



## Indigo510 Transmitter

For Vaisala Indigo-compatible probes



### Features

- Touchscreen display (optional non-display model with LED indicator also available)
- Data logging of all measurement parameters
- IP66 and NEMA 4 rated metal enclosure
- 2 configurable galvanically isolated analog outputs
- Ethernet connection with web interface for remote access
- Modbus® TCP/IP protocol
- Protective extra-low voltage powering
- UL Listed in USA and Canada

Vaisala Indigo510 transmitter is an industrial-grade, robust transmitter that accommodates 1 Vaisala Indigo-compatible probe for humidity, temperature, dew point, carbon dioxide, hydrogen peroxide, and moisture in oil measurements. The transmitter can display measurements on the spot as well as transmit them to automation systems through analog signals or Modbus TCP/IP protocol.

### Variety of probe options

Indigo500 Series transmitters are the most versatile option for use with Indigo-compatible probes.

- HMP Series humidity and temperature probes
- DMP Series dew point probes
- GMP250 Series carbon dioxide probes
- HPP270 Series vaporized hydrogen peroxide probes
- MMP8 moisture in oil probe

The probes are interchangeable, self-contained measurement instruments that are easily detachable from the transmitter for calibration and maintenance. The probes are connected using a cable that can be extended with a standard instrumentation cable to allow up to 30 m (98 ft) distance between the transmitter and the probe.

Indigo500 Series transmitters can be connected to the MHT410 transmitter for display of measurement data and automation system connectivity. Indigo500 Series transmitters can also be connected to the portable diagnostics tool Indigo80 handheld indicator.

For more information on the Indigo product family, see [www.vaisala.com/indigo](http://www.vaisala.com/indigo).

### Analog and digital interfaces

The Indigo510 transmitter has 2 analog channels that can be configured to mA or voltage type. Any of the output parameters from the connected probe can be assigned to control the analog channels.

The digital output protocol is Modbus TCP/IP over Ethernet. The Ethernet connection also provides a web interface and cybersecurity that meets modern standards.

### Robust design

The transmitter has a wide operating temperature range, an IP66-rated corrosion-resistant metal enclosure, and an optional touchscreen display made of strengthened (IK08) glass. The transmitter withstands commonly used cleaning chemicals, such as isopropanol and liquid H<sub>2</sub>O<sub>2</sub> (30 %), and performs even in the harshest conditions.

The standard mounting options include mounting on a wall and on a DIN rail. With an adapter plate, the transmitter can be installed to replace an HMT330, DMT340, and MMT330 series transmitter. A pole mounting kit is also available as an accessory.

# Technical data

## Indigo-compatible probes

Measurement type	Probe models
Humidity and temperature	HMP1, HMP3, HMP4, HMP5, HMP7, HMP8, HMP9
Temperature	TMP1
Dew point	DMP5, DMP6, DMP7, DMP8
Carbon dioxide	GMP251, GMP252
Vaporized hydrogen peroxide	HPP271, HPP272
Moisture in oil	MMP8

## Other compatible devices

Device or series	Models
MHT410 Moisture, Hydrogen and Temperature Transmitter	MHT410
Indigo80 Handheld Indicator	Indigo80

## Transmitter options

Display	<ul style="list-style-type: none"> <li>Capacitive touchscreen display</li> <li>No display (indicator LED) <sup>1)</sup></li> </ul>
Powering	Protective extra-low voltage (11–35 V DC, 24 V AC ± 15% 50/60 Hz)

<sup>1)</sup> Recommended when the transmitter is exposed to direct UV light, and for outdoor installations and high-humidity environments.

## User interfaces

User interfaces	Web interface for remote use, optional touchscreen display
Supported languages	English, Chinese, French, German, Japanese, Spanish
Optional display	5" capacitive touchscreen
Integrated data logging capabilities	Non-volatile memory, at least 10 years' storage with 24 h interval logging

## Mechanical specifications

UL 50E (NEMA) rating	NEMA 4
Housing classification	IK08, DIN EN ISO 11997-1: Cycle B (VDA 621-415)
Housing material	AlSi10Mg (DIN 1725)
Display window material	Strengthened glass (IK08)
Weight	1.5 kg (3.3 lb)
Dimensions (H × W × D)	142 × 182 × 67 mm (5.63 × 7.17 × 2.64 in)
<b>Cable diameters for cable glands</b>	
M20×1.5 glands	5.0–9.0 mm (0.20–0.31 in)
M20×1.5 glands with split bushing	7 mm (0.28 in)
M16×1.5 glands	2.0–6.0 mm (0.08–0.24 in)

## Operating environment

For use in wet locations	Yes
Operating humidity	0–100 %RH
Maximum operating altitude	4000 m (13 123 ft)
IP rating	IP66 <sup>1)</sup>
<b>Operating temperature</b>	
With display	–20 ... +60 °C (–4 ... +140 °F)
Without display	–40 ... +60 °C (–40 ... +140 °F)
<b>Storage temperature</b>	
With display	–30 ... +60 °C (–22 ... +158 °F)
Without display	–40 ... +60 °C (–40 ... +140 °F)

<sup>1)</sup> Evaluated by Eurofins, not by UL.

## Inputs and outputs

Transmitter service port connection	Connection to Indigo80 with cable 262195SP
<b>Operating power</b>	
Protective extra-low voltage (PELV)	11–35 V DC, 24 V AC ± 15% 50/60 Hz, max. current 2 A (power supply is galvanically isolated) Fuse size for power supply: 3 A Isolation voltage: 500 V AC, 1000 V DC
PELV power cable temp. rating	≥ +80 °C (+176 °F)

### Typical current consumption at +20 °C (+68 °F) (U<sub>in</sub> 24 V DC) <sup>1)</sup>

Base consumption (no display, analog outputs, or communication)	50 mA
With display	+ 60 mA
With voltage analog output	< 2 mA per channel
With current analog output	+ 21 mA per channel
With Ethernet cable connected	+ 15 mA

### Analog outputs

Number of analog outputs	2
Isolation	Isolated from power supply
Selectable voltage output types	0–1 V, 0–5 V, 0–10 V, scalable
Selectable current output types	4–20 mA, 0–20 mA, scalable
Max. wire size	2.5 mm <sup>2</sup> (14 AWG)
Accuracy of analog outputs at +20 °C (+68 °F)	±0.05 % full scale
Temperature dependence	±0.005 % / °C full scale

### External loads:

Current outputs	R <sub>L</sub> < 500 Ω
0–1 V output	R <sub>L</sub> > 2 kΩ
0–5 V and 0–10 V outputs	R <sub>L</sub> > 10 kΩ

### Ethernet interface

Supported standards	10BASE-T, 100BASE-TX
Connector	8P8C (RJ45)
Supported protocols	Modbus TCP/IP (port 502), HTTPS (port 8443)

<sup>1)</sup> For the current consumption of the connected measurement device, see the device's documentation, available at [docs.veaisala.com](https://docs.veaisala.com).

## Compliance

EU directives and regulations	EMC Directive (2014/30/EU) RoHS Directive (2011/65/EU) amended by 2015/863
Electromagnetic compatibility (EMC)	IEC/EN 61326-1, industrial environment CISPR 32 / EN 55032, Class B
Electrical safety	IEC/EN 61010-1
Type approvals	DNV GL certificate no. TAA000032M EU RO Mutual Recognition certificate no. MRA000004F
Compliance marks	CE, China RoHS, FCC, RCM, UKCA
Listing marks	UL Listed (USA and Canada)
FCC compliance	FCC Part 15, Class B



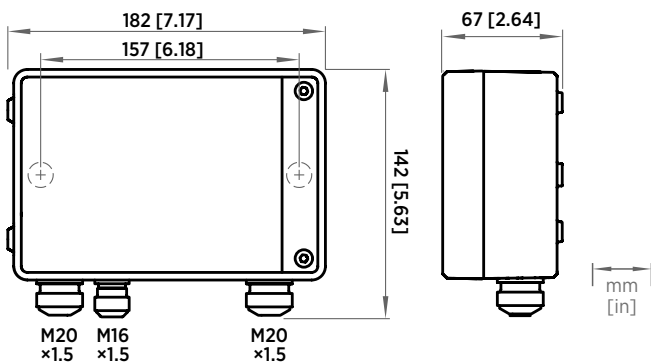
## Accessories

Adapter plate	DRW252186SP
Installation kit for pole or pipeline	215108
Installation kit with weather shield	215109
Indigo500 spatter guard	ASM214526
M12 - M8 service cable 1.5 m (4.9 ft), for connecting to Indigo80	262195SP

### Probe connection cables

Probe connection cable, 0.3 m (approx. 12 in), open end <sup>1)</sup>	CBL210896-03MSP
Probe connection cable, 1 m (approx. 3 ft 3 in), open end <sup>1)</sup>	CBL210896-1MSP
Probe connection cable, 3 m (approx. 9 ft 10 in), open end <sup>1)</sup>	CBL210896-3MSP
Probe connection cable, 5 m (approx. 16 ft 5 in), open end <sup>1)</sup>	CBL210896-5MSP
Probe connection cable, 10 m (approx. 32 ft 10 in), open end <sup>1)</sup>	CBL210896-10MSP

<sup>1)</sup> The usable length outside of the transmitter enclosure is approx. 0.1 m (4 in) shorter than the total length of the cable.

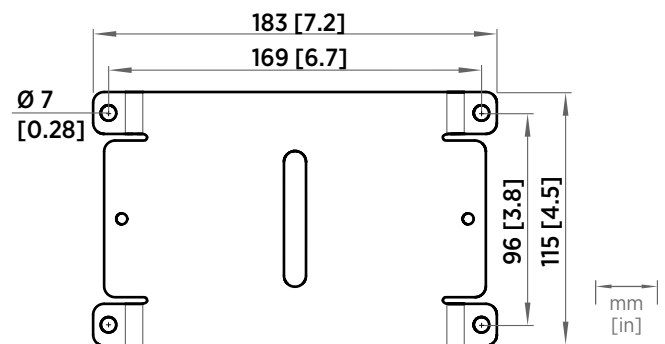


Indigo510 dimensions and lead-through sizes

## Spare parts

Cable gland, M20×1.5, 5.0–9.0 mm (0.20–0.35 in)	ASM213670SP
Cable gland with split bushing, M20×1.5 <sup>1)</sup>	262632SP
Cable gland, M16×1.5, 2.0–6.0 mm (0.08–0.24 in)	ASM213671SP
Conduit fitting, M20×1.5 for NPT1/2" conduit	214780SP

<sup>1)</sup> With 7-mm (0.28 in) hole for cable and 14-mm (0.55 in) hole for 8P8C (RJ45) connector to pass through.



Indigo500 adapter plate dimensions



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