NUOVACEVA AUTOMATION

ENG

WM44-EVO11 V3 DATALOGGER

Wind speed and direction display for outdoors with data recording. IP65.

WM44 V3 is a wind speed and direction display for outdoors with 2 alarm relays. Possibility of connecting wind sensors with a frequency or a 4-20 mA analogue output. It has a power output for sensors. Last 96 hours graphic on screen and data recording in internal memory.

- For outdoor/indoor installation (IP65)
- Backlighted Graphic Liquid Crystal Display
- Adjustable wind speed alarms
- 4-20mA analogue output
- Last 96 hours graphic
- micro SD-based datalogger

FEATURES

Alarms
The alarm is triggered when the wind speed reaches or exceeds the programmed value. It includes a delay, configurable by keyboard, to prevent the alarm from being triggered by gusts of wind.
The alarm is deactivated when the wind speed drops below the programmed value. It also has a configurable delay to prevent the alarm from being deactivated by temporary periods of low-intensity wind.
The activation of ALARM2 deactivates ALARM1. When ALARM2 is triggered, the reading will blink to warn about the danger.
Alarms configuration: Trigger values, polarity, intermittent or continuous alarm, alarm latching (only ALARM2)
Alarms outputs: Relays. Contacts "NO" and "NC" (ALARM1), contact "NO" (ALARM2). Dry relay contacts.

User Default setting
The setting can be saved as "User Default setting" and can be retrieved when necessary P00 – (4). If no configuration has been saved, the factory configuration can be reset with this process.

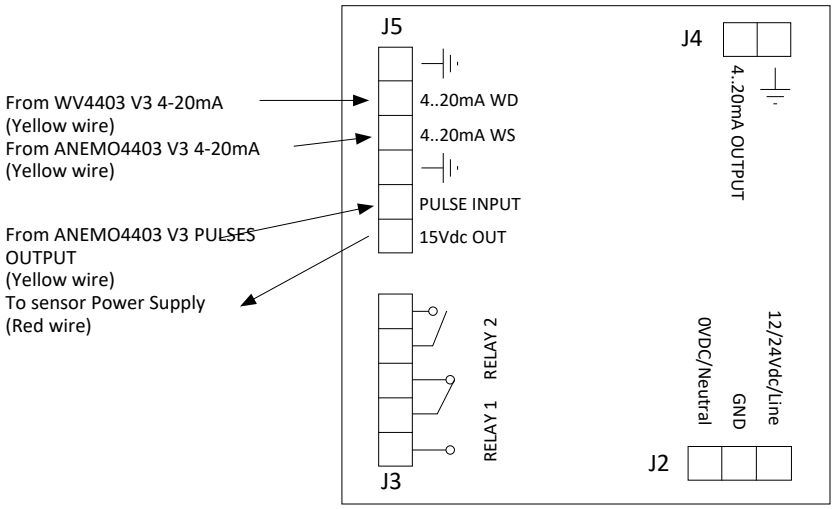
Register of minimum and maximum wind values.
WM44-EVO11 automatically records the minimum and the maximum wind speed values. Press "ENTER" to the see the minimum value and press it again to see the maximum one. After 3 seconds it displays the current screen again.
To reset the minimum and the maximum values press "ESCAPE" for 2 seconds.

Note: Both values are deleted when the power supply is cut off.

Datalogger
WM44-EVO11 datalogger records the direction and wind speed in an internal memory. The programming mode allows to change the frequency of the recording and export the data to the micro SD card. The graph mode shows a graphic of the last 40 hours with 10-minutes intervals or the last 96 hours with 1-hour intervals.

CONNECTION

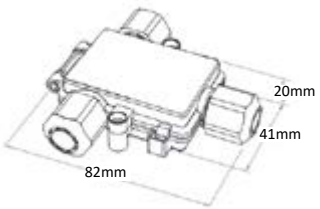
To make the connection is necessary to open the device enclosure.
The internal terminal blocks have all the necessary indications to make such connection.



J3: Output relays connector.
Configuration through P09 y P16.
J4: Analogue output connector.
Configuration through P24 y P25.
J5: Wind sensors connector.

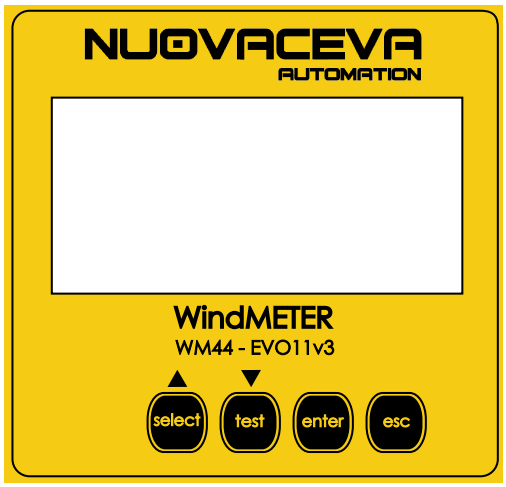
*Configuration through P01, P02 y P03.**

**Note: When using WM44-EVO11 with two wired wind sensors, a T-Box (ref. 0106030405) is required.*



PROGRAMMING

To enter the “Programming Mode” press simultaneously “ENTER” and “ESCAPE” for 2 seconds.



BUTTON FUNCTIONS IN PROGRAM MODE

Button	Function
UP / SELECT	Increases the program steps (P00, P01…), as well as the options or values to be programmed.
DOWN / TEST	Decreases the program steps and the options or values to be programmed.
ENTER	Enters the program step which validates options and values and exits the program step.
ESC	Returns to the program steps.

PROGRAM STEPS

P00	(1) Exit program mode without saving data, (2) Exit program mode saving data, (3) Exit program mode saving data as “preset user configuration, (4) Exit program recovering “preset user configuration” data by pressing ”ENTER” for more than 10sec.
P01	Wind sensor selection. (0) Only anemometer, (1) Only wind vane, (2) Anemometer + wind vane. **[0]**
P02	Anemometer input selection. Only for P01 = 0 and P01 = 2. (0) Pulse input, (1) 4-20mA Input (2) RF Anemo4403. **[0]**
P03	Wind vane input Selection. Only for P01 = 1 and P01 = 2. (0) 4-20mA Input, (1) RF WV4403. **[0]**
P04	(0) Programming in km / h, (1) Programming in mph, (2) Programming in m / s. **[0]**
P05	Only for P02 = 0. Reference speed displayed (1-999). **[100]**
P06	Only for P02 = 0 Frequency in Hz necessary to visualize the programmed value in P05. **[121]**
P07	Only for P02 = 0. Speed/Hz ratio offset **[3]**
P08	Only for P02 = 1. Selection of full scale (0) 120km/h, (1) 180 km/h **[0]**
P09	Only for P03 = 0. Selection of full scale in degrees (0-359). **[0]**
P10	ALARM1. (0) Disabled, (1) Close contact OUT1 NO Relay, (2) Open contact NO OUT1 Rel. **[1]**
P11	ALARM1. Trigger value (1-999). **[50]**
P12	ALARM1. Mode. (0) Continuous mode, (1) Intermittent mode. **[1]**
P13	ALARM1. Only intermittently (P12 = 1). Alarm ON time in tenths of seconds (1-99).**[10]**
P14	ALARM1. Only intermittently (P12 = 1). Alarm OFF time in tenths of seconds (1-99). **[50]**
P15	ALARM1. Activation delay in seconds (0-999). **[2]**
P16	ALARM1. Deactivation delay in seconds (0-999). **[5]**
P17	ALARM2. (0) Disabled, (1) Close contact Relay OUT2, (2) Open OUT2 contact Rel. **[1]**
P18	ALARM 2. Same as P11 ALARM1. **[70]** *(when this value is exceeded, the displayed value blinks as a warning).*
P19	ALARM2. Same as ALARM1 P12. **[0]**
P20	ALARM2. Same as ALARM1 P13. **[5]**
P21	ALARM2. Same as ALARM1 P14. **[5]**
P22	ALARM2. Activation delay in seconds (0-999). **[2]**
P23	ALARM2. Deactivation delay in seconds (0-999). **[5]**
P24	ALARM2. Configuration latching. (0) Non-latching, (1) Latching **[0]** (Power off to release).
P25	Analogue output configuration. (0) Disabled, (1) Proportional to the wind speed, (2) proportional to the wind direction. **[0]**
P26	Value of wind speed / direction corresponding to the maximum analogue output (20mA) **[120]**
P27	Only for P02 = 2 and P03 = 1. Timeout data reception Anemo4403 RF and WM4403 RF. Time, 5-99 seconds. **[12]** *NOTE:Timeout should not be less than 9sec in battery powered devices (Anemo4403 RF BAT and WV4403 RF BAT).*
P28	Alarm status with timeout error. (0) No active alarm (1) ALARM1 active, (2) ALARM2 active. **[2]**
P34	Recording periods. (0) 10-seconds periods, (1) 1-minute periods, (2) 10-minutes periods, (3) 1-hour periods. **[2]**
P35	MicroSD management . (0) Exit without any action, (1) Export new data to SD, the one that has not been exported previously (2) Export all internal memory data to the SD card, (3) Erase internal memory.

Note:
- In bold and between brackets **[x],** *the factory settings.*

DATALOGGER

Datalogger function adds this functions:

- Clock: Necessary to the data crhonology. It can be configured by the TIME MENU
- Graphics: 2 options of on-screen graphics: last 40h with 10-minutes intervals or last 96h with 1-hour intervals
- Micro SD card: A 8GB card to export registered data in .csv format

TIME MENU

The clock should be adjusted the first time. Steps:

- Press DOWN/TEST + ENTER for 2 seconds and the data and time will be showed.
- Press ENTER + ESCAPE for 2 seconds and a digit will start blinking
- Adjust using UP y DOWN
- Press ENTER to accept, the digit will stop blinking and will start the next digit
- Once all digits are adjusted, press ESCAPE to exit from TIME MENU

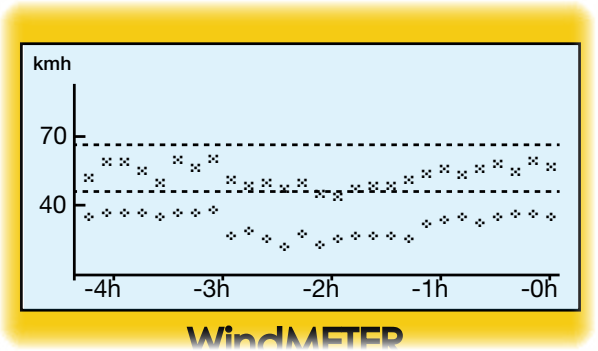
NOTE: If the unit does not save the time when it is switched off, replace battery CR2032. Cover must be opened

GRAPHICS

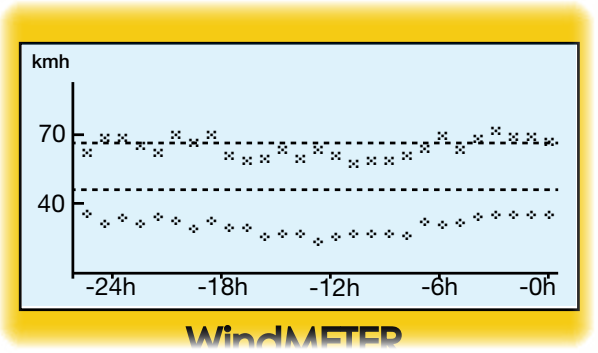
There are 2 graphics: last 40 hours with 10-minutes intervals and last 96 hours with 1-hour interval. In each one are shown the maximum and the average value of all periods.
Steps:

- Press DOWN/TEST for 2 seconds and the 40-hours graphic will be shown
- Press ENTER to change between the 40 and 96-hours graphics
- Using UP and DOWN the graphics move left and right
- Dashed lines show the alarm values
- Maximum values are shown with ":·:" and average value with ":.:"
- Press ESCAPE to exit from GRAPHICS MENU

40-HOUR GRAPHIC:



96-HOUR GRAPHIC:



DATALOGGER

SD CARD MANAGEMENT

WM44-EVO11 Datalogger has an internal memory to record the wind data. This memory is limited, thousands of events can be registered, but depending on the recording frequency configuration (programming mode - P34), the memory can be filled within several days.
This internal memory cannot be readed, the data must be exported to the micro SD card (programming mode - P35). Data is exported in .csv format.
There will be one file for each day and the data will be shown with no units nor titles to make easier data processing and maximize capacity. The data will appear as shown:

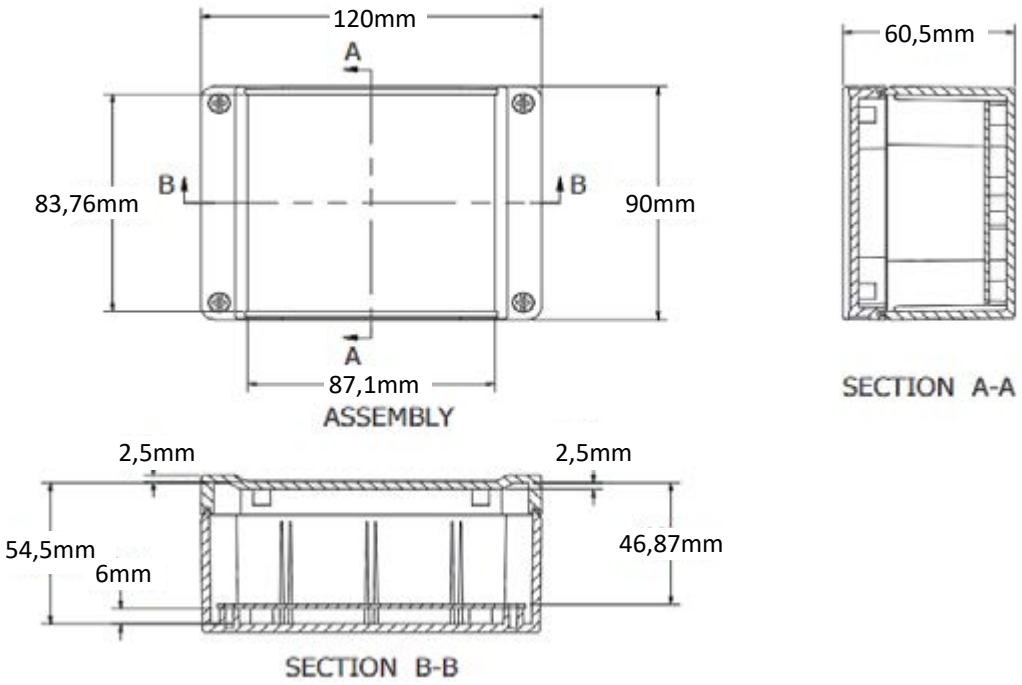
	A	B	C	D	E	F	G	H
1	01/01/2020	12:00:00	39	16.6	9.1	14	46	30
2	01/01/2020	12:10:00	33	11	10.5	90	234	52
3	01/01/2020	12:20:00	28	10.8	5.9	194	246	44

Column Name	A	B	C	D	E	F	G	H
Field	Data	Time	Maximum Speed	Average Speed	Speed deviation	Maximum speed direc-tion	Average direction	Direction deviation

NOTE: Speed shown in km/h and direction in º from 0 to 359, North = 0º

Quit the cover to get the SD card. The unit can be several days recording without memory card, this data will be recorded into the internal memory.

DIMENSIONS



TECHNICAL SPECIFICATIONS

Electrical features

Power supply	230 Vac, 50-60 Hz 24 Vdc
Power consumption	< 3.5 VA @ 230 Vac < 3 W @ 24 Vdc

Inputs

Type of input signal	Frequency, analogue (4-20mA) or RF
RF connectivity	IEEE 802.15.4. ISM 2.4GHz

Outputs

Power output for sensors	15 Vdc
Analogue output	4-20 mA
Max. connectable impedance	500 Ohm
Analogue output resolution	10 bit
Analogue output accuracy	1,5%
Alarm relays	250 Vac, 8A

Display

Display	Backlighted liquid crystal display 128x64 pix
Wind speed	3 digits. Units to choose from: km/h, mph and m/s
Wind direction	3 digits. Indication in degrees and cardinal points

General features

Enclosure material	Polycarbonate
Weight	250 g
Storage temperature	-35 ºC +70 ºC
Working temperature	-20 ºC +70 ºC
IP protection	IP65
EMC	EN 61000-6-2:2001 EN 55022:2001, Class B

Datalogger

Internal memory capacity	8 MB (50.000 events)
External memory maximum capacity	32 GB (8GB-card supplied)
Data format	.csv
RTC battery	CR2032

EXTERNAL ANTENNA RP-SMA

The units with an external connector have been designed for those situations where the display has been installed in a place with a poor RF communication signal. If the display must be installed in a metal box or similar, it will be necessary to use a unit with external antenna. The units with an external antenna connector (see references) have the antenna included with a 3-meter cable and magnet fixation.
The antenna connector is at the bottom of the display where the glands are.

REFERENCES AND ACCESSORIES

References

0106030411X	WM44-EVO11 V3 DL IP65 24Vdc
0106030412X	WM44-EVO11 V3 DL IP65 230Vac
0106030429	WM44-EVO11 V3 DL RF IP65 24Vdc
0106030430	WM44-EVO11 V3 DL RF IP65 230Vac

Compatible Wind Sensors and Wind Vanes

Pulses output anemometers

0103010801	ANEMO4403 V3 PULSES OUTPUT M8 LATERAL
0103010804	ANEMO4403 V3 PULSES OUTPUT 2,5m CABLE
0103010806	ANEMO4403 V3 PULSES OUTPUT
0103010808	ANEMO4403 V3 PULSES OUTPUT M12 UNDERSIDE

4-20mA Analog output anemometers

0103011001	ANEMO4403 V3 4-20mA OUTPUT 120 km/h M8 LATERAL
0103011002	ANEMO4403 V3 4-20mA OUTPUT 180 km/h M8 LATERAL
0103011003	ANEMO4403 V3 4-20mA OUTPUT 120 km/h 20m CABLE
0103011004	ANEMO4403 V3 4-20mA OUTPUT 180 km/h 20m CABLE
0103011005	ANEMO4403 V3 4-20mA OUTPUT 120 km/h TIME 2s 20m CABLE

Wind Vanes

0103010711	WV4403 4-20mA OUTPUT M12 UNDERSIDE
0103010712	WV4403 4-20mA OUTPUT 2,5m CABLE
0103010713	WV4403 4-20mA OUTPUT 20m CABLE

Heated versions, view datasheet:
- *ANEMO5H25 V3 PULSES OUTPUT*
- *ANEMO5H25 V3 4-20mA OUTPUT*
- *WV5H25 4-20mA OUTPUT*

**For other references, please contact us.*

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