



**NOR-CAL CONTROLS**  
ENERGY SOLUTIONS

Your Project. Our Passion.

# TAHOE™ MET STATION

The Nor-Cal Controls Tahoe Meteorological (MET) station combines **functionality**, **reliability** and **simplicity**. The MET station is fully customizable and applicable with multiple SCADA applications and hardware platforms. This system is **preconfigured and ready for ease of startup and commissioning** by either Nor-Cal's engineering experts or others.

## TAHOE MET™ STATION IS EQUIPPED WITH A HOST OF FEATURES TO SUPPORT THE END USER

- Supports a wide variety of serial communication-based sensors
- 1 second sampling data logging
- Support for over 250 protocols for ease of access
- Support of up to 10 simultaneous protocols from one TCP ethernet port
- Lithium-ion battery back-up power at 12 VDC 55Ah
- Backup power equipment monitoring and data logging
- Utility power input support (120/240VAC)
- Universal SCADA platform support
- Scalability of I/O functions (RTD, DI, DO, AI & AO)
- Web server for remote access over LAN or WAN networks
- International languages and unicode characters
- Port access programming functions available for configuring/reconfiguring attached devices
- Solar panel for standalone battery charging off of the grid functions

## OPTIONAL FEATURES

- Optional email notifications
- Optional SMS functions
- Optional local machine interface (HMI)
- Optional FTP services

## COMMON MEASUREMENTS

- |                              |                       |
|------------------------------|-----------------------|
| • GHI irradiance             | • Air temperature     |
| • POA irradiance             | • Relative humidity   |
| • DHI irradiance             | • Barometric pressure |
| • Soiling                    | • Wind speed          |
| • Solar reflectance (albedo) | • Hail impact         |
| • Back of module temperature | • Flood depth         |



# MEASUREMENT CAPABILITIES

## (OPTIONAL INSTRUMENTS)

### ELECTRICAL

|                          |                                             |                           |
|--------------------------|---------------------------------------------|---------------------------|
| AC                       | Nominal system voltage:<br>Input frequency: |                           |
| DC                       | Nominal system voltage:                     | 100-240VAC<br>50/60Hz     |
| LEAD ACID BATTERY SYSTEM | Nominal voltage:<br>Capacity:               | 12VDC/24VDC+/-10%         |
| SOLAR PANEL              | Nominal voltage:<br>Operating current:      | 12VDC<br>55Ah             |
| COMMUNICATIONS           |                                             | 24VDC<br>3.3A at 1000W/m2 |

|               |                                                                                |
|---------------|--------------------------------------------------------------------------------|
| USB PORT      | Nominal system voltage:                                                        |
| SERIAL PORTS  | RS-232 via RJ12 - quantity 1<br>RS-422/485 via RJ45 terminal jack - quantity 2 |
| ETHERNET PORT | 10 Base-T/100Base-TX via RJ45 NIC                                              |

### MEMORY

|              |                                                            |
|--------------|------------------------------------------------------------|
| ON-BOARD RAM | 256Mb                                                      |
| MEMORY CARD  | 16GB Industrial SD card<br>Supports 2 million write cycles |

### REAL-TIME CLOCK

|         |                                                          |
|---------|----------------------------------------------------------|
| BATTERY | Lithium coin cell - typical lifetime of 10 years at 25 C |
|---------|----------------------------------------------------------|

### ENVIRONMENTAL CONDITIONS

|                      |                              |
|----------------------|------------------------------|
| OPERATING TEMP RANGE | 0° C to 45° C                |
| OPERATING HUMIDITY   | 80% max of relative humidity |
| ALTITUDE             | Up to 2000 meters            |
| NEMA RATING          | 4                            |

### MET TOWER

|          |                                              |
|----------|----------------------------------------------|
| HEIGHT   | 10 ft                                        |
| MATERIAL | Galvanized steel                             |
| FEATURES | 5ft stiff-arm, lightning rod, mounting plate |

#### Ambient Air Temperature

Wind chill: °C/°F  
Dew point: °C/°F

#### Pyranometers

Global horizontal irradiance: W/  
m2 Plane of array irradiance: W/  
m2 Diffused irradiance: W/m2

#### Solar Module Temperature

Back of module temperature: °C/°F  
Top of module temperature: C/F

#### Anemometer

Wind speed: m/s, mph  
Wind direction: 0-360° from North

#### Rain Gauge

Precipitation type  
Intensity  
Totalized inches or millimeters

#### Relative Humidity

Percentage

#### Barometer

Units supported: atm, Pa, hPa,  
millibars, mmHg, inHg, and ps

#### Calibrated Reference Cell

Reference cell irradiance: W/m2