

SRC-H1 Indoor Humidity Transmitter

Features

- Replaceable sensor element
- Indoor humidity measurement
- Minimum and maximum value memory
- 0...10V, 0...20mA or 2...10V, 4...20mA measuring signals selectable with jumpers
- Optional alternative signal ranges programmable
- Selectable averaging signal
- Optional external display (OPU-S)
- Status LED

Applications

- Indoor, Indoor humidity measurement for heating, ventilation and air conditioning applications.
- Recording of minimum and maximum values for critical environments
- Supervision of critical humidity



Humidity transmitter

A unique capacitive sensor element is used for measuring relative humidity. The applied measuring technology guarantees excellent reliability and long term stability. The microprocessor samples the humidity once per second. It calculates an averaging signal over a preset number of seconds and generates the output signal. Standard output signal range and types may be selected by jumpers. Standard signal ranges are: 0...10VDC, 0...10VDC, 4...20mA and 0...20mA. Other ranges can be defined by using a programming tool (OPU-S).

Minimum and maximum values:

Using a display & programming accessory, the user has the option to read out and reset minimum and maximum values. The minimum and maximum values may as well be used as output signals. The minimum and maximum values are saved into the EEPROM and are available after a power interruption.

Ordering

Per default a sensor element with 3% RH accuracy is included. Contact your local sales contact to order sensing elements with different accuracies.

Transmitter

Item Name	Item Code	Description/Option
SRC-H1-A3	40-30 0140	Humidity transmitter

Sensor element

Item Name	Item Code	Humidity Accuracy [%rH]	Temperature Accuracy [K] @25°C (77°F)	Description/Option
AES1-HT-A2	40-50 0067	2%	± 0.5°	Humidity sensor element
AES1-HT-A3	40-50 0068	3%	± 0.4°	
AES1-HT-A5	40-50 0069	5%	± 0.3°	

Accessories

Item Name	Item Code	Description/Option
OPU-S	40-50 0006	External display module

Technical Specification

Warning! Safety advice! This device is intended to be used for comfort applications. Where a device failure endangers human life and/or property, it is the responsibility of the owner, designer and installer to add additional safety devices to prevent or detect a system failure caused by such a device failure. The manufacturer of this device cannot be held liable for any damage caused by such a failure. Failure to follow specifications and local regulations may endanger life, cause equipment damage and void warranty.

Power Supply	Operating Voltage Transformer	24 V AC 50/60 Hz \pm 10%, 24VDC \pm 10% SELV to HD 384, Class II, 48VA max	
	Power Consumption	Max 2 VA	
	Terminal Connectors	For wire 0.34...2.5 mm ² (AWG 24...12)	
	Sensing Probe	Humidity Sensor: Capacity sensor element	
Sensing Probe	Range	0...100 % rH	
	Measuring Accuracy	See Figure 1	
	Hysteresis	\pm 1%	
	Repeatability	\pm 0.1%	
	Stability	< 0.5% / year	
Signal Outputs	Analog Outputs	DC 0-10V or 0...20mA	
	Output Signal Resolution	10 Bit, 9.7 mV, 0.019.5 mA	
	Maximum Load	Voltage: \geq 1k Ω Current: \leq 500 Ω	
	Environment	Operation Climatic Conditions Temperature Humidity	
Environment	Transport & Storage Climatic Conditions Temperature Humidity	To IEC 721-3-3 class 3 K5 0...60°C (32...140°F) <95% R.H. non-condensing	
	Mechanical Conditions	To IEC 721-3-2 and IEC 721-3-1 class 3 K3 and class 1 K3 -40...70°C (-40...158°F) <95% R.H. non-condensing class 2M2	
	Standards	CE conformity EMC Directive Low Voltage Directive	
	Standards	Product standards automatic electrical controls for household and similar use	2004/108/EC 2006/95/EC
		Electromagnetic compatibility for domestic and industrial sector	EN 60730-1
		Degree of Protection	Emissions: EN 60 730-1 Immunity: EN 60 730-1
Safety Class		IP30 to EN 60 529	
General		Housing Materials Cover Mounting Plate	III (IEC 60536) Fire proof ABS plastic Galvanized Steel
General	Dimensions (H x W x D)	21 x 88 x 88 mm (0.8 x 3.5 x 3.5 in)	
	Weight (including package)	160 g (5.6 oz.)	

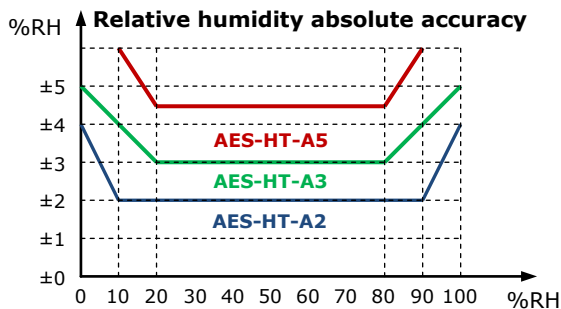
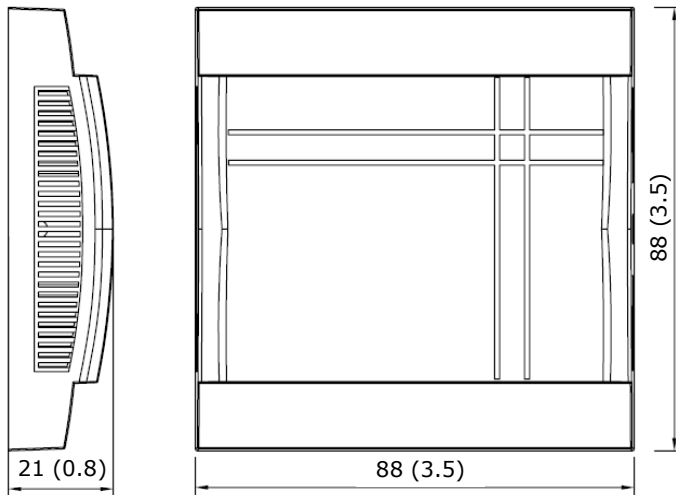


Figure 1: Max RH-tolerance at 25°C (77°F) per sensor type

Note on accuracy: Allow 1 hour after power up for compensation swing until described accuracy is reached.

Dimensions mm(inch)**Mechanical Design and Installation**

The unit consists of two parts: (a) The mounting plate and (b) the cover with the transmitter.

Mounting location

Mount the transmitter on a flat interior wall of the room to be controlled. Do avoid obstructions such as shelves, curtains and recesses. Do not place near heat sources, draft channels. Do not expose to direct sunlight.

Warning about storage, packaging and usage environment

The sensing part is a polymer, which measures the humidity in the ambient air. For proper sensor operation some mandatory precautions need to be taken during storage, packaging and usage. The transmitter and its sensing element should not be packaged, stored or used in out-gassing plastic materials, which could cause sensor contamination. In particular, it is recommended not to use any glue or adhesive tapes (duct tape, Scotch® tape, etc.) within the package or close proximity of the sensor. Foamed materials often cause contamination problems and should not be used to package the transmitter. Best packaging material is a simple cardboard box or a deep-drawn plastic case in a cardboard box.

Mounting instruction / replacing the sensor element

See installation sheet no. 70-000568 (www.vectorcontrols.com).

Configuration

The transmitter can be adapted to fit perfectly into any application by adjusting the software parameters. The parameters are set with the operation terminals OPU-S. The OPU-S may also be used as remote indicator.

Input configuration

Parameter	Description	Range	Default
IP 00	H1: Show Percent	ON, OFF	ON
IP 01	H1: Samples taken for averaging control signal	1...255	10
IP 02	H1: Calibration	-10...10%	0

Output configuration

Parameter	Description	Range	Default
OP 00	AO1: Humidity: Configuration of output signal: 0 = Feedback humidity input, 1 = Feedback humidity minimum value 2 = Feedback humidity maximum value	0 – 2	0
OP 01	AO1: Humidity: Minimum limitation of output signal	0 – Max %	0%
OP 02	AO1: Humidity: Maximum limitation of output signal	Min – 100%	100%

Output signal configuration

The analog output signal type may be configured with a jumper for 0-10 VDC or 0-20 mA control signals. The jumpers are located next to the terminal connector of each analog output. See table below for jumper placement. The factory setting is to 0-10 VDC.

Signal Type	JP1
0 – 10 V	(1-2)
0 – 20 mA	(2-3)

The signal range may be set with JP3 for both analog outputs. JP3 will only operate if the output range specified with OP01 and OP02 is left at the default position of 0...100%. With any other setting the position of JP3 has no influence and the range defined with the output parameters applies.

Signal Range	JP3
0 – 10 V, 0 – 20 mA	(1-2)
2 – 10 V, 4 – 20 mA	(2-3)

Jumper settings

JP1 Signal type	
3	U1
2	0-10V, 2-10V
1	
3	I1
2	0-20mA, 4-20mA
1	

JP3 Signal range	
3	U1: 0-10V
2	I1: 0-20mA
1	
3	U1: 2-10V
2	I1: 4-20mA
1	

