

WS-NL32 : Automatic Weather Station

WS-NL32: Automatic Weather Station is a computer-based meteorological system designed as a “user friendly” solution for data storage and real-time monitoring of weather conditions. Our weather Station can be use following sensors & accessories:

Sensors & Accessories:-

- Wind Speed
- Wind Direction Sensor
- Air Temperature Sensor
- Relative Humidity Sensor
- Solar Radiation Sensor
- Net Radiometer Sensor
- UV Radiation Sensor
- Snow Depth Sensor
- Albedometer Sensor
- Rain Gauge
- Soil Temperature Sensor
- Soil Moisture Sensor
- Barometric Pressure Sensor
- Leaf wetness Sensor
- Evaporation pan
- Data Logger
- Windows based Graphical Display Software
- Wireless Spectrum Radio System
- GSM/GPRS System
- Cables & Mounts
- Solar Panel
- Tripod & Mast
- Lighting protection kit



Automatic Weather Station

Additional sensor options include evaporation, soil moisture, water level, gas detection, and others. The unique modular system design provides simple menu selections for adding or replacing sensors. The WS-NL32 Data Acquisition Module features The logger software for data collection, logging, communications, diagnostics, and a menubased user interface for operating these features.

The WS-NL32 weather station supplied with an attractive desktop data acquisition module with a memory capacity of the NL32 is equipped with **8 MB of non-volatile flash memory** for data storage (**5 Years at 60min intervals**) and USB Memory port **6GB** capacity.

The power input to the NL32 is reverse polarity protected and fused to 2A, The standard system includes a 120/220Vac power adaptor, 10 Watt solar panel, Serial RS-232 with modem controls for connection to a personal computer, USB Ports, USB Memory port (for external memory drive), SDI-12 port, Serial RS-232/422/485 multi-protocol ports, Ethernet port, WiFi port for outdoor or remote applications.

include a NEMA-4X enclosure and rechargeable battery to allow continued operation in the event of power failure. Data can be viewed using Windows Based Graphical Display Software. A one page real-time text display, A menu is provided for setting the date and time, alarms, logging interval, etc.

195-NL32 Data Logger



195-NL32 Data Logger

Analog Input Channels

There are 15 analog channels available for voltage sensor inputs (0 to 5 Vdc) or temperature sensor inputs (10K J-type resistance temperature device). One input channel is dedicated to power supply monitoring. Each channel can be configured through the user interface to accept either voltage or temperature sensors in any combination up to 15 total inputs. There are additional dedicated input channels for a solar radiation sensor (current input), two wind speed sensors (AC and DC pulsed), two wind direction sensors (potentiometer), and one tipping bucket rain gauge (switch closure). The operating parameters of all the analog input channels are configured through the user software resident on the logger.

Communications I/O

The communications ports include the following standards: RS-232, RS-422, RS-485, USB 2.0, SDI-12, and Ethernet 10/100 Base TX. These ports are configured through the user software resident on the logger.

RS-232/422/485 Communications

The serial communications ports on the NL32 are all multi-protocol ports except one port designed for an RS-232 modem link to a host computer. ports operate up to 57,344 baud.

RS-232 Modem Port

The modem port provides an RS-232 connection with RTS/CTS handshaking signals. Two additional control signals are provided to control the modem. Input activity on this port will wake the processor from its low power sleep state.

USB Communications

The NL32 has two USB 2.0 ports. One port is for serial communications and the other port is for transferring data and software updates with an external memory drive.

Technical Specifications

Analog Inputs:-

Voltage input channels : 16 at 15-bit resolution
Voltage input ranges : 25mV, 50mV, 100mV, 250mV, 500mV, 1V, 2.5V, and 5V

Current input channels : 1 at 15-bits resolution
Current input ranges : 0.25uA, 10 uA, 40 uA, 100 uA, 1 mA
Temperature input channels : 15 at 15-bit resolution
Temperature input range : -50 °C to +60 °C with 10K ohm J-Type Thermistor

Wind speed (AC or DC pulsed) : 2 channels at 1400 Hz each
Wind direction : 2 channels at 10 bits resolution

Digital Inputs/Outputs: Alarm outputs 2 open collector high/low threshold outputs. 2A max.

Communications Ports:-

RS-232/422/485 ports : 10 software configurable multi-protocol ports
Bit rates : Up to 1Mbps RS-232, 10 Mbps RS-485/422
Modem port : RS-232 with RTS/CTS, switched modem power
USB port : One B-type USB port
Memory port : One A-type USB port, 6GB capacity
SDI-12 port : One standard compliant port
Ethernet port : 10/100 Base TX

Environmental

Operating temperature range : -40 to +85°C
Storage temperature range: -60 to +85°C
Humidity : 0 to 90% RH
Vibration : 10-500 Hz to 2 G

Power

Voltage range : 9-35 Vdc (40 Vdc absolute maximum)
Peak current : 80 mA at 12 Vdc (all ports active)
Nominal current : 45 mA at 12 Vdc
Sleep mode current : 75 uA at 12 Vdc
Battery life : >10 years for memory and clock
Input protection : Fused to 2A. Reverse polarity and over-voltage protection

Features

Calendar clock : Date, time, leap year, 2 time-of-day alarms.
On-board data memory : 8 MB standard



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USB Memory Port

The processor has one USB-B connector for an external memory drive. This port is used for off loading stored data or updating the logger's software. An on-board momentary push button switch initiates the data transfer when the memory drive is inserted. Pressing the button will wake the processor from the low power sleep state.

Ethernet Port

The NL32 supports one Ethernet connection at 10/100 Base TX.

Open Collector Outputs

Two open collector outputs are available for controlling external equipment or alarms. The outputs can sink up to 3 A of current, maximum 20 Vdc. These outputs can be configured with alarm thresholds though the resident user software.

Data Memory

The NL32 is equipped with 8 MB of non-volatile flash memory for data storage.

Calendar Clock

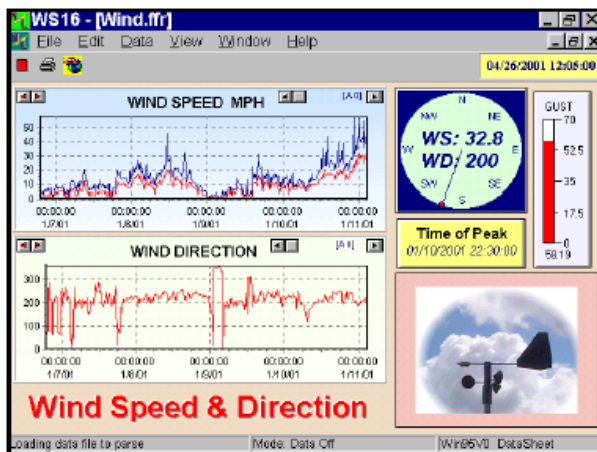
The NL32 includes a calendar clock with battery backup to maintain the date and time during power off. This clock is used for timing data collection and logging, and is used to periodically wake from the low power sleep state.

Graphical Display Software



The Graphical Display Software is a Windows software program for data logger applications. It communicates with 195-NL32 data loggers for monitoring and display of sensors and devices, Includes the graphical design and terminal software runtime interface in one package. There are no limits on the number of loggers or sensor data points you can set or use. The standard Windows interface and setup tools make it easy to design new screens with graphs and indicators for your application.

Data that has been stored downloaded and the historical trend graph charts can be analyzed for daily or monthly highs and lows.



Features include

- Real-time graphical software
- Powerful data presentation
- Supports real-time and stored archived data
- Scheduled automatic downloading
- Can display minimum, maximum, averages, graphs, time of min-max, etc.
- Can be customized for special applications
- All types of graphs, line, bar, area, 3-D
- Full color and font support
- Can easily be set-up and customized with a little typing and a Few clicks of the mouse.
- Runs on Windows 98/ME/XP/Windows/7&8

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