

## Technical data sheet

### Safe I/O module

Part no.: 50132990

MSI-EM-IO84-01

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For illustration purposes only



## Technical data

### Basic data

|                     |                                |
|---------------------|--------------------------------|
| Series              | MSI-EM                         |
| Type                | Safe I/O module                |
| 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<br>Extension with 8 safe inputs and 4 safe outputs (OSSDs) |
|-----------|---|

### 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

|                                      |                        |
|--------------------------------------|------------------------|
| <b>Performance data</b>              |                        |
| Supply voltage U <sub>B</sub>        | 24 V, DC, -30 ... 25 % |
| Power consumption, max.              | 1.1 W                  |
| <b>Output circuit</b>                |                        |
| 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                    |
| <b>Control circuit</b>               |                        |
| 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+) |
|------|----------------------|

### Connection

|                       |   |
|-----------------------|---|
| Number of connections | 1 Piece(s)                                |
| <b>Connection 1</b>   |   |
| Function              | Signal IN<br>Signal OUT<br>Voltage supply |
| Type of connection    | Terminal                                  |
| Type of terminal      | Screw terminal                            |
| No. of pins           | 16 -pin                                   |

### Cable properties

|                           |  |
|---------------------------|--|
| Connection cross sections | 1 x 0.2 to 2.5 mm <sup>2</sup> , wire<br>1 x 0.2 to 2.5 mm <sup>2</sup> , wire<br>1 x 0.25 to 2.5 mm <sup>2</sup> , wire with wire-end sleeve<br>2 x 0.2 to 1.0 mm <sup>2</sup> , wire<br>2 x 0.2 to 1.0 mm <sup>2</sup> , wire<br>2 x 0.25 to 1.0 mm <sup>2</sup> , wire with wire-end sleeve |
|---------------------------|--|

### Mechanical data

|                       |                              |
|-----------------------|------------------------------|
| Dimension (W x H x L) | 22.5 mm x 96.5 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

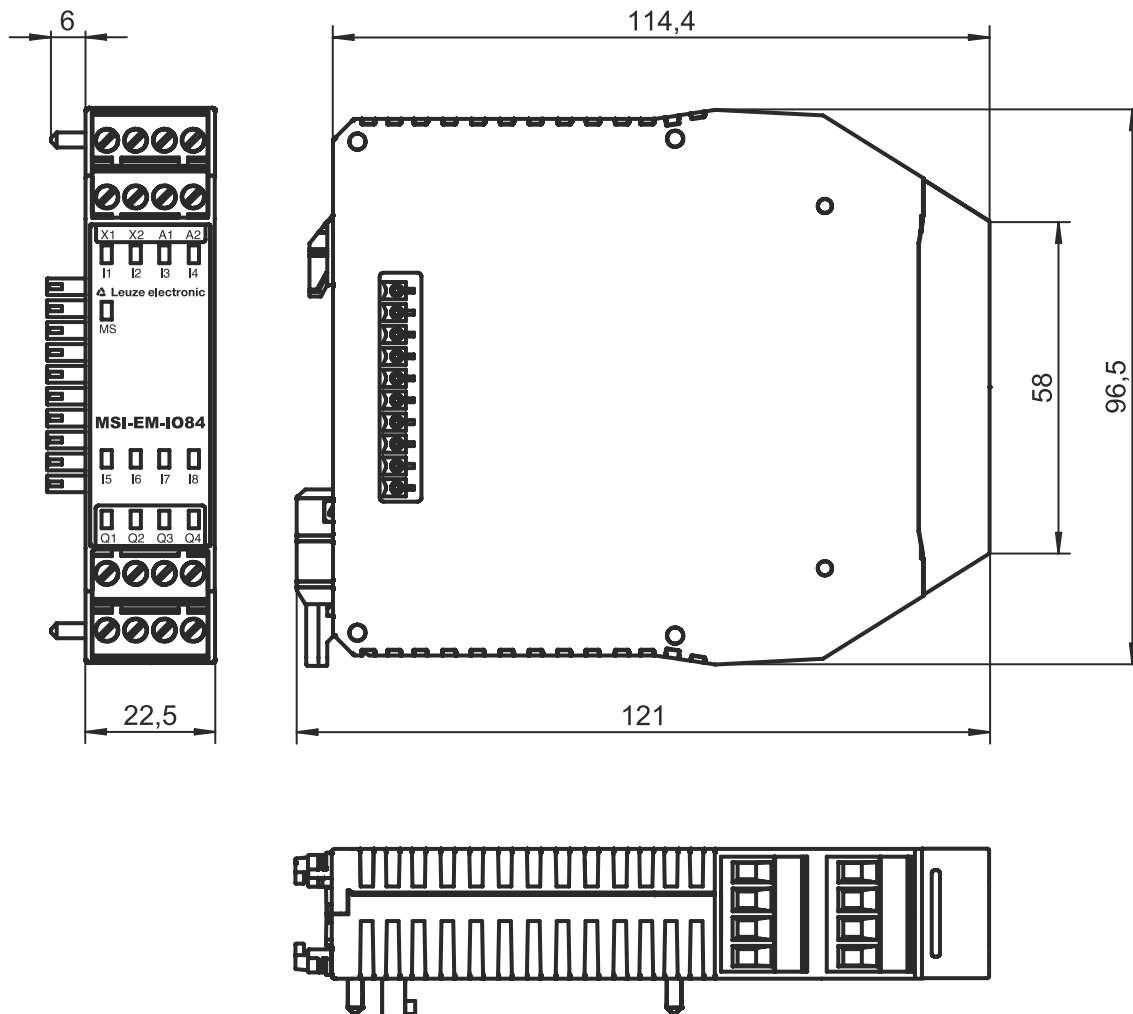
|  |                                      |
|--|--------------------------------------|
| Degree of protection                                       | IP 20 (terminals)<br>IP 40 (housing) |
| Protection class   | III                                  |
| Approvals  | c UL US<br>TÜV Rheinland             |
| 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 |
| ECLASS 14.0           | 27242204 |
| ECLASS 15.0           | 27242204 |
| ECLASS 16.0           | 27242204 |
| ETIM 5.0              | EC001419 |
| ETIM 6.0              | EC001419 |
| ETIM 7.0              | EC001419 |
| ETIM 8.0              | EC001419 |
| ETIM 9.0              | EC001419 |
| ETIM 10.0             | EC001419 |
| UNSPSC 26.08          | 32151601 |

# Dimensioned drawings

All dimensions in millimeters



## Electrical connection

### Connection 1

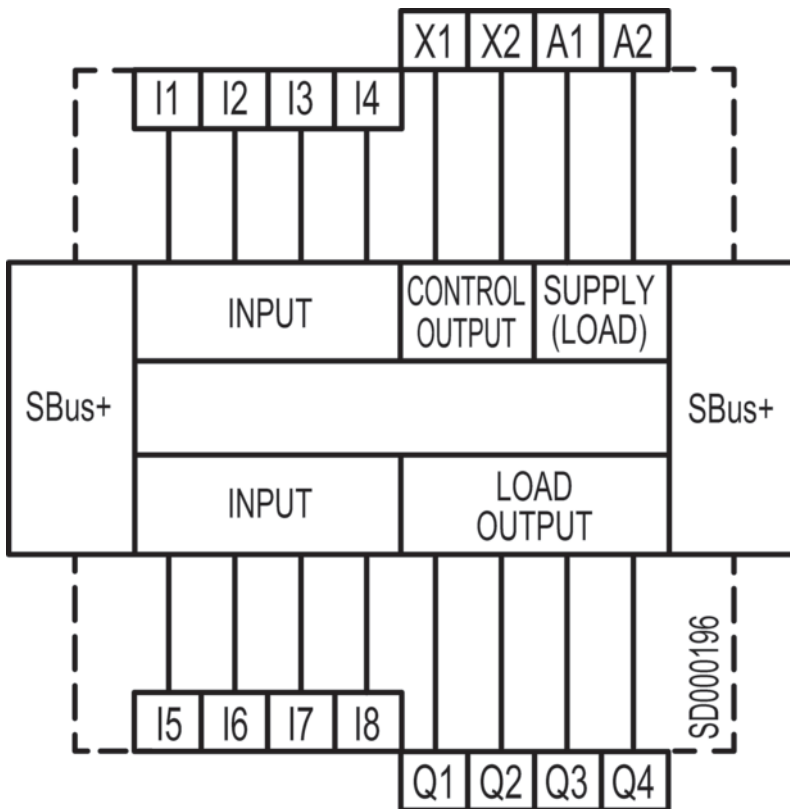
|                    |   |
|--------------------|---|
| Function           | Signal IN<br>Signal OUT<br>Voltage supply |
| Type of connection | Terminal                                  |
| Type of terminal   | Screw terminal                            |
| No. of pins        | 16 -pin                                   |

| Terminal | Assignment |
|----------|------------|
| A1       | +24 V      |
| A2       | GND        |
| I1       | Safe input |
| I2       | Safe input |
| I3       | Safe input |
| I4       | Safe input |

# Electrical connection

| Terminal | Assignment         |
|----------|--------------------|
| I5       | Safe input         |
| I6       | Safe input         |
| I7       | Safe input         |
| 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.