440G-MZ Guard Locking Safety Switch

With Embedded GuardLink Technology and Escape Release

Features and Benefits

- Optimized for full body access
- High holding force of 2500 N for guard locking a full-size guard door
- Optional escape release feature which allows quick and easy exit in the event that a person is locked inside the safeguarded area
- Tongue actuator movement in multiple axes facilitates +/-5 mm misalignment tolerance
- Flexibility to meet your needs:
  – Can operate as a standalone device (5-pin OSSD connection) or in a GuardLink system
  – Flexible mounting with three entry points on hinged or sliding doors
- Network integration via EtherNet/IP communication adapter with safety relay
- RFID unique (high) or standard (low) coded actuator for flexible level of tamper-proofing
- Highly visible 270° wrap-around LEDs for LINK and DEVICE status
- Ingress rating: IP65, IP66, IP67, IP69k
- SIL 3, PLe, Cat 4 – the highest level of safety

What is GuardLink?

GuardLink is a communications protocol that links safety to The Connected Enterprise. Allen-Bradley Guardmaster® smart safety devices featuring GuardLink technology deliver information, advanced functionality and flexibility, while enhancing safety and increasing efficiency machine- and plant-wide.

- Real time, contextual diagnostics improve troubleshooting
- Seamless integration into Rockwell Automation EtherNet/IP architecture
- Connect up to 32 safety devices in series with no reduction in safety integrity or enunciation

Allen-Bradley® 440G-MZ Guard Locking Switch from Rockwell Automation helps protect personnel and is suitable for use with many types of guard doors, including full-sized guard doors, which allow full body access to the safeguarded area, where a high holding force, a wide tolerance to guard misalignment, and an escape release option are commonly required.

The 440G-MZ has embedded GuardLink® technology making it a smart device that provides the benefits of enunciation and product-specific diagnostics. It reduces wiring, simplifies installation and enables premier integration via an Ethernet/IP communications adapter and safety logic device when connected in a GuardLink system via a passive tap. Alternatively, it can operate as an OSSD device, connected directly to a safety logic device or safety I/O device. The OSSDs or GuardLink safety outputs are energized only when the switch is both closed and locked.

440G-MZ safety switches are TÜV-certified up to SIL 3, PLe, Cat 4 – the highest level of safety for door position monitoring and guard locking. RFID coded actuators help prevent actuator substitution as described in ISO 14119. Typical applications include machines which are surrounded by perimeter fences with guard doors for full body access (for example, robotic assembly or packaging machines), machines with built-in full-size doors (for example, bottling machines) and small to medium CNC machines.

A GuardLink-enabled device provides advanced features such as:

- **Enunciation** – easily identify which devices on the link are tripped
- **Diagnostics** – ready to lock status, lock or unlock attempts, approaching max/min input voltage, actuator not paired
- **Fault Information** – failure to lock/unlock, commissioning error codes, actuator detection fault, bolt detection fault, exceeds max/min input voltage
- Device **RESET and LOCK/UNLOCK** over the link can be initiated remotely from the HMI

The 440G-MZ, with built-in GuardLink technology, connects to a GuardLink system using a passive tap. A combination of passive and smart taps can be connected in series using standard patch cords with M12 connectors. The linked system interfaces to the Connected Enterprise via an Ethernet interface and a GuardLink safety master.

Accessories

Model	Catalog No.
Actuator mounting bracket – L-shaped	440G-MZAM1
Actuator mounting bracket – Z-shaped	440G-MZAM2
Switch mounting bracket	440G-MZAM3
Padlock accessory	440G-MZAL
Replacement button	440G-MZRBU
Replacement screw	440G-MZRSC
Auxiliary release tool*	440G-MZAT

*Used for escape release models only. Tool is not included with the switch assembly and must be ordered separately.

GuardLink System Components
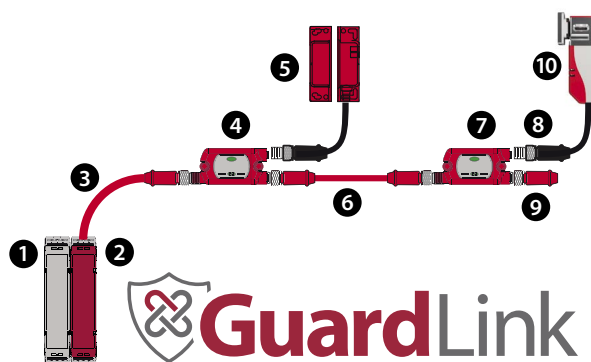
	Description	Catalog No.
1	EtherNet/IP network interface	440R-ENETR
2	Dual GuardLink (DG) safety relay/master	440R-DG2R2T
3	5-pin cordset from safety master to the first tap	889D-F4NE-2*
4	GuardLink-enabled tap	440S-SF5D
5	SensaGuard non-contact safety switch	440N-Z21
6	4-pin patch cord between taps	889D-F4NEDM-2*
7	Passive tap	440S-PF5D
8	5-pin patch cord between devices and taps (optional)**	889D-F5NCDM-2*
9	Terminator	898D-418U-DM2
10	GuardLink enabled safety switch	440G-MZ

*Other standard and build-to-order lengths are available. For more information on our complete family of connection device products, please visit: http://ab.rockwellautomation.com/Connection-Devices.

**Patch cord can be connected between tap and device but is not used in this example.

Product Selection

Model Type	Outputs (Safety/Aux)	Solenoid Voltage	Actuator	Connection Type	Holding Force (Fzh)	Cat No.**
Power to release	2 x PNP (0.2 mA max.), No Aux	24V DC*	RFID standard	6-in. pigtail with M12 5-pin QD	2500 N	440G-MZS20SNRJ
			RFID unique			440G-MZS20UNRJ
Power to lock			RFID standard			440G-MZS20SNLJ
			RFID unique			440G-MZS20UNLJ

*Use power supply Ue 24V DC +10% / -15% Class 2 PELV.
**Add an "E" to the end of the catalog to order the escape release version.

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