

PT-ModPro

Stationary Generator Monitoring System

INSTALLATION INSTRUCTIONS



⚠ PLEASE READ ALL INSTRUCTIONS PRIOR TO INSTALLATION ⚠

STANDARD MONITORING KIT INCLUDES:

- PT-ModPro Monitoring System
- External High Gain Cellular Antenna
- RS485 Communication Cable – 3 feet
- Power Connection Cable with Fuse Link – 15 feet
- Installation Hardware

Scan to view Controller
Connection Guides.



PLANNING THE INSTALLATION:

The monitoring unit should be installed inside the generator enclosure on a non-vibrating portion of the unit. The cellular antenna should be mounted outside and on top of the generator enclosure. Plan for proper routing of the wiring and antenna coax cable prior to mounting the monitor.

⚠ Do not connect the power leads to the monitor until the end of the installation process.

Standard precautions should be taken prior to installing the monitoring unit. At a minimum:

- Only knowledgeable and qualified personnel should attempt to install this system.
- Remove the main fuse in the generator control panel.
- Remove any fuses and/or disconnect AC power to the generator from the ATS (if applicable).
- Remove/disconnect any other power source to the generator.
- Proper Lock Out/Tag Out procedures should be followed.

MONITOR INSTALLATION:

Battery Connection

The PT-ModPro is powered by 8-32VDC. The provided power cable includes Red (B+) & Black (B-) leads for connection to the engine starting battery system. Connect the Fused Link (Red Wire) to the battery positive terminal (B+) and the Black Wire to the battery negative terminal (B-).

⚠ **Note:** For a 24V battery system, the battery negative (B-) for the monitor connection **MUST** be the same common negative used for the generator. **Failure to do so will result in Monitor and/or Equipment Damage.**

Modbus RTU RS232 & RS485 Connections

The PT-ModPro can use either an RS232 or RS485 for Modbus RTU connections. This connection will depend on the type of generator controller. Belden communication cable and connector pins are included in the package. Refer to the **Controller Connection Guide** or contact Power Telematics for details.

Modbus TCP LAN Ethernet Connection

The PT-ModPro is equipped with an Ethernet LAN port for a Modbus TCP connection for any generator or transfer switch that has Modbus TCP capability. Ethernet cable is not provided. Refer to the **Controller Connection Guide** or contact Power Telematics for details.

Digital Inputs, Analog Inputs, Relay Output

The PT-ModPro has five (5) digital inputs, two (2) 4-20mA analog inputs, two (2) 0-10VDC analog inputs, two (2) relay driver outputs, and one onboard relay with NO/NC/Com terminals. These can be used with any of our accessory kits, for remote start/stop of the generator or for other purposes. Please contact Power Telematics before using any of these as the configuration would need to be programmed into the PT-ModPro device.

Communication Connections – Cellular & Ethernet

The PT-ModPro provides both cellular connectivity as well as an onboard WAN ethernet port for connectivity to the customer's internet service. If both cellular and WAN connections are used, the WAN is the primary connection with cellular as the backup. A high gain cellular antenna is included in the package. Ethernet cable is not provided.

Mount the Monitor and Antenna

Mount the PT-ModPro in a suitable, non-vibrating location.

Connect the antenna cable to the Cellular connector on the monitor. It is preferable to locate the antenna on the outside of the enclosure. Be sure to create a "drip loop" in the antenna coax to eliminate water from dripping on to the monitor.

Powering Up the Monitor

1. Connect the RS232 or RS485 leads to the PT-ModPro terminals.
2. Connect the power leads. Once the power leads are connected, the monitor will boot up.
3. Call Power Telematics Install Support for testing and new monitor set up.

PT-MODPRO PIN OUT WITH DESCRIPTIONS:

DESCRIPTION	PIN #	NOTES
RS232 RXD	1	Modbus RS232 RXD
RS232 TXD	2	Modbus RS232 TXD
GND	3	RS232/RS485 Ground
RS485 B	4	Modbus RS485 B
RS485 A	5	Modbus RS485 A
PWR-GND	1	Battery Ground B- (Black Wire)
PWR-B+VDC	2	Battery Power B+ (8-32VDC) (Red Wire)
GND	3	GND
Digital Output 2	4	Digital Ground Output 1A 32VDC max
Digital Output 1	5	Digital Ground Output 1A 32VDC max
Analog Input 4	6	0-10V/0-5V
Analog Input 3	7	0-10mA/4-20mA
Analog Input 2	8	0-10V/0-5V
Analog Input 1	9	0-10mA/4-20mA
Relay NC	10	DC: 2A 30VDC
Relay C	11	DC: 2A 30VDC
Relay NO	12	DC: 2A 30VDC
Digital Input 1	10	Voltage detector/Switch to GND
GND - DI1	9	GND
Digital Input 2	8	Voltage detector/Switch to GND
GND - DI2	7	GND
Digital Input 3	6	Voltage detector/Switch to GND
GND - DI3	5	GND
Digital Input 4	4	Voltage detector/Switch to GND
GND - DI4	3	GND
Digital Input 5	2	Voltage detector/Switch to GND
GND - DI5	1	GND
ETH 1 (WAN)		WAN Port for Internet Connectivity
ETH 2 (LAN)		LAN Port for Modbus TCP
Cell		Cellular Antenna Connector (SMA)
GPS		GPS Receiver Connector (SMA)