WeatherSens MP

Package Type

Oversea-safe transportation box with foam inlet

Package Content

— WeatherSens model with 10 m cable
— Calibration and test-certificate (FTC)
— Installation Guide WeatherSens

Available Versions

— 2 Parameter (Wind): AR200
— 5 Parameter (W/T/RH/P): MP500
— 5 P + Radiation or Precipitation: MP 601/650/700
— 1 Parameter (R/P): MPS100/MPR101
— Option Heater and 75 m/s : AR200-P-H/MP500 P-H/MP601 P-H/MP650 P-H/MP700 P-H

Factory Settings

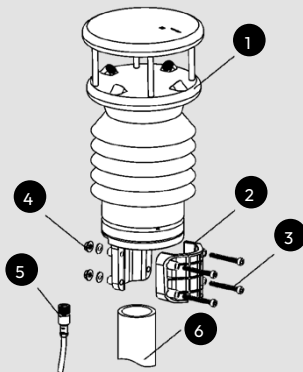— SDI12 or RS485 | M-version: MODBUS | N-version: NMEA 0183

Tube 1

1. Sensor
2. M6 screw and spring
3. Cable and plug
4. Fixing rod (OD50mm)
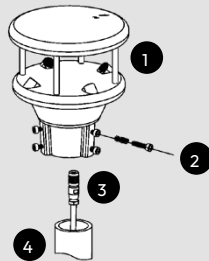
Tube 2

1. Sensor
2. Bracket
3. Screws
4. Nuts
5. Cable and plug
6. Fixing rod (min OD50mm)
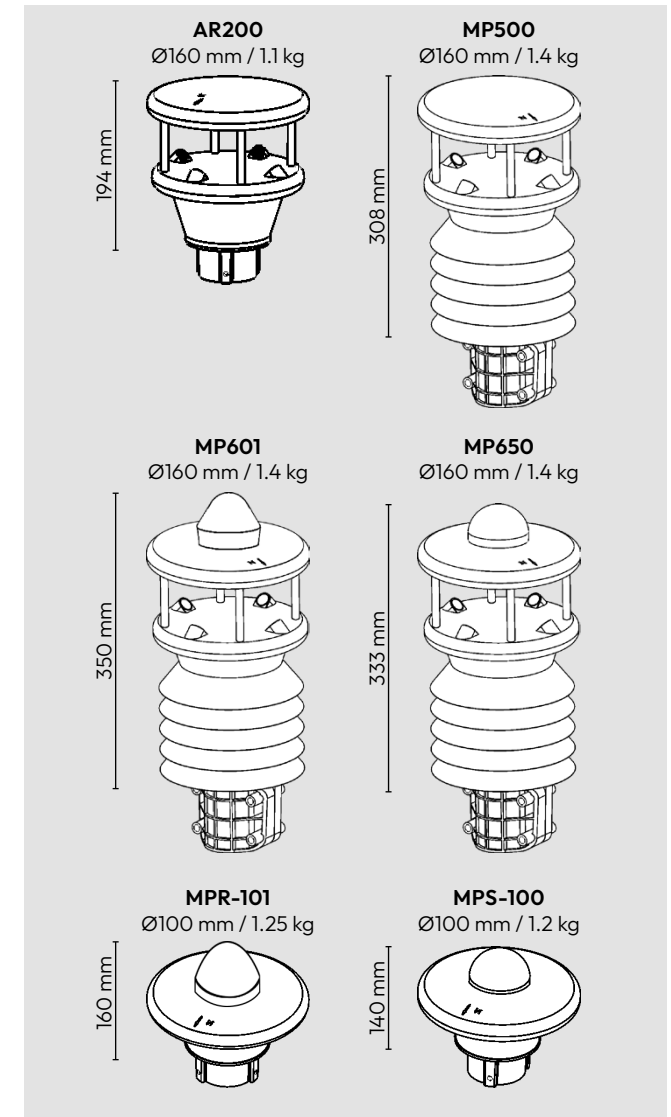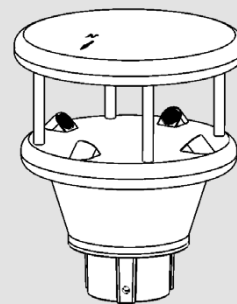
Mounting Method & Alignment

Alignment Method

— The measurement of wind direction is closely related to the mounting position of the weather sensor. During mounting, align the indicator arrow „N" at the top of the sensor with 0° phase.
— Before fixing the instrument, the sensor should be aligned in such a way that the indicator arrow "N" points to the North - South direction of the earth's geographic meridians.
— The North can be referred either to true north, which uses the earth's geographic meridians, or to the magnetic north, which is read with a magnetic compass. The magnetic declination is the difference in degrees between the true north and magnetic north. When aligning to the magnetic North, the declination (variation) must be taken into account.

Procedure

1. If the sensor is already installed, loosen both nuts evenly until you can turn the sensor easily
2. Using the compass, identify the North and fix a point of reference on the horizon
3. Position the sensor in such a way that the South and North sensors are in alignment with the fixed point of reference in the North

Alignment Method

AR200
Ø160 mm / 1.1 kg
194 mm

MP500
Ø160 mm / 1.4 kg
308 mm

MP601
Ø160 mm / 1.4 kg
350 mm

MP650
Ø160 mm / 1.4 kg
333 mm

MPR-101
Ø100 mm / 1.25 kg
160 mm

MPS-100
Ø100 mm / 1.2 kg
140 mm

*Illustration does not represent all versions.

KISTERS

Serial Interface

Serial interfaces can be selected either SDI-12 or RS485 by key user commands through RS485/USB converter connected to PC by standard terminal SW

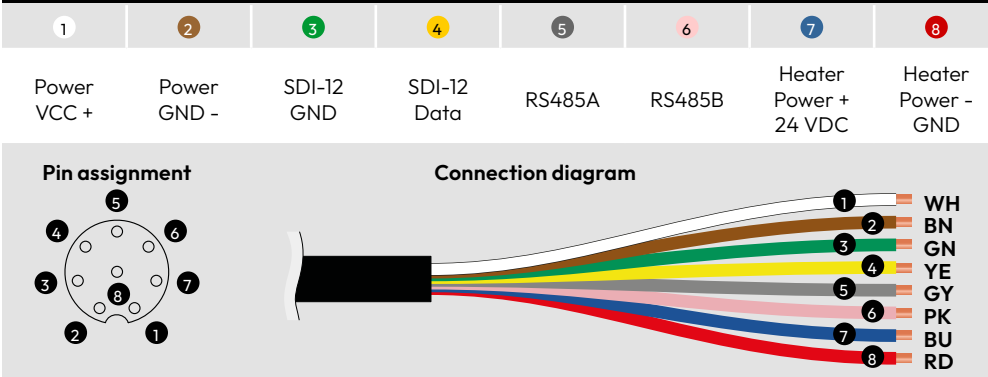| Function	Steps	Commands	Detail
Switch to SDI-12 protocol under any protocol	1	$AACFG 1<CR><LF>	AA:address,Default:00,1:Back to ASCII mode
	2	$AAQ 04<CR><LF>	Select SDI-12 protocol
Switch to MODBUS-RTU Floating protocol under any protocol	1	$AACFG 1<CR><LF>	AA:address,Default:00,1:Back to ASCII mode
	2	$AAQ 02<CR><LF>	Select MODBUS-RTU Floating protocol

Sensor Connection and Cable Assignments

— All non-heated WeatherSens MP-Series devices are equipped with M12-8pol connector (male)
— Connection towards data-logger and power supply to be applied with corresponding accessories sensor cables type M12 SAC-8pol

⊘ **Caution: Un-proper or false connection can damage the instrument.**
Illustration and drawings below do demonstrate the sensor cables only.
Shield to be connected to PE inside control cabinet or data logger by booth end grounding.

Sensor Cable M12 SAC-8pol

①	②	③	④	⑤	⑥	⑦	⑧
Power VCC +	Power GND -	SDI-12 GND	SDI-12 Data	RS485A	RS485B	Heater Power + 24 VDC	Heater Power - GND

Pin assignment

Connection diagram

① WH
② BN
③ GN
④ YE
⑤ GY
⑥ PK
⑦ BU
⑧ RD

Technical Specifications

Wind speed	Range: 0 to 60 m/s – Accuracy: +- 0,3 m/s or +-3%
Wind direction	Range: 0 to 360 ° – Accuracy: +-3°
Temperature	Range: –40 to +80°C – Accuracy +-0.3 °C; +-0.2 °C @ 0 to +40 °C
Humidity	Range: 0 to 100% RH – Accuracy: +-3%
Air-Pressure	Range: 500 to 1100 hPa – Accuracy: +-0.3 hPa
Solar radiation	Range: 300 to 2100 nm – 0 to 2000 W/m² – Accuracy: 3%
Rain MPR101	Range 0 to 400 mm/h - Accuracy: +-0,2 mm or +-10%
Operating Voltage	10 to 30 VDC	Optional heater : 1A@24 VDC
Power consumption @12VDC	AR200: 20 mA; MP500: 23 mA; MP601: 57 mA; MP650: 27 mA; MP700: 63 mA; MPS100: 17 mA; MPR101: 12 mA
Interfaces	SDI-12 / RS 485 (selectable)
Protocols	SDI-12 V 1.3 or RS485 (MODBUS-RTU, ASCII; NMEA 0183)
Sensor cables	M12 SAC-8pol: 10 m sensor cable
Operating temperature range	–40 to +70°C – non-heated – non-icing conditions and without snow cumulation
Heater Temperature control range	–10 to +4°C
IP Class	IP 66

Connection table

	SDI-12	RS485
Power VCC +	WH	WH
Power GND -	BN*	BN
SDI-12 GND	GN*	-
SDI-12 DATA	YE	-
RS485A	-	GY
RS485B	-	PK
Heater Power + 24 VDC	BU	BU
Heater Power -/GND	RD	RD

*Optional for 4 wire SDI-12 connection. Connection of Power GND - is mandatory and recommended for 3 wire SDI-12 connection.