

EasiAccess Weather Station Software [EA40]

Overview

EasiAccess software is an easy to use yet powerful tool for downloading, managing and viewing the weather data from your weather station in one seamless package.

- Manage one or many weather stations.
- Manage data easily with import and export functions.
- View weather data in tabular or graphical form or both.
- View real time live data from a connected weather station.



Figure 1.1 Current Readings Display

Connection

Connecting to your weather station is as simple as clicking the Connect button.

Connection options include:

- Direct cable connection (options up to 5km)
- GSM & CDMA
- Telephone line modems
- Ethernet (TCP/IP)
- Wireless radio data links.
- Combinations of the above can also be used.



Figure 1.2 Connecting to the weather station

Connection Security

EasiAccess ensures secure connection and communication with the weather station in three ways by verifying the:

1. Weather station serial number
2. Date and time
3. Database structure

Upon successful connection, an "On-Line" indicator shows the connection is active.



Figure 1.3 Verification screen

For modem connections (where call costs apply), EasiAccess has an over-riding timer that automatically closes the connection if a preset limit is exceeded, to prevent excess call costs.

'Real Time' or Live Weather Data

EasiAccess provides a full screen display of the weather 'right now'. (See Figure 1.1 above)

This means the current conditions from a remote site can be monitored in an unobtrusive but effective way from your office or vehicle.

The display is continually updated, and can be seen from a distance or used as a wall display on an appropriate monitor so many people can see the readings at a glance.

Collecting (stored) Data

When told to collect the data from the weather station, EasiAccess automatically collects all data stored in the weather station since the last time data was downloaded. This data is saved into simple text files on the computer, providing a secure copy of the data. These data files then update the database automatically.

EasiAccess will warn the user if it detects out of sequence data, data files that have no 'end of data' marker, invalid dates or times, or the wrong number of items. Therefore, you are assured of the validity of your data.

For advanced users, a wide range of collection options can be selected.

Managing Your Data

Viewing your weather data

Viewing your weather data is as simple as double clicking on a memory table in the database.



Figure 2.1 selecting a memory table

Daily, hourly and intensive data (for example 15minute data) from the weather station are held as separate database 'tables' within EasiAccess, which means immediate access to the level of detail that you require.

Simply clicking on a table heading displays an automatically scaled graph of that data, as shown in figure 2.2.

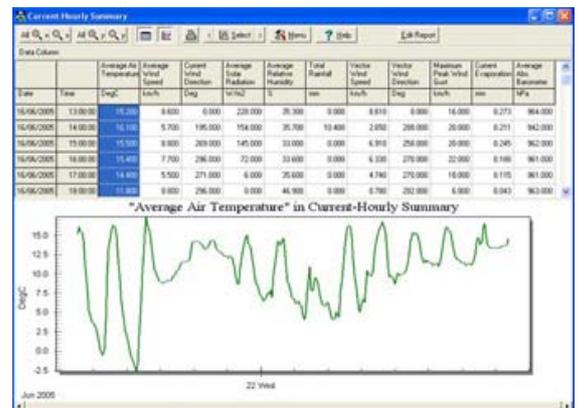


Figure 2.2 Automatic scaled graph

Quick access to the desired level of detail in your graphs is available by three 'zoom' controls:

1. A simple click and drag zoom function,
2. Zoom in/out buttons on the toolbar &
3. Zoom controlled by the mouse wheel

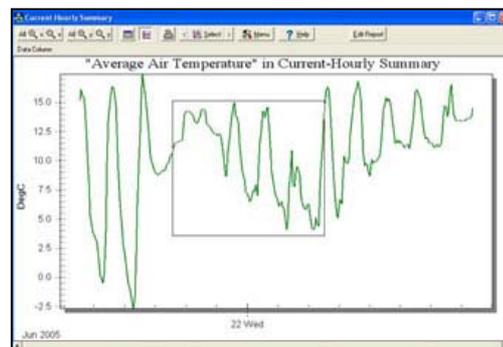


Figure 2.3 selecting a zoom area

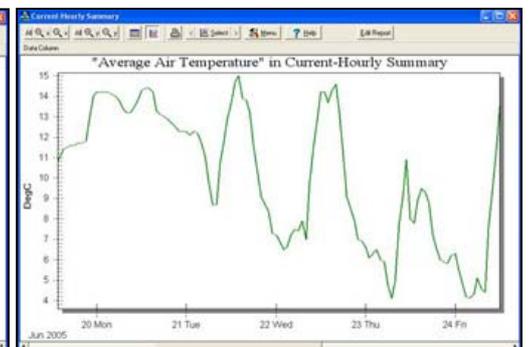


Figure 2.4 The chosen area zoomed

To compare or contrast readings, up to six graphs can be shown on the same chart. This allows you for example to place the air temperature, relative humidity and wind speed onto a single chart as shown in figure 2.5.

In addition, several columns of data can be displayed in each of the six graphs. For example, the average wind speed and peak wind gust on the one graph. Figure 2.6 shows the option screen for selecting this graph.

The tabular view - as pictured in figure 2.7 - shows the actual recorded values, and allows selected sections to be printed or 'exported' to other applications.

There is no limit to the number of data points EasiAccess can handle.

Figure 2.5 Graph of selected data

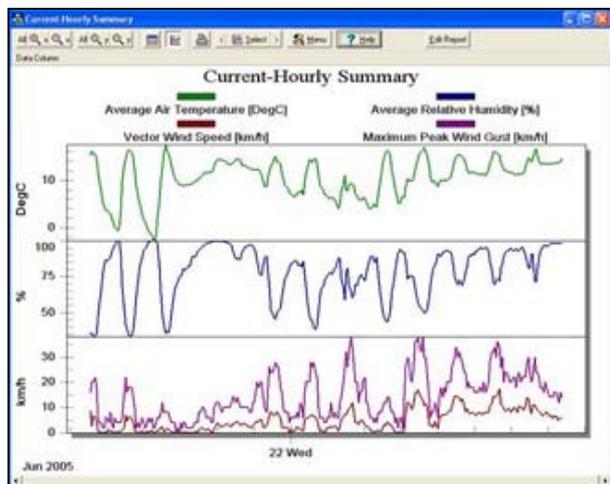


Figure 2.6 Graph option screen

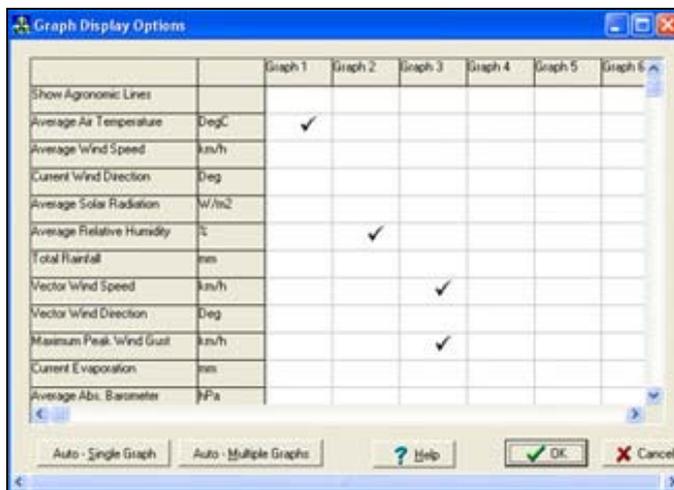


Figure 2.7 Tabular view of data

Date	Time	Average Air Temperature (DegC)	Average Wind Speed (km/h)	Current Wind Direction (Deg)	Average Solar Radiation (W/m2)	Average Relative Humidity (%)	Total Rainfall (mm)	Vector Wind Speed (km/h)	Vector Wind Direction (Deg)	Maximum Peak Wind Gust (km/h)	Current Evaporation (mm)	Average Abs. Barometer (hPa)
	Average	10.513	5.541	194.832	39.663	78.480	0.131	4.821	223.728	14.453	0.059	963.748
	Minimum	-2.700	0.000	0.000	0.000	33.000	0.000	0.000	0.000	0.000	0.000	942.000
	Maximum	17.400	18.800	358.000	240.000	100.000	10.400	17.360	360.000	38.000	0.302	974.000
	Total	3248.400	1712.200	60203.000	12256.000	24250.305	40.600	1489.690	69132.000	4466.000	18.144	297798.000
16/06/2005	13:00:00	15.200	8.600	0.000	228.000	35.300	0.000	8.610	0.000	16.000	0.273	964.000
16/06/2005	14:00:00	16.100	5.700	195.000	154.000	35.700	10.400	2.650	288.000	20.000	0.211	942.000
16/06/2005	15:00:00	15.500	8.800	269.000	145.000	33.000	0.000	6.910	258.000	20.000	0.245	962.000
16/06/2005	16:00:00	15.400	7.700	296.000	72.000	33.600	0.000	6.330	270.000	22.000	0.188	961.000
16/06/2005	17:00:00	14.400	5.500	271.000	6.000	35.600	0.000	4.740	270.000	18.000	0.115	961.000
16/06/2005	18:00:00	11.900	0.800	296.000	0.000	46.900	0.000	0.780	282.000	6.000	0.043	963.000

Database Management

EasiAccess provides database tools to allow data from each weather station to be viewed, imported, exported and modified as desired.

Selected data can be exported in three formats, the standard Envirodata format, CSV format for direct transfer to MS Excel and Access, and a customisable format to allow transfer to virtually any other application. The Data Export screen is shown in Figure 2.8 to the right.

Data can be imported with similar ease from most data sources, including spreadsheets and databases. Your data can also be edited in EasiAccess' table based editor.

The ability to archive your database as desired will maintain the 'current' database at a manageable size. This allows you to maximise the speed of data access.



Figure 2.8 Data Export Options

Advanced Features

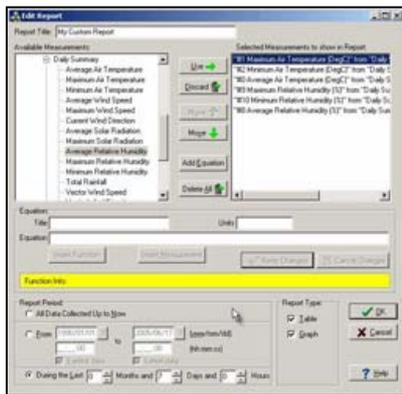


Figure 3.1 Report option screen

Reports

EasiAccess allows you to create multiple pre-defined layouts for reporting.

This allows you to create many specific layouts that provide the required display at a click of a button.

This can be used for regular reporting or to compare data from a number of stations.

A particular benefit is that the time range selected for a report can be a fixed period, such as 'January' or can be a relative time, as in 'the last 7 days'.

Calculations

A recent addition for EasiAccess is the ability to calculate additional data based on the weather data already downloaded.

This provides a powerful means of calculating and displaying information derived from your weather data, such as wind chill, heat stress, sigma theta or other calculations applicable to your industry.

Wind Rose

A wind rose report is a single page statistical diagram of wind speed and direction information over a customisable time period.

This conveniently summarises the wind distribution for the period visually.

Envirodata now offers Wind Rose reports as an optional extra, which allows you to easily create graphs and tables for reports and analysis.

The actual statistical data is also available as a tabulation to allow easy comparison. Figure 3.2 to the left shows Wind Rose report in tabular and graphical screens.

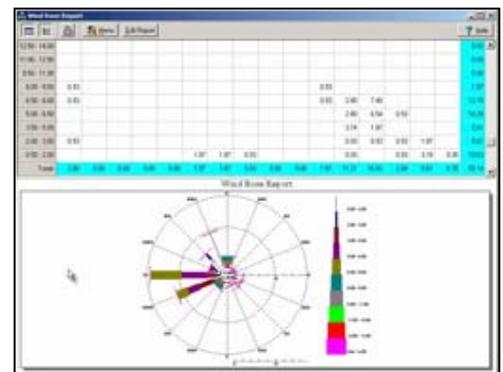


Figure 3.2 Wind Rose Report

Envirodata's weather stations with our optional AirData software can provide a very accurate record of true wind movement, using vector analysis. Envirodata's wind rose report can be based on this data to provide a much higher degree of accuracy by representing the true wind movement.

Multiple stations

EasiAccess can manage almost any number of weather stations, simplifying administration and providing a means to easily compare data between stations. Quick access to multiple stations is via the drop down selection on the EasiAccess main screen.

Automation

Basic data collection and real time displays of weather data can be activated automatically, which allows task scheduler programs (such as that included with Windows XP Pro) to automate tasks.

This means updates can be done regularly and automatically, with the information disseminated across a network or emailed as an attachment across the Internet. (Our AE10 Auto-Email software is an optional extra) Therefore your data collection can have a minimal impact on your daily routine.

Pre-configured Installation

Envirodata provides a Windows installation wizard for EasiAccess, as well as a pre-configured weather station set-up for your particular application.

Therefore you only have to provide a name for the station and enter the user access codes provided, to make setting up your weather station and software easier than ever.