

# Technical Specification Sheet

## System Overview

The Tech-SEN Wind Speed Recording and Display System is designed for precise and reliable wind measurement and visualization. This system integrates the Tech-SEN AN102 Anemometer and the Tech-SEN VA102 Wind Vane to provide comprehensive wind monitoring solutions. The viewing system is versatile and can be used with either the AN102 Anemometer or the VA102 Wind Vane independently, or together for a complete wind speed and direction monitoring solution.

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## Components

1. **Tech-SEN AN102 Anemometer**
  2. **Tech-SEN VA102 Wind Vane**
  3. **Measurement-Recording and Transmission Unit**
  4. **Imaging Software**
  5. **RF Antenna**
  6. **GSM Antenna**
  7. **Power Adapter**
  8. **TFT Screen**
  9. **Data Recording and Transmission Board**
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## Tech-SEN AN102 Anemometer Specifications

- **Measurement Range:** 0-80 m/s
  - **Accuracy:**  $< \pm 0.1$  m/s
  - **Resolution:** 0.1 m/s
  - **Linearity:**  $r > 0.9999$
  - **Startup Speed:**  $< 0.25$  m/s
  - **Delay Distance:** 3 m
  - **Survival Speed:** 80 m/s
  - **Operating Temperature:**  $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$
  - **Protection Class:** IP65
  - **Operating Voltage:** 9-15 V DC
  - **Heating Power:** 20W (24V DC) *optional*
  - **Output Signal:** Pulse, RS485, ModBUS RTU/ASCII *varies with model number*
  - **Weight:** 500 g
  - **Electrical Connection:** 8 pol. Binder plug connection
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## Tech-SEN VA102 Wind Vane Specifications

- **Measurement Range:** 0-360°
- **Accuracy:**  $< \pm 1^{\circ}$

- **Resolution:** 0.1° (SDI12 and ModBUS), 0.35° (Analog and 10 Bit Gray Code)
  - **Survival Speed:** 75 m/s
  - **Operating Temperature:** -40°C to +80°C
  - **Protection Class:** IP65
  - **Operating Voltage:** 9-15V DC
  - **Heating Power:** 20W (24V DC) *optional*
  - **Output Signal:** 10 bit GRAY, Analog, SDI12, RS485, ModBUS RTU/ASCII *varies with model number*
  - **Weight:** 800 g
  - **Electrical Connection:** 8 pol. Binder plug
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## System Features

1. **Measurement-Recording and Transmission Unit:**
    - Records wind speed and direction data from the anemometer and wind vane.
    - Transmits data wirelessly via RF and GSM antennas.
  2. **Imaging Software:**
    - Provides real-time visualization of wind data on PC and mobile devices.
    - Supports data logging and historical data analysis.
  3. **Power and Connectivity:**
    - The system includes a power adapter compatible with standard power supplies.
    - Equipped with RF and GSM antennas for reliable data transmission.
  4. **Display and Alerts:**
    - TFT screen for local data display.
    - Buzzer for sound alerts in case of threshold breaches.
  5. **Sensor Compatibility:**
    - The viewing system can be used with the Tech-SEN AN102 Anemometer or the Tech-SEN VA102 Wind Vane independently.
    - For comprehensive monitoring, the system can utilize both sensors simultaneously to provide complete wind speed and direction data.
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## Installation and Configuration

- **Easy Assembly:** Both the anemometer and wind vane are designed for easy installation and integration with the data recording and transmission unit.
  - **Compatibility:** Compatible with various dataloggers and systems supporting the specified output signals.
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## Application Areas

- Meteorology
- Wind energy projects
- Agricultural measurements

- Military measurements