Field Friendly

We know field visits have to be made in the cold, wind, and snow. NOMAD 2’s vacuum fluorescent display (VFD) option gives a clear bright readout in temperatures down to -40°C and in full sunshine. The breakthrough integrated shelter box design uses innovative mini-rack mounting for power and communications components, so installations are easy to maintain. Field proven lightning protection circuitry is built in, reducing the number of connections to wire. Larger, color-coded cage clamp terminals make wiring faster and easier, even with gloves on. A built-in serial port lets you use NOMAD Desktop on site. No laptop? NOMAD 2’s easy-to-use front panel and menuing system tells you everything you need to know. Reprogram the logger in seconds by uploading a configuration from your Compact Flash Card.

Smart Power Management

NOMAD 2 will run on two standard 9V alkaline batteries for six months. If that isn’t enough, add internal 12V batteries to run longer, even with your preferred transducers and remote communications gear. NOMAD 2 manages transducer power and sensor excitation to get the most out of whatever batteries you use. Add a solar package for perpetual operation. A built-in relay provides control for your needs, including sensor heating for icing conditions.

More Sensor Inputs

Connect up to 12 anemometers or other frequency or state devices to the NOMAD 2, including rain gauges, energy meters, and relays. Another 8 analog inputs connect directly to wind vanes, thermistors, and transducers measuring air pressure, electric power, sound level, or anything else that concerns you at your wind site. Get remarkable 0.02% accuracy on counter inputs and 0.2% accuracy on analog inputs. Connect most transducers and sensors with no need for extra modules.

Get Your Data Your Way

NOMAD 2 makes it easier than ever to get your data. Whether your connection is GSM, CDMA, AMPS cellular, or landline, NOMAD 2 will answer your call and send you e-mail. Robust Compact Flash Cards provide solid-state storage and can be read by any PC using off-the-shelf readers. NOMAD 2 comes with NOMAD Desktop software to check in on your logger and see real time values with the Zoom feature. Refine study parameters by uploading a new configuration to NOMAD 2 remotely - NOMAD Desktop’s advanced database system will keep all your data organized and labeled.

Weatherproof

The NOMAD 2 data logger is designed to withstand the harshest of climates in its lockable steel shelter box. The wide-temperature display, batteries, and data cards allow the data logger to operate fully from -40° to 85°C.

Nomad Desktop Software

Nomad Desktop is a suite of software tools that work with NOMAD 2 wind resource assessment data loggers. Use Nomad Desktop to configure the NOMAD 2, exchange files with the NOMAD 2, view real-time data remotely, analyze data with reports and graphs, and export data to other applications.

With Nomad Desktop Software you can analyze data and produce various reports and graphs including:

- Wind Rose Graph
- Power Curve Graph
- Distribution Graph
- Expected Energy Report
NOMAD 2 Specifications

Sensor Inputs
12 Counter Inputs:
- Configurable for AC and pulse anemometers, other frequency output devices, and high/low digital and relay state signaling
- Frequency range DC to 2 kHz
- High display resolution with low frequency anemometers
- Input high/low threshold configurable for 0V or 3V
- Configurable filtering for low frequency devices
- 1-second count integration, +/-0.02% accuracy

8 Analog Inputs:
- Configurable range of 0 to 2.5V or 5V
- 12-bit analog to digital conversion
- 1-second sampling, +/-0.2% accuracy
- Direct interface to potentiometer wind vanes, 10k thermistors, and analog-output transducers

Fault Detection:
- Feedback input from 2.5V + excitation output for wiring and device fault detection

Internal Temperature:
- 1-second sampling, +2°C accuracy

Power supplies:
- Measurement of two 9V batteries and 12V power
- 1-second sampling, -0.1V accuracy

Outputs
2.5V + Excitation:
- 2.5V+ smart-switched excitation distributed to all input terminal blocks for energy-conserving measurement of potentiometers and thermistors
- Calibrated to +/- 5mV 25 ppm/0°C , 250 mA max

12V Transducer Power:
- 12V+ smart-switched transducer power output distributed to all input terminal blocks for energy-conserving operation of electronic transducers
- 1 Amp maximum

12V Modem Power:
- 12V+ configurable switched modem power output for energy-conserving operation of cellular & other modems
- 1 Amp maximum

Relay Output:
- For de-icing other control applications
- SPST dry contact, 1 Amp maximum, AC or DC

Power Supply
9 Volt Batteries:
- 2 parallel standard 9V batteries in sliding receptacles
- Up to 6 months operation with alkaline, up to one year with lithium (-40°C) batteries that have no shipping restrictions

12Volt Power:
- 12V (10-18V DC) input for internal primary or rechargeable batteries, external DC power supply, or regulated solar panel
- Two-screw removable internal mounting for lead-acid batteries for higher power transducer, controls, and communication gear, standard sizes up to 14 AH, extreme environment sizes up to 8 AH
- Optional on-board solar charging regulator/controller

Solar:
- Configurable for time zone & daylight savings offsets
- Files transferable by card removal, local serial connection, remote dialup connection, or as email attachments

Serial Ports
Local Port:
- 3 independent RS232C serial ports, up to 115 kbaud
- Direct straight-cable connection to laptop or PC
- Standard pinout DB9, DCE
- Auto-wakeup Rx input
- 7-key sealed membrane keypad
- Field-wireable terminals for customer-installed devices
- Connects to and logs from communicating transducers including multifunction Phaser® power transducers & ultrasonic anemometers

Remote Port:
- Connects to modem, radio, or asynch network adapter

Device Port:
- Connects to and logs from communicating transducers including multifunction Phaser® power transducers & ultrasonic anemometers

ESD Protection:
- All inputs, outputs, and serial port signaling transient and fault protected
- No additional lighting protection needed

User Interface
Local Display:
- 4x20 alphanumeric character display, LCD or VFD
- Configurable smart-switched power
- Automatic temperature-compensating LCD contrast

Keypad:
- 7-key sealed membrane keypad

Remote Interface:
- Full display configuration, data transfer, & firmware upgradability by local port or modem connection to any PC via Nomad Desktop™

Status Light:
- Heartbeat LED indicates operational status independent of display

Input and Data Processing
Wind Speed:
- Slope & offset scaling, auto-zeroing for counter inputs

Wind Direction:
- Modulo 360° and true vector processing

Math Functions:
- Average, standard deviation, maximum, time of maximum, minimum, time of minimum, total, sample value

Recording Intervals:
- 1 minute, 10 minutes, hourly, or daily in any combination for all inputs and math functions

Data Storage
Media:
- Industry-consumer standard Compact Flash, up to 256MB
- Read/write-able by any notebook or desktop PC via POMCIA adapter or any USB type Compact Flash adapter

Formats:
- Card directory & file formats are fully Windows™ compatible
- Any FAT (PC) formatted Compact Flash Card fully usable
- Data written to daily files in named monthly subdirectories

Transmit:
- Files transferable by card removal, local serial connection, remote dialup connection, or as email attachments

Physical
Operating Temp:
- -40°C to 85°C all specifications (Vacuum Fluorescent Display)

LCD Temperature:
- LCD operates from -20°C to 70°C, storage -30°C to 80°C

Internal RT Clock:
- +/-1 minute/month accuracy, internet time-server adjustable

For Second Wind
Second Wind has over 20 years experience making equipment for wind prospectors. From the award winning AL-2000 data logger to the trend setting NOMAD data logger, Second Wind products have a track record of reliability and versatility. NOMAD 2 draws on Second Wind’s experience at wind prospecting sites from Antarctica to Sub-Saharan Africa. NOMAD Desktop software brings the power and flexibility of Second Wind's Advanced Distributed Monitoring System (ADMS) for windfarmers to your desktop, providing powerful analytical tools previously unavailable without customer programming. Count on Second Wind to make it easy for you.