

VAISALA WEATHER TRANSMITTER WXT510 AND ULTRASONIC WIND SENSOR WMT50

Power Supplies	
Operation voltage	5 ... 30 VDC ¹⁾
Average power consumption minimum typical maximum	0.07 mA @ 12 VDC (SDI-12) 3 mA @ 12 VDC (with default measuring) 13 mA @ 30 VDC (constant measurement of all parameters)
Heating voltage recommended ranges absolute max	options: DC, AC, full-wave rectified AC 12 VDC ± 20 %, 1.1 A max 24 VDC ± 20 %, 0.6 A max 68 V _{peak-to-peak} ± 20 % (AC), 0.6 A _{rms} max 34 V _p ± 20 % (f/w rect. AC), 0.6 A _{rms} max 30 VDC 84 V _{peak-to-peak} (AC) 42 V _{peak} (f/w rect. AC)

1) Below 5.3 V the measurement performance for high wind speeds may be degraded.

CAUTION

To avoid exceeding the maximum ratings in any condition, the voltages must be checked with no load at the power supply output.

Electrical Connections

Wiring Using the Screw Terminals

WARNING

Make sure that you connect only de-energized wires.

- Loosen the three long screws at the bottom of the WXT510/WMT50.
- Pull out the WXT510/WMT50 bottom part.
- Insert the power supply wires and signal wires through the cable gland(s) in the bottom part.
- Connect the wires according to Table 1.
- Replace the bottom part and tighten the three screws.

Table 1 Screw Terminal Pin-outs for WXT510 Serial

Screw Terminal Pin	RS-232	SDI-12	RS-485	RS-422
1 RX-			Data-	Data in (RX-)
2 RX+			Data+	Data in (RX+)
3 TX-	Data out (TxD)	Data in/out (Tx)	Data-	Data out (TX-)
4 TX+			Data+	Data out (TX+)
5 RXD	Data in (RxD)	Data in/out (Rx)		
6 SGND	GND for data	GND for data		
17 HTG-	GND for Vh+	GND for Vh+	GND for Vh+	GND for Vh+
18 HTG+	Vh+ (heating)	Vh+ (heating)	Vh+ (heating)	Vh+ (heating)
19 VIN-	GND for Vin+	GND for Vin+	GND for Vin+	GND for Vin+
20 VIN+	Vin+ (operating)	Vin+ (operating)	Vin+ (operating)	Vin+ (operating)

Wiring Using the 8-pin M12 Connector

External Wiring

If the WXT510/WMT50 is provided with an optional 8-pin M12 connector, the connector is located on the bottom of the transmitter. The pins of the 8-pin M12 connector as seen from outside the transmitter are illustrated in the following figure.

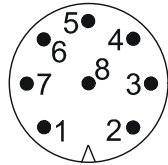


Figure 1 Pins of the 8-pin M12 Connector

The pin connections for the 8-pin M12 connector and the wire colors of the respective M12 cable (optional, 2/10 m) are listed in Table 2.

Table 2 Pin-outs for WXT510 Serial Interfaces and Power Supplies

Wire Color	M12 Pin#	/-----Default wiring-----\			RS-422 wiring
		RS-232	SDI-12	RS-485	RS-422
Blue	7	Data out (TxD)	Data in/out (Tx)	Data-	Data in (RX-)
Gray	5			Data+	Data in (RX+)
White	1	Data in (RxD)	Data in/out (Rx)		Data out (TX-)
Green	3	GND for data	GND for data		Data out (TX+)
Pink	6	GND for Vh+	GND for Vh+	GND for Vh+	GND for Vh+
Yellow	4	Vh+ (heating)	Vh+ (heating)	Vh+ (heating)	Vh+ (heating)
Red/Clear*	8	GND for Vin+	GND for Vin+	GND for Vin+	GND for Vin+
Brown	2	Vin+ (operating)	Vin+ (operating)	Vin+ (operating)	Vin+ (operating)

The signal names Data in (RxD) and Data out (TxD) in the table describe the direction of data flow as seen from the WXT510/WMT50. The terms "Default wiring" and "RS-422 wiring" refer to the two internal wiring options, see the diagrams below.

Internal Wiring

The 8-pin M12 connector is optional and hence may not be readily installed. For retrofitting, make the wiring between the connector and the screw terminal block according to one of the following pictures.

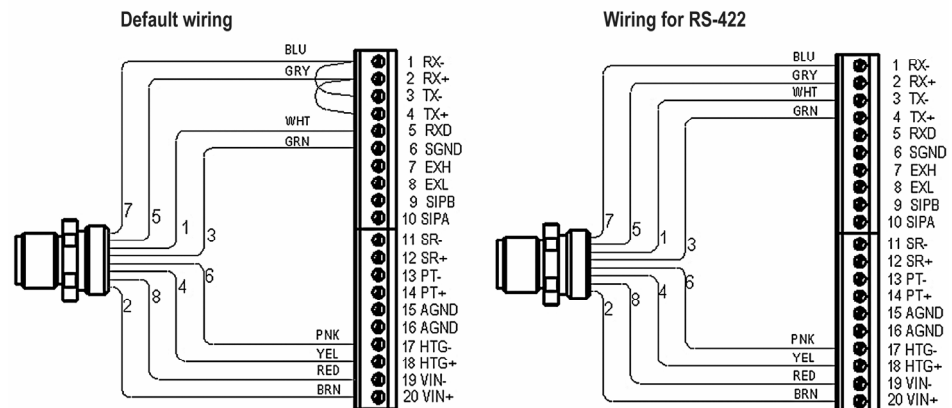


Figure 2 Internal Wiring