



Figure can vary

Part no.: 547814
MSI-EM202-8I4IO
Safe I/O module



Contents

- Technical data
- Electrical connection

Technical data

Basic data	
Series	MSI-EM
Application	Monitoring of safety functions
Number of safe I/Os	8 IN, 4 programmable I/O
Functions	
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
Characteristic parameters	
SIL	3 , IEC 61508
SILCL	3 , IEC/EN 62061
Performance Level (PL)	e , EN ISO 13849-1
PFH _D	0.000000016 per hour
PFH _D	1,6E-08 per hour
Mission time T _M	20 years , EN ISO 13849-1
Category	4 , EN ISO 13849
Electrical data	
Protective circuit	Overvoltage protection
Performance data	
Supply voltage U _B	24 V , DC , -15 ... 10 %
Overvoltage category	III
Input data logic	
Diagnostics display	2 LEDs (green, red)
Reaction time, max.	30 ms
Nominal input voltage U _N	24 V DC , -15 ... 10 % , (A1/A2)
Typ. current consumption at U _N (A1/A2)	100 mA
Bridging of voltage drops	20 ms
Inputs	
Number of safe inputs	12 Piece(s) , (up to SIL 3 / IEC 62061) of which 4 are configurable as input or output
Status indicator	1 LED (green) per input
Nominal voltage U _N	24 V DC
Typ. current consumption at U _N	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	Spring-cage 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 1.5 mm ²
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Mechanical data

Dimension (W x H x L)	22.5 mm x 114.5 mm x 112 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	Spring-cage 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