

# THE CLEAN ROOM MONITOR

RH+T+DP INDICATOR, RH, T, DP SENSORS/TRANSMITTERS WITH VOLTAGE/CURRENT OUTPUT

- RH, Temperature & DP measurement
- 128x64 monochrome LCD with backlight
- Software programmable channel ranges, units & input types
- User programmable for 1, 2 or 3 channel measurement
- 3 programmable Alarms with visual annunciation
- Alarm acknowledgment through No Touch key
- Real Time Clock with battery back-up
- Software calibration for all 3 channels
- RS485/MODBUS RTU multidrop communication for PLC, SCADA, etc.
- 20~30 VDC or 85~265 VAC SMPS supply
- Powerful, user-friendly SCADA available
- FDA 21CFR Part11 compliant SCADA version also
- Advanced digital RH+T+DP sensor technology



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## SPECIFICATIONS

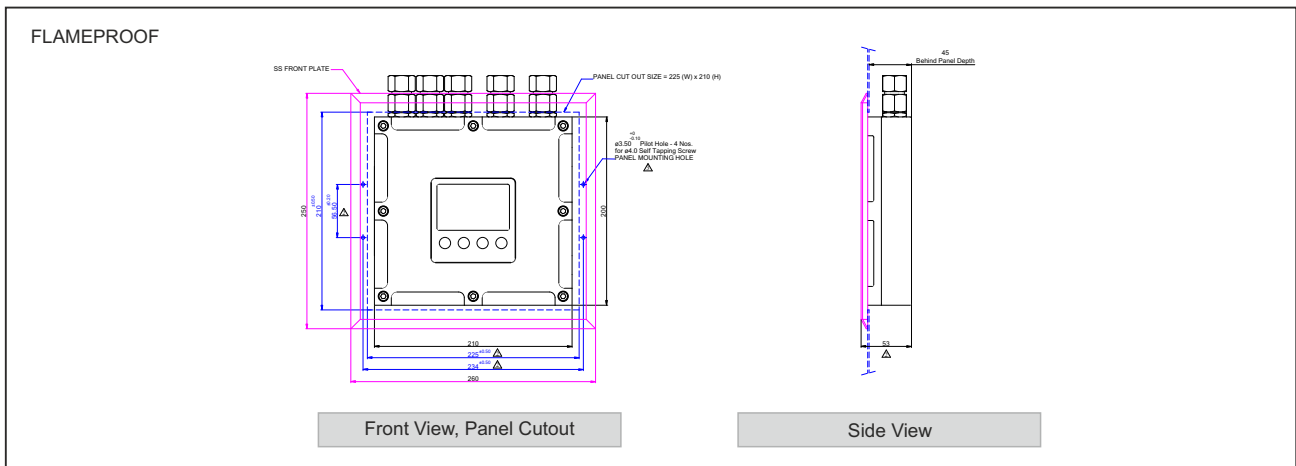
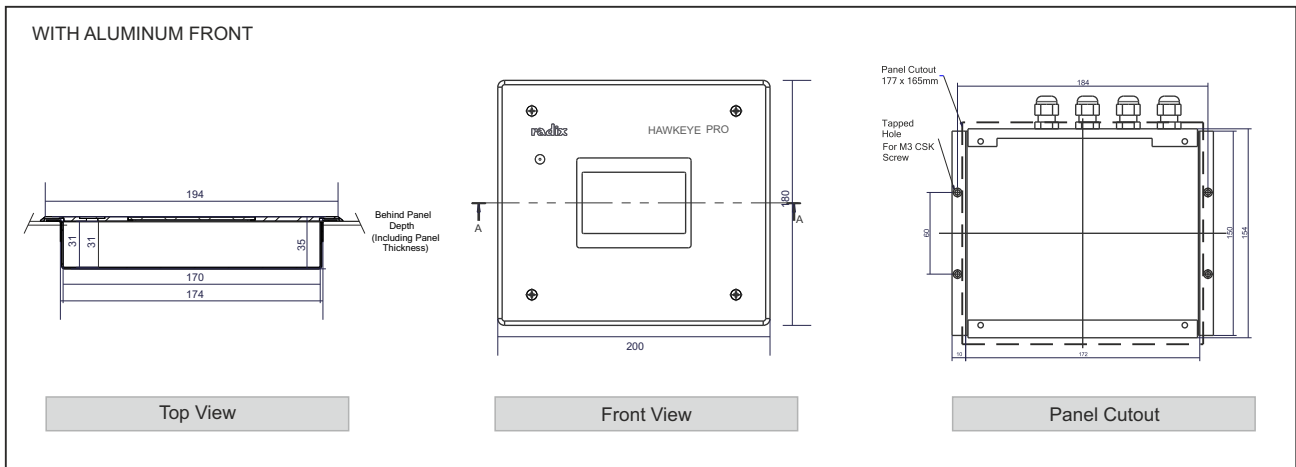
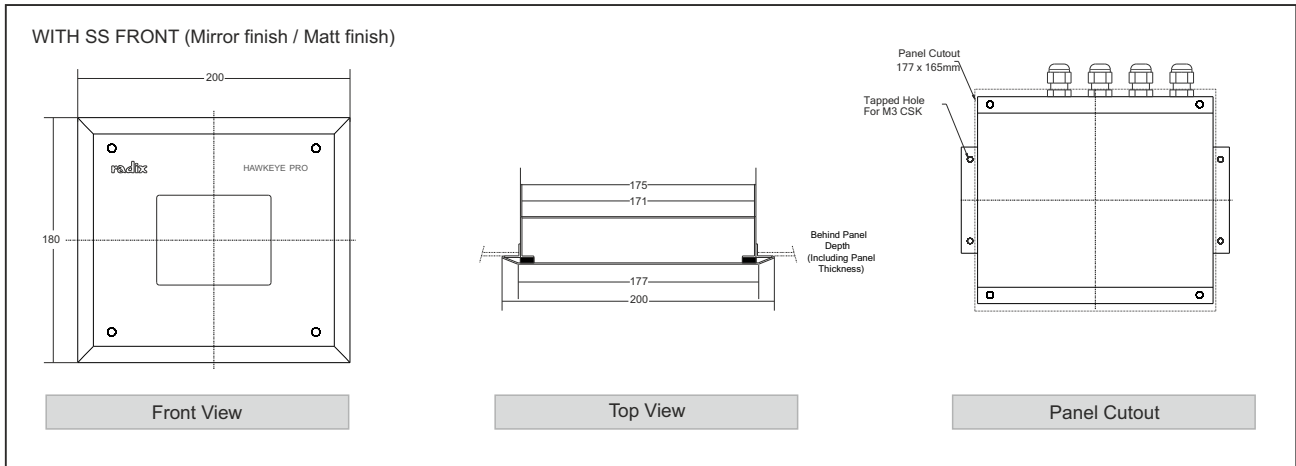
All specifications at ambient of 25 °C, unless specified otherwise

<b>INPUTS</b>	
No. of inputs	3 (RH, T, DP)
Input RH	a) 0-1 V DC b) 0-10 V DC c) 0-20 mA d) 4-20 mA e) Integral, radix RH+T sensor
Input T	a) 0-1 V DC b) 0-10 V DC c) 0-20 mA d) 4-20 mA e) Integral, radix RH+T sensor
Input DP	a) 0-1 V DC b) 0-10 V DC c) 0-20 mA d) 4-20 mA e) Integral Radix DP sensor
Transmitter supply (V <sub>TX</sub> )	20 V nominal, 100 mA max
Range	%RH 0-100% RH Temperature -19.9 ~ 90.0 °C (user selectable) DP -199 ~ 900Pa, -19.9 ~ 90.0mmWC (user selectable)
Accuracy	
For Integral Sensors	
%RH	± 2% RH
Temperature	± 0.3 °C
DP	± 1.5% of reading ± 5 Pa, ± 1.5% of reading ± 0.5 mmWC
For Remote Input	
%RH	± 1% RH
Temperature	± 0.25% of span (min ±0.2 °C)
DP	± 0.25% of span (min ±0.3 mmWC)
<b>INDICATION</b>	
Display type	128x64 monochrome LCD with backlight
<b>OUTPUTS</b>	
Buzzer output	1
No. of visual alarms	6
Alarm acknowledge	Through No touch
<b>ANALOG OUTPUT</b>	
Current	0-20 mA, 4-20 mA
Load for current output	0-500Ω
Voltage	0-2 VDC, 0-5 VDC, 0-10 VDC / user specified
Load for voltage output	> 10 kohms
<b>ISOLATION</b>	
Mutual isolation between input, supply, analog output, RS485	1000 VAC RMS, 50hz / 1minute
<b>CLOCK</b>	
Real time clock	Provided
Battery backup	Provided
<b>RTC ACCURACY</b>	
Stand-alone mode	±5 seconds per day
Slave with SCADA as Master	Same as Server RTC ±10 sec
<b>COMMUNICATION</b>	
Port	RS485, isolated
Baud rate	9600 bps
Protocol	Modbus RTU
Slave ID	User programmable, 1-247
Data type	Integer x 10
Parity	None
Stopbit	1
Minimum polling interval	200 milliseconds
Parameters	
Process Variables	Read only
Setpoints	Read & write
Alarm Status	Read only
Hysteresis	Read & write
Alarm Activation Delay	Read & write
Power On Activation Delay	Read & write
Input Bias	Read & write
Input Skip	Read & write
RTC Synchronization	Read & write
Input Range	Read & write
Alarm acknowledge counter	Read & write
<b>ENCLOSURE</b>	
MOC	Faceplate Body
	SS304 mirror finish, SCC304 matt finish, Aluminum MS, powder coated
Dimensions (in mm)	SS304 200(W)x180(H)x31(D) mm Aluminum 200(W)x180(H)x65(D) mm
Mounting	Modular panel Brick wall
	50 mm or more Using accessories grouting box and SS304 interface plate (both to be ordered separately) 177(W) x 165(H)
Cutout (in mm)	
<b>ENCLOSURE - FLAMEPROOF</b>	
Certification	Flameproof for Gas Groups Exd IIA/IIB, Zone 1 & Zone 2
Protection	IP55, except sensor tube
Dimensions (in mm)	200(H) x 210(W) x 50(D) (without cable gland) 260 x 250 (SS Plate)
Cable entry size	1/2" BSP (5 Nos. max) or M12 (6 Nos. max)
Mounting	Wall / Surface / Panel
Panel cutout (in mm)	210(H) x 225(W)
<b>PROGRAMMABLE PARAMETERS</b>	
Setpoint	% RH 0 ~ 100 Temperature 0 ~ 50.0 °C DP -19.9 ~ 19.9 mmWC -199 ~ 199 Pa
Resolution	1 for RH 0.1 for T 0.1 for DP unit mmWC 1 for DP unit Pa
Sensor break	Upscale, Downscale for each output
Presets	Sensor break output value Downscale : 3.5 ~ 4 mA Upscale : 20 ~ 22 mA A (minimum) ~ F (maximum) User selectable
Digital filter	a. Full scale high b. Full scale low
Hysteresis	Self reset
Alarm logic (Fig 1)	User selectable, 0-2400 sec
Alarm type	User selectable, 0-99 min
Alarm activation delay	ON, OFF
Alarm deactivation delay	
Setpoint lock	
<b>OTHER</b>	
Programming	Through 3 tactile keys
Supply voltage	a) 85-265 V AC, 50/60 Hz b) 20-30 V DC
Power consumption	4 watts maximum
Operating ambient temperature	0-50 °C
Relative humidity	Below 90%, non condensing

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## DIMENSIONS mm





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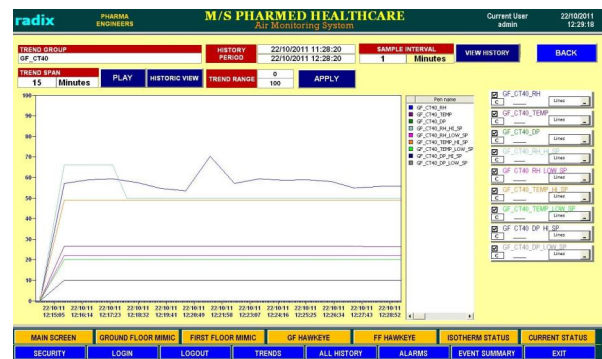
## ORDERING INFORMATION

### FLAMEPROOF

Product code	2664										
RH Input	1										None
	2										4~20 mA
	3										0~10 VDC
Temperature Input		1									None
		2									4~20 mA
		3									0~10 VDC
DP Input			1								None
			2								4~20 mA
			3								0~10 VDC
DP Unit				1							None
				2							mmWC
				3							Pa
AHU Input					1						None
					2						Potential free input
					3						Remote (through SCADA/RS485)
RTC Display					1						Not provided
					2						Yes (HH:MM, dd:mm:yy)
RH Output						1					None
						2					4~20 mA
						3					0~10 VDC
T Output							1				None
							2				4~20 mA
							3				0~10 VDC
DP Output								1			None
								2			4~20 mA
								3			0~10 VDC
Buzzer									1		None
									2		Potential free input
									3		Input with external supply
									4		Output without AHU
									5		Output with AHU
									6		Open collector output
ALM ACK									1		None
									2		No touch
Communication										1	Not provided
										2	RS485, Isolated
Supply Voltage										1	85~265 VAC
										2	17~35 VDC
										3	17~35 VAC

## SCADA SOFTWARE

- SCADA Software - Elipse E3
- Flexible trend facility - current and historical
  - Alarm function
  - Allows read (acquire data) & write (program setpoint, etc) operations
  - Supports thousands of tags
  - Supports upto 32 or more instruments
  - Capable of storing data upto 10years
  - Default screen selection



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## OTHER INFORMATION

- Inputs are configurable for any parameter (RH, T, DP) on any channel  
For example, Ch1 - T, CH2 - RH, CH3 - DP  
Ch1 - DP, Ch2 - DP, Ch3 - DP, etc.
- We provide 7 different user selectable screen for displayed PV in RUN MODE

a) CH1-CH2-CH3



b) CH1-CH2



c) CH1-CH3



d) CH2-CH3



e) CH1



f) CH2



g) CH3



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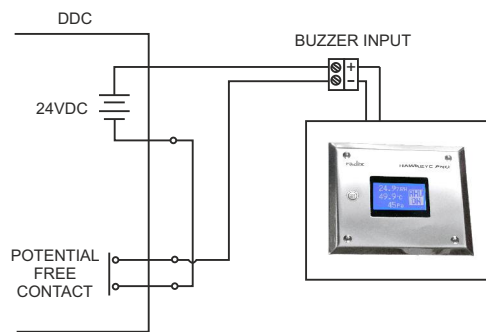
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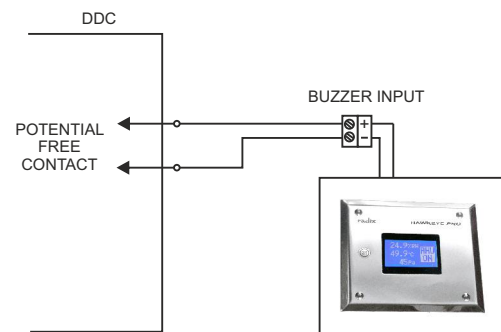
- 3) We provide 2 different factory selectable outputs
- a) Open Collector Output  
It is used to drive external 6V relay. Common output for all 3 inputs.
  - b) Buzzer
    - I) Buzzer as a OUTPUT  
Buzzer is controlled through the instrument and can be acknowledged using No Touch key.  
The alarm logic can be seen in Fig. 1

### II) Buzzer as a INPUT

(i) Buzzer operated with external supply



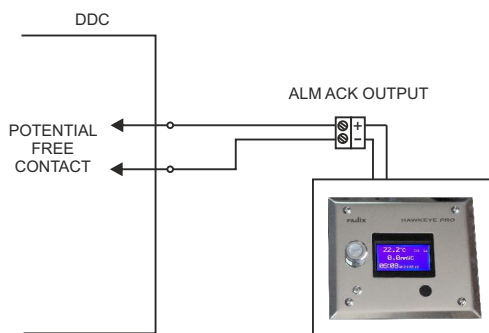
(ii) Buzzer operated with potential free input



Note : Buzzer & Alarm acknowledge key (No Touch) is given as a input so we do not have any control from Instrument.

### 4) Alarm Acknowledgment

No Touch Key (potential free contact which can be connected to DDC as an input)



CAT#567R1/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

RADIX ELECTROSYSTEMS PVT LTD  
 B-14, 2nd Floor, Ghanshyam Indl Estate  
 Veera Desai Road, Andheri (West)  
 Mumbai - 400 053, India  
 + 91 22 42537707 | sales@radix.co.in

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 www.radix.co.in