SHAW
MOISTURE METERS
dewpoint meters & hygrometers

Superdew 3
Hygrometer

The SUPERDEW 3 Model from Shaw Moisture Meters is a single channel on-line hygrometer designed to measure dewpoint in process gases and compressed air. The panel mounted enclosure provides panel protection to IP54.

The combination of the highly accurate and repeatable SHAW sensor and advanced digital electronics, make this the instrument of choice for a wide range of applications where precise measurement, control and monitoring is critical.

Each sensor is calibrated to provide overall system accuracy of better than +2°C (+3.6°F) dewpoint and supplied with a calibration certificate traceable to International standards.

The SUPERDEW 3 can be user configured to display in °C, °F, ppm(v) or lbs/MMSCF on an easy to read five character L.E.D. Display.

The instrument offers two fully programmable alarm relays, which can be independently set across the full operating range of the sensor. Set points can be viewed and adjusted from the front panel keypad.

An isolated 4-20mA analogue output is supplied as standard. The span of this output can be configured across the range of the sensor. The system allows for the SUPERDEW instrument to be sited in excess of 1000m from the sensor.

The SUPERDEW Dewpoint Hygrometer Package is fully configured according to the customer's specifications and consists of the SUPERDEW analyser, SHAW sensor, Sensor Holder and 2 metres of sensor cable.

Features

- **User Selectable Digital Indication in °C, °F, ppm(v) or lbs/MMSCF**

- **Fully Interchangeable SHAW Sensors & Ranges**

- **Accuracy +2°C (3.6°F) Dewpoint**

- **Various Ranges: Overall Range -100°C to +20°C (-148°F to +68°F) Dewpoint**

- **Universal Input: 90V to 250V AC (24V DC option available)**

- **User Friendly & Advanced Functionality**

- **Two Alarms (View / Adjust Set points from Front Panel)**

- **Linear Isolated 4-20mA Retransmission Signal, Adjustable Span**

- **"AUTOCAL" Calibration Feature**

- **Supplied with Calibration Certificate Traceable to National & International Humidity Standards**

Specifications

Dewpoint Sensor

- **Sensor:**
  Shaw Ultra High Capacitance Aluminium Oxide Sensor.

- **Ranges:**
  Purple (P): -100°C to 0°C dewpoint, 0-6000 ppm(v)
  Silver (S): -100°C to -20° dewpoint, 0-1000 ppm(v)
  Grey (G): -80°C to 0°C dewpoint, 0-6000 ppm(v)
  Red (R): -80°C to -20°C dewpoint, 0-1000 ppm(v)
  Blue (Bl): -80°C to +20°C dewpoint, 0-23,000 ppm(v)

- **AUTOCAL:**
  Field Calibration / Span check facility. Activated and operated via potentiometer on the front of the instrument.

- **Factory Calibration:**
  Supplied with Certificate of Calibration traceable to National Physics Laboratory (NPL).

- **Accuracy:**
  +2°C (+3.6°F) dewpoint.
  NPL traceable -90°C to +20°C (-130°F to +68°F)

- **Resolution:**
  0.1°C, 0.1°F dewpoint or 0.1 ppm(v)

- **Repeatability:**
  Better than +0.3°C (+0.54°F) dewpoint

- **Operating Temperature:**
  -20°C to +60°C (-4°F to 140°F)

- **Storage Temperature:**
  -20°C to +70°C (-4°F to +158°F)

- **Response Times:**
  Wet to Dry: -20°C to -60°C - less than 120 secs
  Dry to Wet: -120°C to -20°C - less than 20 secs

- **Sample Flow Rate:**
  Flow independent but ideally 2 to 5 litres per minute.
  Max: 25 litres / min

- **Calibration Warranty:**
  12 months from date of dispatch

Electrical

- **Electromagnetic Compatibility (EMC):**
  Immunity: Complies with EN 61326:2006
  Emissions: Complies with EN 61326:2006

- **Warm Up Time:**
  5 seconds

- **Fault Conditions:**
  Short Circuit / Over Range: Display reads "Short" and Output drives to 24.0 mA

- **Output Signal:**
  Isolated 4 to 20 or 0 to 20 mA Linear

- **Operating Voltage:**
  90 to 250 VAC 50/60 Hz or 24V DC

- **Display:**
  5 character L.E.D. display

- **Alarms:**
  Two single pole changeover contacts (NO/C/NC), rated at 10A at 240VAC. Alarm trip at set point with 0.1°C (or equivalent) hysteresis to eliminate relay chatter

- **Cable:**
  Supplied with 2m low loss co-axial cable

Mechanical

- **Operating Pressure:**
  From 1 kPa (0.01 barA) to Maximum 35,000 kPa (350 barA)

- **Operating Humidity (External):**
  Maximum -95% RH Non-condensing

- **Enclosure:**
  DIN Style, 144mm wide, 72mm high by 116mm deep ABS case

- **Mounting:**
  Panel mount. 138.0 x 68.0mm (DIN 43700)

- **Sensor Protection:**
  316 Sintered stainless steel filter - 50 micron

- **Probe Material (Wetted Parts):**
  316 Stainless steel

- **Weatherproof Classification:**
  Front panel only - IP54

- **Mechanical Warranty:**
  24 months in case of faulty workmanship and defective parts

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Shaw Superdew 3.   General Arrangement

Ordering Information:

Dewpoint Hygrometer Model
Superdew 3 - (R)-(U)-(V)

R - Choose required range:

(P) - Purple -100 to 0°C dewpoint, 0-6000 ppm(v)
(S) - Silver -100 to -20°C dewpoint, 0-1000 ppm(v)
(G) - Grey -80 to 0°C dewpoint, 0-6000 ppm(v)
(R) - Red -80 to -20°C dewpoint, 0-1000 ppm(v)
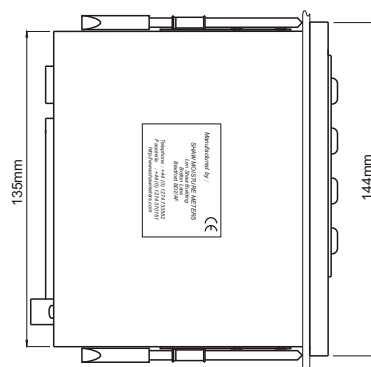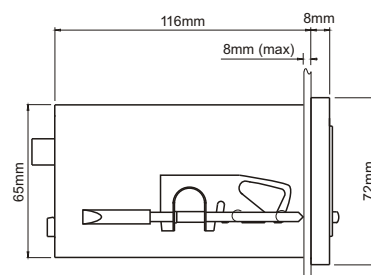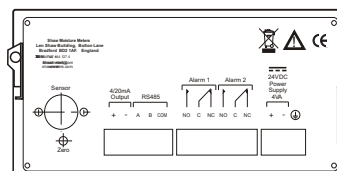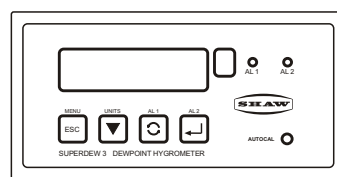(B) - Blue -80 to +20°C dewpoint, 0-23,000 ppm(v)

U - Choose required units:

(C) - °C dewpoint
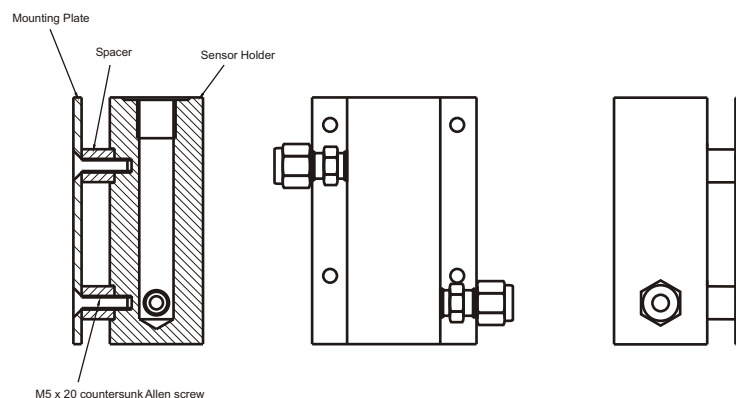(F) - °F dewpoint
(P) - ppm(v)
(L) - lbs/MMSCF

V - Choose required power supply:

(AC) - 90 to 250 VAC 50/60 Hz or 24V DC
(DC) - 24V DC

Shaw Sensor Holder.   General Arrangement

www.shawmeters.com
mail@shawmeters.com