

PT400

Stationary Generator Monitoring System



The **PT400** generator monitoring system is a comprehensive solution for monitoring all of the major alarm points for standby generator applications. This monitor includes a power harness, custom I/O harness, has seven (7) additional digital (dry contact) inputs and three (3) analog inputs. When configured with the appropriate inputs and accessory kits, this unit can monitor Utility Power, Generator Power, Generator Current, Common Fault, Low Fuel Level and other key conditions. This system is popular for tracking the full sequence of operation along with many other individualized inputs. For NPFA-110 applications, the full sequence of events can be measured to determine if the generator is online within 10 seconds.



Standard Unit Includes

- **PT400** Monitor – Fully Configured & Scripted
- External Cellular & GPS Antenna
- Power Harness and Custom I/O Connection Harness
- Internal Battery – 4 Hour Capability
- 7 Digital (Dry Contact) Inputs
- 3 Analog Inputs
- 5 Relay Driver Outputs
- 7-32VDC Power
- Cellular Carrier Activation (Verizon or AT&T)
- Over-The-Air Unit Configuration and Updates
- Generator On (Running)/Off (Stopped)
- Engine Battery Voltage Monitor with Low Battery Alarm
- Generator Failed to Exercise (Missed Exercise Cycle)
- Excessive Run Time – Generator Running for 4 Hours

Input Configuration

The **PT Series** of monitoring systems are **UNIVERSAL** to all brands, models and sizes and provide extensive flexibility when selecting what conditions to monitor. Typically, there are relay outputs available on the generator, some may even be programmable. The **PT Series** of monitoring systems allow you to cost effectively utilize available output relay dry contacts on the generator to monitor critical alarms and conditions.

All of the **PT Series** of monitoring systems include a “Generator On/Off” engine run signal and a battery voltage monitor with low battery alarm. The **PT Series** monitors are also configured to log the weekly exercise cycle, send an alert if the generator has “Failed to Exercise,” and provide an alert if the generator has been running for 4 hours.

The **PT400** monitoring system includes **seven (7)** additional digital (dry contact) inputs that can be used to monitor any contact closure condition that is available from the generator or from any of the optional sensing kits. The **PT400** system also includes **three (3)** analog inputs for use with any of the optional analog input accessory kits.

User Interface: Power Link



Power Link is the most versatile and comprehensive user interface on the market. It is designed for generator service organizations to monitor and track customer equipment and service technicians all in one place. All monitoring systems include a personalized application portal and provide extensive,

customizable alerts and reports. **All reports have your company name on them and all communications to your customers are sent from your company email address!**

PT400 Stationary Generator Monitoring

Digital (Dry Contact) Input Channels (7 Available)

The monitor programming is completely configurable and based on the inputs selected. When utilizing available output relay dry contacts on the generator, the monitoring system is able to be configured for those alarms and conditions. There are also optional voltage and current sensing kits available that can be used to sense the availability of **Utility Power Voltage** (Utility Power On/Off), **Generator Output Voltage** (Generator Breaker Open/Closed) and **Generator Current** (On Generator Power/ On Utility Power). **Custom Labeled Inputs** are also available on the **PT Series** monitoring systems at no extra charge and can monitor any digital (dry contact) input for custom applications.

All **PT Series** digital inputs require a normally open relay contact that closes when the condition is present. Some of the common input configurations are:

- Common Fault Alarm
- Low Fuel Alarm
- Generator Switch Not in Auto
- Low Coolant Temperature
- Battery Charger Fault
- EPS Supplying Load
- Fuel Leak Detected
- Utility Supplying Load
- Low Coolant Level

Utility Voltage Sensing Kit

This kit includes a voltage sensing relay to log and report the events of “Utility Power On/Off.” The voltage sensing leads typically connect to the battery charger or block heater input power circuit or to the ATS sensing circuit on the generator control panel.

Generator Voltage Sensing Kit

This kit includes a voltage sensing relay to report a “Generator Breaker Open” condition. When used in conjunction with the Utility Voltage Sensing Kit, the condition of “Site Without Power” is reported when no voltage is present from either the Utility Source or Generator Source.

Generator Current Sensing Kit

This kit includes a split core current sensing switch for applications up to 200A Max to log and report the events of “On Generator Power” and “On Utility Power.” ***If the generator output is more than 200 amps per leg/line, do not use this kit and select one of the GCT analog input current sensing kits.***

Analog Input Channel (3 Available)

The **PT400** has three (3) analog input channel available. This channel is typically used for current sensing when the generator set output is more than 200 amps or for an external fuel sensor when a low fuel level contact is not available on the generator. The analog input channel is used in conjunction with the digital input channels.

GCT Generator Current Sensing Kit - This kit includes a split core current sensing CT for applications up to 300A to log and report the events of “On Generator Power” and “On Utility Power.” Kits are available in 300A, 800A and 2000A rating.

USFS Ultrasonic Fuel Sensor Kit - This kit includes an ultrasonic fuel sensor that can be installed on diesel tanks up to 7' high. This fuel sensor has a 1" NPT threaded port in the top of the fuel tank. This device will report “Low Fuel Level” based on the desired set point.

PT400 Specifications

Cellular:

- CDMA/1XRTT: 850/1900
- HSPA/UMTS: 800(VI)/850(V)/900(VIII)/1700(IV)/1900(II)/2100(I)

GPS Location Technology: 50 channel GPS with SBAS

Temperature: -30° to 75° C (operating)

Humidity: 95%RH @ 50° C non-condensing

Shock and Vibration: U.S. Military Standards 202G and 810F, SAE J1455

EMC/EMI: SAE J1113

Operating Voltage: 7-32 VDC

Dimensions: 4.3 x 3.2 x 0.86", (110 x 81 x 22mm)

Weight: 4 oz, (113 g)

Comprehensive I/O:

- Digital Inputs: 7 programmable bias
- Digital Outputs: 3 open collector (150 mA)
- Analog Inputs: 3 External ADC and 1 internal VCC monitor (battery voltage monitor)

Status LEDs: GPS and cellular

Mount: Screw Mounting Bracket, Tie-Wrap, Velcro or Adhesive