

MSI-i, MSI-ix Modular Safety Interfaces, Category 4



MSI-i, MSI-ix

The modular safety interface MSI-i from Leuze lumiflex serves as a control module for cyclical control and rear area monitoring at mechanical and hydraulic presses. In addition, the version MSI-ix allows the connection of a second optoelectronic protective device or an Emergency Stop command device or safety switch.

Advantages

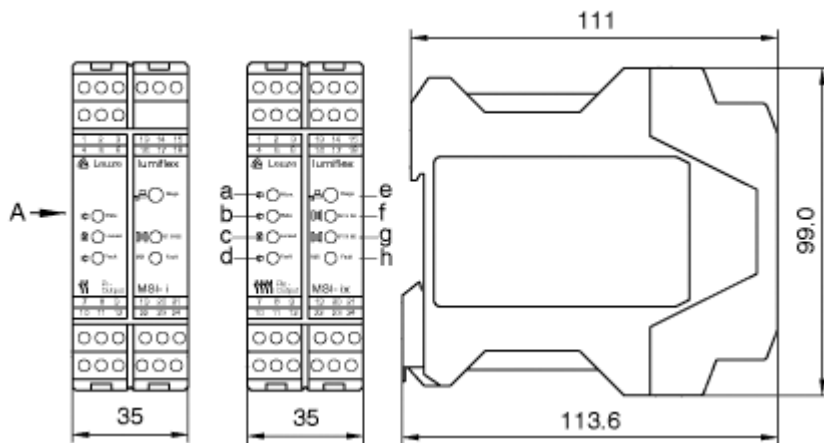
- Safety interface, Type 4, in accordance with EN/IEC 61496-1 or EN 954-1, Cat. 4
- 30 s time monitoring during cyclical operation
- 2 normally open contacts, 6 A max., or 2 failsafe pnp outputs, 0.5 A
- RS 232 interface for PC-supported diagnostics and easy start-up
- Status outputs "relay status" and "start/restart interlock locked"
- Plug-in connection terminals and plug-in output subassemblies
- Counting of relay operations with pre-failure message for preventive maintenance
- Warning output "relay life expectancy reached, recommend relay replacement"
- Housing width: 35 mm

MSI-i, MSI-ix

Function

Features	MSI-i	MSI-ix
Maximum safety category (EN 954-1)	4	4
Stop category (IEC-, EN 60204-1)	0	0
Max. number of AOPDs, Type 2, or Emergency Stop command devices (Cat.2)	2	4
Max. number of AOPDs, Type 4, or Emergency Stop command devices (Cat. 4)	1	2
Cross circuit monitoring	x	x
Start/restart interlock	x	x
Static relay monitoring	x	x
Dynamic relay monitoring	x	x
RS 232 diagnostics interface	x	x
Status output "system error"	x	x
Warning "relay replacement necessary"		x
Cyclical control (single and double break)	x	x
30 s time monitoring for cyclical operation	x	x
Secondary switching device (SSD) output	x	x

MSI-i, MSI-ix
Dimensional Drawings

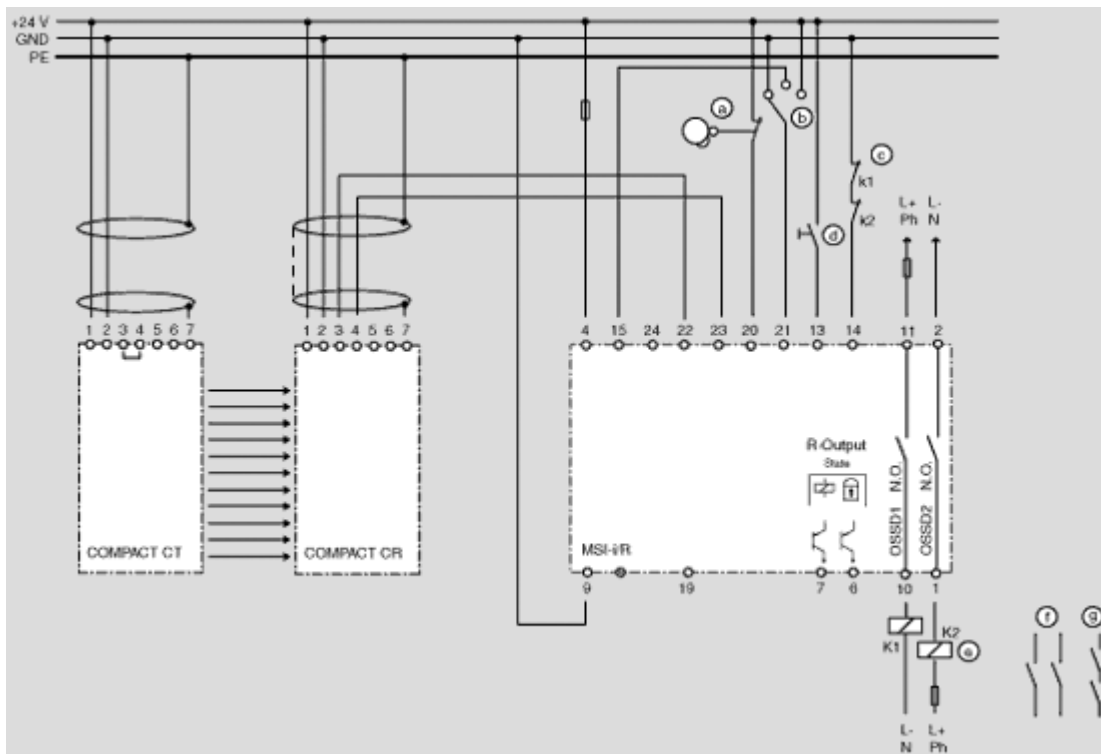


- a) Theoretical relay life expectancy reached (LED red)
- b) Safety output status (LED red/green)
- c) Start/restart interlock locked (LED yellow)
- d) Error in safety output module (LED red)
- e) RS 232 diagnostics output
- f) AOPDs 3 and 4 protected field free (LED green)
- g) AOPDs 1 and 2 protected field free (LED green)
- h) MSI error (LED red)

MSI-i, MSI-ix
Electrical Connection


Application drawing MSI-i/R

Modular Safety Interface MSI-i/R with COMPACT safety light grid/curtain, Type 4.



- a) Cycle clearance/test
- b) operating mode switch (GND=guard; PIN 15 = single break; +24V = double break)
- c) Feedback circuit for relay monitoring
- d) Start/restart button
- e) Positively guided relay or motor relay, provide suitable spark suppression
- f) Switching off path 2-channel*
- g) Switching off path 1-channel*

* always use both contacts in the switching off path



Pay attention to the operating manual of the components please.

MSI-i, MSI-ix
Technical Data

Modular Safety Interface	MSI-i/R	MSI-ix/Rx	MSI-i/T	MSI-ix/Tx
Max. safety category (EN954-1), Type in accordance with IEC-, EN 61496-1,	4			
Stop category (IEC-, EN60204-1)	0			
Response time: AOPD Type 4 with semiconductor output	18 ms		8 ms	
Response time: AOPD Type 4 with relay output, AOPD Type 2, safety switch	54 ms		44 ms	
Reactivation time	100 ms			
Supply voltage	24 V DC \pm 15% (115 V/230V power supply as accessory)			
Max. load on the safety outputs (2 normally open contacts 2pnp semiconductor)	60V DC, 250 V AC, 6 A max.		24 V DC, 500 mA	
Max. load on the safety outputs (1 normally open contact)	-	60V DC, 250 V AC, 6 A max.	-	-
Ambient temperature operation/storage	0..+55°/ -25...+70°			
Dimensions (HxBxT) [mm]	99 x 35 x 111,5 mm			