Vaisala Indigo 520 Transmitter is an industrial-grade, robust transmitter that accommodates 1 or 2 Vaisala Indigo compatible probes 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, relays, or Modbus TCP/IP protocol.

**Variety of probe options**
Indigo 520 transmitters are the most versatile option for use with Indigo compatible smart probes such as:
- Humidity and temperature probes: HMP3, HMP4, HMP5, HMP7, HMP8, HMP9, and TMP1
- Dew point probes: DMP5, DMP6, DMP7, DMP8
- CO₂ probes: GMP251, GMP252
- Vaporized hydrogen peroxide probes: HPP271, HPP272
- 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. For more information on the Indigo product family, see [www.vaisala.com/indigo](http://www.vaisala.com/indigo).

**Robust design**
The transmitter has a wide operating temperature range, an IP66-rated corrosion-resistant metal enclosure and a touchscreen display made of chemically strengthened (IK08) glass. The transmitter withstands commonly used cleaning chemicals 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.

**Analog and digital interfaces**
The transmitter has 4 analog channels that can be configured to mA or voltage type, and 2 configurable relays. Any of the output parameters from the connected probes can be assigned to control the analog channels and relays. The digital output protocol is Modbus TCP/IP over Ethernet.

Besides Modbus TCP/IP, the transmitter’s Ethernet connection provides a web interface and cybersecurity that meets modern standards.
Technical data

### Compatible Indigo smart probes

<table>
<thead>
<tr>
<th>Measurement type</th>
<th>Probe models</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humidity and temperature</td>
<td>HMP3, HMP4, HMP5, HMP7, HMP8, HMP9</td>
</tr>
<tr>
<td>Temperature</td>
<td>TMP1</td>
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<tr>
<td>Dew point</td>
<td>DMP5, DMP6, DMP7, DMP8</td>
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<td>CO₂</td>
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<tr>
<td>Vaporized hydrogen peroxide</td>
<td>HPP271, HPP272</td>
</tr>
<tr>
<td>Moisture in oil</td>
<td>MMP8</td>
</tr>
</tbody>
</table>

1) All GMP251 and GMP252 probes manufactured from 2017 onwards (serial numbers starting with the letter N or later in alphabetical order) have full Indigo compatibility.

### Transmitter options

**Display**
- Touchscreen display

**Powering**
- Protective extra low voltage (15 … 35 VDC, 24 VAC ±20 %)
- AC (mains) power (100 … 240 VAC 50/60 Hz)
- Power over Ethernet (no analog outputs or relays)

**Interfacing options**
- Protective extra low voltage (PELV) version

#### Protective extra low voltage (PELV) version

<table>
<thead>
<tr>
<th>Fuse size for power supply</th>
<th>2 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power over Ethernet version</td>
<td>1 A</td>
</tr>
</tbody>
</table>

**Inputs and outputs**

#### Operating power

- 15 … 35 VDC, 24 VAC ±20 %, max. current 2 A
- 100 … 240 VAC 50/60 Hz, max. current 1 A
- 50 VDC, 600 mA PoE+, IEEE 802.3 at PD

- Fuse size for power supply: 3 A
- Fuse size for power supply: 10 A
- Fuse size for power supply: 2 A

#### Analog outputs

- Number of analog outputs: 4, galvanically isolated from power supply
- Selectable voltage output types: 0 … 1 V, 0 … 5 V, 0 … 10 V, scalable
- Selectable current output types: 0 … 20 mA, 0 … 20 mA, scalable

#### External loads:

- Current outputs: R<sub>i</sub> < 500 Ω
- 0 … 1 V output: R<sub>i</sub> > 2 kΩ
- 0 … 5 V and 0 … 10 V outputs: R<sub>i</sub> > 10 kΩ

- Max. wire size: 2.5 mm² (14 AWG)
- Accuracy of analog outputs at +20 °C: ±0.05 % full scale
- Temperature dependence: ±0.005 % / °C full scale

#### Relay outputs

- Number and type of relays: 2 pcs, SPDT
- Max. switching power, current, voltage: 30 W, 1 A, 40 VDC / 28 VAC

- Max. wire size in PELV version: 2.5 mm² (14 AWG)
- Max. wire size in AC (mains) version: 1.5 mm² (16 AWG)

#### Ethernet interface

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

1) The power supply option is selected when ordering the transmitter.

### Operating environment

- Operating temperature: −20 … +55 °C (−4 … +131 °F)
- Storage temperature: −40 … +70 °C (−40 … 158 °F)
- Operating humidity: 0 … 100 %RH
- Maximum operating altitude: 3000 m (9843 ft)

### Compliance

<table>
<thead>
<tr>
<th>Safety standard</th>
<th>IEC/UL/EN 61010-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMC compliance</td>
<td>EN 61326-1, Industrial Environment</td>
</tr>
<tr>
<td>FCC compliance</td>
<td>FCC Part 15 Compliance Statement for Class B Unintentional Radiators</td>
</tr>
</tbody>
</table>

### Mechanical specifications

- Housing classification: IP66, NEMA 4, IK08, DIN EN ISO 11997-1: Cycle B
- Housing material: AlSi10Mg (DIN 1725)
- Display window material: Chemically strengthened glass (IK08)
- Weight: 1.5 kg (3.3 lbs)
- Dimensions: 142 × 182 × 67 mm (5.63 × 7.17 × 2.64 in)

#### Cable diameters for cable glands

- M20×1.5 glands: 5.0 … 8.0 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)

### Accessories

- Adapter plate: DRW252186SP
- Installation kit for pole or pipeline: 215108
- Probe connection cables
  - Probe connection cable, 1 m: CBL210896-1MSP
  - Probe connection cable, 3 m: CBL210896-3MSP
  - Probe connection cable, 5 m: CBL210896-5MSP
  - Probe connection cable, 10 m: CBL210896-10MSP

### Indigo 520 dimensions and lead-through sizes

- Indigo 520 adapter plate dimensions
- Indigo 520 dimensions