

IDEM KLM-Z-4ST Universal Gate Box



KLMZ-4ST-457001HFZ

Description

The KLM-Z-4ST interlock safety switches with guard locking and RFID coding incorporate all the switch features of the KLM-Z but offers extra machine control functions all in one housing incorporating standard 22mm pushbuttons

The KLM-Z-4ST has a slim profile and has been designed specifically to fit on 50mm [2in] frame sections like our Velox Machine Guarding or to applications where space is restricted.

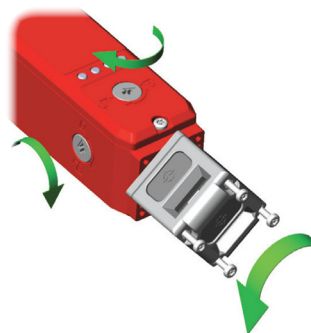
The head will rotate to offer end users flexibility by providing up to 8 actuator entry positions and includes front and entry sensing.

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.

These switches feature robust stainless steel 316 head and diecast metal body.

Features

- Highly effective anti-tamper RFID coding.
- Holding force of 3000N to keep guard doors closed until hazards have been removed.
- Unique rotating head offers both front and end actuation.
- Diecast housing fitting with a robust 316 stainless steel head.
- For use as directed by ISO 14119



Unique design offers front or end entry activation. Head will rotate to give 8 actuator entry positions for full flexibility depending on application.

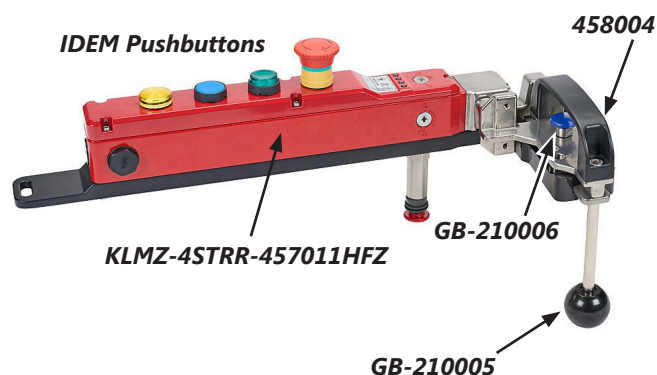
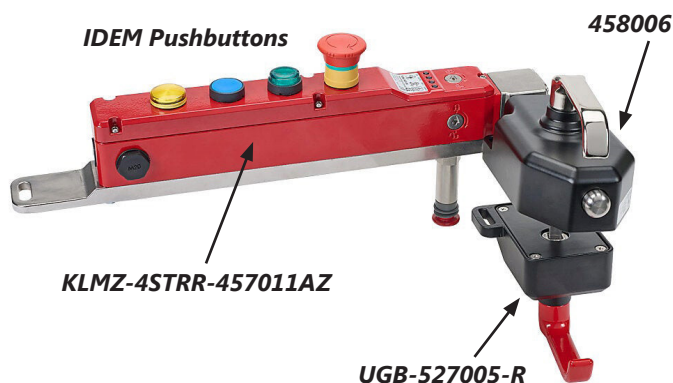
KLMZ-4ST Interlock Safety Switches With Guard Locking and RFID Coding Selection Guide

Part Number	Price	Body Material	Actuator Type	Rear Release	Head Type	Holding Force	Outputs	Drawing
<u>KLMZ-4ST-457001AZ</u>	\$613.00	Die-cast aluminum	Tongue (key) interlock uniquely coded RFID	No	360° adjustable	3000N	2 OSSD and 2 Status	<u>PDF</u>
<u>KLMZ-4ST-457001HFZ</u>	\$661.00		Flexible tongue (key) interlock uniquely coded RFID	No				<u>PDF</u>
<u>KLMZ-4STRR-457011AZ</u>	\$703.00		Tongue (key) interlock uniquely coded RFID	Yes				<u>PDF</u>
<u>KLMZ-4STRR-457011HFZ</u>	\$750.00		Flexible tongue (key) interlock uniquely coded RFID	Yes				<u>PDF</u>

- The pilot devices are sold separately and must be fitted by the end user.
- There is a terminal block inside the KLMZ-4ST for connecting the safety circuit and lock functionality.
- Please note that the KLMZ gate boxes are shallow. Therefore, only IDEM 22mm pushbuttons are recommended.

The gate boxes come with uncovered holes. Holes need to be filled with indicators, push buttons, or blanking plugs, available as accessories purchased separately.

Examples of Complete Switch Assemblies



IDEM KLM-Z-4ST Interlock Safety Switches With Guard Locking and RFID Coding



IDEM KLM-Z-4ST Interlock Safety Switches Specifications	
Safety Classification and Reliability Data	
Switching Reliability (B10d)	2.5m operations at 100 mA load
ISO 13849-1	Up to Category 4 with Safety Relay Up to PLe depending upon system architecture
EN 62061	Up to SIL3 depending upon system architecture
Safety Data—Annual Usage	8 cycles per hour / 24 hours per day / 365 days
MTTFd	771 years
Agency Approvals	cULus E258676, CE
Electrical and General Specifications	
Rated Insulation Voltage	500 VAC
Contact Terminals	Plated brass, max conductor 1mm ² , 16 AWG; 0.7 N•m [0.52 lb•ft] torque
Solenoid Wattage	12W
Solenoid Voltage	24 VDC
Max. Switching Current	Safety contacts 2.5A @ 24 VDC, 6A @ 120 VAC, 3A @ 240 VDC (720 VA Break); Auxiliary contacts max 230V @ 0.5A
Maximum Approach/Withdrawal Speed	600 mm/s [23.62 in/sec]
Enclosure Protection	IP65
Operating Temperature	-25 to +40 °C [-13 to +104 °F]
Vibration	IEC 68-2-6, 10-55 Hz + 1 Hz
Lid Screws/Torque	Stainless steel; T20 Torx; 1.5 N•m [1.11 lb•ft]
Recommended Mounting Screws/Torque	M5; 4 N•m [2.95 lb•ft]
Head Screws/Torque	Stainless steel, T20 Torx 1.5 N•m [1.11 lb•ft]

IDEM KLM-Z-4ST Interlock Safety Switches With Guard Locking and RFID Coding



LED Operation



GUARD	
Guard closed and locked	Green (steady)
Guard closed and unlocked	Green (flash)
Code incorrect	Red (flash)
Guard open	Red

OUTPUT	
Safety outputs on	Green (steady)
Safety outputs off	Off
External fault	Red (flashing)

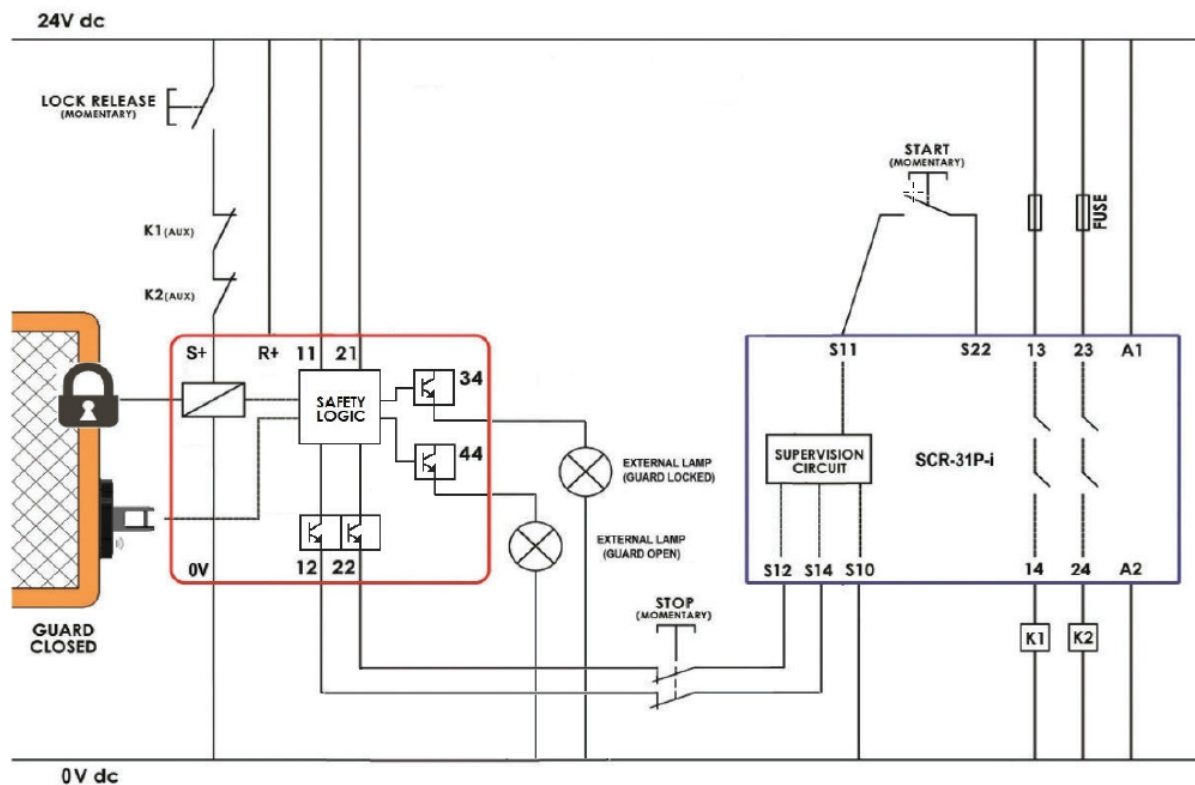
INPUT	
Safety inputs on	Green (steady)
Safety inputs missing	Green (flash)
Safety inputs off	Off
Internal fault	Red (steady)

SOLENOID (SOL.)	
Solenoid energized	Red
Solenoid de-energized	Off

Wiring

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

Connection Example



IDEM Universal Gate Box Pushbuttons and Indicators

**522341****522331****522334****522335****522352****522351****522235**

Pushbutton Selection Guide

Part Number	Price	Description	Barrel Size	Contacts	Action	Operator Type	Operator Color	LED Voltage	Voltage Regulation	IP Rating	Drawing
522341	\$29.50	Compact pushbutton	22 mm	2 N.O.	Momentary	Flush	Green	–	–	IP65	PDF
522332	\$29.50			1 N.O., 1 N.C.	Momentary	Flush	Green	–	–	IP65	PDF
522331	\$29.50			1 N.O., 1 N.C.	Momentary	Flush	Red	–	–	IP65	PDF
522334	\$29.50			1 N.O., 1 N.C.	Momentary	Flush	Blue	–	–	IP65	PDF
522335	\$29.50	Compact illuminated pushbutton		2 N.O.	Momentary	Flush	Black	–	–	IP65	PDF
522352	\$40.00			1 N.O.	Momentary	Flush	Green	24 VAC/VDC	Full voltage	IP65	PDF
522351	\$40.00			1 N.O.	Momentary	Flush	Red	24 VAC/VDC	Full voltage	IP65	PDF
522235	\$47.00	Compact emergency stop pushbutton		2 N.C.	Twist to release	Mushroom	Red	–	–	IP54	PDF
522236	\$47.00			1 N.O., 1 N.C.	Twist to release	Mushroom	Red	–	–	IP54	PDF

Illuminator Selection Guide

Part Number	Price	Description	Barrel Size	Operator Color	Light Function	LED Voltage Rating	Voltage Regulation	IP Rating	Drawing
522433	\$31.50	Compact indicating	22 mm	Green	Permanent	24 VAC/VDC	Full voltage	IP65	PDF
522432	\$31.50			Red	Permanent	24 VAC/VDC	Full voltage	IP65	PDF
522431	\$31.50			Yellow	Permanent	24 VAC/VDC	Full voltage	IP65	PDF
522434	\$31.50			Blue	Permanent	24 VAC/VDC	Full voltage	IP65	PDF
522435	\$31.50			White	Permanent	24 VAC/VDC	Full voltage	IP65	PDF

**522433****522432****522431****522434****522451****522452**

Pushbutton Accessories Selection Guide

Part Number	Price	Description	Barrel Size	Drawing
522451	\$4.50	Legend holder	22mm	PDF
522452	\$4.50	Blanking plug	22mm	PDF

**522435**

IDEM Universal Gate Box Pushbuttons and Indicators



IDEM UGB Push Button and Indicator General Specifications

	Emergency Stop Push Button	Flush Push Button	Illuminated Push Button	Pilot Light
Device Mounting	Fixing Hole 0.89in [22. mm] IEC 60947-1			
Fixing Mode	Fixing nut beneath head tightend to 17.7 to 21.24 lbf•in [2 to 2.4 N•m]			
Contact Operation	Snap action	Slow break		N/A
Contact Tightening Torque	7.08–10.62 lbf•in [0.8–1.2 N•m]			
Maximum Connection Wire Size	2 x 1.5 mm ² [16 AWG] with cable end 2 x 2.5 mm ² [14 AWG] without cable end			
Minimum Connection Wire Size	1 x 0.34 mm ² [21 AWG]			0.22 mm ² [23 AWG]
Mechanical Durability	100,000 cycles	1,000,000 cycles	300,000 cycles	N/A
Ui Rated Insulation Voltage	250V (IEC 60947-1)			
Ui Rated Impulse Withstand Voltage	4 kV	4 kV	4 kV	6 kV
I _e Rated Operational Current (IEC 60947-5-1)	0.1A @ 250V (DC-13, R300) 0.22A @ 125V (DC-13, R300) 0.75A @ 240V (AC-15, C300) 1.5A @ 120V (AC-15, C300)	0.1A @ 250V (DC-13, R300) 0.22A @ 125V (DC-13, R300) 0.3A @ 240V (AC-15, C300) 0.6A @ 120V (AC-15, C300)		N/A
Electrical Durability	1,000,000 cycles (DC-13, 0.30A, 24V, 216,000 cycles/min, 0.5 IEC 60947-5-1 appendix C) 1,000,000 cycles (AC-15, 0.03A, 230V, 216,000 cycles/min, 0.5 IEC 60947-5-1 appendix C) 1,000,000 cycles (AC-15, 0.09A, 240V, 108,000 cycles/min, 0.5 IEC 60947-5-1 appendix C)			N/A
Electrical Reliability	$\lambda < 5 \times 10^{-7}$ 17V 5 mA (IEC 60947-5-4)	$\lambda \leq 10^{-6}$ 17V 5 mA (IEC 60947-5-4)	$\lambda \leq 10^{-6}$ 17V 5 mA (IEC 60947-5-4)	N/A
LED Signal type	N/A	N/A	Steady	Steady
LED Supply Voltage	N/A	N/A	19.2–30 VDC 21.6–26.4 VAC	19.2–30 VDC 21.6–26.4 VAC
LED Current Consumption	N/A	N/A	18–27 mA	20–27 mA
LED Service Life	N/A	N/A	70,000h at rated voltage and 77 °F [25 °C]	
Storage Temperature	-40 to 158 °F [-40 to 70 °C]			
Operating Temperature	-13 to 158 °F [-25 to 70 °C]			
Electrical Shock Protection Class	Class II (IEC 61140)			N/A
Over Voltage Category	N/A	N/A	N/A	Class II (IEC 60536)
NEMA Degree of Protection	NEMA 12 (UL 50 E) NEMA 3 (UL 50 E)	NEMA 12 (UL 50 E) NEMA 3 (UL 50 E)	NEMA 12 (UL 50 E)	NEMA 4 (UL 50 E) NEMA 12 (UL 50 E)
Vibration	5G / 2-500 Hz (IEC 60068-2-6)			
Shock	15G, 11 ms	50G, 11 ms 30G, 18 ms	50G, 11 ms 30G, 18 ms	50G, 11 ms

IDEM Universal Gate Box Accessories

IDEM's gate handles are designed for ease of installation on hinged or sliding guards using four M6 mounting bolts, without requiring additional brackets or door handles.

They are also designed to be impervious to misalignment damage, ensuring long-lasting performance.

Operators must manually close the guard, eliminating the possibility of accidental closure.



IDEM Universal Gate Box Accessories Selection Guide

Part Number	Price	Description	Handle Type*	Door Type	Fits	Drawing
<u>UGB2-527003-R</u>	\$169.00	Handle and mounting plate	Rotary	Right-hand	UGB series 2-station universal gate boxes	<u>PDF</u>
<u>UGB2-527003-L</u>	\$169.00	Handle and mounting plate	Rotary	Left-hand	UGB series 2-station universal gate boxes	<u>PDF</u>
<u>UGB4-527004-R</u>	\$188.00	Handle and mounting plate	Rotary	Right-hand	UGB series 4-station universal gate boxes	<u>PDF</u>
<u>UGB4-527004-L</u>	\$188.00	Handle and mounting plate	Rotary	Left-hand	UGB series 4-station universal gate boxes	<u>PDF</u>
<u>UGB-527005-R</u>	\$163.00	Rear escape handle	Rotary	Right-hand	UGB and KLM-Z-4ST series universal gate boxes	<u>PDF</u>
<u>UGB-527005-L</u>	\$163.00	Rear escape handle	Rotary	Left-hand	UGB and KLM-Z-4ST series universal gate boxes	<u>PDF</u>
<u>UGB2-527001</u>	\$165.00	Handle and mounting plate	Slide	Left- or right-hand	UGB series 2-station universal gate boxes	<u>PDF</u>
<u>UGB4-527002</u>	\$176.00	Handle and mounting plate	Slide	Left- or right-hand	UGB series 4-station universal gate boxes	<u>PDF</u>
<u>GB-210005</u>	\$22.00	Rear escape handle	Slide	Left- or right-hand	UGB and KLM-Z-4ST sliding handle and mounting plate	<u>PDF</u>
<u>GB-210006</u>	\$22.00	Spring-loaded catch	Slide	Left- or right-hand	UGB and KLM-Z-4ST sliding handle and mounting plate	<u>PDF</u>
<u>458005</u>	\$325.00	Handle and mounting plate	Rotary	Left-hand	KLM-Z-4ST gate boxes	<u>PDF</u>
<u>458006</u>	\$325.00	Handle and mounting plate	Rotary	Right-hand	KLM-Z-4ST gate boxes	<u>PDF</u>
<u>458003</u>	\$206.00	Handle and mounting plate	Slide	Left-hand	KLM-Z-4ST gate boxes	<u>PDF</u>
<u>458004</u>	\$206.00	Handle and mounting plate	Slide	Right-hand	KLM-Z-4ST gate boxes	<u>PDF</u>

* Handedness is important when purchasing a rear escape handle for use with handles and mounting plates. You must purchase accessories with the same handedness as the handle you are using. For example, if you are using the UGB2-527003-R (a right-hand handle) then you will need to pair it with the UGB-527005-R right-hand rear escape handle.

Determining Handedness: When standing on the outside of the door, if the hinges are on your right, then the door is right-handed and you should select right-handed accessories.



[UGB2-527003-R](#)



[UGB4-527004-L](#)



[UGB-527005-R](#)



[UGB2-527001](#)



[GB-210005](#)



[GB-210006](#)



[458005](#)



[458004](#)

Safety Products



Warning: Safety products sold by AutomationDirect are Safety components only. The purchaser/installer is solely responsible for the application of these components and ensuring all necessary steps have been taken to assure each application and use meets all performance and applicable safety requirements and/or local, national and/or international safety codes as required by the application. AutomationDirect cannot certify that our products, used solely or in conjunction with other AutomationDirect or other vendors' products, will assure safety for any application. Any person using or applying any products sold by AutomationDirect is responsible for learning the safety requirements for their individual application and applying them, and therefore assumes all risks, and accepts full and complete responsibility, for the selection and suitability of the product for their respective application.

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