VAISALA

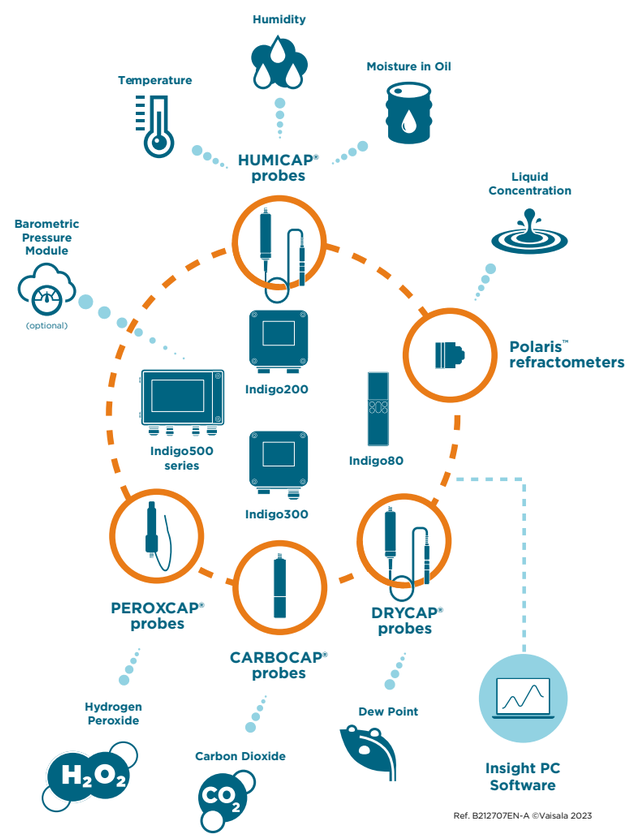
INDIGO

Probes
Transmitters
Software
Applications

Brochure

Modular measurement system to fit every need

Interchangeable probes, robust transmitters, and Vaisala Insight software create a strong Indigo ecosystem to ensure energy efficiency, safety, and end-product quality in your operations. The modular plug-and-play design makes Indigo probes and transmitters easy to install, use, and maintain.



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The Vaisala Indigo Family in brief

- **Fits your needs.** The modular design allows you to choose the elements that are a perfect fit for your measurement needs.
- **Reliable.** Ensures accurate and stable measurements with world-leading measurement sensor technology and robust transmitter design.
- **Simple to install, use, and maintain.**
  The plug-and play design ensures smooth installation, calibration, and maintenance of measurement devices.
- **Easy access to data.** Access measurement data visualization, and probe configuration with the Indigo transmitter or Vaisala Insight software.
- **Future-proof measurements.** All probes feature Modbus RTU over RS-485 for flexible connectivity. Indigo transmitters provide additional connectivity options with analog and relay outputs.

Probes with high accuracy and stability

- Comprehensive probe selection for measuring various parameters
- Based on premium Vaisala sensor technologies
- Use stand-alone or with Indigo transmitters
- Modern, compact design

Robust transmitters with value-adding functionalities

- Plug-and-play probe connection
- Dual-probe model enables multi-parameter measurement
- Easy data evaluation and visualization
- Additional connectivity, power, and wiring options

Insight software for easy self-service and data visualization

- User-friendly graphical interface
- Quick access to probe data
- Smooth field calibration
- Easy probe configuration
- Connect up to six devices simultaneously
- Data logging functionality

What combination is the best for you?

» Try our Indigo selector tool, where you can define your measurement need, and we'll give an instant recommendation!

Indigo compatible probes

Humidity and temperature probes

Indigo-compatible humidity and temperature probes are based on the space-proof Vaisala HUMICAP® technology, the world's first thin-film capacitive humidity sensor. Vaisala HUMICAP™ sensors guarantee quality and reliability, with a reputation for accuracy, excellent long-term stability, and negligible hysteresis.

Indigo-compatible humidity probes are suitable for a wide range of applications from industrial processes to life science and building automation. They provide a comprehensive list of output parameters, including relative humidity, temperature, dew point temperature, wet bulb temperature, absolute humidity, mixing ratio, water vapor pressure, and enthalpy. All probes are supplied with RS-485 non-isolated Modbus RTU output.

	HMP1 ambient measurement in indoor spaces and wall-mounting	HMP3 general-purpose use and duct-mounting	HMP4 high-pressure or vacuum environments	HMP5 high temperature environments
MEASUREMENT RANGE	0 … 100 %RH -40 … +60 °C (-40 …+140 °F)	0 … 100 %RH -40 … +120 °C (-40 … +248 °F)	0 … 100 %RH -70 … +180 °C (-94 … +356 °F)	0 … 100 %RH -70 … +180 °C (-94 … +356 °F)
ACCURACY AT +23 °C (+73.4 °F)	±1.0 %RH (0 … 90 %RH) ±0.2 °C (±0.36 °F)	±0.8 %RH (0 … 90 %RH) ±0.1 °C (±0.18 °F)	±0.8 %RH (0 … 90 %RH) ±0.1 °C (±0.18 °F)	±0.8 %RH (0 … 90 %RH) ±0.1 °C (±0.18 °F)
OPERATING ENVIRONMENT TEMPERATURE	-40 … +60 °C (-40 … +140 °F)	probe head -40 … +120 °C (-40 … +248 °F) probe body -40 … +80 °C (-40 … +176 °F)	probe head -70 … +180 °C (-94 … +356 °F) probe body -40 … +80 °C (-40 … +176 °F)	probe head -70 … +180 °C (-94 … +356 °F) probe body -40 … +80 °C (-40 … +176 °F)
OPERATIONAL PRESSURE			< 100 bar	
OUTPUT PARAMETERS	Absolute humidity Relative humidity Temperature Wet-bulb temperature Dew/frost point temperature Water concentration Water mass fraction Water vapor pressure Water vapor saturation pressure Enthalpy Mixing ratio	Absolute humidity Relative humidity Temperature Wet-bulb temperature Dew/frost point temperature Water concentration Water mass fraction Water vapor pressure Water vapor saturation pressure Enthalpy Mixing ratio	Absolute humidity Relative humidity Temperature Wet-bulb temperature Dew/frost point temperature Water concentration Water mass fraction Water vapor pressure Water vapor saturation pressure Enthalpy Mixing ratio	Absolute humidity Relative humidity Temperature Wet-bulb temperature Dew/frost point temperature Water concentration Water mass fraction Water vapor pressure Water vapor saturation pressure Enthalpy Mixing ratio
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	HMP7 high-temperature and/or condensing environments	HMP8 high-pressure or leak-tight installation	HMP9 rapidly changing environments	TMP1 demanding temperature measurements
MEASUREMENT RANGE	0 … 100 %RH -70 … +180 °C (-94 … +356 °F)	0 … 100 %RH -70 … +180 °C (-94 … +356 °F)	0 … 100 %RH -40 … +120 °C (-40 … +248 °F)	-70 … +180 °C (-94 … +356 °F)
ACCURACY AT +23 °C (+73.4 °F)	±0.8 %RH (0 … 90 %RH) ±0.1 °C (±0.18 °F)	±0.8 %RH (0 … 90 %RH) ±0.1 °C (±0.18 °F)	±0.8 %RH (0 … 90 %RH) ±0.1 °C (±0.18 °F)	±0.06 °C (±0.108 °F) *
OPERATING ENVIRONMENT TEMPERATURE	probe head -70 … +180 °C (-94 … +356 °F) probe body -40 … +80 °C (-40 … +176 °F)	probe head -70 … +180 °C (-94 … +356 °F) probe body -40 … +80 °C (-40 … +176 °F)	probe head -40 … +120 °C (-40 … +248 °F) probe body -40 … +60 °C (-40 … +140 °F)	probe head -70 … +180 °C (-94 … +356 °F) probe body -40 … +80 °C (-40 … +176 °F)
OPERATIONAL PRESSURE	< 10 bar	< 40 bar		
OUTPUT PARAMETERS	Absolute humidity Relative humidity Temperature Wet-bulb temperature Dew/frost point temperature Water concentration Water mass fraction Water vapor pressure Water vapor saturation pressure Enthalpy Mixing ratio	Absolute humidity Relative humidity Temperature Wet-bulb temperature Dew/frost point temperature Water concentration Water mass fraction Water vapor pressure Water vapor saturation pressure Enthalpy Mixing ratio	Absolute humidity Relative humidity Temperature Wet-bulb temperature Dew/frost point temperature Water concentration Water mass fraction Water vapor pressure Water vapor saturation pressure Enthalpy Mixing ratio	Temperature Water vapor saturation pressure
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*) when including the ISO17025 accredited calibration

» Watch a video about Vaisala Indigo humidity and temperature probes and how to use them in different applications

Dew point probes

Indigo-compatible dew point probes feature Vaisala's trusted DRYCAP® technology, specifically designed for humidity measurement in dry environments. The DRYCAP® sensor is particularly renowned for its reliable performance in hot and very dry environments. These probes excel in a range of applications, from drying processes to compressed air, dry chambers, and industrial ovens. All probes are supplied with RS-485 non-isolated Modbus RTU output.

	DMP5 high temperatures	DMP6 very high temperatures	DMP7 leak-tight installation	DMP8 high-pressure or leak-tight installation
MEASUREMENT RANGE	Dew point -40 … +100 °C (-40 … +212 °F) Td/f Temperature 0 … +180 °C (+32 … +356 °F) Mixing ratio 0 … 1000 g/kg (0 … 7000 gr/lbs) Absolute humidity 0 … 600 g/m3	Dew point -25 … +100 °C (-13 … +212 °F) Td/f Mixing ratio 0 … 1000 g/kg (0 … 7000 gr/lbs)	Dew point -70 … +80 °C (-94 … +176 °F) Td/f Temperature 0 … +80 °C (+32 … +176 °F) Relative humidity 0 … 70 %RH Concentration by volume 10 … 2500 ppm	Dew point -70 … +80 °C (-94 … +176 °F) Td/f Temperature 0 … +80 °C (+32 … +176 °F) Relative humidity 0 … 70 %RH Concentration by volume 10 … 2500 ppm
ACCURACY	Dew point ±2 °C (±3.6 °F) Td/f Temperature ±0.4 °C (±0.72 °F) at +100 °C (+212 °F) Mixing ratio ±12 % of reading Absolute humidity ±10 % of reading (typical)	Dew point ±2 °C (±3.6 °F) Td/f Mixing ratio ±12 % of reading	Dew point Up to ±2 °C (±3.6 °F) Td/f Temperature ±0.2 °C at room temperature Relative humidity ±0.004 %RH + 20% of reading (RH <10 %RH, at + 20 °C) Concentration by volume 1 ppm + 20% of reading (at + 20 °C, 1 bar)	Dew point ±2 °C (±3.6 °F) Td/f Temperature ±0.2 °C at room temperature Relative humidity ±0.004 %RH + 20% of reading (RH <10 %RH, at + 20 °C) Concentration by volume 1 ppm + 20% of reading (at + 20 °C, 1 bar)
OPERATING ENVIRONMENT TEMPERATURE	probe head -40 … +180 °C (-40 … +356 °F) probe body -40 … +80 °C (-40 … +176 °F)	probe head +100 … +350 °C (+212 … +662 °F) probe body -40 … +80 °C (-40 … +176 °F)	probe head -40 … +80 °C (-40 … +176 °F) probe body -40 … +80 °C (-40 … +176 °F)	probe head -40 … +80 °C (-40 … +176 °F) probe body -40 … +80 °C (-40 … +176 °F)
OPERATIONAL PRESSURE			0 … 10 bar (0 … 145 psia)	0 … 40 bar (0 … 580 psia)
OUTPUT PARAMETERS	Absolute humidity Relative humidity Dew point temperature Temperature Dew/frost point temperature Water concentration Water mass fraction Water vapor pressure Enthalpy Water vapor saturation pressure Mixing ratio	Dew point temperature Water concentration Dew/frost point temperature Water mass fraction Water vapor pressure Mixing ratio	Absolute humidity Relative humidity Dew point temperature Temperature Dew/frost point temperature Water concentration Water mass fraction Water vapor pressure Enthalpy Water vapor saturation pressure Mixing ratio	Absolute humidity Relative humidity Dew point temperature Temperature Dew/frost point temperature Water concentration Water mass fraction Water vapor pressure Enthalpy Water vapor saturation pressure Mixing ratio
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Carbon dioxide (CO_2) probes

Indigo-compatible carbon dioxide (CO_2) probes are based on Vaisala's unique CARBOCAP® technology that provides exceptional stability. They are ideal for applications such as incubators, greenhouses, food storage and transport, animal shelters, and demand-controlled ventilation. They can even be installed outdoors.

	GMP251 %-level measurements	GMP252 ppm-level measurements
MEASUREMENT RANGE	0 … 20 % CO_2	0 … 10,000 ppm CO_2 (up to 30 000 ppm CO_2 with reduced accuracy)
ACCURACY	At 5 %CO_2 ±0.1 %CO_2 At 0 … 8 %CO_2 ±0.2 %CO_2 At 8 … 20 %CO_2 ±0.4 %CO_2	0 … 3000 ppm CO_2 ±40 ppm CO_2 3000 … 10 000 ppm CO_2 ±2 % of reading Up to 30 000 ppm CO_2 ±3.5 % of reading
LONG-TERM STABILITY	At 0 … 8 %CO_2 ±0.3 %CO_2/year At 8 … 12 %CO_2 ±0.5 %CO_2/year at 12 … 20 %CO_2 ±1.0 %CO_2/year	0 … 3000 ppm CO_2 ±60 ppm CO_2/year 3000 … 6000 ppm CO_2 ±150 ppm CO_2/year 6000 … 10 000 ppm CO_2 ±300 ppm CO_2/year
OPERATING ENVIRONMENT TEMPERATURE	-40 … +60 °C (-40 … +140 °F)	-40 … +60 °C (-40 … +140 °F)
OUTPUT OPTIONS	0 … 5/10 V (scalable), min. load 10 kΩ 0/4 … 20 mA (scalable), max. load 500 Ω RS-485: Modbus, Vaisala Industrial Protocol	0 … 5/10 V (scalable), min. load 10 kΩ 0/4 … 20 mA (scalable), max. load 500 Ω RS-485: Modbus, Vaisala Industrial Protocol
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» Watch a video on Vaisala CARBOCAP series GMP250 probes and how to use them in carbon dioxide measurements

Vaporized hydrogen peroxide (H2O2) probes

Indigo-compatible vaporized hydrogen peroxide (H2O2) probes feature Vaisala's unique PEROXCAP® technology, which enables accurate and repeatable measurement of vaporized H2O2, relative humidity / saturation (%RH / %RS), and temperature during bio-decontamination with a single probe.

	HPP271 H2O2 vapor concentration	HPP272 H2O2 vapor concentration, relative saturation, humidity, and temperature
MEASUREMENT RANGE	0 … 2000 ppm +5 … +50 °C (+41 … +122 °F) 0 … 100 %RS 0 … 100 %RH	10…2000 ppm +5 … +50 °C (+41 … +122 °F) 0 … 100 %RS 0 … 100 %RH
ACCURACY	At +10 … +25 °C (+50 … +77 °F) , 10 … 2000 ppm H2O2 ±10 ppm or 5 % of reading (whichever is greater)	At +10 … +25 °C (+50 … +77 °F) , 10 … 2000 ppm H2O2 : ±10 ppm or 5 % of reading (whichever is greater) ±4 %RS At +25 °C (77 °F), 0 ppm H2O2 0 … 90 %RH ±1 %RH
OPERATING ENVIRONMENT TEMPERATURE	+0 … +70 °C (+32 … +158 °F)	+0 … +70 °C (+32 … +158 °F)
OUTPUT PARAMETERS	Vaporized hydrogen peroxide concentration by volume Water concentration by volume	Absolute H2O2 and H2O H2O ppm by volume, water vapor saturation pressure (H2O and H2O+H2O2) dew point temperature vapor pressure (H2O and H2O2)
OUTPUT OPTIONS	RS-485, not isolated; do not use termination on the RS-485 line	RS-485, not isolated; do not use termination on the RS-485 line
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» Watch a video on how to connect a vaporized hydrogen peroxide probe to a Vaisala Indigo transmitter

Moisture-in-oil probe

Indigo-compatible probe MMP8 incorporates the Vaisala HUMICAP 180L2 sensor, which is optimized for moisture in oil applications. The probe is suitable for demanding moisture measurement in a range of oils such as transformer, hydraulic, and lubrication oils and includes a CIGRE recommended traceable calibration certificate.

	MMP8
MEASUREMENT RANGE	Water activity 0 … 1 aw Temperature -40 … +180 °C (-40 … +356 °F)
T90 RESPONSE TIME	10 min
ACCURACY	Water activity ±0.01 aw (±1 %RS) Water concentration in oil 10 % of the reading Temperature ±0.2 °C (0.36 °F) at +20 °C (+68 °F)
OPERATING ENVIRONMENT TEMPERATURE	probe head -40 … +180 °C (-40 … +356 °F) probe body -40 … +80 °C (-40 … +176 °F)
OPERATING PRESSURE RANGE	0 … 40 bar (0 … 580 psia)
OUTPUT PARAMETERS	Relative saturation (%RS) Temperature (°C) Water activity Water concentration in oil (ppmv)
OUTPUT OPTIONS	RS-485, not isolated
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» Watch an unboxing video on Vaisala Indigo520 Transmitter & MMP8 Probe

Indigo Transmitters

Host devices for indigo smart probes

Vaisala Indigo transmitters offer many features that complement Indigo-compatible probes. They enable real-time data visualization and access to probe configurations. They also offer additional connectivity, supply voltage, and wiring options compared to using a stand-alone smart probe.

	INDIGO500 TRANSMITTER SERIES		INDIGO300 TRANSMITTER	INDIGO200 TRANSMITTER SERIES	
	Indigo520	Indigo510	Indigo300	Indigo202	Indigo201
DISPLAY	Touchscreen color LCD display or non-display with LED indicator	Touchscreen color LCD display or non-display with LED indicator	Color LCD display with LED indicator	Color LCD display	Color LCD display or non-display with LED indicator
COMMUNI-CATION	Modbus TPC/IP	Modbus TPC/IP	Analog output	RS-485, Modbus RTU	Analog output
ANALOG OUTPUTS	4 pcs	2 pcs	3 pcs (pre-configured)	No	3 pcs
RELAYS	2 pcs	No	No	2 pcs	2 pcs
ANALOG INPUTS	1 pc	No	No	No	No
POWERING	15 … 35 VDC 24 VAC 100 …240 VAC PoE+	11 … 35 VDC 24 VAC	15 … 30 VDC 24 VAC	15 … 30 VDC 24 VAC	15 … 30 VDC 24 VAC
GALVANIC ISOLATION	Yes	Yes	No	No	No
DATA LOGGING	10 years' storage with 24 h interval logging	10 years' storage with 24 h interval logging	No	No	No
REMOTE ACCESS VIA INSIGHT PC SOFTWARE	Yes	Yes	Yes	Yes	Yes
ENCLOSURE	Metal, IP66, NEMA4	Metal, IP66, NEMA4	Metal, IP66	Plastics, IP65	Plastics, IP65
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Barometric pressure measurement

The Indigo520 transmitter with the barometric pressure measurement module combined with one or two of the Indigo-compatible humidity and temperature measurement probes is a unique combination of a meteorological-grade barometer in a single industrial device. Measure three parameters simultaneously: barometric pressure, humidity and temperature. The device incorporates Vaisala's proprietary, space-proof HUMICAP® and BAROCAP® technologies.

» Read more

Software

Vaisala insight PC software

Vaisala Insight PC Software provides quick access to the configuration options and calibration data of Indigo-compatible probes. Probes can be detached from the process and connected to a PC with a USB cable to access Insight PC software. The software, which features an intuitive graphical user interface, also allows probe field calibration and adjustments. It also enables easy testing and evaluation – the 48-hour data logging functionality allows data to be recorded from up to six devices simultaneously, with easy export to an Excel-readable format.

- Configurate devices to fit perfectly to your needs
- Calibrate and adjust probes on-site
- Run tests and analyze results with 48h data logging functionality

» Download Insight PC software for free.

Indigo80 handheld indicator

For portable diagnostics

Vaisala Indigo80 Handheld Indicator is an industrial-grade portable diagnostics tool. Accommodating up to two Vaisala measurement probes, Indigo80 is ideal for spot-checking and process monitoring, as well as for configuring, troubleshooting, calibrating, and adjusting Vaisala Indigo-compatible probes and transmitters.

Features

- Dual-probe, high-accuracy portable diagnostics and data logging tool. Log up to a month's worth of measurement data.
- Industry standard USB-C interface for data uploads and battery charging. Lithium-ion battery provides a typical operation time of 10 hours.
- Robust, durable aluminum body is resistant to chemicals and dust.
- Multilingual, menu-based user interface available in 10 languages. View live measurement data as numbers or graphs.
- Intuitive user interface that guides the user if needed. Designed to be easy to use.

INDIGO80 Handheld Indicator	
OPERATING ENVIRONMENT	Temperature -20 ... +50 °C (-4 ... +122 °F) Humidity 20 ... 85 %RH, when Ta ≤ +40 °C (+104 °F)
MAX. NUMBER OF CONNECTED PROBES	2
DATA LOGGING CAPACITY	Up to 5.5 million real-time data values
LOGGING INTERVAL	1 s ... 12 h
LOGGING DURATION	1 min ... memory full
ALARM	Audible alarm function
SUPPORTE LANGUAGES	English, Chinese, Finnish, French, German, Italian, Japanese, Portuguese, Spanish, Swedish
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Indigo80 handheld probes

	HMP80N Humidity and temperature handheld probe	HMP80L Humidity and temperature handheld probe	DMP80A Dew point and temperature handheld probe	DMP80B Dew point and temperature handheld probe
MEASUREMENT RANGE	0 ... 100 %RH -20 ... +60 °C (-4 ...+140 °F)	0 ... 100 %RH -50 ... +120 °C (-58 ... +248 °F), shorttime measurement range -50 ... +180 °C (-58 ...+356 °F)	Dew point -40 ... +60 °C (-40 ...+140 °F) Td/f Temperature 0 ... +60 °C (+32 ... +140 °F) Mixing ratio 0 ... 150 g/kg (0 ... 1050 gr/lbs) Absolute humidity 0 ... 130 g/m3	Dew point -70 ... +60 °C (-94 ... +140 °F) Td/f Temperature -10 ... +60 °C (+14 ...+140 °F) Relative humidity 0...70 %RH Concentration by volume 10 ... 2500 ppm
ACCURACY AT +23 °C (+73.4 °F)	±0.8 %RH (0 ... 90 %RH) 0.1 °C (0.18 °F)	±0.8 %RH (0 ... 90 %RH) 0.1 °C (0.18 °F)	Dew point Up to ±2 °C (±3.6 °F) Td/f Temperature ±0.2 °C (±0.36 °F) at room temperature Mixing ratio ±12 % of reading Absolute humidity 0 ... 130 g/m3	Dew point Up to ±2 °C (±3.6 °F) Td/f Temperature ±0.2 °C (±0.36 °F) at room temperature Relative humidity (RH <10 %RH, at +20 °C): ±0.004 %RH + 20 % of reading Concentration by volume (at + 20 °C, 1 bar) 1 ppm + 20 % of reading
OPERATING ENVIRONMENT TEMPERATURE	probe head -20 ... +60 °C (-4 ...+140 °F) probe body -10 ... +60 °C (-14 ...+140 °F)	probe head -50 ... +120 °C (-58 ... +248 °F) probe body -10 ... +60 °C (-14 ...+140 °F)	-10 ... +60 °C (+14 ...+140 °F)	-10 ... +60 °C (+14 ...+140 °F)
OPERATING PRESSURE OF PROBE HEAD			0 ... 20 bar (absolute) (0 ... 290 psi (absolute))	0 ... 20 bar (absolute) (0 ... 290 psi (absolute))
OUTPUT PARAMETERS	Absolute humidity Relative humidity Temperature Wet-bulb temperature Dew/frost point temperature Water concentration Water mass fraction Water vapor pressure Water vapor saturation pressure Enthalpy Mixing ratio	Absolute humidity Relative humidity Temperature Wet-bulb temperature Dew/frost point temperature Water concentration Water mass fraction Water vapor pressure Water vapor saturation pressure Enthalpy Mixing ratio	Absolute humidity Relative humidity Dew point temperature Temperature Dew/frost point temperature Water concentration Water mass fraction Water vapor pressure Enthalpy Water vapor saturation pressure Mixing ratio	Absolute humidity Relative humidity Dew point temperature Temperature Dew/frost point temperature Water concentration Water mass fraction Water vapor pressure Enthalpy Water vapor saturation pressure Mixing ratio
IP RATING	Cable attached IP67 Without cable IP55	Cable attached IP67 Without cable IP55	Cable attached IP67 Without cable IP55	Cable attached IP67 Without cable IP55
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» Watch the video on how to use Indigo80 and handheld probes.

Indigo for Vaisala's process refractometers

Accurate liquid concentration measurements

Vaisala Polaris® process refractometers are now Indigo compatible. Expand features with Indigo and get the most out of your measurement, including data logging, wash control, settings, measurement parameters and service updates. Select two analog or digital inputs for process refractometers and other Indigo compatible probes, and four configurable analog outputs to alarm relays, and ModBus TCP/IP digital protocol.

	PR53AC	PR53AP	PR53GC
MEASUREMENT	Measure Brix and other liquid concentrations	Measure Brix and other liquid concentrations	Measure concentrations of acids, alkaline solutions, alcohols, hydrocarbons, solvents, and various other solutions
BENEFIT	Inline measurement with instant productivity and material gains, and simplified process operation	Inline measurement with instant productivity and material gains, and simplified process operation	Inline measurement directly in pipeline, in production transport, and quality control
INDUSTRY	Food, beverage, dairy, and brewery	Food, beverage, dairy and brewery, including OEMs	Chemical, and other industries
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	PR53GP	PR53SD	PR53W	PR53M
	Measure concentrations of sugars/ Brix, acids, alkaline solutions, alcohols, hydrocarbons, solvents, and various other solutions	Measure TDS and other concentrations	Measure concentrations of aggressive chemicals: sulphuric acid (H_2SO_4), hydrochloric acid (HCl), sodium hydroxide (NaOH), and hydrofluoric acid (HF)	Measure concentrations of aggressive chemicals, including hydrochloric acid (HCl), sodium hydroxide (NaOH), sodium chloride (NaCl), sulphuric acid (H_2SO_4), and hydrofluoric acid (HF)
	Inline measurement directly in pipelines and tanks, in production transport and perform quality control	Process optimization, black liquor, green liquor, brown stock washing, and other liquid concentrations in fiber and chemical recovery lines	Durability in the harshest conditions. Measure safely and accurately in large pipelines and tanks, The PR53W process refractometer is mounted in a membrane-lined valve body, with no metallic wetted parts included. This allows convenient flange mounting to 1 and 2 inch ANSI and DN50 and DN25 flanges.	Durability in the harshest conditions. Measure safely and accurately, the integrated ultra-pure PTFE flow cell has no metallic wetted parts, making it fully suitable to be in contact with aggressive chemicals. The PR53M mounts into ½ inch process line with a standard NTP-threaded connection.
	Sugar, chemical, petrochemical, and other industries	Pulp, paper	Chemical, biochemical, mining and metal refining	Chemical, semiconductor
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Indigo for power transformers

Real-time moisture measurement for power transformers

Get robust and reliable always-on data about your power transformer's condition. Make smarter decisions on maintenance need and the next steps to take. Simply connect Vaisala's MHT410 and MMP8 probes to your Indigo transmitter.

» Read more

- Monitor the moisture gradient between top and bottom oil in ONAN(F) cooled transformers
- Ensure you don't compromise your oil's dielectric strength
- Monitor the operational efficiency of an online oil dryer

Indigo for outdoor measurement

Outdoor weather kit for accurate measurement data

Protect your measurements from weather without compromising the data. Indigo500MIK brings you a unique combination of a meteorological grade barometer in a single industrial device, combined with high-class humidity and temperature measurements. Get your professional grade measurements in robust, weatherproof enclosure.

» Read more

All the measurement devices are well protected from the outdoor elements

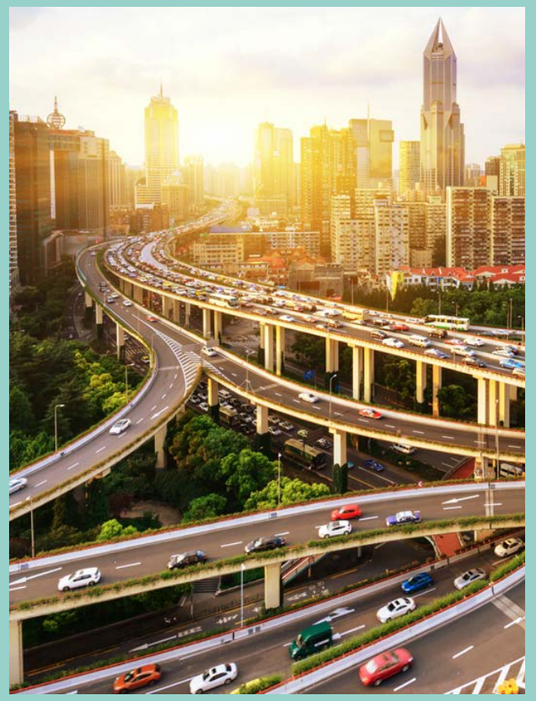
- the probes are installed inside solar radiation shields
- the probe wires are located inside an aluminum enclosure
- the transmitter is covered by a rain shield

Sustainability in the heart of our business

Vaisala's premium measurement solutions enhance safety, efficiency, and decisionmaking – for a sustainable future on our planet.

The heart of Vaisala's sustainability lies in the positive impact of our products, as they help our customers, for example, to increase energy efficiency and reduce emissions.

» **Learn more about our sustainability.**



Global coverage with local presence

As a global leader in industrial, weather and environmental measurements, we provide reliable, accurate and innovative products and solutions that enabling better decision-making, increased productivity, and improved safety and quality.

Customers all over the world and in a multitude of industries use our measurement solutions. Everywhere from forecasting weather and making sure it is safe for your flight to take off, to staying ahead of power outages or monitoring incubators for premature children in hospitals, you can find Vaisala's premium measurement solutions in action all over the world.

» **Find your local contact.**

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Our products are easily available, any time, through the Vaisala Online Store. We have fast deliveries on all new instrument as well as spare part online orders. All instruments are made to order and calibrated just before shipment.

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