

2-WIRE, RH+T TRANSMITTER

Dual (2x2) Outputs, Pt100 Option

Surface mount



Surface mount with mini round sensor



Duct mount



ABOUT RHT861

RHT861 accurately measures humidity using capacitive sensor technology & temperature using band gap sensor technology. It can calculate dew point. It generates upto four, 2-wire mA outputs that can be assigned to RH, T or Dew point using optional 7 segment LCD display and keys or remote display module or PC based configurator. For precision measurement of temperature, RTD sensor option available. Wall mount, duct mount or remote sensor versions available.

APPLICATIONS

- Clean room monitoring
- HVAC/building monitoring
- Green house monitoring
- Process system monitoring
- Air economizers, Air quality monitor

FEATURES

Transmitter features

- 4 analog isolated outputs with true 2-wire operation
- Isolation : 1500 V AC RMS, 50 hz / 1 minute
- Precision Class A Pt100, Pt500, Pt1000 or band gap temperature sensor options
- Accuracy $\pm 2\%$ RH, $\pm 0.5\text{ }^{\circ}\text{C}$ for band gap & $\pm 0.2\text{ }^{\circ}\text{C}$ for RTD Class A sensor
- Any number of outputs (1~4) can be assigned to any parameter : RH, T or dew point
- Dual row 7 segment LCD option to display RH, Temperature or Dew point (programmable)
- Parameter configuration via LCD & keys or remote display module or PC configurator using USB to Serial Converter DCC501

Humidity & temperature sensor features

- Replaceable wall mount, duct mount or remote RH+T sensor option available
- Remote sensor option can be used where space is limited
- Mini round RH+T sensor option (See Fig 5)
- Long term stability of RH+T sensor
- Protected solder pads of sensor for anti corrosion
- Sensor is condensation resistant
- Sintered bronze filter cap, stainless steel or wiremesh option

2-WIRE, RH+T TRANSMITTER

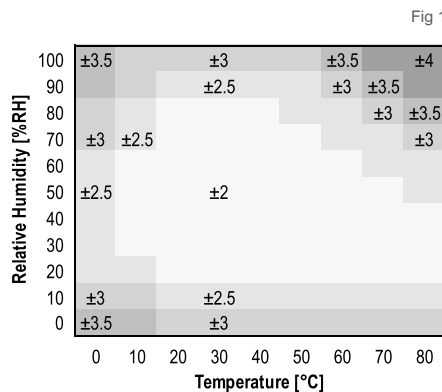
Dual (2x2) Outputs, Pt100 Option

SPECIFICATIONS

All specifications at ambient of 25 °C, 24VDC unless specified otherwise

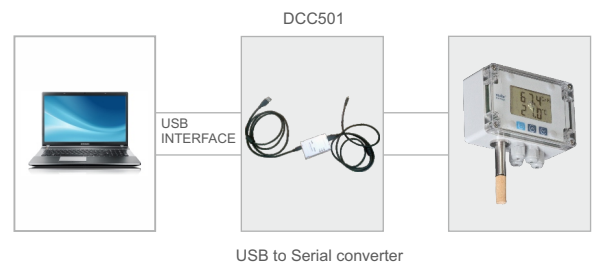
INPUT		
Sensor type	RH Temperature	Capacitive Band gap , Pt100, Pt500, Pt1000 class A RTD temperature sensor
Range limits		
Default calibration	Normal	0~100% RH, non-condensing 0~50 °C (0~158 °F)
Maximum		-40~120 °C (-40~248 °F) (See fig.1)
Standard calibration		0~100% RH : 4~20mA 0~50 °C : 4~20mA Other calibration ranges, eg. 25~95 %RH & 0~75 °C, can be programmed through USB to Serial Converter DCC501
INDICATION		
Display		Dual 7-segment, 4-digit, 0.5" (12.7 mm) LCD
MONITORING		
Sensor break detection		
Upscale current		~22 mA
Downscale current		~3.8 mA
OUTPUTS		
Current output		
Output1		2-wire, 4~20 mA (RH or T)
Output2		2-wire, 4~20 mA (RH or T)
Output3		2-wire, 4~20 mA (RH or T)
Output4		2-wire, 4~20 mA (RH or T)
Permissible load		500 Ω @ 24 V DC, 20 mA
Current limit		~22 mA
ACCURACY		
Linearity & calibration		± 2% RH, ± 0.5 °C for bandgap temperature sensor, ± 0.2 °C for RTD Class A
Temperature effect on accuracy		± 0.5% of span / 25 °C
Supply voltage effect		± 0.002% of span / V
Supply ripple effect,		± 0.005% of span
50/60 hz, 5 Vp - p		
POWER SUPPLY		
Supply voltage		13.5~32 V DC loop supply
ISOLATION		
Mutual isolation between each output		1500 V AC RMS, 50 hz / 1 minute
TEMPERATURE, HUMIDITY		
Ambient, storage		-25 to +70 °C
Ambient, operation		-20 to +50 °C
Relative humidity		0 ~ 100% RH
MECHANICAL		
Dimensions		See fig.2 ~ 6
Cable gland		PG7, suitable for cable dia 3 to 6.5mm
MOC		
Enclosure		ABS plastic
Sensor tube		SS304
Sensor filter		a) Sintered bronze b) Stainless steel
Protection		
Enclosure		IP65
Sensor		IP67

OPERATING RANGE OF SENSOR



PC CONFIGURATOR FOR RHT861

DCC501 USB to Serial converter can be used to program the parameters. The Programmer DCC501 must be purchased separately.

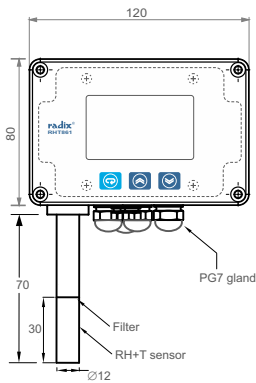
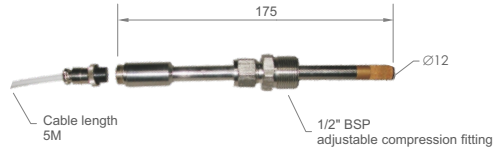


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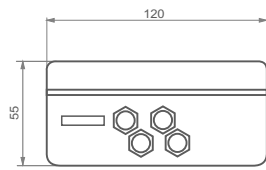
Dual (2x2) Outputs, Pt100 Option

DIMENSIONS mm

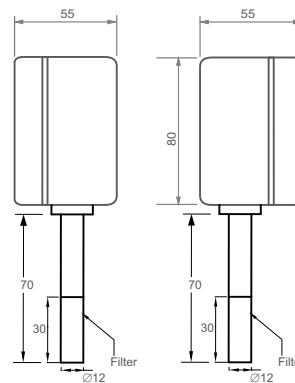
Remote Sensor
Fig 2



Top View



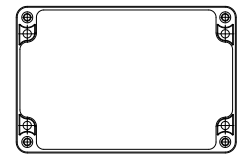
Front View



Right Side View

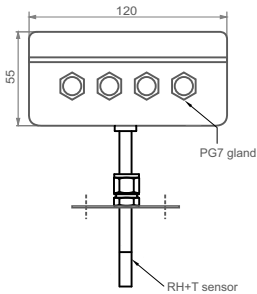
Left Side View

Surface mount
Fig 3

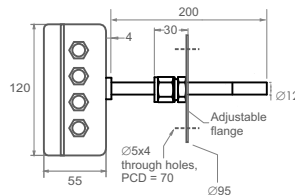


Rear View

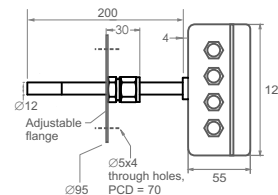
Duct mount
Fig 4



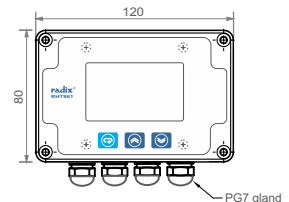
Front View



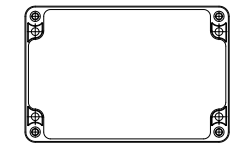
Right Side View



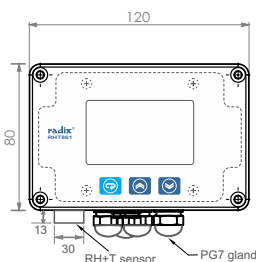
Left Side View



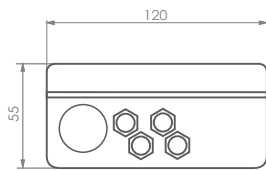
Top View



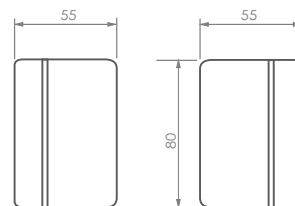
Rear View



Top View



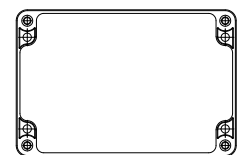
Front View



Right Side View

Left Side View

Surface mount with mini round sensor
Fig 5



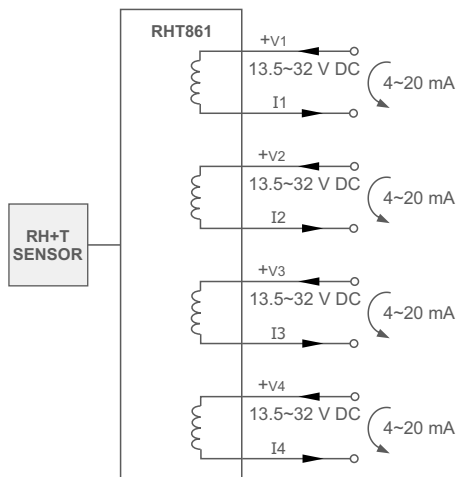
Rear View

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Dual (2x2) Outputs, Pt100 Option

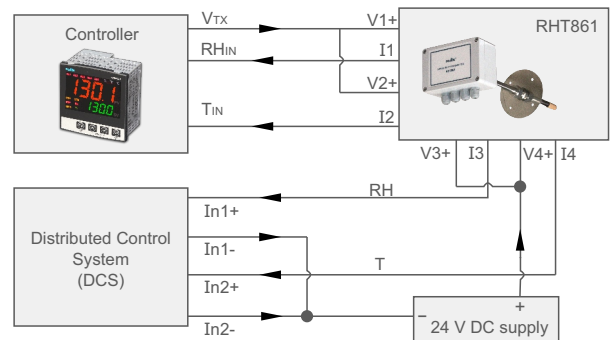
CONNECTION DIAGRAM

Connection for four isolated loop powered outputs

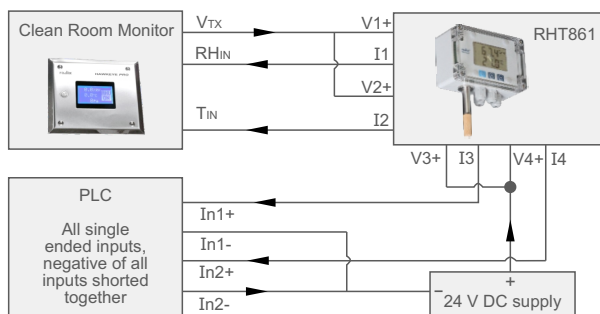


- Note :
1. All outputs are isolated from each other
 2. All outputs are isolated from input sensor in case of blind instrument
 3. Each output can be RH or T

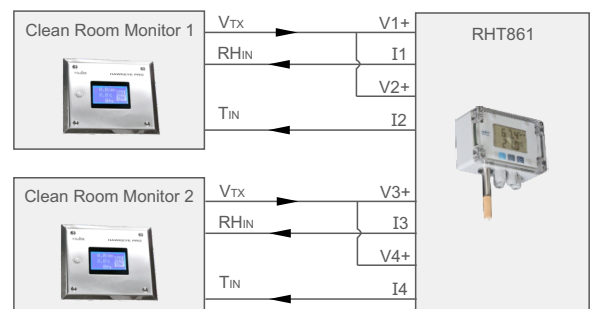
RHT861 connected to controller and DCS



RHT861 connected to clean room monitor and PLC



RHT861 connected to two clean room monitors



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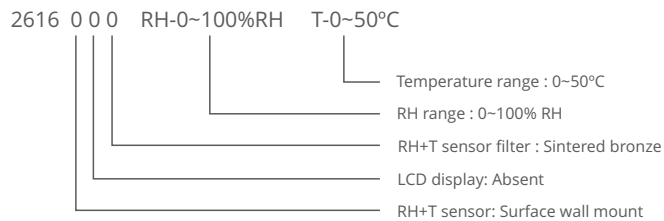
Dual (2x2) Outputs, Pt100 Option

ORDERING INFORMATION

Example	2616	0	0	0	RH	T	
Product code	2616						
RH+T sensor		0					Surface wall mount (see fig.3)
		1					Duct mount (see fig.4)
		2					Mini round sensor (see fig.5)
		3					Remote sensor (see fig.2)
LCD display			0				Absent
			1				Present
RH+T sensor filter (See note *)				0			Sintered bronze
				1			Stainless Steel
				2			PVC
RH range					RH		Please specify range for RH within the range limits
Temperature range						T	Please specify range for T within the range limits

*Note : Sintered bronze : Dusty applications, RH < 90%
 PVC : High RH application with possibility of condensation
 Stainless steel : Pharma & corrosive application, RH < 90%

EXAMPLE



PC CONFIGURATOR

Parameter	Model	Order Code
USB-to-Serial Converter	DCC501	2555

SPECIAL ORDER CODES

A. Temperature sensor	0	Semiconductor sensor
	1	Pt100
	2	Pt500
	3	Pt1000
B. Tube length for duct mount	0	100 mm
	1	300 mm
	2	450 mm
	3	User specified
C. Cable length for remote sensor	0	5 meter
	1	10 meter
	2	15 meter
	3	20 meter

CAT#647R2/A

ENQUIRIES

Instruments: sales@radix.co.in
 Sensors: sensors@radix.co.in
 Gauges: gauges@radix.co.in
 Automation: automation@radix.co.in
 Level: level@radix.co.in

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