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INSTRUCTION MANUAL

ULTRASONIC WIND GAUGE
WG15-SONIC

File: 2020-07-06
PRODUCT SUPPORT
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Thank you for choosing W15-SONIC ultrasonic wind gauge.

Warning!
The product is an electronic device whose proper and failure -free operation requires absolute observance of the following rules:

- handle with care,
- do not hit,
- do not dismount,
- do not manipulate ultrasonic sensors,
- charge regularly reachable batteries installed in keypad,
- do not leave discharged keypad for long time, e.g. for winter season,
- use only original mains adapter included in the set,
- do not use during lighting storm.

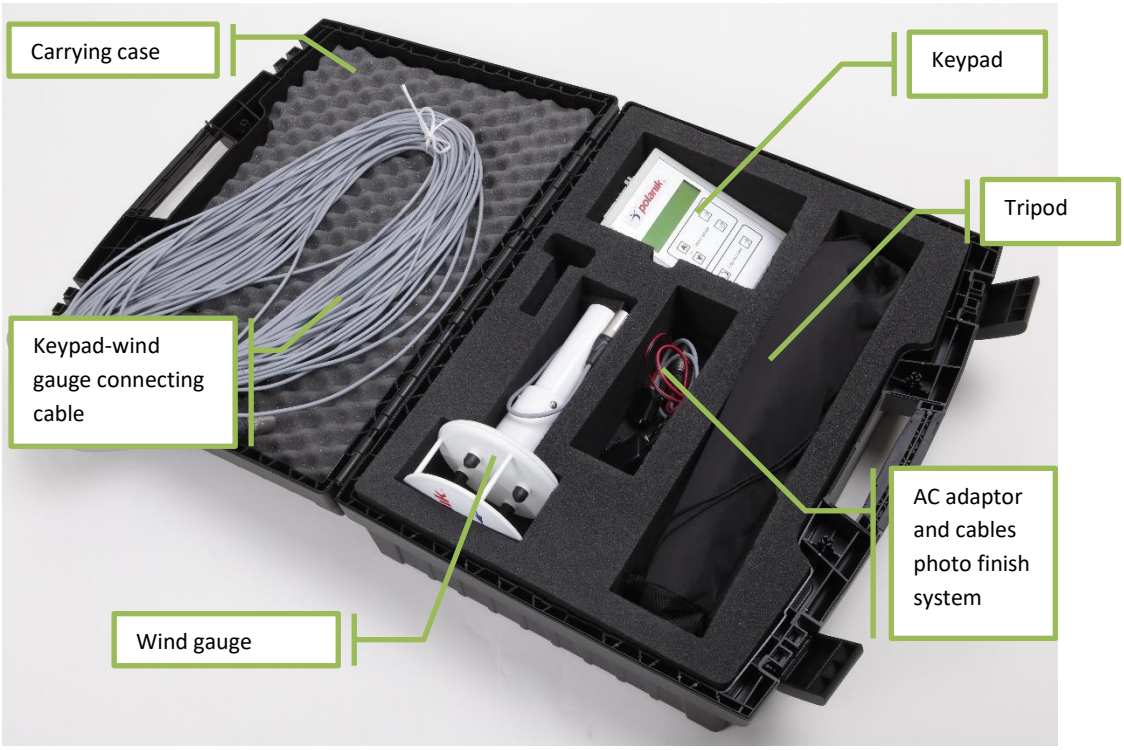
1. Introduction

Ultrasonic Wind Gauge is designed to measure the wind speed during athletics competitions and training programs. The device accuracy is 0,01 m/s, that complies with WA rules.

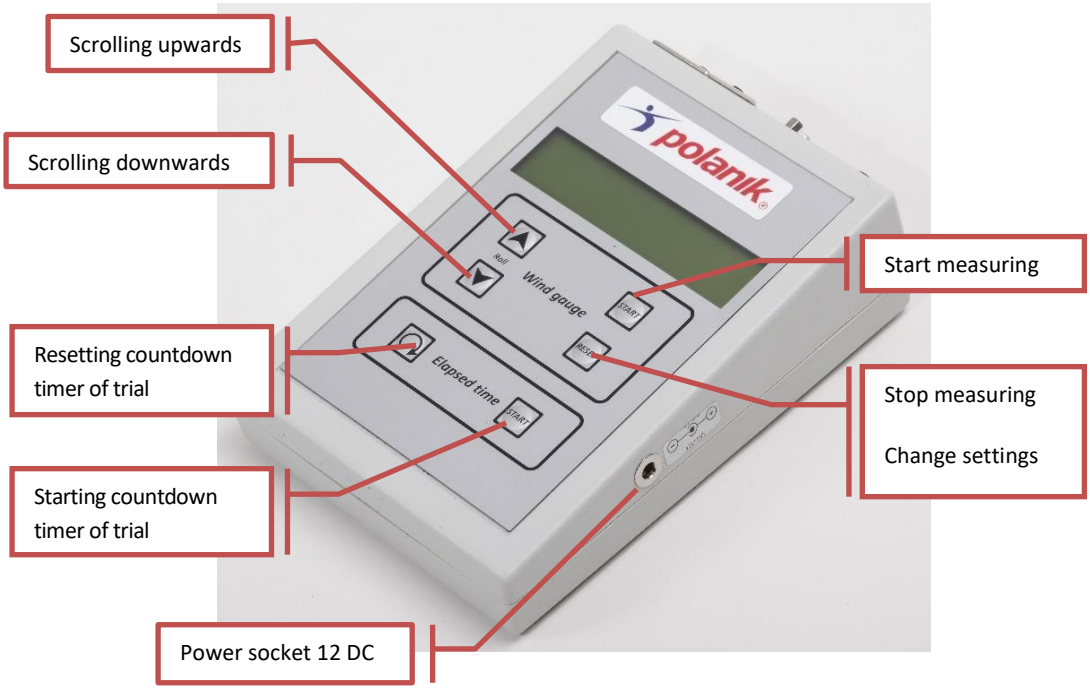
The main features of the product:
- very accurate and reliable measurement,
- synthetic casing dustproof and resistant to rain,
- light and maintenance free, without moving parts,
- integrated mode and standalone operation,
- keypad, tripod and carrying case included in the set,
- battery-operated and AC adapter.

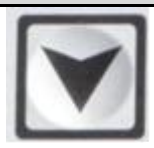
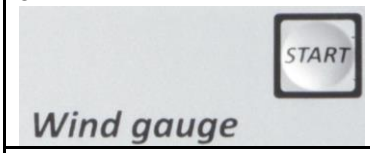
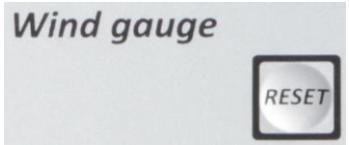
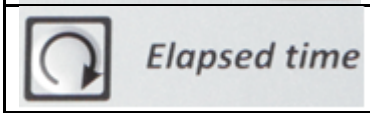
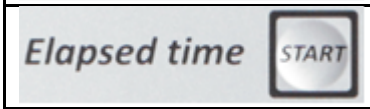
2. General description

The set elements :



Keypad:



Button caption	Function description when pressed
ROLL↓ 	Select next event item
ROLL↑ 	Select previous event item
START 	Start countdown timer to take a wind velocity measurement
RESET 	Reset countdown timer to prepare for measurement
	Resetting countdown timer of trial, it works only with led display connected.
	Starting countdown timer of trial, it works only with led display connected.

The top line of the LCD display shows the competition and warning about low battery →	
The bottom line of the LCD display shows the speed of the wind, or countdown / next action →	

3. Wind gauge settings

The device must be set according to the WA rules and the label on the wind gauge.

4. Operation modes

The wind gauge can be operated manually or automatically:

1. automatic mode, Finish Lynx athletics competition management software controls wind measuring,
2. manual mode, operator controls wind measuring using included key pad.

4.1 Automatic mode

The FinishLynx software controls the wind velocity measurement through RS485 serial communication interface. The wind measuring begins automatically when START signal is produced and ends when the predefined time for the given track event elapses. The wind speed and the direction is recorded automatically and displayed in the window named “wind”.

4.1.1 Interface

Communication wind gauge – PC computer is done according to serial communication protocol RS232.

4.1.2 Connecting wind gauge to photo finish set ZFFC

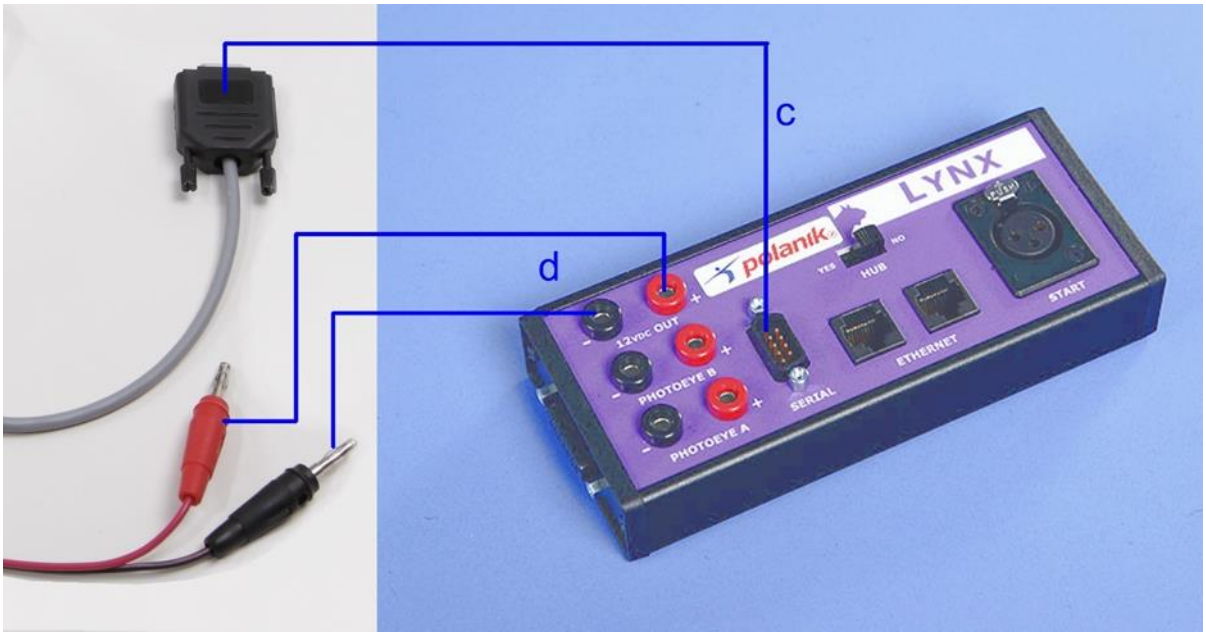
To connect wind gauge to photo finish set please do the following:

a) plug the female connector of the long grey cable into the male connector of the wind gauge,

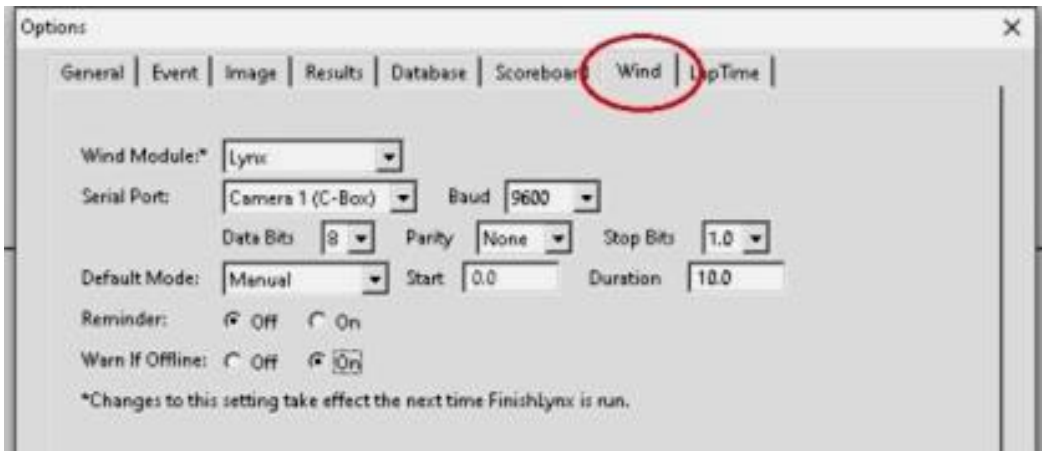
b) plug the other connector (male) of the long grey cable into the female connector of the adapter,

c) plug the female D-Sub 9-pin connector of the adapter into the socket of the FinishLynx photo finish connection box,

d) connect the two banana plugs of the adapter to the sockets marked “+” and “-“ in the connection box, pay special attention to the polarity, red plug to red socket (+) and black plug to black socket (-), always connect banana plugs according to their colours, changing polarity may damage the wind gauge,



e) start the photo finish camera connected to PC computer and the connection box,
f) start the FinishLynx program to control the camera,
g) configure the connection port for the wind gauge in the menu section marked “Wind” (File⟶ Options⟶ Wind).
Wind Module: Lynx, Serial Port: Camera 1 (C-Box), Baud: 9600, Data Bits: 8, Parity: None, Stop Bits:1.0



h) reset the program FinishLynx to save the settings, which are always recorded when you close the program and executed at starting of the program.

4.2 Manual mode

The default operation mode when powered on is the manual mode. Using the included keypad operator can change the event setting by pressing ROLL ↓ and ROLL ↑ buttons, and start the wind velocity measurement by pressing the START and stop the measuring by pressing RESET button.

4.2.1 Connecting the keypad

To connect wind gauge to keypad please do the following:
a) plug the female connector of the long grey cable into the male connector of the wind gauge,
b) plug the other connector (male) of the long grey cable into the female connector of the keypad,
c) switch on the keypad,

d) press START to begin setting the wind gauge,
e) press ROLL↓ or ROLL↑ to choose a desired event from: 100m, 200m, HURDLES, JUMP and CONT.,
f) press START to begin measuring, when the prescribed time for the chosen event elapses the result is displayed together with the sign "+" or "-" indicating the wind direction.
The passing of time seen in the bottom line of the keypad LCD means that the wind speed measuring is in progress. Next measurement is started by pressing START. The measurement can be stopped at any time (for example: due to false start or a competitor leaves runway) by pressing RESET. Then a new measurement is started by pressing START again.

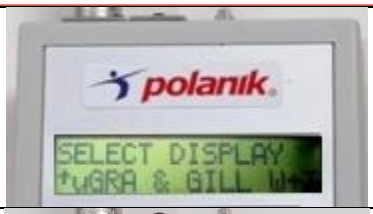
The following prescribed measurement modes of athletics events are available:

	100m (stands for 100 m race) Wind speed is measured for 10 s. and then its value is displayed together with the wind direction indicated by the signs: „+" – same as race direction „-" – opposite to race direction
	200m (stands for 200 m race) Wind speed measurement starts after 10 s. from pressing START and it is measured for 10 s. and then after all together 20 s. its value is displayed together with the wind direction indicated by the signs: „+" – same as race direction „-" – opposite to race direction
	HURDLES (stands for hurdle races) Wind speed is measured for 13 s. and then its value is displayed together with the wind direction indicated by the signs: „+" – same as race direction „-" – opposite to race direction
	JUMP (stands for long and triple jumps) Wind speed is measured for 5 s. and then its value is displayed together with the wind direction indicated by the signs: „+" – same as race direction „-" – opposite to race direction
	CONT. (stands for continuous measuring) Wind speed is measured continuously and displayed every 1 s. until the keypad is switched off. Each time its value is displayed together with the wind direction indicated by the signs: „+" – same as race direction „-" – opposite to race direction

4.3 Using wind velocity LED display

Choosing display mode for prescribed LED boards:

	Switch on the keypad and press RESET to display available board producers. Change the options by pressing ROLL↑ or ROLL↓
	GILL Athletics – wind velocity display
	GILL Athletics - wind velocity display and elapsed trial time presentation
	Presentation of elapsed trial time on the whole board without wind velocity – useful option especially for vertical jumps and throws, wind velocity is not required in those events.
	Micrograph (Microgate) – wind velocity display
	Micrograph (Microgate) – wind velocity display and elapsed trial time presentation
	OSTAR – wind velocity display and elapsed trial time presentation
	Gill Athletics and Microgate – wind velocity simultaneously presented on both boards

	Gill Athletics and Microgate – wind velocity and elapsed trial time simultaneously presented on both boards
	FinishLynx – wind velocity readings are automatically transferred from the Lynx management program to LED display board, in this option keypad is only used as a source of power for wind gauge and data converter (Baud rate = 9600; Data bits=8; Parity=None; Stop bits=1).
	FinishLynx – wind velocity readings are automatically transferred from the Lynx management program to LED display board, in this option keypad is only used as a source of power for wind gauge and data converter (Baud rate = 9600; Data bits=7; Parity=Even; Stop bits=1).

5. Power

Six size AA NiMH 1,2V rechargeable batteries are installed inside keypad. Do not dismount keypad and do not open its casing. Mains adapter provides optimal power source and charges properly rechargeable batteries installed inside keypad. Keypad can be powered constantly with mains adapter. Use only original mains adapter for powering keypad and charging it, pay attention to polarity marked on keypad and mains adapter.

When empty battery sign is displayed on LCD keypad must be powered by mains adapter.

Keypad will shut off automatically if power drops below safe level. To charge keypad, which has switched off automatically due to low power, set its power switch to “0” and then connect mains adapter.

WARNING!
Use only original mains adapter for powering and charging.

6. Technical specification

Measuring range	0–60 m/s
Accuracy	± 2% at 12 m/s
Resolution	0,01 m/s
Sampling time	0,25 s.
Power supply	5-30V DC
Power consumption	13mA at 12V DC
Dimensions	142 mm x 160 mm
Weight	0,5 kg
Protection class	IP 65
Temperature range	from -35 ° C to + 70 ° C
Storage temperature	from -40 ° C to + 80 ° C
Humidity range	<5% to 100% RH
Interface	RS 232
Cabling	serial cable 60 m long, cable 0,5 m for communication RS and power supply
Keypad dimensions	195x136x57 [mm]
Keypad power supply	DC 12V (minus „–” in centre)
Keypad net weight	0,65 kg

Warranty period	24 months
Compatibility	FinishLynx 8.20 or higher
Assembly	mounted on included tripod with 3D head
Storage	included carrying case
Set dimensions	575 × 470 × 205 [mm]
Set weight	8,1 kg

7. Declaration

1) No. 2020-07-06
2) Issuer's name: POLANIK
   Issuer's address: Zyczliwa 11, 97-300 Piotrkow Tryb.

3) Object of declaration:

No.	Description of goods	Code
1	Ultrasonic wind gauge	WG15-SONIC

4) The object of declaration described above is in conformity with the requirements of the company production internal norms.

Additional Information

5) Declaration for:

Buyer/Distributor/User

Signed for and in behalf of:
POLANIK
2020-07-06 Piotrkow Tryb.
(Date and place of issue)

6) Pawel Ciechanowski
Product Manager

…… ……

(Name, function) (Signature or equivalent authorized by the issuer