



Optional memory expansion cards



GSM modem option



Sensus datalogger



Low power radio option

- Golf courses
- Ports and harbours
- Agrochemical field trials
- Fruit growing
- Airport gliding clubs
- Hydrological studies
- Schools & colleges for field studies
- Geotechnical studies
- Athletics meetings

Operation

Once assembled the Nomad automatically begins recording data based on an internal system profile, this profile is created by the operator using Online Pro PC software and can be modified to suit monitoring needs.

Data is collected and held internally ready for retrieval by the operator. If a Compact Flash card is installed, new and existing data is automatically transferred to the card

Sensus Logger

The heart of the system is the Casella CEL Sensus data logger, which offers powerful functionality and versatility for all applications with user friendly software.

Signal inputs permit almost any transducer and measurement parameter to be configured.

As standard the Sensus will record 149K data sets which equates to over 3 months (recording at 1 minute intervals), although this capacity can be increased using Compact Flash cards.

Telemetry

Various options exist for remote communication and data collection. In its simplest form data can be retrieved directly using a laptop PC or via a direct line cable connection (maximum cable length 500m). For cable free or remote operation low power radios can be deployed (for transmission up to 2Km). For global collection GSM or PSTN modems are supported. Alarm functions may be configured to alert operators using the GSM S.M.S (Sending text message to alert users if required).

NOMAD

The Nomad from Casella CEL is a truly portable monitoring station supplied in customised carry bags. Specifically designed for ease of transportation, rapid deployment and quality of measurement. Nomad satisfies your professional monitoring needs.

Once on site, the Nomad can be deployed and collecting data in under 5 minutes. Disassembly is just as quick, allowing you to be packed and en-route to the next monitoring location without delay.

Quality construction and an integrated solar-panel gives Nomad the independence required for prolonged operation in isolated or inhospitable environments.

Why a Nomad?

Due to increasing environmental legislation world wide, many industrial activities including construction, demolition and land remediation now have a requirement to monitor local meteorological conditions. Environmental conditions impact on many other areas, including agrochemical research, ecological projects and recreational activities.

The Nomad's portability allows the user to monitor any location and as standard measures: temperature, humidity, pressure, wind speed, wind direction, solar radiation and rainfall.

Features

- Portable and lightweight construction allows for rapid system deployment
- Supplied in protective carry bags
- High quality anodised aluminium and stainless components
- Quality external connectors to IP68
- Latest logging technology records over 149K data sets as standard
- Compact Flash expansion slot for prolonged monitoring applications
- Integrated solar-panel/charger allows extended operation
- Telemetry options include: RS232, RS485, low power radio or global access using GSM modem
- Complete with pre-configured 32-bit Online Pro PC software, for real-time and historic data analysis

Applications

- Environmental consultancy
- Site boundary monitoring
- Landfill sites
- Emergency services
- Military

Hardware

The Nomad system is comprised of three key components, a lightweight collapsible tripod assembly, Sensus data logger housed in IP67 enclosure (logger, solar panel and rechargeable battery) and detachable sensor array (anemometer, wind vane, temperature, humidity and solar radiation). Barometric pressure is integrated within the Sensus logger and a tipping bucket rain gauge is generally sited adjacent to the system. The system comes complete with ground anchoring kit and compass for correct station orientation. All components are housed within custom designed carry bags for ease of transportation and system protection.

System Expansion

Additional sensors (up to four) can be added to the system through the use of the Nomad 'Sensor extension unit', this attaches directly to the base of the tripod.

Software

The Online Pro software supplied with the system is a full 32-bit package that operates on Windows 95 onwards. It allows both display of data in real-time or retrospective analysis.

Features include: Password protection, e-mail notification of alarms, customised screen layout, networked displays and graphical analysis of data.



Removable sensor array



Sensor extension unit Sensus logger enclosure

| Specification (data logger) | | NOMAD | |
|-----------------------------|--------------------------|--|-----------------------------------|
| Internal memory | | 512K | |
| Number of channels | | 24 (11 maximum on Nomad systems) | |
| Logging interval | | Adjustable from 5 seconds | |
| Display | | 2 line by 20 character LCD for status information | |
| Communications | | RS232, RS485 and Infra red (future enhancement) | |
| Specification (Sensor) | | Specification | |
| Wind Speed | | Transducer | Optical encoder |
| | | Resolution | 7.84cm |
| | | Accuracy | +0.3m/s below 3m/s, ±1% over 3m/s |
| Wind Direction | | Transducer | GMR |
| | | Resolution | 1° |
| | | Accuracy | <±2 degrees |
| Temperature | | Platinum resistance | |
| | | Accuracy ± 0.3°C @ 0°C, ±0.55 @ 50°C | |
| Humidity | | Capacitive | |
| | | Accuracy ±3% | |
| Pressure | | 800 to 1100 silicon bridge | |
| | | <1mB calibration accuracy | |
| | | Temp drift typ. <0.15 mB/°C | |
| Solarimeter | | Silicon detector | |
| | | Resolution 0.1 W/m² | |
| Rainfall | | Tipping bucket rain gauge | |
| | | Resolution 0.2mm | |
| | | Accuracy ±1% @ 1 litre per hour | |
| Operating Temperature Range | | | |
| Nomad | | -15°C to +70°C | |
| Dimension and Weight | | | |
| Nomad Deployed | | Sensors 2.0m above ground, Tripod base 1.0m diameter | |
| In carry bags | | Case 1: 950mm x 300mm, case 2: 360x380x300, logger case: 350x350x250 | |
| Weight | | 13kg | |
| Contact Details | | | |
| Sales | Tel: +44 (0) 1234 841468 | Fax: +44 (0) 1234 841490 | |
| Service | Tel: +44 (0) 1234 844146 | Fax: +44 (0) 1234 841490 | e-mail: info@casella.co.uk |

Ordering Information

| Part No. | Description |
|----------|----------------------|
| 187000D | Nomad Weather System |
| 187056D | Nomad Wind System |

Accessories

| | |
|---------|---------------------------------|
| 187057B | Sensor extension unit |
| -CMC30 | Compact Flash card (16MB) |
| -CMC31 | Compact Flash to PCMCIA adapter |

Telemetry Options

| | |
|-----------|-----------------------------------|
| 142009C | Land line interface unit (RS485) |
| W4/1602/4 | Cable (specify length, max. 500m) |
| 187079B | Low power radio modem |
| 187082B | GSM modem |

Optional Sensors

| | |
|---------|-------------------|
| 120620B | Soil Temperature |
| 187081B | Leaf wetness |
| 120680B | Grass temperature |

Nomad Weather System includes:

- Sensus data logger
- Tripod
- Internal lead-acid battery
- Solar panel
- Aerial sensor array
- Sensors: Air temperature
- Humidity
- Wind speed
- Rainfall
- Solar radiation
- Wind direction
- Barometric pressure
- Anchoring kit, with tools and compass
- Customised carrying cases
- Online Pro PC software

Nomad Wind System:

Same as Weather system except only supplied with Wind speed and Wind direction sensors and barometric pressure.



Example screen shots