Project: _____

Customer: _____

Engineer: _____

Pump Manufacturer: _____

Technical Data Submittal Document

Model GPY
Full Service Reduced Voltage
Wye-delta Open
Electric Fire Pump Controller

Contents:

- Data Sheets
- Dimensional Data
- Wiring Schematics
- Field Connections

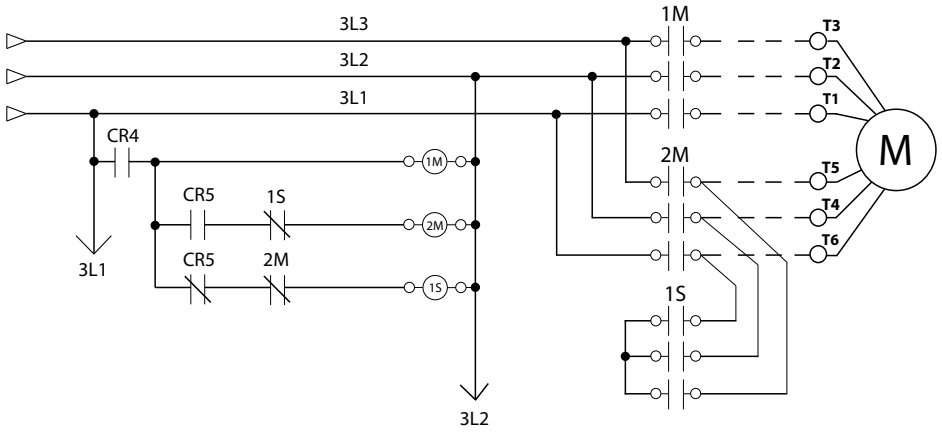
Note: The drawings included in this package are for controllers covered under our standard offering. Actual AS BUILT drawings may differ from what is shown in this package.

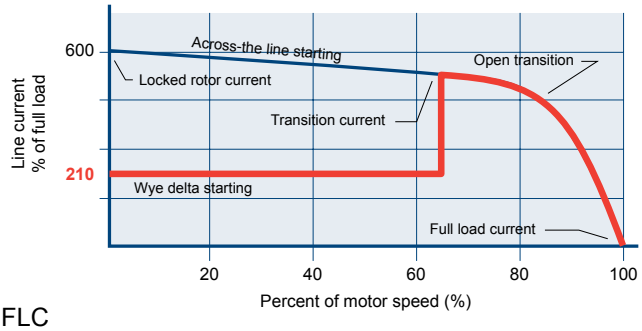
July 2016

c UL us FM APPROVED N.Y.C. APPROVED CE OPTIONAL SEISMIC COMPLIANT

Technical Data
Model GPY Electric Fire Pump Controller

From normal incoming power through Disconnecting Means (IS/CB)*





Starting Method: Reduced Voltage
Wye-delta open
Typical Voltage Applied at Start: 100%
Inrush Current: 33% of normal load current
Starting Torque: 33%
Motor Type: Wye-delta
No. of Contactors: 2 at 58%, 1 at 33% of motor FLC
Min. ampacity of motor conductors: 6 at 125% x 58% of FLC

Standard, Listings, Approvals and Certifications	Built to NFPA 20 (latest edition)	
	Underwriters Laboratory (UL)	• UL218 - Fire Pump Controllers • CSA C22.2 No. 14 Industrial Control Equipment
	FM Global	Class 1321/1323
	New York City	Accepted for use in the City of New York by the Department of Buildings
	Seismic Certification	See page 5 for details
	Optional	
	☐ CE Mark	Various EN, IEC & CEE directives and standards
Enclosure	**Protection Rating** ☐ Standard: NEMA 2 (IP31) **Optional** ☐ NEMA 12 ☐ NEMA 4X-304 sst painted ☐ IP54 ☐ NEMA 3 ☐ NEMA 4X-304 sst brushed finish ☐ IP55 ☐ NEMA 3R ☐ NEMA 4X-316 sst painted ☐ IP65 ☐ NEMA 4 ☐ NEMA 4X-316 sst brushed finish ☐ IP66	
	Accessories • Bottom entry gland plate • Lifting Lugs • Keylock handle	**Paint Specifications** • Red RAL3002 • Powder coating • Glossy textured finish

*Please see Disconnecting Means details on page 3.

Technical Data
Model GPY Electric Fire Pump Controller

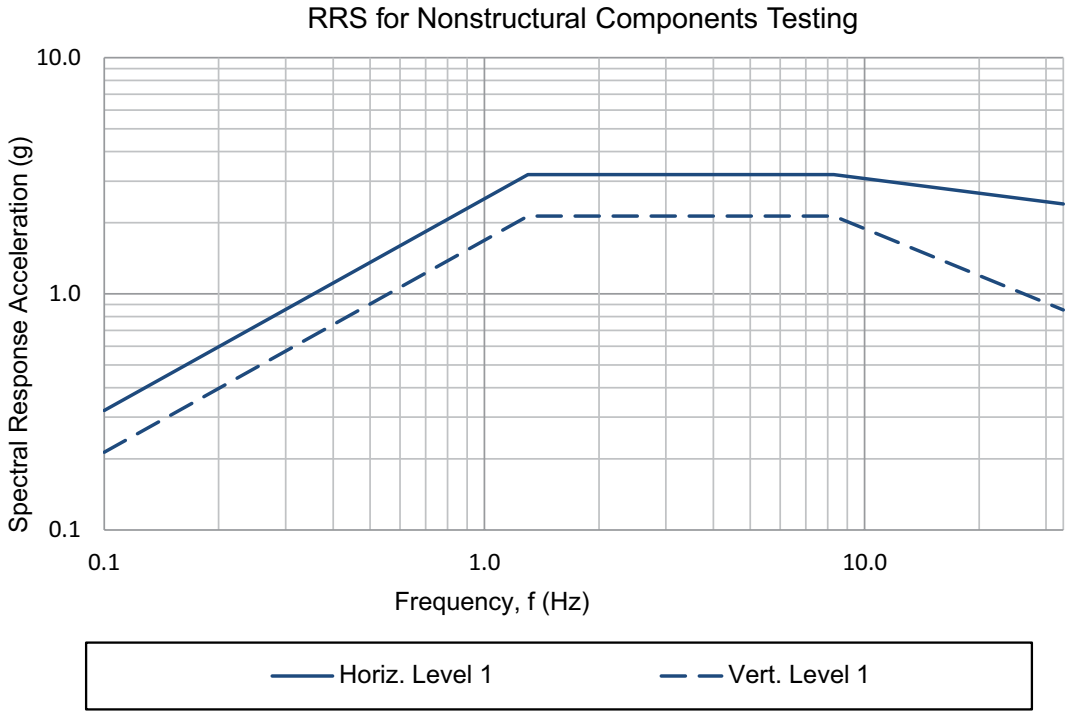
Shortcircuit Withstand Rating	200V to 208V 60Hz	220V to 240V 60Hz	380V to 416V 50 Hz / 60Hz	440V to 480V 60Hz	575V to 600V 60Hz
	HP (kw)				
□ Standard 100kA	5-150 (3.7 - 110)	5-200 (3.7 - 147)	5-300 (3.7 - 220)	5-450 (3.7 - 335)	n/a
□ Optional 150kA					
□ Standard 50kA	200 (147)	250 (184)	350 - 450 (257-335)	500 (373)	5-500 (3.7- 373)
□ Optional 100kA	n/a	n/a	n/a	n/a	

Ambient Temperature Rating	**Standard**: □ 5°C to 40°C / 41°F to 104°F **Optional**: □ 5°C to 55°C / 41°F to 131°F
Surge Suppression	Surge arrestor rated to suppress surges above line voltage
Disconnecting Means	• Isolating switch and circuit breaker assembly: - Door interlocked in the ON position - Isolating switch rated not less than 115% of motor full load current - Circuit breaker continuous rating not less than 115% of motor full load current - Overcurrent sensing non-thermal type, magnetic only - Instantaneous trip setting of not more than 20 times the motor full load current • Common flange mounted operating handle
Service Entrance Rating	Suitable as service entrance equipment
Emergency Start Handle	• Flange mounted • Integrated limit switch • Pull and latch activation • Across the line start (direct on line)
Locked Rotor Protector	• Operate shunt trip to open circuit breaker • Trip between 8 and 20 seconds • Factory set at 600% of motor full load current
Electrical Readings	• Voltage phase to phase (normal power) • Amperage of each phase when motor is running
Pressure Readings	• Continuous system pressure display • Cut-in and Cut-out pressure settings
Pressure and Event recorder	• Pressure readings with date stamp • Event recording with date stamp • Under regular maintained operation, events can be stored in memory for up to 5 years. • Data viewable on operator interface display screen • Downloadable by USB port to external memory device
Pressure Sensing	• Pressure transducer and run test solenoid valve assembly for fresh water application • Pressure sensing line connection 1/2” Female NPT • Drain connection 3/8” • Rated for 0-500PSI working pressure (standard display at 0-300psi) • Externally mounted with protective cover

Audible Alarm	4” alarm bell - 85 dB at 10ft. (3m)		
Visual Indications & Alarms	• Power available • Phase reversal • Motor run • Pump room alarm • Motor trouble • Phase loss • Phase unbalance • Low water level	• Locked rotor • Periodic test • Fail to start • Low discharge pressure • Low pump room temperature • Pump room temperature (ºF or ºC) • Pump on demand/Automatic start • Emergency start	• Manual start • Deluge valve start • Remote automatic start • Remote manual start • Overcurrent • Undercurrent • Undervoltage • Overvoltage
Remote Alarm Contacts	SPDT-8A-250V.AC • Power available • Phase reversal • Motor run • Common pump room alarm (field re-assignable)** • Overvoltage • Undervoltage • Phase unbalance • Low pump room temperature • High Pump room temperature • Common motor trouble (field re-assignable)** • Overcurrent • Fail to start • Undercurrent • Ground fault • Free (field programmable)**		
ViZiTouch Operator Interface	• Embedded microcomputer with software PLC logic • 4.2” color touch screen (HMI technology) • Upgradable software • Expandable storage • Multi-language		
Communication Protocol Capability	• Protocol: Modbus • Connection type: Shielded female connector RJ45 • Frame Format: TCP/IP • Addresses: See bulletin MOD-GPx		
Operation	**Automatic Start**	• Start on pressure drop • Remote start signal from automatic device	
	Manual Start	• Start pushbutton • Run test pushbutton • Deluge valve start • Remote start from manual device	
	Stopping	• Manual with Stop pushbutton • Automatic after expiration of minimum run timer ***	
	Timers	Field Adjustable & Visual Countdown	• Minimum run timer ***(off delay) • Sequential start timer (on delay) • Periodic test timer
	Actuation	Visual Indication	• Pressure • Non-pressure
	Mode		• Automatic • Non-automatic

**Tornatech reserves the right to use any of these three alarm points for special specific application requirements.
***Can only be used if approved by the AHJ

Seismic Certification	Seismic Certification Company	TRU Compliance, LLC A Tobalski Watkins Affiliate						TWEI Project No.: 15014			
	Mounting details	Rigid base and wall mounting									
	Seismic Information	Building Code	Test Criteria	Seismic Parameters	S_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
		IBC 2015, CBC 2016	ICC-ES AC156	ASCE 7-10 Chapter 13	2.0	1.0	1.5	3.20	2.40	1.33	0.53
					3.2	0.0	1.5	3.20	1.28	2.13	0.85



Notes:
- Components are tested in accordance with ICC-ES AC156, IBC 2015 & CBC 2016.
- OSHPD Special Seismic Certification Preapproval (OSP)

☐ A4	Flow switch provision
☐ A8	Foam pump application w/o pressure transducer and run test solenoid valve
☐ A9	Low zone pump control function
☐ A10	Middle zone pump control function
☐ A11	High zone pump control function
☐ A13	Non-pressure actuated controller w/o pressure transducer and run test solenoid valve
☐ A16	Lockout/interlock circuit from equipment installed inside the pump room
☐ B11	Built in alarm panel (120V.AC supervisory power) providing indication for: • Audible alarm & silence pushbutton for motor run, phase reversal, loss of phase. • Pilot lights for loss of phase & supervisory power available
☐B11B	Built in alarm panel same as B11 but 220-240VAC supervisory power
☐ B19A	High motor temperature c/w thermoster relay and alarm contacts (Form C-SPDT)
☐ B19B	High motor temperature c/w PT100 relay and alarm contacts (Form C-SPDT)
☐ B21	Ground fault alarm detection c/w visual indication and alarm contact (Form C-SPDT)
☐ C1	Extra motor run alarm contact (Form C-SPDT)
☐ C4	Periodic test alarm contact (Form C-SPDT)
☐ C6	Low discharge pressure alarm contact (Form C-SPDT)
☐ C7	Low pump room temperature alarm contact (Form C-SPDT)
☐ C10	Low water reservoir level alarm contact (Form C-SPDT)
☐ C11	High electric motor temperature alarm contact (Form C-SPDT)
☐ C12	High electric motor vibration c/w visual indication and alarm contact (Form C-SPDT)
☐ C14	Pump on demand / automatic start alarm contact (Form C-SPDT)
☐ C15	Pump fail to start alarm contact (Form C-SPDT)
☐ C16	Control voltage healthy alarm contact (Form C-SPDT)
☐ C17	Flow meter valve loop open c/w visual indication and alarm contact (Form C-SPDT)
☐ C18	High water reservoir level c/w visual indication and alarm contact (Form C-SPDT)
☐ C19	Emergency start alarm contact (Form C-SPDT)

☐ C20	Manual start alarm contact (Form C-SPDT)
☐ C21	Deluge valve start alarm contact (Form C-SPDT)
☐ C22	Remote automatic start alarm contact (Form C-SPDT)
☐ C23	Remote manual start alarm contact (Form C-SPDT)
☐ C24	High pump room temperature alarm contact (Form C-SPDT)
☐ C25	Second set of standard alarm contacts (Form C-SPDT) (Typical for city of Los Angeles and Denver)
☐ Cx	Additional visual and alarm contact (specify function) (Form C-SPDT)
☐ D1	Low suction pressure transducer for fresh water rated at 0-300PSI with visual indication and alarm contact
☐ D1A	Low suction pressure transducer for sea water rated at 0-300PSI with visual indication and alarm contact
☐ D5	Pressure transducer and run test solenoid valve for fresh water rated for 0-500PSI (for factory calibration purposes only)
☐ D5D	Pressure transducer and run test solenoid valve for sea water rated for 0-500PSI
☐ D10	Omit mounting feet (when applicable)
☐ D13	High withstand rating for (normal power section) • 208V to 480V = 150kA • 600V = 100kA
☐ D14	Anti-condensation heater & thermostat
☐ D14A	Anti-condensation heater & humidistat
☐ D14B	Anti-condensation heater & thermostat & humidistat
☐ D15	Tropicalization
☐ D18	CE Mark with factory certificate
☐ D26	Modbus with RTU frame format and RS485 connection
☐ D27	Motor heater connection (external single phase power source and heater on/off contact)
☐ D27A	Motor heater connection (internal single phase power source and heater on/off contact)
☐ D28	Customized drawing set
☐ D34	Field programmable I/O board - 8 Input / 5 output
☐ D35	Field programmable I/O board - 8 Input / 10 output
☐ D36	Redundant pressure transducer for fresh water rated for 0-500PSI
☐ D36A	Redundant pressure transducer for sea water rated for 0-500PSI
☐ D37	Window kit for operator interface

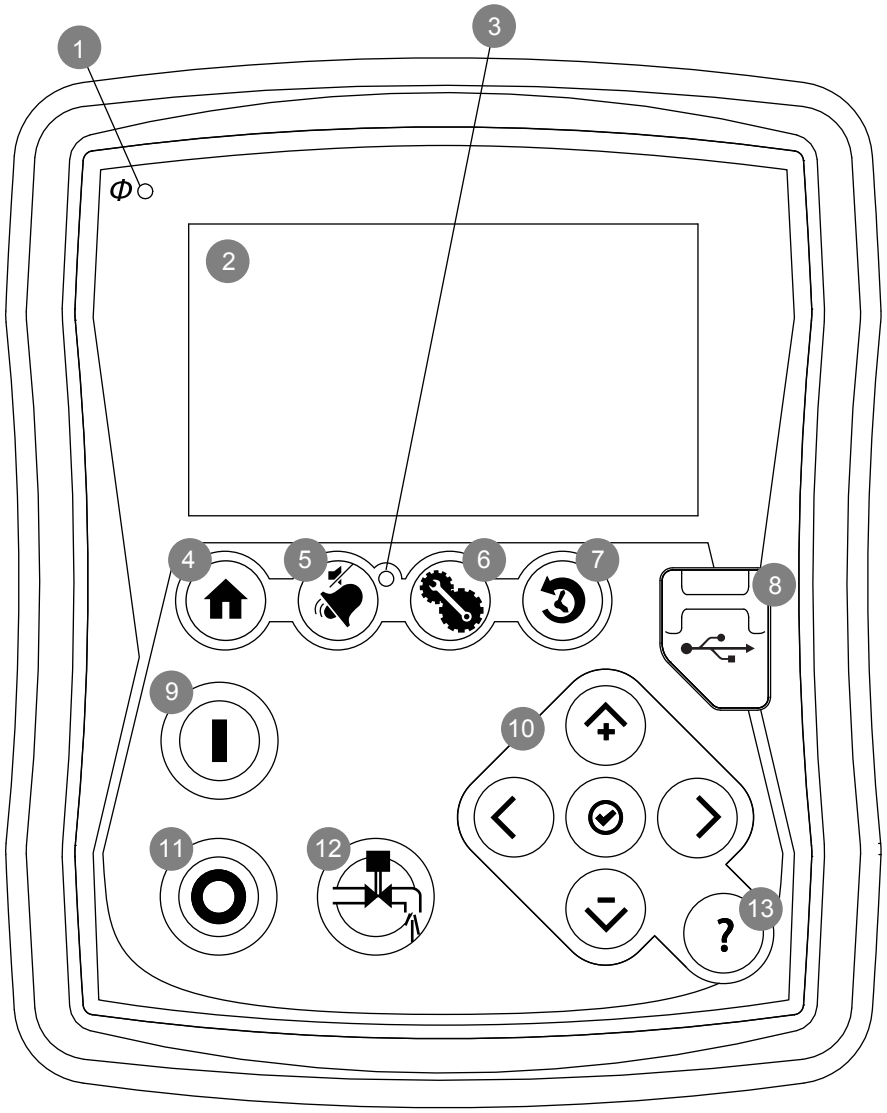
Note: Options chosen from this page are not electrically represented on the wiring schematics in this submittal package.

☐ L01	Other language and English (bilingual)
☐ L02	French
☐ L03	Spanish
☐ L04	German
☐ L05	Italian
☐ L06	Polish
☐ L07	Romanian
☐ L08	Hungarian
☐ L09	Slovak
☐ L10	Croatian
☐ L11	Czech
☐ L12	Portuguese
☐ L13	Dutch

☐ L14	Russian
☐ L15	Turkish
☐ L16	Swedish
☐ L17	Bulgarian
☐ L18	Thai
☐ L19	Indonesian
☐ L20	Slovenian
☐ L21	Danish
☐ L22	Greek
☐ L23	Arabic
☐ L24	Hebrew
☐ L25	Chinese

Note: Options chosen from this page are not electrically represented on the wiring schematics in this submittal package.

ViZiTouch Operator Interface



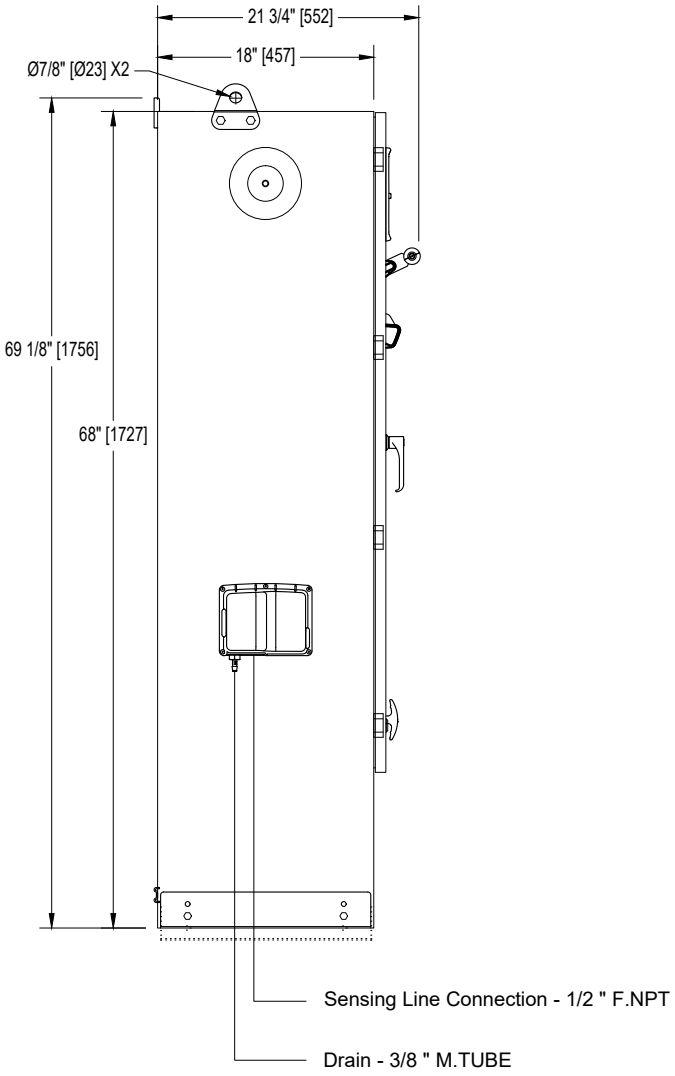
1 - Power on LED
2 - Color touch screen
3 - Alarm LED
4 - HOME page button
5 - ALARM page button
6 - CONFIGURATION page button
7 - HISTORY page button
8 - USB port
9 - START button
10 - Contextual navigation pad
11 - STOP button
12 - RUN TEST button
13 - HELP button

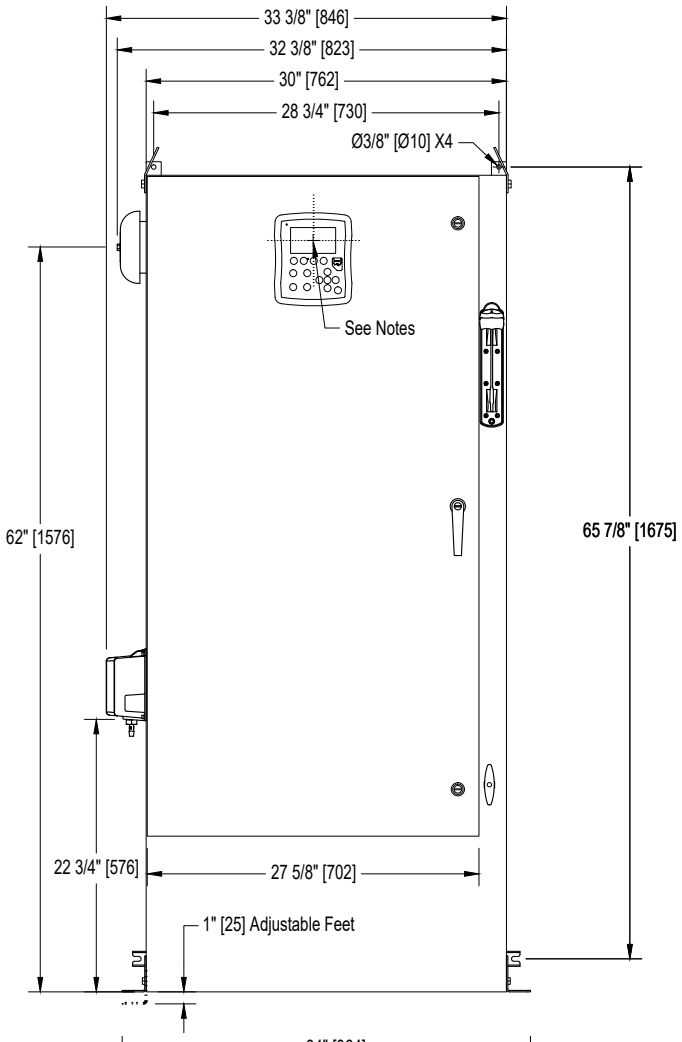
Electric Fire Pump Controller

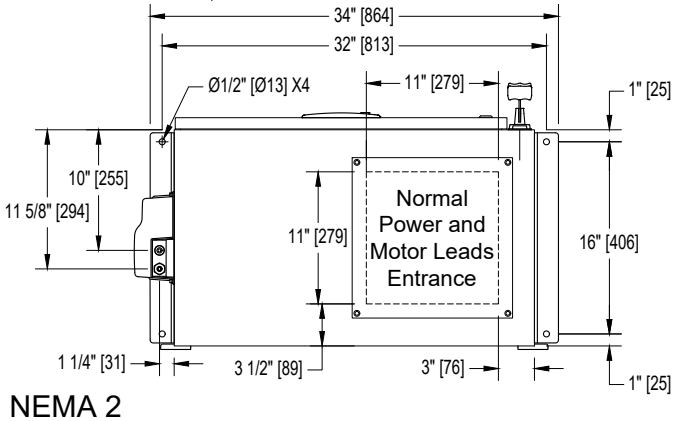
Model: GPA/GPP/GPY

Dimensions

Built to the latest edition of the NFPA 20 standard







Voltage / Power Table		
Voltage	Min HP	Max HP
208	75	150
220 - 240	75	200
380 - 400 - 415	150	300
440 - 480	200	400
600	200	500

Notes:

- Standard NEMA: NEMA 2
- Standard Paint : Textured Red RAL 3002.
- All Dimensions are in Inches [Millimeters].
- Center of ViZiTouch Screen: 62-5/8" [1589] from Bottom.
- Bottom Conduit Entrance Through Removable Gland Plate Recommended.
- Use Watertight Conduit and Connector Only.
- Protect Equipment Against Drilling Chips.
- Door Swing Equal to Door Width.
- Seismic mounting to be rigid wall and base only.

Drawing for information only.
Manufacturer reserves the right to modify this drawing without notice.
Contact manufacturer for "As Built" drawing.

Projection

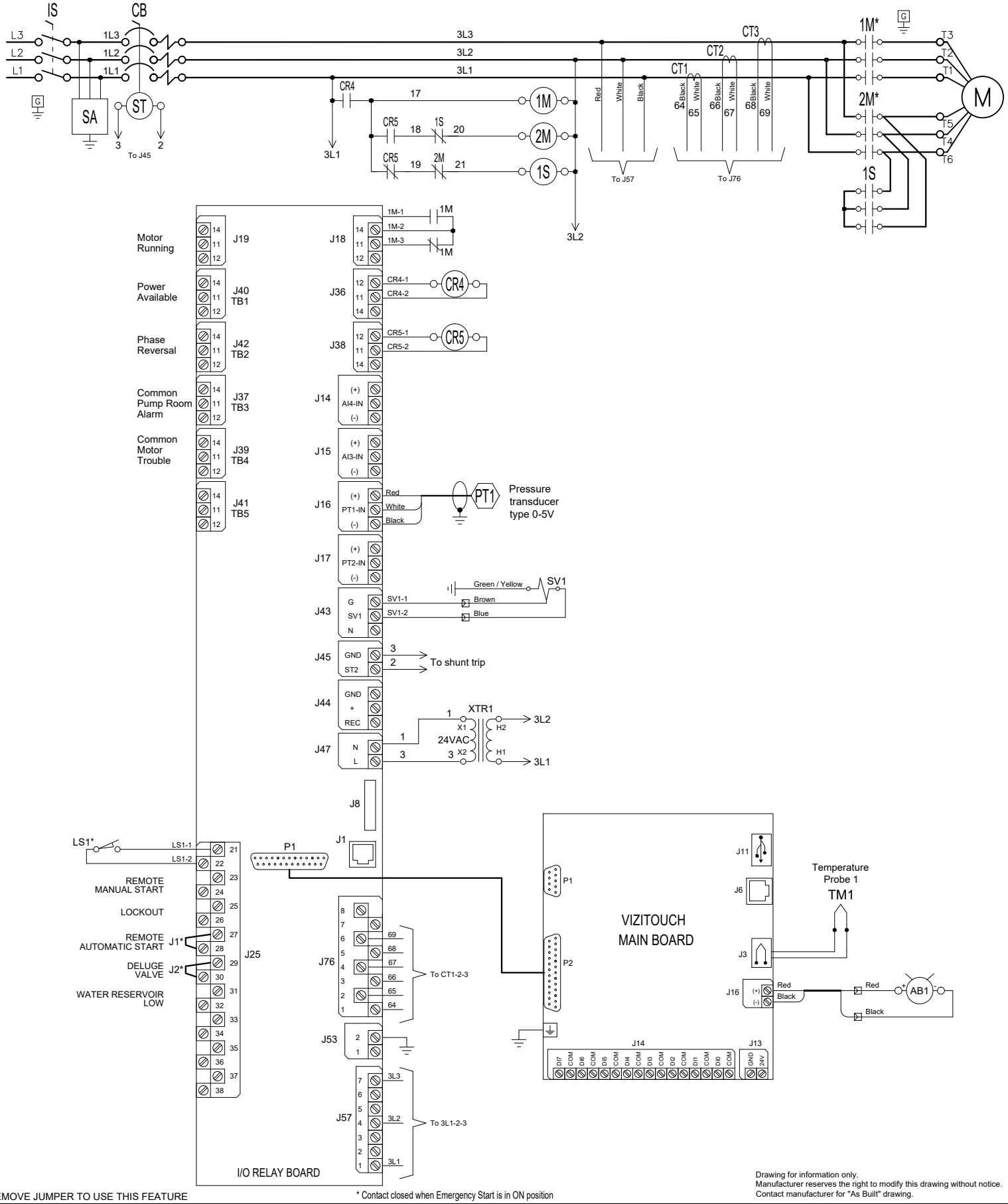
REV.	DESCRIPTION	DD/MM/YY	Drawing number
12	MODIFIED TORNATECH & SEISMIC LOGO	22/12/15	GPX-DI311 /E
11	ADDED SEISMIC LOGO	19/08/15	
10	GENERAL REVISION	16/06/14	CDL

Electric Fire Pump Controller
Reduced Voltage / Wye-Delta (Open Transition)

Model: GPY

Wiring schematic

Built to the latest edition of the NFPA 20 standard



* REMOVE JUMPER TO USE THIS FEATURE

* Contact closed when Emergency Start is in ON position

Drawing for information only.
Manufacturer reserves the right to modify this drawing without notice.
Contact manufacturer for "As Built" drawing.

REV.	DESCRIPTION	DD/MM/YY	Drawing number
5	Modified Tornatech & Seismic Logo	14/04/16	GPY-WS500 /E
4	Added Seismic Logo	19/08/15	
3	General Revision	07/01/15	CDL

SEISMIC COMPLIANT

NYC Dpt of Building Approved

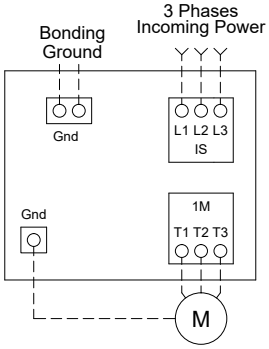
Electric Fire Pump Controller

Model: GPX

Terminals Diagram and Sizing

Built to the latest edition of the NFPA 20 standard

Power Terminals
Models :GPA, GPR & GPS



Notes:
1 - For proper wire sizing, refer to NFPA70 and NEC (USA) or CEC (Canada) or local code.
2 - Controller suitable for service entrance in USA.
3 - For more accurate motor connections refer to motor manufacturer or motor nameplate.
4 - Controller is phase sensitive. Incoming lines must be connected in ABC sequence.
5 - Field wiring and lug sizes base on copper conductors only.
Do not use aluminium conductors.

Isolating Switch (IS) Field Wiring according to Bending Space (AWG or MCM). TERMINALS L1 - L2 - L3 **(Use Copper Conductors Only)**

Bending Space	5 " (127 mm)							8 " (203 mm)		
HP / Voltage	5	7.5	10	15	20	25	30	40	50	60
208	1x (10 to 1/0)	1x (8 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (2 to 1/0)	1x (1/0 to 250)	1x (3/0 to 250)	1x (4/0 to 250)
220 to 240	1x (10 to 1/0)	1x (10 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (1 to 250)	1x (2/0 to 250)	1x (3/0 to 250)
380 to 416	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (8 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (3 to 1/0)
440 to 480	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (8 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)
600	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (8 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)

Bending Space	12 " (305 mm)				16 " (406 mm)						
HP / Voltage	75	100	125	150	200	250	300	350	400	450	500
208	1x (300 to 500)	1x (500)	2x (4/0 to 500)	2x (250 to 500)	2x (400 to 600)	--------	--------	--------	--------	--------	--------
220 to 240	1x (250 to 500)	1x (350 to 500)	2x (3/0 to 500)	2x (4/0 to 500)	2x (350 to 500)	2x (500 to 600)	--------	--------	--------	--------	--------
380 to 416	1x (1/0 to 250)	1x (3/0 to 250)	1x (250)	1x (300 to 500)	2x (3/0 to 250)	2x (4/0 to 500)	2x (300 to 500)	2x (400 to 500) 2x (400 to 500)	2x (500 to 600)	2x (600)	--------
440 to 480	1x (1 to 250)	1x (2/0 to 250)	1x (3/0 to 250)	1x (4/0 to 250)	1x (350 to 500)	2x (3/0 to 250)	2x (4/0 to 500)	2x (300 to 500)	2x (350 to 500)	2x (400 to 600)	2x (500 to 600)
600	1x (3 to 1/0)	1x (1 to 250)	1x (2/0 to 250)	1x (3/0 to 250)	1x (250 to 500)	1x (350 to 500)	2x (3/0 to 250)	2x (4/0 to 500)	2x (250 to 500)	2x (300 to 500)	2x (350 to 500)
Bending Space	5 " (127 mm)	8 " (203 mm)			12 " (305 mm)						

Wiring Size for motor connection for Models GPA, GPR & GPS (AWG or MCM). TERMINALS T1 - T2 - T3 **(Use Copper Conductors Only)**

HP / Voltage	5	7.5	10	15	20	25	30	40	50	60
208	1x (10)	1x (10)	1x (8 to 2)	1x (6 to 2)	1x (4 to 1/0)	1x (3 to 1/0)	1x (2 to 1/0)	1x (1/0 to 3/0)	1x (3/0)	1x (4/0 to 300)
220 to 240	1x (12 to 10)	1x (10)	1x (8 to 2)	1x (6 to 2)	1x (4 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (1 to 3/0)	1x (2/0 to 3/0)	1x (3/0)
380 to 416	1x (14 to 10)	1x (12 to 10)	1x (10)	1x (8 to 2)	1x (8 to 2)	1x (6 to 2)	1x (6 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (3 to 1/0)
440 to 480	1x (14 to 10)	1x (14 to 10)	1x (12 to 10)	1x (10)	1x (8 to 2)	1x (8 to 2)	1x (6 to 2)	1x (6 to 2)	1x (4 to 1/0)	1x (3 to 1/0)
600	1x (14 to 10)	1x (14 to 10)	1x (14 to 10)	1x (10)	1x (10)	1x (8 to 2)	1x (8 to 2)	1x (6 to 2)	1x (6 to 2)	1x (4 to 1/0)

HP / Voltage	75	100	125	150	200	250	300	350	400	450	500
208	1x (300)	2x (2/0 to 300)	2x (4/0 to 300)	2x (250 to 300)	2x (400 to 600)	--------	--------	--------	--------	--------	--------
220 to 240	1x (250 to 300)	2x (2/0 to 300)	2x (3/0 to 300)	2x (4/0 to 300)	2x (350 to 500)	2x (500 to 600)	--------	--------	--------	--------	--------
380 to 416	1x (1/0 to 3/0)	1x (3/0)	1x (250 to 300)	1x (300)	2x (3/0 to 300)	2x (4/0 to 300)	2x (300)	2x (400 to 500)	2x (500 to 600)	2x (600)	
440 to 480	1x (1 to 2/0)	1x (2/0 to 3/0)	1x (3/0)	1x (4/0 to 300)	2x (1/0 to 300)	2x (3/0 to 300)	2x (4/0 to 300)	2x (300)	2x (350 to 500)	2x (400 to 600)	2x (500 to 600)
600	1x (3 to 1/0)	1x (1 to 2/0)	1x (2/0 to 3/0)	1x (3/0)	1x (250 to 300)	2x (2/0 to 300)	2x (3/0 to 300)	2x (4/0 to 300)	2x (250 to 300)	2x (300)	2x (350 to 500)

Drawing for information only.
Manufacturer reserves the right to modify this drawing without notice.
For drawing for approval or installation, please contact manufacturer.

REV.	DESCRIPTION	DD/MM/YY	Drawing number
8	Modified Tornatech & Seismic Logo	14/04/16	GPX-TD500 1/3 /E
7	Added Terminal Torque Ratings	14/09/15	
6	Added Seismic Logo	19/08/15	

NYC Dpt of Building Approved

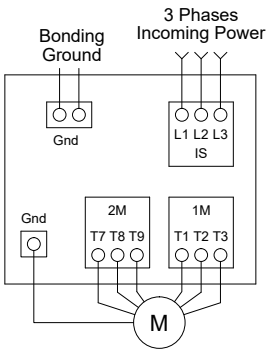
Electric Fire Pump Controller

Model: GPX

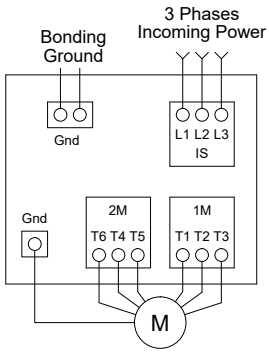
Terminals Diagram and Sizing

Built to the latest edition of the NFPA 20 standard

Power Terminals



Models :GPP



Models :GPW & GPY

Notes:
1 - For proper wire sizing, refer to NFPA70 and NEC (USA) or CEC (Canada) or local code.
2 - Controller suitable for service entrance in USA.
3 - For more accurate motor connections refer to motor manufacturer or motor nameplate.
4 - Controller is phase sensitive. Incoming lines must be connected in ABC sequence.
5 - Field wiring and lug sizes base on copper conductors only. Do not use aluminium conductors.

Isolating Switch (IS) Field Wiring according to Bending Space (AWG or MCM). TERMINALS L1 - L2 - L3 **(Use Copper Conductors Only)**

Bending Space	5 " (127 mm)							8 " (203 mm)		
HP / Voltage	5	7.5	10	15	20	25	30	40	50	60
208	1x (10 to 1/0)	1x (8 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (2 to 1/0)	1x (1/0 to 250)	1x (3/0 to 250)	1x (4/0 to 250)
220 to 240	1x (10 to 1/0)	1x (10 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (1 to 250)	1x (2/0 to 250)	1x (3/0 to 250)
380 to 416	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (8 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (3 to 1/0)
440 to 480	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (8 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)
600	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (8 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)

Bending Space	12 " (305 mm)				16 " (406 mm)						
HP / Voltage	75	100	125	150	200	250	300	350	400	450	500
208	1x (300 to 500)	1x (500)	2x (4/0 to 500)	2x (250 to 500)	2x (400 to 600)	--------	--------	--------	--------	--------	--------
220 to 240	1x (250 to 500)	1x (350 to 500)	2x (3/0 to 500)	2x (4/0 to 500)	2x (350 to 500)	2x (500 to 600)	--------	--------	--------	--------	--------
380 to 416	1x (1/0 to 250)	1x (3/0 to 250)	1x (250)	1x (300 to 500)	2x (3/0 to 250)	2x (4/0 to 500)	2x (300 to 500)	2x (400 to 500) 2x (400 to 500)	2x (500 to 600)	2x (600)	--------
440 to 480	1x (1 to 250)	1x (2/0 to 250)	1x (3/0 to 250)	1x (4/0 to 250)	1x (350 to 500)	2x (3/0 to 250)	2x (4/0 to 500)	2x (300 to 500)	2x (350 to 500)	2x (400 to 600)	2x (500 to 600)
600	1x (3 to 1/0)	1x (1 to 250)	1x (2/0 to 250)	1x (3/0 to 250)	1x (250 to 500)	1x (350 to 500)	2x (3/0 to 250)	2x (4/0 to 500)	2x (250 to 500)	2x (300 to 500)	2x (350 to 500)
Bending Space	5 " (127 mm)	8 " (203 mm)			12 " (305 mm)						

Wiring Size for motor connection for Models GPP, GPW & GPY (AWG or MCM). TERMINALS T1 - T2 - T3 - T4 - T5 - T6 - T7 - T8 - T9 **(Use Copper Conductors Only)**

HP / Voltage	5	7.5	10	15	20	25	30	40	50	60
208	1x (14 to 10)	1x (12 to 10)	1x (10)	1x (8 to 2)	1x (8 to 2)	1x (6 to 2)	1x (6 to 1/0)	1x (4 to 2/0)	1x (2 to 3/0)	1x (1 to 3/0)
220 to 240	1x (14 to 10)	1x (12 to 10)	1x (10)	1x (8 to 2)	1x (8 to 2)	1x (6 to 2)	1x (6 to 1/0)	1x (4 to 2/0)	1x (3 to 2/0)	1x (2 to 3/0)
380 to 416	1x (14 to 10)	1x (14 to 10)	1x (14 to 10)	1x (12 to 10)	1x (10)	1x (10)	1x (8 to 2)	1x (6 to 2)	1x (6 to 2)	1x (4 to 1/0)
440 to 480	1x (14 to 10)	1x (14 to 10)	1x (14 to 10)	1x (12 to 10)	1x (12 to 10)	1x (10)	1x (10 to 2)	1x (8 to 2)	1x (6 to 2)	1x (6 to 2)
600	1x (14 to 10)	1x (14 to 10)	1x (14 to 10)	1x (14 to 10)	1x (12 to 10)	1x (12 to 10)	1x (10)	1x (10 to 2)	1x (8 to 2)	1x (8 to 2)

HP / Voltage	75	100	125	150	200	250	300	350	400	450	500
208	1x (2/0 to 3/0)	1x (3/0)	1x (250 to 300)	2x (1/0 to 300)	2x (3/0 to 350)	--------	--------	--------	--------	--------	--------
220 to 240	1x (1/0 to 3/0)	1x (3/0)	1x (4/0 to 300)	1x (300)	2x (2/0 to 300)	2x (4/0 to 350)	--------	--------	--------	--------	--------
380 to 416	1x (4 to 2/0)	1x (2 to 2/0)	1x (1/0 to 3/0)	1x (2/0 to 3/0)	1x (4/0 to 300)	1x (300)	2x (2/0 to 300)	2x (3/0 to 300)	2x (4/0 to 350)	2x (4/0 to 350)	--------
440 to 480	1x (4 to 2/0)	1x (3 to 2/0)	1x (2 to 3/0)	1x (1/0 to 3/0)	1x (2/0 to 3/0)	1x (4/0 to 300)	1x (300)	2x (1/0 to 300)	2x (2/0 to 300)	2x (3/0 to 350)	2x (4/0 to 350)
600	1x (6 to 2)	1x (4 to 2/0)	1x (3 to 2/0)	1x (2 to 3/0)	1x (1/0 to 3/0)	1x (2/0 to 3/0)	1x (4/0 to 300)	1x (250 to 300)	1x (300)	2x (1/0 to 300)	2x (2/0 to 300)

Drawing for information only.
Manufacturer reserves the right to modify this drawing without notice.
For drawing for approval or installation, please contact manufacturer.

TORNATECH

SEISMIC COMPLIANT

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FM APPROVED

NYC Dpt of Building Approved

REV.	DESCRIPTION	DD/MM/YY	Drawing number
8	Modified Tornatech & Seismic Logo	14/04/16	GPX-TD500 2/3 /E
7	Added Terminal Torque Ratings	14/09/15	
6	Added Seismic Logo	19/08/15	

Electric Fire Pump Controller

Model: GPX

Terminals Diagram and Sizing

Built to the latest edition of the NFPA 20 standard

Remote Alarm Terminals (I/O board)

Terminals Wire Size:
12 - 24 AWG
0.5 Nm

Motor Running	Normally closed Opens to alarm	Normally open Closes to alarm	J19 - 14 J19 - 11 J19 - 12	MOTOR RUN
Power Available (Fail Safe)	Normally open Closes to alarm	Normally closed Opens to alarm	J40 - 14 J40 - 11 J40 - 12	TB1
Phase Reversal	Normally closed Opens to alarm	Normally open Closes to alarm	J42 - 14 J42 - 11 J42 - 12	TB2
Pump Room Alarm	Normally closed Opens to alarm	Normally open Closes to alarm (RE-ASSIGNABLE)	J37 - 14 J37 - 11 J37 - 12	TB3
Motor Trouble	Normally closed Opens to alarm	Normally open Closes to alarm (RE-ASSIGNABLE)	J39 - 14 J39 - 11 J39 - 12	TB4
(Field* Programmable)	Normally closed Opens to alarm	Normally open Closes to alarm	J41 - 14 J41 - 11 J41 - 12	TB5

Control Terminals (I/O board)

Terminals Wire Size:
12 - 24 AWG
0.5 Nm

Remote Manual Start	Close to start pump	Remote Manual Start 23 24 J25
Lockout Signal	Close to block start	Lockout 25 26 J25
Remote Automatic Start	Open to start pump If used, remove jumper J1	Automatic Start J1 27 28 J25
Deluge Valve Signal	Open to start pump If used, remove jumper J2	Deluge Valve J2 29 30 J25

Field Connections for External Devices (I/O board)

Terminals Wire Size:
12 - 24 AWG
0.5 Nm

Water Reservoir Low Signal	Close to signal alarm	Water Reservoir Low 31 32 J25
Flow / Zone Start / Stop Signal	Close to signal alarm	Flow / Zone 33 34 J25

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*Not Available in GPS Models

SEISMIC COMPLIANT

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REV.	DESCRIPTION	DD/MM/YY	Drawing number
8	Modified Tornatech & Seismic Logo	14/04/16	GPX-TD500 3/3 /E
7	Added Terminal Torque Ratings	14/09/15	
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