

Temperature transmitter (electrically isolated)



**MU500-51-...**

Art. no. 602611 (MU500-51-0-00-GN)  
 Art. no. 604331 (MU500-51-5-00-GN)  
 Temperature transmitter (Pt100)

**MU500-53-...**

Art. no. 602613 (MU500-53-0-00-GN)  
 Temperature transmitter (Pt1000)

**MU500-EX-51-...**

Art. no. 603257 (MU500-EX-51-0-00-GN)  
 Art. no. 604830 (MU500-EX-51-5-00-GN)  
 Temperature transmitter (Pt100)

**MU500-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



**Specifications:**

<b>Measuring ranges:</b>	selectable via rotary switch
<b>Pt100:</b>	-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
<b>Pt1000:</b>	-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
<b>Offset adjust:</b>	offset: approx. ±8 Ω (± 20 °C for Pt100, ± 2 °C for Pt1000) span: approx. ±20 %
<b>Sensor connection:</b>	2- or 3-wire connection
<b>Sensor current:</b>	approx. 1 mA (Pt100), approx. 0.25 mA (Pt1000)
<b>Output signal:</b>	0 ... 20 mA, 4 ... 20 mA, 0 ... 10 V or 2 ... 10 V (selectable via DIP switch)
<b>max. load:</b>	burden ≤1 kΩ (at mA), load: max. 15 mA (at V)
<b>Basic accuracy:</b>	≤0.2 % of measuring range
<b>Temperature coefficient:</b>	≤0.01 %/K
<b>Output accuracy:</b>	≤0.1 % of measuring range
<b>Power supply:</b>	... - 0 - 00: 85 ... 265 V AC / 110 ... 125 V DC ... - 5 - 00: 10 ... 42 V DC / 10 ... 30 V AC
<b>Power consumption:</b>	max. 2.2 W / 3.3 VA
<b>Isolation voltage:</b>	500 V AC, according to VDE 0110 Gr. 2 between input/output/supply voltage
<b>Test voltage:</b>	4 kV DC between input/output/supply voltage
<b>Working temperature:</b>	-10 ... +60 °C
<b>Electrical connection:</b>	screw-terminals with pressure plates, max. 2.5 mm <sup>2</sup>
<b>Dimensions:</b>	22.5 x 75 x 110 mm (W x D x H)
<b>Protection:</b>	IP 30 (case), IP 20 (terminals)
<b>Ex-certification:</b>	TÜV 03 ATEX 2283, II (1) G [Ex ia] IIC, II (1) D [Ex iaD]
<b>Connection data:</b>	
<b>MU 500-ex-ia-51-...:</b>	U <sub>0</sub> = 1,3 V, I <sub>0</sub> = <3 mA, P <sub>0</sub> = <3 mW, C <sub>0</sub> = 29 µF, L <sub>0</sub> = 100 mH, C <sub>i</sub> = 5 nF, L <sub>i</sub> = 0 mH
<b>MU 500-ex-ia-53-...:</b>	U <sub>0</sub> = 4,9 V, I <sub>0</sub> = <3 mA, P <sub>0</sub> = <3 mW, C <sub>0</sub> = 2,2 µF, L <sub>0</sub> = 100 mH, C <sub>i</sub> = 5 nF, L <sub>i</sub> = 0 mH

Isolating signal converter



**ST500-10-0-00**

Art. no. 603442  
 Isolating signal converter (230 V AC)

**ST500-10-5-00**

Art. no. 603483  
 Isolating signal converter (10 ... 30 V DC/AC)

**ST500-EX-10-0-00**

Art. no. 603440  
 Isolating signal converter (230 V AC)

**ST500-EX-10-5-00**

Art. no. 603627  
 Isolating signal converter (10 ... 30 V DC/AC)

**General:**

- Isolating signal converter 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.
- 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
- For Ex-designs:**
  - Input intrinsically safe ATEX II (1) G [Ex ia] IIC, II (1) D [Ex iaD]



**Specifications:**

<b>Measuring ranges:</b>	selectable
<b>Current input:</b>	0 ... 20 mA or 4 ... 20 mA (R <sub>i</sub> = 25 Ω, max. 100 mA overload)
<b>Voltage input:</b>	0 ... 10 V or 2 ... 10 V (R <sub>i</sub> = ~ 40 kΩ, max. 100 V overload)
<b>Offset adjust:</b>	approx. ±20 %, adjustable
<b>Transmitter supply:</b>	approx. 20 V DC, R <sub>i</sub> = approx. 300 Ω
<b>Output signal:</b>	0 ... 20 mA, 4 ... 20 mA, 0 ... 10 V or 2 ... 10 V (selectable via DIP switch)
<b>max. load:</b>	burden ≤1 kΩ (at mA), load: max. 15 mA (at V)
<b>Basic accuracy:</b>	≤0.3 % of measuring range
<b>Temperature coefficient:</b>	≤0.01 %/K
<b>Repeat accuracy:</b>	≤0.1 % of measuring range
<b>Rise time:</b>	T <sub>90</sub> = <100 ms
<b>Power supply:</b>	... - 0 - 00: 85 ... 253 V AC ... - 5 - 00: 10 ... 30 V DC / AC
<b>Power consumption:</b>	max. 3.5 VA
<b>Isolation voltage:</b>	500 V AC, according to VDE 0110 Gr. 2 between input/output/supply voltage
<b>Test voltage:</b>	4 kV DC between input/output/supply voltage
<b>Working temperature:</b>	-10 ... +55 °C
<b>Electrical connection:</b>	screw-terminals with pressure plates, max. 2.5 mm <sup>2</sup>
<b>Dimensions:</b>	22.5 x 75 x 110 mm (W x H x D)
<b>Protection:</b>	IP 30 (case), IP 20 (terminals)
<b>Ex-certification:</b>	TÜV 97 ATEX 1150, II (1) G [Ex ia] IIC, II (1) D [Ex iaD]
<b>Connection data:</b>	U <sub>0</sub> = 25.2 V, I <sub>0</sub> = 95 mA, P <sub>0</sub> = 600 mW, C <sub>0</sub> / L <sub>0</sub> (ia/IIC) = 47 nF / 2 mH or 107 nF / 0.2 mH, C <sub>0</sub> / L <sub>0</sub> (ia/IIB) = 370 nF / 15 mH or 430 nF / 1 mH, C <sub>i</sub> , L <sub>i</sub> = negligible <b>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.</b>