

EE08 Series

High-Precision Miniature Humidity / Temperature Transmitter

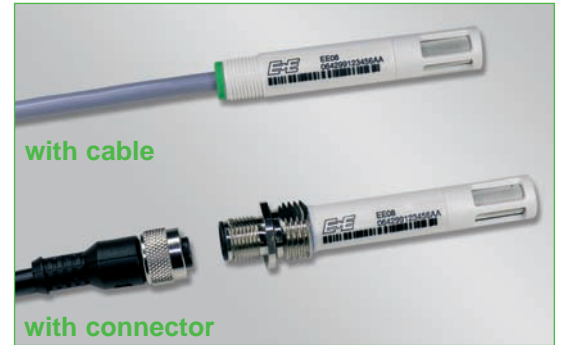
Accurate humidity / temperature measurement over a wide working range, fitted in a small-sized housing and high flexibility have been the main goals for the development of the EE08 series.

Low power consumption and short start-up time support efficient energy management for battery operated systems. For this application an additional version (V10) with supply voltage 4.5-15V DC has been developed.

Calibration data and other relevant functions like linearization or temperature compensation are stored in the probe. This feature, together with the optional connector, allows for easy replacement of the probe without a need for re-adjustment of the reading device (interchangeability).

The humidity and temperature measurement are available as analogue outputs (0-1/2.5/5V) and as a digital interface (E2-interface). Easy implementation and data processing is warranted.

Humidity and temperature reading can be re-adjusted using the calibration software; available as an accessory.



Typical Applications

- meteorology / weather stations
- humidity / temperature data logging
- incubators
- fermentation chambers
- green houses
- snow machines
- dry storage facilities

Features

- small dimensions
- wide working range, high accuracy
- traceable calibration
- customer adjustment possible
- interchangeable in seconds
- low power consumption / short start-up time
- analogue outputs / digital interface

Technical Data

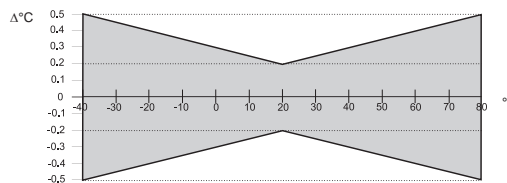
Measuring values

Relative Humidity

Sensor	HC101	
Working range ¹⁾	0...100% RH	
Digital output (2 wire) ²⁾	output value: 0.00...100.00% RH	
Analogue output 0...100% RH	0-1/2.5/5/10V	-0.2mA < I _L < 0.2mA
Accuracy at 20°C (68°F) and 10/24V DC	±2% RH (0...90% RH)	±3% RH (90...100% RH)
Temperature dependence	Traceable to intern. standards, administrated by NIST, PTB, BEV... typ. 0.03% RH/°C (typ. 0.02% RH/°F)	

Temperature

Sensor	Pt 1000 (DINA)	
Digital output (2 wire) ²⁾	output value: -40.00...+80.00°C (-40...176°F)	
Analogue output	0-1/2.5/5/10V	-0.2mA < I _L < 0.2mA
Accuracy at 10/24V DC		



General

Supply voltage	output 0-1V / 0-2.5V	4.5-15V DC or 7-30V DC
	output 0-5V	7-30V DC
	output 0-10V	12-30V DC
Current consumption	typ. < 1.3mA	
Digital interface	E2-interface level = 3.3V / ±0.1V	
Housing	polycarbonate / IP65	
Sensor protection	metal grid filter	
Electromagnetic compatibility	EN61326-1	EN61326-2-3
	Industrial Environment	
Temperature ranges	working temperature: -40...80°C (-40...176°F)	
	storage temperature: -40...80°C (-40...176°F)	

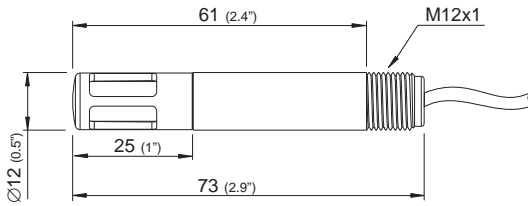


1) refer to the working range of the humidity sensor HC101

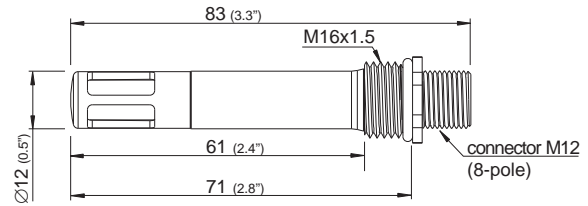
2) serial protocol refer to www.epluse.com

Dimensions (mm)

EE08 with cable (Type E)



EE08 with connector (Type D)



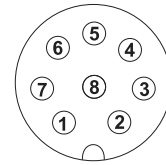
Connection Diagram

Type E:

	Temp. active	Temp. passive, 4-wire
T-passive	white (not connected)	white, black
T-passive	blue (not connected)	blue, violet
GND	pink	pink
T-out	grey	grey (not connected)
RH-out	yellow	yellow
SCL } E2- SDA } interface	green	green
	brown	brown
+UB	red	red

Type D:

1	T-passive	} E2-interface
2	SDA	
3	SCL	
4	RH-out	
5	T-out	
6	GND	
7	T-passive	
8	+UB	



Ordering Guide

HOUSING	MODEL	OUTPUT	SUPPLY	T-SENSOR (passive, 4-wire)	TYPE
polycarbonate (P)	humidity active / temperature active (FT) humidity active / temperature passive (FP)	0 - 1V ¹⁾ (1)	4.5 - 15V DC (V10)	Pt 100 DIN A (A)	with connector (D)
		0 - 2.5V ¹⁾ (7)	7 - 30V DC (V11)	Pt 1000 DIN A (C)	with cable (E)
		0 - 5V ²⁾ (2)			
		0 - 10V ²⁾ (3)			
EE08-					

1) possible with supply 4.5 - 15V DC (V10) or 7 - 30V DC (V11)
 2) possible with supply 7 - 30V DC (V11) only

FILTER	COATING	CABLE LENGTH (Type E only)	T-SCALING
metal grid filter (6)	without coating (no code) with coating (HC01)	1m (3.3ft) (01)	-40...80 (T22)
		2m (6.6ft) (02)	-40...60 (T02)
		5m (16.4ft) (05)	-30...70 (T08)
			-20...80 (T24)
			-20...50 (T48)
			other (Txx)

Order Example

EE08-PFT2V11E602T22

housing: polycarbonate
 model: humidity active / temp. active
 output: 0 - 5V
 supply: 7 - 30V DC
 type: with cable

filter: metal grid filter
 coating: without
 cable length: 2m (6.6ft)
 T-scaling: -40...80°C (-40...176°F)

Accessories / Replacement Parts

- M12 connection cable for type D, length 1,5m (5ft) (HA010322)
- M12 connection cable for type D, length 3m (10ft) (HA010323)
- M12 connection cable for type D, length 5m (16.4ft) (HA010324)
- M12 connection cable for type D, length 10m (32.8ft) (HA010325)
- E2-interface - RS232 converter (incl. calibration software) for testing purposes and customer adjustment (HA011005)
- radiation shield (HA010506)
- M12 female socket with wires (HA010703)
- M12 female cable connector assembly possible (HA010704)
- metal grid filter (HA010113)

Scaling of T-outputs

EE08, EE10, EE10-T, EE21, EE22, EE23, EE29, EE30EX, EE31, EE32, EE33, EE35, EE36, EE75 and EE80

Following Txx defines the scaling of the outputs for **temperature (T)**, **dew point temperature (Td)**, **frost point temperature (Tf)** and **wet bulb temperature (Tw)**. The Txx codes are to be used in the order number of EE08, EE10, EE10-T, EE21, EE22, EE23, EE29, EE30EX, EE31, EE32, EE33, EE35, EE36, EE75 and EE80 transmitter series.

Please see the ordering guide at the end of each data sheet.

The limits of the temperature scale shall be within the temperature working range of respective EExx transmitter.

For T scale in °C, please use Txx code alone:

Example :

EE29-PFTD3025AB6-T57 T output scale: 4...20mA = -20...+140°C

For T scale in °F, please use E01-Txx:

Example:

EE31-PFTE3056AB5-E01-T57 T output scale: 0...10V = -20...+140°F

T01	-30...+40	T35	+100...+180	T69	0...+20	T103	-30...+100
T02	-40...+60	T36	0...+150	T70	-10...+25	T104	-60...+40
T03	-10...+50	T37	0...+130	T71	+50...+130	T105	-40...+40
T04	0...+50	T38	-40...+70	T72	+50...+140	T106	+10...+50
T05	0...+100	T39	-30...+20	T73	-20...+70	T107	0...+200
T06	-5...+45	T40	+20...+180	T74	-40...+356	T108	-112...+32
T07	0...+60	T41	+60...+110	T75	+32...+212	T109	-40...+32
T08	-30...+70	T42	-10...+100	T76	+32...+122	T110	-35...+50
T09	-30...+120	T43	-35...+35	T77	+20...+140	T111	-60...0
T10	-20...+120	T44	-40...+50	T78	-40...+248	T112	0...+30
T11	-10...+70	T45	-30...+50	T79	-40...+100	T113	-23...+85
T12	-40...+120	T46	0...+75	T80	-40...+176	T114	+60...+180
T13	+15...+25	T47	-20...+150	T81	-40...+250	T115	+10...+40
T14	-20...+100	T48	-20...+50	T82	-40...+350	T116	-80...+180
T15	+20...+120	T49	0...+170	T83	-40...+140	T117	+15...+35
T16	0...+120	T50	-10...+60	T84	-40...+300	T118	-70...+180
T17	0...+70	T51	-50...+70	T85	0...+140	T119	-25...+25
T18	-10...+40	T52	-40...+180	T86	0...+176	T120	-70...+60
T19	+10...+100	T53	+80...+120	T87	0...+248	T121	+55...+95
T20	-30...+60	T54	-30...+35	T88	0...+250	T122	-20...+20
T21	0...+80	T55	0...+40	T89	0...+350	T123	-80...+80
T22	-40...+80	T56	0...+5	T90	+32...+120		
T23	-30...+130	T57	-20...+140	T91	+32...+140		
T24	-20...+80	T58	+10...+30	T92	+32...+180		
T25	-20...+60	T59	-10...+30	T93	+32...+248		
T26	0...+180	T60	-20...+40	T94	+32...+250		
T27	-50...+50	T61	-5...+100	T95	+32...+300		
T28	-80...+60	T62	-5...+50	T96	+32...+132		
T29	-20...+180	T63	-80...+20	T97	-60...+120		
T30	0...+160	T64	-60...+60	T98	-60...+212		
T31	-5...+55	T65	-60...+20	T99	-110...+70		
T32	-80...0	T66	-50...+100	T100	-76...+140		
T33	-40...+160	T67	-80...+100	T101	+32...+350		
T34	-70...+40	T68	-40...+150	T102	-15...+25		