DATASHEET

# INDIGO510

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VAISALA

# 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.

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# 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<br>• 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]<br>Fuse size for power supply: 3 A<br>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]<br>• 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)<br>RoHS Directive (2011/65/EU) as amended by 2015/863 |
| Electromagnetic compatibility (EMC) | IEC/EN 61326-1, industrial environment<br>CISPR 32 / EN 55032, Class B |
| Safety | IEC/EN 61010-1 |
| Type approvals | DNV GL certificate no. TAA000032M<br>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

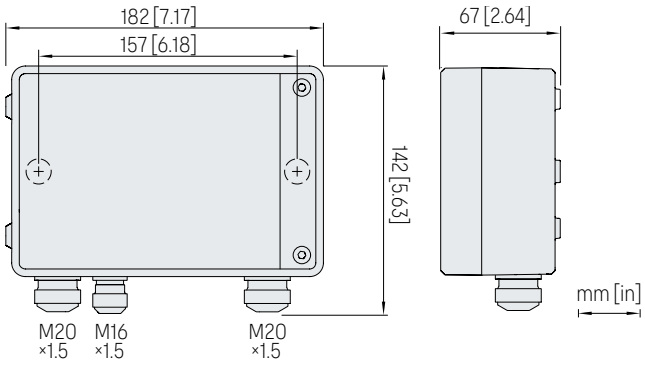
| | |
|---|---|
| Cable gland, M20×1.5, 5.0–9.0 mm (0.20–0.35 in) | ASM213670SP |
| Cable gland with split bushing, M20×1.5 [1] | 262632SP |
| Cable gland, M16×1.5, 2.0–6.0 mm (0.08–0.24 in) | ASM213671SP |
| Conduit fitting, M20×1.5 for NPT1/2" conduit | 214780SP |

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

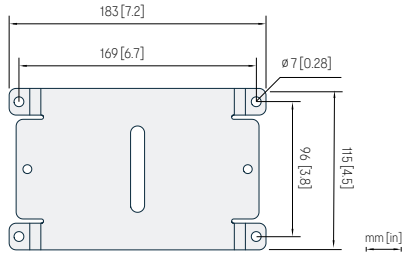
## Accessories

| | |
|---|---|
| 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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