

## *VDAS Meteorological Station*



Kinemetrix VDAS Meteorological Station (VMS) is a modular environmental sensing solution based on COTS products. The VMS monitors wind speed and direction, temperature, humidity, atmospheric pressure, fuel level, and system voltages. The insulated station enclosure houses the data acquisition system, the pressure transducer, data communications equipment, power supplies and lightning protection elements.

The system is programmed to supply a serial data stream that can be transmitted by a wide variety of communication links to the VDAS Data Acquisition Center (VDAC). The data interfaces directly into the VDC. The system is mounted on a versatile 20-foot tripod tower that provides mounting for sensors, data acquisition enclosure, and optional solar cells.

### *Power and Grounding Subsystem*

The VMS is designed to provide protection against lightning induced transients. All external connections are protected with double stage transient protectors and a grounding rod and grounding straps are provided. The user needs to provide the appropriate local ground connection. The VMS can run from AC Power or optionally from 24 VDC power. When required the system

can be equipped with an optional solar power system.

### *Intrasite Communications Subsystem (ICS)*

The VMS can be equipped with a variety of communication links using copper wire, fiber optics, VHF/UHF and spread spectrum radios. For more information, refer to the VFSS or contact Kinemetrix for site-specific configurations.

### *Cabling*

Kinemetrix' cable design is optimized to satisfy the VFSS mission-critical operations that must often operate under hostile environmental conditions.. Cable design ensures that our systems are protected from transient damage from lightning or electrostatic discharge (ESD) and to minimize both EMI/RFI missions and susceptibility. The VFSS includes all internal cabling and connections to the GPS antenna. The user is responsible for power cabling (when applicable), sensor cabling, and external data connections for systems without RF telemetry. Please contact Kinemetrix for site, length, and application specific configurations

### **Measurement Specifications**

Wind Speed	+/- 3 Knots	0-100 Knots
	+/- 6 Knots	100-125 Knots
Wind Direction	+/- 2 Degrees	0-125 Knots
Temperature	+/- 0.2° C	-10 +60° C
	+/- 0.4° C	-40 -10° C
	+/- 1.0° C	-40 -70° C
Humidity	+/- 1.5% R.H.	at 20-25° C (0-100% RH)
Operating Temperature External Sensors	-70 +60° C	
Barometric Pressure	800-1100 Millibars	Accuracy 0.01% of reading resolution >0.00005 Millibars
Auxiliary Monitoring Channels	.05% RMSE	-2.5V to 5V (auxiliary scaling provided)