HVAC Humidity and Temperature Transmitter for Indoor Applications

DPF10 room transmitters are the ideal solution for indoor applications such as HVAC in residential and official buildings.

The very stylish, functional housing makes easy installation and fast exchange of the sensing unit for service purposes possible. The high quality DPF humidity sensor and state-of-the-art microprocessor controlled electronics are the guarantee for best accuracy and a wide range of options.

The standard humidity output of DPF10 transmitters is 4 - 20 mA or 0 - 10 V. The temperature output signal can be active or passive.

All DPF10 versions can be equipped with a good legible LC display. For DPF10-FT versions the displayed values for humidity and temperature will alternate.

Typical Applications

building management for residential and office areas
air conditioning
switching cabinets
climate control in hotels and museums

Features

excellent price / performance ratio
easiest installation
modern design
long term stable
optional display
traceable calibration

Technical Data

Measuring Quantities

Relative Humidity

Humidity sensor	HC103	
Analogue output 0...100 %r.H.	0-10 V	$-1\ mA < I_L < 1mA$
	4-20 mA (two wires)	$R_L < (U_v-10)/0.02 < 500$ Ohm
Working range[1]	0...95 % RH	
Accuracy at 20°C (68°F) and U_v=24VDC	±2% RH (40...60% RH) ±3% RH (10...90% RH)	
	Traceable to intern. standards, administrated by NIST, PTB, BEV...	
Temperature dependence at 60% RH	**typical 0.06% RH /°C** (0.03% RH / °F)	

Temperature (active output)

Analogue output 0...50°C (32...122°F)[2]	0-10 V	$-1\ mA < I_L < 1mA$
	4-20 mA (two wires)	$R_L < (U_v-10)/0.02 < 500$ Ohm
Accuracy at 20°C (68°F) and U_v=24VDC	FT3: ±0.25°C (±0.45°F)	FT6: ±0.4°C (±0.72°F)

Temperature (passive output)

Type of T-Sensor	please see ordering guide

General Data

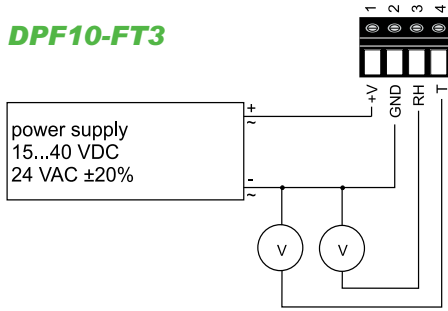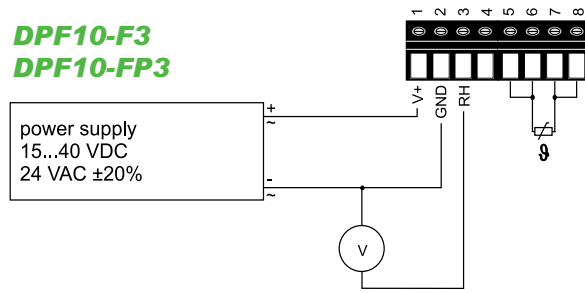|		
Voltage supply (U_v)		
for 0 - 10 V	15 - 40 VDC or 24 VAC ±20%	
for 4 - 20 mA	$28V\ DC > U_v > 10 + 0.02 \times R_L$ ($R_L < 500$ Ohm)	
Current consumption	for DC supply:	typical 4 mA
	for AC supply:	typical 15 mA$_{eff}$
Electrical connection	screw terminals max. 1.5 mm² (AWG 16)	
Display	for DPF10-FTx version	Humidity / Temperature alternating
	for DPF10-Fx and DPF10-FPx version	Humidity
CE compatibility according	EN 50081-1 FCC Part15 ClassB	
	EN 50082-1 ICES-003 ClassB	CE
Temperature ranges	working temperature range:	-5...55°C (23...131°F)
	working temperature with display:	-5...55°C (23...131°F)
	storage temperature range:	-25...60°C (-13...140°F)

1) Please refer to the working range of the HC103
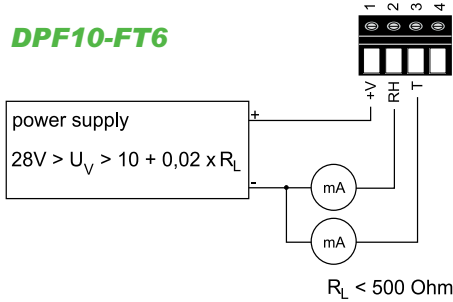2) Other T-scaling refer to page 134

Connection Diagram

DPF10-FT3

power supply
15...40 VDC
24 VAC ±20%

DPF10-F3
DPF10-FP3

power supply
15...40 VDC
24 VAC ±20%

DPF10-FT6

power supply

$$28V > U_V > 10 + 0{,}02 \times R_L$$

$R_L < 500$ Ohm

DPF10-F6
DPF10-FP6

power supply

$$28V > U_V > 10 + 0{,}02 \times R_L$$

$R_L < 500$ Ohm
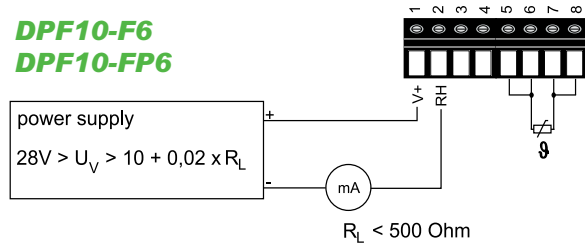
Dimensions (mm)
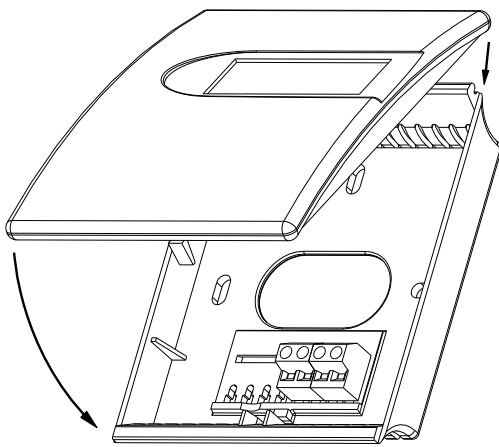
W x H x D = 85 x 100 x 26mm
(3.3 x 3.9 x 1 inch)

Housing:	PC
Protection class:	IP20

Housing colour:	Cover:	RAL 9003 (signal white)
	Back:	RAL 7035 (light grey)

(other colours upon request)

Order Example

DPF10-FP6D-D04-T04

Model:	Humidity + Temperature Transmitter with passive T-output
Output humidity:	4-20mA
Output temperature:	Pt 1000 DIN B
Display:	with Display
T-Unit:	°C
T-Scale:	0...50°C

Ordering Guide

MODEL		OUTPUT		T-SENSOR (only passive)		DISPLAY		T - UNIT (only for (D04))		T-SCALE (only for FT)	
humidity + temperature	(FT)	0-10V	(3)	Pt 100 DIN A	(A)	without display	(--)	°C	(--)	0...50	(T04)
humidity	(F)	4-20 mA	(6)	Pt 100 DIN B	(B)	with display	(D04)	°F	(E01)	-5...55	(T31)
humidity + temperature passive	(FP)			Pt 1000 DIN A	(C)					0...40	(T55)
				Pt 1000 DIN B	(D)					other	(Txx)
DPF10-											