
SPECTRUM TECHNOLOGIES, INC.
WATCHDOG 2900ET WEATHER STATION SENSOR SPECIFICATIONS
AND CALIBRATION CERTIFICATE

The WatchDog 2900ET weather station and included sensors are calibrated at the time of manufacturing to meet the following specifications:

WatchDog 2900ET Weather Station

Data capacity and features

- 8,800 intervals (183 days, based upon a 30-minute interval)
- 12-bit A/D conversion
- Non-volatile memory
- Data retained on the station, permitting multiple downloads. Once memory full, oldest data replaced first
- Measurement intervals of 1, 5, 10, 15, 30, or 60 minutes
- Power source – 4 AA alkaline batteries (included) – provides power for 12 months
- LCD display: review 30 days of high/low history; display chill hours and degree day calculations
- Data communications speed: 9600 baud
- Communication options: direct connection (20 m); wired RS422 connection (to 1 km); spread spectrum wireless (2.4 GHz to 3 km); GSM cellular; GPRS/CDMA to Internet; satellite modem
- External sensor ports: 5

Internal Sensors

- a. Temperature sensor:
 - i. -32°C to 100°C; $\pm 0.6^\circ\text{C}$; -60°C to 200°C overall
 - ii. Resolution: 0.1°C
- b. Relative humidity sensor
 - i. 10% to 100% RH @ 5°C to 50°C; $\pm 3\%$ RH
 - ii. Resolution: 0.1%
- c. Dew Point (calculated)
 - i. -73°C to 60°C, $\pm 2^\circ\text{C}$
- d. Wind speed
 - i. 0, 3-241 km/h (startup speed is 3 km/h); accuracy ± 3 km/h or $\pm 5\%$, whichever is greater
 - ii. Resolution: 0.1 km/hr
- e. Wind direction
 - i. 1° increments; $\pm 4^\circ$
- f. Solar radiation
 - i. 0 -1500 W/m², $\pm 5\%$
 - ii. Resolution: 1.0 W/m²

Internal Sensors, continued

- g. Rainfall
 - i. 20.3 cm (8") self-emptying collector – meets World Meteorological Organization guidelines
 - ii. Logger records accumulated rainfall during each interval to a theoretical maximum of 1,650 cm per recording interval
 - iii. Minimum logging increment: 0.254 mm (resolution); $\pm 2\%$
 - iv. Accuracy: $\pm 2\%$ at 2.54 cm/hour