Indigo520 Transmitter

For Vaisala Indigo compatible probes

Features

- Universal transmitter for Vaisala Indigo compatible probes
- Supports 2 detachable probes simultaneously
- IP66 and NEMA 4 rated metal enclosure
- 4 configurable galvanically isolated analog outputs
- 2 relays
- Ethernet connection with web interface for remote access
- Displays measurements on the spot as well as transmits them to automation systems through analog signals, relays, or Modbus TCP/IP protocol.
- UL Listed in USA and Canada

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 measure barometric pressure with an additional module.

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
- Optional non-display model with LED indicator

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 CO_2 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 also be connected to the MHT410 transmitter for display of measurement data and automation system connectivity.

Analog and digital interfaces

The Indigo520 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. 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_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 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
CO_2	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

Measurement performance

Barometric pressure (optional module)	
Pressure range	500 … 1100 hPa
Class A:	
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, mmH20, mmHg, torr, psia

Mechanical specifications

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)
Display size	5 in
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 [1]	
Protective extra-low voltage (PELV) version	15 … 35 V DC, 24 V AC ±20 % 50/60 Hz, max. current 2 A (power supply input 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)
AC (mains) power version	100 … 240 V AC 50/60 Hz, max. current 1 A (power supply input is galvanically isolated) Fuse size for power supply: 10 A Isolation voltage: 1500 V AC
Power over Ethernet version	Power over Ethernet (PoE) IEEE 802.3at Type 2 Class 4 Max. current 600 mA, max. power consumption 25.5 W Isolation voltage: 500 V AC, 1000 V DC
Analog outputs	
Number of analog outputs	4
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

For use in wet locations	Yes
Operating humidity	0 … 100 %RH
Maximum operating altitude	3000 m (9843 ft)
IP rating	IP66 [1]
Operating temperature	
With display	−20 … +55 °C (−4 … +131 °F)
Without display	−40 … +60 °C (−40 … +140 °F)
Without display with barometer module	−40 … +55 °C (−40 … +131 °F)
Storage temperature	
With display	−30 … +60 °C (−22 … +158 °F)
Without display	−40 … +60 °C (−40 … +140 °F)

1) Evaluated by Eurofins, not by UL.

Compliance

EU directives and regulations	EMC Directive (2014/30/EU) Low Voltage Directive (2014/35/EU) RoHS Directive (2011/65/EU) amended by 2015/863
EMC compatibility	IEC/EN 61326-1, industrial environment CISPR 32 / EN 55032, Class B
Electrical safety	IEC/EN 61010-1
Compliance marks	CE, China RoHS, FCC, RCM
Listing marks	SGS (USA and Canada) UL Listed (USA and Canada)
FCC compliance	FCC Part 15, Class B

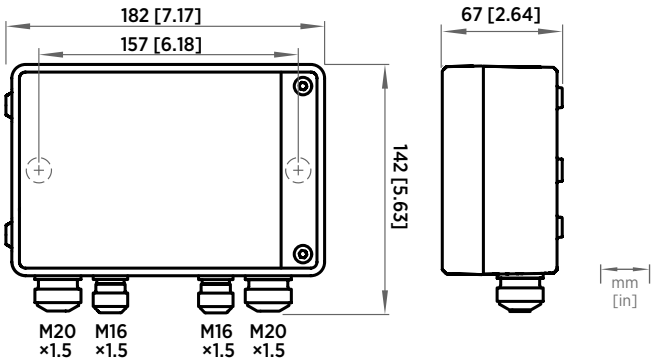
Accessories

Adapter plate	DRW252186SP
Installation kit for pole or pipeline	215108
Installation kit with weather shield	215109
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

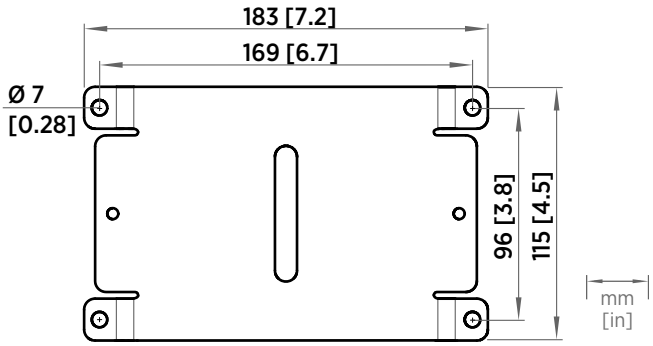
Spare parts

Cable gland, M20×1.5, 5.0 ... 8.0 mm (0.20 ... 0.31 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.*



Indigo520 dimensions and lead-through sizes



Indigo500 adapter plate dimensions

VAISALA

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