

GUARDIAN SERIES™ THREE PHASE PUMP CONTROLLER

The Guardian Series™ Three Phase controller takes a major leap forward in fixed speed Submersible Turbine Pump (STP) control. Built upon the fixed speed Single Phase Guardian Controller platform, three phase fixed speed pump controllers feature an enhanced user interface, greater functionality, and higher performance compared to standard control boxes.

HIGHLIGHTS

- Compatible to new or retrofit applications with most FE PETRO® three phase fixed speed STPs, FE PETRO® three phase Diesel Exhaust Fluid pump module assembly (PMA), and comparable competitive STPs (SW2 Pole 6 ON).
- 3½ digit LCD provides readable running and fault status for quick troubleshooting.
- Separate “Reset” and “Silence/Calibrate” push buttons provide clear interaction with the controller.
- Automatically logs the last five abnormal conditions seen in the pumping system. This data is retained in non-volatile memory. Service technicians can quickly view a history of abnormal conditions, which is particularly useful when troubleshooting intermittent conditions.
- Over voltage protection and enhanced underload detection protects pumping system equipment.
- With a single press of the “Calibrate” button, the controller will automatically learn the electrical characteristics of the STP for easy setup or retrofit.



SPECIFICATIONS

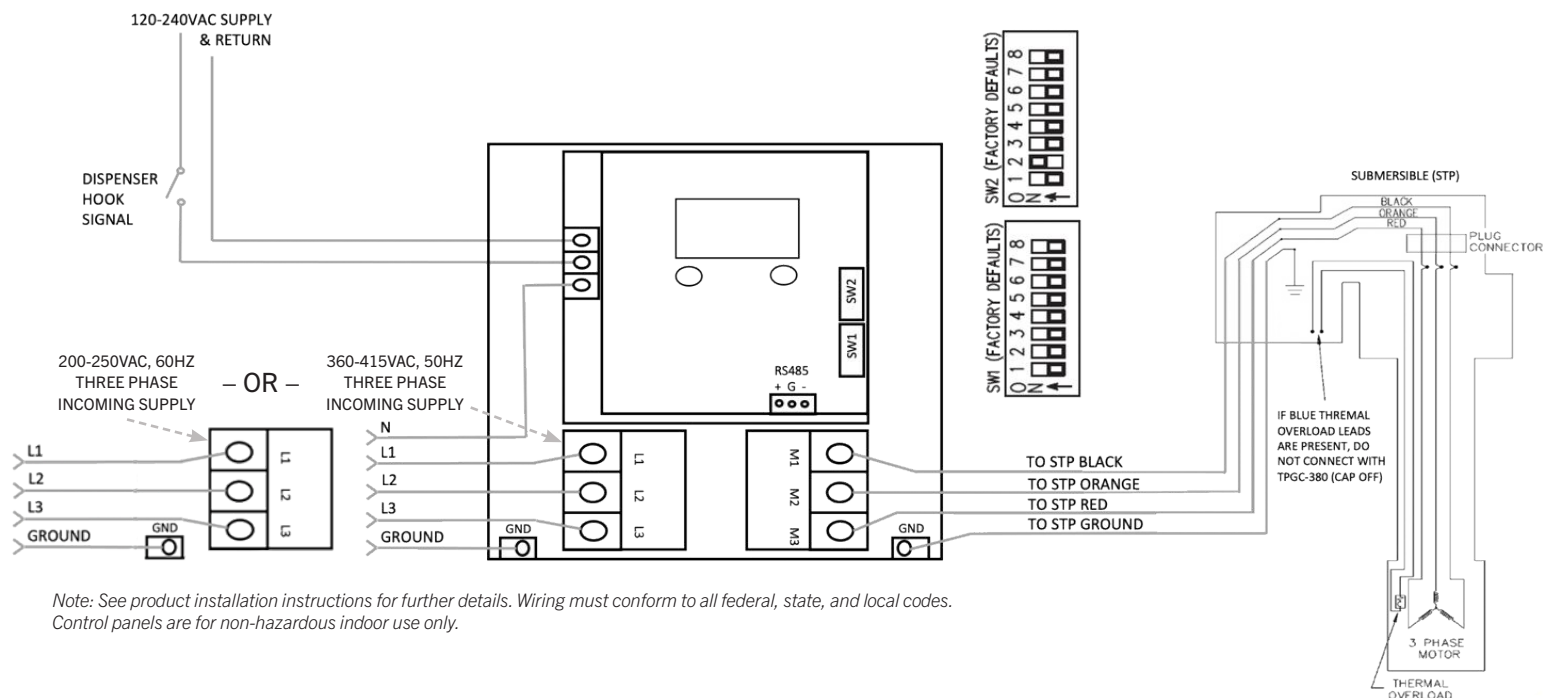
Dimensions	9½" x 7¾" x 5½" (230 mm x 196 mm x 140 mm)
Motor Contact Rating	– TPGC-220 rated 5 Hp, 208-240 VAC, 60 Hz, Three Phase – TPGC-380 rated 5 Hp, 380 VAC, 50 Hz, Three Phase
Switch Hook Rating	120-240 VAC, 50/60 Hz
Enhanced Functionality	An integrated RS 485 com port is provided to connect Guardian Series™ Controllers to EVO™ Series for enhanced functionality via Turbine Pump Interface™ (TPI).
Approvals / Certifications	– ULc listed – CE certified – ISO 9001:2015 certified manufacturer

SPECIFICATIONS CONTINUED

Capabilities

Capability	Standard Three Phase Starter (STP-CB5)	Smart Controller (STP-SCIII/STP-SCIIC)	Guardian Series™ Controller (TPGC-220/-380)
Pump Compatibility	up to 5 Hp	up to 5 Hp	up to 5 Hp
Horsepower Selection	Not Applicable	Required	Not Required
Standard THHN Wiring	YES	YES	YES
Primary/Secondary Pump Operation	NO	YES	YES
Alternating Pump Operation	NO	YES	YES
Communication Display	NO	YES, yellow flashing light	YES, yellow flashing light
Incoming Power Display	NO	YES, solid green light	YES, displays “Idle”
Pump Running Display	YES, red pilot light	YES, green flashing light	YES, flashes “run”
Fault History Readout	NO	SCIII = NO, SCIIC = YES	YES, displays last five faults
Fault Diagnostics	NO	YES, red flashing light	YES, red backlight display
Underload (dry run) Detection	NO	YES, 1 red flash	YES, flashes “UL”
Low Incoming Voltage Protection	NO	YES, 2 red flashes	YES, flashes “LI”
High Incoming Voltage Protection	NO	YES, 12 red flashes	YES, flashes “HI”
Overload (running) Detection	YES	YES, 3 red flashes	YES, flashes “OL”
Overload (startup) Detection	YES	YES, 3 red flashes	YES, flashes “Lr”
Open Circuit Detection	NO	YES, 4 red flashes	YES, flashes “OC”
Extended Run Protection	NO	YES, 9 red flashes	YES, flashes “Er”
Relay Failure Protection	NO	YES, 10 red flashes	YES, flashes “rEL”
Phase Loss Detection	NO	YES, 11 red flashes	YES, flashes “23o”
Unbalanced Phase Warning	NO	YES, 13 red flashes	YES, flashes “Ubl”
Unbalance Load Warning	NO	YES, 14 red flashes	YES, flashes “UBL”
Audible Fault Alarm	NO	YES, reset/silence button	YES, separate silence button

Wiring Diagram



ORDERING INFORMATION



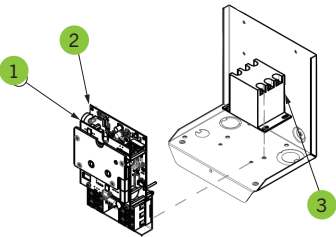
Guardian Series™ Three Phase Pump Controller

Model	Description
5800103220	TPGC-220 Guardian Series™ Three Phase Controller (220 Volt supply, 110 Volt hook)
5800103380	TPGC-380 Guardian Series™ Three Phase Controller (380 Volt supply, 220 Volt hook)

Notes:

- 1. Compatible with most three phase FE PETRO® and competitive STPs except 460 VAC and 575 VAC models.
- 2. One controller required for each submersible (up to 5 Hp).
- 3. Compatible for use in primary/secondary configurations with STP-SCIII/STP-SCIIIC models in compatibility mode.

Replacement Parts



Item	Model	Description
1	225000932	Upper (Input) Board
2	223689930	TPGC-220 Lower (Power) Board
2	223689931	TPGC-380 Lower (Power) Board
3	228727102	Contactor, 3PST-NO (220VAC Coil)
N/A	223747932	TPGC-220 Complete Board Assembly (includes items 1 & 2 plus mounting hardware)
N/A	223747933	TPGC-380 Complete Board Assembly (includes items 1 & 2 plus mounting hardware)