

# Next Generation Guardmaster® Safety Relays

Innovative technology for monitoring safety components



**Allen-Bradley**

Guardmaster®



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THINK.  
SOLVE.®



Allen-Bradley • Rockwell Software

**Rockwell**  
**Automation**

## Ordering details

RELAY FUNCTION		DUAL INPUT		SINGLE INPUT		EXPANSION MODULES	
MODEL		DI	DIS (SOLID STATE)	SI	CI	EM	EMD (DELAYED)
Catalog number		440R-D22R2	440R-D22S2	440R-S12R2	440R-S13R2	440R-EM4R2	440R-EM4R2D
Inputs		2		1		–	
Input type		Safety light curtains, E-stops, pressure sensitive mats, interlock switches					
Terminal layout		Optimized		Optimized	Legacy	Optimized	
Configuration		Rotary Switch		Rotary Switch		–	Rotary Switch
Logic function		Yes		No		–	
Reset		Yes		Yes		–	
Single-wire connection		Yes		Output only		Yes	
Housing-size (mm)		22.5 mm		22.5 mm		22.5 mm	
Safety outputs		2 N.O.	2 PNP	2 N.O.	3 N.O.	4 N.O. instantaneous	4 N.O. delayed
Auxiliary outputs		1 PNP		1 PNP	1 N.C.	1 PNP	
EN ISO 13849-1	PL	PLe (Cat. 4, 99 % DC avg.)					
	MTTFd	355 years	484 years	262 years	164 years	190 years	165 years
IEC/EN 61508/ IEC/EN 62061	SIL	SIL 3 (99 % SFF, 99 % DC)					
	PFH	4.35 x 10 <sup>-9</sup>	4.39 x 10 <sup>-9</sup>	3.98 x 10 <sup>-9</sup>	4.26 x 10 <sup>-9</sup>	1.81 x 10 <sup>-9</sup>	4.40 x 10 <sup>-9</sup>

### SINGLE INPUT DEVICE: GUARDMASTER CI



- Same functionality as SI but terminals on the CI are arranged in a similar layout to legacy Allen-Bradley Guardmaster MSR safety relays and other brands of safety relays
- 3 N.O. outputs and 1 N.C. auxiliary output
- Configurable reset mode
- Simple to add additional outputs with expansion module, connected by a single wire safety connection

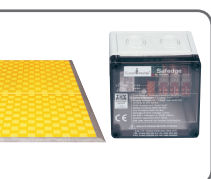
Can replace the following Guardmaster safety relays: MSR126, MSR127, MSR131, MSR142, MSR144.

### EXPANSION MODULES: GUARDMASTER EM / EMD



- Easily add 4 N.C. instantaneous (EM) or delayed (EMD) outputs to a system
- Single wire safe connection expands system without using any outputs of base module
- Self-monitoring outputs
- Time delay configured from 0-300 s
- Timer functions include: on delay, off delay and jogging

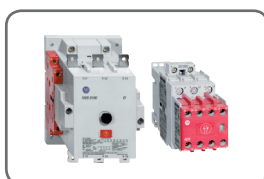
Can replace the following Guardmaster safety relays: MSR132E, MSR132ED.



Pressure sensitive devices  
TY DEVICES



Variable speed and servo drives



Safety contactors



Guardlogix and compact Guardlogix



Smartguard 600

POWER CONTROL

SAFETY LOGIC CONTROLLERS