

## Casella NOMAD Portable Weather Station

### Introduction

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. The NOMAD from Casella CEL is the first truly portable monitoring station 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 less than 5 minutes. Disassembly is just as quick, allowing you to be packed and on-route to the next monitoring location immediately.

### Applications

- ❑ Environmental Consultancy
- ❑ Site boundary monitoring
- ❑ Landfill & agrochem trial sites
- ❑ Emergency Services / Military Services
- ❑ Geotechnical / Hydrological / Field Studies
- ❑ Sports Facilities & Meetings
- ❑ Ports and Harbors

### Operation and use

The NOMAD system comprises 3 components: a lightweight collapsible **tripod** assembly, the Sensus **data-logger** housed in an IP67 enclosure (with solar panel and rechargeable battery) and a detachable **sensor array**. Barometric pressure is integrated within the Sensus data-logger and a tipping bucket rain gauge is sited adjacent to the system. The system comes complete with ground anchoring kit and a compass for correct station orientation. All components come with custom designed carrying cases for ease of transportation



The convenient portability of the NOMAD system enables it to be used to monitor virtually any location and, as standard, measures and records: **temperature, relative humidity, pressure, wind speed and direction, solar radiation and rainfall.**

Once assembled, the NOMAD automatically begins recording data based on an internal system logging profile. This profile is created by the operator using the included Casella "Online Pro" PC software and can be user modified if required. Data is collected and held internally ready for retrieval by the operator. If a CF memory card is installed, new and existing data is automatically transferred to the card. As standard the built-in Sensus logger will record 149K data sets that equates to over 3 months logging (at 1 minute intervals

### Key benefits

- ❑ Portable and lightweight construction allows for rapid system deployment
- ❑ Supplied in protective carry bags for one person to move
- ❑ High quality anodized aluminum and stainless components
- ❑ Quality external connectors
- ❑ Data-logging technology records over 149K data sets
- ❑ CF slot for extended monitoring applications
- ❑ Integrated solar panel / charger allows extended operation
- ❑ Telemetry options include: RS232, RS485 or low power radio system
- ❑ Complete with software for real time & historical analysis

Up to 4 additional sensors can be added to the system with the NOMAD "Sensor extension unit" which attaches directly to the base of the tripod. These include sensors for **soil temperature, leaf wetness, grass temperature** plus other specific devices such as SO<sub>x</sub> or NO<sub>x</sub>.

Various options exist for remote communication with the NOMAD for collection of the logged data. Most simply, data can be retrieved directly using a laptop PC on site, or via a direct line connection (maximum cable length 1500 feet). For cable-free or remote operation, low power radios can be deployed (for transmission up to 3000 feet). For global collection, GSM or PSTN modems are supported. Alarm functions may be configured to alert operators using the SMS service on suitably equipped cellphones.

<b>Technical specifications</b>		
	<b>SENSUS Data-logger</b>	
Internal memory	512Kbytes (extendible up to 256 Mbytes maximum on CF card)	
Number of channels	32 (11 max on NOMAD systems)	
Logging interval	Adjustable from 5 seconds	
Display	2 line by 20 characters LCD	
Communications	RS232 & RS485	
	<b>SENSORS</b>	
<b>Wind Speed</b>	Transducer: Resolution: Accuracy:	Optical encoder 7.84cm ±0.3 ms-1 below 3 ms-1 ± 1% over 3ms-1
<b>Wind Direction</b>	Transducer: Resolution: Accuracy:	GMR 1° ±2°
<b>Temperature</b>	Transducer: Accuracy:	PRTD ±0.3°C @ 0°C ±0.55°C @ 50°C
<b>Humidity</b>	Transducer: Accuracy:	Capacitive ±3%
<b>Pressure</b>	Transducer: Resolution: Temp drift:	800-1100 Mb silicon bridge <1mb calibration accuracy typically <0.15mb/°C
<b>Solarimeter</b>	Transducer: Resolution:	Silicon Detector 0.1 Wm-2
<b>Rainfall</b>	Transducer: Accuracy:	Tipping Bucket Rain gauge ±1% @ 1 Liter per hour
	<b>GENERAL</b>	
<b>Operating Temperature</b>	-15°C to +70°C (5 to 158°F)	
<b>Dimensions:</b>	Deployed on site:	Sensors - 6ft above ground Tripod - 3 ft diameter
	In 3 customized carrying bags:	Case 1: 37" x 12" Case 2: 14" x 15" x 15" Case 3: 14" x 14" x 10"
<b>Weight:</b>	28.5 lb (13Kg)	
	<b>Ordering information</b>	
<b>Main system</b> 187000D 187056D	Standard NOMAD Weather System with 7 sensors NOMAD Wind System for speed and direction information only	
<b>ACCESSORIES</b> 187057C -CNC30 -CMC31	Sensor extension unit Compact Flash Card (16Mb) Compact Flash to PCMCIA card Reader for PC	
<b>TELEMETRY OPTIONS</b> 142009C W4/1602/4 -CMC32 -CMC33	Land-line interface unit (RS485) Cable for landline unit (specify length, max 1500 feet) Low power radio modem GSM modem (call for details)	
<b>OPTIONAL SENSORS</b> 120620B 120823B 120680B	Soil temperature sensor supplied with 10 ft cable Leaf wetness sensor supplied with 10 ft cable Grass temperature sensor supplied with 10 ft cable	