

# BP65 BAROMETRIC PRESSURE SENSOR

## TECHNICAL PRODUCT SHEET



### Tools Required

- 8 mm (5/16 inch) nut driver or wrench (electric nut driver preferred)
- Small NRG screwdriver
- Sheet metal shears (for trimming hose clamps)

### Recommended Maintenance

- Inspect the sensor body and cable for wear and tear (annual).
- Review data against a reference to verify accuracy (annual).

### Overview

The BP65 is well-suited for the barometric pressure measurement requirements of wind and solar energy studies, particularly as an input to air density, annual energy production estimates, and more reliable forecasts on operational solar and wind farms.

### Specifications

|  |   |
|--|---|
| <b>Measurement Range</b>   | 500 hPa to 1100 hPa (14.765 to 32.483 inches Hg)  |
| <b>Signal Type</b>   | Linear analog voltage   |
| <b>Transfer Function</b><br>(only BP65Cs come with a unique calibration)   | Absolute Pressure in hPa =<br>(Voltage x 243.90857 + 493.91990 typical)<br><br>Absolute Pressure in inches Hg =<br>(Voltage x 7.202616) + 14.585446 typical |
| <b>Output Signal</b>   | 0.020 to 2.480 VDC  |
| <b>Supply Voltage</b><br>(uses pulsed excitation to minimize current draw) | 5 to 15 VDC   |
| <b>Supply Current</b>  | 1.3 mA max  |
| <b>Mounting</b>  | Mounts directly to tower with hose clamp or optional mounting bracket   |



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## BP65 Barometric Pressure Sensor Installation Process

1. Wrap the hose clamp around the tower (under the shelter box), insert the BP65 sensor and continue to tighten with nut driver until the sensor is secure. Do not over-tighten.
2. Trim the end of the hose clamp, or secure it in place so it does not move freely.
3. Wire the sensor cable into the data logger.
4. Program the data logger as outlined below.

| Sensor Wire                                       | Logger |
|---|--------|
| Red <span style="color: red;">+</span> Excitation | EXC    |
| Blk <span style="color: black;">-</span> Ground   | GND    |
| Wht <span style="color: white;">□</span> Signal   | SIG    |
| Shield  | SHD    |

|                                 |                     |   |
|---------------------------------|---------------------|---|
| Description                     | NRG BP65 Baro       | 1 |
| Serial Number                   | 9453000046          | 2 |
| Height                          | 2.2 Meters          | 3 |
| Boom Bearing                    | 0.0 Degrees         | 4 |
| <b>Sensor Transfer Function</b> |                     |   |
| Scale Factor                    | 243.89926 hPa per V | 5 |
| Offset                          | 494.73295 hPa       | 5 |
| Units                           | hPa                 |   |

**Enable Configuration**

Enabled

| Sensor Type   | Description | Units           | Slope         | Offset         |
|---------------|-------------|-----------------|---------------|----------------|
| NRG BP65      | NRG BP65    | hPa             | 243.89925     | 494.73295      |
| Serial Number | Height (m)  | Elevation Angle | Azimuth Angle | Modbus Address |
| 9453000046    | 2.2         | 0.0             | 0.0           | 10036          |

## 4 Data Logger Programming

For SymphoniePRO, use the NRG SymphoniePRO Desktop Application.

For LOGR-S Data Loggers, use the web UI by navigating to the LOGR's IP address in a web browser.

Navigate to the Channel Configuration tab or web page (depending on the logger type) to configure the sensor.

1. Choose "NRG BP65 Baro" from the sensor selection drop down menu.
2. Enter the sensor's serial number (found on the sensor body).
3. Enter the height (elevation) of the sensors from the ground.
4. Enter the direction (azimuth) the sensor is installed on the tower.
5. For BP65C only: Enter the sensor's unique slope and offset, found on the sensor's calibration report.

### For more information:

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ISO 9001: 2015 Certified  
ISO 14001: 2015 Self-Certified