

# 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
- Traceable to National Standards
- 16 hours of operation between charges
- 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 simple as possible. This completely self-contained instrument weighs only 4kg and is delivered ready to use. Simply connect your sample gas to the Quick Connect fittings, turn on the instrument and it will automatically begin to measure 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, so on-site sensor exchange for calibration or service can be performed quickly, even by untrained personnel.

## 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. The two interchangeable inlet/outlet fittings allow you to choose between dew point measured at atmospheric, or at line pressure, by simply swapping the position of the fittings. An integrated filter housing uses standard filter cartridges and provides 99.5% protection against particles down to 0.3µm. Optionally, Swagelok® tube couplings can be specified to allow operation of the unit at up to 30 Mpa/300 barg.

## Measurement Under Your Control

Easidew Portable features an extremely clear and bright 0.5" red LED display making it easy to determine the dew point of your process even in dim conditions or direct sunlight. 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 4kg. The case of the Easidew Portable provides NEMA 6 protection. The outer case is covered by a lifetime guarantee, and can be returned to the factory for a free of charge repair or replacement.

## Long Battery Life

Easidew Portable uses a rugged re-chargeable NiMH battery pack 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.

## Reproducibility and Calibration Integrity

All Michell Ceramic Moisture Sensors are subject to a thirteen point calibration, where their performance is characterised against a fundamental reference hygrometer. This process, and subsequent quality testing, ensures that all sensors behave optimally before they are used in the field.

## Traceable Calibration

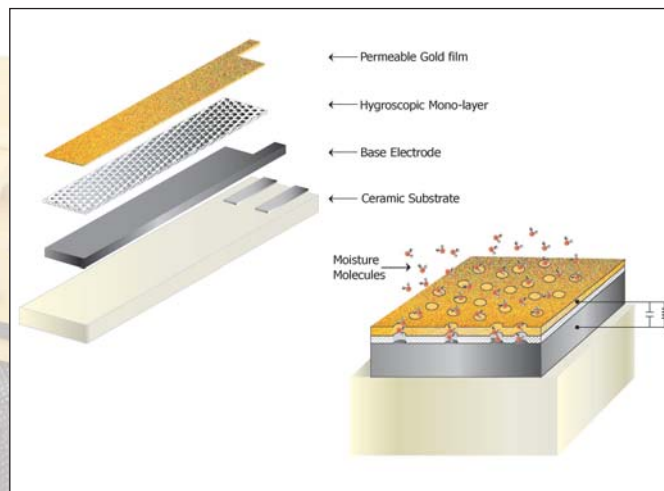
Each Easidew Portable is supplied with a calibration certificate traceable to national standards (NIST) from Michell Instruments accredited laboratory.

## Technology: Impedance

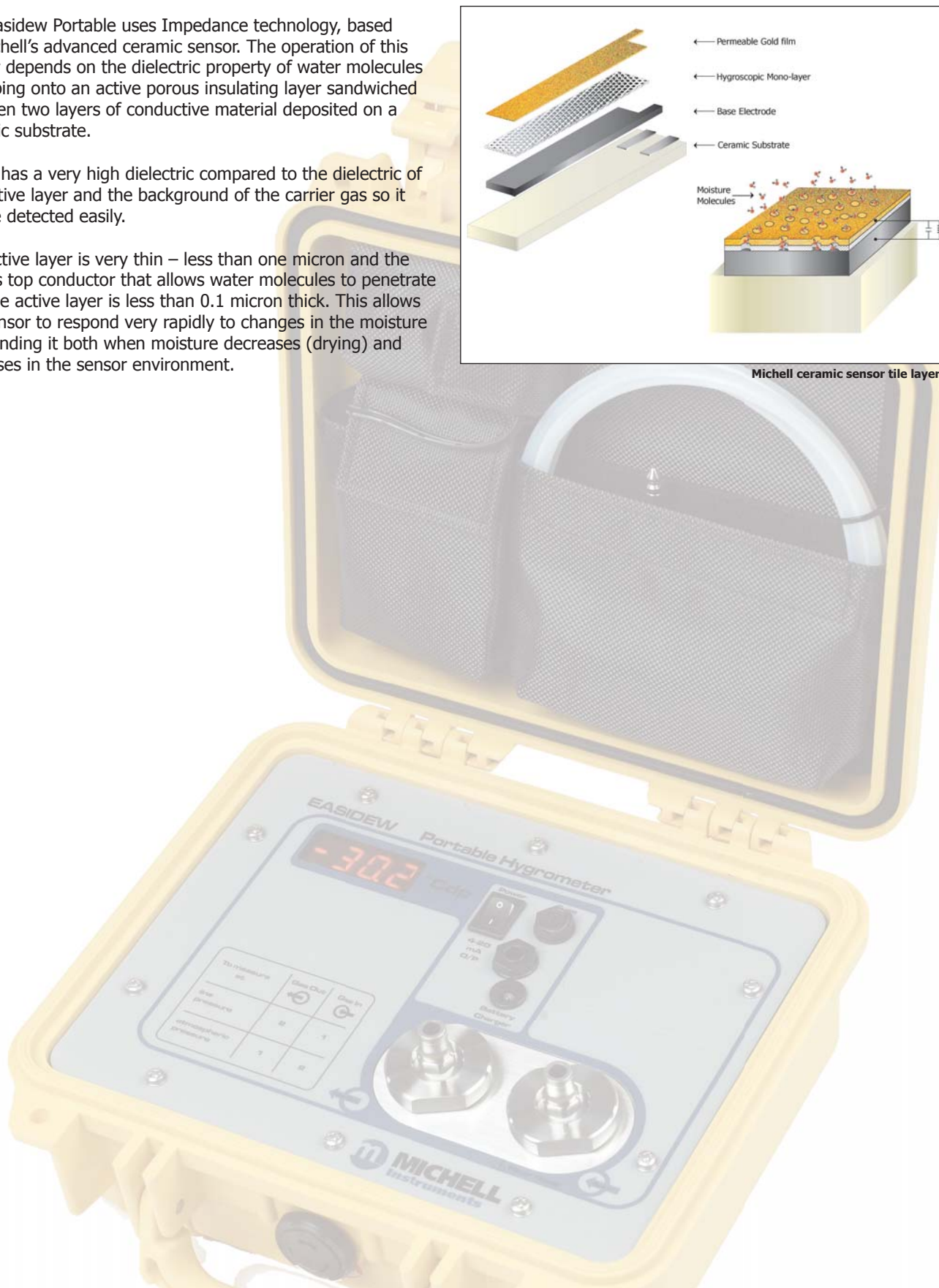
The Easidew Portable uses Impedance technology, based on Michell's advanced ceramic sensor. The operation of this sensor depends on the dielectric property of water molecules absorbing onto an active porous insulating layer sandwiched between two layers of conductive material deposited on a ceramic substrate.

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.



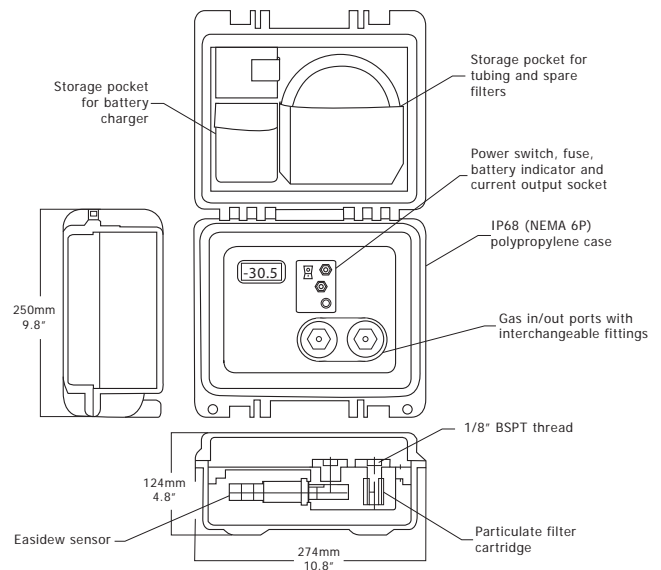
Michell ceramic sensor tile layers



## Technical Specifications

Performance	
<b>Measurement Technology</b>	Impedance
<b>Measurement Ranges</b>	
<b>Spot Checks</b>	-40 to +20°Cdp
<b>Online</b>	-100 to +20°Cdp
<b>Accuracy</b>	±2°Cdp
<b>Run time</b>	12 - 16 hours
<b>Charge time</b>	16 hours for maximum charge
Electrical input/output	
<b>Output</b>	4-20 mA current maximum load resistance 400 Ω
<b>Power Supply</b>	Rechargeable NiMH battery pack, charger included
Operating conditions	
<b>Operating Temperature</b>	-20 to +50°C
<b>Storage Temperature</b>	-40 to +75°C
<b>Operating Pressure</b>	0.1-2 MPa (1-20 barg/14.5-290 psig) standard; up to 30 MPa (300 Barg/4351 psig) with optional Swagelok® couplings
Mechanical specifications	
<b>Display</b>	Flush mounted 3.5 digit red LED
<b>Case</b>	Yellow propylene with charger, sample tubing and output connector stored in the lid
<b>Weight</b>	4kg total weight
<b>Enclosure Rating</b>	
<b>Case Closed</b>	NEMA Type 6
<b>Sample Connections</b>	Push fit pneumatic fittings or optional high pressure 6mm Swagelok® Stainless Steel Tube Fittings
<b>Sample Block</b>	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
<b>Filter Cartridge</b>	Removes 99.5% of particles ≥ 0.3µm supplied with cartridge installed. Spare cartridges are available (part no: SSF-PF-10PK)
<b>Interchangeability</b>	Sensor is fully interchangeable with other Easidew products
<b>Sample Tubing</b>	2m of 6mm O/D PTFE supplied

## Dimensions



Michell Instruments adopts a continuous development programme which sometimes necessitates specification changes without notice.  
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