



# Ultrasonic Anemometer For Strong Wind

## MODEL : SAT-900

**3-D Strong wind  
measurement up to 90m/s!**

### Observation purpose

- ◆ For the local strong wind disaster
- ◆ To the low layer weather and a local meteorological observation
- ◆ To the atmospheric diffusion observation
- ◆ To the operations administrator of transportation

- 90m/s evaluation by its own wind tunnel equipment
- 90m/s three-dimensional anemometer of world first



### Features

- ◆ Adopting a new sensor, strong wind can be measured.
- ◆ Data with high reliability in strong wind is possible, thanks to new digital processing DSP.
- ◆ Measurement from 0 m/s to 90 m/s with high response and linearity.
- ◆ 3-D measurement of horizontal and vertical wind speed (blowing up and down) is possible.
- ◆ Without moving part, free from damage under the strong wind condition.

## Specifications

Measurement method : Time sharing transmission/reception switching type ultrasonic pulse emission

Processing method : Ultrasonic propagation reciprocal difference method

Measuring range : 0 - 90 m/s (wind velocity)  
(Selectable from any of  
1, 2, 5, 10, 15, 20, 30, 40, 50, 60, 70, 80, 90m/s)  
0 - 540° (wind direction)

Accuracy :  $\pm$  (3% of Reading value + 0.05m/s)  
(wind velocity)  
 $\pm 3^\circ$  (wind direction)

Output resolution : 0.01m/s (wind velocity)  
0.1° (wind direction)

Sampling rate : 4 times/sec. (Option: 10 times/sec.)

Digital output : RS-422 (can output any element signal)

Analog output : 0 - 20mA or 4 - 20mA (4CH)  
(Select any output signal by 4 elements)

Output signal : Momentary wind velocity ( $U_i$ ),  
Momentary wind direction ( $\theta_i$ )  
Momentary vertical wind velocity ( $W_i$ )  
Momentary wind velocity ( $X_i, Y_i$ )  
Vector averaged wind velocity ( $U_m$ )  
Vector averaged wind direction ( $\theta_m$ )  
Averaged vertical wind velocity ( $W_m$ )  
Scalar average wind velocity ( $U_s$ )  
Average wind velocity ( $X_m, Y_m$ )  
Average wind velocity of 3sec movement ( $U_3$ )  
Option (Sonic virtual temperature (T) \*1)

\*1: Available only for 10 times/sec. selected

Averaging time : 1 - 15 min. (can be set at every minute)

Protection circuit : Overcurrent protection, Surge protection

Main material : Stainless

Painted color : Silver (equivalent to Munsell N8)

Temperature : -20 ~ +50°C

Humidity : 10 ~ 95%RH

Power supply : DC24V 5W

Weight : Approx. 4.5kg

[Digital output details]

Communication speed / 1200, 2400, 4800, 9600, 19200bps

Data length / 8bit, Parity / None, Stop bit / 1bit

Output format / ASCII

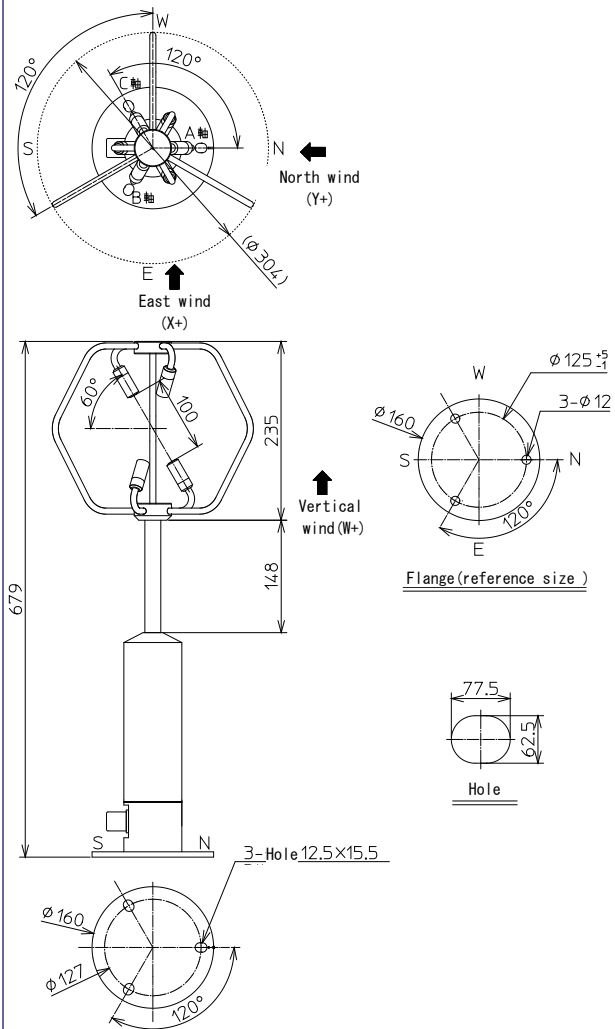
Elements / Element of wind speed is output in CSV format.

[Option] Heater (Specifications: DC24V 60W with 50m cable)

## Configuration items

- SAT anemometer/SAT-900 : 1unit
- Accessory/Display & setting software : 1set
- Connection cable/JCS-20S (20m) : 1pc.
- Option unit
  - Power supply signal converter / SAT-PJBA
  - Surge protection device (Outdoor) / SAT-SPS
  - Surge protection device (Indoor) / SAT-SPM

## Dimensions



**⚠ CAUTION FOR SAFETY : Please read surely INSTRUCTION MANUAL before operating**

●Specification is subject to change without prior notice for improvement.

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