

Technical data sheet Safety control

Part no.: 50142625

MSI 420.TMC-03

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For illustration purposes only



Technical data

Basic data

Series	MSI 420
Type	Safety control
Application	TMC 66 Legacy

Functions

Functions	Pre-configured safety control for use as TMC66 substitute. Note: The system is not designed for the connection of a muting signal from the PLC. Software functionality acc. to ISO 13849-1 (SRASW).
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Characteristic parameters

SIL	3, IEC 61508
SILCL	3, IEC/EN 62061
Performance Level (PL)	c, EN ISO 13849-1
PFH _D	4,3E-09 per hour
Mission time T _M	20 years, EN ISO 13849-1
Category	4, EN ISO 13849

Electrical data

Performance data	
Supply voltage U _B	24 V, DC, -30 ... 25 %
Power consumption, max.	3.3 W
Output circuit	
Number of outputs	8 Piece(s)
Max. number of integrated digital outputs	8 Piece(s)
Type of digital output	Transistor
Short circuit protection, outputs	Yes
Min. voltage permitted at the output	16.2 V
Max. voltage permitted at the output	30 V
Output current	4 A
Control circuit	
Number of inputs	16 Piece(s)
Voltage permitted at the input	30 V
Max. rated control supply voltage at DC	30 V
Min. rated control supply voltage at DC	15.6 V
Input current at signal 1	2.3 mA

Interface

Type	Internal bus (SBUS+)
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Service interface

Type	Ethernet, USB
Ethernet	
Function	Configuration via software
USB	
Function	Configuration via software

Connection

Number of connections	3 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	22 -pin

Connection 2

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

Connection 3

Function	Configuration interface
Type of connection	RJ45

Cable properties

Connection cross sections	2 x 0.2 to 1.5 mm ² , wire
	2 x 0.2 to 1.5 mm ² , wire
	2 x 0.25 to 1.5 mm ² , wire with wire-end sleeve (pressed in trapezium shape)

Mechanical data

Dimension (W x H x L)	45 mm x 107 mm x 121 mm
Net weight	290 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

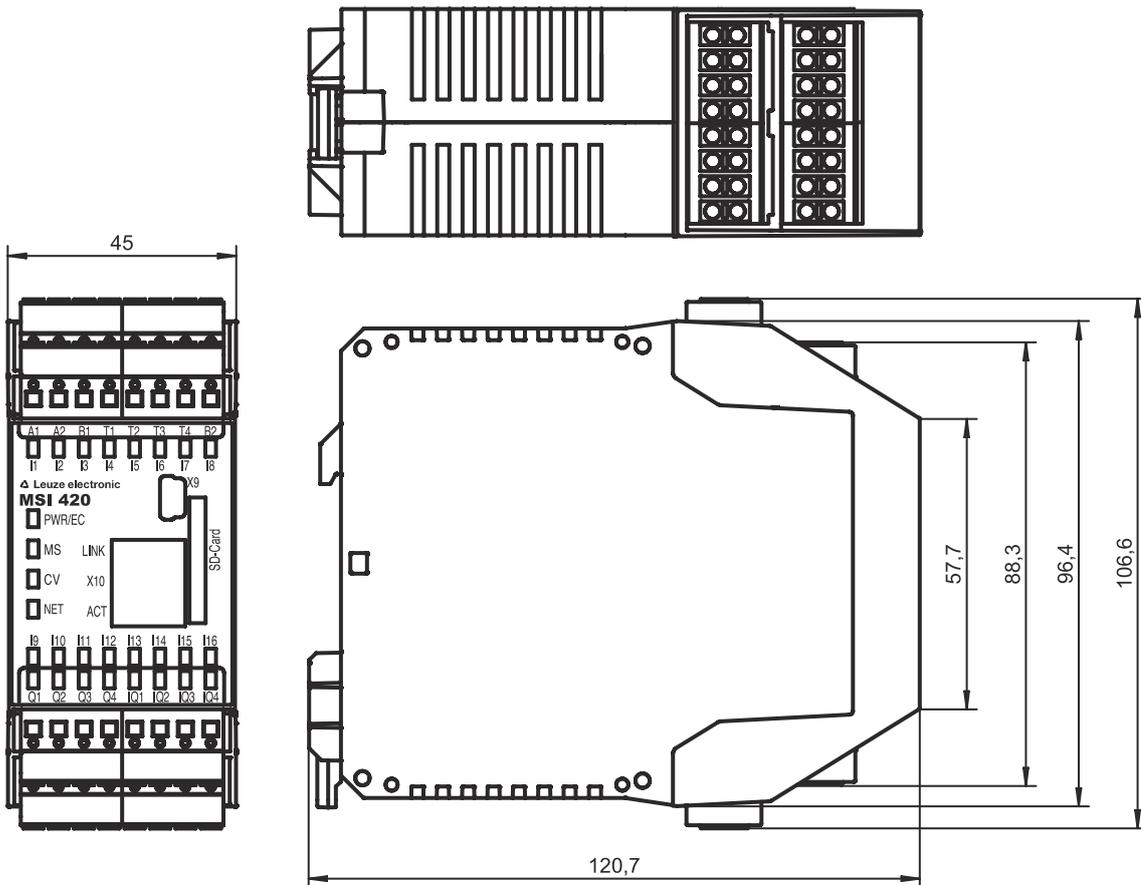
Degree of protection	IP 20
Protection class	III
Approvals	c UL US TÜV Rheinland
Vibration resistance	5 ... 150 Hz
Test procedure for oscillation in accordance with standard	EN 60068-2-6
Shock resistance, single shock	30 g, 11 ms, EN 60068-2-27
Shock resistance, continuous shock	10 g, 16 ms, EN 60068-2-29

Technical data

Customs tariff number	85371091
ECLASS 5.1.4	27243001
ECLASS 8.0	27243101
ECLASS 9.0	27243101
ECLASS 10.0	27243101
ECLASS 11.0	27243101
ECLASS 12.0	27243101
ECLASS 13.0	27243101
ECLASS 14.0	27243101
ECLASS 15.0	27243101
ECLASS 16.0	27243101
ETIM 5.0	EC002538
ETIM 6.0	EC002538
ETIM 7.0	EC002538
ETIM 8.0	EC002538
ETIM 9.0	EC002538
ETIM 10.0	EC002538

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	22 -pin

Terminal	Assignment
A1	+24 V
A2	GND
B1	+24 V (outputs Q1 - Q4)
B2	+24 V (outputs IQ1 - IQ4)
I1	SLS
I2	Start/activation input
I3	Contact monitoring input
I4	Start 1 edge
I5	Start 2 edge
I6	Control 1
I7	Control 2
I10	Selection of operating mode
I11	Selection of operating mode
I12	Selection of operating mode
IQ1	"Error" signal output
IQ2	Safety On signal output
IQ3	Start 1 active
IQ4	Start 2 active
Q1	Safety output 1
Q2	Safety output 2
Q3	Indicator light 1
Q4	"Error indication" signal output

Connection 2

X9

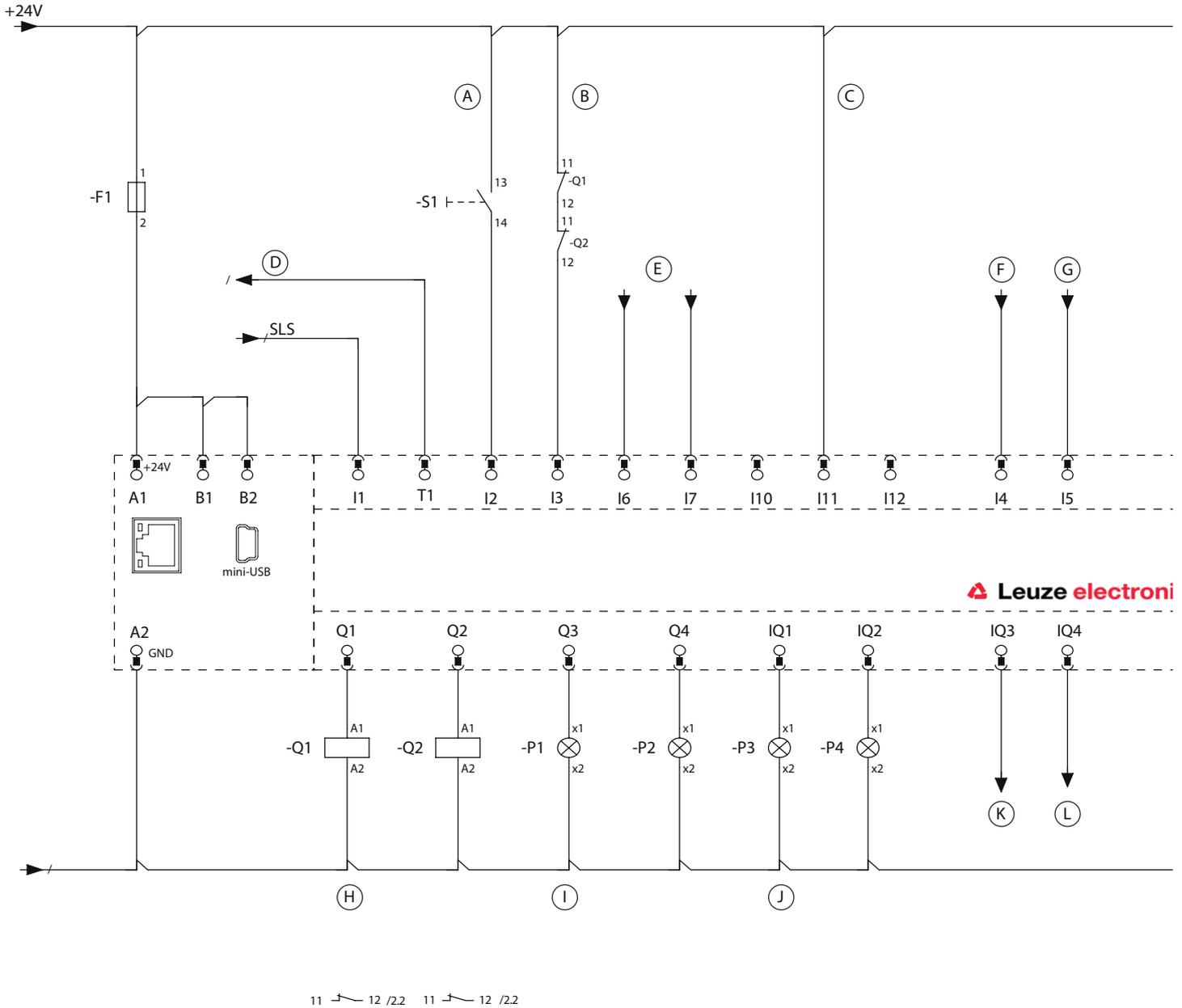
Function	Configuration interface
Type of connection	USB
Connector type	USB 2.0 Mini-A

Connection 3

X10

Function	Configuration interface
Type of connection	RJ45

Circuit diagrams



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|--------------------------|------------------|-----------------------|
| A Start/activation input | E Control 1-2 | I Indicator light 1 |
| B Contactor monitoring | F Start 1 edge | J Diagnostics display |
| C Operating mode 3 | G Start 2 edge | K Start 1 active |
| D SLS activation | H Safety outputs | L Start 2 active |

11 12 /2,2 11 12 /2,2

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.