



Compact safety relay unit family

G9SR family modules operate standalone and as a system with input and output extension. All modules are simple to set up using DIP-switches and provide clear diagnosis via LEDs on the front.

- Three modules for all safety relay unit applications
- Solid-state outputs for long life and high current safety relay outputs
- Detailed LED indications enable easy diagnosis
- Safe on- and off-delay function up to PLe
- Up to PLe according to EN ISO 13949-1 and SIL 3 according to EN 61508

Ordering information

Basic unit

Safety outputs	Auxiliary outputs	No. of input channels	Rated voltage	Terminal block type	Order code
Instantaneous					
2 P channel MOS FET transistor output	1 PNP transistor output	1 or 2 channels	24 VDC	removable cage clamp terminals	G9SR-BC201-RC

Advanced unit

Safety outputs	Auxiliary outputs	No. of input channels	Rated voltage	Terminal block type	Order code
Instantaneous					
2 PST-NO (contact)	1 PNP transistor outputs	1 or 2 channels	24 VDC	removable cage clamp terminals	G9SR-AD201-RC

Expansion unit

Safety outputs		Auxiliary outputs	Rated voltage	Terminal block type	Order code
Instantaneous	ON/OFF-delayed				
–	3 PST-NO (contact) ^{*1}	1 (solid state) PNP transistor outputs	24 VDC	removable cage clamp terminals	G9SR-EX031-T90-RC

^{*1} The ON/OFF delay time can be set in 16 steps as follows: 0/0.1/0.2/0.5/1/1.5/2/2.5/5/10/20/30/45/60/75/90 s

Specifications

Power input

Item	G9SR-BC_	G9SR-AD_	G9SR-EX_
Rated supply voltage	19.2 to 28.8 VDC (24 VDC ±20%)		

Inputs

Item	G9SR-BC_	G9SR-AD_	G9SR-EX_
Safety input	Operating voltage: 17 VDC to 28.8 VDC, internal impedance: Approx. 3 kΩ		
Feedback/reset input			

Outputs

Item	G9SR-BC_	G9SR-AD_	G9SR-EX_
Instantaneous safety output	P channel MOS FET transistor output Load current (Using 2 outputs): 2 A DC max.	–	–
Auxiliary output	PNP transistor output Load current: 500 mA max.		
Rated load	–	250 VAC, 5 A AC15 (inductive load)	
Rated carry current	–	5 A	
Maximum switching voltage	–	250 VAC	

Characteristics

Item	G9SR-BC_	G9SR-AD_	G9SR-EX_
Operating time (OFF to ON state)	150 ms max.		
Response time (ON to OFF state)	50 ms max.		
Durability	Electrical	100,000 cycles min.	
	Mechanical	10,000,000 cycles min.	
Ambient temperature	–10°C to +55°C (with no icing or condensation)		

Reliability Data

Item	G9SR-BC_	G9SR-AD_	G9SR-EX_
EN ISO 13849-1:2008	PLe		
EN ISO 13849-1:2008	Cat.4		
PFHd (EN ISO 13849-1:2008)	1.25×10 ⁻⁹	7.6×10 ⁻¹¹	4.1×10 ⁻¹⁰
MTTFd (EN ISO 13849-1:2008)	593 Years	789 Years	4329 Years
DCavg (EN ISO 13849-1:2008)	98%		
Type (IEC 61496-1: ed 2 2004)	Type 4		
SIL (EN 62061/EN 61508:2010)	SIL 3		
Proof test interval (IEC 62061: 2005)	20 Years		
MTTR (EN61508-1:2008)	8h		