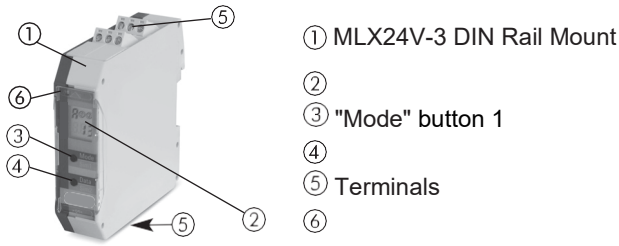


MLX24V-3



Inductive loop detector for industrial gates, barriers

General



1 Safety Instructions

- Read these operating instructions thoroughly before putting the device into operation and keep them for future reference.
- Failure to follow these safety precautions may cause damage to device or objects, serious personal injury, or death.
- Do not use this product other than for its specified application.
- These devices and their accessories may only be commissioned by trained and qualified personnel.
- The 24 V AC/DC device may only be operated at safety extra-low voltages (SELV) according to EN 61558 with safe electrical isolation. The wiring must be protected against mechanical damage.
- Pay attention to all local relevant electrical safety regulations!
- Before commencing work, remove the power supply from the device/installations!
- If malfunctions occur that cannot be rectified, shut down the device and send it in for repair.
- These devices are only allowed to be repaired by the manufacturer. Tampering and alterations are not permitted. This will invalidate all guarantee and warranty claims.

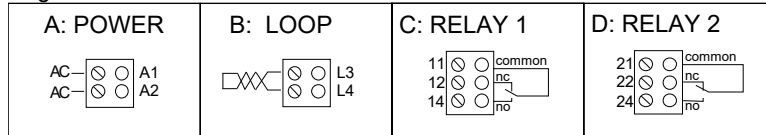
2 Installation in the electrical cabinet

The loop detector is installed in the DIN EN 50 022 rail cabinet, connections by terminals directly to the detector.

3 Electrical connection

- The connections of the loops to the detector must be twisted at least 20 times per meter. It is essential to respect the assignment of the connection terminals as well as the supply voltage as specified on the side of the device.

3.1 Terminal connection diagram

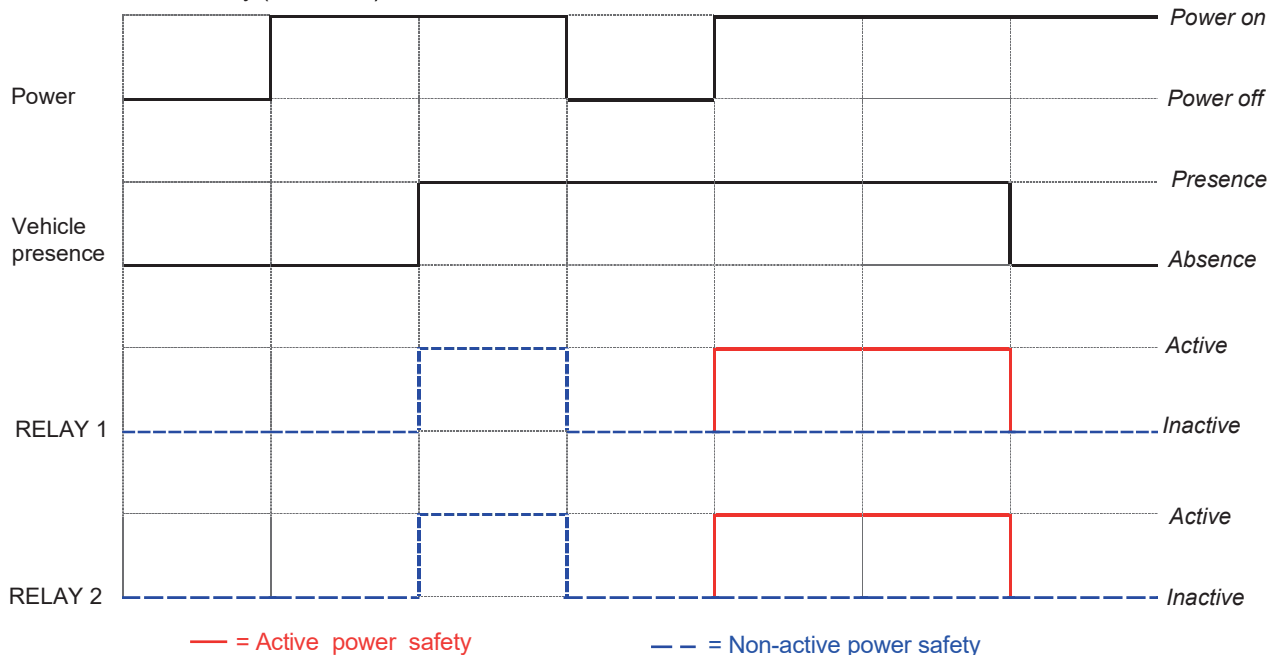


4 Default configuration setting

Active base function: Portals Active
 Time functions: infinite time
 Unit of time: 1 second
 Active time factor: 1

Sensitivity: 4
 Automatic sensitivity: off
 Frequency: F4
Power failure: Inactive.




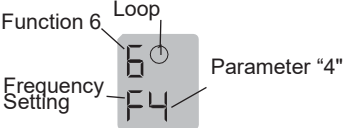

4.1 Power failure safety (function 9)



Note: Enabling "Power Failure Safety" limits the sensitivity from 1 to 5.

5 Possibilities from adjustment some securities and parameters

5.1 Display LED and Elements from adjustment

<p>Standard display</p> 	<p>Button 1</p> 	<p>Button 2</p> 	<p>Example of Lcd display</p> 	<p>LED Status </p> <table border="0"> <tr> <td>Red & Green:</td> <td>Start-up phase</td> </tr> <tr> <td>Green:</td> <td>In service</td> </tr> <tr> <td>Red & Green:</td> <td>Configuration</td> </tr> <tr> <td>Flashing green:</td> <td>Busy loop</td> </tr> <tr> <td>Flashing Red:</td> <td>Malfunction</td> </tr> <tr> <td>Red + Flashing Green:</td> <td>Simulation</td> </tr> </table>	Red & Green:	Start-up phase	Green:	In service	Red & Green:	Configuration	Flashing green:	Busy loop	Flashing Red:	Malfunction	Red + Flashing Green:	Simulation
Red & Green:	Start-up phase															
Green:	In service															
Red & Green:	Configuration															
Flashing green:	Busy loop															
Flashing Red:	Malfunction															
Red + Flashing Green:	Simulation															

5.2 Duties from base 0

Parameters

1: Door and gate

The assigned output relay picks up when the loop is activated and drops out when the loop returns to a non-activated condition.

2: Barrier

The assigned output relay picks up when the loop is activated and drops out when the loop returns to a non-activated condition.

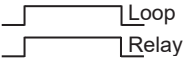





3: Quiescent current

The assigned output relay drops out when the loop is activated and picks up again when the loop returns to a non-activated condition

Relays response to malfunction (see Chapter 6: Troubleshooting):

1. Door / gate	A malfunction causes the output relay to be released. The alarm relay drops out.	2. Barrier	A malfunction causes the output relay to pick up. The alarm relay drops out.	3. Quiescent current	A malfunction causes the output relay to be released. The alarm relay drops out.
----------------	--	------------	--	----------------------	--

5.3 Time (function 1), unit from time (function 2), factor time (function 3)

<p>The relay picks up when the loop is activated and drops out when the loop is exited</p>		<p>On delay: The relay picks up after the time t when the loop is activated and drops out when the loop is exited.</p>		<p>Off delay: The relay picks up when the loop is activated and drops out after the time t when the loop is exited</p>	
<p>Activation pulse: The relay picks up when the loop is activated and drops out again after the time t.</p>		<p>Impulse by leaving the loop: By leaving the loop, the relay picks up after the time t, relay drops out.</p>		<p>Max. presence: The relay picks up when the loop is activated and drops out again after leaving, but at least after the time t.</p>	

5.4 Sensitivity (function 4)

The sensitivity of the detector can be set to 9 levels: S 1 = minimum sensitivity, S 9 = maximum sensitivity, S 4 = factory configuration.


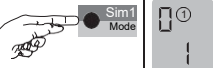
5.5 Increase automatic from the sensitivity ASB (function 5)

The **ASB (Automatic Sensitivity Boost)**. ASB is required in order to be able to recognize trailer drawbars after activation.

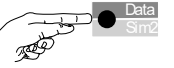
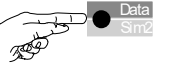


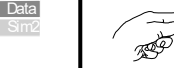


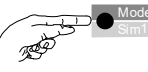


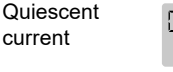

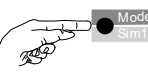
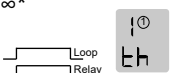
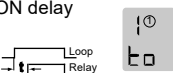
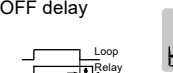

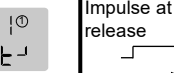


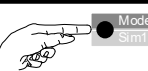

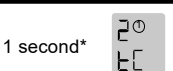
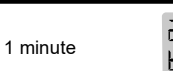
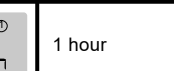

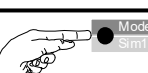
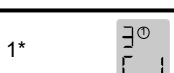

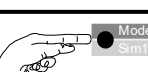


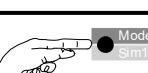

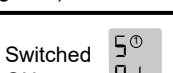

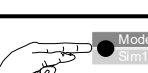
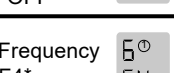
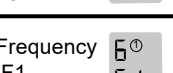
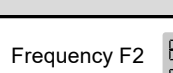
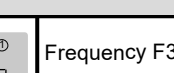

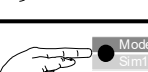
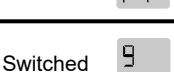
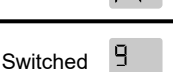

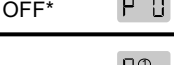


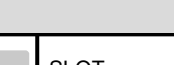
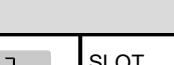

5.6 Frequency (function 6)

Four different frequencies F1, F2, F3, F4* can be set in order to avoid interference when using several loop detectors.

5.7 Changeover from operating mode to configuration mode

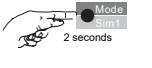

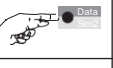


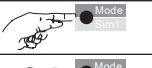
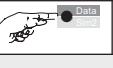

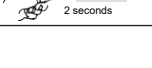
<p>Post-boot display</p> 	<p>Press once on the "Mode" button to switch to config mode.</p>	
--	--	---

 CAREFUL: ALL SETTINGS MUST BE DONE ON LOOP 1


Function	LCD screen	Button 1	Button 2							Notes		
0 - BASE												
1 - TIME												
2 - TIME UNIT			If time th = ∞, this function is inactive									The time unit multiplied by the time factor gives the set time
3 - TIME FACTOR			If time th = ∞, this function is inactive		Set value between 1 and 99 via button 2							
4 - SENSITIVITY			5 = sensivity		Set value betw. 1 (lowest) and 9 (highest) via Button2						Setting restrictions: If power safety is active : sensitivity Value = 1 to 5	
5 - ASB AUTOMATIC SENSITIVITY			ASB= Automatic Sensitivity Boost									
6 - FREQUENCY												
9 - POWER SAFETY										If parameter 9 = P 1 parameter 5 must be set to off (5 = A0)		
A - STANDARD MODE										Possible displays in case of error: see chapter 6 of these instructions		

*Factory setting


7 Simulation mode

Switch to simulation mode	Press the button 1		Press the button 2	Note
Navigation in simulation mode: Press both buttons 1 and 2 simultaneously during 2 second		+		50 LO
Simulation mode:				
Activation of the loop		50 LO		50 L1
Enabling output relay		50 o0		50 o1
Activation alarm output		5 A0		5 A1
Loop inductance		u 225		Measurement of inductance, value in µH
Exit simulation mode		A ---		Back to Operating mode

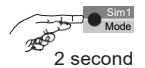
8 Troubleshooting


 When a malfunction occurs, the operating mode « A » and the display of malfunctions « E » light up alternately and an error code, such as E 001 is displayed. The LED changes to flashing red.

Display	E001	E011	E101	E102	E201/E202	E301	E311
Error	Interruption Loop	Short circuit loop	Undervoltage	Overvoltage	Memory error	Loop too large	Loop too small

 The last 5 malfunctions are memorized. The last of the 5 malfunctions is displayed by briefly pressing button 2. With each new brief press on this button, the previous error is displayed. After the 5th time, the device returns to automatic operation. Press the button 2 for 4 seconds to clear all error messages. The illustration shows that error 001, Interrupt loop, is stored in memory position 1 (example).

9 Reset


	Reset 1 (recalibration) The Loop is recalibrated.
--	--

	Reset 2 (factory configuration) All Settings (except the error log) return to their Factory configuration (see 4.11(a)). The Loop is Reseted.
---	--

10 Main technical specifications

Supply voltage/ Power absorbed	• 24ACDC: 24 V AC -20% to +10%, 50/60 Hz, max. 2 W 24 V DC -10% to + 20%, max. 1.5 W • LVAC: 100-240 V AC ±10%, 50/60 Hz, max. 2.9 W
Loop inductance	max. 20 to 1000 the max, ideal 80 to 300µH
Loop connection cable	At 20-40µH: max. 100m with 1.5mm ² at >40 µH: max. 200m with 1.5mm ² twisted 20 times/m minimum
Resistance of the loops	<8 Ohm included power cable
Output relay(loop)	AC-1: max. 240 V AC, 50/60 Hz; 2 A / DC-1: max. 30 V DC; 1 A
Output relay (alarm)	AC-1: max. 40 V AC, 50/60 Hz; 0.3 A/40 V DC; 0.3 A
Size	22.5 x 94 x 88 mm (W x H x D)
Setting up the module	Directly on the DIN rail
Connection type	Plug-in terminals
Protection rating	IP 20
Operating temperature	from -20°C to +60°C
Storage temperature	from -40°C to +70°C
Ambient humidity	<95% non-condensing

11 Declaration from compliance from the EU

 See annex

12 WEEE



At the time of disposal, equipment bearing this symbol must be treated as special waste, to be carried out in accordance with the legislation of the respective countries on disposal, the environmentally ratio reprocessing and recycling of electrical and electronic appliances.

13 Contact

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13704 LA CIOTAT Cedex, France
Tél. 04 42 98 06 06 - Fax 04 42 04 53 51

Designed in Switzerland / Made in EU