

Universal Transmitter UT125



- Transmitter for electrical signals
- Universal input for standard signals, Pt100, thermocouple, potentiometer
- Configuration via front-side DIP switch
- Analog output 4..20 mA
- With Pt100 sensors, monitoring of sensor break and short-circuit
- Wide-range power supply or 24 V DC
- Housing width 12.5 mm
- Removal coded screw terminals
- Carrier rail mounting TS35 EN60715

Characteristics

The UT125 series of universal transmitters are designed for the affordable transformation of standard signals, temperatures and potentiometer statuses into a current signal of 4..20 mA. The universal configurability of the measuring inputs reduces the stock requirement for various applications. The measuring inputs and actual value output are not galvanically isolated. The housing width of only 12.5 mm enables space-saving installation in the switch cabinet.

Measurement inputs

Configuration via DIP switch

| | |
|--------------------------------|---|
| Standard signals | : 0/2..10 V and 0/4..20 mA |
| Potentiometer | : Rated value 500 Ω..20 kΩ |
| Pt100 | : -50..50 °C 0..100 °C 0..150 °C 0..200 °C 0..300 °C 0..500 °C |
| Thermocouple FeCuNi, Type J | : 0..250 °C 0..500 °C |
| NiCrNi, Type K | : 0..500 °C 0..750 °C 0..1000 °C |
| PtRhPt, Type S | : 0..1500 °C |

(Special measurement ranges available on request)

Technical data

Wide-range power supply

Supply voltage : 20..125 VDC and
20..250 VAC (47..63 Hz), max. 1.5 W

24V power supply

Supply voltage : 24 V DC +/-15 %, max. 1.5 W

Combined data

Rated voltage : 253 V AC
Test voltage : 3 kV AC between
power supply // input = output

Working temperature : -10..60 °C
Storage temperature : -20..80 °C
Air humidity : 10..90% (no condensation)

Measurement inputs

Voltage : 0/2..10 V, Ri approx. 20 kΩ
Current : 0/4..20 mA, Ri approx. 60 kΩ
Pt100 : linearised,
measurement current 1.6 mA
Recognition of sensor break or
short circuit: Actual value drops to
approx. 0mA

Thermocouple : linearised
with comparison point compensation

Resistance : Potentiometer (3-wire)
Rated value 500 Ω..20 kΩ
Intern. reference voltage approx. 1.5 V

Analog output

: 4..20 mA, max. burden 400 Ω,
No galvanic isolation from the
input signal

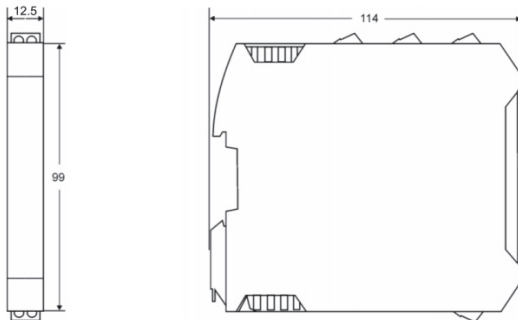
| Input signal | Basic precision- actual value output | Temperature deviation *) |
|-------------------|---|-----------------------------|
| 0/2..10 V | 0.2 % | 0.004 %/K |
| 0/4..20 mA | 0.2 % | 0.004 %/K |
| Potentiometer | 1 % | 0.007 %/K |
| Pt100 -50.. 50 °C | 0.5 % | 0.03 %/K |
| Pt100 0.. 50 °C | 0.9 % | 0.04 %/K |
| Pt100 0..100 °C | 0.5 % | 0.03 %/K |
| Pt100 0..150 °C | 0.2 % | 0.02 %/K |
| Pt100 0..200 °C | 0.4 % | 0.02 %/K |
| Pt100 0..300 °C | 0.3 % | 0.01 %/K |
| Pt100 0..500 °C | 0.2 % | 0.007 %/K |
| FeCuNi 0..250 °C | 1.0 % | 0.04 %/K |
| FeCuNi 0..500 °C | 0.5 % | 0.03 %/K |
| NiCrNi 0..500 °C | 0.5 % | 0.04 %/K |
| NiCrNi 0..750 °C | 0.4 % | 0.03 %/K |
| NiCrNi 0..1000 °C | 0.3 % | 0.02 %/K |
| PtRhPt 0..1500 °C | 1.0 % | 0.04 %/K |

*) Measurement deviation depending on the environmental temperature in the switch cabinet (-10..+60°C)

Housing

Dimensions (W x D x H) : 12.5 x 114 x 108 mm
Material : PA6.6, light grey,
Flammability class V0 (UL94)
Weight : 120 g
Protection rating : IP20
Screw terminals : 0.2..2.5 mm², AWG 24..14,
removable, coded
Push-in terminals : 0.5..1.5 mm², AWG 25..16,
(spring-type terminal) Double connection (12A between the
connections), removable, coded
Power Rail : 8A over the entire bus system
(Supply via removable terminals
0.2..2.5 mm², AWG 24..14)

Dimensions



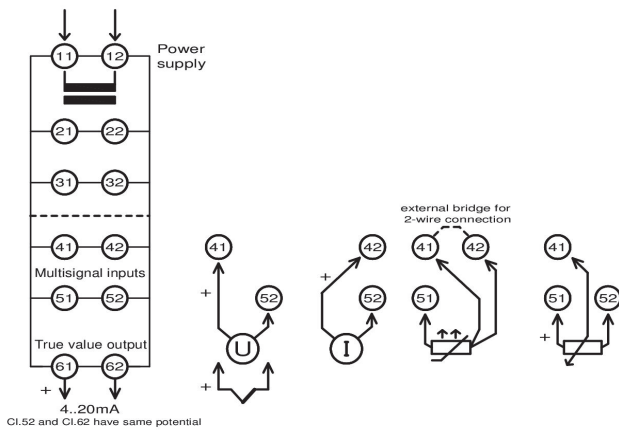
Ordering code

UT 1. - 2.

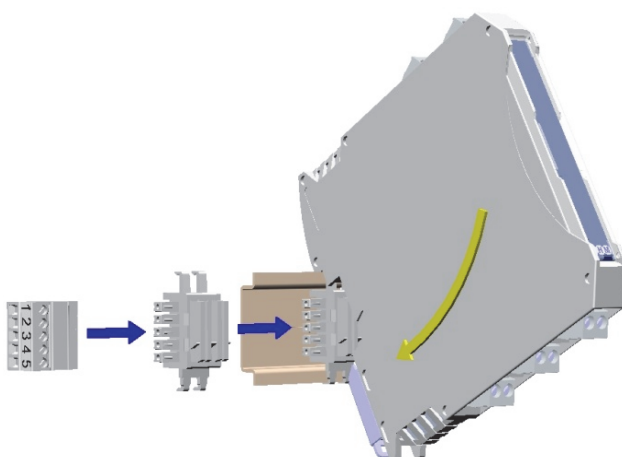
| 1. Device version | |
|-------------------|---|
| 125L | Supply voltage 24 V DC +/- 15 % |
| 125LP | Supply voltage 24 V DC +/- 15 % with carrier rail bus connection *) |
| 125M | Wide-range power supply 20..125 V DC / 20..253 V AC |
| 2. Options | |
| 00 | No options |
| 01 | Push-in terminals (plug-in) |

*) Supply including matching bus adapter piece; see also separate Power Rail information sheet

Connection diagram



Power Rail



The power supply of multiple devices can be concentrated in the mounting carrier rail (TS35) of a bus system.

An equivalent version is available for the entire series of GHM power rail devices in 12.5 mm wide housing.