



Indigo520 Transmitter

For Vaisala smart probes



Features

- Universal transmitter for Vaisala Indigo compatible probes
- Supports 2 detachable probes simultaneously
- Touchscreen display
- IP66 and NEMA 4 rated metal enclosure
- 4 configurable galvanically isolated analog outputs
- 2 relays
- Ethernet connection with web interface for remote access
- Modbus[®] TCP/IP protocol

Vaisala Indigo520 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.

Options

- Multiple powering options: Power over Ethernet, protective extra-low voltage, and AC (mains) power
- Available with Vaisala BAROCAP[®] barometric pressure sensor known for its high accuracy and excellent long-term stability

Variety of probe options

Indigo520 transmitters are the most versatile option for use with Indigo compatible smart probes.

- Humidity and temperature probes: HMP1, 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.

The Indigo520 transmitter can also be connected to the MHT410 transmitter for display of measurement data and automation system connectivity.

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

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.

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, such as isopropanol and liquid H₂O (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, MMT330, and PTU330 series transmitter. A pole mounting kit is also available as an accessory.

Technical data

Indigo compatible smart probes

Measurement type	Probe models
Humidity and temperature	HMP1, HMP3, HMP4, HMP5, HMP7, HMP8, HMP9
Temperature	TMP1
Dew point	DMP5, DMP6, DMP7, DMP8
CO ₂	GMP251, GMP252 ¹⁾
Vaporized hydrogen peroxide	HPP271, HPP272
Moisture in oil	MMP8

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.

Other compatible devices

Device or series	Models
MHT410 Moisture, Hydrogen and Temperature Transmitter	MHT410

Measurement performance

Barometric pressure (optional module)	
Pressure range	500 ... 1100 hPa Narrow range (precision adjusted)
Linearity	±0.05 hPa
Hysteresis	±0.03 hPa
Repeatability	±0.03 hPa
Calibration uncertainty	±0.07 hPa
Accuracy at +20 °C / +68 °F	±0.10 hPa
Temperature dependence	±0.1 hPa
Total accuracy (-40 ... +60 °C / -40 ... +140 °F)	±0.15 hPa
Long-term stability/year	±0.1 hPa
Response time (100 % response):	
One sensor	2 s
Pressure units	hPa, mbar, kPa, Pa, inHg, mmH2O, mmHg, torr, psia

Mechanical specifications

NEMA rating	NEMA 4
Housing classification	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 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 ... 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)

Inputs and outputs

Operating power	
Protective extra-low voltage (PELV) version	15 ... 35 V DC, 24 V AC ±20 %, max. current 2 A Fuse size for power supply: 3 A
AC (mains) power version	100 ... 240 V AC 50/60 Hz, max. current 1 A Fuse size for power supply: 10 A
Power over Ethernet version	50 V DC, 600 mA PoE+, IEEE 802.3 at PD 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	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
Relay outputs	
Number and type of relays	2 pcs, SPDT
Max. switching power, current, voltage	30 W, 1 A, 40 V DC / 28 V AC
Max. wire size in PELV version	2.5 mm ² (14 AWG)
Max. wire size in AC (mains) version	1.5 mm ² (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	-30 ... +60 °C (-22 ... +140 °F)
Operating humidity	0 ... 100 %RH
Maximum operating altitude	3000 m (9843 ft)
IP rating	IP66

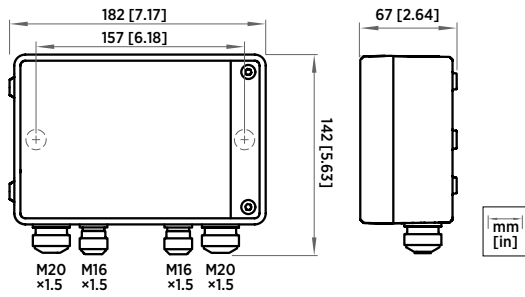
Compliance

EU directives	EMC Directive (2014/30/EU) Low Voltage Directive (2014/35/EU) RoHS Directive (2011/65/EU)
EMC compatibility	EN 61326-1, industrial environment
Electrical safety	EN 61010-1
Compliance marks	CE, China RoHS, FCC, RCM, WEEE
Listing marks	Canada (SGS), US (SGS)
FCC compliance	FCC Part 15, Class B

Spare parts

Cable gland, M20×1.5, 5.0 ... 8.0 mm	ASM213670SP
Cable gland with split bushing, M20×1.5 ¹⁾	262632SP
Cable gland, M16×1.5, 2.0 ... 6.0 mm	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.



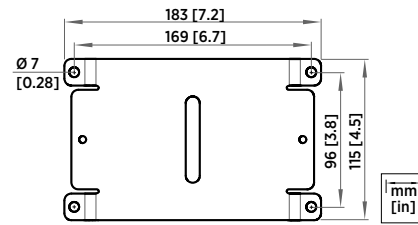
Indigo520 dimensions and lead-through sizes

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



Indigo520 adapter plate dimensions