WeatherLink® Data Loggers and WeatherLink Computer Software

6510SER
6510USB
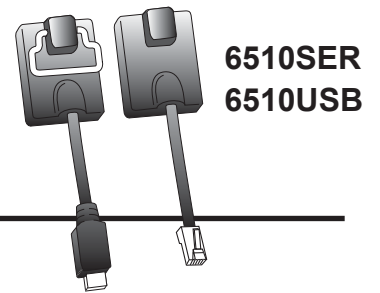
WeatherLink Data Loggers

WeatherLink® data loggers transfer your weather data to your computer running WeatherLink Computer Software, allowing you to create a permanent weather database. Once stored in the database, your weather information can be used to generate a wide variety of reports and graphical displays, and can also be uploaded to WeatherLink.com. WeatherLink data loggers come in both serial and USB connection versions.

WeatherLink Computer Software Features

- Available for free download for both PC and Mac on WeatherLink.com.
- Displays the current weather station data in a real-time "bulletin" on the computer.
- Allows you to set and clear data in the weather station console (time and date, highs and lows, alarm thresholds, calibration numbers, etc.) from the computer.
- Graphs archived weather data on an hourly, daily, weekly, monthly, or yearly basis.
- Generates Weather Watcher reports in the National Climatic Data Center (NOAA) format.
- Collects data from multiple weather stations on the same computer.
- Includes support for GLOBE, an international weather-related science program for students from elementary through high school. Visit www.globe.gov for more information.
- APRS data protocol allows volunteers in the Citizen Weather Observer Program (CWOP) to send real-time weather data to the National Weather Service. CWOP is data used for weather education and research projects. Visit www.wxqa.com for more information.
- Gives you the option to upload your data to the WeatherLink Network where you can access your data from any connected device.

Note: Data is only uploaded when the computer is on and the WeatherLink Computer Software is running.

WeatherLink Data Logger Features

- Plugs into your Vantage Pro2 or Vantage Vue console, or Weather Envoy.
- Stores weather data for subsequent transfer to the computer.
- Manages data communication between the weather station and the WeatherLink software.
- Information on WeatherLink communications protocols and data formatting can be found on the Software Support page at our web site: (http://www.davisinstruments.com/support/weather/).

WeatherLink Network Features

- See your data from any computer on www.WeatherLink.com
- Gives you a real time summary of your station's current weather conditions.
- Sends daily summary and alarm e-mails.
- Stores archived record data for download to the WeatherLink software.
- Lets you view other weather stations in the WeatherLink Network.
- Lets you setup direct data uploads to other third-party applications and tools, such as CWOP and Globe

Software Specifications

Software System Requirements

WeatherLink Computer Software is compatible with computers running Windows® 2000 or later.

WeatherLink Data Logger with serial connection (# 6510SER) also requires at least one free serial port and 5 MB of free disk space.

WeatherLink Data Logger with USB connection (# 6510USB) is also requires at least one free USB port and 5 MB free disk space.

Note: Uploading to the WeatherLink Network requires Internet connection.

The amount of disk space necessary for the data files depends on the archive interval. Each archive record in the database is 88 bytes. Every day in the database has an additional two records totaling 176 bytes that store daily summary information. A database containing data stored at a 30-minute archive interval requires approximately 4400 bytes of disk space per day or 132 KB of disk space per month. The file size changes in a linear fashion depending on the archive interval. For example, data stored at a one-minute interval requires approximately 3.9 MB a month while the data stored at a two-hour interval requires approximately 33 KB a month.

Software Data Display Options

Some of the weather data and reports listed below require optional sensors.

Real-Time Displays (these displays update in real-time):

Graphical Bulletin . . . . Inside Temperature, Outside Temperature, Wind Direction (0°- 360°), Wind Speed, Daily Rain Total, Monthly Rain Total, Year-to-Date Rain Total, Storm Total, Rain Rate, Inside Humidity, Outside Humidity, Barometer, Barometer 6-hour Plot, Evapotranspiration (ET) (day, month, year), Today's Highs and Lows, Forecast Icons, Forecast Text, and Illuminated Fraction of the Moon Disk.

Text-Based Summary . . . . Inside Temperature, Outside Temperature, Wind Direction (0°- 360°), Wind Speed, Daily Rain Total, Monthly Rain Total, Year-to-Date Rain Total, Storm Total, Rain Rate, Inside Humidity, Outside Humidity, Barometer, UV, Solar Radiation, ET (day, month, year), Today's Highs and Lows, Forecast Text, and Moon Phase.

Update Interval . . . . Two seconds (approximately)

Plotting Displays:

Plot Window . . . . Enables graphing of all database information (multiple variables may be plotted on a single graph) over any of the following spans (1 hr, 4 hr, 8 hr, 12 hr, 1 day, 3 days, Week, Month, Year). Multiple dates may also be plotted on the same graph.

Strip Charts . . . . Four stacked line graphs (multiple variables may be plotted on a single graph), which update at the time of each archive interval. Strip charts may use any of the following spans (1 hr, 4 hr, 8 hr, 12 hr, 1 day, 3 days, Week, Month, Year).

Reports (Shown as displayed in **Reports** Menu):

NOAA Monthly Summary . . . . Based on the National Oceanic and Atmospheric Administration (NOAA) Monthly Weather Watcher report

NOAA Yearly Summary . . . . Based on the National Oceanic and Atmospheric Administration (NOAA) Yearly Weather Watcher report

Yearly Rainfall . . . . Calculates rainfall totals broken down by month and year. Rainfall data may be altered and data may be added to reflect rainfall totals for months and years which are not contained in your weather Soil Temperature HoursCalculates the time that soil temperature has been above freezing (or some other threshold). Typically used to determine a time to plant crops.

Fuel Demand . . . . Estimates fuel usage based on past usage and outside temperatures.

Sunrise & Sunset Times. . . . . Calculates sunrise and sunset times for any given latitude, longitude.

Bright Sunshine Hours . . . . Calculates amount of sunshine for a selected time period.

WeatherLink with USB Data Logger (# 6510USB)

Communication Protocol

Data Channel Characteristics . . . . 1200, 2400, 4800, 9600, 14,400 and 19,200 baud (software-selectable), RS-232, half-duplex, data only (no CTS or RTS)

Functional Specifications

Power . . . . 5VDC from console, 0.5 watts maximum consumption

Operating Temperature . . . . +14° to 140° F (-10° to 60° C)

Data Logger Functions

Control Functions . . . . Set archive interval, set/clear calibration numbers, set Longitude/Latitude, set Year-to-Date rain total, set/clear alarm thresholds, clear total values, set time/date.

Download . . . . Data may be transferred automatically to your computer once an hour using the Auto Download command. More frequent downloads can be selected to support Internet file transfers. Only new archive data is transferred during the download.

Data Logger Archived Data

The Data Logger stores up to 2560 archive records (one 52-byte record per archive interval) for later transfer to your computer. The archive records are stored in 128K of non-volatile memory; protecting the data even if the console loses power. Maxima, minima, averages, and totals are taken over the archive interval.

Archive Record Data . . . . Time/Date of Record, Inside Temperature (last or avg.), Outside Temperature (last or avg.), Maximum Air Temperature, Minimum Air Temperature, Wind Direction (dominant), Wind Speed (average), Maximum Wind Speed, Rainfall (total), Rain Rate, Inside Humidity (last), Outside Humidity (last), Barometric Pressure (last), Solar Radiation, Hi Solar Radiation, UV, Hi UV, Evapotranspiration, Forecast, Leaf Temperature (2), Leaf Wetness (2), Extra Humidity (2), Extra Temperature (2), Soil Temperature (4), Soil Moisture (4), Wind Samples, Wind Tx, Length of Archive Interval, ISS Reception

Archive Interval . . . . User-selectable from the following intervals (in minutes): 1, 5, 10, 15, 30, 60, or 120

Archive Storage Capacity (the amount of time before the archive is completely filled):

1 Minute Archive Interval . . . . 42 hours
5 Minute Archive Interval . . . . 8 days
10 Minute Archive Interval . . . . 17 days
15 Minute Archive Interval . . . . 26 days
30 Minute Archive Interval . . . . 53 days
60 Minute Archive Interval . . . . 106 days
120 Minute Archive Interval . . . . 213 days

Download . . . . Data may be transferred automatically from the data logger to your computer up to once an hour using the Auto Download command. Data can be transferred more frequently, from once a minute to once every two hours, to support Internet uploading and other data sharing features. Only new archive data is transferred during the download.

WeatherLink with Serial Data Logger (# 6510SER)

Communication Protocol

Data Channel Characteristics . . . . 1200, 2400, 4800, 9600, 14,400 and 19,200 baud (software-selectable), RS-232, half-duplex, data only (no CTS or RTS)

Functional Specifications

Power . . . . 5VDC from console, 0.5 watts maximum consumption

Operating Temperature . . . . +14° to 140° F (-10° to 60° C)

Data Logger Functions

Control Functions . . . . Set archive interval, set/clear calibration numbers, set Longitude/Latitude, set Year-to-Date rain total, set/clear alarm thresholds, clear total values, set time/date.

Download . . . . Data may be transferred automatically to your computer once an hour using the Auto Download command. More frequent downloads can be selected to support Internet file transfers. Only new archive data is transferred during the download.

Data Logger Archived Data

The Data Logger stores up to 2560 archive records (one 52-byte record per archive interval) for later transfer to your computer. The archive records are stored in 128K of non-volatile memory; protecting the data even if the console loses power. Maxima, minima, averages, and totals are taken over the archive interval.

Archive Record Data . . . . Time/Date of Record, Inside Temperature (last or avg.), Outside Temperature (last or avg.), Maximum Air Temperature, Minimum Air Temperature, Wind Direction (dominant), Wind Speed (average), Maximum Wind Speed, Rainfall (total), Rain Rate, Inside Humidity (last), Outside Humidity (last), Barometric Pressure (last), Solar Radiation, Hi Solar Radiation, UV, Hi UV, Evapotranspiration, Forecast, Leaf Temperature (2), Leaf Wetness (2), Extra Humidity (2), Extra Temperature (2), Soil Temperature (4), Soil Moisture (4), Wind Samples, Wind Tx, Length of Archive Interval, ISS Reception

Archive Interval . . . . User-selectable from the following intervals (in minutes): 1, 5, 10, 15, 30, 60, or 120

Archive Storage Capacity (the amount of time before the archive is completely filled):

1 Minute Archive Interval . . . . 42 hours
5 Minute Archive Interval . . . . 8 days
10 Minute Archive Interval . . . . 17 days
15 Minute Archive Interval . . . . 26 days
30 Minute Archive Interval . . . . 53 days
60 Minute Archive Interval . . . . 106 days
120 Minute Archive Interval . . . . 213 days

Download . . . . Data may be transferred automatically from the data logger to your computer up to once an hour using the Auto Download command. Data can be transferred more frequently, from once a minute to once every two hours, to support Internet uploading and other data sharing features. Only new archive data is transferred during the download.

Package Dimensions

Product #	Package Dimensions (Width x Height x Depth)	Package Weight	UPC Codes
6510SER	6.00" x 9.00" x 1.63" (152 mm x 229 mm x 42 mm)	8.0 oz. (0.23 kg)	011698 00726 4
6510USB			011698 00727 1