

# Migration Solutions



## Minotaur Safety Relays (MSR) Family to Guardmaster Safety Relays (GSR) Family

### Why Upgrade or Migrate?

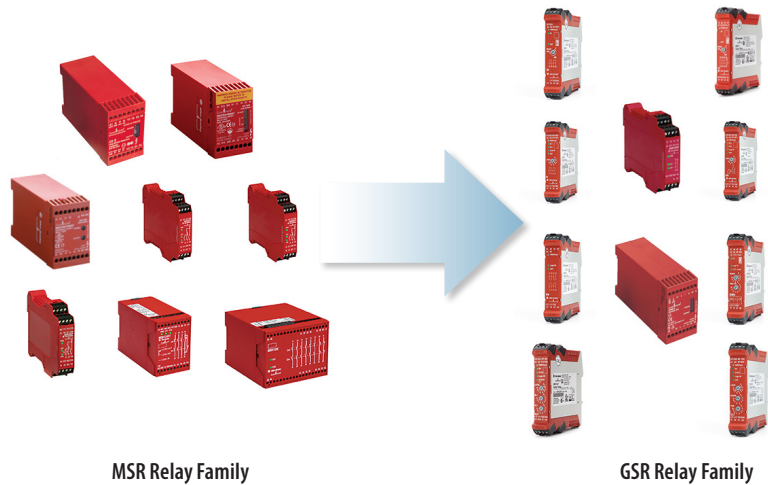
Over the years, new functional safety requirements and directives have changed machine designs. To meet these requirements and prepare for future ones, several of the Allen-Bradley Minotaur™ Safety Relays (MSR) will no longer be available for sale after December 31, 2019\*.

Equipped with the latest technology, Allen-Bradley Guardmaster Safety Relays (GSR) will replace the features and functionality of the MSR safety relays being discontinued. With a compact, narrow housing (22.5 mm (0.88 in.)) these flexible relays are equipped with configurable safety functions and can consolidate various functions of the MSR line resulting in fewer part numbers, less panel space and help lower costs for your operation.

*\* Discontinued date may be subject to change*

### GSR Features and Benefits

- GSR have all of the functionality of the legacy MSR family with fewer part numbers, simplifying purchasing and parts management
- GSR meet the latest safety standards including ISO 13849-1 and IEC 62061
- New functions such as Single Wire Safety help simplify system installation and expansion



### Identify, Mitigate and Help Eliminate the Risks of Automation Obsolescence

The Allen-Bradley® Guardmaster Safety Relays from Rockwell Automation® include eight products capable of monitoring a broad range of devices in a variety of applications. These safety relays help simplify purchasing and parts management making them an excellent migration product for the MSR product line.

The GSR safety relays offer configurable safety functions and are able to cover the range of functions offered by legacy MSR relays, but with fewer catalog numbers. The GSR relay family also provides this functionality in a more compact, cost-effective solution that optimizes panel space. In addition, GSR relays meet the latest functional safety standards such as ISO 13849-1 and IEC 62061 while offering key functions to help simplify installation and reduce system complexity.

The MSR to GSR Conversion Manual includes detailed specifications, wiring schematics, bills of material and other considerations to help you seamlessly convert from a legacy MSR solution to a smarter, more cost-effective machine design featuring GSR relays. Download the conversion manual by selecting this link [440R-RM002B-EN-P](#).

### Product Lifecycle

Use the [Product Lifecycle Status](#) search tool on the web to find specific lifecycle information by catalog number.



- ACTIVE: Most current offering within a product category.
- ACTIVE MATURE: Product is fully supported, but a newer product or family exists. Gain value by migrating.
- END OF LIFE: Discontinued date announced – actively execute migrations and last time buys. Product generally orderable until the discontinued date.<sup>1</sup>
- DISCONTINUED: New product no longer manufactured or procured.<sup>2</sup> Repair/exchange services may be available.

<sup>1</sup> - Outages on specific items may occur prior to the Discontinued date.  
<sup>2</sup> - Limited stock may be available in run-out mode, regionally.

LISTEN.  
THINK.  
SOLVE.

## Catalog Number Migration

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## MSR to GSR Conversion Chart

MSR Family	Part / Catalog Number	Preferred migration to GSR#	Panel Space - DC unit (mm)		Panel Space - AC unit (mm)		Response Time		DC load capability		
			MSR unit (DC) Panel space (mm)	GSR unit (DC) Panel Space (mm)	MSR unit (AC) Panel Space (mm)	GSR unit (add 1606-XLP15E) Panel Space (22.5 mm)	MSR unit response time (ms)	GSR unit response time (ms)	MSR unit - DC load	GSR unit - DC load	
CU2	440R-S07139	440R-GL2S2P (GSR GLP)	45	22.5	45	-	N/A	N/A	3A@24V	0.5A	
	440R-S07140	440R-GL2S2P (GSR GLP) 1606-XLP15E		45		22.5					
MSR7R	440R-D23021	440R-D23166 (24V DC) 440R-D23170 (24V AC)	45	22.5	-	-	50	20	2A @ 24V	3A	
	440R-D23022	440R-D23164			45						
	440R-D23023	440R-D23163									
MSR7C	440R-D23024	440R-D23166	45	22.5	-	-	50	20	2A @ 24V	3A	
	440R-D23025	440R-D23164			45						
	440R-D23026	440R-D23163									
MSR9T	440R-F23027	440N-S32021	45	45	-	-	50	40	3A@24V	2A	
	440R-F23028				45						
MSR33RT	440R-F23199	440N-S23021	22.5	45	-	-	15	40	2A @ 24V	2A	
MSR33RTP	440R-F23200	440N-S23021	22.5	45	-	-	15	40	2A @ 24V	2A	
MSR35H	440R-D23201	440R-D23171	22.5	22.5	-	-	15	30	2A @ 24V	3A	
	440R-D23202	440R-D23166									
MSR121	440R-J23102	440R-S13R2	55	22.5	55	-	15	35	6 A/240V DC	2A	
MSR124RT	440R-G23110	440R-S13R2 440R-EM4R2	100	45	100	-	20	95	4 A @ 24V DC	2A	
	440R-G23108	440R-S13R2 440R-EM4R2 1606-XLP15E		67.5							22.5
	440R-G23107	440R-S13R2 440R-EM4R2 1606-XLP15E									

AC load capability		Thermal (non-switching load)		Comment
MSR unit - AC inductive load	GSR unit - AC inductive load	MSR unit - thermal load	GSR unit - thermal load	
4A	N/A	4A	0.5A	Use GLP Version A205 or later. The CU2 uses one NPN and one PNP proximity sensor's outputs to sense the hazardous motion. The GSR GLP uses two PNP sensor's outputs. The CU2 control unit has voltage-free output contacts, while the GLP safety relay has solid-state outputs.
				Use GLP Version A205 or later. Replacing an AC powered unit with the GLP requires a 1606-XLP15E power supply to power the GLP.
4A	6A	4A	6A	The MSR7R is for use with mechanical switches and Bulletin 800Z Zero-ForceTouch Buttons™. The MSR7C is for use with electronic-sensing (capacitive or photoelectric) palm buttons. The MSR7C does not turn its output ON if a power interruption occurs while hands are on the buttons. A risk assessment must be performed when converting MSR7C safety relay to MSR125 safety relay. The risk assessment must include an evaluation of a hands-on-the-buttons during a power interruption.
4A	6A	4A	6A	The MSR7R is for use with mechanical switches and Bulletin 800Z Zero-ForceTouch Buttons™. The MSR7C is for use with electronic-sensing (capacitive or photoelectric) palm buttons. The MSR7C does not turn its output ON if a power interruption occurs while hands are on the buttons. A risk assessment must be performed when converting MSR7C safety relay to MSR125 safety relay. The risk assessment must include an evaluation of a hands-on-the-buttons during a power interruption.
4A	4A	4A	-	The response time of the Sipa 2 controller is faster than the MSR9T safety relay, therefore the safety distance calculation does not require recalculation.
-	-	4A	-	The MSR33 safety relay has solid-state outputs, while the Sipa 2 controller has electromechanical outputs.
-	-	4A	-	The MSR33 safety relay has solid-state outputs, while the Sipa 2 controller has electromechanical outputs.
-	-	4A	-	The MSR35 safety relay has solid-state outputs, while the MSR125 safety relay has voltage-free contacts.
6 A/250V AC	1.5 A	6A	2A	The response time of the MSR 121RT is faster than the GSR CI solution so the safety distance must be examined and adjusted if necessary. MSR121RT safety relay is only available with a 24V AC/DC power supply. For 24V, the CI safety relays can only operate at 24V DC. When the MSR121RT is powered by 24V AC, you must provide an AC/DC converter
5 A/250V AC	4 A/250V AC	10A	6A	The MSR124RT safety relay is faster than the GSR CI and GSR EM safety relays, the safety distance must be examined closely and adjusted if necessary. The outputs of the GSR CI safety relay may require interposing relays, depending on the load being switched by the MSR124RT safety relay.

## Local Distributor

Visit our website to find your global Distributor.

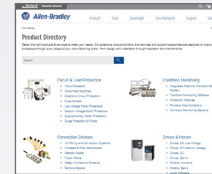
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## Product Selection Toolbox

Our powerful range of product selection and system configuration tools assist you in choosing and applying our products.

<https://www.rockwellautomation.com/global/support/product-selection-configuration/overview.page?>



## Why Upgrade or Migrate?

To better understand your options, contact your local authorized Allen-Bradley distributor or Rockwell Automation sales office or visit: <https://www.rockwellautomation.com/global/support/product-compatibility-migration/overview.page?pagetitle=Modernization&docid=4577964e48bcb918747a354e7f92c738>

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