

# Easidew Advanced Online

## Versatile Dew-Point Hygrometer

Easy to install and configure, the versatile touch screen Easidew Advanced Online Hygrometer can measure and display dew point, moisture content and pressure. The hygrometer provides analog, digital and 4 programmable relay alarm outputs with front screen or software app display configuration.



### Highlights

- Measurement range -110...+20 °C (-166...+68 °F) dew point
- Dew point or moisture content output
- Accuracy  $\pm 1$  °C ( $\pm 1.8$  °F) dew point
- Pressure indication and compensation
- Touch screen reconfiguration
- 3 x 4...20 mA outputs and 4 relay outputs
- Modbus RTU over RS485 output
- Choice of AC or DC Power Supply
- Sample block and cable included
- Traceable 13-point calibration certificate

### Applications

- Medical and surgical air
- Glove boxes
- Additive manufacturing
- Pharmaceutical
- Hydrogen refilling stations
- Welding gases
- Semiconductor manufacturing
- Membrane and adsorption dryers

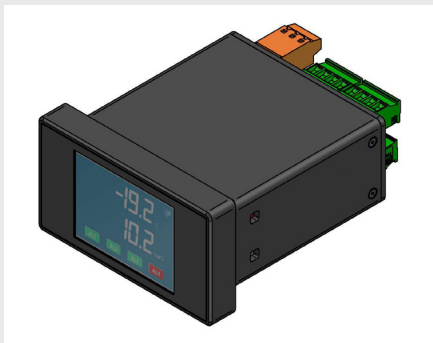


## Easidew Advanced Online

### The Versatile Hygrometer

The Easidew Advanced Online has been developed as a versatile, premium-performance hygrometer system for use across the moisture measurement range of  $-110...+20\text{ }^{\circ}\text{C}$  ( $-166...+68\text{ }^{\circ}\text{F}$ ) dew point in a wide variety of applications.

This hygrometer incorporates the latest Michell ceramic metal-oxide technology, providing stable, reliable and repeatable moisture measurement, combined with a new Process Monitor designed and manufactured by Michell.



### Ease of Installation

The product is supplied complete with all the parts required to install the sensor in a gas stream and start measuring quickly and easily.

- Easidew M12 digital output sensor
- Touch screen display with 1/8 DIN mount format
- Stainless-steel sensor sample block with 1/8" NPT inlet and outlets
- Sensor cable – selectable length

The hygrometer is supplied with a 13-point calibration certificate from  $-100$  to  $+20\text{ }^{\circ}\text{C}$  ( $-148...+68\text{ }^{\circ}\text{F}$ ) dew point, traceable to national standards.

### Flexibility and Pressure Compensation

The Easidew Advanced Online can be used for most moisture measurement applications, displaying data in  $^{\circ}\text{C}$  or  $^{\circ}\text{F}$  dew point,  $\text{ppm}_v$ ,  $\text{lb/mmscf}$  or  $\text{g/m}^3$ , from  $-110$  up to  $+20\text{ }^{\circ}\text{C}$  ( $-166...+68\text{ }^{\circ}\text{F}$ ), at pressures up to 450 bar (6627 psi).

To calculate moisture content from dew point, it is necessary to know the system pressure. This hygrometer can either compensate for pressure change by using a live pressure sensor input, or accept a fixed pressure input value.

### Service Exchange/Recalibration Program

Michell offers 2 services for customers who want minimum downtime and sensor traceability, while maintaining the reliability of their online system:

- **Sensor Exchange** – Customers place an order for a guaranteed, reconditioned sensor, supplied with a 13-point traceable calibration. When this arrives, they exchange it for the installed sensor which is returned to Michell, resulting in zero process downtime.
- **Recalibration** – Customers return their installed hygrometer to Michell, where it is inspected, checked and re-calibrated before being returned. This provides on-going system traceability for the process.

### Flexible Output Signals

The Easidew Advanced Online has 3 electrical outputs, which can be reconfigured as required through the touch screen or software app:

- 3 x 4...20 mA
- Modbus RTU over RS485
- 4 programmable relay alarms

### Safety and Integrity

The mechanical design of the sensor considers the health and safety quality requirements of the end user, offering an ultra-high process pressure barrier, along with meticulous levels of product traceability and quality.

- High-performance 450 bar process media barrier
- Optional gas wetted parts BS EN 10204 3.1 material certified

### Measurement Performance

The online system uses Michell's market-leading ceramic metal-oxide measurement technology coupled with the latest-generation, sophisticated microcontroller electronics to provide accurate and stable measurement across the sensor life.

- Accuracy  $\pm 1\text{ }^{\circ}\text{Cdp}$  ( $\pm 1.8\text{ }^{\circ}\text{Fdp}$ )
- Fast response to moisture changes

### Speed of Supply

The online system is manufactured within Michell's world-leading high-volume moisture transmitter manufacturing center in the United Kingdom, which ensures reliability and repeatability of delivery and field supported by a network of Michell's global service centers.

- Manufacturing calibration system traceable to NPL and NIST
- ISO/IEC 17025 UKAS accredited calibration available on request

### Customization

If your application requires a customized online system, we have specialized design and manufacturing capability to cover your requirements.

## Technical Specifications

### Performance Specifications

Measurement Range	-110...+20 °C (-166...+68 °F) dew point; -100...+20 °C (-148...+68 °F) dew point
Accuracy *	±1 °C from -60 to +20 °C dew point (±1.8 °F, -76...+68 °F dp) ±2 °C from -100 to -60 °C dew point (±3.6 °F, -148...-76 °F dp)
Response Time	5 mins to T95 (dry to wet)
Repeatability	0.5 °C (0.9 °F) dew point
Sensor Calibration	Traceable 13-point calibration certificate
Auxiliary Pressure Input	45 MPa (450 barg/6527 psig) maximum
Pressure Compensation	Live 4 ...20 mA pressure transmitter or fixed programmable value
Moisture Content Scales	Automatic compensation for ppm <sub>v</sub> , lbs/MMscf, g/m <sup>3</sup> units
Relay Alarm Type/Rating	2 x Form A, 2 x Form C 30 V DC 5A Namur compliant programmable relay outputs for process and fault conditions

### Electrical Specifications

Sensor Input Signal	Modbus RTU over RS485
Online Output Signals	3 x 4...20 mA channels; Modbus RTU over RS485; 4 programmable relay alarms
Online Outputs	Dew point, Moisture Content, Pressure
Maximum Analog Output Scaled Range	<b>Dew point:</b> -110...+20 °C (-166...+68 °F); <b>Moisture content in gas:</b> 0...3000 ppm <sub>v</sub>
Online Supply Voltage	85...265 V AC; 18...30 V DC
Online Power Consumption	AC Power: 7.5 VA DC Current: 170 mA @24 V DC
Electrical Safety	BS/EN61010-1: 2010

### Operating Specifications

Operating Temperature	Sensor: -40...+60 °C (-40...+140 °F); Process Monitor: 0...+50 °C (+32...+122 °F)
Compensated Temperature Range	Sensor: -20...+50 °C (-4...+122 °F); Process Monitor: not applicable
Storage Temperature	Sensor: -40...+60 °C (-40...+140 °F); Process Monitor: 0...+60 °C (+32...+140 °F)
Operating Pressure	45 MPa (450 barg/6527 psig) maximum
Sensor Flow Rate	1...5 NI/min mounted in standard sampling block; 0...10 m/sec direct insertion

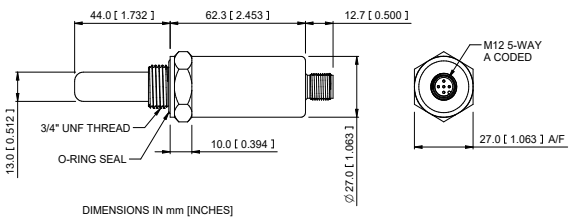
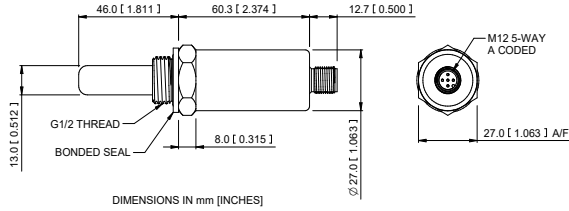
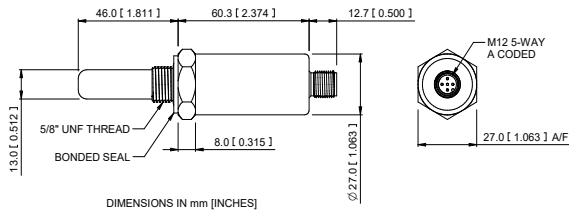
### Mechanical Specifications

Ingress Protection	Sensor: IP66 in accordance with standard BS EN 60529:1992+A2:2013; NEMA 4 protection in accordance with standard NEMA 250-2014 Process Monitor: IP54 & NEMA Type 2 & 12K front panel only
System Materials	Sensor & Sample Block: 316 stainless steel Process Monitor: UL Rated ABS - EpsotechAB AN2 V0
Dimensions	Sensor: L=119 x ø27 mm / L=4.69" x ø1.06" (no connector cable) Process Monitor: 1/8 DIN Case, 90 x 40 x 92 mm / 3.54 x 1.57 x 3.62" (w x h x d) Sample Block: 55.2 x 30 mm / 2.17 x 1.18"
Filter (Sensor Protection)	<b>Standard:</b> HDPE <10µm <b>Optional:</b> 316 stainless steel sintered guard <80µm
Sensor/Sample Block Process Connections	G1/2" BSP, 3/4" 16 UNF, 5/8" 18 UNF
Sample Block Inlet/Outlet Connections	1/8" NPT
System Weights	Sensor 150 g (5.29 oz); Sample Block 250 g (8.82 oz); Process Monitor 280 g (9.88 oz)
Sensor Electrical Connections	Easidew M12: M12 5 pin (A Coded)
Online Sensor Cable	2, 5, 10 meter (6.5, 16.4, 32.81 ft) connector/cable available
Display Type	LCD touch screen 320 x 240 pixel

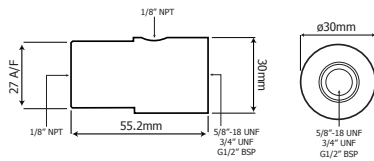
NOTES \* Over Compensated Temperature Range

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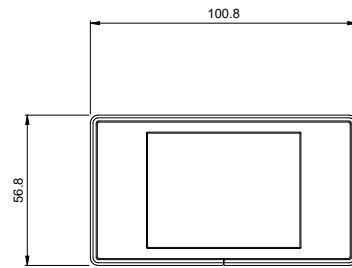
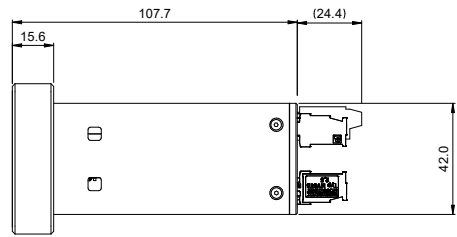
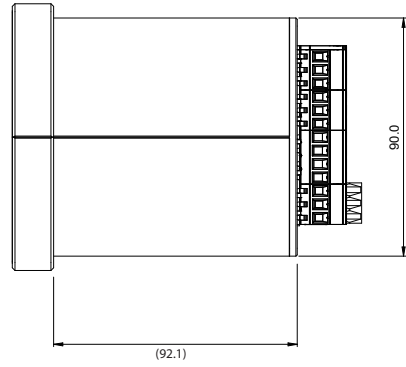
## Product Dimensions



M12 Sensor Cable (included)



Sample Block (included)



Easidew Online Process Monitor

## Related Process Products



**SF82 Online**  
Fast-Response Hygrometer



**Optidew 501**  
Chilled Mirror Hygrometer



**Easidew PRO X.P.**  
Explosion Proof Moisture Transmitter



**Senz-Tx**  
Oxygen Transmitter



**Easidew**  
Portable Hygrometer



**MDM300 I.S.**  
Dew-Point Hygrometer



**ES20**  
Compact Sampling System



**YellowBox Portable**  
Portable Oxygen Analyzer

Michell Instruments adopts a continuous development programme which sometimes necessitates specification changes without notice.  
Issue no: Easidew Advanced Online\_97617\_V1\_EN\_0322