

HS1L Interlock Switches with Solenoid

Key features:

- 3,000N locking retention force
- LED indicator
- Energy-efficient solenoid
- 6 contacts with easy-to-wire terminations
- M3 terminal screws for easy wiring



Part Numbers

Mechanical Spring Lock (power solenoid to unlock)			
Contact Configuration	Conduit Size	LED	Part Number
	G1/2	Red	<b>HS1L-R44KMSR-R</b>
		Green	<b>HS1L-R44KMSR-G</b>
	PG13.5	Red	<b>HS1L-R44KMSRP-R</b>
		Green	<b>HS1L-R44KMSRP-G</b>
	M20	Red	<b>HS1L-R44KMSRM-R</b>
		Green	<b>HS1L-R44KMSRM-G</b>
	G1/2	Red	<b>HS1L-DQ44KMSR-R</b>
		Green	<b>HS1L-DQ44KMSR-G</b>
	PG13.5	Red	<b>HS1L-DQ44KMSRP-R</b>
		Green	<b>HS1L-DQ44KMSRP-G</b>
	M20	Red	<b>HS1L-DQ44KMSRM-R</b>
		Green	<b>HS1L-DQ44KMSRM-G</b>
	G1/2	Red	<b>HS1L-DT44KMSR-R</b>
		Green	<b>HS1L-DT44KMSR-G</b>
	PG13.5	Red	<b>HS1L-DT44KMSRP-R</b>
		Green	<b>HS1L-DT44KMSRP-G</b>
	M20	Red	<b>HS1L-DT44KMSRM-R</b>
		Green	<b>HS1L-DT44KMSRM-G</b>

Solenoid Lock (Remove Power to Unlock)			
Contact Configuration	Conduit Size	LED	Part Number
	G1/2	Red	<b>HS1L-R7Y4KMSR-R</b>
		Green	<b>HS1L-R7Y4KMSR-G</b>
	PG13.5	Red	<b>HS1oh yL-R7Y4KMSRP-R</b>
		Green	<b>HS1L-R7Y4KMSRP-G</b>
	M20	Red	<b>HS1L-R7Y4KMSRM-R</b>
		Green	<b>HS1L-R7Y4KMSRM-G</b>
	G1/2	Red	<b>HS1L-DQ7Y4KMSR-R</b>
		Green	<b>HS1L-DQ7Y4KMSR-G</b>
	PG13.5	Red	<b>HS1L-DQ7Y4KMSRP-R</b>
		Green	<b>HS1L-DQ7Y4KMSRP-G</b>
	M20	Red	<b>HS1L-DQ7Y4KMSRM-R</b>
		Green	<b>HS1L-DQ7Y4KMSRM-G</b>
	G1/2	Red	<b>HS1L-DT7Y4KMSR-R</b>
		Green	<b>HS1L-DT7Y4KMSR-G</b>
	PG13.5	Red	<b>HS1L-DT7Y4KMSRP-R</b>
		Green	<b>HS1L-DT7Y4KMSRP-G</b>
	M20	Red	<b>HS1L-DT7Y4KMSRM-R</b>
		Green	<b>HS1L-DT7Y4KMSRM-G</b>

1. Contact configuration shows the contact status when actuator is inserted and solenoid off for spring lock.
2. Contact configuration shows the contact status when actuator is inserted and solenoid on for solenoid lock.
3. Actuator keys are not supplied with the interlock switch and must be ordered separately.
4. Manual unlock key is included with the interlock switch.
5. Standard stock items in bold

Overview

XW Series E-Stops

Interlock Switches






Enabling Switches

Safety Control Relays

Light Curtains

AS-Interface Safety at Work

## Actuator Keys & Accessories (order separately)

Appearance	Part Number	Description	Appearance	Part Number	Description
	HS9Z-A1S	Straight Actuator		HS9Z-T1	Key Wrench (included with switch)
	HS9Z-A2S	L-shaped Actuator		HS9Z-P1	Conduit Opening Plug (G1/2)
	HS9Z-A3S	Angle Adjustable Actuator (vertical operation only)			

## Specifications

Conforming to Standards	ISO14119, IEC60947-5-1, EN60947-5-1 (TÜV approval), GS-ET-19 (TÜV approval), UL508, CSA C22.2 No. 14 IEC60204-1/EN60204-1 (applicable standards for use)		
Operating Temperature	-20 to +55°C (no freezing)		
Storage Temperature	-40 to +80°C (no freezing)		
Relative Humidity	45 to 85% (no condensation)		
Rated Insulation Voltage (Ui)	300V		
Overvoltage Category	III		
Electric Shock Protection	Class II (IEC 61140)		
Degree of Protection	IP67 (IEC 60529)		
Shock Resistance	Damage limits: 1000m/s <sup>2</sup>		
Actuator Retention Force	3000N minimum (GS-ET-19)		
Actuator Operating Speed	0.05 to 1.0m/s		
Direct Opening Travel	11mm minimum		
Direct Opening Force	50N minimum		
Thermal Current (Ith)	10A		
Operating Frequency	900 operations per hour		
Mechanical Life	1,000,000 operations minimum (GS-ET-19)		
Electrical Life	100,000 operations minimum (AC-15 3A/250V) 1,000,000 operations minimum (24V AC/DC, 100mA) (operating frequency 900 operations per hour)		
Solenoid Unit	Rated Operating Voltage	24V DC (100% duty cycle)	
	Rated Current	200mA (initial value)	
Indicator	Rated Operating Voltage	24V DC	
	Rated Current	10mA	
	Light Source	LED	
	Illumination Color	Green (G), Red (R)	
Weight (approx.)	450g (HS1L-DQ44)		

## Contact Ratings

Rated Operating Current (I <sub>g</sub> )	Rated Voltage (U <sub>e</sub> )		30V	125V	250V
	AC	Resistive load (AC12)		10A	10A
Inductive load (AC15)			10A	5A	3A
DC	Resistive load (DC12)		8A	2.2A	1.1A
	Inductive load (DC13)		4A	0.9A	0.6A

Dimensions (mm) and Mounting Hole Layouts

Overview

XW Series E-Stops

Interlock Switches

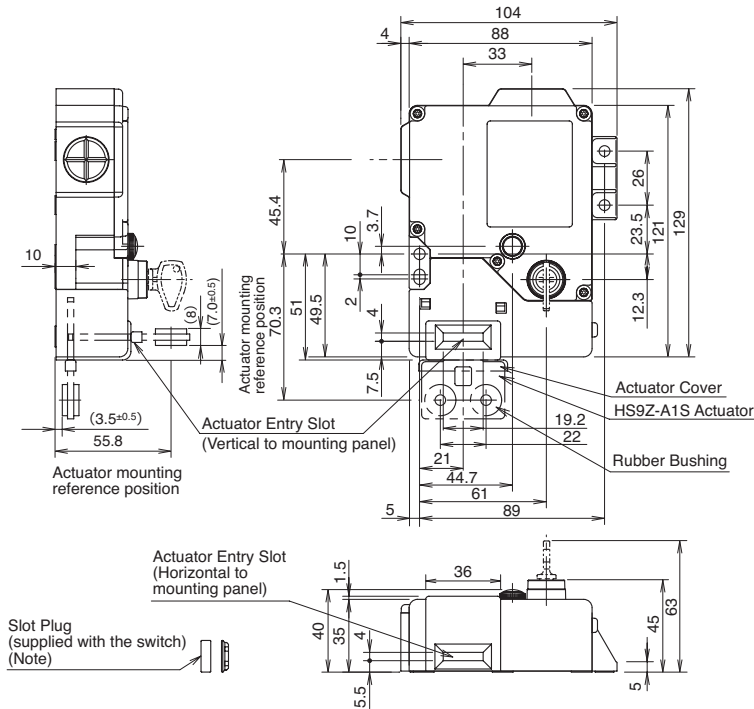
Enabling Switches

Safety Control Relays

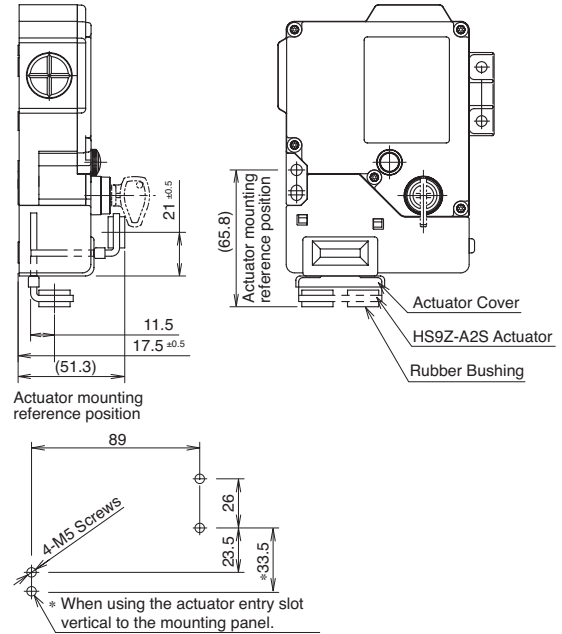
Light Curtains

AS-Interface Safety at Work

Interlock switch when using straight actuator (HS9Z-A1S)



Interlock switch when using L-shaped actuator (HS9Z-A2S)

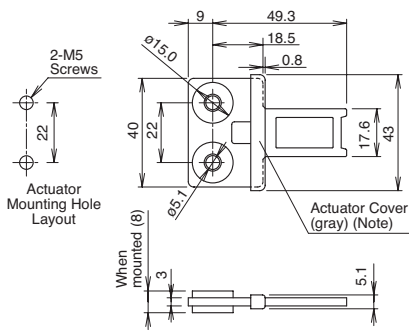


Interlock Switch Mounting Hole Layout

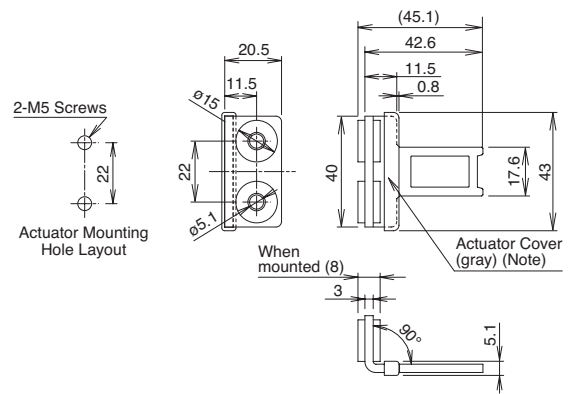
Note: Plug the unused actuator entry slot using the slot plug supplied with the interlock switch.

\* Install the interlock switch using four mounting screws when using the actuator entry slot vertical to the mounting panel, and three mounting screws when using the actuator entry slot horizontal to the mounting panel.

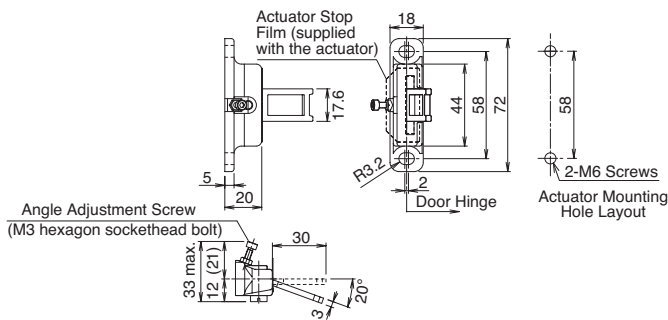
Straight Actuator (HS9Z-A1S)



L-shaped Actuator (HS9Z-A2S)



Angle Adjustable (vertical) Actuator (HS9Z-A3S)



The actuator cover and the actuator stop film are supplied with the actuator and used when adjusting the actuator position. Remove them after the actuator position is determined.