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Indigo510 Transmitter

For Vaisala Indigo-compatible probes



Features

- Data logging of all measurement parameters
- Touchscreen display (optional non-display model with LED indicator also available)
- IP66 rated metal enclosure
- Ethernet connection with web interface and optional Viewlinc™ Cloud Suite connectivity for remote monitoring
- Modbus® TCP protocol
- 2 configurable galvanically isolated analog outputs
- 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 protocol.

Variety of probe options

The 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.

The Indigo500 Series transmitters can be connected to the MHT410 transmitter for display of measurement data and automation system connectivity.

Through the transmitter service port, the Indigo500 Series transmitters can also be connected to the free Vaisala Insight PC Software or Indigo80 Handheld Indicator.

For more information on the Indigo product family, see vaisala.com/indigo.

Analog and digital interfaces

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 over Ethernet. The Ethernet connection also provides a web interface and cybersecurity that meets modern standards. Indigo510 Transmitter can be ordered with a possibility for Viewlinc Cloud Suite connectivity for remote monitoring.

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_2O_2 (30 %), and performs even in the harshest conditions.

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

Technical data

Compatible devices

Device or series	Models
Probes	
Carbon Dioxide Probes	GMP251, GMP252
Dew Point and Temperature Probes	DMP1, DMP5, DMP6, DMP7, DMP8
Hydrogen Peroxide Probe	HPP271
Hydrogen Peroxide, Humidity and Temperature Probe	HPP272
Moisture in Oil Probe	MMP8
Relative Humidity and Temperature Probes	HMP1, HMP3, HMP4, HMP5, HMP7, HMP8, HMP9
Temperature Probe	TMP1
Transmitters and handhelds	
Dew Point Transmitter	DMT153
Indigo80 Handheld Indicator	Indigo80
Moisture, Hydrogen and Temperature Transmitter MHT410	MHT410

Transmitter options

Display	• Capacitive touchscreen display • No display (indicator LED) [1]
Powering	Protective extra-low voltage (11–35 V DC, 24 V AC ± 20 % 50/60 Hz)

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

Mechanical specifications

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)
Cable diameters for cable glands	
M20×1.5 glands	5.0–9.0 mm (0.20–0.35 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

Operating environment	Outdoor use
Use in wet location	Yes
Operating humidity	0–100 %RH
Maximum operating altitude	4000 m (approx. 13 100 ft)
IP rating	IP66 [1]
UL 50E rating	Type 4
Operating temperature	
With display	−20 … +60 °C (−4 … +140 °F)
Without display	−40 … +60 °C (−40 … +140 °F)
Storage temperature	
With display	−30 … +60 °C (−22 … +140 °F)
Without display	−40 … +60 °C (−40 … +140 °F)

1) *Evaluated by Eurofins, not by UL.*

Powering

Operating power	
Protective extra-low voltage (PELV)	11–35 V DC, 24 V AC ±20 % 50/60 Hz, max. current 2 A (power supply is galvanically isolated) [1] 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_{in} 24 V DC) [2]	
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

1) *The DNV type approval is valid in operating voltage range 15–35 V DC.*
2) *For the current consumption of the connected measurement device, see the device's documentation, available at docs.vaisala.com.*

Inputs and outputs

Transmitter service port connection	• Connection to Insight software with USB2 and cable 262195SP or with cable 219690 [1] • Connection to Indigo80 with cable 262195SP
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^2 (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_L < 500 Ω
0–1 V output	R_L > 2 kΩ
0–5 V and 0–10 V outputs	R_L > 10 kΩ
Ethernet interface	
Supported standards	10BASE-T, 100BASE-TX
Connector	8P8C (RJ45)
Supported protocols	Modbus TCP (port 502), HTTPS (port 8443)
Viewlinc Cloud Suite connectivity [2]	Requires outbound TCP port 443 and UDP port 123

1) *Vaisala Insight PC Software for Windows® available at vaisala.com/insight.*
2) *Available only for transmitters ordered with software configuration for Viewlinc Cloud Suite connectivity.*

User interfaces

User interfaces	Web interface, optional touchscreen display, optional Viewlinc Cloud Suite connectivity for remote monitoring [1]
Supported languages	English, Chinese (simplified), Chinese (traditional), 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

1) *Available only for transmitters ordered with software configuration for Viewlinc Cloud Suite connectivity.*

Compliance

EU directives and regulations	EMC Directive (2014/30/EU) RoHS Directive (2011/65/EU) as amended by 2015/863
Electromagnetic compatibility (EMC)	IEC/EN 61326-1, industrial environment CISPR 32 / EN 55032, Class B
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

Spare parts

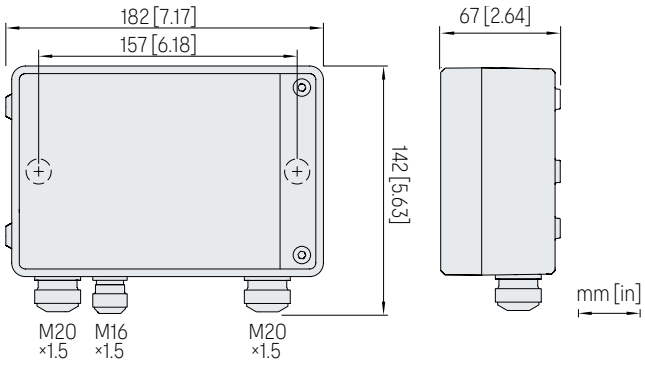
Cable gland, M20×1.5, 5.0–9.0 mm (0.20–0.35 in)	ASM213670SP
Cable gland with split bushing, M20×1.5 [1]	262632SP
Cable gland, M16×1.5, 2.0–6.0 mm (0.08–0.24 in)	ASM213671SP
Conduit fitting, M20×1.5 for NPT1/2" conduit	214780SP

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

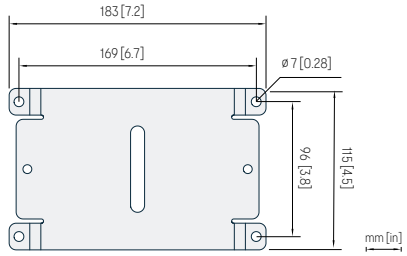
Accessories

Retrofit mounting 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
Vaisala Indigo USB adapter and M12 - M8 service cable, for connecting to Insight software	USB2 and 262195SP
M8 - USB service cable, for connecting to Insight software	219690
Probe connection cables	
Probe connection cable, 0.3 m (approx. 12 in), open end [1]	CBL210896-03MSP
Probe connection cable, 1 m (approx. 3 ft 3 in), open end [1]	CBL210896-1MSP
Probe connection cable, 3 m (approx. 9 ft 10 in), open end [1]	CBL210896-3MSP
Probe connection cable, 5 m (approx. 16 ft 5 in), open end [1]	CBL210896-5MSP
Probe connection cable, 10 m (approx. 32 ft 10 in), open end [1]	CBL210896-10MSP

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



Indigo510 Transmitter dimensions and lead-through sizes



Retrofit mounting plate dimensions

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