Dold LG5925 Series
2-Channel Emergency Stop and Safety Gates

LG5925-48-61-24

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

- Outputs: 3 N.O. contacts and 1 N.C. contact
- Feedback circuit to monitor external contactors used for reinforcement of contacts
- Overvoltage and short-circuit protection
- Monitored manual restart
- Single and 2-channel operation
- LED indicators for power and state of operation

Safety Data – Values per EN ISO 13849-1	
Category	4 according to EN 954-1
Performance level	PLe 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	$2.66E^{-10}$ h^{-1}

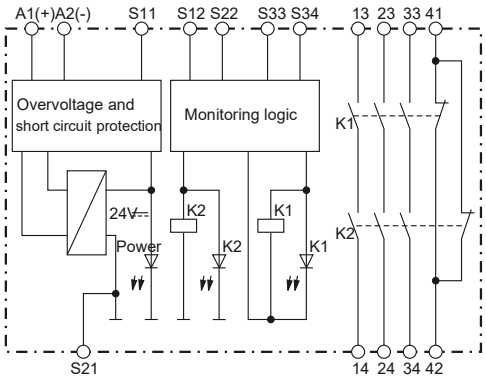
Safety Relays Selection Chart			
Part Number	Marking Type	Voltage	Outputs
LG5925-48-61-24	2-channel E-STOP / GATE	24 VAC/DC	3 N.O. and 1 N.C.
LG5925-48-61-110	2-channel E-STOP / GATE	110 VAC	3 N.O. and 1 N.C.
LG5925-48-61-230	2-channel E-STOP / GATE	230 VAC	3 N.O. and 1 N.C.

LG5925 Controllers Safety Relay 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	LG5925 24V AC/DC: 210 g (7.40 oz.); LG5925 110V, 230V AC: 275 g (9.70 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 DIN 46 228-1/-2/-3/-4
Wire Fixing	Terminal screws M3.5 box terminals with wire protection or cage clamp terminals.
Input Specifications	
Nominal Voltage	110VAC, 230VAC, 24VAC/DC
Voltage Range	At 10% residual ripple: AC/DC: 0.9 to 1.1 UN; AC: 0.85 to 1.1 UN
Maximum Consumption	DC approx. 1.5W; AC approx. 3.7 VA
Nominal Frequency	50 to 60 Hz
Minimum Off-time	250 ms
Control Voltage on S11 At UN	AC/DC units: 22VDC; AC units: 24VDC
Control Current Typ. Over S12, S22	30mA at UN
Min. Voltage on S12, S22 (relay activated)	AC/DC units: 20VDC; AC units: 19VDC
Short Circuit Protection	Internal with PTC (Positive Temperature Coefficient resistor)
Overvoltage Protection	Internal VDR (Voltage Dependent Resistor)
Output Specifications	
Electrical Contact Life	AC 15 at 5A, 230VAC: > $2.2x10^5$ switching cycles
Mechanical Life	> $20x10^6$ switching cycles
Contact Type	3 positively driven N.O. and 1 N.C. relay contacts (N.O. contacts are safety contacts)
Operate Delay	Manual start: 30ms; automatic start: 350ms
Release Delay	Disconnecting the supply: AC units:150ms; DC units: 50ms Disconnecting S12, S22: AC units: 130ms. DC units: 50ms
Nominal Output Voltage	AC: 250V; DC: See continuous current limit curve in installation manual.
Thermal Current (I_{th})	Max. 8A. 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 60 947-5-1)	AC 15: N.O. contacts: 3A/230V; N.C. contacts: 2A/230V DC 13: N.O. contacts: 4A/DC24V. 0.5A/110V; N.C. contacts: 4A/24V; DC 13: N.O. contacts: 8A/24V >25x103. ON: 0.4s, OFF: 9.6 s
Switching Frequency	Max. 1200 switching cycles/hr

Dold LG5925 Series
2-Channel Emergency Stop and Safety Gates

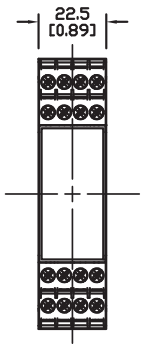
Wiring

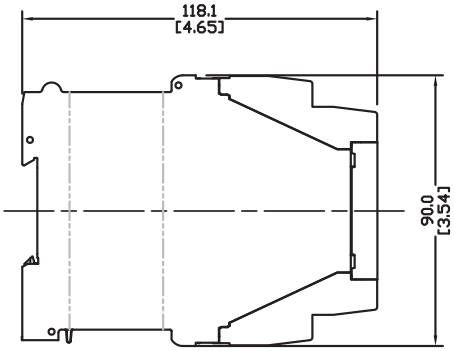
LG5925 Block Diagram



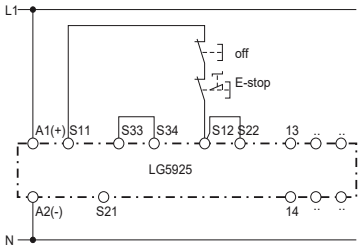
Dimensions

mm [in]

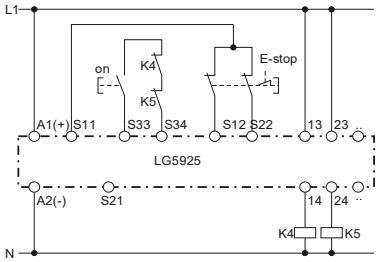




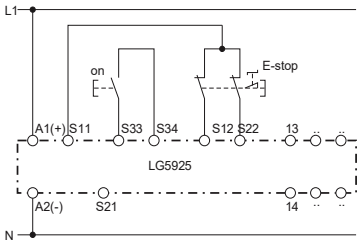
Applications



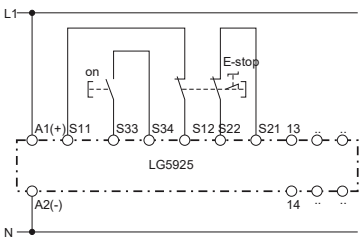
Single channel emergency stop circuit. This circuit does not have any redundancy in the emergency-stop control circuit.
Note: Refer to "Unit programming"
Set switch or dip switch in pos.: S1 no cross fault detection
S2 automatic start



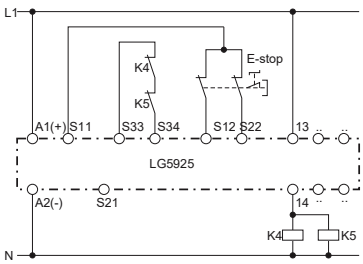
Contact reinforcement by external contactors, 2-channel controlled.
The output contacts can be reinforced by external contactors with positive guided contacts for switching currents > 8 A.
Functioning of the external contactors is monitored by looping the N.C. contacts into the closing circuit (terminals S33-S34).
Note: Refer to "Unit programming"
Set switch or dip switch in pos.: S1 no cross fault detection
S2 manual start



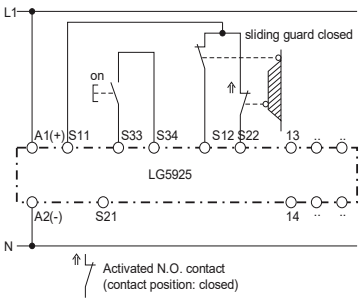
2-channel emergency stop circuit without cross fault monitoring.
Note: Refer to "Unit programming"
Set switch or dip switch in pos.:
S1 no cross fault detection
S2 manual start



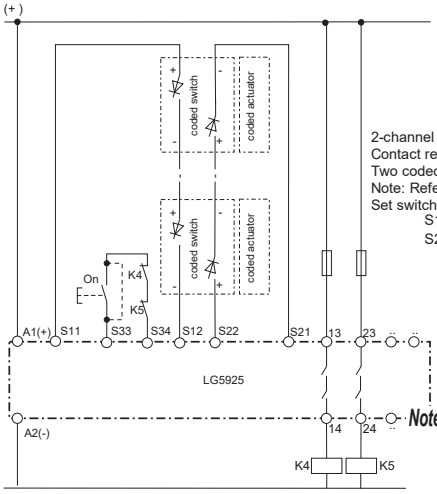
2-channel emergency stop circuit with cross fault detection.
Note: Refer to "Unit programming"
Set switch or dip switch in pos.:
S1 cross fault detection
S2 manual start



Contact reinforcement by external contactors controlled by one contact path.
Note: Refer to "Unit programming"
Set switch or dip switch in pos.:
S1 no cross fault detection
S2 automatic start



2-channel safety gate monitoring.
Note: Refer to "Unit programming"
Set switch or dip switch in pos.: S1 no cross fault detection
S2 manual start



2-channel emergency stop circuit with cross fault.
Contact reinforcement by external contactors.
Two coded non-contact sensors in series.
Note: Refer to "Unit programming"
Set switch or dip switch in pos.:
S1 cross fault detection
S2 Manual or Automatic (dotted jumper)

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