

VAISALA COMBINED PRESSURE, HUMIDITY AND TEMPERATURE TRANSMITTER PTU300

Power supply: Operating voltage with optional power supply module	10 ... 35 VDC, 24 VAC 100 ... 240 VAC, 50/60 Hz
Power consumption @ 20 °C (U _{in} 24VDC) RS-232 U _{out} 3 × 0 ... 1V / 0 ... 5V / 0 ... 10V I _{out} 3 × 0 ... 20 mA display and backlight during chemical purge during probe heating (PTU307)	max 28 mA max 33 mA max 63 mA + 20 mA + 110 mA max + 120 mA max
Analog outputs current output voltage output	0 ... 20 mA, 4 ... 20 mA 0 ... 1 V, 0 ... 5 V, 0 ... 10 V
External loads current outputs 0 ... 1V output 0 ... 5V and 0 ... 10V outputs	R _L < 500 ohm R _L > 2 kohm R _L > 10 kohm
Max wire size	0.5 mm ² (AWG 20) stranded wires recommended

Electrical Connections

WARNING

Make sure that you connect only de-energized wires.

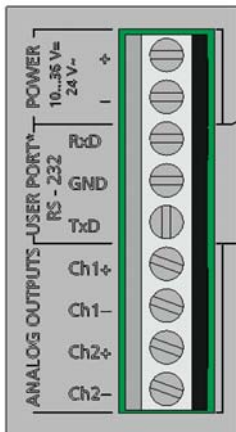


Figure 1 Signal and Power Supply Screw Terminals

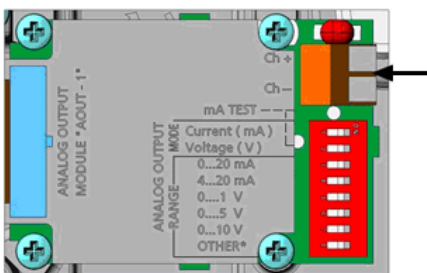


Figure 2 Analog output module

Signal and Power Supply Wiring

1. Open the transmitter cover by taking out the four cover screws.
2. Insert the power supply wires and signal wires through the cable bushing in the bottom of the transmitter. Ground the screen of the electrical cable.
3. Connect the cables of analog output channels 1 and 2 to terminals **Ch1+**, **Ch1-** and **Ch2+**, **Ch2-** on the screw terminal block. See Figure 1 on the left.
4. Connect the cables for the third analog output to the terminals **Ch+** and **Ch-** on the analog output module. The terminals are shown in Figure 2.
5. Connect the RS-232 user port cables to terminals RxD, GND and TxD on the screw terminal block.
6. When wiring optional 240 VAC power supply, RS-485, or relay module, see the appropriate user guide.
7. Connect the power supply wires to (+) and (-) terminals marked **POWER 10 ... 35V+ 24V~**. If you are using a 24 VAC power supply, see the caution note below before connecting the supply wires.

CAUTION

Avoid ground loops when using 24 VAC power supply. Use of power supply with floating ground is recommended. Connect NULL wire to "-" connector of transmitter and PHASE to "+" when using 24 VAC power supplies.

If you are using single 24 VAC power supply to power multiple transmitters, never connect same wire to "+" connector of a transmitter and to "-" connector of another one.

Wiring with Optional 8-Pin Connector

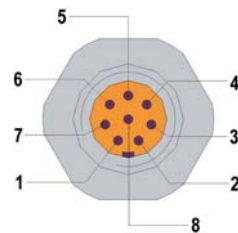


Figure 3 Optional 8-Pin Connector

Table 1 Wiring of 8-Pin Connector

PIN/Terminal	Wire	Serial Signal		Analog Signal
		RS-232 (EIA-232)	RS-485 (EIA-485)	
1	White	Data out TX	A -	Ch 3-
2	Brown	(serial GND)	(serial GND)	Signal GND (for channels 1 & 2)
3	Green			Ch 2+
4	Yellow			Ch 1+
5	Grey	Supply -	Supply -	Supply -
6	Pink	Supply +	Supply +	Supply +
7	Blue	Data in RX	B -	Ch 3+
8	Shield/Red	Cable shield	Cable shield	Cable shield

Grounding the Cables

Ground the screen of the electrical cable properly to achieve the best possible EMC performance.

Grounding the Housing

In case you need to ground the transmitter housing, the grounding connector is found inside the housing. Note however that the probe head is connected to the same potential as the housing. Make sure that different groundings are made to the same potential. Otherwise harmful ground currents may be generated.

Taking into Use

Turn on the power. The indicator led on the cover is lit continuously during normal operation. After verifying the operation of the transmitter, close the cover and replace the cover screws. The transmitter is ready for use.