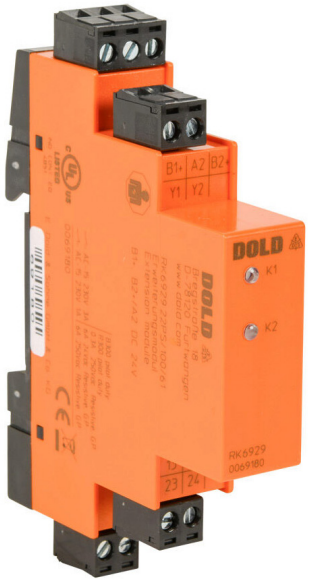
Dold RK6929
Safety Extension Modules

RK6929-16PS-61

RK6929-22PS-61



RK6929-22PS-100-61

The RK6929 SAFEMASTER Extension Modules offer up to two separately controlled relays in a compact housing. Through the use of forcibly guided contacts, these modules can be used for the safe customization of control and performance levels for different parts of the system.

In situations where control systems with integrated switching outputs reach their limits, these contact extension modules provide a robust solution which offers galvanic isolation between input and output.

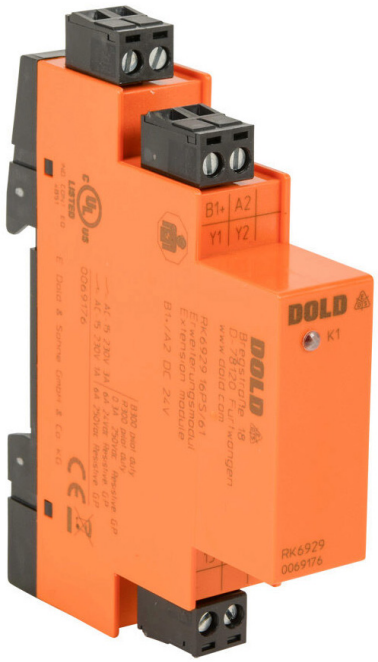
Features

- 1-channel or 2-channel connection
- Saves space and cost compared to contactors
- Pluggable terminals for ease of installation

Safety Extension Module Selection Chart

Part Number	Price	Voltage	Safety Output Type	Monitoring Output Type	Number of Channels	Redundancy	Drawing
RK6929-16PS-61	$73.00	24 VDC	1 N.O.	1 N.C.	1	K1	PDF
RK6929-22PS-61	$87.00	24 VDC	2 N.O.	1 N.C.	1	K1 and K2	PDF
RK6929-22PS-100-61	$87.00	24 VDC	2 N.O.	1 N.C.	2	K1 and K2	PDF

Dold RK6929-16PS-61
Safety Extension Module



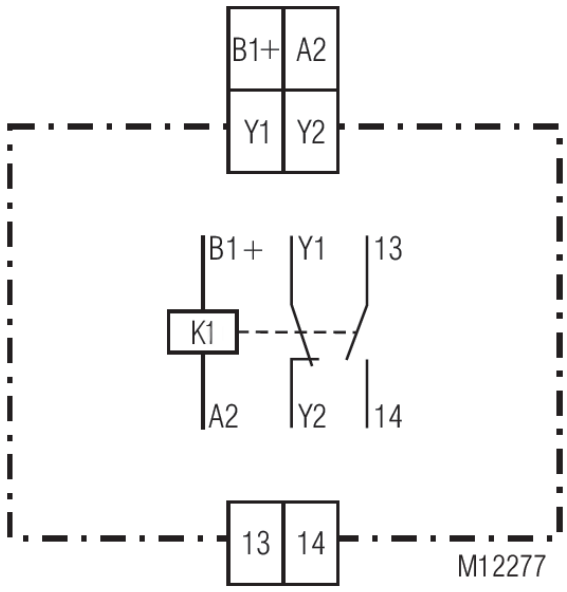
RK6929-16PS-61

Safety Data – RK6929-16PS-61	
Values per EN ISO 13849-1	
Category	2
Performance Level	PLd
$MTTF_d$	1767 years
DC_{avg}	90%
Values per IEC/EN 62061 /IEC/EN 61508	
SIL CL	2
SIL	2
HFT	0
DC_{avg}	90%
PFH_D	$6.5x10^{-9}$ h^{-1}

The RK6929-16PS-61 offers a single isolated relay in a compact housing. Thanks to the use of forcibly guided contacts, this module can be used for the safe customization of control and performance levels for different parts of the system.

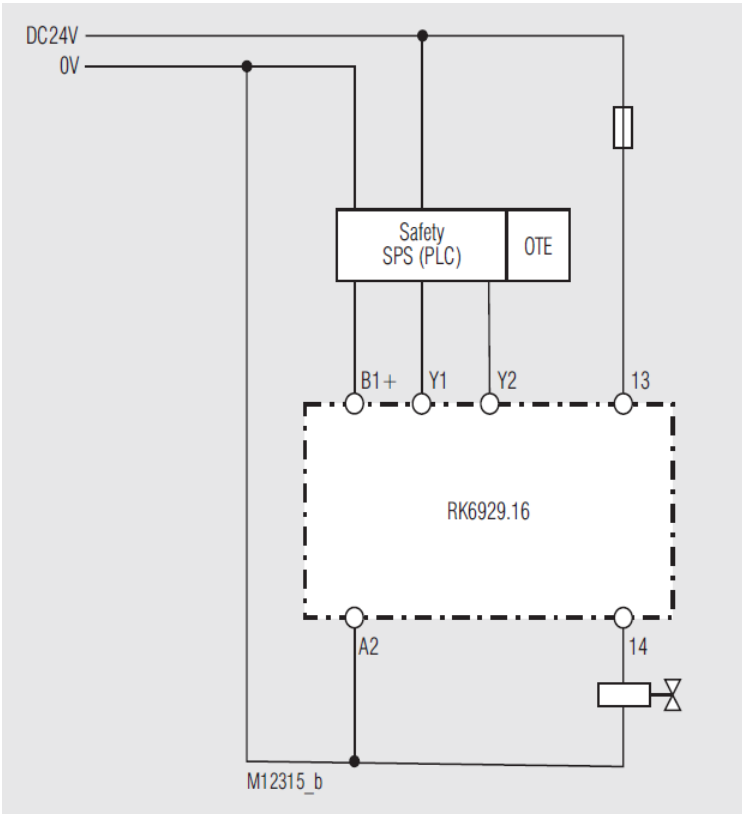
Where control systems with integrated switching outputs reach their limits, this extension module provides a robust solution which offers galvanic isolation between input and output.

Wiring Diagram



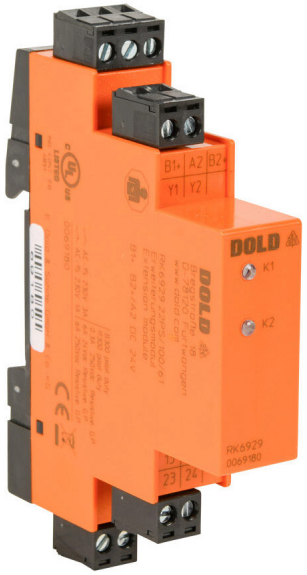
Terminal Designation	Signal Designation
B1+	Input circuit 1 Supply voltage U_N
A2	Supply voltage GND
Y1, Y2	Forcibly guided feedback circuit
13, 14	Forcibly guided N.O. contacts for release circuit

Application Example



RK6929-16PS-61, suitable up to SIL2, Performance Level d, Cat. 2 (the requirements according to EN ISO 13849-1 for Category 2 must be fulfilled).

Dold RK6929-22PS-61 and RK6929-22PS-100-61 Extension Modules



RK6929-22PS-100-61

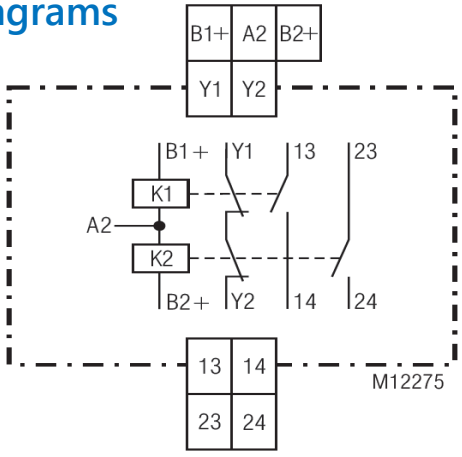
Safety Data – RK6929-22PS-61 and RK6929-22PS-100-61	
Values per EN ISO 13849-1	
Category	4
Performance Level	PLe
$MTTF_d$	1767 years
DC_{avg}	99%
Values per IEC/EN 62061 /IEC/EN 61508	
SIL CL	3
SIL	3
HFT	1
DC_{avg}	99%
PFH_D	$1.3x10^{-11}$ h^{-1}

The RK6929-22PS-61 and RK6929-22PS-100-61 offer up to two separately controlled relays in a compact housing. Thanks to the use of forcibly guided contacts, these modules can be used for the safe customization of control and performance levels for different parts of the system.

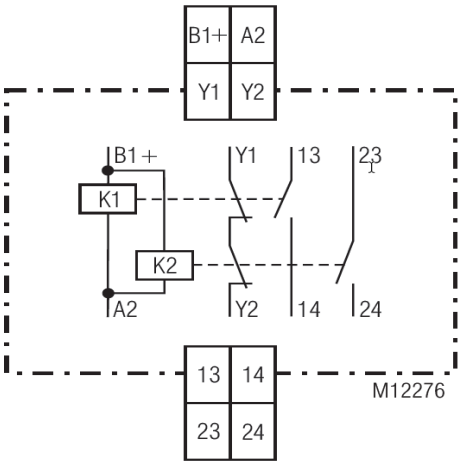
Where control systems with integrated switching outputs reach their limits, this extension module provide a robust solution which offers galvanic isolation between input and output.

Wiring Diagrams

RK6929-22PS-100-61

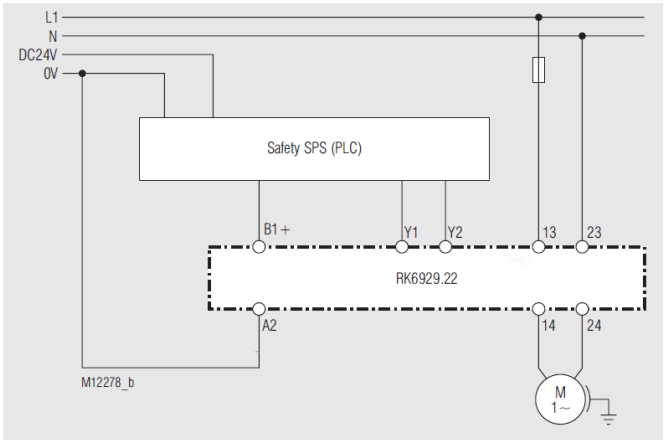


RK6929-22PS-61

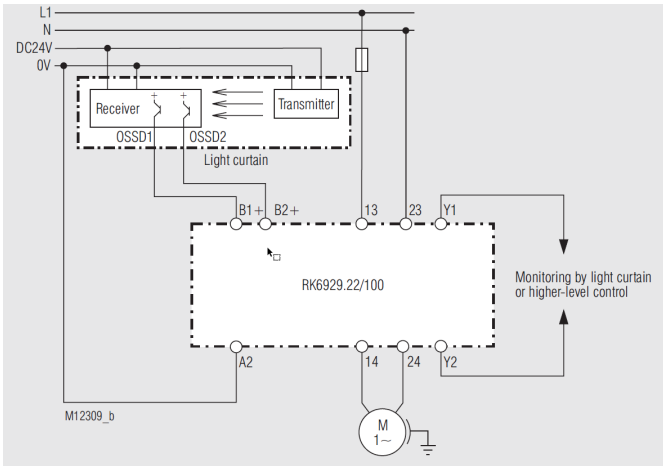


Terminal Designation	Signal Designation
B1+, B2+	Input circuit 1 and 2 – Supply voltage U_N
A2	Supply voltage GND
Y1, Y2	Forcibly guided feedback circuit
13, 14, 23, 24	Forcibly guided N.O. contacts for release circuit

Application Examples



RK6929-22PS-61, suitable up to SIL3, Performance Level e, Cat. 4, if the extension module RK6929-22 and the higher-level controller (Safety SPS) are located in the same control cabinet.



RK6929-22PS-100-61 with 2-channel control by light barriers with self-test according to DIN EN 61496-1, suitable up to SIL3, Performance Level e, Cat. 4.

Dold RK6929
Safety Extension Modules

Safety Extenson Module Specification Table	
General Specifications	
Temperature	Storage: -40 to +85 °C [-40 to +185 °F] – Operating: -25 to +60 °C [+13 to +140 °F]
Altitude	< 2000m [6562ft] (see manual for use at altitudes above 2,000m)
Vibration Resistance	Amplitude: 0.075mm – Frequency: 10 to 57 Hz (IEC/EN 60068-2-6)
Degree of Protection	Per IEC/EN 60 529. Housing: IP40; Terminals IP20
Housing	Thermoplastic with VO behavior; DIN rail mount
Weight	75g [2.65 oz]
Agency Approvals and Standards	cULus file E107778, CE
Terminal Designation per EN 50 005 Wire Connections	1x AWG 24-12 solid or stranded 2x AWG 24-18 solid or stranded
Wire Fixing	Plus-minus M3.5 terminal screw box terminals with wire protection
Input Specifications	
Nominal Control Voltage	24 VDC
Voltage Range	16.8 to 27.6 VDC
Maximum Consumption	24 VDC: 1.0W
Overvoltage Protection	Internal MOV (Metal Oxide Varistor)
Output Specifications	
Electrical Contact Life	To AC15 at 6 A, 230 V cos φ = 1: 10^5 switching cycles IEC/EN 60947-5-1
Mechanical Life	40 x 10^6 switching cycles
Contact Type	RK6929-16PS-61: 1 N.O. and 1 N.C. forcibly guided contact RK6929-22PS-61, RK6929-22PS-100-61: 2 N.O. and 1 N.C. forcibly guided contact
Operate/Release Time	Maximum: 15 ms
Thermal Current (I_{th})	Max. 6 A per contact. See quadratic total current limit curve in installation manual.
Short Circuit Strength	Max fuse rating: 6A gG / gL (IEC/EN 60947-5-1)
Switching Capacity IEC/EN 60947-5-1	AC 15: N.O. contacts: 3A / 230 VAC; N.C. contacts: 1A / 230 VAC DC 13: N.O. and N.C. contacts: 2A / 24 VDC; N.O. and N.C. contacts: 4A / 24 VDC at 0.1 Hz
Switching Frequency	Max. 1,200 switching cycles/hr

Safety Products

Warning: Safety products sold by AutomationDirect are Safety components only. The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. AutomationDirect cannot certify that our products, used solely or in conjunction with other AutomationDirect or other vendors' products, will assure safety for any application. Any person using or applying any products sold by AutomationDirect is responsible for learning the safety requirements for their individual application and applying them, and therefore assumes all risks, and accepts full and complete responsibility, for the selection and suitability of the product for their respective application.

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