RFID Guard Locking Switch Metal **TYPE: AYLOCK KLM-Z-4ST**

FEATURES & APPLICATION:

Spring to lock when actuator is inserted. Energise solenoid to unlock.

RFID anti-tamper coding and non-contact safety interlocking.

Front and end entry actuation.

Rotating head.

Solenoid Locking Switch featuring RFID interlocking and incorporating machine control functions

The KLM-Z-4ST incorporates all the switch features of the KLM-Z but offers extra machine control functions all in one housing incorporating standard 22mm push buttons (see p80 for push button options available).

The KLM-Z-4ST has a slim profile and has been designed specifically to fit on 50mm (2in.) frame sections or to applications where space is restricted The head will rotate to offer end users flexibility by providing up to 8 actuator entry positions and includes front and entry sensing.

The KLM-Z-4ST housing will incorporate standard 22mm push buttons, lamps or switches which can be added to provide machine request or control functions all from one KLM-Z-4ST housing.

Robust Stainless Steel 316 head and Die-Cast metal body.

Choice of standard or flexible actuators.

FUNCTIONAL SPECIFICATIONS:

Solid State OSSD Safety Outputs short circuit protected.

High Functional Safety to ISO13849-1, maintains Ple Interlocking via self-test technique when switches are connected in series to a safety controller or relay.

2 Safety Circuits - closed when switch is locked and machine able to run.
1 Auxiliary circuit for indication of Guard status (Guard open).
1 Auxiliary circuit for indication of Lock Status (Guard locked).

4 diagnostic LED's to display guard position, lock, input/output signals and fault status.
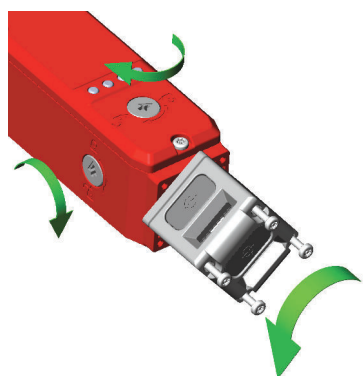
Unique design offering both Front or End entry actuation.

Head will rotate to give 8 actuator entry positions for full flexibility depending on application.

Front entry actuation direction.

End entry actuation direction.

ACTUATOR OPTIONS:

AZ Standard Actuator　　HFZ Flexible Actuator

Standards:	IEC60947-5-3 ISO14119 ISO13849-1
	IEC62061 UL508
Safety Classification and Reliability Data:	
Supply Voltage	24Vdc (+/- 10%)
Power Consumption	R+ (50mA Max.)
	S+ (500mA Max) (Solenoid)
Safety Circuits (11-12, 21-22)	24V 0.2A
Auxiliary Circuits (34 and 44)	24Vdc 0.2A Max. output current
Rated Insulation Voltage	500VAC
Holding Force (ISO14119)	F1 Max 3000N Fzh 2307N
Actuator insertion distance for assured locking	5mm
Sao Sar (RFID sensing)	Sao 10mm Sar 20mm
Operating Frequency	1Hz
Actuator entry minimum radius	175mm Standard 100mm Flexible
Body Material	Die cast metal (painted red)
Head Material	Stainless Steel 316
Actuator Material	Stainless Steel 316
Enclosure Protection	IP65
Operating Temperature	-25C to +40C
Mechanical Life Expectancy	2.5×10^6 cycles
Vibration	IEC88-2-6, 10-55Hz + 1Hz
	Excursion 0.35mm 1 octave/min

**Characteristic data according to IEC62061 (used as a subsystem)**

Safety Integrity Level	SIL 3	
PFH (1/h)	4.77 E-10	Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a	

Charateristic data according to EN ISO13849-1

Performance Level	e	If both channels are used in conjunction with a SIL 3/PLe control device.
Category	Cat 4	
$MTTF_d$	1100a	
Diagnostic Coverage DC	99% (high)	

RFID Guard Locking Switch Metal **TYPE: AYLOCK KLM-Z-4ST**

SCHEMATIC & CONNECTION EXAMPLE:

PRODUCT DIMENSIONS:
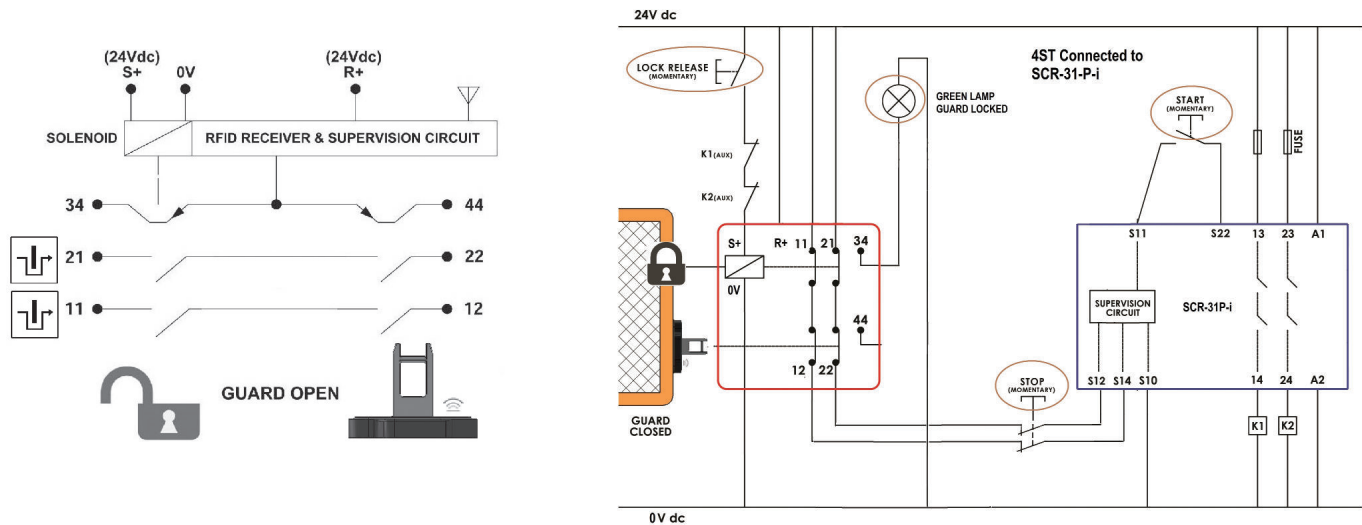
REAR RELEASE option also available - please see Sales Numbers.
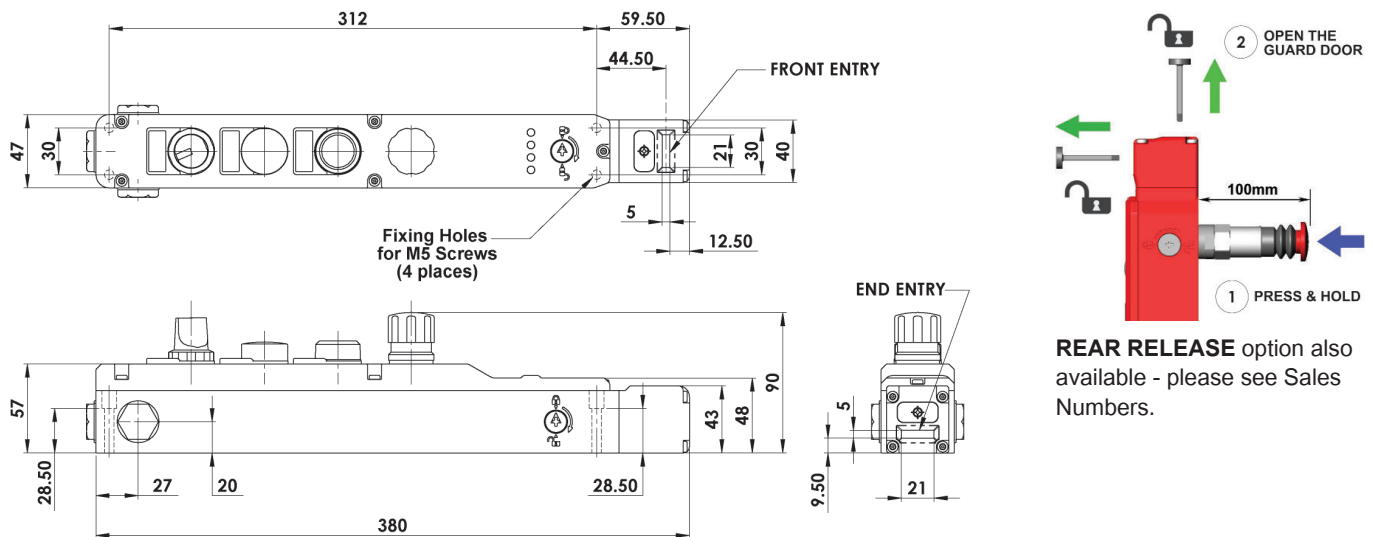
TERMINAL & LED FUNCTIONS:

Terminal	Function	Switch Circuit	Rating
R+	24V dc	Supply 24V dc	50mA max.
0V	0V dc	Supply 24V dc (Ground)	
11	Safety Input 1	Safety Circuit 1	200mA max.
12	Safety Output 1		
21	Safety Input 2	Safety Circuit 2	200mA max.
22	Safety Output 2		
44	Auxiliary (Guard Open)	Guard open signal +24V dc out	200mA max.
34	Auxiliary (Guard Locked)	Guard locked signal +24V dc out	200mA max.
S+	Unlocked	Unlock signal apply +24V dc	500mA max.

LED 1	Guard State
Guard Locked	Green
Guard Unlocked	Green (Flashing)
Incorrect Code	Red (Flashing)
Guard Open	Red

LED 2	Input	
Safety Inputs On		Green
Safety Inputs Off		Off

LED 3	Output	
Safety Outputs On		Green
Safety Outputs Off		Off

LED 4	Solenoid	
Solenoid Energised		Red
Solenoid De-energised		Off

ORDERING LAMPS, PUSH BUTTONS AND SWITCHES SEPARATELY PLEASE REFER TO P80.

SALES NUMBERS	STANDARD MANUAL RELEASE LID AND SIDE		MANUAL RELEASE LID ONLY (Not SIDE)		NO MANUAL RELEASE FITTED (Blanked)	
	M20	1/2" NPT	M20	1/2" NPT	M20	1/2" NPT
KLM-Z-4ST Switch with STANDARD Actuator	457001AZ	457002AZ	457401AZ	457402AZ	457301AZ	457302AZ
KLM-Z-4ST Switch with HEAVY DUTY FLEXIBLE Actuator	457001HFZ	457002HFZ	457401HFZ	457402HFZ	457301HFZ	457302HFZ
REAR RELEASE OPTION SALES NUMBERS						
KLM-Z-4ST-RR Switch with STANDARD Actuator	457011AZ	457012AZ	457411AZ	457412AZ	457311AZ	457312AZ
KLM-Z-4ST-RR Switch with HEAVY DUTY FLEXIBLE Actuator	457011HFZ	457012HFZ	457411HFZ	457412HFZ	457311HFZ	457312HFZ
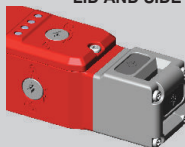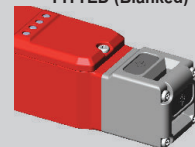
For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed actuator inserted.