# Model DS1200-PDT
## 4-20mA Dewpoint Hygrometer

**alpha**moisture
S Y S T E M S

## -40°F to +86°F and -76°F to +68°F dewpoint or %RH.
## (-40°C to +30°C and -60°C to +20°C)

**The Model DS1200-PDT is a New Addition to the Alpha Moisture Systems Dewpoint Hygrometer family.**

**Model DS1200-PDT** has a two wire 4-20mA transmitter designed for continuous measurement of moisture content in gases or compressed air.

## Low Cost Solution - Simple to Install and set up - Reliable - Accurate - Stable results.

The long lasting Polymer sensing element can be utilised to measure the moisture content in many applications, see examples below.

The PDT transmitter can also be factory configured to give a 4-20mA linear signal for %RH. It is supplied with a Certificate of Calibration traceable to international humidity standards.

$C\epsilon$

Measuring instrument conforms with BS EN 61326-1

### FEATURES

- Very user friendly with advanced functionality
- Display measurement in °F, °C Dewpoint or %RH
- 22V – 253V AC or DC Operation
- Accuracy better than ±3.6°F (±2°C)Td
- 2 Independent, fully programmable alarm relays
- Cable Length >1km to transmitter
- Ideally suited for higher dewpoints

### Application Examples

- Fluid bed dryers
- Refrigerant dryers
- Desiccant wheel dryers
- Rotary wheel dryers
- Turbine air intakes
- Wind tunnels
- HVAC applications
- Cool stores
- Air braking systems
- Condensation alarms
- Controlled atmosphere environments
- Precision engineering applications
- Heat treatment gases
- Environmental chambers
- Product drying
- Ambient air monitoring
- Gas turbine frost protection systems
- Switchgear monitoring and many more...

The **Model PDT** transmitter has been designed to cope with extreme environmental conditions.

The rugged stainless steel construction offers protection to NEMA4 (IP65), with transmitter electrical connections made via secure industrial connector.

## Specifications

**MODEL PDT Dewpoint Transmitter only**
**MEASURING RANGE:** -40 to +86°Fdp (-40 to +30°Cdp) / -76 to +68°Fdp (-60 to +20°Cdp) or %RH,
**PRESSURE RANGE:** -1 to 16 bar
**POWER SUPPLY:** 24 VDC (10 - 30 VDC)
**PROTECTION CLASS:** NEMA4 (IP 65)
**EMC:** according to DIN EN 61326
**OPERATING TEMP:** -4°F to 158°F (-20°C to +70°C)
**ELECTRICAL CONNECTION:** M12, 5-pole
**THREAD:** G1/2"
**DIMENSIONS:** Ø 30 mm, length 130 mm
**OUTPUT:** 4-20 mA
**ANALOGUE OUTPUT MAX LOAD:** 500 Ω
**MECHANICAL WARRANTY:** 12 months in case of faulty workmanship and defective parts.
**CALIBRATION WARRANTY:** 12 months.

**MODEL DS1200 Display only**

**DS1200 DISPLAY INDICATOR SPECIFICATIONS**

**ENCLOSURE:** 1/8 DIN panel mounting ABS case
**DISPLAY:** 4 digit, 14 segment LED indicator. Red characters 13.8mm high.  Factory set to display in °F, °C or %RH
**SUPPLY VOLTAGE:** Universal 22Vac - 253Vac 50/60Hz & 20Vdc - 300Vdc 150mA to 15mA
**MAX VOLTAGE:** 250 VRMS
**MAX CURRENT:** 2A /AC
**MAX AC POWER:** 500VA
**MAX CURRENT AT 24 VDC:** 1A
**POWER CONSUMPTION:** 3.5W Maximum

**OUTPUT SIGNAL:** Linear 4 to 20mA, fully isolated. Maximum load 800Ω / 16Vdc
**PROGRAMMABLE SIGNAL RANGES:** 0...20 or 4...20mADC (Factory set)
**ISOLATION:** Voltage Test / Operation - 2.3kVac / 250Vac
**CURRENT OUTPUT-**
**LOAD (max):** 20mA / 800Ω / 16VDC
**LOAD STABILITY:** ≤ 0.01% of span / 100 Ω
**RELAY-**
**RELAY FUNCTION:** setpoint
**HYSTERISIS:** 1% of range
**ALARM RELAYS:** 2 independent fully programmable switched contacts. Rated 2A @ 250Vac / 1A @ 24Vdc.
**ANNUNCIATORS:** AL1 & AL2 LED's on front panel indicating status of each alarm
**ELECTROMAGNETIC COMPATIBILITY (EMC):**
   **Emission & Immunity:** Complies with EN 61326-1
   **LVD 73/23/EEC:** Complies with EN 61010-1
   **UL, STANDARD OF SAFETY:** Certified to UL508
**WEATHERPROOF CLASSIFICATION:** Front panel only - IP65 (NEMA 4X).
**TEMPERATURE OPERATING RANGE:** -4°F to 140°F (-20°C to +60°C)
**DISPLAY RESPONSE TIME (0-90%, 100 to 10%):** 0.4s.
**WIRE SIZE, PIN 45 & 46 (max):** 1 x 1.5mm$^2$ stranded wire
**WIRE SIZE, OTHERS (max):** 1 x 2.5mm$^2$ stranded wire
**RELATIVE HUMIDITY:** < 95% RH
**ERROR DETECTION:** Cable loop break
**DIMENSIONS (HxWxD):** 48 x 96 x 120mm
**CUT OUT DIMENSIONS:** 44.5 x 91.5mm
**WEIGHT:** 230 grams

## How to Order - Step 1 of 3

# Order Model DS1200-PDT



DS1200-PDT -40/86°Fdp  (-40/30°Cdp)
DS1200-PDT -76/68°Fdp  (-60/20°Cdp)
DS1200-PDT RH

## How to Order - Step 2 of 3

If a longer cable is needed:

# CAB115-PDT + [XX]
Length

**Your PDT Transmitter comes complete with 2 metres of connecting cable as standard.**

To order a longer length in metres, add number after this part number.

Example: **CAB115-PDT-10** for 10m (33ft)

**Non-Standard off the shelf cables available in 3, 4, 5, 10, 12, 15, 25m lengths. For longer lengths please call.**

PDT Standard Cable 2 Meters



**Part No. CAB115-PDT-2**

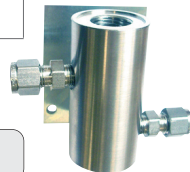## How to Order - Step 3 of 3

A Transmitter Holder
Comes compete with mounting plate.

# SH-PDT + [X] [X]
Pipe Fittings

**X = Choose INLET Pipe Fitting**
**0 =** None 1/8" NPT Port
**4 =** 1/4"   - Pipe OD
**8 =** 1/8"   - Pipe OD
**6 =** 6mm  - Pipe OD

**X = Choose OUTLET Pipe Fitting**
**0 =** None 1/8" NPT Port
**4 =** 1/4"   - Pipe OD
**8 =** 1/8"   - Pipe OD
**6 =** 6mm  - Pipe OD

Order Example:-  For Transmitter Holder with 2 x 1/4 fittings
Order SH-PDT-Ex-4-4



**For more information on our range of dewpoint instrumentation please contact us.**

## RELATED PRODUCTS

### Basic Sample System



**Model SS-B**
Built for multiple applications.
Includes Sensor holder, Adjustable Flow Meter and Pressure Regulator

### Made to Order Sample Systems



**Model DS1200-PDT**
Purpose built sample systems made to order in Stainless Steel or ABS Plastic cabinets
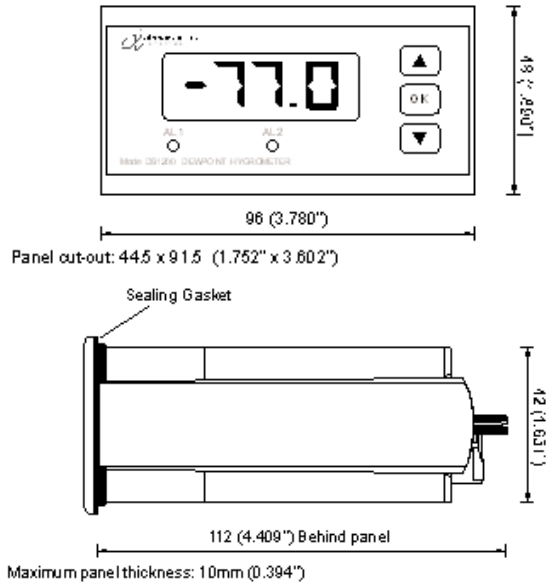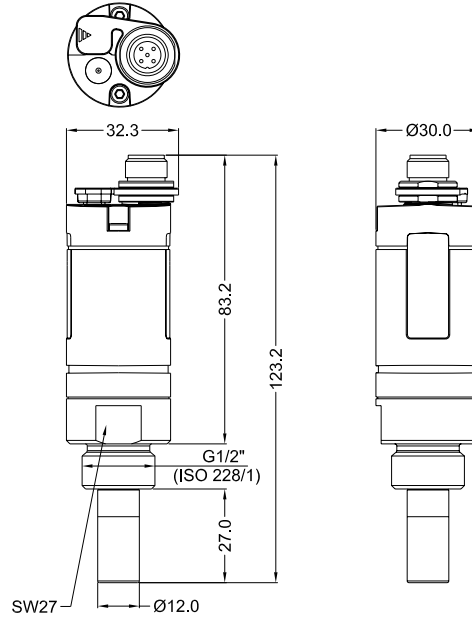
### Large Range of Accessories



High quality accessories and replacement components available from stock. See our website for more details.
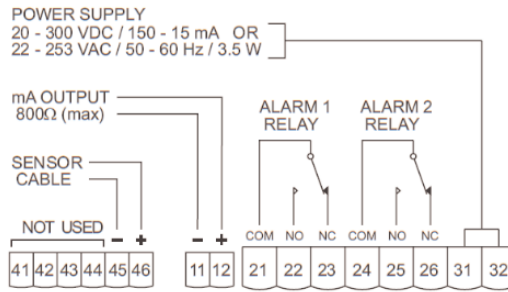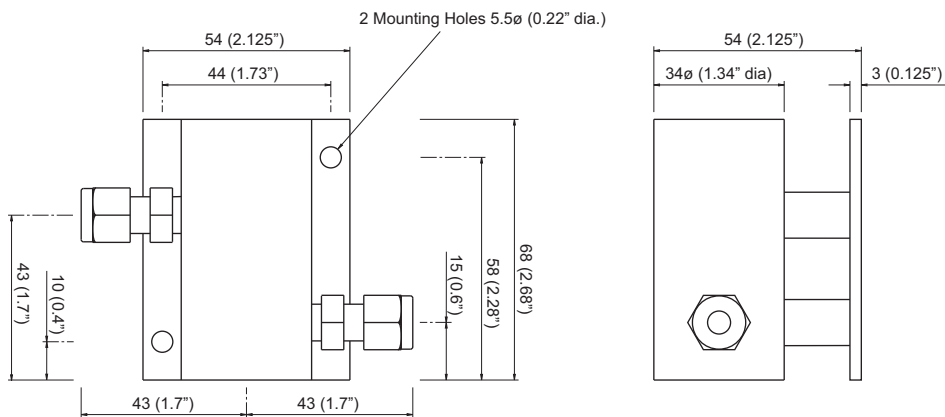
## Dimensions

### Model DS1200 Dewpoint Display



-77.0

AL.1    AL.2

Model DS1200 DEWPOINT HYGROMETER

104.2 (4.18")

96 (3.780")

Panel cut-out: 44.5 x 91.5 (1.752" x 3.602")

Sealing Gasket

42 (1.653")

112 (4.409") Behind panel

Maximum panel thickness: 10mm (0.394")

### Model PDT Dewpoint Transmitter



32.3

Ø30.0

83.2

123.2

G1/2"
(ISO 228/1)

27.0

SW27

Ø12.0

### Model DS1200 Display Connection Details



POWER SUPPLY
20 - 300 VDC / 150 - 15 mA  OR
22 - 253 VAC / 50 - 60 Hz / 3.5 W

mA OUTPUT
800Ω (max)

ALARM 1 RELAY

ALARM 2 RELAY

SENSOR CABLE

NOT USED

| 41 | 42 | 43 | 44 | – | + | – | + | COM | NO | NC | COM | NO | NC | 31 | 32 |
|----|----|----|----|---|---|---|---|-----|----|----|-----|----|----|----|----|
|    |    |    |    | 45 | 46 | 11 | 12 | 21 | 22 | 23 | 24 | 25 | 26 |    |    |

### Model SH-PDT Transmitter Holder
Flow Through Sample Cell

Note: The Assembly is shown with 1/4" OD tube fittings.  The dimensions across the tube fittings will vary for all other size fittings.



2 Mounting Holes 5.5ø (0.22" dia.)

54 (2.125")

44 (1.73")

43 (1.7")

10 (0.4")

43 (1.7")   43 (1.7")

15 (0.6")

58 (2.28")

68 (2.68")

54 (2.125")

34ø (1.34" dia)

3 (0.125")

*Product specification may be subject to change, without prior notice, as part of our ongoing product development programme.*

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