



Figure can vary

**Part no.: 547804**  
**MSI-EM201-8I4IO**  
**Safe I/O module**



## Contents

- Technical data
- Electrical connection

## Technical data

<b>Basic data</b>	
Series	MSI-EM
Application	Monitoring of safety functions
Number of safe I/Os	8 IN, 4 programmable I/O
<b>Functions</b>	
Functions	Extension module for the MSI 200 programmable safety controller Extension with 8 safe inputs and 4 safe, freely configurable channels- either as safe inputs or outputs (OSSDs) Monitoring of all safe functions in machines and systems
<b>Characteristic parameters</b>	
SIL	3 , IEC 61508
SILCL	3 , IEC/EN 62061
Performance Level (PL)	e , EN ISO 13849-1
PFH <sub>D</sub>	0.000000016 per hour
PFH <sub>D</sub>	1,6E-09 per hour
Mission time T <sub>M</sub>	20 years , EN ISO 13849-1
Category	4 , EN ISO 13849
<b>Electrical data</b>	
Protective circuit	Overvoltage protection
<b>Performance data</b>	
Supply voltage U <sub>B</sub>	24 V , DC , -15 ... 10 %
Overvoltage category	III
<b>Input data logic</b>	
Diagnostics display	2 LEDs (green, red)
Reaction time, max.	30 ms
Nominal input voltage U <sub>N</sub>	24 V DC , -15 ... 10 % , (A1/A2)
Typ. current consumption at U <sub>N</sub> (A1/A2)	100 mA
Bridging of voltage drops	20 ms
<b>Inputs</b>	
Number of safe inputs	12 Piece(s) , (up to SIL 3 / IEC 62061)
Status indicator	1 LED (green) per input
Nominal voltage U <sub>N</sub>	24 V DC
Typ. current consumption at U <sub>N</sub>	4 mA
Signal level at "0", max.	5 V
Signal level at "1", min.	11 V

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### Outputs

Number of safe semiconductor outputs	4 Piece(s) , (Cat. 4 / EN ISO 13849-1 / EN 954) for configuration of the 4 inputs/outputs as outputs
Number of clock/signal outputs	2 Piece(s) , Can be used as pulse output or signal output depending on configuration

### Output data

Nominal voltage	24 V DC , -15 ... 10 %
Status indicator	1 LED (green) per output
Limiting continuous current	0.5 A

### Clock outputs

Nominal voltage	24 V DC
Limiting continuous current	50 mA

### Signal outputs

Nominal voltage	24 V DC
Limiting continuous current	50 mA

### Timing

Readiness delay	10,000 ms
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### Connection

Number of connections	2 Piece(s)
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#### Connection 1

Type of connection	Terminal
Function	Connection to device Signal IN Signal OUT Voltage supply
Type of terminal	Screw terminal
No. of pins	16 -pin

#### Connection 2

Type of connection	TBUS DIN rail
Function	Internal communication interface

### Cable properties

Connection cross sections	0.2 to 2.5 mm <sup>2</sup>
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### Mechanical data

Dimension (W x H x L)	22.5 mm x 114.5 mm x 99 mm
Housing material	Plastic , Unreinforced polyamide PA
Net weight	180 g
Housing color	Gray
Type of fastening	Snap-on mounting

### Environmental data

Ambient temperature, operation	-5 ... 45 °C
Ambient temperature, storage	-20 ... 70 °C

### Certifications

Degree of protection	IP 20 (housing) IP 20 (terminals)
Certifications	c UL US TÜV Rheinland

**Classification**

Customs tariff number	85371098
eCl@ss 8.0	27371819
eCl@ss 9.0	27371819
ETIM 5.0	EC001449
ETIM 6.0	EC001449

**Electrical connection**

Connection 1	
Type of connection	Terminal
Function	Connection to device Signal IN Signal OUT Voltage supply
Type of terminal	Screw terminal
No. of pins	16 -pin

Terminal	Assignment
A1	Supply voltage
A2	Supply voltage
TM0	Test pulse output or signal output
TM1	Test pulse output or signal output
IO0	Input or safe output
IO1	Input or safe output
IO2	Input or safe output
IO3	Input or safe output
I4	Input
I5	Input
I6	Input
I7	Input
I8	Input
I9	Input
I10	Input
I11	Input

Connection 2	
Type of connection	TBUS DIN rail
Function	Internal communication interface