Temperature transmitter (electrically isolated)

MU 500-51-...
Temperature transmitter (Pt100)

MU 500-53-...
Temperature transmitter (Pt1000)

MU 500-Ex-51-...
Temperature transmitter (Pt100)

MU 500-Ex-53-...
Temperature transmitter (Pt1000)

General:

- Electrically isolated: between input / output / supply voltage
- 2 power-supply-designs with wide range of allowed supply voltage: 10 ... 30 V DC / 10 ... 42 V AC or 85 ... 265 V AC / 110 ... 125 V DC
- 22.5 mm standard case for rail mounting TS35
- Several measuring ranges, selectable via rotary switch at front panel (13 for Pt100, 16 for Pt1000)
- Offset and span adjustable

For Ex-designs:
Input intrinsically safe ATEX II (1) G [Ex ia] IIC, II (1) D [Ex iaD]
Burden: max. 1000 Ω

Specification:

Measuring ranges:	selectable via rotary switch
Pt100:	-50 ... 0, -50 ... 50, -30 ... 20, -30 ... 70, -20 ... 30, -20 ... 80, 0 ... 50, 0 ... 100, 0 ... 150, 0 ... 200, 0 ... 300, 0 ... 450, 0 ... 600 °C
Pt1000:	-50 ... 0, -50 ... 50, -30 ... -20, -30 ... -10, -20 ... -10, -20 ... 0, -10 ... 0, -10 ... 10, 0 ... 10, 0 ... 20, 0 ... 30, 0 ... 40, 0 ... 50, 0 ... 100, 0 ... 150, 0 ... 200 °C
Offset adjust:	offset: approx. ±8 Ω (≙ 20 °C for Pt100, ≙ 2 °C for Pt1000) span: approx. ±20 %
Sensor connection:	2- or 3-wire connection
Sensor current:	approx. 1 mA (Pt100), approx. 0,25 mA (Pt1000)
Output signal:	0 - 20 mA, 4 - 20 mA, 0 - 10 V or 2 - 10 V (selectable via DIP switch)
max. load:	burden ≤1 kΩ (at mA), load: max. 15 mA (at V)
Basic accuracy:	≤0.2 % of measuring range
Temperature coefficient:	≤0.01 %/K
Output accuracy:	≤0.1 % of measuring range
Power supply:	**... - 0 - 00** 85 ... 265 V AC / 110 ... 125 V DC **... - 5 - 00** 10 ... 42 V DC / 10 ... 30 V AC
Power consumption:	max. 2.2 W / 3.3 VA
Isolation voltage:	500 V AC, according to VDE 0110 Gr. 2 between input/output/supply voltage
Test voltage:	4 kV DC between input/output/supply voltage
Working temperature:	-10 ... 60 °C
Electrical connection:	screw-terminals with pressure plates, max. 2.5 mm²
Dimensions:	22.5 x 75 x 110 mm (W x D x H)
Protection:	IP 30 (case), IP 20 (terminals)
Ex-certification:	TÜV 03 ATEX 2283, Ⓔx II (1) G [Ex ia] IIC, II (1) D [Ex iaD]
Connection data:	
MU 500-ex-ia-51-..:	U0 = 1,3 V, I0 = <3 mA, P0 = <3 mW, C0 = 29 µF, L0 = 100 mA, Ci = 5 nF, Li = 0 mH
MU 500-ex-ia-53-..:	U0 = 4,9 V, I0 = <3 mA, P0 = <3 mW, C0 = 2,2 µF, L0 = 100 mA, Ci = 5 nF, Li = 0 mH

Ordering example:

MU 500-53-5-00:
input = Pt1000, power supply: 10 ... 42 V DC / 10 ... 30 V AC

Isolating signal converter

ST 500-Ex-10-0-00
Isolating signal converter (230 V AC)

ST 500-Ex-10-5-00
Isolating signal converter (10 ... 30 V DC/AC)

General:

Isolating signal converter for application in zone 0 or zone 20 (constant explosion risk) with integrated transmitter supply. It allows the direct connection of active 2-wire sensors (4 ... 20 mA) and 3-wire sensors in the Ex-area.

- Input intrinsically safe ATEX II (1) G [Ex ia] IIC, II (1) D [Ex iaD]
- 2 power-supply-designs with wide range of allowed supply voltage: 10 ... 30 V DC / AC or 85 ... 253 V AC
- Electrically isolated: between input / output / supply voltage
- 22.5 mm standard case for rail mounting TS35
- Universal inputs/outputs for (0)4 ... 20 mA and 0(2) ... 10 V

Specification:

Measuring ranges:	selectable
Current input:	0 ... 20 mA or 4 ... 20 mA (Ri = 25 Ω, max. 100 mA overload)
Voltage input:	0 ... 10 V or 2 ... 10 V (Ri = ~ 40 kΩ, max. 100 V overload)
Offset adjust:	approx. ±20 %, adjustable
Transmitter supply:	approx. 20 V DC, Ri = approx. 300 Ω
Output signal:	0 - 20 mA, 4 - 20 mA, 0 - 10 V or 2 - 10 V (selectable via DIP switch)
max. load:	burden ≤1 kΩ (at mA), load: max. 15 mA (at V)
Basic accuracy:	≤0.3 % of measuring range
Temperature coefficient:	≤0.01 %/K
Repeat accuracy:	≤0.1 % of measuring range
Rise time:	T_{90} = < 100 ms
Power supply:	**... - 0 - 00** 85 ... 253 V AC **... - 5 - 00** 10 ... 30 V DC / AC
Power consumption:	max. 3.5 VA
Isolation voltage:	500 V AC, according to VDE 0110 Gr. 2 between input/output/supply voltage
Test voltage:	4 kV DC between input/output/supply voltage
Working temperature:	-10 ... 55 °C
Electrical connection:	screw-terminals with pressure plates, max. 2,5 mm²
Dimensions:	22.5 x 75 x 110 mm (W x D x W)
Protection:	IP 30 (case), IP 20 (terminals)
Ex-certification:	TÜV 97 ATEX 1150, Ⓔx II (1) G [Ex ia] IIC, II (1) D [Ex iaD]
Connection data:	U0 = 25.2 V, I0 = 95 mA, P0 = 600 mW, C0 / L0 (ia/IIC) = 47 nF / 2 mH or 107 nF / 0.2 mH, C0 / L0 (ia/IIB) = 370 nF / 15 mH or 430 nF / 1 mH, Ci, Li = negligible **The intrinsically safe circuit is electrically isolated from the non-intrinsically safe circuits up to a sum of the peak values of the nominal voltage of 375 V.**