

Technical data sheet

Safety control

Part no.: 547802

MSI101



Figure can vary

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- Technical data
- Electrical connection
- Accessories



Technical data

Basic data

Series	MSI 100
Application	Monitoring of safety functions
Number of safe I/Os	20 IN, 4 OUT

Functions

Functions	Freely configurable safety main module Monitoring of all safe functions in machines and systems Transfer of diagnostic data via MSI-FB fieldbus module (optional)
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Characteristic parameters

SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
Performance Level (PL)	e, EN ISO 13849-1
MTTF _d	8,324 years, EN ISO 13849-1
PFH _D	1.4E-08 per hour
Mission time T _M	20 years, EN ISO 13849-1
Category	4, EN ISO 13849

Electrical data

Protective circuit	Overvoltage protection Short circuit protected
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Performance data

Supply voltage U _B	24 V, DC, -15 ... 10 %
Current consumption (without load), max.	200 mA
Overvoltage category	III

Input data logic

Diagnostics display	4 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)	110 mA
Bridging of voltage drops	20 ms

Inputs

Number of safe inputs	20 Piece(s), (up to SIL 3 / IEC 62061)
Status indicator	20 LEDs (green)
Nominal voltage U _N	24 V DC, (to ground A1/A2)
Typ. current consumption at U _N	4 mA
Signal level at "0", max.	5 V
Signal level at "1", min.	11 V

Outputs

Number of signal outputs	4 Piece(s)
Number of safe semiconductor outputs	4 Piece(s), (Cat. 4 / EN ISO 13849-1 / EN 954)
Number of ground-switching outputs	2 Piece(s)
Number of cycle outputs	2 Piece(s)

Output data

Nominal voltage	24 V DC, -15 ... 10 %, (24 V / 0 V)
Status indicator	4 LEDs (green)
Limiting continuous current	2 A

Clock outputs

Nominal voltage	24 V DC, (A1/A2)
Limiting continuous current	100 mA

Signal outputs

Nominal voltage	24 V DC, (A1/A2)
Limiting continuous current	100 mA

Timing

Readiness delay	4,000 ms
Recovery time, restart, max.	5 ms

Service interface

Type	USB
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USB

Function	Configuration via software
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Connection

Number of connections	3 Piece(s)
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Connection 1

Function	Connection to device Signal IN Signal OUT Voltage supply
Type of connection	Terminal
Type of terminal	Screw terminal
No. of pins	40 -pin

Connection 2

Function	Configuration interface
Type of connection	USB
Connector type	USB 2.0 Mini-A

Connection 3

Function	Internal communication interface
Type of connection	TBUS DIN rail

Cable properties

Connection cross sections	0.2 to 2.5 mm ²
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Mechanical data

Dimension (W x H x L)	67.5 mm x 99 mm x 114.5 mm
Housing material	Plastic
Plastic housing	Unreinforced polyamide PA
Net weight	430 g
Housing color	Gray
Type of fastening	Snap-on mounting

Environmental data

Ambient temperature, operation	-20 ... 55 °C
Ambient temperature, storage	-20 ... 70 °C

Certifications

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

Technical data

Customs tariff number	85371091
ECLASS 5.1.4	27371800
ECLASS 8.0	27371819
ECLASS 9.0	27371819
ECLASS 10.0	27371819
ECLASS 11.0	27371819
ETIM 5.0	EC001449
ETIM 6.0	EC001449
ETIM 7.0	EC001449

Electrical connection

Connection 1

Function	Connection to device
	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Terminal
Type of terminal	Screw terminal
No. of pins	40 -pin

Terminal	Assignment
A1	Supply for logic- or signal output
A1	Supply for logic- or signal output
A2	Supply for logic- or signal output
A2	Supply for logic- or signal output
T0	Test pulse output
T0	Test pulse output
T1	Test pulse output
T1	Test pulse output
24 V	Supply for safe output
0 V	Supply for safe output
O0-	Ground-switching output
O1-	Ground-switching output
M0	Signal output
M1	Signal output
M2	Signal output
M3	Signal output
I0	Safe input
I1	Safe input
I2	Safe input
I3	Safe input
I4	Safe input
I5	Safe input
I6	Safe input
I7	Safe input
I8	Safe input
I9	Safe input
I10	Safe input
I11	Safe input
O0	Safe output
O1	Safe output
O2	Safe output
O3	Safe output
I12	Safe input
I13	Safe input

Electrical connection

Terminal	Assignment
I14	Safe input
I15	Safe input
I16	Safe input
I17	Safe input
I18	Safe input
I19	Safe input

Connection 2

Function	Configuration interface
Type of connection	USB
Connector type	USB 2.0 Mini-A

Connection 3

Function	Internal communication interface
Type of connection	TBUS DIN rail

Accessories

Start-up/diagnosis

	Part no.	Designation	Article	Description
   	50117011	KB USB A - USB miniB	Service line	Suitable for interface: USB Connection 1: USB Connection 2: USB Shielded: Yes Cable length: 1,500 mm Sheathing material: PVC

Note



A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.