

## Technical data sheet

### Safe I/O module

Part no.: 50132991

MSI-EM-IO84-03

#### Contents

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- Dimensioned drawings
- Electrical connection
- Circuit diagrams
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Figure can vary



## Technical data

### Basic data

Series	MSI-EM
Application	Monitoring of safety functions
Number of safe I/Os	8 IN, 4 OUT

### Functions

Functions	Extension module for the MSI 400 configurable safety control Extension with 8 safe inputs and 4 safe outputs (OSSDs)
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### Characteristic parameters

SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
Performance Level (PL)	e, EN ISO 13849-1
PFH <sub>D</sub>	6E-09 per hour
Mission time T <sub>M</sub>	20 years, EN ISO 13849-1
Category	4, EN ISO 13849

### Electrical data

#### Performance data

Supply voltage U <sub>B</sub>	24 V, DC, -30 ... 25 %
Power consumption, max.	1.1 W

#### Output circuit

Number of outputs	4 Piece(s)
Type of digital output	Transistor
Short circuit protection, outputs	Yes
Min. voltage permitted at the output	16.8 V
Max. voltage permitted at the output	30 V
Output current	4 A

#### Control circuit

Number of inputs	8 Piece(s)
Voltage permitted at the input	30 V
Input current at signal 1	8 mA

### Interface

Type	Internal bus (SBUS+)
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### Connection

Number of connections	1 Piece(s)
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#### Connection 1

Function	Signal IN Signal OUT Voltage supply
Type of connection	Terminal
Type of terminal	Spring-cage terminal
No. of pins	16 -pin

### Cable properties

Connection cross sections	2 x 0.2 to 1.5 mm <sup>2</sup> , wire 2 x 0.2 to 1.5 mm <sup>2</sup> , wire 2 x 0.25 to 1.5 mm <sup>2</sup> , wire with wire-end sleeve (pressed in trapezium shape)
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### Mechanical data

Dimension (W x H x L)	22.5 mm x 107 mm x 120.8 mm
Net weight	180 g
Housing color	Gray
Type of fastening	Snap-on mounting

### Environmental data

Ambient temperature, operation	-25 ... 65 °C
Ambient temperature, storage	-25 ... 70 °C
Relative humidity (non-condensing)	10 ... 95 %

### Certifications

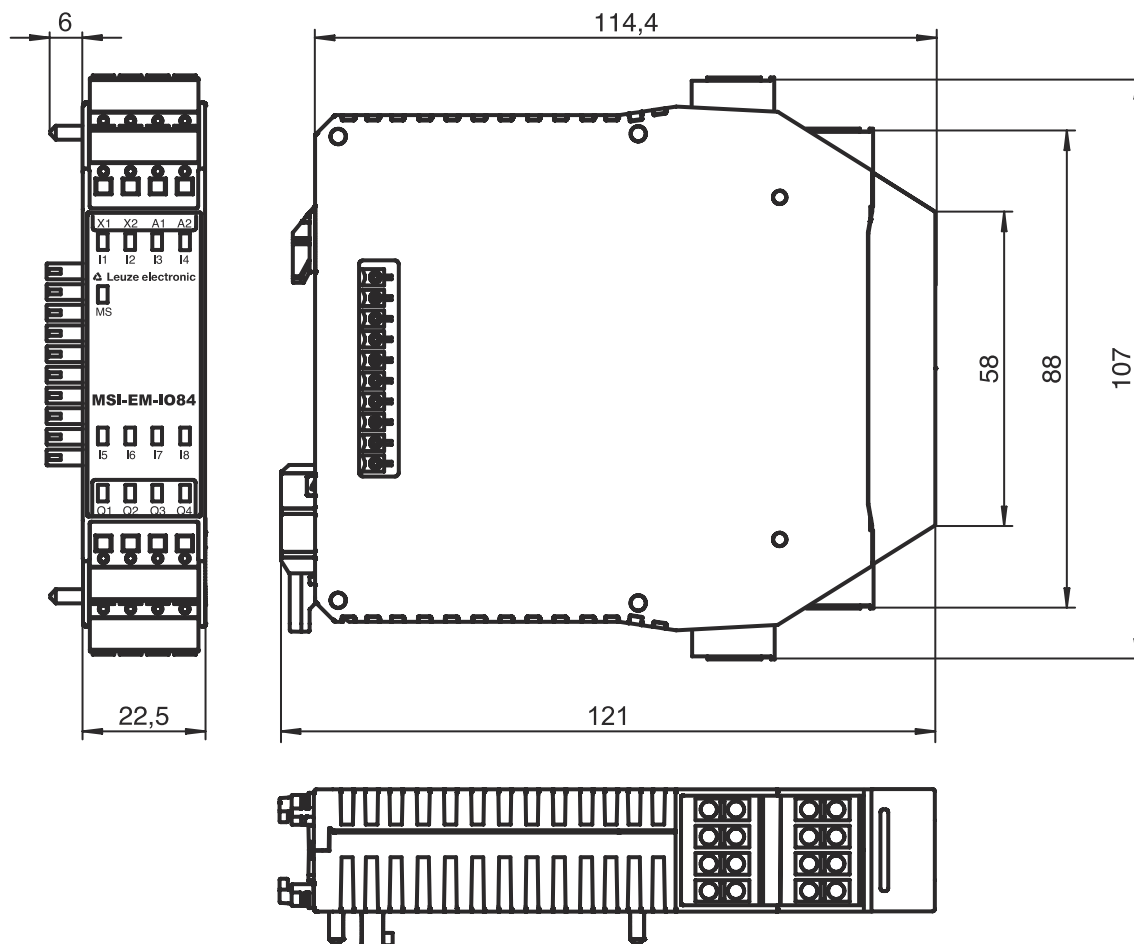
Degree of protection	IP 20 (terminals) IP 40 (housing)
Protection class	III
Certifications	c UL US TÜV Rheinland
Vibration resistance	5 ... 500 Hz
Test procedure for oscillation in accordance with standard	EN 60068-2-6
Shock resistance, single shock	30 g, 11 ms, EN 60068-2-27
Shock resistance, continuous shock	10 g, 16 ms, EN 60068-2-29

### Classification

Customs tariff number	85364900
ECLASS 5.1.4	27242204
ECLASS 8.0	27242204
ECLASS 9.0	27242204
ECLASS 10.0	27242204
ECLASS 11.0	27242204
ECLASS 12.0	27242204
ECLASS 13.0	27242204
ETIM 5.0	EC001419
ETIM 6.0	EC001419
ETIM 7.0	EC001419
ETIM 8.0	EC001419

# Dimensioned drawings

All dimensions in millimeters



## Electrical connection

### Connection 1

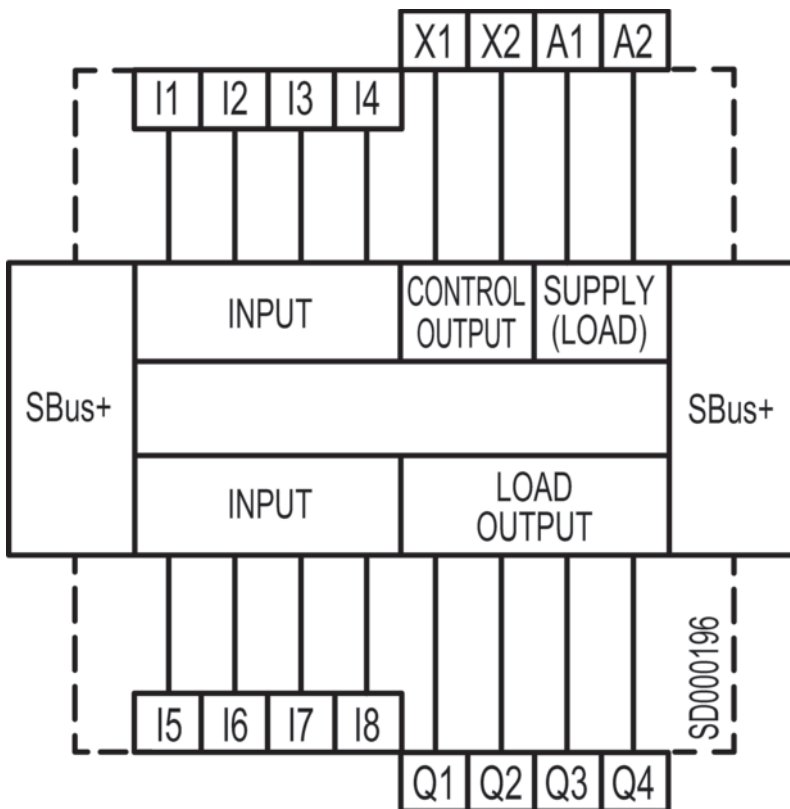
Function	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Terminal
Type of terminal	Spring-cage terminal
No. of pins	16 -pin

Terminal	Assignment
A1	+24 V
A2	GND
I1	Safe input
I2	Safe input
I3	Safe input
I4	Safe input
I5	Safe input
I6	Safe input
I7	Safe input

# Electrical connection

Terminal	Assignment
I8	Safe input
Q1	Safe output
Q2	Safe output
Q3	Safe output
Q4	Safe output
X1	Test signal output
X2	Test signal output

## Circuit diagrams



## Notes

**Observe intended use!**

- The product may only be put into operation by competent persons.
- Only use the product in accordance with its intended use.