

Project:	
Customer:	
Engineer:	
Pump Manufacturer:	

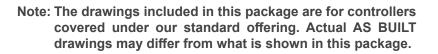
# Technical Data Submittal Document

# **GPx Series**

Full Service
Electric Fire Pump Controller
with Automatic Power Transfer Switch



# Contents: Data Sheets Dimensional Data Wiring Schematics Field Connections



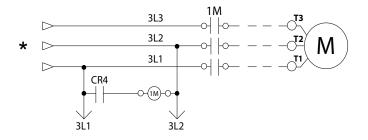




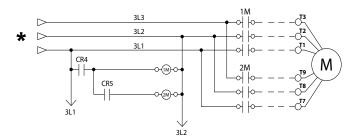
**GPx Series Full Service Electric Fire Pump Controller** with Automatic Power Transfer Switch

## Select starting method

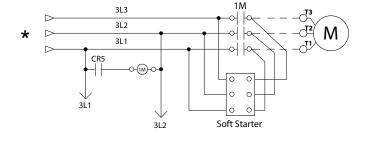
## **Model GPA Across the line**



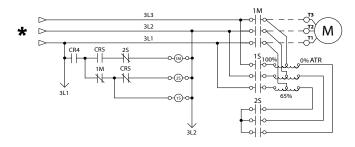
# **Model GPP Partwinding**



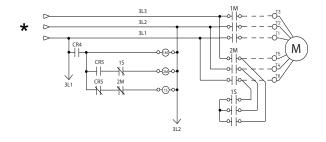
# **Model GPS Soft Start Soft Stop**



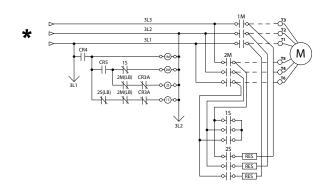
## **Model GPR Autotransformer**



## **Model GPY Wye-Delta Open**



# **Model GPW Wye-Delta Closed**





<sup>\*</sup>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)		L218 - Fire Pump Controllers L 1008 - Automatic power transfer swit	ches for fire pump controllers
Standard,	FM Global	Cla	ss 1321/1323	
Listings, Approvals and	New York City		cepted for use in the City of New York bildings	by the Department of
Certifications	CE Mark	Var	rious EN, IEC & CEE directives and sta	andards
	Built in Canada or U.A.E		Built in Eu	rope
	CE Mark Option		Supplied as St	andard
	Protection Rating			
	Built in Canada or U.A.E		Built in Eu	rope
	Standard: NEMA 2		Standard:	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 - 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	

<sup>\*</sup>Please see Disconnecting Means details on page 4



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     Integrated limit switch     Pull and latch activation     Across the line start (direct on line)
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	<ul> <li>Pressure readings with date stamp</li> <li>Event recording with date stamp</li> <li>Under regular maintained operation, events are stored in memory for the life of the controller.</li> <li>Data viewable on operator interface display screen</li> <li>Downloadable by USB port to external memory device</li> </ul>
Pressure Sensing	<ul> <li>Pressure transducer and run test solenoid valve assembly for fresh water application</li> <li>Pressure sensing line connection 1/2" Female NPT</li> <li>Drain connection 3/8"</li> <li>Rated for 0-500PSI working pressure (standard display at 0-300PSI)</li> <li>Externally mounted with protective cover</li> </ul>



Audible Alarm	Alarm buzzer - 85dB at 3 me	ters	
Visual Indications	<ul><li> Motor run</li><li> Periodic test</li></ul>	Remote automatic start	<ul> <li>Pump on demand/Automatic start</li> <li>Pump room temperature (°F or °C)</li> <li>Lockout</li> </ul>
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)**	

<sup>\*\*</sup>Tornatech reserves the right to use any of these three alarm points for special specific application requirements.



ViZiTouch V2.1 Operator Interface	Embedded microcomputer w     7.0" color touch screen (HMI     Upgradable software     Multi-language			
Communication Protocol Capability	<ul><li>Protocol: Modbus</li><li>Connection type: Shielded fe</li><li>Frame Format: TCP/IP</li><li>Addresses: See bulletin MOI</li></ul>			
	Automatic Start	<ul><li>Start on pressure drop</li><li>Remote start signal from automatic device</li><li>Deluge valve start</li></ul>		
	Manual Start	Start pushbutton     Run test pushbutton     Remote start from manual device		
Operation	• 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	

<sup>\*\*\*</sup>Can only be used if approved by the AHJ



	Surge Suppression	Surge arrestor rated to suppress surges above line voltage
	Disconnecting Means	<ul> <li>Isolating switch and circuit breaker assembly:         <ul> <li>Door interlocked in the ON position</li> <li>Isolating switch rated not less than 115% of motor full load current</li> <li>Circuit breaker continuous rating not less than 115% of motor full load current</li> <li>Overcurrent sensing non-thermal type, magnetic only</li> <li>Instantaneous trip setting of not more than 20 times the motor full load current</li> </ul> </li> <li>Common flange mounted operating handle</li> </ul>
	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	<ul> <li>Alternate (emergency) isolating switch in the OFF position</li> <li>Alternate (emergency) voltage phase to phase</li> <li>Transfer switch in normal position</li> <li>Transition timers</li> </ul>
	Visual Alarms	<ul> <li>Transfer switch trouble</li> <li>Alternate power phase reversal</li> <li>Alternate isolating switch open/tripped</li> <li>Alternate circuit breaker open/tripped</li> <li>Alternate side locked rotor current</li> </ul>
	Transfer switch test p	pushbutton
Automatic Power Transfer Switch	Bypass for re-transfe	r and generator shutdown
Transfer Switch	Electrically operated	and mechanically held in the normal or alternate position
	Provision for manual	operation
	Transfer switch i	in the OFF position
	Alternate (emerg     Transfer trouble     Retransfer to no	nal power outage override (factory set at 3 sec - field adjustable 1 to 3 sec) gency) power available delay (factory set at 3 sec - field adjustable 1 to 3 sec) delay (factory set at 20 sec - field adjustable 1 to 60 sec) rmal (factory set at 5 min - field adjustable 1 to 20 min) own (factory set at 5 min - field adjustable 1 to 20 min)
	Voltage Sensing Transfer to alter Phase reversal to	nate (normal power dropout) 85% of nominal - field adjustable 0 to 100% transfer to alternate rmal (normal power pickup) 90% of nominal - field adjustable 0 to 100%
	Audible Alarm (AIS Alarm buzzer - 85	Open)
	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.



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

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
D34A	Field programmable I/O board - 5 Input / 5 output
D36	Redundant pressure transducer for fresh water rated for 0-500PSI
D36A	Redundant pressure transducer for sea water rated for 0-500PSI
D43	Seismic Certification compliant to CBC 2019, IBC 2018 rigid base/wall mounted only
D44	Special Seismic Certification compliant to OSHPD rigid base/wall mounted only
E1	Permanent load shedding contacts
E2	Temporary pump motor start period load shedding contacts
E3	Temporary & permanent load shedding contacts
F2	Anti condensation heater & thermostat (alternate power section)
F2A	Anti condensation heater & humidistat (alternate power section)
F2B	Anti condensation heater & thermostat & humidistat (alternate power section)
F6	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

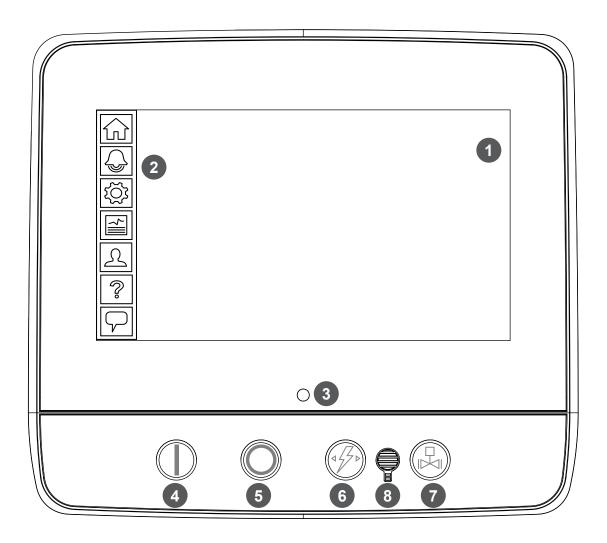
Note: Options chosen from this page are not electrically represented on the wiring schematics in this submittal package.



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

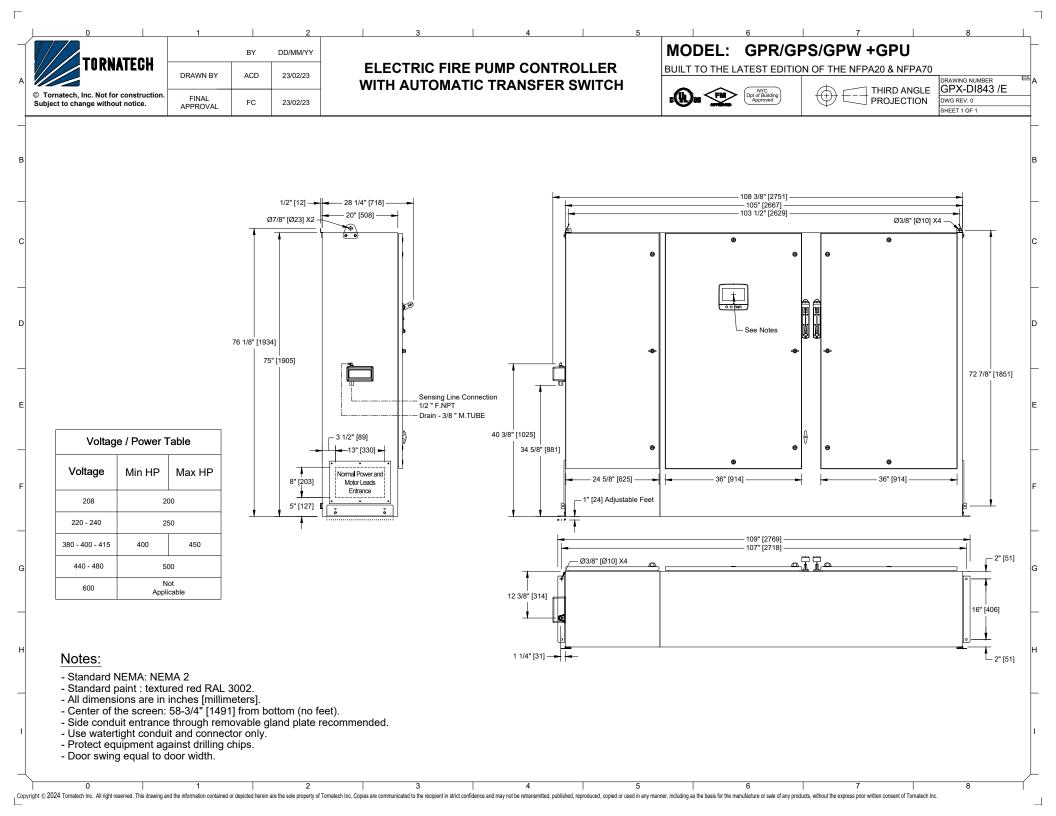
### **ViZiTouch V2.1 Operator Interface**

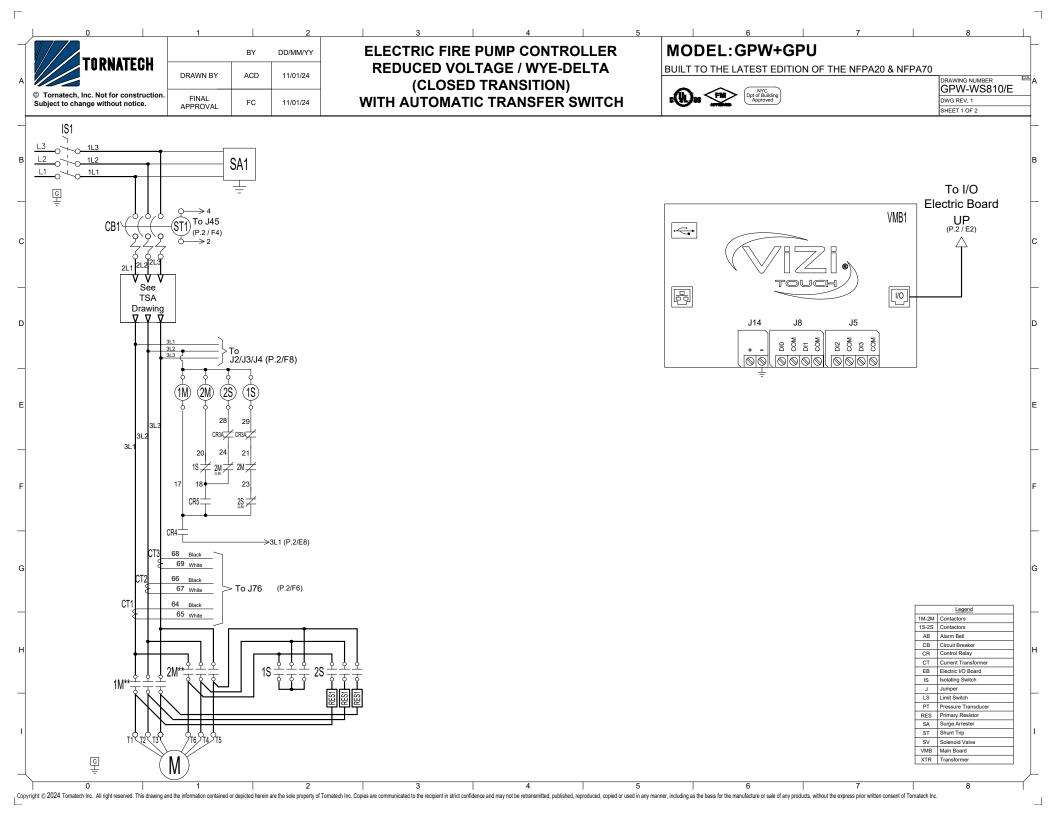




- 1 Color touch screen
- 2 Onscreen menu
  - HOME page
  - ALARM page
  - CONFIGURATION page
  - HISTORY page
  - SERVICE page
  - MANUAL page
  - LANGUAGES page

- 3 Power LED (3 colors)
- 4 START button
- 5 STOP button
- 6 TRANSFER SWITCH TEST button
- 7 RUN TEST button
- 8 Alarm buzzer







Subject to change without notice.

	BY	DD/MM/YY
DRAWN BY	ACD	11/01/24
FINAL APPROVAL	FC	11/01/24

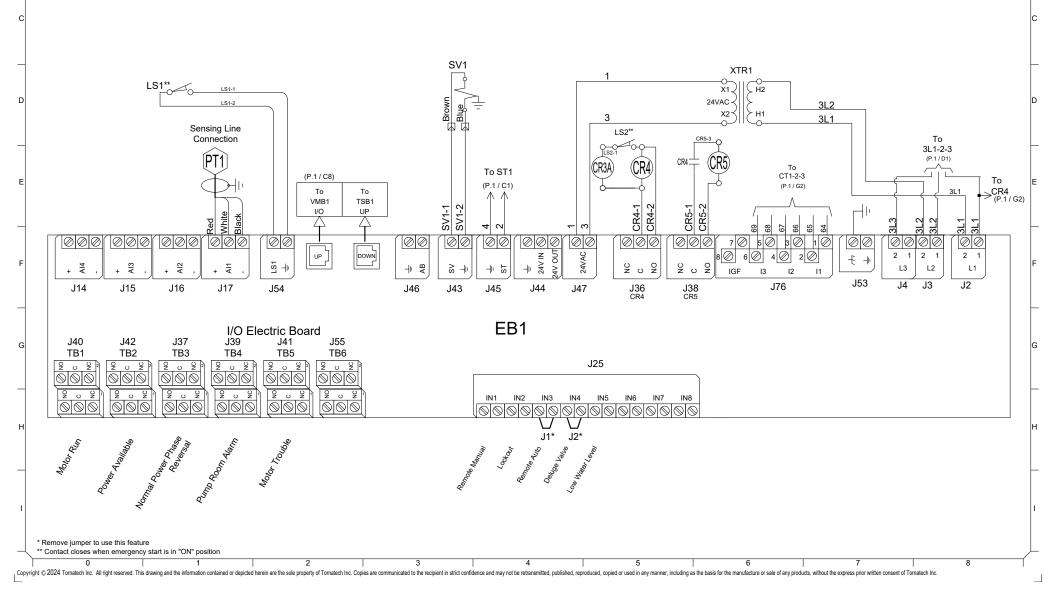
# ELECTRIC FIRE PUMP CONTROLLER REDUCED VOLTAGE / WYE-DELTA (CLOSED TRANSITION) WITH AUTOMATIC TRANSFER SWITCH

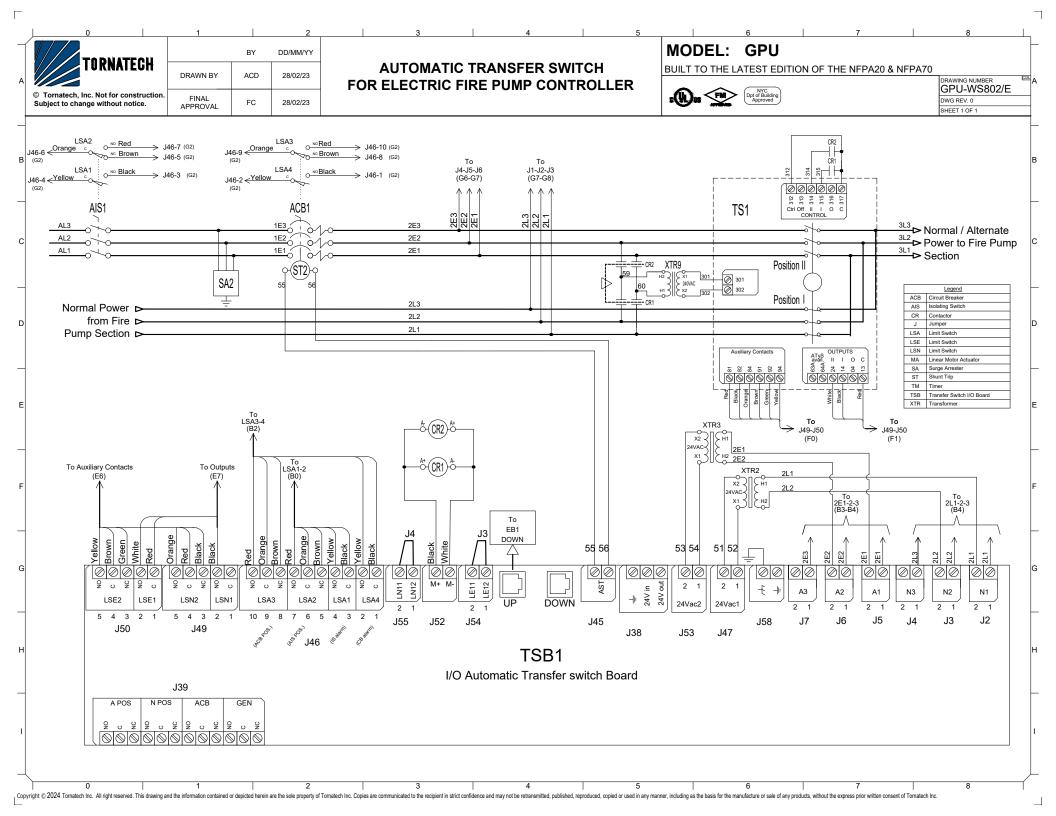
### MODEL:GPW+GPU

BUILT TO THE LATEST EDITION OF THE NFPA20 & NFPA70



DRAWING NUMBER
GPW-WS810/E
DWG REV. 1
SHEET 2 OF 2







	BY	DD/MM/YY
DRAWN BY	ACD	28/02/23
FINAL APPROVAL	FC	28/02/23

### **ELECTRIC FIRE PUMP CONTROLLER**

### MODEL: GPX

BUILT TO THE LATEST EDITION OF THE NFPA20 & NFPA70

**Power Terminals** 

Bonding Ground

φφ

Incoming Power

iii

L1 L2 L3 IS1



DRAWING NUMBER GPX-TD800/E DWG REV. 0 SHEET 1 OF 1

### **COPPER CONDUCTORS** for Isolating Switch (IS1).

Field Wiring According to Bending Space (AWG or MCM). Terminals I 1 - I 2 - I 3

		ng According to Bending Space (AWG of 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 (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			
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)								

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)	(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	03 mm)	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)							

<sup>\*</sup>For standard enclosure, use 90°C aluminium wire. Consult Factory for Use of Conductors Rated Lower than 90°C.

\*\* Consult Factory

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

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



	BY	DD/MM/YY
DRAWN BY	ACD	28/02/23
FINAL APPROVAL	FC	28/02/23

### **AUTOMATIC TRANSFER SWITCH** FOR ELECTRIC FIRE PUMP CONTROLLER

**MODEL: GPU** 

BUILT TO THE LATEST EDITION OF THE NFPA20 & NFPA70

**Power Terminals** 

Bonding Ground

φφ

Incoming Power

iii

L1 L2 L3 AIS1



DRAWING NUMBER GPU-TD800/E DWG REV. 0 SHEET 1 OF 1

COPPER CONDUCTORS for Isolating Switch (AIS1).
Field Wiring According to Bending Space (AWG or MCM). Terminals AL1 - AL2 - AL3

	ing According to Bending Space (AVVS or MON). Terminals ALT - ALZ - ALS										
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 (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	
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)						

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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	03 mm)	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 (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 (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)							

<sup>\*</sup>For standard enclosure, use 90°C aluminium wire. Consult Factory for Use of Conductors Rated Lower than 90°C.

\*\* Consult Factory

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

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



	BY	DD/MM/YY
DRAWN BY	ACD	28/02/23
FINAL APPROVAL	FC	28/02/23

### **ELECTRIC FIRE PUMP CONTROLLER**

### MODEL:GPP/GPW/GPY

BUILT TO THE LATEST EDITION OF THE NFPA20 & NFPA70



DRAWING NUMBER
GPX-TD802/E
DWG REV. 0
SHEET 1 OF 1

### COPPER CONDUCTORS for Motor Connection (1M-2M).

Field Wiring According to Bending Space (AWG or MCM). Terminals T1-T2-T3-T4-T5-T6-T7-T8-T9

HP Voltage	5	7.5	10	15	20	25	30	40	50	60	
208	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (8 to 4)	1x (8 to 4)	1x (6 to 4)	1x (6 to 4)	1x (4 to 2/0)	1x (2 to 2/0)	1x (1 to 2/0)	
220 to 240	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (8 to 4)	1x (8 to 4)	1x (6 to 4)	1x (6 to 4)	1x (4)	1x (3 to 2/0)	1x (2 to 2/0)	
380 to 416	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (8 to 4)	1x (8 to 4)	1x (6 to 4)	1x (4)	
440 to 480	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (8 to 4)	1x (8 to 4)	1x (6 to 4)	
600	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (10 to 4)	1x (8 to 4)	1x (8 to 4)	
HP Voltage	75	100	125	150	200	250	300	350	400	450	500
208	1x (2/0 to 3/0)	1x (3/0 to 300)	1x (250 to 300)	2x (1/0 to 300)	2x (3/0 to 350)						
220 to 240	1x (1/0 to 2/0)	1x (3/0)	1x (4/0 to 300)	1x (300)	2x (2/0 to 300)	2x (4/0 to 350)					
2004- 440					4 (4(0), 000)	4 (000)	2v (2/0 to 200)	2v /2/0 to 200)	2x (4/0 to 350)	2x (4/0 to 350)	
380 to 416	1x (4 to 2/0)	1x (2 to 2/0)	1x (1/0 to 2/0)	1x (2/0 to 3/0)	1x (4/0 to 300)	1x (300)	2x (2/0 to 300)	2x (3/0 to 300)	28 (4/0 to 330)	28 (4/0 to 330)	
440 to 480	1x (4 to 2/0) 1x (4)	1x (2 to 2/0) 1x (3 to 2/0)	1x (1/0 to 2/0) 1x (2 to 2/0)	1x (2/0 to 3/0) 1x (1/0 to 3/0)	1x (4/0 to 300) 1x (2/0 to 3/0)	1x (4/0 to 300)	1x (300)	2x (3/0 to 300) 2x (1/0 to 300)	2x (2/0 to 300)	2x (3/0 to 350)	2x (4/0 to 350)

### **ALUMINUM CONDUCTORS** for Contactor (1M-2M).

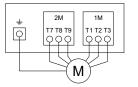
Field Wiring According to Bending Space (AWG or MCM). Terminals T1-T2-T3-T4-T5-T6-T7-T8-T9

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

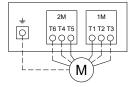
HP Voltage	75	100	125	150	200	250	300	350	400	450	500
208	1x (3/0)	Consult Factory	1x (300) 90°C *	2x (3/0 to 300)	2x (250 to 350)						
220 to 240	1x (2/0) 90°C *	Consult Factory	1x (300)	1x (300) 90°C *	2x (4/0 to 300)	2x (300 to 350)					
380 to 416	1x (2 to 2/0)	1x (1/0 to 2/0)	1x (1/0 to 2/0)	1x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

<sup>\*</sup>For standard enclosure, use 90°C aluminium wire. Consult Factory for Use of Conductors Rated Lower than 90°C.

### **Motor Terminals**



Model: GPP



Models: GPY/GPW

### 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.

Drawing for information only.

Manufacturer reserves the right to modify this drawing without notice.

Contact manufacturer for "As Built" drawing.

<sup>\*\*</sup> Option V659 required.

