



Measurement Technology

METPOINT®

precision instruments for compressed air monitoring

Truth in Compressed Air.





METPOINT® Instrumentation

■ At a Glance

The precise measurement of humidity, hydrocarbons, flow, temperature, and pressure provide the foundation for various analyses, documentation, and decisions as they relate to compressed air systems. Potential overload (e.g. excessive air velocity) or malfunctions can be detected early, and quickly and reliably, which allows for the most precise and economical optimization of all plant components. The use of superior quality, industrial grade measurement equipment eliminates all the guesswork.

■ Features and Benefits

+ High Measurement Accuracy

Measuring instruments are designed specifically for compressed air applications

+ Independent Reliability

Reliable measurement that is independent of temperature and pressure - no adjustment necessary

+ Wide Range Connectivity

From data logger to networking to mobile systems

+ Easy to Use Display

Simple to use, multi-function displays that are easy to read and are user expandable

+ Wide Variety of Applications

Portable and stationary versions offer users maximum flexibility

■ Product Family



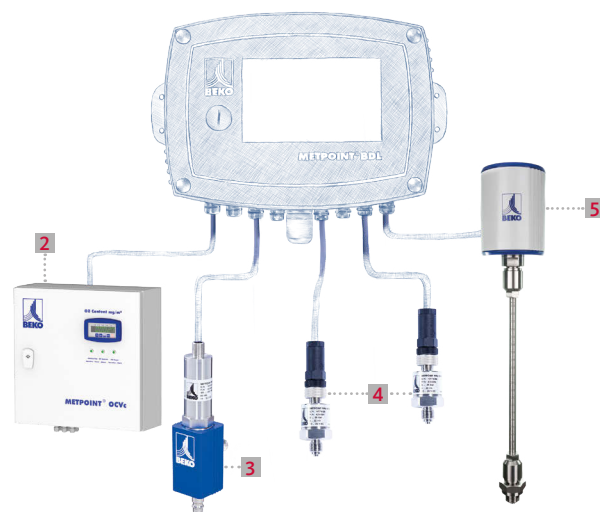
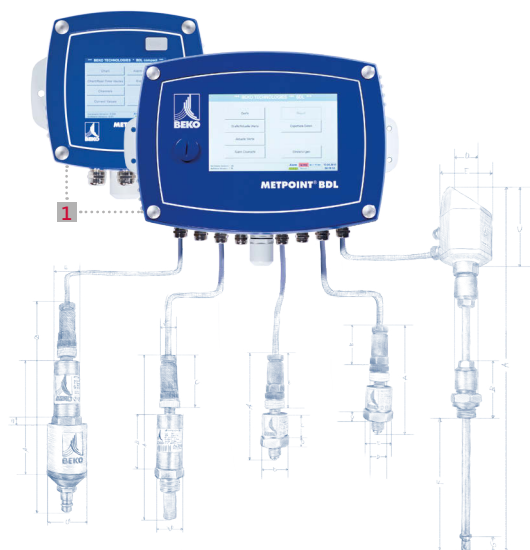
Monitoring / Data Logging

Sensors

Mobile Solutions

METPOINT® Instrumentation

How it Works



1 METPOINT displays are available in a wide variety of configurations ranging from single-value displays to sophisticated extra-large touch screen displays that can accommodate up to 2, 4, 8, or 12 sensor connections depending on the model. These displays can receive signals from either an analog or digital sensor, and in some configurations the sensor ports work with both sensor types. Data logging is available along with network connection capabilities all using the latest technologies and communication protocols, and the displays are designed to be expanded as your needs change.

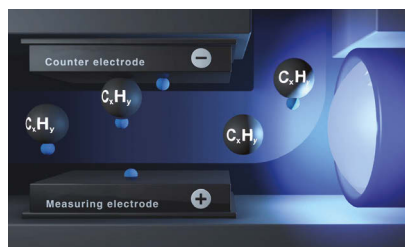
METPOINT sensors are available in an equally wide variety of types offering users precision and versatility for every application, and are designed to work perfectly in combination with any of the available displays. All sensor and display combinations can easily be scaled up as your system and needs grow.

2 METPOINT OCV is a revolutionary in-line hydrocarbon content sensor. This measurement technology is capable of detecting hydrocarbons down to a range as low as 0.0006 mg/m³ in a compressed air stream.

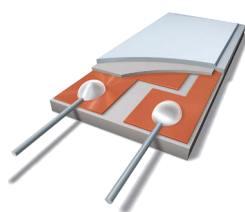
3 Dew point measurement utilizing capacitive polymer sensors provide users measurement accuracies to within ± 0.9 °F with the METPOINT DPM dew point sensor.

4 METPOINT PRM pressure sensors featuring stainless steel, thin-film technology are available up to 870 psig and will sense relative pressure of gases or liquids to less than or equal to ± 0.5% accuracy.

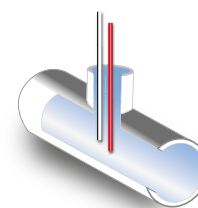
5 Flow rates from 0.12 to 23,275 scfm with an accuracy of ± 3% can be measured with METPOINT FLM flow sensors using calorimetric measurement.



Photoionization detection is used in METPOINT OCV to measure the hydrocarbon content by exposing the airflow to UV radiation. When UV radiation comes into contact with hydrocarbon particles, they will ionize, and the particles become electrically conductive. This ionization flow is then exactly measured where its strength proportionally corresponds to the hydrocarbon content.



The design of the pressure dew point sensor revolves around an upper and lower electrode with a porous polymer layer in between. Depending on the amount of partial water vapor pressure, a higher or lower number of water molecules will penetrate the porous polymer layer. The capacity of the sensor changes as a result, and this change is converted to a humidity value and then displayed.

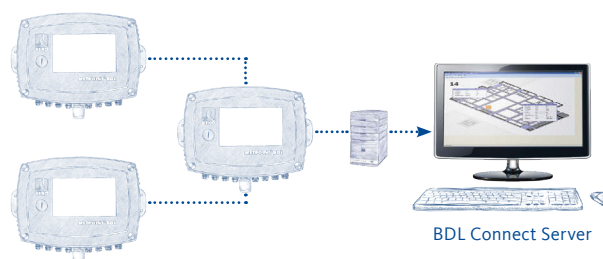
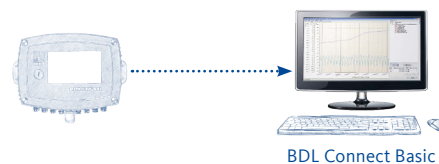


The calorimetric principle for flow measurement is based on two temperature sensors in close contact with the flow but thermally insulated from each other. One of the two sensors is constantly heated and the cooling effect of the air flow is used to monitor the flow rate. The calorimetric flow meter can achieve relatively high accuracy even at low flow rates.

All of this collected data is then finally either read-out via a USB storage device, stored in the internal memory of the display, or routed through available software options once integrated into your local network.

There are two types of software available, METPOINT BDL Connect Basic (pictured top) and METPOINT BDL Connect Server (pictured bottom). Both feature user-friendly analysis functions, graphical, and tabular displays with easy conversion into Microsoft's Excel format.

The key distinction is that BDL Connect Basic is designed to be a single source, point-to-point software between one METPOINT display and a computer. BDL Connect Server, however, is designed to take the evaluation data from multiple displays, be hosted on a server, and provide users access to plant information from more than one workstation. This also adds functionality like automatic data storage in mySQL and the ability to receive e-mail or text alerts when user established sensor values have been exceeded. Both versions of the software are compatible with the optional Compressed Air Analyzer plug-in that offers users the ability to measure compressor energy consumption, flow rate consumption, and perform leakage calculations, which are done during production off-load times creating a central hub for complete plant data capture and analysis.

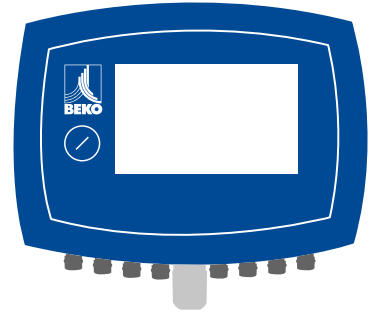
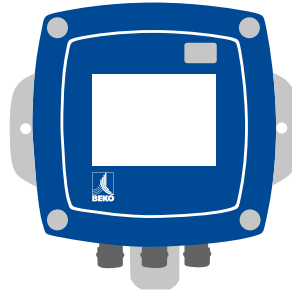
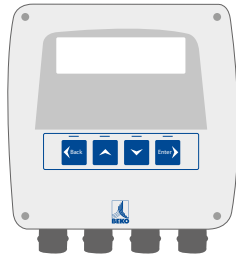


■ Technical Details

METPOINT® Multi-Function Displays

from one to 12 sensor connections, with or without data logging capability

- › Fully expandable, future-proof
- › Wall mountable
- › Multi-voltage power supply
- › Connection Cable
- › USB interface



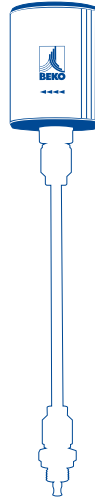
METPOINT® Displays	DD081 ECONOMY	BDL	BDL XL
Housing Dimensions (HxWxD)	4.65" x 3.62" x 3.66"	7.09" x 6.54" x 4.53"	9.80" x 13.74" x 4.29"
Housing Material	ABS plastic	Powder-coated aluminum, polyester front faceplate	Powder-coated aluminum, polyester front faceplate
Housing Protection Standard	IP 65	IP 44	IP 65
Connections	4 x M12 plastic connections for sensor, power supply and alarm relays	7 x M12 x 1.5 nickel-plated brass connections for sensor, power supply and alarm relays	16 x M12 x 1.5 nickel-plated brass for sensor, power supply and alarm relays, 1 x RJ 45 Ethernet connection
Sensor Inputs	1 analog sensor input	Base model is either 2 analog or 2 digital sensor inputs, both are expandable to one of the following configurations: 2 analog and 2 digital, 4 analog or 4 digital sensor inputs Max. number of sensor inputs per unit: 4	4 / 8 / 12 sensor input for analog and digital sensors can be freely connected (see options) Digital sensors for dew point and consumption with SDI interface FLM / DPM series sensors RS 485 / Modbus RTU digital remote sensors, other bus systems are possible on request Analog sensors for pressure, temperature, current probe pre-configured Analog remote sensors 0 / 4 - 20 mA, 0-1 / 10 / 30V, pulse, Pt 100 / Pt 1000, KTY
Data Logging	-	Up to 1,000,000 values / recording interval: min. 1 sec., max. 59 min. and 59 sec.	Infinite and fully customizable
Power Supply for Sensors	110 VAC, 50/60 Hz	24 VDC, max. 25 mA per sensor	24 VDC, max. 130 mA per sensor, integrated power supply unit max 24 VDC, 25W In version 8 /12 sensor inputs 2 integrated power supply units each max. 24 VDC, 25 W
Interface Type	4-key keypad, on-device only, no software	USB stick, USB cable, Ethernet / RS 485 Modbus RTU / TCP, SDI other bus systems on request, integrated web server (all optional)	USB stick, USB cable, Ethernet / RS 485 Modbus RTU / TCP, SDI other bus systems on request, integrated web server (optional)
Outputs	Single connection of 4-20 mA signal of dew point or consumption sensor (max. burden <500 ohm) 2 alarm relays, 230 VAC, 3 A	Connection of 4-20 mA signals of dew point and consumption sensors (max. burden <500 ohm) 2 alarm relays, 230 VAC, 3 A	3 / 4 relay (changeover contact 230 VAC, 6 A) alarm management, relay freely programmable, summary alarm Analog output, pulse at sensor with its own signal output looped through, e.g. DPM / FLM series sensors
Memory Card	-	up to 4 GB	Memory size 2 GB SD memory card standard, optional up to 4 GB
Display Type	½" height, red LED, 7 segment, 5 digit display	Full color, 3.5" TFT touchpanel transmissive, with graphics, charts and statistics	Full color, 7" TFT touchpanel transmissive, with graphics, charts and statistics
Operating Temperature	14 °F to 140 °F	33 °F to 122 °F	33 °F to 122 °F
Storage Temperature	-4 °F to 176 °F	-4 °F to 158 °F	-4 °F to 158 °F

■ Technical Details

METPOINT® Sensor Technologies

for the measurement of all critical process parameters

- › Custom configurations available
- › Temperature sensor also available
- › Amperage sensor also available



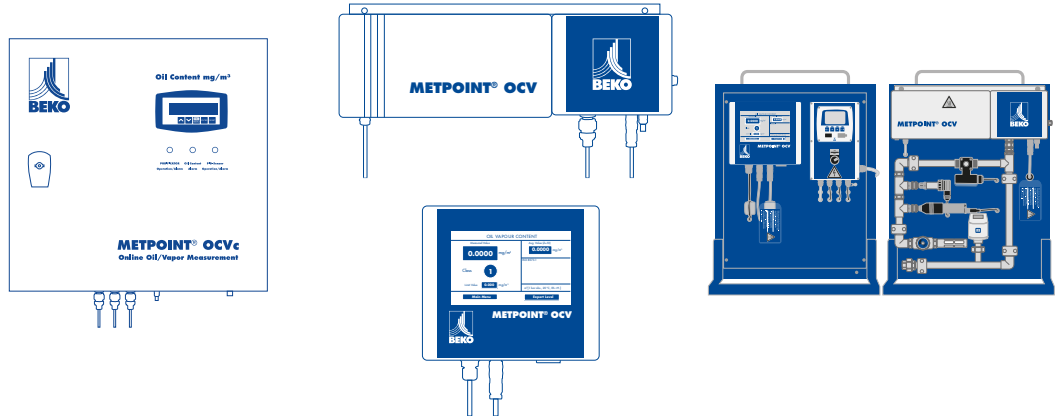
METPOINT® Sensors	SD Series Dew Point Sensors	FS Series Flow Sensors	SP Series Pressure Sensors
Measuring Principle	Capacitive polymer sensor	Calorimetric measurement	Stainless steel thin-film technology
Measured Variables	Dew point, temperature and humidity	Flow rate, velocity and total consumption	Relative pressure
Intended Measurement Medium	Compressed air or gases	Compressed air or gases	Gases or liquids
Measurement Range	-76 to +86 °F td -22 to +158 °F measured gas temperature 0 to 100% rH	0.12 to 23,275 scfm	0 to 232 psig standard (0 to 870 psig optional)
Measuring Accuracy	± 3.5 °F at -40 °F PDP ± 0.9 °F at +15 to +86 °F	± 1.5% of reading	≤ ± 0.5%
Max. Operating Pressure	725 psig	232 psig standard (580 psig optional)	725 psig
Operating Temperature	-22 to +158 °F	Housing: -22 to +176 °F Sensor probe: -22 to +284 °F	-40 to +185 °F
Storage Temperature	-40 to 185 °F	-	-40 to 185 °F
Connection Size Type	¼" Quick Disconnect Adapter	½" BSP (ISO 228/1)	¼" BSP
Analog Output	4...20 mA	4...20 mA	4...20 mA
Digital Output	Yes	Yes	Yes
Protection Class	IP65	IP65	IP67

Technical Details

METPOINT® Hydrocarbon Sensor Technologies

pre-configured units with available standalone display and compatible mobile test station

- › Continuous reference air sample
- › Wall mountable
- › Self-calibrating device
- › Full data log capability
- › Network ready



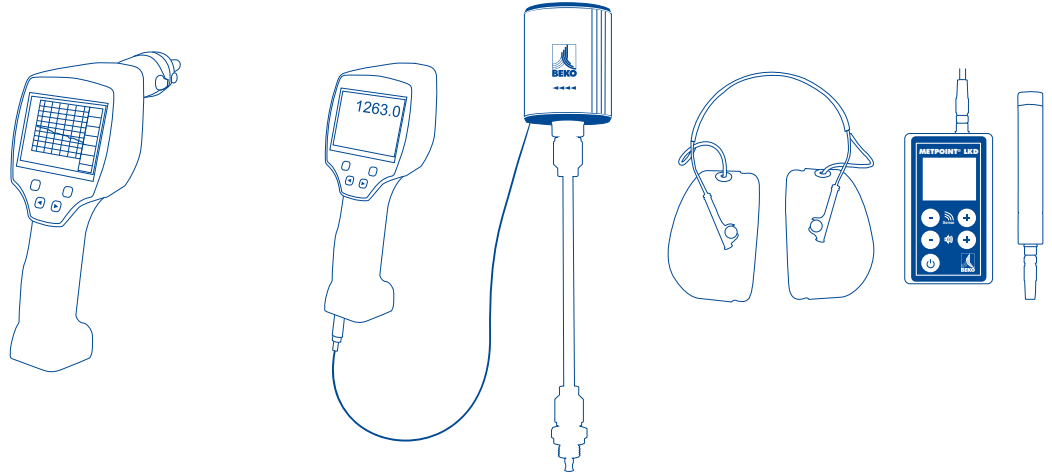
METPOINT® Oil Vapor Sensors	OCV Compact	OCV Premium	OCV Mobile
Dimensions (HxWxD)	17.32" x 16.14" x 6.42"	6.69" x 19.17" x 4.72" Sensor Housing 7.87" x 9.06" x 4.72" Display Housing	-
Housing Protection Standard	IP 54	IP 54	IP 54
Connection	1/8" female thread, ISO 228-1 standard	3/8" internal thread	3/8" internal thread
Max. Operating Pressure	232 psig High pressure option available up to 580 psig	232 psig High pressure option available up to 580 psig	232 psig High pressure option available up to 580 psig
Power Supply	100-240 VAC, 1 Phase, 50-60 Hz ±10%	115 VAC, 60 Hz ±10%	115 VAC, 60 Hz ±10%
Outputs	4-20 mA analog output, 2-conductor system, RS-485, MODBUS RTU for the transmission of measured values, one normally open alarm contact	230 VAC 5A or 30 VAC 2A, 4-20 mA analog output option, Ethernet interface, one normally open alarm contact	230 VAC 5A or 30 VAC 2A, 4-20 mA analog output option, Ethernet interface, one normally open alarm contact
Compatible with BDL Series Displays	Yes	Yes	Yes
Intended Measurement Medium	Compressed air, free of aggressive, corrosive, caustic, toxic, flammable, or combustible materials or substances	Compressed air, free of aggressive, corrosive, caustic, toxic, flammable, or combustible materials or substances	Compressed air, free of aggressive, corrosive, caustic, toxic, flammable, or combustible materials or substances
Measuring Principle	Photoionization detection	Photoionization detection	Photoionization detection
Measurement Parameter	Residual oil content in mg/m ³ relative to 14.5 psig, 68 °F, and 0% relative humidity, according to ISO 8573-1	Residual oil content in mg/m ³ relative to 14.5 psig, 68 °F, and 0% relative humidity, according to ISO 8573-1	Residual oil content in mg/m ³ relative to 14.5 psig, 68 °F, and 0% relative humidity, according to ISO 8573-1
Measured Substances	Polyalpaolefins, aromatics, hydrocarbons, aliphatic hydrocarbons, and functional hydrocarbons	Polyalpaolefins, aromatics, hydrocarbons, aliphatic hydrocarbons, and functional hydrocarbons	Polyalpaolefins, aromatics, hydrocarbons, aliphatic hydrocarbons, and functional hydrocarbons
Measuring Range	≤ 0.01 to 2.50 mg/m ³	≤ 0.01 to 5.0 mg/m ³	≤ 0.01 to 5.0 mg/m ³
Measuring Accuracy	≤ 0.01 to 0.5 mg/m ³ ±0.003 mg/m ³ ≥ 0.5 to 1.0 mg/m ³ ±0.10 mg/m ³ ≥ 1.0 to 2.5 mg/m ³ ±0.10 mg/m ³	±0.003 mg/m ³	±0.003 mg/m ³
Detection Limit (residual oil)	0.001 mg/m ³	0.0006 mg/m ³	0.0006 mg/m ³
Measuring Gas Humidity	≤ 40% relative humidity, maximum pressure dew point +50 °F (no liquid)	≤ 40% relative humidity, maximum pressure dew point +50 °F (no liquid)	≤ 40% relative humidity, maximum pressure dew point +50 °F (no liquid)
Compressed Air Temperature at Inlet	41 to 122 °F	41 to 130 °F	41 to 130 °F
Ambient Temperature	41 to 113 °F and ≤ 75% relative humidity	41 to 113 °F	41 to 113 °F

■ Technical Details

METPOINT® Mobile Solutions

accurate measurement of all relevant compressed air parameters on-the-go

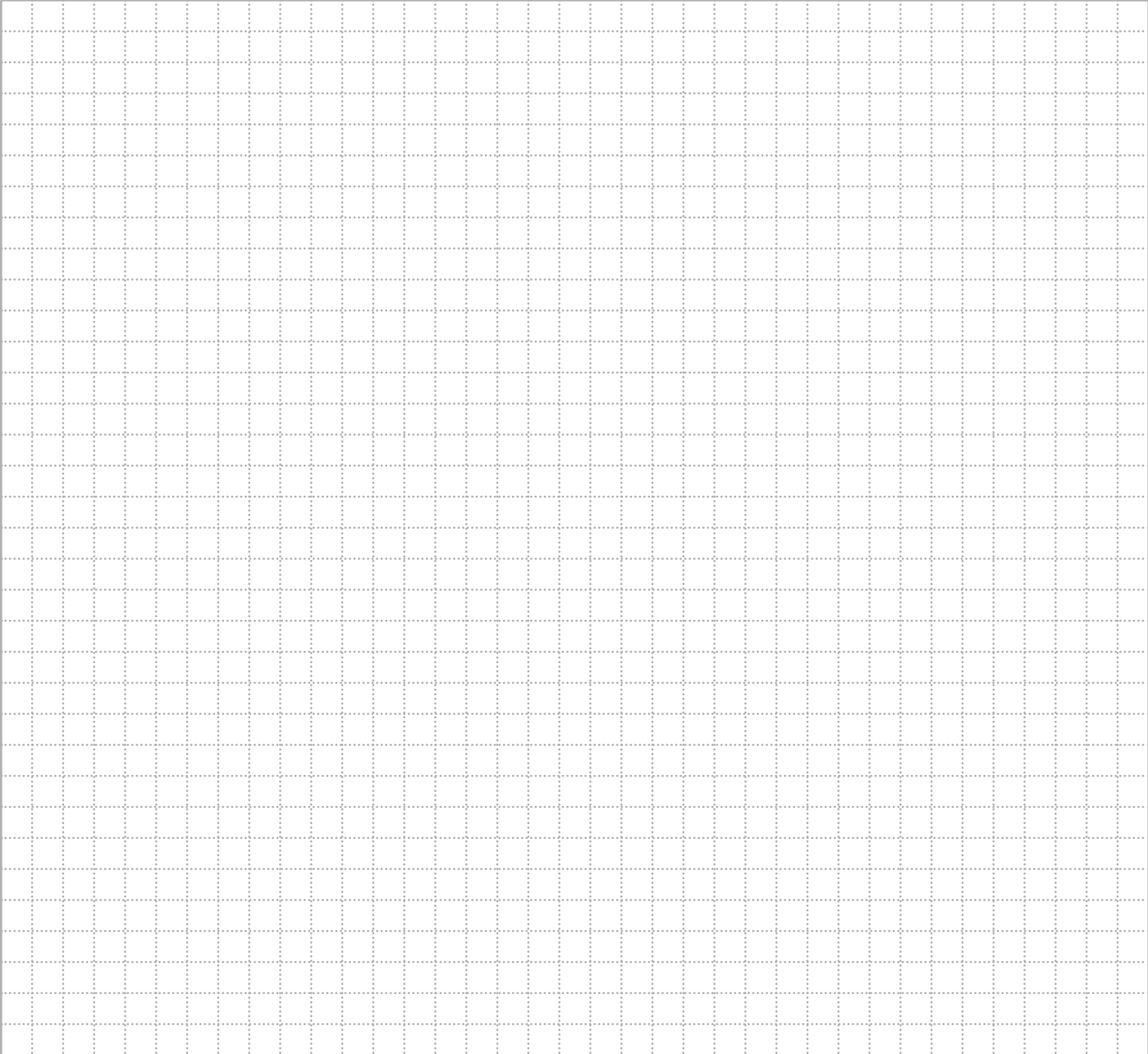
- › Take with you anywhere
- › Rechargeable battery
- › Handy USB connections
- › Same accurate sensor technology



METPOINT® Mobile Solutions	DPM Mobile Dew Point Monitor	FLM Mobile Flow Monitor	LKD Mobile Leak Detector
Measuring Principle	Capacitive polymer sensor	Calorimetric measurement	Ultrasonic detection
Measured Variables	Dew point	Flow rate	Leakage
Intended Measurement Medium	Compressed air or gases	Compressed air or gases	Compressed air or gases
Measurement Range	-112 to +122 °F	0.12 to 16,100 scfm	up to 40 kHz
Measuring Accuracy	± 3.5 °F at -40 °F PDP ± 0.9 °F at +15 to +86 °F	± 1.5% of measured value	± 1 kHz
Max. Operating Pressure	232 psig	232 psig (optional 725 psig)	-
Digital Connection	Integrated USB	Integrated USB	Mini USB interface

Reliable | Efficient | Innovative

What can we do for you?



BEKO TECHNOLOGIES CORP.
900 Great Southwest Pkwy SW
Atlanta, GA 30336
USA
Phone +1 (404) 924-6900
Fax +1 (404) 629-6666
www.bekousa.com

