

Product Information

Temperature transmitter HTK12-I / U / F



- Complete temperature transmitter for food industry in 12 mm housing
- Analog output 4..20 mA (HTK12-I)
- Analog output 0..10 V (HTK12-U)
- Frequency output (HTK12-F)
- User-configurable via plug pins (Teach-In)
- Identical mechanical design available as temperature switch, flow transmitter/switch or level switch

Characteristic

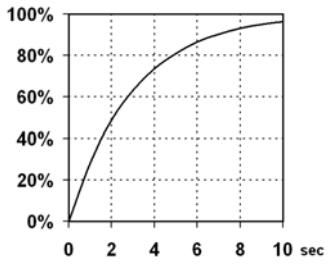
The sensors in the HTK12 family can be used for the measurement and monitoring of temperatures in flowing media, and are specially designed for use in the food industry. The 16-bit processor provides linearization of the PT2000 characteristic curve, and emits the standardized output signal.

The HTK12 electronics transmit the result as

- analog 0/4..20 mA signal (HTK12-I)
- analog 0/2..10 V signal (HTK12-U)
- frequency signal (HTK12-F)

If desired, the range end value can be set to the presently existing temperature using Tech-In (see Handling and Operation).

Specifications

Measuring range	standard: 0..100 °C optional: -20..+100 °C or parts of this
Process connection	Sealing cone screw fitting, compatible with G 1/2 GHMadapt
Medium temperature	-20..+100 °C
Ambient temperature	0..60 °C
CIP- / SIP temperature	140 °C, < 30 min. max.
Dynamic (τ)	3 sec. 
Process pressure	PN 50
Accuracy	±1 °C

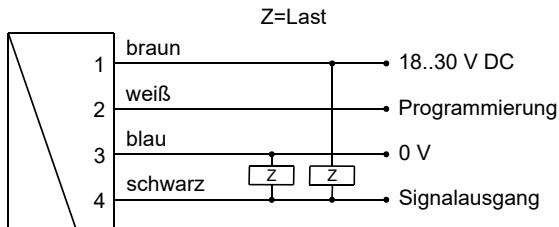
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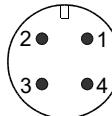
HTK12-I / U / F

Repeatability	±0.5 °C
Supply voltage	18..30 V DC (controlled)
Current consumption at rest	< 60 mA
Output	HTK12-I: 4..20 mA / max. load 500 Ohm HTK12-U: 0..10 V / min load 1 kOhm HTK12-F: Frequency output "push-pull" (resistant to short circuits and reversed polarity protected) I_{out} = 100 mA max. selectable output frequency, max. 2 kHz
Protection class	IP 67
Connection	for round plug connector M12x1, 4-pole
Materials in contact with media	sensor tip 1.4435, FDA compliant
Materials not in contact with media	housing 1.4571 pressure screw 1.4404 plug PA contacts gold-plated
Weight	approx. 100 g incl. pressure screw
Conformity	CE 

Wiring

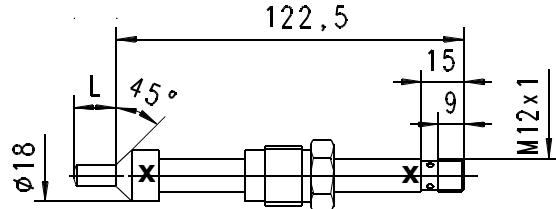


Connection example: PNP NPN



The use of shielded cabling is recommended.

Dimensions



For compatible T-pieces and weld-in sockets of the GHMadapt series, see "Accessories".

Product Information

Handling or operation

Notes

The metering range end value can be programmed by the user via "Teach-In". Requirement for programmability must be stated when ordering, otherwise the device cannot be programmed.

The ECI-3 interface with associated software is available as a convenient option for programming all parameters by PC, and for adjustment.

Operation and programming

If desired, the metering range end can be set by the user by means of Teach-In.

For this, proceed as follows:

- The temperature which is to be set is applied to the device
- Apply a pulse of at least 0.5 seconds and max. 2 seconds duration to pin 2 (e.g. via a bridge to the auxiliary voltage or a pulse from the PLC), in order to accept the measured value
- When the teaching is complete, pin 2 should be connected to 0 V, so as to prevent unintended programming.

The devices have a yellow LED which flashes during the programming pulse. During operation, the LED acts as a display for the operating voltage.

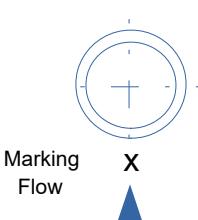
Installation

The sensor is inserted into the boring with a sealing cone, oriented, and fastened in place with a pressure screw.

When a flow is present, this should impinge on the side of the sensor marked with an X, in order to achieve a short response time.

The torque on the pressure screw should be between 5..10 Nm.

Avoid bubbles or deposits on the sensor. It is therefore best to install at the side.



Product key

HTK12- 015

Option =

1. Analog output

I	current output 4..20 mA
U	voltage output 0..10 V
F	frequency output

2. Sensor tip length

015	L = 15 mm
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3. Programming

N	Cannot be programmed (no Teach-In)
P	<input checked="" type="radio"/> programmable (Teach-In possible)

4. Option

H	CIP- / SIP- version, 140 °C, 30 min. max.
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5. Certificate DIN EN 10204 (indicate only when required, multiple responses possible)

WZ2.2	factory certification 2.2
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APZMAT	acceptance test certificate 3.1 for material (in contact with products)
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Options

For HTK12-I and HTK12-U

Special range for analog output:

Start of measuring range (4 mA or 0 V) at

Standard = 0 °C

°C

End of measuring range (20 mA or 10 V) at

Standard = 100 °C

°C

For HTK12-F

End frequency (max. 2000 Hz)

Standard = 2000 Hz

Hz

Special range for frequency output:

Start of measuring range (0 Hz) at

Standard = 0 °C

°C

End of measuring range (end frequency) at

Standard = 100 °C

°C

Further options available on request.

Accessories

- Device configurator ECI-3 (USB programming adapter)
- Process adapter
- Round plug connector / cable (KH...)

Further information at "Accessories"