Easidew Online

Dew Point Hygrometer

A cost effective hygrometer with digital display, analog and digital outputs and dual alarms offering excellent reliability.

Highlights

- Dew point or ppm_V moisture content
- -100 to +20°C (-148 to +68°F) dew point range
- Fast response
- Analog and digital outputs
- Dual alarms
- Easy to read display
- Excellent sensor protection
- NEMA 4 Transmitter, NEMA 12 Monitor (front panel only)

Applications

- Compressed air dryers for dew point dependant switching
- Industrial and medical gases
- Glove boxes
- Moisture in SF_6 high voltage switchgear
- Ozone generators
- Plastic molding dryers
- ... and many more

MICHELL Instruments

Easidew Online Dew-Point Hygrometer

Affordable, Simple Dew Point Measurement

The Easidew Online Hygrometer has been designed to make continuous measurement of the dew point in air and gases simple and reliable. The 1/8 DIN display unit is connected to the Easidew Transmitter sensor module, which may be permanently installed in a plant or process location at a distance of up to 800m (2625 feet) from the display. An analog output is provided for re-transmission to a chart recorder or data-logger. The two alarm relays are adjustable from the front panel and can provide control of the monitored process. Easidew Online can be quickly incorporated into your air or gas management and control system reducing the cost of ownership.

Advanced Technology and Michell's Service Exchange Program

The key to the Easidew Transmitter's performance is its sensor technology. Michell's Advanced Ceramic Moisture Sensor is coupled with the latest microprocessor based measurement circuitry to produce a fully calibrated and interchangeable transmitter. All calibration data is stored in flash memory and so exchange or service can be accomplished in seconds. The Easidew Transmitter is simply disconnected, removed from its sampling block and replaced by a new, fully calibrated unit. Ask your local sales representative for further details on the unique Service Exchange Program.

Furthermore, the Easidew Transmitter forms the front-end for both the Easidew On-Line and Portable Hygrometers for total flexibility, interchangeability and low cost of ownership.

Continuous In-Process Measurement

Easidew Online is designed to give continuous, reliable measurement of dew point in air or gas systems. The Easidew Transmitter puts intelligent dew point control right at the measurement point, transmitting accurate data back to the monitor unit, which can be located anywhere up to 800m (2625 feet) away. Thus, you can be sure that the Easidew Online Hygrometer will always be giving you vital, real-time information on the quality of air from your dryer system, or the gas in your process line. Easidew Online's sensor can operate at any pressure up to 6500 psig when used with its standard stainless steel sampling block. The Easidew Online can also be used with the Easidew Sampler (see Easidew Sampler datasheet). The Sampler is a self contained sampling system providing filtration and flow control for either pressure or atmospheric dew points.

Measurement Under Your Control

The Easidew Online Hygrometer features an extremely clear and bright 0.8" red LED display. It provides a 4-20 mA or 0-20 mA analog, or Modbus RTU RS232 digital output for connection to a chart recorder, data-logger or computer system, enabling the user to analyze dew point trends over time. In addition, the Easidew Online includes 2 alarms that can be easily configured by the user. Each of these alarms is a rated relay contact. This feature makes the Easidew Online ideal for the monitoring and control of desiccant dryers or other critical process controls.

Standardized Design

The Easidew Online Hygrometer is a compact hygrometer with a standard 1/8 DIN layout 96 x 48mm (3.77" X 1.88") requiring clearance depth of only 100mm (4"). Front panel buttons for alarm setting are protected to NEMA 12.

Rugged Yet Lightweight

The Easidew Transmitter is constructed in 316 stainless steel. A captive gland sealed cable connector offers NEMA 4 protection from the environment. This rugged construction makes it perfectly suited for industrial applications. While weighing only 150g (5.3 oz), it is light enough to be supported directly by its sample block connection to ¼" sample tubing without any additional mounting brackets.

Reproducibility and Calibration Integrity

For over thirty years, Michell has been developing and refining the sensor technology to ensure that every sensor performs to your expectations. Each Ceramic Moisture Sensor goes through a multi-mode test and inspection process before calibration to verify its compliance to Michell's strict standards. The calibration process itself takes more than one week, where rigorous checks on the sensor performance are carried out at thirteen points across the measurement range. Only when the sensor has passed all these stringent checks is it ready to be applied to critical process control applications like yours.

Traceable Calibration

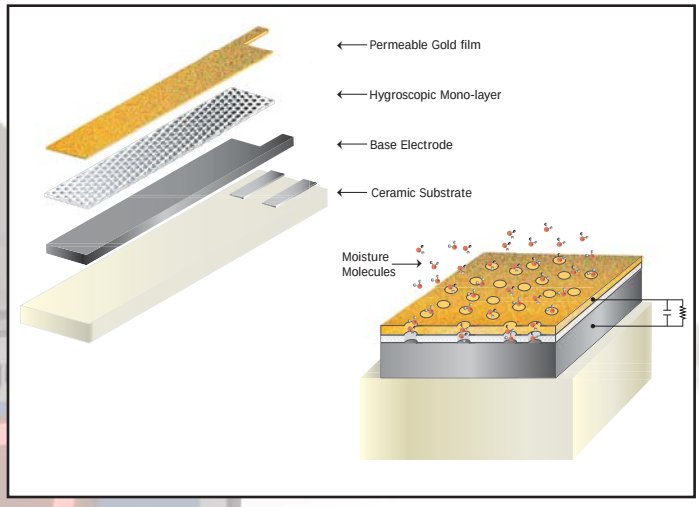
Each Easidew Online is supplied with a calibration certificate traceable to national standards (NIST) from Michell Instruments accredited laboratory.

Technology

The Easidew Transmitters use Impedence technology, based on Michell's ceramic sensor.

The Ceramic Sensor is constructed using state of the art thin and thick film techniques. Operation of the sensor depends upon the adsorption of water vapor onto a porous non-conducting "sandwich" between two conductive layers built on top of a base ceramic substrate. The active sensor layer is very thin - less than one micron (about 0.00004 inches) and the porous top conductor that allows transmission of water vapor into the sensor is even thinner. Therefore the sensor responds very rapidly to changes in applied moisture, both when being dried (on process start-up) and when called into action if there is moisture ingress into a process.

Despite this extreme sensitivity to changes in moisture content, the Michell Ceramic Moisture Sensor is incredibly rugged due to the nature of its construction. To protect the sensor further against contaminants and pipe swarf it is housed in a protective sintered HDPE guard. All Michell Ceramic Moisture Sensors give <±2°C (±3.6°F) dew point accuracy and excellent long-term reliability and stability in process applications.



Michell ceramic sensor tile layers

Ordering Codes

To construct the order code, select the relevant feature from the tables below, starting with the base model, which is {Feature A} and then add on options to create a string: {Feature A}+{Feature B}+{Feature C}+{Feature D}+{Feature E}

Order example: EA2-OL+100+HD+AC+SC08
Easidew Transmitter, -100 to +20°C (-148 to +68°F) dp range, HDPE guard, 85/265 V AC power supply & 0.8m (2.62') cable with fittings

EA2-OL	100	HD	AC	SC08

Base Model {Feature A}	
Easidew Online Hygrometer	EA2-OL

Range {Feature B}	
-100 to +20°C (-148 to +68°F) dp range	100
Non-standard measurement range: v = zero value, w = full scale value, x = unit (C = °Cdp, F=°Fdp, P=ppm$_V$) y = Pressure for ppm$_V$ conversion in bar/psi, z = pressure unit (PG=psig, PA=psia, BG=barg, BA=bara) blank = 0 barg/0 psig)	v/wx-yz

Protection {Feature C}	
Standard HDPE guard for Easidew Sensors (protection against fine particulate (<10µm))	HD
SS sintered guard	SS
SS sintered guard with flanged mounting	FL

Cable Length {Feature E}	
Cable 0.8m (2.62') with fittings	SC08
Additional cable - price per meter	SCXX

Monitor {Feature D}	
85/265 V AC power supply	AC
24 V DC power supply	DC

Technical Specifications

Performance

Measurement range	-100 to +20°C dew point (-148 to +68°F) 0–3000 ppm_v ppm_v output or non-standard dew-point range must be specified at time of order
Accuracy (dp)	±2°C dew point (±3.6°F)
Response time	5 mins to T95 (dry to wet)
Repeatability	0.5°C dew point (0.9°F)

Electrical output / input

Output signal	4–20mA or 0-20mA, maximum load resistance 500Ω RS232
Supply voltage	85 to 264VAC, 50/60Hz
Load resistance	Max 250 Ω @ 12 V / 500 Ω @ 24 V
Current consumption	60 mA max

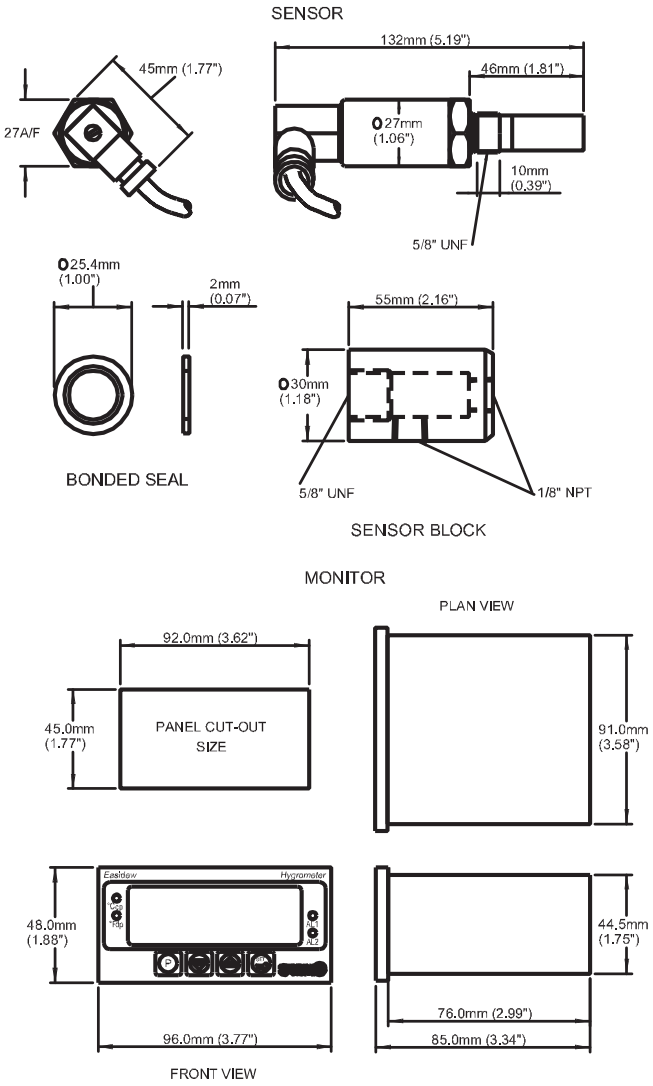
Operating conditions

Operating humidity	0–100% RH
Operating temperature Sensor Monitor	 -40 to +60°C (-40 to +140°F) 0 to 50°C (+32 to +122°F)
Operating pressure	45 MPa (450 barg / 6500 psig) max

Mechanical specification

Ingress protection		
	Monitor	IP65 (NEMA 12) front panel only
	Sensor	IP66 (NEMA 4)
Dimensions		
	Monitor	1/8 DIN case, 96 x 48 x 100mm including clearance (W x H x D) (3.77 x 1.88 x 4”)
	Sensor	132 x 27mm (length x A/F) (5.19 x 1.06”)
Filter		HDPE
Sensor weight		150g (5.3oz)
Electrical connections		
	Monitor	Screw terminals
	Sensor	4 pin socket provided
Alarm		Front panel configuration of alarm points
Sensor cable		0.8m standard (2.6 ft) 800m max (2625 ft)
Mains cable		2m (6.5 ft) cable supplied

Dimensions



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