

440G-LZ Guard Locking Switches

The 440G-LZ guard locking switches have the following features:

- Certified to PLe to ISO 13849-1 (both for door position and lock monitoring to ISO 14119)
- Solid-state design and monitored outputs
- Type 4 interlocking device with guard locking per ISO 14119 with low or high coded RFID actuators
- High holding force of 1,300 N
- Energy efficient green device that only uses 2.5 W
- IP69k and hygienic design
- Power-to-release and power-to-lock versions
- Auxiliary output versions: lock status or guard proximity
- Compact design optimized for ease of mounting
- Diagnostic information provided by two bright 270° LEDs
- Solid-state OSSD outputs series connectable to ISO 14119



Specifications

Attribute	Value
Safety ratings	
Standards	ISO 14119, IEC 60947-5-3, ISO 13849-1, IEC 62061
Safety classification	Type 4 interlocking device with guard locking per ISO 14119 with low (standard) and high (unique) coding per ISO 14119 PLe Cat 4 per ISO 13849-1 and SIL 3 per IEC 62061
Functional safety	Visit https://literature.rockwellautomation.com/idc/groups/literature/documents/sr/safety-sr001_-en-e.pdf
Certifications	cULus Listed, TÜV Certified, and CE Marked for all applicable directives www.rockwellautomation.com/certification/overview.page
Operating characteristics	
Torque for M5 mounting of switch and actuator mounting bracket	2 N·m, max
Locking bolt insertion for assured locking & holding force	Min of 5 mm (0.19 in.), max of 10 mm (0.39 in.)
Locking bolt alignment tolerance X, Y, Z	Max of ±2.5 mm (0.09 in.)
Holding force Fmax (ISO 14119)	1,690 N
Holding force Fzh (ISO 14119)	1,300 N
Output current, max (each output)	200 mA
Quiescent power consumption, locked or unlocked	2.5 W
Peak current and duration, at turn on or after lock/unlock operation	400 mA / 100 ms
Operating voltage Ue	24V DC +10% / -15% Class 2 SELV
Maximum frequency of operating cycles	0.2 Hz
Dwell time between subsequent locking/unlocking	2.5 s
Response time (off)	100 ms first switch, 50 ms additional for each switch
Risk time (according to IEC 60947-5-3)	100 ms
Start up time (availability)	8 s

Attribute	Value
Maximum length of a chain of switches	10 km (dependent on cable/ connection/required response time)
Utilization category (IEC 60947-5-2)	DC-13 24V 200 mA
Insulation voltage Ui (IEC 60947-1)	75V
Impulse withstand voltage Uimp (IEC 60947-1)	1 kV
Pollution degree (IEC 60947-1)	3
Manual (auxiliary) release	Built in
Protection class (IEC 61140)	Class II
Mechanical life	500,000 cycles
Outputs (guard door closed and locked)	
Safety outputs	2 x PNP, 0.2 A max / ON (+24V DC)
Auxiliary outputs	1 x PNP, 0.2 A max / OFF (0V DC)
Environmental	
Operating temperature	0...+55 °C (+14...+131 °F)
Storage temperature	-25...+75 °C (-13...+167 °F)
Operating humidity	5...95% relative
Enclosure ingress rating	NEMA 3, 4X, 12, 13, IP66, IP67, IP69k
Shock and vibration	IEC 60068-2-27 30 g, 11 ms/IEC 60068-2-6 10...55 Hz, 1 mm
Hygienic	ISO 14159:2004 and EN 1672-2005, (for that part of the machine defined as "food splash area")
Washdown	Sodium Hydroxide based washdown fluids
Radio frequency / EMC	IEC 60947-5-3, FCC-1(Parts 18&15), R&TTE
General	
Materials	ABS, locking bolt and mounting bracket 304 stainless steel
Weight	Switch 400 g (0.9 lb), actuator 150 g (0.3 lb), actuator mounting bracket 60 g (0.1 lb)
Protection Type	Short-circuit, current limitation, overload, reverse polarity, overvoltage (up to 60V max), thermal shutdown/restart

Product Selection

Locking Type	Actuator Type	Cat. No.					
		Connector Type					
		Aux. Output = Lock Aux.			Aux. Output = Door Aux.		
		3 m Lead	10 m Lead	6-in. Pigtail with M12 8-Pin QD	3 m Lead	10 m Lead	6-in. Pigtail with M12 8-Pin QD
Power to release	Standard (low level to ISO 14119)	440G-LZS21SPRA	440G-LZS21SPRB	440G-LZS21SPRH	440G-LZS21STRA	440G-LZS21STRB	440G-LZS21STRH
	Unique (high level to ISO 14119)	440G-LZS21UPRA	440G-LZS21UPRB	440G-LZS21UPRH	440G-LZS21UTRA	440G-LZS21UTRB	440G-LZS21UTRH
Power to lock	Standard (low level to ISO 14119)	440G-LZS21SPLA	440G-LZS21SPLB	440G-LZS21SPLH	440G-LZS21STLA	440G-LZS21STLB	440G-LZS21STLH
	Unique (high level to ISO 14119)	440G-LZS21UPLA	440G-LZS21UPLB	440G-LZS21UPLH	440G-LZS21UTLA	440G-LZS21UTLB	440G-LZS21UTLH

Accessories

Table 1 - Spare Actuators

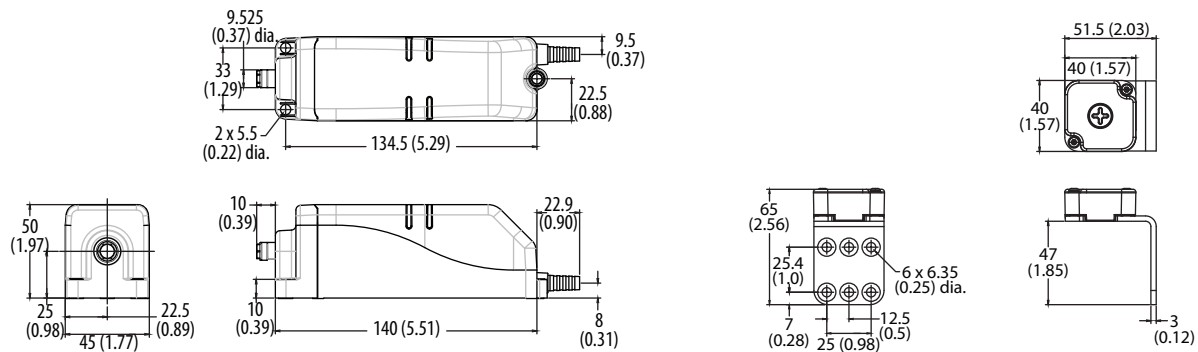
Locking Type	Actuator Type	Cat. No.
Power to release	Standard (low level ISO 14119)	440G-LZASPR
	Unique (high level ISO 14119)	440G-LZAUPR
Power to lock	Standard (low level ISO 14119)	440G-LZASPL
	Unique (high level ISO 14119)	440G-LZAUPL

Table 2 - Mounting Brackets

Description	Cat. No.
Actuator Mounting Bracket	440G-LZAM1
Switch body mounting bracket	440G-LZAM2

Approximate Dimensions

Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.



Typical Wiring Diagrams

8-Pin Micro (M12)			
	Color	Function	Pin
8-Pin Cordset 889D-F8AB-x ⁽¹⁾ or cable version	White	Aux	1
	Brown	24V DC +	2
	Green	Lock	3
	Yellow	Safety B+	4
	Grey	Safety A	5
	Pink	Safety B	6
	Blue	Gnd/0V	7
	Red	Safety A+	8

(1) Replace x with 2 (2 m), 5 (5 m), or 10 (10 m) for standard cable lengths.