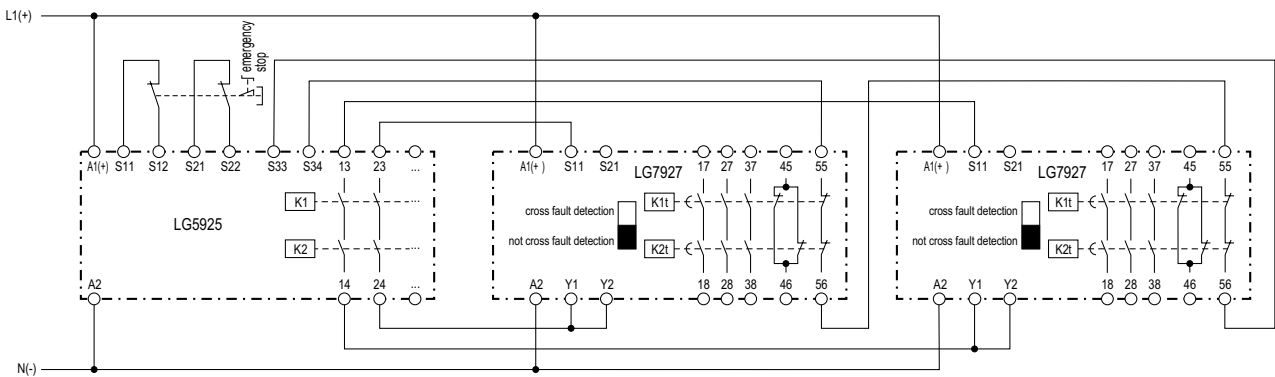
## LG7927 Application Examples



LG 5925 with LG 7927, cross fault detection, suitable up to SIL2, Performance Level d, Cat. 3



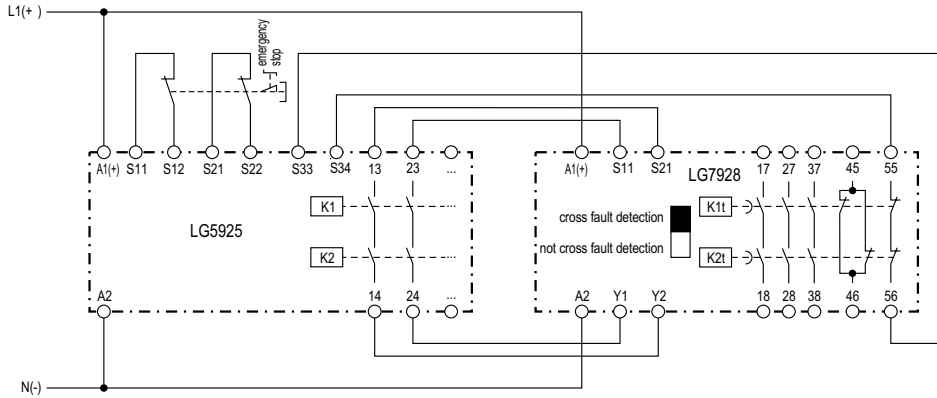
LG 5925 with LG 7927, non cross fault detection, suitable up to SIL2, Performance Level d, Cat. 3



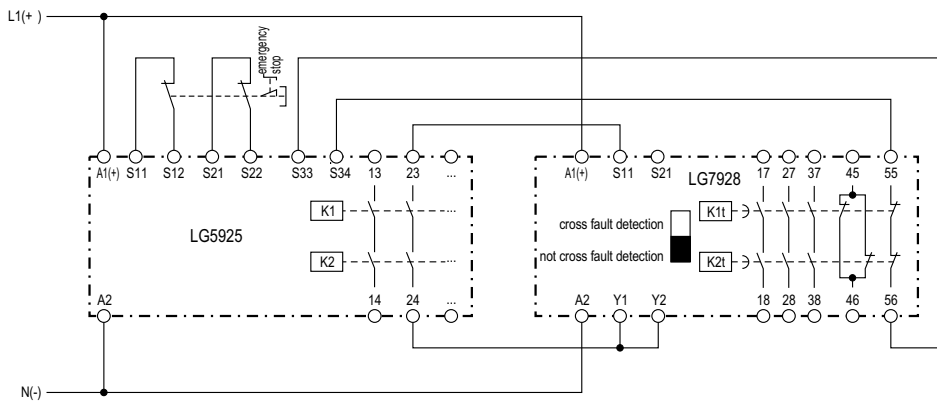
LG 5925 with two LG 7927, non cross fault detection, suitable up to SIL2, Performance Level d, Cat. 3

# Dold LG7927/LG7928 Extension Module

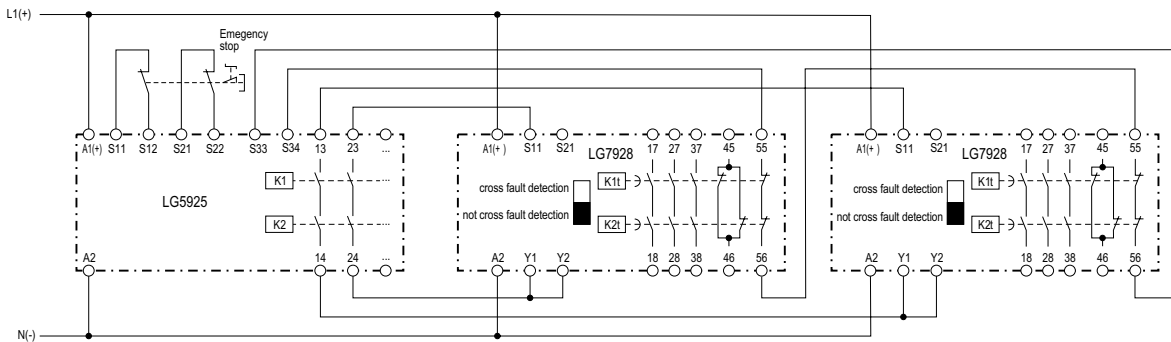
## LG7928 Application Examples



LG 5925 with LG 7928, cross fault detection, suitable up to SIL2, Performance Level d, Cat. 3



LG 5925 with LG 7928, non cross fault detection, suitable up to SIL2, Performance Level d, Cat. 3



LG 5925 with 2 LG 7928, non cross fault detection, suitable up to SIL2, Performance Level d, Cat. 3

# Safety Products



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