

## DEW POINT SAMPLING UNIT



- Reliable measurement with accuracy up to  $\pm 1^\circ$  Ctd.
- Retransmission output & RS 485 MODBUS RTU protocol.
- Lightweight aluminum module design and portable.
- Both ADP and PDP measurement.
- High Repeatability.

### 1. General

Product Classification	: Standard (S Category)
Product group	: Measuring Instrument, Dew Point meter
Product series	: SM
Model Variance	: SM A01 AG
End Connection, Inlet	: 1/4" BSPP (F)

### 2. Rated Condition

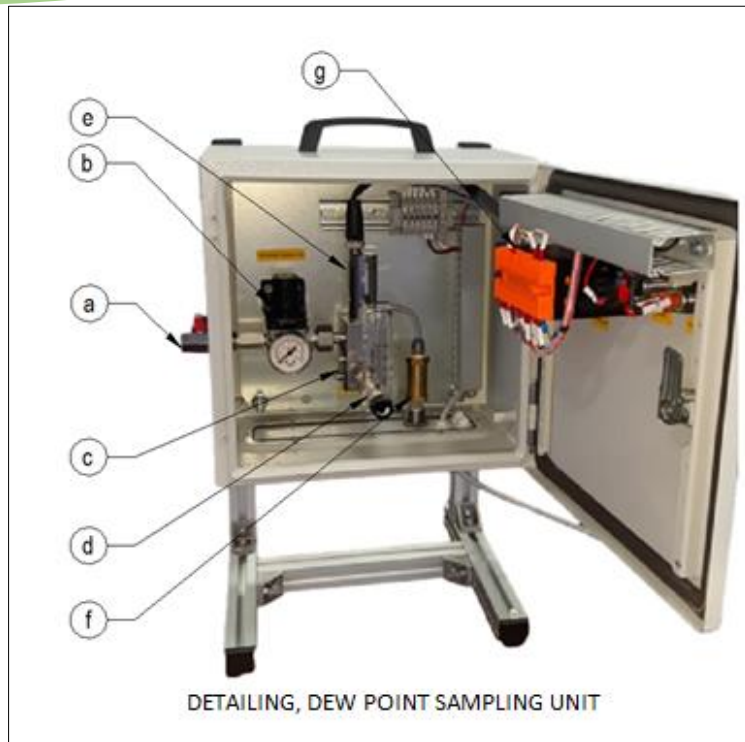
Operating Pressure Range	: 0 to 10 bar g
Operating Temperature Range	: -20 to 70°C
Relative Humidity Range	: 0 to 100 %
Moisture Range (PDP)	: -80 to 20 °Ctd

### 3. Design Condition

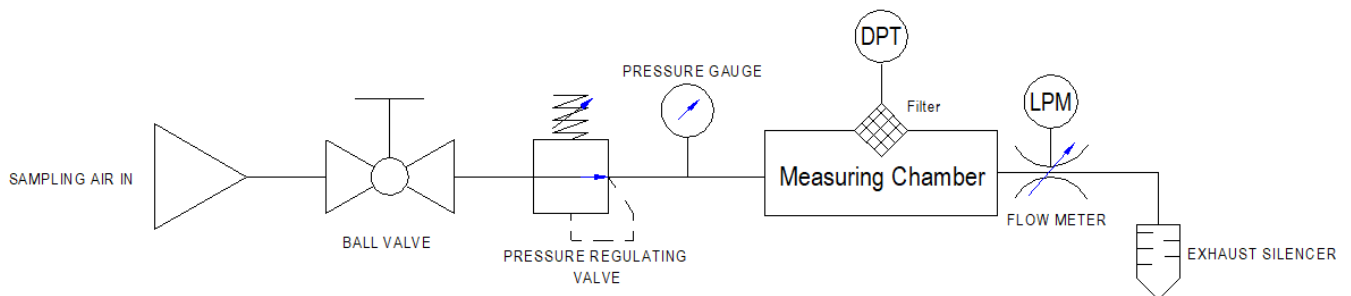
Power Supply	: 220 VAC $\pm 10\%$ , 1 Ph, 50Hz $\pm 3\%$
Power consumption	: 10 watts Max.
Usage	: Portable

### 4. Instrumentation components & its purpose

- |                                |  |
|--------------------------------|--|
| a) Ball valve                  | : To open or close sample air                                    |
| b) Pressure regulator          | : To regulate the air to required pressure (0 to 10 bar g)       |
| c) Measuring chamber           | : Cell which act as buffer space for consequent sampling.        |
| d) Flow meter                  | : Controls the sampling air flow rate (0.3 to 3 LPM)             |
| e) Dew point transmitter (DPT) | : Generates the electrical signal proportional to moisture level |
| f) NRV                         | : Prevents sensor to interact with atm. air when idle            |
| g) Process indicator           | : Process electrical signal into useful measurand.               |



## 5.P&ID



P&ID, Dew Point Sampling unit

## 6. Dew Point Transmitter

Measuring Range	: - 80 to 20 °C
Protection Class	: - 0 to 10 bar g
Operating Temperature Range	: -20 to 70°C
Accuracy	: Typical $\pm 1^{\circ}\text{C}$ -20 to 20°Ctd   $\pm 2^{\circ}\text{C}$ -50 to -20°Ctd   $\pm 3^{\circ}\text{C}$ -50 to -80°Ctd
Repeatability	: $\pm 0.5^{\circ}\text{C}$
Operating Temperature Range	: -20 to 70°C
Power Supply	: 24VDC
Output power transmission	: 4 to 20 mA
Sensor Protection	: Sintered SS filter, 50 $\mu\text{m}$

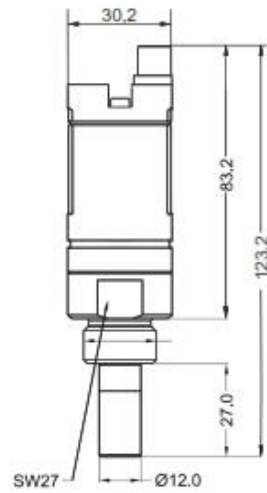
- Measuring Range : - 80 to 20 °C
- End Connection (Sensor) : G ½" M (Stainless steel thread)
- Elec. Connection : M12, 5 Pole
- MOC : Zinc Alloy

**Note:** The sensor must be connected in strain less state only.

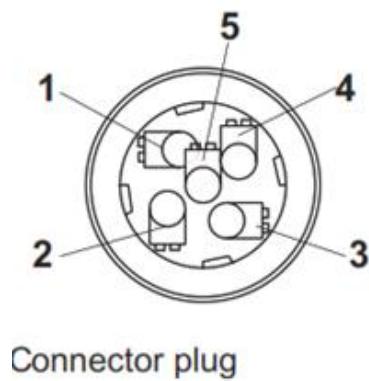
Pin Configuration					
Pin No.	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
Connector Plug	+VB	RS 485 A	-VB	RS 485 B	+I Current output.



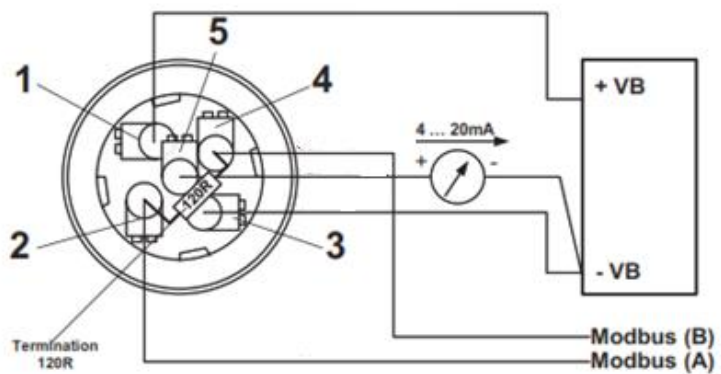
### Dimensions



### M12 connector plug



### Wiring diagram



## 7. Enclosure panel

MOC : MS CRCA  
Surface Finish : Powder Coated

## 8. Push Button Switch & Buzzer

### a. Push Button

Category : Antivandal  
Type & Contact : Latching & 1NO 1NC  
V/Amps : 230VAC/3A  
SIZE/LED color : 19mm / Green  
MOC : Stainless Steel



### b. Buzzer

Category : Antivandal  
Volt : 230VAC  
SIZE/LED color : 22 mm / Red  
MOC : Stainless Steel



## 9. Process Indicator

Display : 7 Segment LED Display  
Display Configuration : 4 digits  
Resolution : 1 / 0.1/0.01/0.001  
Moisture Range (PDP) : -80 to 20 °Ctd  
Retransmission output : 0-20mA DC / 4-20mA DC / 0-10V DC / 0-5V DC  
Communication : RS 485 Modbus RTU protocol  
Power supply : 230VAC/1Ph  
Sensor Supply : 24VDC, 30mA



Control Status					
Rev No.	Date	Details	Altered by	Checked by	Approved by
00	23-12-2020	First issue	SP	SBK	RMS