

Dold LG5924 Series 1-Channel Emergency Stop

**LG5924-48-61-24**

Designed to protect people and machines in applications with E-stop buttons.

- Single channel operation
- Output options: 2 NO contacts or 3 NO contacts and 1 NC contact
- LED indicators for power and state of operation
- Short circuit detection between terminal Y1 and common

Safety Data – Values per EN ISO 13849-1

Category	Up to 4
Performance level	PL _e
MTTF_d	220.9 years
DC_{avg}	99%

Safety Data – Values per IEC/EN 62061 / IEC/EN 61508

SIL	Up to 3
HFT (Hardware Failure Tolerance)	1
DC_{avg}	99%
SFF	1.08E ⁻¹⁰
PFH_D	5.81E ⁻⁵

LG5924 Series Single Channel Safety Relays Selection Chart

Part Number	Price	Marking Type	Voltage	Outputs	Connection	Drawing
LG5924-02-61-24	\$126.00	1-channel E-STOP	24VDC	2 NO	Fixed screw terminals	PDF
LG5924-02PC-61-24	\$136.00	1-channel E-STOP	24VDC	2 NO	Push-in cage clamp	PDF
LG5924-48-61-24	\$140.00	1-channel E-STOP	24VDC	3 NO, 1 NC	Fixed screw terminals	PDF
LG5924-48PC-61-24	\$150.00	1-channel E-STOP	24VDC	3 NO, 1 NC	Push-in cage clamp	PDF
LG5924-48-61-110	\$160.00	1-channel E-STOP	110VAC	3 NO, 1 NC	Fixed screw terminals	PDF
LG5924-48PC-61-110	\$170.00	1-channel E-STOP	110VAC	3 NO, 1 NC	Push-in cage clamp	PDF
LG5924-48-61-230	\$160.00	1-channel E-STOP	230VAC	3 NO, 1 NC	Fixed screw terminals	PDF

LG5924 Controllers Safety Relay Specification Table

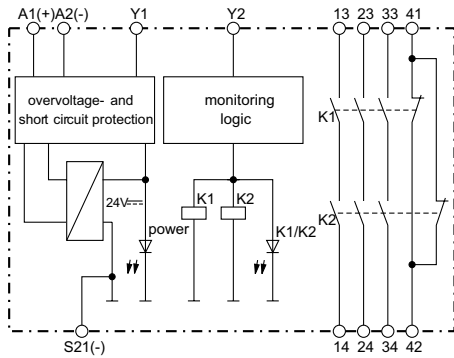
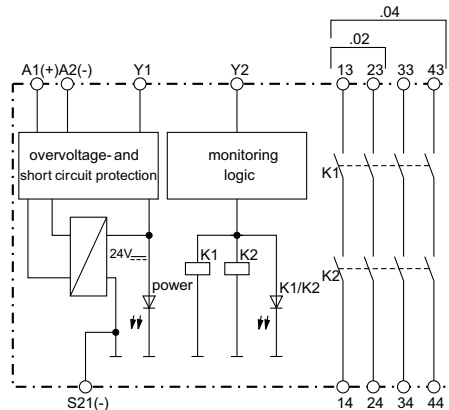
General Specifications	
Temperature	Storage: -25°C to 85°C [-13°F to 185°F] Operating: -25°C to 55°C [-13°F to 131°F]
Altitude	< 2,000m [6562ft]
Vibration Resistance	Amplitude: 0.35 mm, Frequency: 10 to 55 Hz (IEC/EN 60-068-2-6)
Degree of Protection	Per IEC/EN 60 529. Housing: IP40; Terminals IP20
Housing	UL 94V-0 Thermoplastic; DIN mount, 35 mm x 7.5 mm
Weight	LG5924 24VDC 200g [7.05 oz]; LG5924 110, 230VAC 270g [9.52 oz]
Agency Approvals and Standards	cULus file E107778, CE, RoHS, TUV
Terminal Designation per EN 50 005 Wire Connections	1x4 mm ² solid or 1 x 2.5 mm ² stranded ferruled (isolated) or 2 x 1.5 mm ² stranded ferruled (isolated) DIN 46 228-1/-2/-3/-4 or 2 x 2.5 mm ² solid DIN 46 228-1/-2/-3
Wire Fixing	Plus-minus terminal screws M3.5 box terminals with self-lifting wire protection or cage clamp terminals.
Input Specifications	
Nominal Voltage	110, 230VAC, 24VDC
Voltage Range	AC: 0.85 to 1.1 UN. At 10% residual ripple: DC: 0.9 to 1.1 UN. At 48% residual ripple: DC: 0.85 to 1.1 UN
Maximum Consumption	230VAC approx. 3.5 A; 24V DC approx. 1.5W
Nominal Frequency	50 to 60 Hz
Control Voltage on Y1	24VDC: typ. 22VDC. 110V, 230VAC: typ. 45VDC
Control Current	24VDC: typ. DC 65mA. 110V, 230VAC: typ. AC 16mA
Short Circuit Protection	Internal with PTC (Positive Temperature Coefficient resistor)
Overvoltage Protection	Internal VDR (Voltage Dependent Resistor)
Output Specifications	
Electrical Contact Life	At 5A, 230VAC: cos Ø = 1: > 2.2 x 10 ⁵ switching cycles
Mechanical Life	> 10x10 ⁶ switching cycles
Contact Type	LG5924.02: 2 NO relay contacts, positively driven. LG5924.48: 3 NO positively driven and 1 NC relay contacts. (NO contacts are safety contacts.)
Operate Delay	Operate delay: 24VDC: typ. 40ms; 110VAC, 230VAC typ. 200ms
Release Delay	Release delay: 24VAC/DC typ. 70ms; 230VAC typ. 35ms
Nominal Output Voltage	250VAC
Thermal Current (I_{th})	Max. 5A. See continuous current limit curve in installation manual.
Short Circuit Strength	Max. fuse rating: 10A gL (IEC/EN 60 947-5-1); Line circuit breaker: B 6A
Switching Capacity (IEC/EN 60947-5-1)	To AC 15: N.O. contacts: 3A/230VAC; NC contacts: 2A/230VAC To DC 13: N.C. contacts: 4A/24VDC; NO contacts: 4A/24VDC
Switching Frequency	Max. 600 switching cycles/hr

Dold LG5924 Series

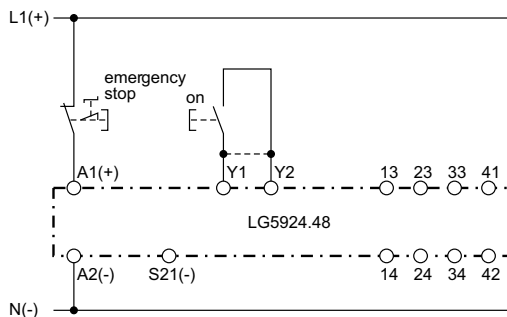
1-Channel Emergency Stop



LG5924 Block Diagrams

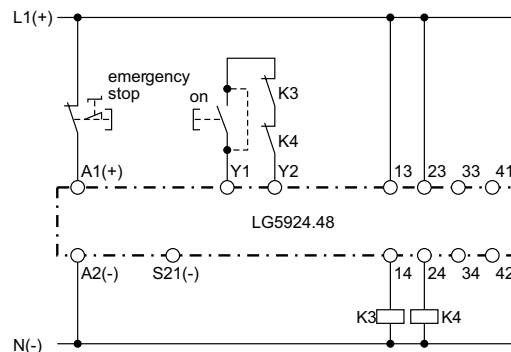
**LG5924.48****LG5924.02**

Applications



Single-channel, emergency-stop circuit without feedback loop, with or without automatic restart. For automatic restart, terminals Y1 - Y2 must be jumpered. No ON pushbutton necessary.

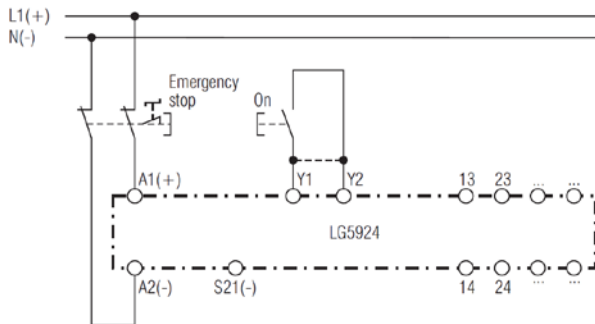
Suited up to SIL2, Performance Level d, Cat. 3*.



Contact reinforcement by external contactors, 2-channel controlled. For currents > 5A, the output contacts can be reinforced by external contactors. Functioning of the external contactors is monitored by looping the N.C. contacts into the start circuit (Y1 - Y2).

Suited up to SIL2, Performance Level d, Cat. 3*.

Note: When switching inductive loads, surge suppressors are recommended.



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Two-channel emergency-stop circuit without feedback loop, with or without automatic restart. For automatic restart, terminals Y1-Y2 must be linked. No ON pushbutton necessary.

Suited up to SIL3, Performance Level e, Cat. 4*.

* Suited up to stated SIL, Performance Level, and Category for E-stop systems according to IEC 60947-5-5, under the following conditions:

- A maximum number of operations for the E-stop button is observed
- The E-stop button and the E-stop module are installed in the same cabinet

Dold LG5929 Extension Module



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

- 1-channel or 2-channel connection
- LED indication for operation
- Output: 5 N.O. and 1 N.C. contacts

Safety Data – Values per EN ISO 13849-1

Category	4 according to EN 954-1
Performance level	PL _e according to EN 13849-1
MTTF_d	>100 years
DC_{avg}	99%

Safety Data – Values per IEC/EN 62061 /IEC/EN 61508

SIL CL	3 per IEC/EN 62061
SIL	3 per IEC/EN 61508
HFT (Hardware Failure Tolerance)	1
DC_{avg}	99%
SFF	99.7%
PFH_D	4.68E ⁻¹⁰ h ⁻¹

Safety Relays Selection Chart

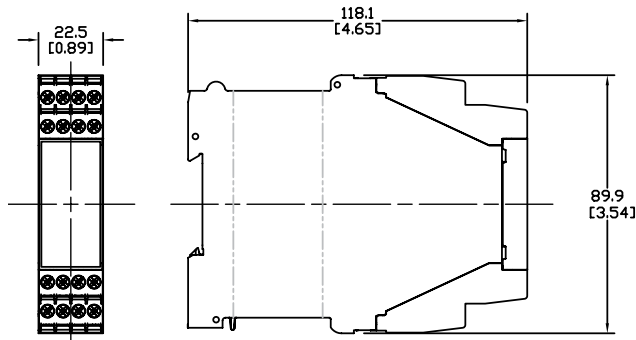
Part Number	Price	Marking Type	Voltage	Outputs
LG5929-60-100-61	\$136.00	Safety relay extension module	24 VAC/VDC	5 N.O./1 N.C.

Safety Relay Extension Module Specification Table

General Specifications	
Temperature	Storage: -25°C to 85°C (-13°F to 185°F) Operating: -15°C to 55°C (5°F to 131°F)
Altitude	< 2,000 meters
Vibration Resistance	Amplitude: 0.35mm, Frequency: 10 to 55 Hz (IEC/EN 60-068-2-6)
Degree of Protection	Per IEC/EN 60 529. Housing: IP40; Terminals IP20
Housing	UL 94V-0 Thermoplastic; Din mount 35 mm x 7.5 mm
Weight	205g (7.23 oz.)
Agency Approvals and Standards	CSA, cULus file E107778, CE, RoHS, TUV
Terminal Designation per EN 50 005 Wire Connections	1x4 mm ² solid or 1 x 2.5 mm ² stranded ferruled (isolated) or 2 x 1.5 mm ² stranded ferruled (isolated) DIN 46 228-1/-2/-3/-4 or 2 x 2.5 mm ² solid per DIN 46 228-1/-2/-3 /-4
Wire Fixing	Plus-minus terminal screws M3.5 box terminals with wire protection or cage clamp terminals.
Input Specifications	
Nominal Voltage	24V AC/DC
Voltage Range	AC: 0.85 to 1.1 U _N At 10% residual ripple: 0.9 to 1.1 U _N ; At 48% residual ripple: 0.85 to 1.1 U _N
Maximum Consumption	24VAC/DC: 1.8VA
Nominal Frequency	50 to 60 Hz
Control Current	Control current typ. at 24V over 2 relays: 75 mA
Overvoltage Protection	Internal VDR (Voltage Dependent Resistor)
Output Specifications	
Electrical Contact Life	To AC15 at 2 A,230V: 10 ⁵ switching cycles IEC/EN 60 947-5-1
Mechanical Life	20 x 10 ⁶ switching cycles
Contact Type	5 N.O. positively driven and 1 N.C. relay contacts (N.O. contacts are safety contacts)
Operate/Release Time	Operate typ at U _N : 20 ms.; Release typ at U _N : 35 ms.
Nominal Output Voltage	250VAC
Thermal Current (I_{th})	Max. 5A per contact. See continuous current limit curve in installation manual.
Short Circuit Strength	Max fuse rating:10A gl (IEC/EN 60 9470-5-1); Line circuit breaker: B6A
Switching Capacity IEC/EN 60 947-5-1	AC 15: N.O. contacts: 3A/230V; N.C. contacts: 2A/230VAC DC 13: N.O. contacts: 4A/24V; N.C. contacts: 4A/24VDC; N.O. contact: 8A/24V >25x10 ³ ON: 0.4s, OFF: 9.6s
Switching Frequency	Max. 1,200 switching cycles/hr

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Dimensions mm [in]



***Note: When switching inductive loads, surge suppressors are recommended.**

Safety Products



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