

Easidew Portable Hygrometer

A compact and easy to use portable hygrometer with fast response, integrated sampling system and traceability to National Standards.



Highlights

- Wide measurement range
- Simple operation
- Integral sampling system
- Rugged industrial case
- $\pm 2^{\circ}\text{Cdp}$ accuracy ($\pm 3.6^{\circ}\text{F}$)
- Traceable to National Standards
- Powered by rechargeable battery
- Lowest cost of ownership due to minimal maintenance

Applications

- Compressed air dryers
- Medical gases
- Plastic molding dryers
- Industrial gases
- Instrument air
- Ozone generators

Easidew Portable Hygrometer

Affordable, Simple Dew-Point Measurement

The Easidew Portable Hygrometer has been designed to make spot checks of the dew point in air and gases as simply and quickly as possible. This completely self-contained instrument weighs only 4kg (8.8 lbs) and is delivered ready to use. Simply connect your sample gas to the Quick Connect fittings, turn on the instrument and it will instantly display the dew point of the applied sample.

Intelligent and Interchangeable Sensor Technology

The key to Easidew'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 sensor transmitter module. All calibration data is stored in flash memory and so sensor exchange for calibration or service can be performed in seconds.

Fully Integrated Sampling System

Easidew is unique among portable hygrometers. Michell Instruments has built into the standard design a complete sampling system that easily allows you to measure the dew point of any air or gas line, at up to 2 Mpa/20 barg pressure (290 psig). The two fixed orifices allow you to choose between dew point measured at atmospheric or at line pressure by simply reversing the orifice position. An integrated filter housing uses standard filter cartridges and provides 99.5 % protection against particles down to 0.3 micron. Optionally, Swagelok® couplings can be specified to allow operation of the unit at up to 30 Mpa/300 barg (4351 psig).

Measurement Under Your Control

Easidew Portable features an extremely clear and bright 0.5" red LED display so that you can easily determine the dew point of your process even in the most dimly lit plant. We also provide you with a 4-20 mA analog output for connection to a chart recorder, data-logger or computer system, so you can analyze dew-point trends over time.



Practical Design

A field instrument must be easy to carry as well as easy to use. As its name suggests, Easidew Portable has been designed to be perfectly transportable. It is small with an ergonomic carrying handle and weighs only 4 kg (8.8 lbs). The case of the Easidew Portable provides NEMA 6P (submersible) protection when the lid is closed and even when it is open, the case provides NEMA 4 (weatherproof) protection.

Long Battery Life

Easidew Portable uses re-chargeable C type cells and is delivered complete with a universal battery charger that fits neatly into the instrument lid. It will operate for up to sixteen hours on a full charge. The batteries are located behind an easy-to-remove panel at the front of the instrument and can be replaced in an emergency by standard C cells. A battery charge indicator on the instrument front panel keeps you constantly informed of battery status.

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

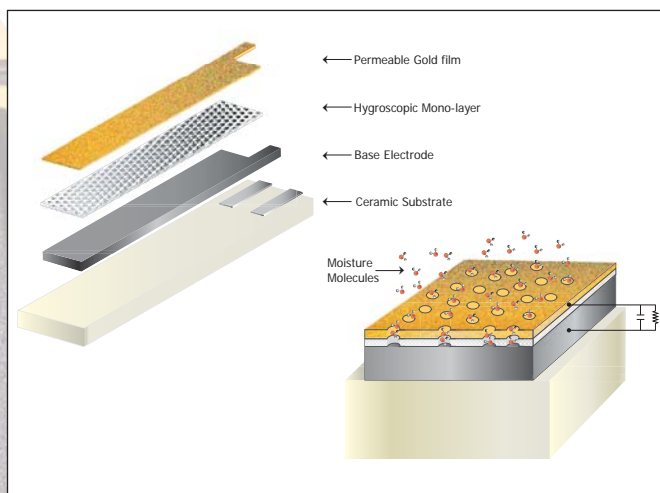
Each Easidew Portable is supplied with a calibration certificate traceable to national standards (NIST) from Michell Instruments accredited laboratory.

Technology: Impedance

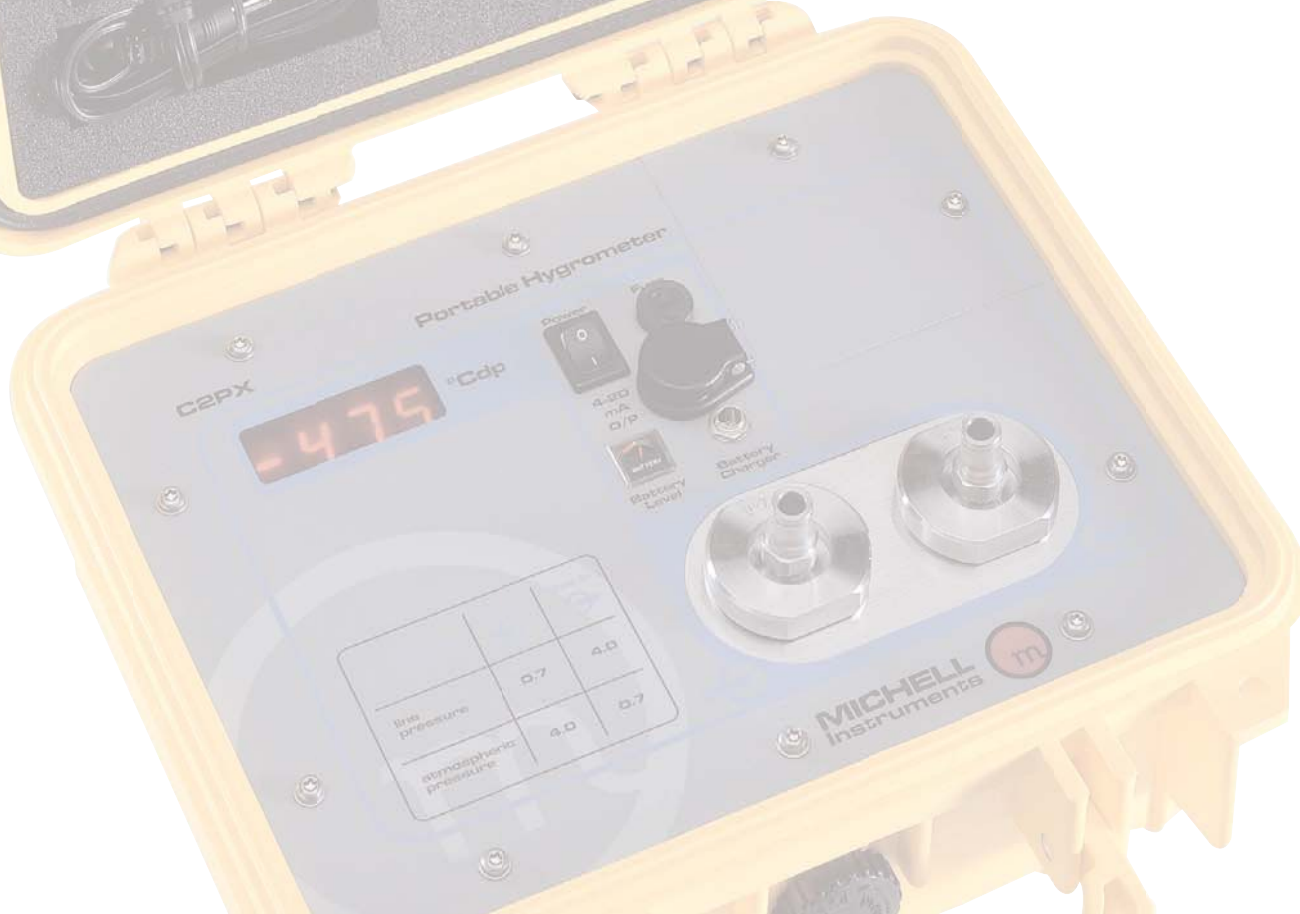
The Easidew Portable uses Impedance technology, based on Michell's advanced ceramic sensor. The operation of this sensor depends on the dielectric property of water molecules absorbing onto an active porous insulating layer sandwiched between two layers of conductive material deposited on a ceramic substrate.

Water has a very high dielectric compared to the dielectric of the active layer and the background of the carrier gas so it can be detected easily.

The active layer is very thin – less than one micron and the porous top conductor that allows water molecules to penetrate into the active layer is less than 0.1 micron thick. This allows the sensor to respond very rapidly to changes in the moisture surrounding it both when moisture decreases (drying) and increases in the sensor environment.



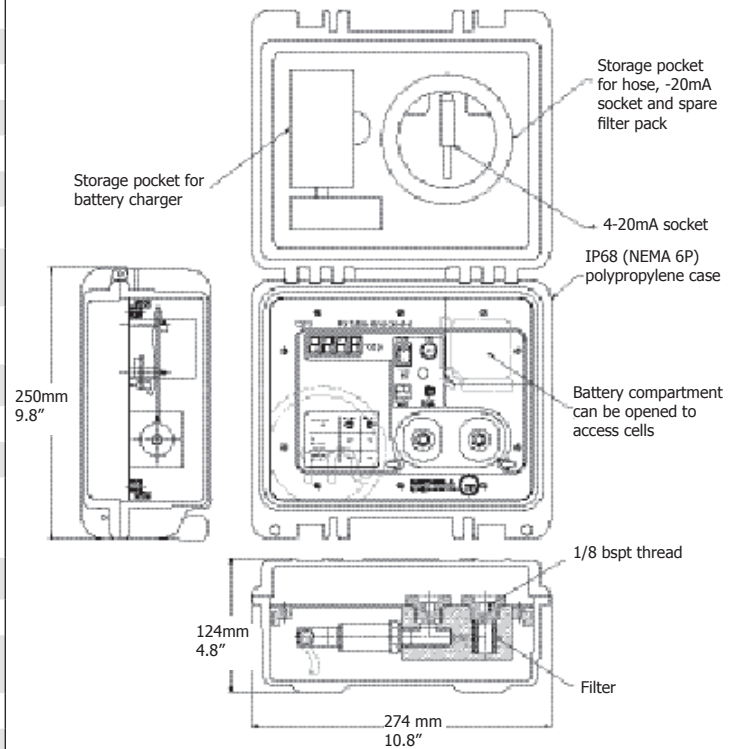
Michell ceramic sensor tile layers



Technical Specifications

Performance	
Measurement Technology	Michell Ceramic Moisture technology
Measurement Range	-100 to +20°Cdp (-148 to +68°Fdp)
Accuracy	±2°Cdp (±3.6°Fdp)
Run time	12-16 hours
Charge time	16 hours for maximum charge
Electrical input/output	
Output	4-20 mA current maximum load resistance 400 Ω
Power Supply	4 rechargeable 'C' cells with battery status indicator
Operating conditions	
Operating Temperature	-20 to +50°C (-4 to +122°F)
Storage Temperature	-40 to +75°C (-40 to +167°F)
Operating Pressure	0.1 to 2 MPa (1-20 barg/14.5 to 290 psig) standard; up to 30 MPa (300 barg/4351 psig) with optional Swagelok® couplings
Mechanical specification	
Display	Flush mounted 3.5 digit red LED
Case	Yellow propylene with charger, sample tubing and output connector stored in the lid
Weight	4 kg (8.8 lbs) total weight
Enclosure Rating	Case Closed NEMA Type 6P (submersible) Case Open NEMA Type 4 (weatherproof)
Sample Connections	Push fit pneumatic fittings for gas inlet/outlet
Sample Block	Stainless steel, fully self-contained sample system with fixed orifice ports for flow control/pressure or atmospheric measurement and built-in filtration using a standard drop-in cartridge
Filter Cartridge	Removes 99.5% of particles ≥ 0.3 μm supplied with cartridge installed. Spare cartridges are available (part no: 9996031)
Interchangeability	Sensor is fully interchangeable with other Easidew products
Sample Tubing	2m (6.5 ft) of 6mm (0.24 in) O/D PTFE supplied

Dimensions



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