SIL2-Transmitter power supply MSK 200i-TE

Powerful Features:

- SIL2-Transmitter in DuoTec-Failsafe Technology with self-monitoring
- Input for the supply of 2-wire transmitters
- Input for mA-current
- Analogue output for mA and V
- 3 individually adjustable limit values
- 1 service alarm
- Gradient alarm function
- Square root of the output signal
- Safe galvanic separation

Simple Operation:

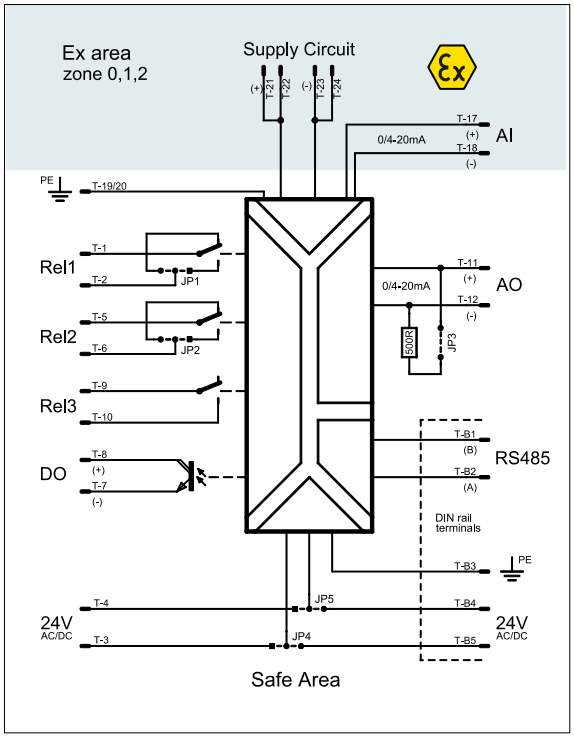
- Configuration / visualization software WINSMART
- Diagnostic manager with fault memory
- BUS-Integration (RS 232 and RS 485)
- Power supply via DIN rail or terminal
- Simple assembling

Certificated:

- IEC 61508 / 61511 SIL2
- TÜV certificated according to DIN 19250 AK4
- ATEX II (1) G [EEx ia] IIC and ATEX II (2) G [EEx ib] IIC

Function

The transmitter power supply unit MSK200i-TE is used for supplying of 2-wire transmitters and for processing of analogue mA-signals.
An electrically isolated mA / V output is available. The HART signal connection to the intrinsically safe power supply circuit can be done by using the front socket.
Alarm monitoring takes place by two relay contacts and one transistor output. Additional another relay contact output is available for signalizing the safety functions. All output circuits can be used in safety circuits and are galvanic isolated from each other and from the power supply.



บริษัท แฟ็คโต คอมโพเนนส์ จำกัด | FACTO COMPONENTS CO., LTD.
845/3-4 ชั้น 3 ถ.เทพารักษ์ ต.เทพารักษ์ อ.เมือง จ.สมุทรปราการ 10270
TEL. 02-384-5701, 02-753-3652 | LINE OA: @134ovdbx | Website : www.factocomponents.co.th | Email : info@factocomponents.co.th

Technical Data

Analogue input of MSK200i-TE

A parameterizable filter of first order of (0.1 – 99.9)s!

mA-measuring input AI

mA-measurement range:	0...22 mA, free configurable
Input resistance:	51 Ω + 2x U_D

Supply circuit (SP)

A parameterizable filter of first order of (0.1 – 99.9)s!

Supply circuit SP

U_{max}:	22.4 V at 4 mA load
U_{min}:	17.3 V at 20 mA load
I_{max}:	24 mA
P_{max}:	360 mW

Analogue Output (AO)

A parameterizable filter of first order of (0.1 – 9.9)s!

Galvanic isolation between input, analogue output and power supply!

	Constant current	Voltage
Max. range:	0...22 or 22...0 mA	0...11 or 11...0 V
Standard range:	0/4-20 mA	0/2-10 V
Load resistance:	≤ 500 Ω at 20 mA	min. 50 kΩ
Accuracy:	0.02 % of final value	0.02 % of final value
Burden influence:	<0.005 %	0.5 % at R_L=100 kΩ
Rise time:	<150 ms	<150 ms

Contact Outputs (REL1, REL2) Transistor Outputs (DO)

Alarm conditions are indicated with yellow front-side LED's!

Number:	3 independently adjustable limit values
Setting:	physically values with WINSMART?-Program
Accuracy:	like measured value accuracy
Alarm type:	free configurable
Alarm output:	2x relay contact and 1x transistor output
Alarm delay:	free configurable from 0 ... 9.9 s
Switch hysteresis:	free configurable from 0 ... 99.9 %
Mode of operation:	operating or zero current principle
Alarm function:	signal monitoring + maintenance report

Contact outputs REL1/REL2

Contact:	Opening / closing (via jumper adjustment)
Breaking capacity:	max. 62.5 VA resp. max. 30 W
Voltage:	max. 125 V AC or 110 V DC
Switching current:	max. 1 A
Min. contact voltage:	10 mVDC
Min. contact current:	10 µA
Contact material:	AG Pd + 10 µAu
Relay-type:	according to IEC 947-5-1 resp. EN60947

Transistor output DO

Switching power:	<1.4 W
Switching voltage:	<28 V DC
Switching current:	<50 mA

Contact Output (REL3)

Alarm conditions are indicated with a red front-side LED!

Contact position:	closed in good condition
Contact data:	see REL1/REL2
Mode of operation:	zero current principle
Alarm function:	maintenance requirement report

Power supply

Supply indicator:	green LED signal = good condition
Power supply range:	19 … 30 VDC or 18 … 28 VAC

Power consumption

Feed separator:	1.6 W (at 24 VDC and 4 mA at AA) 2.1 W (at 24VDC and 20mA at AA)
Buffer amplifier:	1.1 W (at 24 VDC and 4 mA at AA) 1.4 W (at 24VDC and 20mA at AA)

Interfaces (COM, RS485, HART)

Galvanic separation of COM and RS485 to power supply and all other circuit elements!

COM/RS232:	via front socket for PC-connection
RS485:	Half-duplex, without scheduling
Baud rate:	9600 bps
Device address:	1-248
HART:	power supply circuit (0 … 3 kHz band width)

General data

Measuring value accuracy

Maximum:	<0.05 % of final value
Typical:	<0.025 % of final value

Temperature coefficient

Maximum:	<0.01 %/K
Typical:	<0.005 %/K

Galvanic separation

Input/output/supply:	300 Veff (rated insulation voltage, overvoltage category II, Contamination level 2, safe separation as per EN 61010, EN 50178); 2.5 kV AC testing voltage (50 Hz, 1 min.)
Input/output:	375 V (peak value as per EN 60079-11)
Input/supply:	375 V (peak value as per EN 60079-11)

Environmental condition

Acceptable temperature:	-20 °C … +60 °C
Storage/transport:	-30 °C … +80°C
Acceptable humidity:	10 % … 95 % r.H. without condensation

Electric connection

T-1 to T-12:	Screw-in connector /grey with 2.5 mm²
T-17 to T-24	Screw-in connector /blue with 2.5 mm²
T-B1 to T-B5:	TBUS- connector with 2.5 mm²

Housing

Material:	PBT
Protection class:	IP20
Combustibility:	V0 to UL
Dimensions (BxLxH):	22.5 mm x 114.5 mm x 99 mm without terminals
Weight:	250 g
Type:	terminal housing for DIN rail mounting
Installation/position:	arbitrary

Proceeding of self-monitoring

Measuring input:	1 monitoring cycle (tolerance adjustable)
Analogue output:	1 monitoring cycle (tolerance adjustable)
Supply voltages:	2 monitoring cycles
Transmitter-feed circuit:	1 monitoring cycle
Relay (REL1 … REL3):	indirect contact monitoring
Maintenance requirement:	Constant light of red front-LED and REL3-contakt opened

Conformity

Ex-directive (ATEX):	EN60079-0, EN60079-11, EN60079-26
EMV-directive 2004/108/EG:	EN61000-6-2, EN61000-6-4, EN61326-1

ATEX-Daten [EEx ia] IIC

Power supply circuits

Voltage U_i:	< 25.8 V
Current intensity I_i:	<65 mA
Power P_i:	<420 mW
Max. outer capacity C_o	83 nF
Max. outer inductivity L_o	4 mH

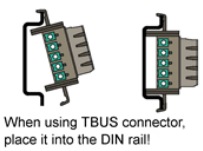
mA-input circuit:

Voltage U_i:	<30 V
Current intensity I_i:	<110 mA
Power P_i:	<700 mW
Max. capacity C_i	negligible
Max. inductivity L_i	negligible

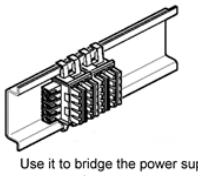
Mounting

The device must be operated outside a potentially explosive area only! ME-MAX-Housing is combinable with a TBUS Connector/ Support Rail Connector. Because of the TBUS-Connector, which is snapped in the DIN rail, the RS485 interface and the supply voltage can be wired convenient. The TBUS Connection occurs automatically in the grid of the participating devices. So there is no need for an elaborated preliminary or for subsequent work of the TBUS Connection anymore.

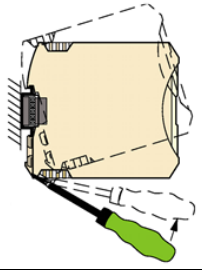
Snap in TBUS-CONNECTOR → turn HOUSING → DEVICE installed



When using TBUS connector, place it into the DIN rail!



Use it to bridge the power supply und the RS485 interface!



Mounting and removal

Observe the direction of the module and the TBUS connector when snapping into position!

FACTOCOMPONENTS INDUSTRIAL SUPPLY POINT