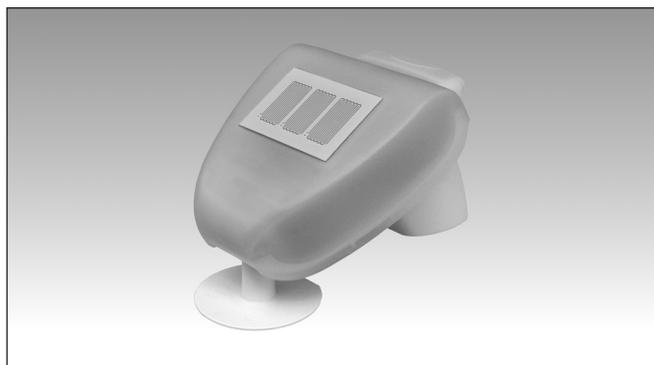


Smart Dupline® Weather Station Type SHOWEAGPS

CARLO GAVAZZI



- Brightness measurement with three separate sensors for east, south and west. Recognition of twilight/dawn
- Wind measurement: the wind strength measurement takes place electronically and thus noiselessly and reliably, even during hail, snow and sub-zero temperatures. Even turbulent air and anabatic winds in the vicinity of the weather station are recorded
- Temperature measurement
- Heated precipitation sensor (1.2 watts): no false reports as a result of fog or dew. Dries quickly after precipitation has stopped
- Integrated GPS receiver. Position (degree of longitude and latitude) and position of the sun (azimuth, elevation)

Product Description

The SHOWEAGPS Weather Station measures temperature, wind speed and brightness (eastern, southern and western sun) and recognizes precipitation. The direction of the sun (azi-

imuth) as well as its height (elevation) are calculated and indicated, too. Data are usually output after a request made by the Modbus master via a 2-wire RS485 connection.

Ordering Key

SH O WEA GPS

smart-house _____
Outdoor _____
Weather station _____
GPS receiver _____

Type Selection

Mounting	Colour	
On wall	White	SHOWEAGPS

Input Specifications

Temperature		Brightness	
Heating rain sensor	Approx. 1.2 W	Number of sensors	4
Measurement range	-40 to +80°C	Measurement range	
Resolution	0.1°C	“Light” sensor	0 - 999 lux
Accuracy	±1.5°C at -25 to +80°C	“Sun East/South/West” sensors	1000 - 99000 lux
Wind		Resolution	1 lux at 0...120 lux 2 lux at 121...1046 lux 63 lux at 1047...52363 lux 423 lux at 52364...99000 lux
Measurement range	0 to 35 m/s	Accuracy	±35%
Resolution	0.1 m/s		
Accuracy	At ambient temperature -20 to +50°C: ±22% of the measurement value when incident flow is from 45 to 315° ±15% of the measurement value when incident flow is from 90 to 270° (Frontal incident flow corresponds to 180°)		

Bus Specifications

Data output	RS485 2-wire
Protocol	Modbus RTU

Supply Specifications

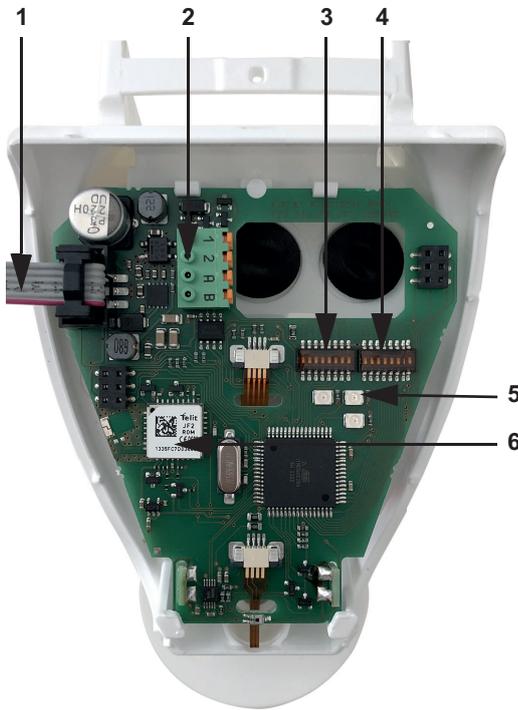
Operating voltage	24 V DC ±10%
Current	Max. 80 mA, residual ripple 10%



General Specifications

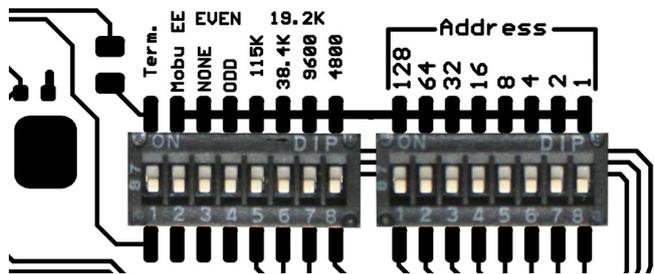
Environment Degree of protection IP 44 Operating temperature -30° to +50°C (-22° to 122°F) Storage temperature -30° to +70°C (-22° to 158°F) Humidity (non-condensing) 5 to 95% RH		Housing Dimensions (W × H × D) approx. 96 × 77 × 118 mm Material Plastic Colour White / translucent	
Connection Cable cross-section Massive conductors of up to 0.8 mm ²		Weight Approx. 160 g CE Marking Yes EMC EN 60730-1:2000-11 + A11:2002	

Wiring Diagram



- 1) Connection to the rain sensor in the housing cover
- 2) Connecting plug, suitable for massive conductors of up to 0.8 mm²
 1 : 24 VDC;
 2 : GND;
 A: RS485+
 B: RS485-
- 3) DIP switch for interface parameters (see detailed view)
- 4) DIP switch for slave address (see detailed view)
- 5) LED "Com", "Error" and "Power"
 „Power“: operating voltage
 „Error“: sensor error or erroneous data
 „Com“: bus communication
- 6) GPS module

Serial Port Programming



If all DIP switches are in the OFF position (default setting), the following parameters are active:
 Address: 1
 Baud rate: 19,200
 Parity: Even
 Termination: Disabled

Setting of the slave's address:
 The slave address is set with the help of the 8-bit DIP switch "Address". If all switches are in the OFF position, Address 1 is active. Address 0 is reserved for broadcast messages; addresses greater than 247 are not valid.

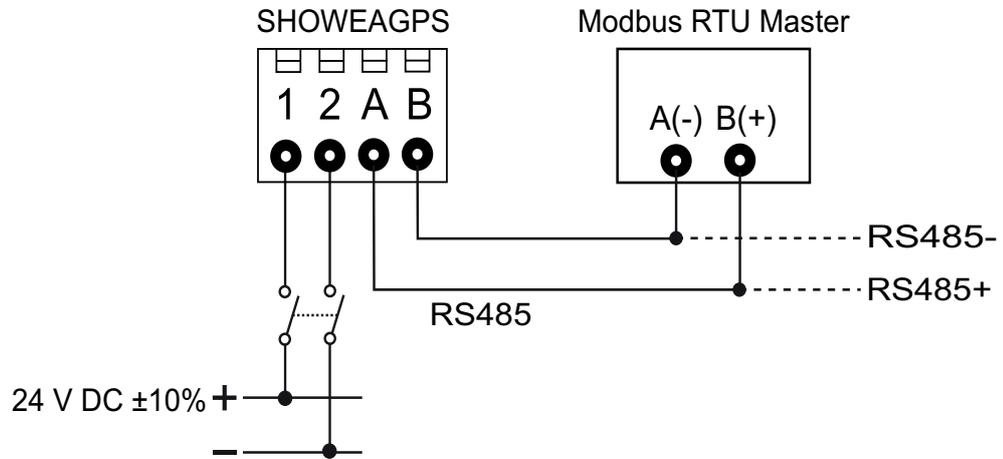
The coding of the address is binary. For the address 47, you must e.g. set the switches 3, 5, 6, 7 and 8 to ON.

Interface parameters:
 The interface parameters are set with the help of the second 8-bit DIP switch. If the first 4 switches are in the OFF position, the transfer rate amounts to 19,200 bauds. If one of these switches is set to ON, the corresponding baud rate is applicable.

Parity: If the two switches "ODD" and "NONE" are set to OFF, the parity is EVEN. Only "ODD" or "NONE" activates the corresponding parity control.

Switch "Mobu EE": no function.
 Switch "Term.": bus termination 124 ohms

Connection diagram



ATTENTION!

Make sure the connection is correct!

- Connect the power supply to 1 and 2 only.
- Use the data connections A and B exclusively for Modbus.