MICHELL Instruments
a DwyerOmega brand

Dew-Point Transmitters, Hygrometers and Sampling Systems

Reliable moisture measurement for critical process control

Moisture Measurement and Analysis

Michell Instruments' sensors provide accurate and reliable moisture measurement in gases and liquids

50 Years of Innovation in Moisture Instrumentation

For more than five decades, Michell hygrometers have been helping customers around the world keep their processes and systems working efficiently and safely through accurate moisture measurement.

Our position as global leaders in the design and manufacture of humidity instrumentation is based on our expertise in the basics of thermodynamic theory and practical experience in moisture measurement techniques. Michell Instruments' specialists and applications engineers are based around the world to provide support, and at the same time, gain a good understanding of customers' needs. This knowledge is used by our design engineers to create purpose-made, robust products.

Our manufacturing processes are optimized to meet high-volume 'just in time' contracts with major industrial OEM manufacturers, and thousands of hygrometers leave our factory every month to control dew point in some of the most demanding applications and locations around the world. Efficient and reliable, Michell sensors and instruments quietly do their job. We offer maintenance agreements which cover all work, including the regular calibration, for up to four years (visit www.ProcessSensing.com for more information).

For technical and application support there are 10 global sales and service centers serving customers in Americas, Europe, Middle East and Asia. There is always a Michell subsidiary or distributor around — check www.ProcessSensing.com for your local partner.

Advanced Sensing Technologies

The continuous improvement of the moisture sensing technologies utilized in our transmitters is at the heart of our business. Today, Michell offers transmitters for moisture detection from single figure parts per billion trace through to % volume levels, with class-leading ceramic metal-oxide, thin and thick film moisture technologies.

The unique capabilities of our moisture technologies allows detection of water vapor content from parts per billion to high humidity.

- 0.1 ppb_V to 24000 ppm_V range
- Application-focused products
- Robust mechanical design for pressures up to 525 bar
- Fast response to moisture events
- Excellent stability and repeatability
- High sensitivity to trace moisture events

A Service You Can Rely On

Accurate moisture measurement and control is challenging and application specific. Michell offers a complete product and support package for all customer needs:

- Products with multiple process connections
- Global explosion proof and intrinsically safe IECEx, ATEX, UKEX, cQPSus approvals
- Regional/country pattern approval: GOST, UL, Indian, Japanese standards
- World Class ISO/IEC 17025 humidity calibration capability
- Service and calibration centers in 10 subsidiaries in four continents
- Service exchange and recalibration programs

Moisture Measurement to Fit Your Application

Whatever your moisture challenge, we have the answer: from simple transmitters, to complete hygrometer sampling systems

Transmitters

Online Hygrometers

Hygrometer Sampling System

Michell offers a broad range of sensors with associated display and sampling systems for dew-point measurement applications, from trace moisture measurements to all compressed air quality class ranges – meeting the needs of a broad range of applications.

Our high capacity automated calibration system ensures short lead times and reliable deliveries for all orders.

Typical Applications

Industrial

- Refrigerant, membrane and dessicant dryers
- Switchgear SF6 quench gas
- Medical dryers
- Plastic injection moulding
- Gas generation
- Additive manufacturing

Heavy Industrial

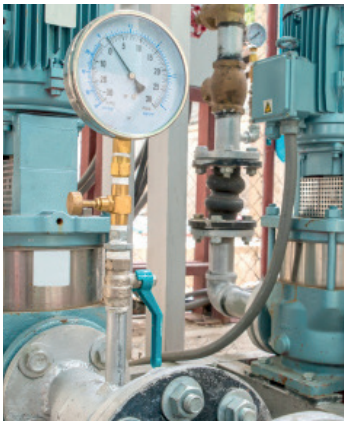
- Automotive
- Aerospace
- Hydrogen fuel cells
- Hydrogen electrolyzers
- Marine inert gas generation
- Glove boxes
- Rail systems

Process

- Natural gas processing / transmission
- Hydrogen coolants
- LNG and LPG production
- Inert and bulk gases
- Hydrocarbon refinery processing
- Biomethane

Controlled Environment

- Industrial gas production and distribution
- Semiconductor fabrication
- Fibre optic production
- Electronic component manufacture
- Optical coating processes



Product Guide

Industrial Transmitters

Michell offers a family of reliable industrial dew-point transmitters providing accurate, stable measurement to cover any global dryer application.

Easidew Transmitter

The Easidew transmitter is a single sensor suitable for all global dew point applications, which minimises cost and stock management for customers.

- Measurement range -110 °C...+20 °C (-166 °F...+68 °F) dew point
- Dew-point or ppm_V moisture content output
- 4...20 mA and Modbus RTU over RS485 outputs
- Accuracy ±2 °C (±3.6 °F) dew point
- Traceable 13-point calibration certificate
- Easidew I.S. has IECEx, cQPSus, ATEX and UKEX approval
- 5/8" UNF, G1/2" BSP, 3/4" UNF and KF25/40 process connections
- MiniDIN, M12 electrical connections
- Oxygen service cleaned
- Service exchange program for ease of maintenance

SF82 Transmitter

The SF82 transmitter is designed for use in a broad range of fast-response applications.

- Dew point or ppm_V moisture content output
- 4...20 mA and Modbus RTU over RS485 outputs
- Accuracy ±2 °C (±3.6 °F) dew point
- Traceable 9-point calibration certificate
- MiniDIN 43650, M12 electrical connections
- Service exchange program for ease of maintenance

SF52 Transmitter

A simple, cost effective sensor designed for use in harsh industrial dryer applications where reliability and toughness are required at an economical cost.

- Measurement range -40 °C...+60 °C (-40 °F...+140 °F) dew point
- 3-wire loop powered or voltage output
- Accuracy ±2 °C (±3.6 °F) dew point
- Traceable calibration certificate
- G1/2" BSP and 1/2" NPT process connections
- UL approved

Product Guide

Process Transmitters

Michell offers a family of durable process transmitters to meet any type of global process plant moisture measurement.

Easidew PRO Intrinsically Safe Transmitter

The Easidew PRO I.S. is an intrinsically safe transmitter designed for moisture in gas and liquid applications.

- Measurement range -110 °C...+20 °C (-166 °F...+68 °F) dew point
- Dew-point or ppm_V moisture content output
- Accuracy ±1 °C (±1.8 °F) dew point
- 525 bar (7614 psig) process pressure compatibility
- Intrinsically safe IECEx, cQPSus, ATEX and UKEX approval
- BS EN 10204 3.1 material certification
- Oxygen service cleaned
- Service exchange program for ease of maintenance

Easidew PRO Explosion Proof Transmitter

An explosion proof moisture transmitter to measure dew-point and moisture content in gases and liquids, with no galvanic isolation requirements.

- Measurement range -110 °C...+20 °C (-166 °F...+68 °F) dew point
- Dew-point or ppm_V moisture content output
- Accuracy ±1 °C (±1.8 °F) dew point
- 450 bar (6527 psig) process pressure compatibility
- Explosion proof IECEx, cQPSus, ATEX and UKEX approval
- BS EN 10204 3.1 material certification
- Oxygen service cleaned
- Service exchange program for ease of maintenance

Pura Trace Moisture Transmitter

A self-contained hygrometer designed specifically for the measurement of trace moisture content in high purity gases.

- Measurement range down to -120 °C (-184 °F) dew point
- Dew-point or ppm_V moisture content output
- Accuracy ±1 °C (±1.8 °F) dew point
- 4...20 mA and Modbus RTU over RS485 outputs
- Dual 1/4” VCR process connection
- MiniDIN 43650, M12 electrical connections
- Service exchange program for ease of maintenance

Product Guide

Online Hygrometers

A combination of a dew-point transmitter with a display. Michell's online hygrometers are quickly installed to provide local online readings with a display and retransmitted control signal.

Easidew Advanced Online Dew-Point Hygrometers

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

- Measurement range -110 °C...+20 °C (-166 °F...+68 °F) dew point
- Dew-point or moisture content output
- Accuracy ±1 °C (±1.8 °F) dew point
- Pressure indication and compensation
- Touch-screen reconfiguration

Easidew/SF82/SF52 Online Dew-Point Hygrometers

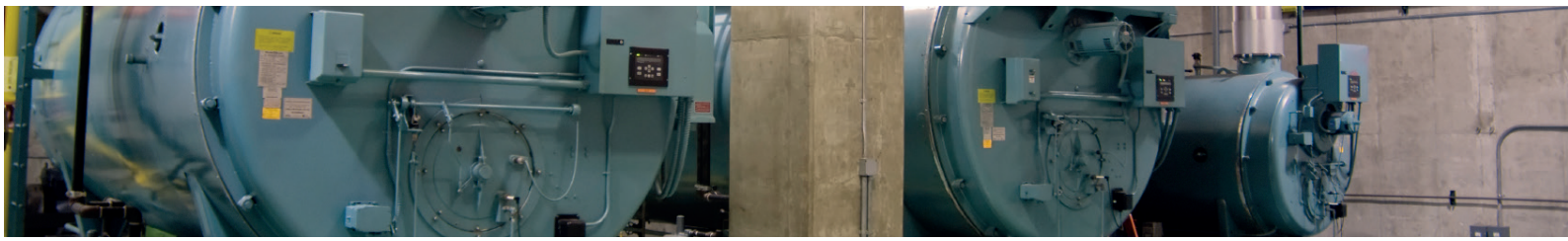
This panel mount display combines with the fast moisture response transmitter series offering digital and analog outputs, alarms and an easy-to-read display.

- Measurement range -110...+20 °C (-166 °F...+68 °F) dew point / -60 °C...+60 °C (-76 °F...+140 °F) dew point / -40 °C...+60 °C (-40 °F...+140 °F) dew point
- Accuracy ±2 °C / ±3 °C (±3.6 °C / ±5.4 °F) dew point
- 4...20 mA and Modbus RTU over RS485 outputs
- Sample block available to ensure optimal air flow for measurement

Pura Advanced Online 2 Moisture Hygrometer

This small, rugged pure gas moisture sensor/hygrometer is an ideal economical solution for moisture breakthrough indication in ultra-dry moisture purification applications.

- Measures down to -120 °C (-184 °F) dew point (1 ppb_V)
- Stable and repeatable measurement
- Fast response
- Economical and advanced monitor solutions
- Dew-point or moisture content output
- 4...20 mA and Modbus RTU over RS485 outputs



Product Guide

Hygrometer Sampling Systems

A combination of a dew-point measurement system with sample gas filtration and flow control supplied in a variety of formats from economical to higher performance application-specific samplers.

Sample Systems

Michell offers economical, compact high quality sample systems to ensure customers obtain good moisture samples within a sensible budget.

- Compressed air class 1, 2 and 3 sampler system
- Quick fit class 2 to 6 sampler system
- 5/8 UNF, 3/8 UNF, G1/2 simple sample blocks

DryCheck

A simple and efficient, self-contained dew-point hygrometer, with filtration and flow control, for measurement of dew point or moisture content.

- Integrated instrument and sampling system
- Simple installation
- Dew-point or moisture content
- Analog output, display and dual alarms
- IP65 (NEMA 4) enclosure

ES20 Compact Sampling System

Designed to protect your moisture measurement in a wide variety of industrial applications at elevated pressures up to 20 barg (290 psig), the ES20 is an economical high-quality system with short lead time.

- Stainless steel tube and fittings
- Flexible filtration options
- 6mm or 1/4” tube fittings
- Stainless steel, GRP enclosures
- Optional displays

Product Guide

Portable Instruments

Michell's portable hygrometers provide high-speed spot checking of humidity, dew-point and ppm moisture concentrations, for fast, accurate and stable measurements in the most demanding of industrial environments.

Easidew PDP Dryer Portable Hygrometer

A compressed gas dew-point meter to monitor and log key parameters such as dew point, pressure and temperature in real time. Effectively controls moisture contamination.

- Air-quality compliance to ISO 8573-1 Class 1–4
- Pressure dew-point monitoring to 20 barg
- Multi-parameter datalogging/downloading
- Touchscreen user-friendly interface
- Dew-point and pressure dryer outlet graphing

MDM300

A general-purpose portable dew-point hygrometer for rapid spot-check measurements of dew point or moisture content.

- Measurement range of -100 °C ... +20 °C (-148 °F...+68 °F) dew point
- Higher pressure measurements possible – up to 350 barg (5076 psig)
- Intuitive application kits allow quick and straightforward connection to your sample point
- Durable, yet easy to handle and operate: designed for use in industrial environments
- Lightweight: less than 1.5 kg (3.3 lb)

MDM300 I.S.

This intrinsically safe portable dew-point hygrometer is able to measure moisture in flammable gases such as natural gas or bio-gas.

- Measurement range of -100 °C ... +20 °C (-148 °F...+68 °F) dew point
- Higher pressure measurements possible – up to 350 barg (5076 psig)
- Intrinsically safe ATEX, UKEX, IECEx, cQPSus, and EAC Ex approval
- 13-point traceable calibration certificate

Related Products

Michell Optidew 501
Chilled Mirror Hygrometer

Michell S8000 RS
High-Precision Chilled Mirror Hygrometer

Michell ADG400
Advanced Dew-Point Generator

Michell Promet EExd
Natural Gas Water Dew-Point Analyzer

Michell QMA601
Process Moisture Analyzer

Michell OptiPEAK TDL600
Moisture in Natural Gas Analyzer

Ntron SenzTx
Compact Oxygen Transmitter

Aii GPR-1500 PPM
Trace Oxygen Analyzer

Michell XPM601
Paramagnetic Oxygen Analyzer

Rotronic HC2A-IC
Industrial Humidity Probe

Rotronic HF5A
Humidity and Temperature Transmitter

Rotronic HygroCal100
Humidity Generator

Services Guide

Michell Instruments offers a comprehensive service and support structure behind the dew-point product range.

Service Exchange Program

This is the quickest and most efficient method of maintaining calibration accuracy with zero process downtime.

Just before the sensor calibration is due, order a service exchange sensor and Michell will send you an economically priced, freshly calibrated sensor. Then return your old sensor to us within 21 days after completing the installation.

Recalibration Program

Where sensor calibration continuity is important, Michell provides an efficient recalibration service at our global service centers.

Simply return the sensor to us, requesting the required calibration procedure and we will recalibrate and return the sensor with a new traceable calibration certificate.

Field Service

We have a highly trained and experienced team of Field Service Engineers located around the globe, who will provide comprehensive on-site equipment maintenance contracts on a wide range of DwyerOmega equipment and sampling systems

Customization Projects

Michell's in house engineering design center offers fast sensor customization and OEM branding service to meet the more challenging dew-point application needs and customer commercial requirements.

Configuration & Diagnostic Kit

This is a comprehensive hardware and PC based application tool to make routine service and maintenance jobs on all Michell dew-point sensors simple and easy.

- Moisture ranging and scaling configuration
- Sensor diagnostics and simple data logging
- Sensor recalibration

Michell Instruments adopts a continuous development program which sometimes necessitates specification changes without notice.
Issue no: Dew-Point Transmitters_97139_V11_EN_1024