

Project:	
Customer:	
Engineer:	
Pump Manufacturer:	

Technical Data Submittal Document

GPx Series

Full Service
Electric Fire Pump Controller
with Automatic Power Transfer Switch



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.

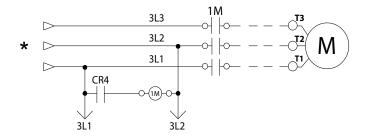




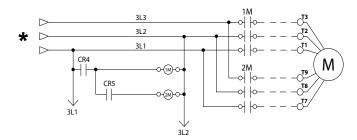
GPx Series Full Service Electric Fire Pump Controller with Automatic Power Transfer Switch

Select starting method

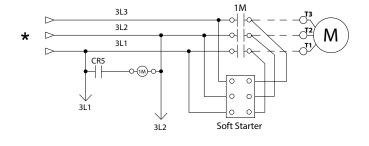
Model GPA Across the line



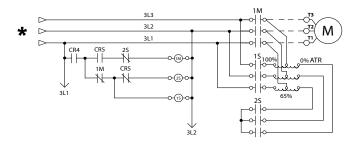
Model GPP Partwinding



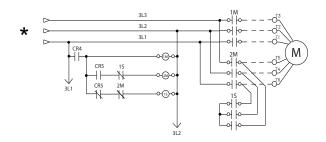
Model GPS Soft Start Soft Stop



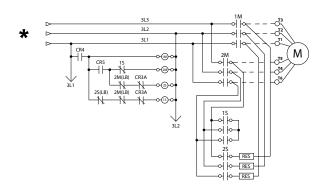
Model GPR Autotransformer



Model GPY Wye-Delta Open



Model GPW Wye-Delta Closed



June 2022



^{*}From Automatic Power Transfer Switch



GPx Series Full Service Electric Fire Pump Controller with Automatic Power Transfer Switch

	Built to NFPA 20 (latest edition	n)				
	Underwriters Laboratory (UL)	• UL218 - Fire Pump Controllers• UL 1008 - Automatic power transfer switches for fire pure				
Standard,	FM Global	Class 1321/1323				
Listings, Approvals and	New York City	Accepted for use in the City of New York by the Departr Buildings				
Certifications	CE Mark	Var	ious EN, IEC & CEE directives and sta	andards		
	Built in Canada or U.A.E		Built in Eu	rope		
	CE Mark Option	Supplied as		andard		
	Protection Rating					
	Built in Canada or U.A.E		Built in Europe			
	Standard: NEMA 2		Standard:	andard: IP55		
	Optional					
	NEMA 12		NEMA 4X-304 sst painted	IP54		
Enclosure	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			

Shortcircuit Withstand	200V to 208V 60Hz	220V to 240V 60Hz	380V to 415V 50 Hz / 60Hz	440V to 480V 60Hz	575V to 600V 60Hz	
Rating	HP (kw)					
Standard 100kA				- 400 (0 - 000)		
Optional 150kA	5 - 150 (3.7 - 110)	5 - 200 (3.7 - 149) 5 - 300 (3.7 - 2.	5 - 300 (3.7 - 223)	5 - 400 (3.7 - 298)	N/A	
Standard 50kA	200 (149)	250 (186)	350 - 450 (261 - 335)	450 - 500 (335 - 373)	F F00 (2.7. 272)	
Optional 100kA	N/A	N/A	350 - 500 (261 - 373)	450 - 500 (335 - 373)	5 - 500 (3.7- 373)	
Optional 200kA	5 - 150 (3.7 - 110)	5 - 200 (3.7 - 149)	5 - 300 (3.7 - 223)	5 - 400 (3.7 - 298)	N/A	

^{*}Please see Disconnecting Means details on page 4



TORNATECH Technical Data GPx Series Full Service Electric Fire Pump Controller with Automatic Power Transfer Switch

Ambient Temperature Rating	Standard: 4°C to 40°C / 39°F to 104°F Controllers built in Dubai, UAE (Tornatech FZE) are supplied standard with 55°C rating.				
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				
Locked Rotor Protector	Operate shunt trip to open circuit breaker Factory set at 600% of motor full load current Trip between 8 and 20 seconds				
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 are stored in memory for the life of the controller. 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 				



TORNATECH Technical Data GPx Series Full Service Electric Fire Pump Controller with Automatic Power Transfer Switch

Audible Alarm	6" alarm bell - 85 dB at 10ft.	(3m)	
Visual Indications	 Motor run Periodic test	Remote automatic start	 Pump on demand/Automatic start Pump room temperature (°F or °C) Lockout
Visual & Audible Alarms	Visual only Alternate lock rotor current Alternate power phase reve Automatic transfer switch tre Control voltage not healthy Invalid cut-in Lock rotor current Loss of power Low ambient temperature Visual and Audible ACB in OFF or tripped Alternate IS tripped/open Fail to start	- Normal nouser phase reverse	Pressure transducer fault detected Pump on demand Pump room alarm Service required Undercurrent Undervoltage Check weekly test solenoid Weekly test cut-in reached
Remote Alarm Contacts	DPDT-8A-250V.AC • Power available • Phase reversal • Motor run • Common pump room a • Overvoltage • Undervoltage • Phase unbalance • Low pump room te • High Pump room te • High Pump room te • Overcurrent • Fail to start • Undercurrent • Ground fault • Free (field programmate	emperature (field re-assignable)**	

^{**}Tornatech reserves the right to use any of these three alarm points for special specific application requirements.



TORNATECH Technical Data GPx Series Full Service Electric Fire Pump Controller with Automatic Power Transfer Switch

ViZiTouch V2 Operator Interface	Embedded microcomputer with software PLC logic 7.0" color touch screen (HMI technology) Upgradable software Multi-language				
Communication Protocol Capability	Protocol: Modbus Connection type: Shielded female connector RJ45 Frame Format: TCP/IP Addresses: See bulletin MOD-GPx				
	Automatic Start Start on pressure drop Remote start signal from automatic device Deluge valve start				
	Manual Start	Start pushbutton Run test pushbutton Remote start from manual device			
Operation	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	visual illuicatiofi	Automatic Non-automatic		

^{***}Can only be used if approved by the AHJ



GPx Series Full Service Electric Fire Pump Controller with Automatic Power Transfer Switch

	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				
	Locked Rotor Protector	Operate shunt trip to open circuit breaker Factory set at 600% of motor full load current Trip between 8 and 20 seconds				
	Visual Indications	Alternate (emergency) isolating switch in the OFF position Alternate (emergency) voltage phase to phase Transfer switch in normal position Transition timers				
	Visual Alarms	 Transfer switch trouble Alternate power phase reversal Alternate isolating switch open/tripped Alternate circuit breaker open/tripped Alternate side locked rotor current 				
	Transfer switch test pushbutton					
Automatic Power Transfer Switch	Bypass for re-transfer and generator shutdown					
Transfer Switch	Electrically operated and mechanically held in the normal or alternate position Provision for manual operation					
	Remote Alarm Contacts SPDT-8A-250VAC Isolating switch in the OFF position Transfer switch in normal position Transfer switch in alternate (emergency) position					
	 Time Delays Momentary normal power outage override (factory set at 3 sec - field adjustable 1 to 3 sec) Alternate (emergency) power available delay (factory set at 3 sec - field adjustable 1 to 3 sec) Transfer trouble delay (factory set at 20 sec - field adjustable 1 to 60 sec) Retransfer to normal (factory set at 5 min - field adjustable 1 to 20 min) Generator cooldown (factory set at 5 min - field adjustable 1 to 20 min) 					
	Voltage Sensing • Transfer to alternate (normal power dropout) 85% of nominal - field adjustable 0 to 100% • Phase reversal transfer to alternate • Retransfer to normal (normal power pickup) 90% of nominal - field adjustable 0 to 100%					
	Audible Alarm (AIS	Open)				
	6" alarm bell - 85 Generator Start Cor SPDT-8A-250V.A	nnection				



GPx Series Full Service Electric Fire Pump Controller with Automatic Power Transfer Switch

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 (DPDT)
B19B	High motor temperature c/w PT100 relay and alarm contacts (DPDT)
B21	Ground fault alarm detection c/w visual indication and alarm contact (DPDT)
C1	Extra motor run alarm contact (DPDT)
C4	Periodic test alarm contact (DPDT)
C6	Low discharge pressure alarm contact (DPDT)
C7	Low pump room temperature alarm contact (DPDT)
C10	Low water reservoir level alarm contact (DPDT)
C11	High electric motor temperature alarm contact (DPDT)
C12	High electric motor vibration c/w visual indication and alarm contact (DPDT)
C14	Pump on demand / automatic start alarm contact (DPDT)
C15	Pump fail to start alarm contact (DPDT)
C16	Control voltage healthy alarm contact (DPDT)
C17	Flow meter valve loop open c/w visual indication and alarm contact (DPDT)
C18	High water reservoir level c/w visual indication and alarm contact (DPDT)

C19	Emergency start alarm contact (DPDT)		
C20	Manual start alarm contact (DPDT)		
C21	Deluge valve start alarm contact (DPDT)		
C22	Remote automatic start alarm contact (DPDT)		
C23	Remote manual start alarm contact (DPDT)		
C24	High pump room temperature alarm contact (DPDT)		
C25	Second set of standard alarm contacts (DPDT) (Typical for city of Los Angeles and Denver)		
Сх	Additional visual and alarm contact (Specify function) (DPDT)		
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: • 200V to 208V @ 150HP max. = 150kA* • 200V to 208V @ 200HP = 100kA* • 220V to 240V @ 200HP max. = 150kA* • 220V to 240V @ 250HP = 100kA* • 380V to 415V @ 300HP max. = 150kA* • 380V to 415V @ 350HP to 450HP = 100kA* • 440V to 480V @ 400HP max. = 150kA* • 440V to 480V @ 450HP to 500HP = 100kA* • 600V @ 500HP max. = 100kA*		
D13A	High withstand rating for: • 380V to 480V = 65kA* • 600V = 25kA*		
D13B	High withstand rating for: • 200V to 208V @ 150HP max. = 200kA* • 220V to 240V @ 200HP max. = 200kA* • 380V to 415V @ 300HP max. = 200kA* • 440V to 480V @ 400HP max. = 200kA*		
D14	Anti-condensation heater & thermostat		
D14A	Anti-condensation heater & humidistat		
D14B	Anti-condensation heater & thermostat & humidistat		

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



Technical Data

GPx Series Full Service Electric Fire Pump Controller with Automatic Power Transfer Switch

Tropicalization
CE Mark with factory certificate
Modbus with RTU frame format and RS485 connection
Motor heater connection (external single phase power source and heater on/off contact)
Motor heater connection (internal single phase power source and heater on/off contact)
Customized drawing set
Field programmable I/O board - 5 Input / 5 output
Redundant pressure transducer for fresh water rated for 0-500PSI
Redundant pressure transducer for sea water rated for 0-500PSI
Seismic Certification compliant to CBC 2019, IBC 2018 rigid base/wall mounted only
Special Seismic Certification compliant to OSHPD rigid base/wall mounted only
Permanent load shedding contacts
Temporary pump motor start period load shedding contacts
Temporary & permanent load shedding contacts
Anti condensation heater & thermostat (alternate power section)
Anti condensation heater & humidistat (alternate power section)
Anti condensation heater & thermostat & humidistat (alternate power section)
High withstand rating for (model GPU only): • 208V to 480V=150kA • 600V=100kA

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

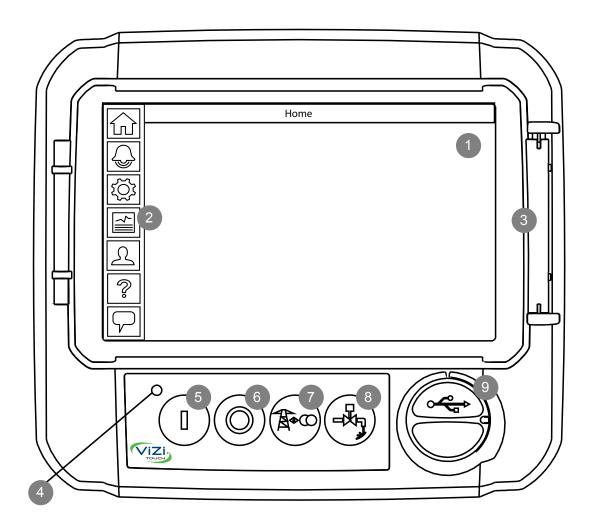
Note: Options chosen from this page are not electrically represented on the wiring schematics in this submittal package.



GPx Series Full Service Electric Fire Pump Controller with Automatic Power Transfer Switch

ViZiTouch V2 Operator Interface





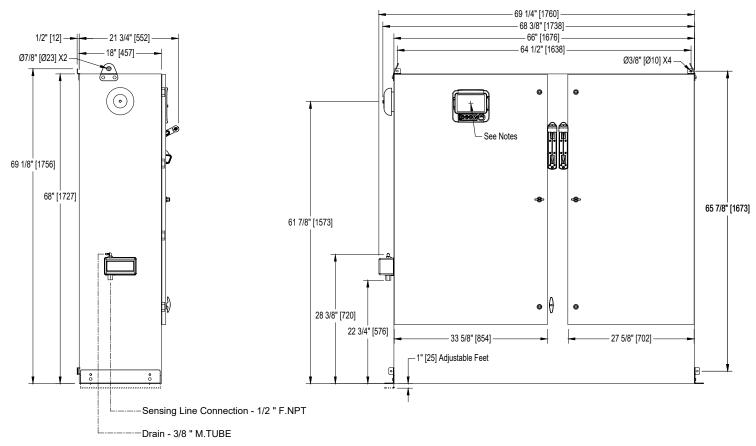
- 1 Color touch screen
- 2 Onscreen menu
 - HOME page
 - ALARM page
 - CONFIGURATION page
 - HISTORY page
 - SERVICE page
 - MANUAL page
 - LANGUAGES page

- 3 Screen protector
- 4 Power LED (3 colors)
- 5 START button
- 6 STOP button
- 7 TRANSFER SWITCH TEST button
- 8 RUN TEST button
- 9 USB port

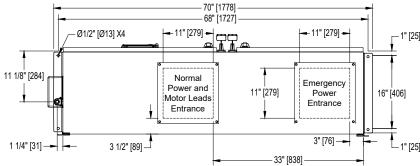
Electric Fire Pump Controller With Automatic Transfer Switch

Model: GPR/GPW

+GPU
Built to the latest edition of the NFPA 20 standard



Voltag	e / Power T	able					
Voltage	Min HP	Max HP					
208	150						
220 - 240	150 200						
380 - 400 - 415	250	300					
440 - 480	300	400					
600	400	500					



Notes:

- Standard NEMA: NEMA 2
- Standard paint : textured red RAL 3002.
- All dimensions are in inches [millimeters].
- Center of ViZiTouch screen: 61-5/8" [1564] 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.

Drawing for information only.

Manufacturer reserves the right to modify this drawing without notice.

Contact manufacturer for "As Built" drawing.





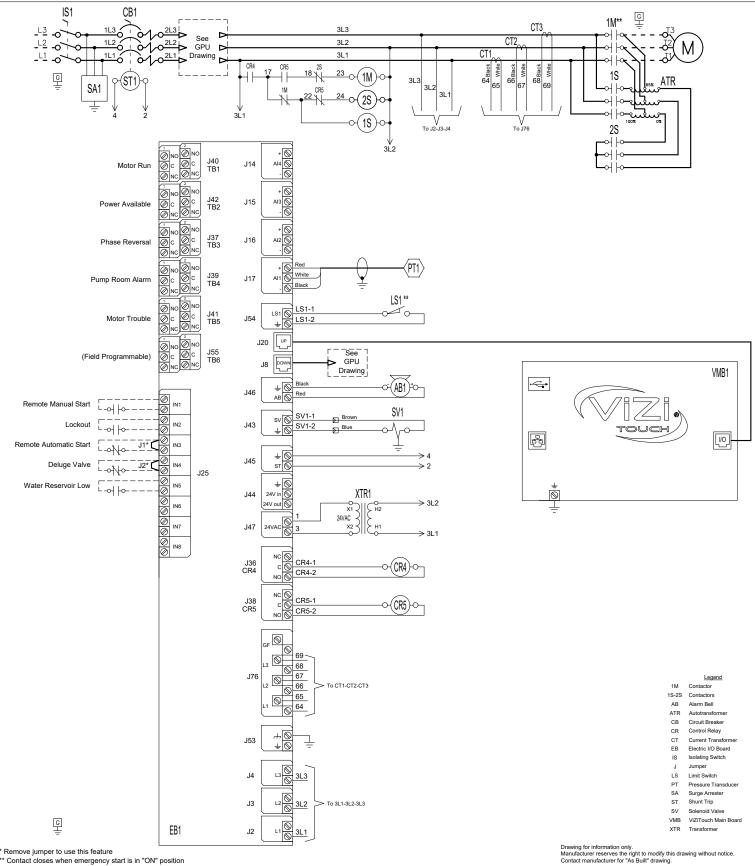


			Т -
REV.	DESCRIPTION	DD/MM/YY	Drawing number
4.	Removed Seismic logo (optional)	18/05/22	
3.	Revised HP	24/01/19	GPX-DI373 /E
2	New Logo	10/05/10	

Projection

Wiring schematic

Built to the latest edition of the NFPA 20 standard



Contact closes when emergency start is in "ON" position

Drawing number

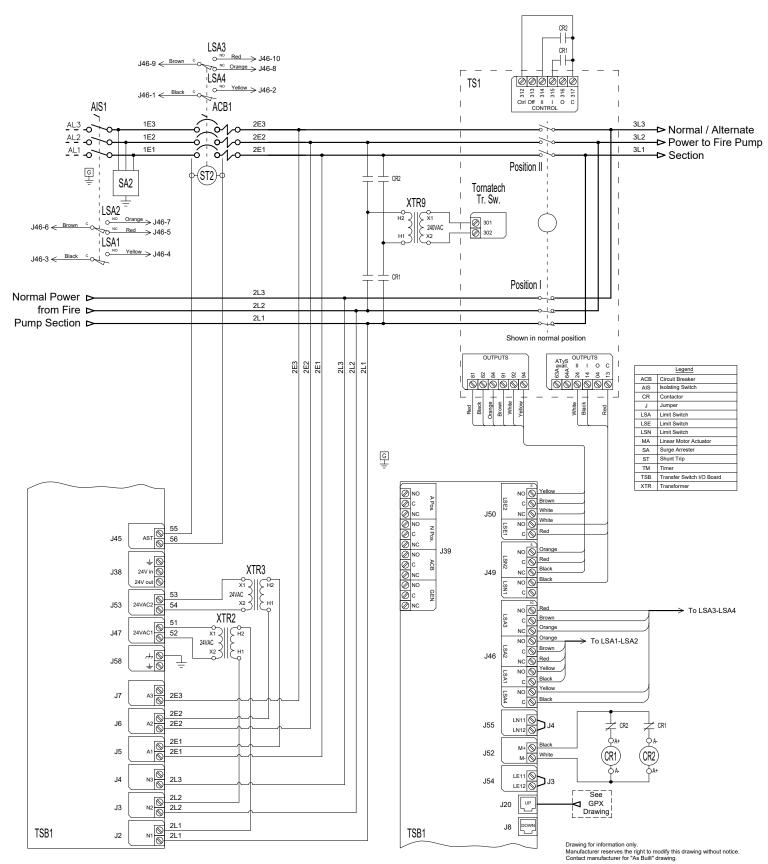






REV.	DESCRIPTION	DD/MM/YY	Di
3	Removed Seismic logo (optional)	18/05/22	
2	Update Logo	23/04/18	GPF
1	Removed (fail safe) text from Power Available relay	20/02/17	CDL

Built to the latest edition of the NFPA 20 standard









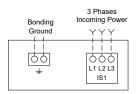
	REV.	DESCRIPTION	DD/MM/YY	Drawing number
}	2	Removed Seismic logo (optional)	18/05/22	
,	1	Revised logo	18/06/18	GPU-WS611 /E
	0	First issue	12/01/18	CDL

Model: GPX

Terminal Diagram and Sizing for Isolating Switch

Built to the latest edition of the NFPA 20 standard

Power Terminals



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.

COPPER CONDUCTORS for Isolating Switch (IS1).

Field Wiring According to Bending Space (AWG or MCM). Terminals L1 - L2 - L3

Bending Space				5 " (1	27 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 3/0)	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 3/0)	1x (2/0 to 3/0)	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 (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 (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 "	16 " (406 mm)						
HP Voltage	75	100	125	150	200	250	300	350	400	450	500			
208	2x (1/0 to 500)	2x (2/0 to 500)	2x (4/0 to 500)	2x (250 to 500)	3x (4/0 to 500)									
220 to 240	1x (250)	2x (2/0 to 500)	2x (3/0 to 500)	2x (4/0 to 500)	2x (350 to 500)	3x (250 to 500)								
380 to 416	1x (1/0 to 3/0)	1x (3/0 to 250)	1x (250)	2x (1/0 to 500)	2x (3/0 to 500)	2x (4/0 to 500)	2x (300 to 500)	2x (400 to 500)	3x (250 to 500)	3x (300 to 500)				
440 to 480	1x (1 to 3/0)	1x (2/0 to 3/0)	1x (3/0 to 250)	1x (4/0 to 250)	2x (1/0 to 500)	2x (3/0 to 500)	2x (4/0 to 500)	2x (300 to 500)	2x (350 to 500)	2x (400 to 500)	3x (250 to 500)			
600	1x (3 to 1/0)	1x (1 to 3/0)	1x (2/0 to 3/0)	1x (3/0 to 250)	1x (250)	2x (2/0 to 500)	2x (3/0 to 500)	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 " (3	05 mm)						

ALUMINUM CONDUCTORS for Isolating Switch (IS1).

Field Wiring According to Bending Space (AWG or MCM). Terminals L1 - L2 - L3

Bending Space					8 " (2	10 " (254 mm)				
HP Voltage	5	7.5	10	15	20 25 30		40	50	60	
208	1x (10 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (1 to 1/0)	1x (1/0)	1x (3/0)	1x (4/0 to 250)	1x (300) ** or 1x (250) 90°C *
220 to 240	1x (10 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 to 1/0)	1x (2/0 to 3/0)	1x (3/0) 90°C *	1x (250)
380 to 416	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (4 to 1/0)	1x (2 to 1/0)	1x (1 to 1/0)	1x (1/0)
440 to 480	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (2 to 1/0)	1x (1 to 1/0)
600	1x (10 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (4 to 1/0)	1x (2 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	2x (2/0 to 500)	2x (4/0 to 500)	2x (300 to 500)	2x (350 to 500)	3x (300 to 500)								
220 to 240	1x (350) ** N/A	2x (3/0 to 500)	2x (250 to 500)	2x (300 to 500)	2x (500)	3x (400 to 500)							
380 to 416	1x (3/0)	1x (250 to 350)	1x (350) ** N/A	2x (3/0 to 500)	2x (4/0 to 500)	2x (300 to 500)	2x (500)	3x (300 to 500)** 2x (500) 90°C *	3x (350 to 500)	3x (400 to 500)			
440 to 480	1x (1/0 to 3/0)	1x (3/0)	1x (250)	1x (300 to 350)** 1x (250) 90°C *	2x (3/0 to 500)	2x (250 to 500)	2x (300 to 500)	2x (400 to 500)	2x (500)	2x (500) 90°C *	3x (350 to 500)		
600	1x (1 to 1/0)	1x (2/0 to 3/0)	1x (3/0) 90°C *	1x (4/0 to 250)	1x (350 to 500)	2x (3/0 to 500)	2x (4/0 to 250)	2x (300 to 500)	2x (350 to 500)	2x (400 to 500)	2x (500)		
Bending Space	5 " (127 mm)		8 " (203 mm)				12 " (3	05 mm)					

^{*}For standard enclosure, use 90°C aluminium wire. Consult Factory for Use of Conductors Rated Lower than 90°C.

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
1	Removed Seismic logo (optional)	18/05/22	GPX-TD611 1/2 /E
0	First issue	22/12/20	CDL

^{**} Consult Factory

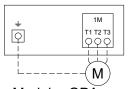
Electric Fire Pump Controller

Built to the latest edition of the NFPA 20 standard

Model: GPX

Terminal Diagram and Sizing For GPA, GPR & GPS

Motor 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.

COPPER CONDUCTORS for Motor Connection (1M).

Field Wiring According to Bending Space (AWG or MCM). Terminals T1 - T2 - T3

	iola viiling receiving to bending opace (vive or melli). Fernimale 11-12-10												
HP Voltage	5	7.5	10	15	20	25	30	40	50	60			
208	1x (10 to 2)	1x (8 to 2)	1x (8 to 2)	1x (6 to 2)	1x (4 to 2)	1x (3 to 2/0)	1x (2 to 2/0)	1x (1/0 to 3/0)	1x (3/0)	1x (4/0 to 300)			
220 to 240	1x (10 to 2)	1x (10 to 2)	1x (8 to 2)	1x (6 to 2)	1x (4 to 2)	1x (4 to 2/0)	1x (3 to 2/0)	1x (1/0 to 3/0)	1x (2/0 to 3/0)	1x (3/0)			
380 to 416	1x (10 to 2)	1x (10 to 2)	1x (10 to 2)	1x (8 to 2)	1x (8 to 2)	1x (6 to 2)	1x (6 to 1/0)	1x (4 to 2)	1x (3 to 2/0)	1x (1 to 2/0)			
440 to 480	1x (10 to 2)	1x (10 to 2)	1x (10 to 2)	1x (10 to 2)	1x (8 to 2)	1x (8 to 2)	1x (6 to 2)	1x (6 to 2)	1x (4 to 2/0)	1x (3 to 2/0)			
600	1x (10 to 2)	1x (10 to 2)	1x (10 to 2)	1x (10 to 2)	1x (10 to 2)	1x (8 to 2)	1x (8 to 2)	1x (6 to 2)	1x (6 to 2)	1x (4 to 2/0)			
HP Voltage	75	100	125	150	200	250	300	350	400	450			

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 1/0)	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 1/0)	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)

ALUMINUM CONDUCTORS for Contactor (1M).

Field Wiring According to Bending Space (AWG or MCM). Terminals T1 - T2 - T3

HP Voltage	5	7.5	10	15	20	25	30	40	50	60
208	1x (10 to 2/0) **	1x (10 to 2/0) **	1x (6 to 2/0) **	1x (4 to 2/0) **	1x (2 to 2/0) **	1x (1 to 2/0) **	1x (1/0 to 2/0) **	1x (2/0) 90°C *	Consult Factory	1x (300)
220 to 240	1x (10 to 2/0) **	1x (10 to 2/0) **	1x (8 to 2/0) **	1x (4 to 2/0) **	1x (3 to 2/0) **	1x (2 to 2/0) **	1x (1 to 2/0) **	1x (2/0)	1x (3/0) 90°C *	Consult Factory
380 to 416	1x (12 to 2/0) **	1x (12 to 2/0) **	1x (10 to 2/0) **	1x (8 to 2/0) **	1x (6 to 2/0) **	1x (6 to 2/0) **	1x (4 to 2/0) **	1x (2 to 2/0) **	1x (1 to1/0)	1x (1/0)
440 to 480	1x (12 to 2/0) **	1x (12 to 2/0) **	1x (10 to 2/0) **	1x (10 to 2/0) **	1x (8 to 2/0) **	1x (6 to 2/0) **	1x (6 to 2/0) **	1x (4 to 2/0) **	1x (2 to 1/0)	1x (1 to 1/0)
600	1x (12 to 2/0) **	1x (12 to 2/0) **	1x (12 to 2/0) **	1x (10 to 2/0) **	1x (10 to 2/0) **	1x (8 to 2/0) **	1x (8 to 2/0) **	1x (4 to 2/0) **	1x (4 to 2/0) **	1x (2 to 1/0)

HP Voltage	75	100	125	150	200	250	300	350	400	450	500
208	1x (300) 90°C *	2x (4/0 to 300)	2x (300)	2x (300) 90°C *	2x (600)						
220 to 240	1x (300) 90°C *	2x (3/0 to 300)	2x (250 to 300)	2x (300)	2x (500)	2x (600)					
380 to 416	1x (3/0)	Consult Factory	1x (300) 90°C *	Consult Factory	2x (4/0 to 300)	2x (300)	Consult Factory	2x (600)	2x (600) 90°C *	2x (600) 90°C *	
440 to 480	1x (1/0)	1x (3/0)	Consult Factory	1x (300)	2x (3/0 to 300)	2x (250 to 300)	2x (300)	2x (300) 90°C *	2x (500)	2x (600)	2x (600) 90°C *
600	1x (1 to 1/0)	Consult Factory	1x (3/0) 90°C *	Consult Factory	1x (300) 90°C *	2x (3/0 to 300)	2x (4/0 to 300)	2x (300)	2x (300) 90°C *	2x (300) 90°C *	Consult Factory

^{*}For standard enclosure, use 90°C aluminium wire. Consult Factory for Use of Conductors Rated Lower than 90°C.

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REV.	DESCRIPTION	DD/MM/YY	Drawing number
1	Removed Seismic logo (optional)	18/05/22	GPX-TD611 2/2 /E
0	First issue	22/12/20	CDL

^{**}Option V659 required.

Terminal Diagram and Sizing

Built to the latest edition of the NFPA 20 standard

Control Terminals (EB1) Remote Alarm Terminals (EB1) Terminals Wire Size: 24 - 12 AWG 0.5 Nm Terminals Wire Size: 24 - 12 AWG 0.5 Nm Normally open Normally closed Opens to alarm Closes to alarm Motor Run Remote Manual Start Normally open Closes to alarm Normally closed Opens to alarm Normally open Normally closed Closes to alarm Opens to alarm Lockout Power Available Normally open Closes to alarm Normally closed Opens to alarm Normally open Normally closed Closes to alarm Opens to alarm Ø NC Remote Automatic Start Phase Reversal Normally open Closes to alarm Normally closed Opens to alarm Normally open Closes to alarm Normally closed Opens to alarm ' J39 TB4 Deluge Valve Pump Room Alarm 3 Normally open Closes to alarm Normally closed Opens to alarm Normally open Normally closed Closes to alarm Alarm Inputs (EB1) Opens to alarm Motor Trouble ** Normally open TB5 Terminals Wire Size: 24 - 12 AWG 0.5 Nm Closes to alarm Normally closed Opens to alarm Normally open Closes to alarm Normally closed Opens to alarm (Field Programmable ***) Water Reservoir Low Close to signal alarm Normally open Closes to alarm Normally closed Opens to alarm Network Connection (VMB1) Shielded Female Connector RJ45

^{**} Re-assignable
*** Not available on GPS models







REV.	DESCRIPTION	DD/MM/YY	Drawing number
3	Removed Seismic logo (optional)	18/05/22	
2	Revised logo	18/06/18	GPX-TD603 /E
1	General Revision (added AL coverage)	10/07/17	CDL

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Remove jumper to use this feature

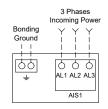
Automatic Transfer Switch For Electric Fire Pump Controller

Terminal Diagram and Sizing

Built to the latest edition of the NFPA 20 standard

Model: GPU

Power Terminals



1 - Controller is phase sensitive. Incoming lines must be connected in ABC sequence.

COPPER CONDUCTORS for Isolating Switch (AIS1).

Field Wiring According to Bending Space (AWG or MCM). Terminals AL1 - AL2 - AL3

Bending Space			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 3/0)	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 3/0)	1x (2/0 to 3/0)	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 (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 (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	2x (1/0 to 500)	2x (2/0 to 500)	2x (4/0 to 500)	2x (250 to 500)	3x (4/0 to 500)							
220 to 240	1x (250)	2x (2/0 to 500)	2x (3/0 to 500)	2x (4/0 to 500)	2x (350 to 500)	3x (250 to 500)						
380 to 416	1x (1/0 to 3/0)	1x (3/0 to 250)	1x (250)	2x (1/0 to 500)	2x (3/0 to 500)	2x (4/0 to 500)	2x (300 to 500)	2x (400 to 500)	3x (250 to 500)	3x (300 to 500)		
440 to 480	1x (1 to 3/0)	1x (2/0 to 3/0)	1x (3/0 to 250)	1x (4/0 to 250)	2x (1/0 to 500)	2x (3/0 to 500)	2x (4/0 to 500)	2x (300 to 500)	2x (350 to 500)	2x (400 to 500)	3x (250 to 500)	
600	1x (3 to 1/0)	1x (1 to 3/0)	1x (2/0 to 3/0)	1x (3/0 to 250)	1x (250)	2x (2/0 to 500)	2x (3/0 to 500)	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)						

ALUMINUM CONDUCTORS for Isolating Switch (AIS1).

Field Wiring According to Bending Space (AWG or MCM). Terminals AL1 - AL2 - AL3

Bending Space			8 " (2	10 " (254 mm)						
HP Voltage	5	7.5	10	15	20	25	30	40	50	60
208	1x (10 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (1 to 1/0)	1x (1/0)	1x (3/0)	1x (4/0 to 250)	1x (300) ** or 1x (250) 90°C *
220 to 240	1x (10 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 to 1/0)	1x (2/0 to 3/0)	1x (3/0) 90°C *	1x (250)
380 to 416	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (4 to 1/0)	1x (2 to 1/0)	1x (1 to 1/0)	1x (1/0)
440 to 480	1x (10 to 1/0)	1x (10 to 1/0)	1x (10 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (2 to 1/0)	1x (1 to 1/0)
600	1x (10 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (4 to 1/0)	1x (2 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	2x (2/0 to 500)	2x (4/0 to 500)	2x (300 to 500)	2x (350 to 500)	3x (300 to 500)							
220 to 240	1x (350) ** N/A	2x (3/0 to 500)	2x (250 to 500)	2x (300 to 500)	2x (500)	3x (400 to 500)						
380 to 416	1x (3/0)	1x (250 to 350)	1x (350) ** N/A	2x (3/0 to 500)	2x (4/0 to 500)	2x (300 to 500)	2x (500)	3x (300 to 500)** 2x (500) 90°C *	3x (350 to 500)	3x (400 to 500)		
440 to 480	1x (1/0 to 3/0)	1x (3/0)	1x (250)	1x (300 to 350)** 1x (250) 90°C *	2x (3/0 to 500)	2x (250 to 500)	2x (300 to 500)	2x (400 to 500)	2x (500)	2x (500) 90°C *	3x (350 to 500)	
600	1x (1 to 1/0)	1x (2/0 to 3/0)	1x (3/0) 90°C *	1x (4/0 to 250)	1x (350 to 500)	2x (3/0 to 500)	2x (4/0 to 250)	2x (300 to 500)	2x (350 to 500)	2x (400 to 500)	2x (500)	
Bending Space	5 " (127 mm)		8 " (203 mm)		12 " (305 mm)							

^{*}For standard enclosure, use 90°C aluminium wire. Consult Factory for Use of Conductors Rated Lower than 90°C.

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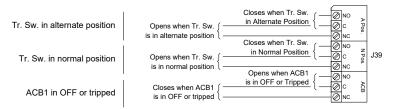
REV.	DESCRIPTION	DD/MM/YY	Drawing number
1	Removed Seismic logo (optional)	18/05/22	GPU-TD613 1/2 /E
0	First Issue	08/01/21	CDL

^{**} Consult Factory

Built to the latest edition of the NFPA 20 standard

Remote Alarm Terminals (TSB1)

Terminals Wire Size: 24 - 12 AWG 0.5 Nm



Control Terminals (TSB1)

Terminals Wire Size: 24 - 12 AWG 0.5 Nm



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