HUMIDITY TRANSMITTER

SEM167H1

- (4 to 20) mA or (0 to 10)V OUTPUT
- HIGH ACCURACY
- EXCELLENT STABILITY
- WALL, DUCT or REMOTE SENSOR MOUNTING
- CHOICE OF PROTECTION FILTERS
- REPLACEABLE "HUMI-CHIP"
- MOISTURE RESISTANT
- DISPLAY OPTION

INTRODUCTION

The SEM167H1 transmitter operates by using the value made by a highly accurate capacitive sensor that is integrated in a silicon microchip.
This new technology allows for accurate process measurements, is extremely reliable, and offers excellent long-term stability. The sensor is very durable and moisture resistant.
The "Humi-chip" module that incorporates the sensor can be easily interchanged without the need for re-calibration.
For further operator ease of use, relative humidity values can be displayed on the optional integrated LCD display, or sent via analogue outputs to other display devices

CHARACTERISTICS @25°C ENVIRONMENTAL TEMPERATURE

1st Output Humidity

Range	(0 to 100) % RH
Output	(4 to 20) mA 2 wire; 500 Ω max or (0 to 10) V; 500 Ω min
Accuracy	1.8 % between (10 to 90) % RH Non-linearity, hysteresis and repeatability included
Working limits	See figure 1
Typical long-term drift	< 0.5 RH % / Year

2nd Output Temperature (option)

Available Ranges	(-30 to +70) °C (-22 to 158) °F (-20 to +30) °C (-4 to 86) °F (0 to +50) °C (32 to 122) °F (0 to +100) °C (32 to 212) °F
Output	(4 to 20) mA 2 wire; 500 Ω max or (0 to 10) V; 500 Ω min
Accuracy	(4 to 20) mA <0.5 °C between (-20 to 80) °C (-4 to 176) °F (0 to 10) V <0.5 °C between (0 to 50) °C (32 to 122) °F

RTD Output - as alternative to mA or V Output
(PT100 IEC 751)
Tolerance: Class B (1/2 Din) - 3 wire connection

LCD display (option)

Digital display dimensions	10.5 mm
Display Range	0.0 to 100.0 % RH

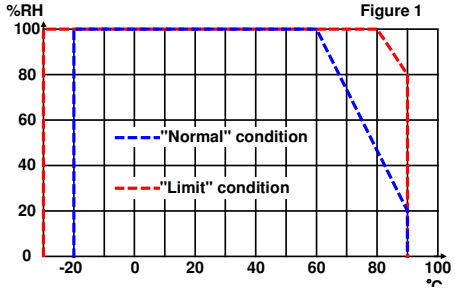
Power Supply

(4 to 20) mA Output	(10 to 30) Vdc
(0 to 10) V Output	(18 to 27) V ac or (20 to 30) V dc (Power consumption 2 W Max)

General Characteristics

Housing material	Epoxy painted aluminum (RAL7038)
Protection	IP66
Probe material	SS AISI316 for remote sensor version PVDF - probe for duct mounting version
Safety	Compliance to EN61010-1, double isolation, pollution class 2, installation class II
Electromagnetic Compatibilty	Compliance to CE standards EN50081-2, EN50082-2
Environmental temperature housing	(-25 to +70) °C standard (-20 to +60) °C with 2nd temperature output and / or display
Electrical Housing	Spring terminal strip, AWG28-16 wire

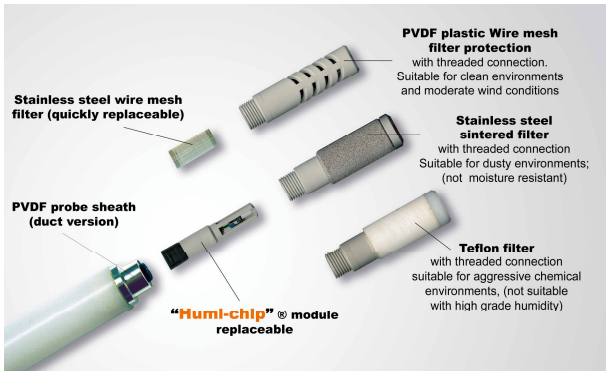
Figure 1

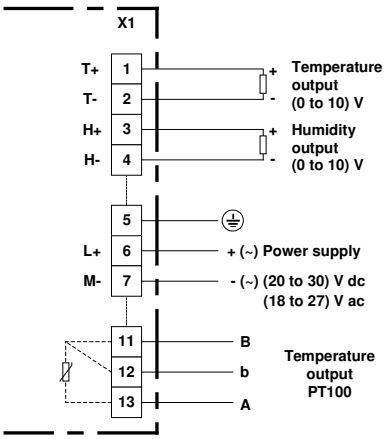


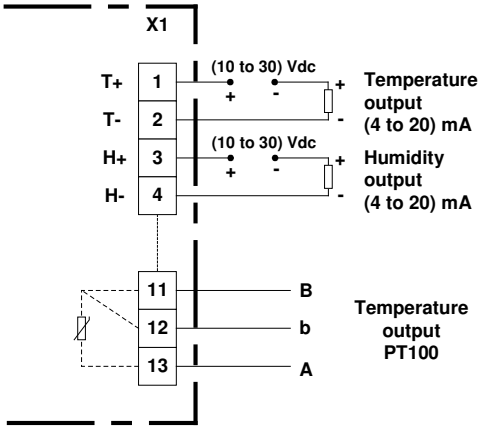
The measured reading tolerance is guaranteed through the "Normal" working conditions
A long-time period, at "Limit" conditions may generate a permanent drift up to +2 RH %.

STATUS INSTRUMENTS

HUMIDITY TRANSMITTER







SEM 167H1 - A B C D - E F G - H I 0 0

Mounting	Dimensions	A	B
Wall	Ø13 x L52	P	0
Duct	Ø20 x L250	C	2
	Ø20x L500	C	5
Remote	Ø20 x L100, cable 2 m	R	2
	Ø20 x L100, cable 5 m	R	5

Probe material — C
PVDF: 0

Filter — D
Stainless steel wire mesh: R
Sintered: S
Teflon: T

1st Output - humidity — E
(4 to 20) mA (2 wire) / (0 to 100) % RH: 1
(0 to 10) V / (0 to 100) % RH: 2

LCD Display (option) — I
Not fitted: 0
Internal LCD Display: D

Electrical connections — H
Terminal, with M16 conduit: M

Temperature range — G
(if F = 0 or F = P)
(-30 to +70) ℃: 1
(-20 to +30) ℃: 2
(0 to +50) ℃: 3
(0 to +100) ℃: 4

2nd Output -Temperature (option) — F
not fitted: 0
(4 to 20) mA (2 wire) when 1st output = (4 to 20) mA: 1
(0 to 10) V when 1st output = (0 to 10) V: 2
PT100 - Complaince with IEC751: 3

Accessories / Spares

H-HUMICHIP	Pre-calibrated Humi-Chip Module
H-FR125	Wire mesh filter + PVDF plastic protection
H-FS105	Stainless steel sintered filter
H-FT10	Teflon Filter
H-FLA20	Adjustable flange Ø100 self-locking
H-SMP01	Wall mounting bracket for remote sensor
H-SFE2	Mounting brackets

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