

EE21 Series

High-Precision Humidity / Temperature Transmitter for HVAC Applications

Transmitters of the EE21 series have been developed for high-precision measurement of relative humidity and temperature.

EE21 transmitters are available for wall and duct mounting as well as with the very useful snap in - mounting kit which allows a quick and easy exchange of the transmitter.

Outputs can be selected between voltage and current. An optional radiation shield which supplies a forced ventilation is recommended for use with outdoor applications. A special protection coating for the sensing element (code - HC) permits the permanent use in very polluted ambiances. A high humidity calibration should be employed for applications in humidities lasting > 90% RH (Code - CA01).



Typical Applications

- green houses
- storage rooms
- swimming halls
- meteorology

Features

- measuring range 0 ... 100% RH
- accuracy ± 2% RH
- working range -40...+60 degC (-40...140°F)
- wettable
- excellent long term stability

Technical Data

Measuring values

Relative Humidity

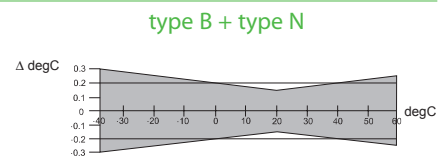
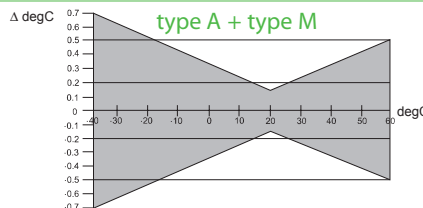
Sensor	HC1000 or HC1000C (mit Coating)	
Analogue output appropriate 0...100% rF	0-1V	-0,5mA < I _L < 0,5mA
	0-5V / 0-1V	-1mA < I _L < 1mA
	4-20mA (two wires)	R _L < 500 Ohm

Working range ¹⁾	0...100% RH	
Accuracy at 20 degC (68°F)	± 2% RH (0...90%)	± 3% RH (90...100%)
Hysteresis 10% - 80% - 10%	< 2% RH	
Temperature dependence of electronics	typ. 0,06% RH/degC	
Temperature dependence of probe	typ. 0,03% RH/degC	

Temperature

Sensor	Pt1000 (tolerance class A, DIN EN 60751)	
Analogue output -20...80 degC (-4...176°F)	0-1V	-0,5mA < I _L < 0,5mA
	0-5V / 0-10V	-1mA < I _L < 1mA
	4-20mA (two wires)	R _L < 500 Ohm

Accuracy (typ.)



Temperature dependence of electronics	negligible	referring to 25 degC: typ. 0,01 degC / degC
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General

Supply

for 0 - 1V	10 - 35V DC	or	9 - 29V AC
for 0 - 5V	12 - 35V DC	or	15 - 29V AC
for 0 - 10V	15 - 35V DC	or	15 - 29V AC
for 4 - 20mA	10V +R _L x 0,02 < U _V < 35V DC; R _L < 500 Ohm		
Current consumption	for DC supply: typ. 5mA		for AC supply: typ. 15mA _{eff}

Electrical connection	screw terminals max. 1.5 mm ²	
Cable gland	M16x1.5 or connection plug (only snap-in models N + M)	
Sensor protection	membrane filter, sintered stainless steel filter, metal grid filter, PTFE filter	
Electromagnetic compatibility	EN 61000-6-2	ÖVE EN 61326-1+A1+A2
	EN 61000-6-3	
Temperature ranges	working temperature probe:	-40...+60 degC (-40...140°F)
	working temperature electronics:	-40...+60 degC (-40...140°F)
	storage temperature:	-20...+60 degC (-4...140°F)



1) Please refer to working range of HC1000!

Dimensions (mm)

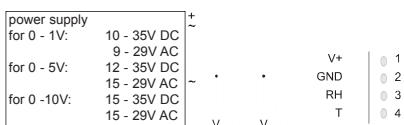


housing: PC
protection class: IP65

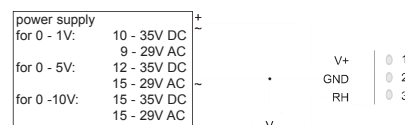
type M
type N
snap in - mounting kit

Connection Diagram

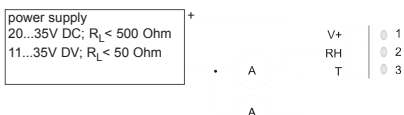
EE21-FT1/2/3xxx



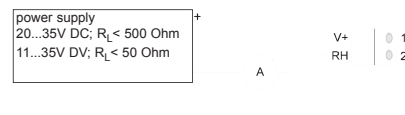
EE21-F1/2/3xxx



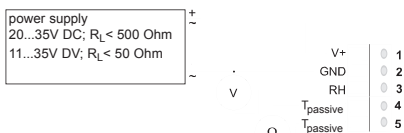
EE21-FT6xxx



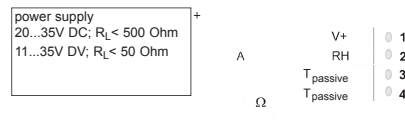
EE21-F6xxx



EE21-FP3xxx



EE21-FP6xxx



Ordering Guide

MODEL	OUTPUT	T-SENSOR	HOUSING TYPE	PROBE	LENGTH	FILTER	
		(only passive)			(see dimensions "A")		
humidity + temperature (FT)	0 - 1 V (1)	Pt 100 DIN A (A)	wall mounting (A)	(A)	50 mm (2)	membrane filter (1)	
humidity (F)	0 - 5 V (2)	Pt 100 DIN B (B)	duct mounting (B)	(B)	200 mm (5)	stainless steel filter (3)	
humidity+temp. passive (FP)	0 - 10 V (3)	Pt 1000 DIN A (C)	snap in - wall mounting (M)	(M)	others (x)	PTFE filter (5)	
	4 - 20 mA (6)	Pt 1000 DIN A (D)	snap in - duct mounting (N)	(N)		metal grid filter (6)	

COATING	CALIBRATION	T-UNIT	T-SCALING
no (no code)	standard (no code)	degC (no code)	-40...60 (T02)
yes (HC01)	high humidity (CA01)	°F (E01)	-20...80 (T24)
			-30...70 (T08)
			others upon request (Txx)

Order Example

EE21-FT3A26-CA01-T24
 model: RH/T transmitter
 output: 0 - 10V
 housing type: wall mounting
 probe length: 50mm
 filter: metal grid filter
 sensor coating: no
 calibration: high humidity
 T-unit: degC
 T-scaling: -20...80 degC

Accessories

- radiation shield (HA010501)

- filter caps (HA0101xx)