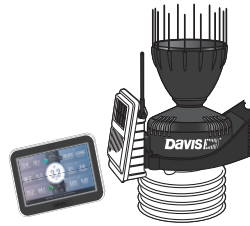


Wireless Vantage Pro2™ & Vantage Pro2™ Plus Stations with WeatherLink Console



6252	6262
6253	6263
6313	

WIRELESS VANTAGE PRO2™

Vantage Pro2™ (6252, 6253) and Vantage Pro2 Plus (6262, 6263) Wireless Weather Stations include two components: the Sensor Suite which houses and manages the external sensor array, and the WeatherLink console which provides the user interface, data display, calculations, and optional upload to WeatherLink.com. The Sensor Suite and WeatherLink console communicate via an FCC-certified, license-free, spread-spectrum frequency-hopping (FHSS) transmitter and receiver. User-selectable transmitter ID codes allow up to eight stations to coexist in the same geographic area. The WeatherLink Console can receive data from up to 8 different transmitters, including Sensor Suites. The frequency hopping spread spectrum technology provides greater communication strength over longer distances and areas of weaker reception. The Wireless Vantage Pro2 Plus weather station includes two additional sensors that are optional on the Vantage Pro2: the UV sensor and the solar radiation sensor.

The WeatherLink console is powered by the included AC-power adapter with battery backup. The wireless Sensor Suite is solar powered with a battery backup.

The 6252 and 6262 rely on passive shielding to reduce solar-radiation induced temperature errors in the outside temperature sensor readings. The Fan-aspirated 6253 and 6263 combine passive shielding with a solar-powered fan that draws outside air in over the temperature and humidity sensors, providing a much more accurate temperature reading than that available using passive shielding alone.

Sensor Suite

(Includes product numbers: 6252, 6253, 6262, 6263, 6322, 6323, 6327 & 6328)

Operating Temperature	-40° to +150°F (-40° to +65°C)
Non-operating Temperature	-40° to +158°F (-40° to +70°C)
Current Draw (ISS SIM only)	0.14 mA (average), 30 mA (peak) at 4 to 6 VDC
Solar Power Panel	0.5 Watts (ISS SIM), plus 0.75 Watts (Fan-Aspirated)
Battery (ISS SIM /Fan-Aspirated)	CR-123 3-Volt Lithium cell / 2 - 1.2 Volt NiMH C-cells
Battery Life (3-Volt Lithium cell)	8 months without sunlight - greater than 2 years depending on solar charging
Battery Life (NiMH C-cells, Fan-Aspirated)	Up to 2 years
Fan Aspiration Rate (Fan-Aspirated only)	
Intake Flow Rate, full sun	190 feet/min. (0.9 m/s)
Intake Flow Rate, battery only	80 feet/min. (0.4 m/s)
Sensor Chamber Flow Rate, full sun	500 feet/min. (2.5 m/s)
Sensor Chamber Flow Rate, battery only	180 feet/min. (0.9 m/s)
Connectors, Sensor	Modular RJ-11
Cable Type	4-conductor, 26 AWG
Cable Length, Anemometer	40 feet (12 m) (included) 240 feet (73 m) (maximum recommended)

Note: Maximum displayable wind decreases as the length of cable increases. At 140' (42 m) of cable, the maximum wind speed displayed is 135 mph (60 m/s); at 240' (73 m), the maximum wind speed displayed is 100 mph (34 m/s).

Wind Speed Sensor	Solid state magnetic sensor
Wind Direction Sensor	Wind vane with potentiometer
Rain Collector Type	Tipping spoon, 0.01" per tip for US versions, 0.2 mm for metric versions, 33.2 in ² (214 cm ²) collection area
Temperature Sensor Type	PN Junction Silicon Diode
Relative Humidity Sensor Type	Film capacitor element
Housing Material	UV-resistant ABS, polypropylene



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Wireless Vantage Pro2™

ISS Dimensions (not including anemometer or bird spikes):

Vantage Pro2 with Standard Rad Shield	14.0" x 9.4" x 14.5" (356 mm x 239 mm x 368 mm)
Vantage Pro2 with Fan-Aspirated Rad Shield	20.8" x 9.4" x 16.0" (528 mm x 239 mm x 406 mm)
Vantage Pro2 Plus with Standard Rad Shield	14.3" x 9.7" x 14.5" (363 mm x 246 mm x 368 mm)
Vantage Pro2 Plus with Fan-Aspirated Rad Shield	21.1" x 9.7" x 16.0" (536 mm x 246 mm x 406 mm)

WeatherLink Console

(Product number 6313)

Console Operating Temperature	+32° to +122°F (0° to +50°C)
Non-Operating (Storage) Temperature	-4° to +140°F (-20° to +60°C)
Current Draw	1.3 A max; 900 mA average (depending on battery charging state and Console brightness)
AC Power Adapter	5 VDC, 2000 mA
Power Adapter Connector	USB-C
Battery Backup	Lithium Polymer
Backup Battery Life (no AC power)	About 14 hours depending on Energy Saver Mode settings
Housing Material	ABS plastic
Console Display Type	In-Plane Switching LCD with LED backlight
Console Dimensions	
Console (L x H x D)	8.25" x 6" x 0.75" (210 mm x 152 mm x 19 mm)
Display (L x H)	6.75" x 4.25" (171 mm x 107 mm)
Weight	1.1 lbs. (491 g)

Data Displayed on Console

General

Display Screen	Current reading for selected weather variables. In most cases, the variable lists the most recently updated reading or calculation. Some current variable displays can be adjusted so there is an offset for the reading
Tabs	
Current Weather Home Tab	Details of current weather including sunrise and sunset, daily highs, lows and averages. See historical data and forecasts for hourly, 7-day, monthly, and annual.
Graph Tab	Graphs of weather data from selected sensors over a selected time period
Data Tab	Archived (or historical) data over any selected day.
Map Tab	See conditions and details for stations worldwide
Account Tab	Account information, console configuration (including console name, stations and sensors), display customization, console settings, alarms, device information
Operating System Update	Console and operating system are both updated automatically at 3:00 am local time when they become available.
Alarm Indication	Console will show an alarm icon and play an audible alarm (if you choose) when alarm thresholds are met. Alarms will go off automatically after one minute or can be silenced by tapping the Off Alarm icon.
Transmission Interval	Varies with transmitter ID code from 2.25 seconds (#1=shortest), to 3 seconds (#8=longest)
Update Interval	Varies with sensor - see individual sensor specs

Barometric Pressure

Resolution and Units	0.01" or 0.001" Hg, 0.1 mm Hg, 0.1 hPa/mb (user-selectable)
Range	16.00" to 32.50" Hg, 410 to 820 mm Hg, 540 to 1100 hPa/mb
Sensor Installation Elevation Maximum	Up to +15,000' (4570 m)
Sea-Level Reduction Equation Used	Altimeter
Equation Accuracy	±0.01" Hg (±0.3 mm Hg, ±0.3 hPa/mb)
Elevation Accuracy Required	±10' (3m) to meet equation accuracy specification
Overall Accuracy	±0.03" Hg (±0.8 mm Hg, ±1.0 hPa/mb)
Trend (change in 3 hours)	Change 0.06" (2 hPa/mb, 1.5 mm Hg) = Rapidly Change 0.02" (0.7hPa/mb, 0.5 mm Hg)= Slowly
Trend Indication	5 position arrow: Rising (rapidly or slowly), Steady, or Falling (rapidly or slowly)
Update Interval	1 minute
Alarms	High and Low Threshold for Sea-Level Barometer and Absolute Barometer High Threshold from Current Trend for Storm Clearing (Rising Trend) Low Threshold from Current Trend for Storm Warning (Falling Trend)
Range for Rising and Falling Trend Alarms	0.01 to 0.25" Hg (0.1 to 6.4 mm Hg, 0.1 to 8.5 hPa/mb)

Clock

Source & Accuracy	On Wi-Fi in online mode: Network Time Protocol, converted from Universal Time, updated continuously In offline mode: ±8 seconds/month
Resolution	1 minute
Units	Time: 12 or 24 hour format (user-selectable)
Date	US or International format (user-selectable)
Adjustments	Time: Automatic Time Zone and Daylight Saving Time for your location as set on the map Date: Automatic Leap Year
Alarms	One per day

Dewpoint (calculated)

Resolution and Units	0.1 or 1°F or °C (user-selectable)
Range	-105° to +150°F (-76° to +65°C)
Accuracy	±2°F (±1°C) (typical)
Update Interval	10 to 12 seconds
Source	World Meteorological Organization (WMO)
Equation Used	WMO Equation with respect to saturation of moist air over water
Variables Used	Instant Outside Temperature and Current Outside Relative Humidity
Alarms	High and Low Threshold

Evapotranspiration (calculated, requires solar radiation sensor)

Resolution and Units	0.01" or 0.001", or 0.1 mm (user-selectable)
Range	Daily to 0.255" (6.5 mm); Monthly & Yearly to 65.535" (1664.6 mm)
Accuracy	Greater of 0.01" (0.25 mm) or ±5%, Reference: side-by-side comparison against a CIMIS ET weather station
Update Interval	1 hour
Calculation and Source	Modified Penman Equation as implemented by CIMIS (California Irrigation Management Information System) including Net Radiation calculation
Display Screen	Latest Total Calculation for daily, last 7 days, monthly, or yearly
Data Tab	Latest Hourly Total Calculation
Alarm	High Threshold from Latest Daily Total Calculation

Wireless Vantage Pro2™**Forecast**

Online Forecast	Provided by CustomWeather
Offline Forecast	Classic Davis algorithm
	Variables used: Barometric Reading & Trend, Wind Speed & Direction, Rainfall, Temperature, Humidity, Latitude & Longitude, Time of Year
	Variables Predicted: Sky Condition, Precipitation, Temperature Changes, Wind Direction and Speed
Online Update Interval	6 hours
Offline Update Interval	1 hour

Heat Index (calculated)

Resolution and Units	0.1 or 1°F or °C (user-selectable)
Range	-40° to +200°F (-40° to +93°C)
Accuracy	±2°F (±1°C) (typical)
Update Interval	10 to 12 seconds
Source	United States National Weather Service (NWS)/NOAA
Formulation Used	Steadman (1979) modified by US NWS/NOAA and Davis Instruments to increase range of use
Variables Used	Current Outside Temperature and Outside Relative Humidity
Alarm	High Threshold

Humidity

Inside Relative Humidity (sensor located in console)

Resolution and Units	0.1% or 1% (user selectable)
Range	0.1 to 100.0% RH
Accuracy	±2%
Update Interval	1 minute
Calibration Available	User-adjustable offset (±20.0%) available
Alarms	High and Low Threshold from Current Reading

Outside Relative Humidity (sensor located in sensor suite)

Resolution and Units	0.1% or 1% (user selectable)
Range	0.1 to 100.0% RH
Accuracy	±2%
Drift	<0.25% per year
Update Interval	50 seconds to 1 minute
Calibration Available	User-adjustable offset (±20.0%) available
Alarms	High and Low Threshold from Current Reading

Extra Outside Relative Humidity (sensor located inside Temperature/Humidity Station)

Resolution and Units	0.1% or 1% (user selectable)
Range	0.1 to 100.0% RH
Accuracy	±2%
Drift	<0.25% per year
Update Interval	50 seconds to 1 minute
Calibration Available	User-adjustable offset (±20.0%) available
Alarms	High and Low Threshold from Current Reading

Leaf Wetness (requires leaf wetness sensor)

Resolution	1
Range	0 to 15
Dry/Wet Threshold	User-selectable
Accuracy	±0.5
Update Interval	46 to 54 seconds
Alarms	High and Low Thresholds from Current Reading

Moon Phase

Console Resolution	1/8 (12.5%) of a lunar cycle, 1/4 (25%) of lighted face on console
Range	New Moon, Waxing Crescent, First Quarter, Waxing Gibbous, Full Moon, Waning Gibbous, Last Quarter, Waning Crescent
Accuracy	±38 minutes

Rainfall

Resolution and Units	0.01" or 0.2 mm (user-selectable) (1 mm at totals ≥ 2000 mm)
Daily/Storm Rainfall Range	0 to 99.99" (0 to 999.8 mm)
Monthly/Yearly/Total Rainfall Range	0 to 199.99" (0 to 6553 mm)
Accuracy	For rain rates up to 10"/hr (250 mm/hr): ±3% of total or ± one tip of the spoon (0.01"/0.2mm), whichever is greater.
Update Interval	20 to 24 seconds
Storm Determination Method	0.02" (0.4 mm) begins a storm event, 24 hours without further accumulation ends a storm event
Current Display Data	Totals for last 15-min, last one hour, last 24 hours, daily, last seven days, monthly, yearly, current rain storm, last storm total
Alarms	Thresholds for 15 minute rain total, 60 minute rain total, 24 hour rain total, current rain storm, and last rain storm
Range for Rain Alarms	0 to 99.99" (0 to 999.7 mm)

Rain Rate

Resolution and Units	0.01" or 0.1 mm (user-selectable) (See Figure 1 on page 8)
Range	0, 0.04"/hr (1 mm/hr) to 30"/hr (0 to 762 mm/hr)
Accuracy	±5% for rain rates up to 10"/hr (250 mm/hr)
Update Interval	20 to 24 seconds
Calculation Method	Measures time between successive tips of tipping spoon. Elapsed time greater than 15 minutes or only one tip of the rain collector constitutes a rain rate of zero.
Alarm	High Threshold for current and 15 minute rain rate

Soil Moisture (requires soil moisture sensor)

Resolution	1 cb
Range	0 to 200 cb
Update Interval	77 to 90 seconds
Alarms	High and Low Thresholds from Current Reading

Solar Radiation (requires solar radiation sensor)

Resolution and Units	1 W/m ²
Range	0 to 1800 W/m ²
Accuracy	±5% of full scale (Reference: Eppley PSP at 1000 W/m ²)
Drift	up to ±2% per year
Cosine Response	±3% for angle of incidence from 0° to 75°
Temperature Coefficient	-0.067% per °F (-0.12% per °C); reference temperature = 77°F (25 °C)
Update Interval	50 seconds to 1 minute (5 minutes when dark)
Alarm	High Threshold from Current Reading

Wireless Vantage Pro2™**Sunrise and Sunset**

Resolution	1 minute
Accuracy	±1 minute
Reference	United States Naval Observatory

Temperature

Inside Temperature (sensor located in console)

Resolution and Units	0.1 or 1°F or °C (user-selectable)
Range	+32° to +122°F (0° to +50°C)
Sensor Accuracy	±0.4°F (±0.3°C)
Update Interval	1 minute
Calibration Available	User-adjustable offset (±20.0°F/11.0°C) available
Alarms	High and Low Thresholds from Current Reading

Outside Temperature (sensor located in sensor suite)

Resolution and Units	0.1 or 1°F or °C (user-selectable)
Range	-40° to +150°F (-40° to +65°C)
Sensor Accuracy	±0.5°F (±0.3°C)
Radiation Induced Error (Passive Shield)	+4°F (2°C) at solar noon (insolation = 1040 W/m ² , avg. wind speed ≤ 2 mph (1 ms)) (reference: RM Young Model 43408 Fan-Aspirated Radiation Shield)
Radiation Induced Error (Fan-Aspirated Shield)	+0.6°F (0.3°C) at solar noon (insolation = 1040 W/m ² , avg. wind speed ≤ 2 mph (1 m/s)) (reference: RM Young Model 43408 Fan-Aspirated Radiation Shield)
Update Interval	10 to 12 seconds
Calibration Available	User-adjustable offset (±20.0°F/11.0°C) available
Alarms	High and Low Thresholds from Current Reading

Extra Temperature Probes

Resolution and Units	0.1 or 1°F or °C (user-selectable)
Range	-40° to +150°F (-40° to +65°C)
Sensor Accuracy	±1°F (±0.5°C) (typical)
Update Interval	10 to 12 seconds (77 to 90 seconds for Leaf Wetness/Temperature and Soil Moisture/Temperature Stations)
Calibration Available	User-adjustable offset (±20.0°F/11.0°C) available
Alarms	High and Low Thresholds from Current Reading

Temperature Humidity Sun Wind Index (THSW, requires solar radiation sensor)

Resolution and Units	0.1 or 1°F or °C (user-selectable)
Range	-110° to +200°F (-79° to +93°C)
Accuracy	±4°F (±2°C) (typical)
Update Interval	10 to 12 seconds
Sources and Formulation Used	United States National Weather Service (NWS)/NOAA Steadman (1979) modified by US NWS/NOAA and Davis Instruments to increase range of use and allow for cold weather use
Variables Used	Instant Outside Temperature, Instant Outside Relative Humidity, 10-minute Average Wind Speed, 10-minute Average Solar Radiation
Formulation Description	Uses Heat Index as base temperature, effects of wind and solar radiation are either added or subtracted from this base to give an overall effective temperature
Alarm	High Threshold from Current Reading

Temperature Humidity Wind Index (THW)

Resolution and Units	0.1 or 1°F or °C (user-selectable)
Range	-110° to +200°F (-79° to +93°C)
Accuracy	±4°F (±2°C) (typical)
Update Interval	10 to 12 seconds
Sources and Formulation Used	United States National Weather Service (NWS)/NOAA Steadman (1979) modified by US NWS/NOAA and Davis Instruments to increase range of use and allow for cold weather use
Variables Used	Instant Outside Temperature, Instant Outside Relative Humidity, 10-minute Average Wind Speed, 10-minute Average Solar Radiation
Formulation Description	Uses Heat Index as base temperature, effects of wind is either added or subtracted from this base to give an overall effective temperature
Alarm	High and Low Threshold from Current Reading

Ultra Violet (UV) Radiation (requires UV sensor)

UV Dose	
Resolution and Units	0.1 or 0.01 MEDs (user selectable)
Range	0 to 199 MEDs
Accuracy	±5% of daily total
Drift	up to ±2% per year
Update Interval	50 seconds to 1 minute (5 minutes when dark)
Alarm	High Threshold from Daily Total
Alarm Range	0 to 19.9 MEDs
UV Index	
Resolution and Units	0.1 or 1 Index (user selectable)
Range	0 to 16 Index
Accuracy	±5% of full scale (Reference: Yankee UVB-1 at UV index 10 (Extremely High))
Cosine Response	±4% FS (0° to 90° zenith angle)
Update Interval	50 seconds to 1 minute (5 minutes when dark)
Alarm	High Threshold from Current Calculation

Wet Bulb (calculated)

Resolution and Units	0.1 or 1°F or °C (user-selectable)
Range	-40° to +150°F (-40° to +65°C)
Accuracy	±2°F (±1°C) (typical)
Update Interval	10 to 12 seconds
Source	NOAA
Variables Used	Current Outside Temperature and Current Outside Relative Humidity
Alarms	High and Low Threshold

Wind

Wind Chill (Calculated)	
Resolution and Units	0.1 or 1°F or °C (user-selectable)
Range	-110° to +150°F (-79° to +65°C)
Accuracy	±2°F (±1°C) (typical)
Update Interval	10 to 12 seconds
Source	United States National Weather Service (NWS)/NOAA
Equation Used	Osczevski (1995) (adopted by US NWS in 2001)
Variables Used	Current Outside Temperature and 10-min. Avg. Wind Speed
Alarm	Low Threshold from Current Calculation
Wind Direction	
Range	1 - 360°
Display Resolution	16 points (i.e. SSW) and also 1° in numeric display on compass rose
Accuracy	±3°
Update Interval	2.5 to 3 seconds
Calibration Available	User adjustable
Wind Speed	
Resolution and Units	1 mph or 0.1 mph, 1 km/h or 0.1 km/h, 1 m/s, or 0.1 m/s, or 1 knot or 0.1 knot (user-selectable)
Range	0 to 200 mph, 0 to 173 knots, 0 to 89 m/s, 0 to 322 km/h
Update Interval	Instant Reading: 2.5 to 3 seconds, 10-minute Average: 1 minute
Accuracy	±2 mph (2 kts, 3.2 km/h, 0.9 m/s) or ±5%, whichever is greater
Maximum Cable Length	240 feet (73 m) (See note on page 1)
Alarms	High Thresholds for Current Reading and 2- and 10-minute Averages

Wireless Communications

Transmit/Receive Frequency Range and Power Output:

REGION	FREQUENCY RANGE & POWER OUTPUT
USA	902 - 928 MHz FHSS, <10 mW
EU	868.0 - 868.6 MHz FHSS, <10 mW
Australia, Brazil	918 - 926 MHz FHSS, <10 mW
New Zealand, Peru	921 - 928 MHz FHSS, <10 mW
India	865 - 867 MHz FHSS, <10 mW
Taiwan, Pakistan	920 - 925 MHz FHSS, <10 mW

Transmitter ID codes: 8 user-selectable

License: Low power (less than 10 mW), no license required

Range:

Line of Sight up to 1000 feet (300 m)

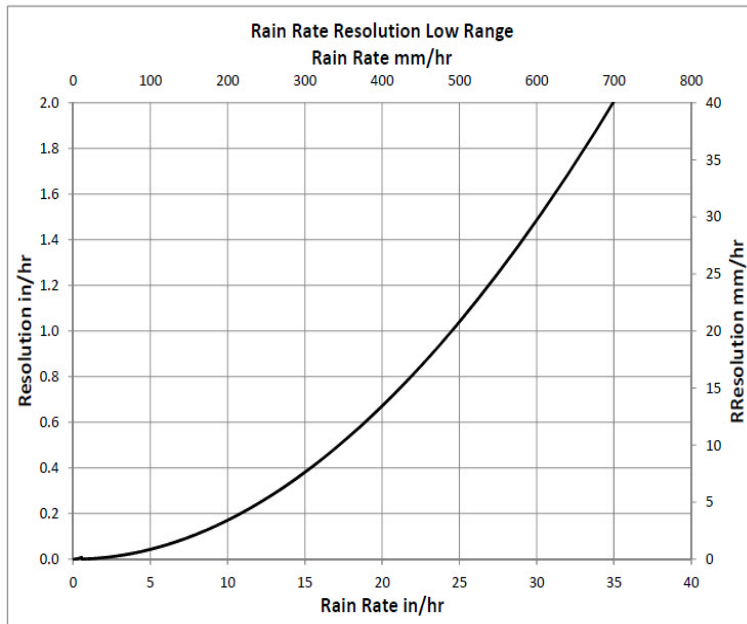
Through Walls 200 to 400 feet (60 to 120 m)

Sensor Inputs

RF Filtering. RC low-pass filter on each signal line

Sensor Chart

Figure 1: Rain Rate Resolution



Package Dimensions

Product #	Package Dimensions (Length x Width x Height)	Package Weight	UPC Codes
6252 6252AU 6252EU 6252M 6252UK	17.5" x 10.4" x 16.0" (445 mm x 264 mm x 406 mm)	10.4 lbs. (4.7 kg)	011698015252 011698015498 011698015276 011698015269 011698015283
6262 6262AU 6262EU 6262M 6262UK		11.1 lbs. 15 oz. (5.0 kg)	011698015290 011698015511 011698015337 011698015320 011698015344
6253 6253AU 6253EU 6253M 6253UK	14.9 x 12.9" x 23.4" (378 mm x 327 mm x 594 mm)	15.9 lbs. (7.2 kg)	011698015351 011698015481 011698015375 011698015368 011698015382
6263 6263AU 6263EU 6263M 6263UK		16.6 lbs. (7.5 kg)	011698015399 011698015528 011698015412 011698015405 011698015429
6322 6322M 6322OV	17.50" x 10.4" x 16.0" (445 mm x 264 mm x 406 mm)	9 lbs. 1 oz. (4.1 kg)	011698007769 011698014149 011698007783
6327 6327M 6327OV		11 lbs. 1 oz. (5.0 kg)	011698007813 011698014163 011698007837
6323 6323M 6323OV	14.9" x 12.9" x 23.4" (378 mm x 327 mm x 594 mm)	15 lbs. 15 oz. (7.2 kg)	011698007790 011698014156 011698007806
6328 6328M 6328OV		16 lbs. 8 oz. (7.5 kg)	011698007844 011698014170 011698007851
6313 6313EU 6313UK 6313USB	13.7" x 7" x 2.5" (348 mm x 178 mm x 64 mm)	2 lbs. (0.9 kg)	011698015146 011698015153 011698015160 011698015177



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