

HW3 Software



Thanks to advances in digital technology, most of the instruments now produced by ROTRONIC feature a bi-directional RS232 interface. This works with PCs to display measured data, download recorded measurements or configure the system. In the past, the user often had to use separate software for each instrument, which meant they had to learn different programs to be able to operate, and make the best use of their instrument. Today, ROTRONIC provides a single software package, HW3, which is compatible with our entire range of products, so that the user has only one system to learn for every humidity measurement application.

HW3 software is developed and maintained in house at ROTRONIC by a skilled team of software developers. They are also involved in the development of our instrumentation, so are familiar with entire systems operation first hand. This ensures that we are able to offer immediate support for products in the field, and make sure that when new features and software routines are introduced, they are always compatible with the instrumentation hardware that we supply, or have supplied in the past.

As well as our in-house developers, ROTRONIC has a second excellent source of software developers – our customers. Over many years of supplying PC compatible instrumentation, we have received many customer requests for new features or improvements. The feedback we receive is always considered when we are developing improvements to our software, so that over many years, it has evolved into one of the most comprehensively featured and user friendly packages on the market today.

HW3 Core Features

The range of features within HW3 is extensive, and the configuration of the instrument connected of course influences what is possible, so check the specification of your instrument of choice to determine compatibility with the following features:

- Display of measured values directly on your PC
- Alarm setting and monitoring
- Audible, visual, email or SMS alarm notification
- Display of recorded values from data loggers
- Display of an entire network of connected instruments
- Data acquisition of measured values from a network of connected instruments
- Archiving of measurement data
- Instrument configuration
- Instrument identification
- Instrument status
- Probe recalibration
- Production of calibration certificates
- Calculation of different psychrometric parameters such as dewpoint, wet-bulb temperature, mixing ratio, etc.
- Accelerated Water Activity analysis (HygroData Quick upgrade)
- ...and many more...

HW3 Validation

Many ROTRONIC customers have learnt to depend on the accuracy and reliability of our humidity and temperature measurement systems. The advent of PC compatible products for measurement display and storage, as well as instrument configuration and maintenance, has opened new many application possibilities.

In many high value and critical applications accurate measurement is only part of the story. Data integrity and security is today an essential requirement, and in many circumstances, software must be validated for the measurement data to be accepted. HW3 is regularly submitted for software validation, and certificates of compliance are available to our customers. Of particular importance is the FDA regulation 21 CFR Part 11, which HW3 meets (documentation available on request).

HW3 Feature Overview



Connect handheld instruments for configuration, calibration, display and record measured values.

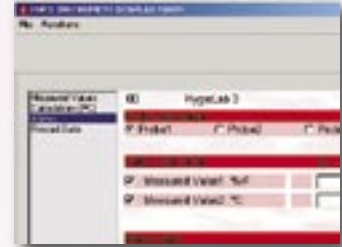
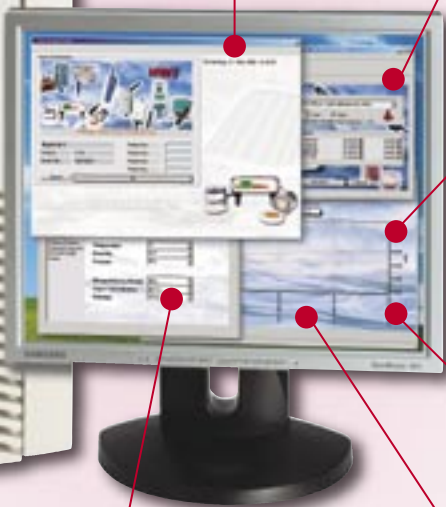


Connect transmitters for configuration, calibration, measurement display and data acquisition.

Validated software FDA 21 CFR Part 11 compliant.



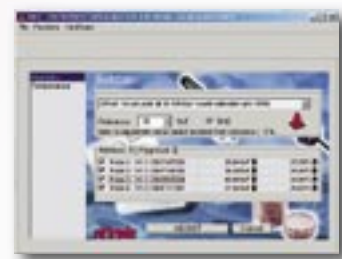
Program data loggers and download data.



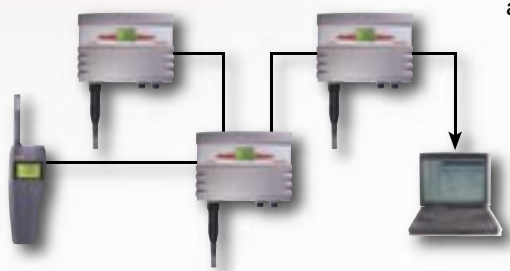
Setting and notification of alarms, audible, visual, SMS or e-mail.

Monitoring and display of water activity measurements including accelerated analysis and automatic data capture.

Display measured values from a network of 32 HygroFlex or HygroLab instruments. Up to 128 probes simultaneously.



Control the calibration and adjustment of digital probes, including production of calibration certificates.



HW3 Features

Features in More Detail

Instrument Display Form



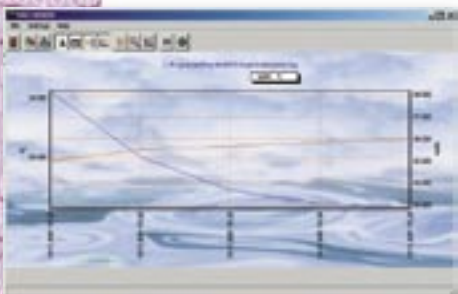
With HW3 running on a PC and a compatible instrument connected, the measured values with trend indicators are displayed live on the monitor, together with instrument identification. From this view it is possible to activate data acquisition of the measured values directly to the PC's hard drive.

For handheld instruments this feature is useful for logging local conditions to the PC, or if a cable mounted probe is fitted, conditions inside a climatic test chamber or incubator.

Transmitters are displayed in the same way, and when a multi point transmitter network is used, 32 instruments, each with up to 2 probes can be monitored simultaneously.

If alarms are programmed, visual indication on this display form can be supplemented with audible signals and user notification via email or SMS messages.

HW3 Vision Graphic Display Module



HW3 Vision display module presents either logged data files or live measurements in a convenient graphical format (scrolling). From this screen graphs can be either directly printed, or copied and pasted into documents or reports. Usual data analysis tools such as zoom, ruler and gridlines are included.

Various formatting options are available through on screen icons, these include changing the graph background, trace colour, legends, gridlines and axis. The base text used within the HW3 Vision graph display module can also be configured by the user to suit specific application or operational needs.

Instrument Configuration Form



If the ROTRONIC instrument you purchase has an RS232 interface, the Instrument Configuration Form provides you with the tools to fully configure or reconfigure directly from the PC.

Using a system of configuration upload and download means that settings can be stored on the PC for future use or reference. This also means that programming several instruments with the same configuration can be less time consuming.

Instruments settings that can be modified through this option include; probe type, display settings, units of measurement (International variations all included), measuring ranges, psychrometric calculations, analogue output scaling and serial communications setting (data format, network address etc).

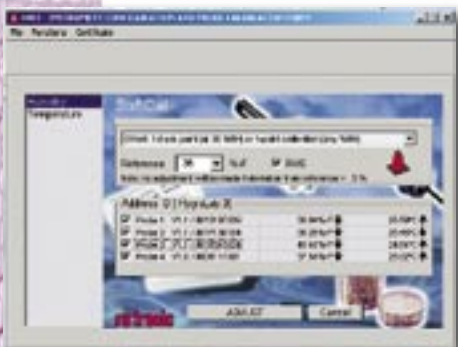
Each instrument can also be digitally renamed by the user to enable identification of use or location, and notes describing the instruments history can also be stored with the configuration data on the PC's hard drive.

HygroData Quick



All current versions of HW3 are shipped with advanced water activity analysis software integrated. To access this function requires an additional license; see ordering information. For a full description of this feature, please refer to the Water Activity section of this catalogue.

SoftCal Probe Calibration



One of the most important features of HW3 is the SoftCal utility that controls the calibration process of our digital probes, which of course do not feature traditional analogue potentiometers. Within SoftCal you can perform zero, slope and linearity adjustment for humidity, and zero and slope for temperature. It is also possible to make a single point adjustment against a defined reference. In all cases the user can choose defined ROTRONIC calibration values, or make their own selection. As a precaution against incorrect adjustments, SoftCal automatically rejects adjustments greater than 5%rh, as this is likely to be an indication of incorrect calibration method, or a faulty instrument.

HW3 Features and Ordering Information

Psychrometric Calculations

All ROTRONIC instruments measure percentage relative humidity (%rh) and temperature (°C/F). From the two values it is possible to calculate other psychrometric values such as dew-point, frost-point, wet-bulb temperature, mixing ratio, absolute humidity, enthalpy, partial water vapour pressure, saturation vapour pressure and more. The calculation software in HW3 uses WMO* verified formulae to make these calculations, and also provides the user with the option to input their own parameters (e.g. input mixing ratio & temperature to calculate % rh). Other advanced options such as dew/frost-differentiation, and pressure or altitude compensation are included.

*World Meteorological Organisation



Alarms

Our HygroPalm, HygroLab, HygroFlex and M Series instruments with RS232 interface can all provide a continuous stream of measurement data for display and data acquisition within HW3. It is also possible to define 4 alarm limits (High and Low, humidity and temperature). When alarm conditions are reached, HW3 can inform the user with either audible (.WAV files) or visual indication. In addition, the software can be configured to send an email or SMS text message (requires LAN or Modem connection).



Specifications and Hardware Requirements

Processor	Recommended Pentium 233 Mhz or better
Operating System	Microsoft Windows 95, 98, ME, NT, 2000
Audio	Sound card or integral speaker for playback of alarm .WAV files
Network	LAN or modem for email or SMS alarm feature
Memory	64 Mb or better
Disk space	20 Mb
Monitor	VGA/SVGA
Resolution	800 600 or better, High Colour 16Bit or better (256 colour minimum)
Connection	RS232 (Com 1...4)
Supply format	CD (mini type suits all CD drives)
Upgrades	Available on-line to registered users
Manual	On CD HTML format

HW3 Ordering Information

HW3 is typically supplied as a HYGRODATA bundle with the serial RS232 cable to suit the different instruments, please consult the relevant section of this catalogue. The main options are detailed below:

Order code	Description	RS232 Cable order code
HW3	Software only supplied on CD ROM	N/A
HygroData HP	HW3 software and connecting cable to suit HygroPalm 2 and 3	AC1622
HygroData HL	HW3 software and connecting cable to suit HygroLog	AC1590
HygroData Lab	HW3 software and connecting cable to suit HygroLab	11.01.6218
HygroData HTS	HW3 software and connecting cable to suit HygroFlex 2 and 3	AC1627
HygroData Quick	Upgrade License to add AW Quick modes to HW3	N/A