GRUBATEC
MESS- UND REGELTECHNIK

CLIMATE TRANSMITTER PFT28Ka

- Measurement of temperature and relative humidity
- Digital signal transmission from the sensor to the evaluation electronics
- Response time of a few seconds
- Easy interchangeability of the sensor
- Alphanumeric LCD display
- Analog outputs 0/2...10 V or 0/4...20 mA
- Supply voltage 15...30 Vdc or 24 Vac (± 15%)
- Compact plastic housing Protection class IP54; UL 94 HB
- Measuring range relative humidity 0 ... 100% (short term condensation possible)
- Measuring range temperature -30...+ 50 °C, 0...50 °C, 0...100 °C
- Calculation and display of dew point temperature, enthalpy wet bulb temperature and absolute humidity

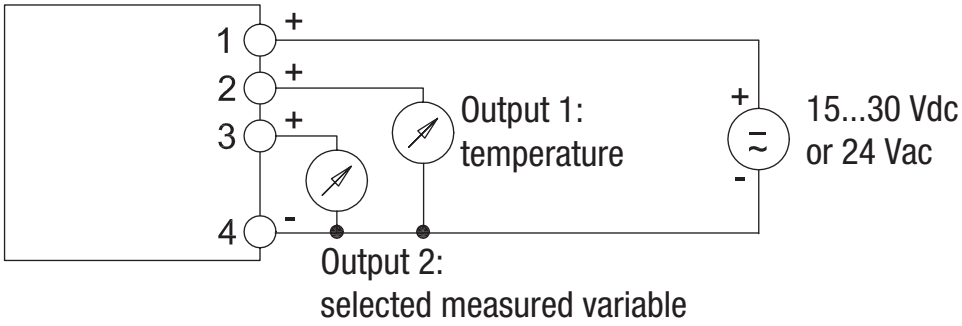
The transducer PFT28Ka converts the measured variables of temperature and relative humidity into the following parameters: dewpoint temperature, absolute humidity, moisture ball temperature and enthalpy.

The device has two analog outputs: Output 1 supplies the temperature signal and one of four further measured variables can be applied to output 2 via two-pole DIP switches.

For direct display of the measured value, measured value and unit, the device has a two-line alphanumeric display.

Different versions are available:
A room sensor for wall mounting, a duct sensor for installation in a ventilation duct and a cable management variant with 2 m cable. In both versions, the sensor tube is installed directly on the housing. The output signals can be switched from 0/2 ... 10 V to 0/4 ... 20 mA with a plug-in bridge. The device is supplied with 15 ... 30 Vdc or 24 Vac.

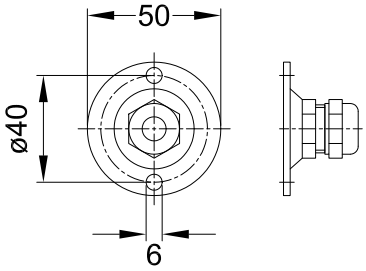
Connections



Connecting terminal:

1+ 4-	Supply voltage 15...30 Vdc or 24 Vac (±15%)
2+ 4-	Output 1: 0/2...10 V or 0/4...20 mA
3+ 4-	Output 2: 0/2...10 V or 0/4...20 mA

Mounting flange MF-M90



HUMIDITY

date: March 2024

Grubatec AG • Wölferstrasse 5 • 4414 Füllinsdorf • phone +41(0)55 617 00 80
www.grubatec.ch • Email: info@grubatec.ch

CLIMATE TRANSMITTER PFT28Ka

GRILLO

PERFORMANCE / ACCURACY / ERROR LIMIT:

Relative Humidity:

Resolution:	12 Bit	
Characteristic:	linear (digital linearization)	
Response time:	approx. 4 seconds (63% time, slightly moved air)	
Long term stability:	typical < 1 % RH per year	
	Standard sensor:	Sensor with narrowed tolerance:
Reproducibility:	± 0.1 % RH	± 0.1 % RH
Tolerance:	± 3,5 % RH at 30...70 % RH	± 2,0 % RH at 10...90 % RH
	± 5,0 % RH at 00...29 % RH	± 2,0 % RH at 10...90 % RH
	± 5,0 % RH at 71...100 % RH	± 4,0 % RH at 91...100 % RH

Temperature:

Resolution:	14 Bit	
Characteristic:	linear	
Response time:	approx. 20 seconds	
	Standard sensor:	Sensor with narrowed tolerance:
Reproducibility:	± 0.1 °C	± 0.1 °C
Tolerance:	± 0.5 °C at 25 °C	± 0.3 °C at 25 °C
	± 2,0 °C at -40 °C	± 1.5 °C at -40 °C
	± 3,0 °C at +120 °C	± 2,0 °C at +120 °C

TECHNICAL SPECIFICATIONS:

Operating mode:	Measuring mode	
Measuring medium:	Humidity and temperature	
Sensor:	Single-Chip sensor for relative humidity and temperature with digital signal converting and chip calibration memory	
Measuring range:	temperature:	T = -30...+50 °C
	relative humidity:	RH= 0...100 %
	dew point temperature:	td = -30...+50 °C
	wet bulb temperature:	tf = -30...+50 °C
	enthalpy:	E = 0...200 kJ/kg
Special measuring range:	absolute humidity:	a.F. = 0...50 g/kg
Operation temperature range:	sensor:	-40...+120 °C
	electronic:	-10...+50 °C
Storage temperature:	-25...+60 °C	

PHYSICALLY:

Housing:	Ultra mid with folding ABS cover, directly mounted sensor cable (2 m length, Ø 5 mm)
Dimensions:	95 x 70 x 54 mm (WxHxD)
Weight:	approx. 300 g
Schutzart:	IP 54 according EN 60529; UL 94 HB
Display:	two-line alphanumeric LCD display, 2x16 digit
Electrical connections:	Cable entry M16x1.5, screw terminals, electronics protected against incorrect polarity

ELECTRONIC:

Supply voltage:	15...30 Vdc; 24 Vac (±15%)
Power consumption:	approx. 14 mA @ 24 Vdc at 0...10 V output
Outputs:	0/2...10 V or 0/4...20 mA switchable via DIP-switch and jumper
Output 1:	temperature
Output 2:	one of four other measured variables selectable by a two-pole DIP-switch

CONFORMITY:

EMV:	tested according EN 61000-6-2, EN 61000-6-3, CE mark
RoHS:	According RoHS-directive 2011/65/EU

	Item no.
Climate transmitter PFT28K as cable sensor	**7422**
Special assignment of the measured variables to output 2	**73999**
Output 1 & Output 2 are pretended in case of order by customer!	
Exchangeable sensor, pluggable, permanently calibrated	**72190**
Exchange sensor with restricted tolerance	**72191**
Surcharge for sensor with restricted tolerance	**72192**
Special length of the sensor tube	**72193**
Optional sensor protection with sinter filter	**72194**

date: March 2024

Grubatec AG • Wölferstrasse 5 • 4414 Füllinsdorf • phone +41(0)55 617 00 80
www.grubatec.ch • Email: info@grubatec.ch