

Cat.No. **7910-00**

Wind Speed and Direction Sensor for Digital Indicator with Alarm



Model

W693-ED1

This model is an airplane type wind speed and direction sensor that can transmit the measured data to the indicator to display wind speed in digital and wind direction with LED, and also output alarm. The digital indicator with alarm is purchased separately.

No. 7910-00 is a wind speed and wind direction sensor using by connecting with No. 7910-50 indicator with alarm. The indicator inputs the signals that are output from this sensor and displays instantaneous and mean values of wind speed in digital and 16 azimuth for wind direction with LEDs.

The alarm value that is output from the indicator can be arbitrarily set and are transmitted to a warning lamp and buzzer. Furthermore, it is available to add analog output and digital output (RS-422) at option as a external output.

Features

- Brushless potentiometer for wind direction and optical pulse for wind speed are adopted
- Wind direction is indicated with LED (16 azimuth) and wind speed (instantaneous and mean) is indicated with digital figures.
- Three alarm outputs (alarm 1, 2 and 3) are provided. When the values reach the thresholds, it operates alarm with relay contact, warning lamp and buzzer sound.

Specifications

No.7910-00 Wind speed and direction sensor for an indicator with alarm function (W639-ED1)

Applicable indicator	No.7910-50 Wind speed and direction indicator with alarm function (WVAT6D0-3-00)
Detection method	Wind direction: counter balanced tail: brushless potentiometer: 0 to 360° Wind speed: Propeller: photoelectric pulse type
Measuring range	Wind direction: 0 to 360° Wind speed: 2 to 90m/s
Accuracy	Wind direction: $\pm 5^\circ$ Wind speed: $\pm 0.5\text{m/s}$ (at less than 10m/s) $\pm 5\%FS$ (at more than 10m/s)
Starting wind speed	2m/s

Withstand wind speed	108m/s (wind tunnel)
Output signal	Wind direction: 0 to 360°/0 to 1VDC (built-in transmitter) Wind speed: pulse output (60 pulse per one rotation of propeller)
Power requirements	12VDC±2V (supplies from indicator)
Operation ambient	-20 to 50°C (without freeze on rotor)
Remote distance	Within approx. 300m in use of CVVS 1.25mm ² cable
Output connecter	NJW-207-PF10 cord dia.:Ø8.6 to 10.5mm
Materials	Tail: carbon + polyester resin Propeller & body: polycarbonate resin
Outer dimensions	approx. Ø250mm (propeller) × (H)660×(D)510mm
Installation	3-Ø12.4×14.9mm (long hole) in a circle with Ø125mm
Weight	approx. 3kg

No.7910-50 Wind speed and wind direction indicator with alarm function (WVAT6D0-3-00)

Applicable sensors	No.7910-00 Wind speed and direction sensor (W639-ED1)
Input signal	Wind direction: 0 to 360°/0 to 1VDC Wind speed: pulse output (60 pulses per one propeller rotation)
Indication	Wind direction: red LED 16 pcs. (16 azimuth) Wind speed: red 7 segments LED 4 digits, height of character (upper and lower): 14.2mm
Display elements	Wind direction: instantaneous or mean value (average of 10 minutes): changed by a button setting Wind speed: instantaneous value and mean value (average of 10 minutes)
Display range	Wind direction: 0 to 360° (16 azimuth) Wind speed: 0.00 to 99.9m/s
Sampling interval	approx. 1 sec. (lighting hold time)
Alarm (wind direction)	Instantaneous or mean, Alarm setting range: two sections in 0 to 359°
Alarm (wind speed)	Instantaneous or mean, alarm setting range: 5 to 90m/s (Mutual setting in alarm 1, alarm 2 and alarm 3)
Alarm output (wind direction)	No voltage make contact, Contact capacity: 24VDC, 1A (resistance load) * the signal of the alarm contact is output from alarm 3 LEDs of 16 azimuth: LED blinks to indicate the alarm setting section
(Wind speed-alarm 1)	No voltage make contact: contact capacity:24VCD, 1A (resistance load) Green LED (slow blinks) Buzzer (long intermittent sound)
(Wind speed-alarm 2)	No voltage make contact Contact capacity: 24VDC 1A (resistance load) Yellow LED blinks (fast blinks) Buzzer sound (short intermittent sound)

(Wind speed-alarm 3)	No voltage make contact Contact capacity 24VDC, 1A (resistance load) Red LED blinks (continuous blinks) Buzzer sound (continuous sound) * If the alarm sound in wind direction is set, the alarm 3 is not usable for wind speed
Alarm reset	When contact output and wind speed value of LED display are smaller than the value of the alarm setting / the value of wind direction is out of the range to be set. Buzzer sound (continuous sound): by the key operation of the front panel
Operation ambient	0 to 50°C, less than 90%rh (no condensing)
Remote distance	approx. 300m max. (in use of CVVS 1.25mm ² cable)
Case	Steel plate, desk top type (rubber foot, tilting stand)
Power requirements	100VAC±10%, 50/60Hz, approx. 20VA
Dimensions	(W)200×(H)110×(D)200mm
Weight	approx. 3.5kg

Option: Model: WVAT6D0-3-1□ Analog output

Output channel	2 channels
Output	CH1: Instantaneous or mean wind speed: 0 to (10 to 90)m/s / 0 to 1VDC CH2: Instantaneous or mean wind direction: 0 to 360° or 0 to 540° / 0 to 1VDC * Select the output range and output elements at ordering Output impedance: less than 500Ω

Option: Model: WVAT6D0-3-□1 Digital output

Output channel	1 channel
Output signal	RS-422
Output data	instantaneous wind direction/wind speed, mean wind direction/wind speed, instantaneous max./min. wind speed, mean max./min. wind speed, operating state, power condition
Data transmission interval	0.25, 0.5, 1, 5, 10 sec.

