

**SUBMITTALS**

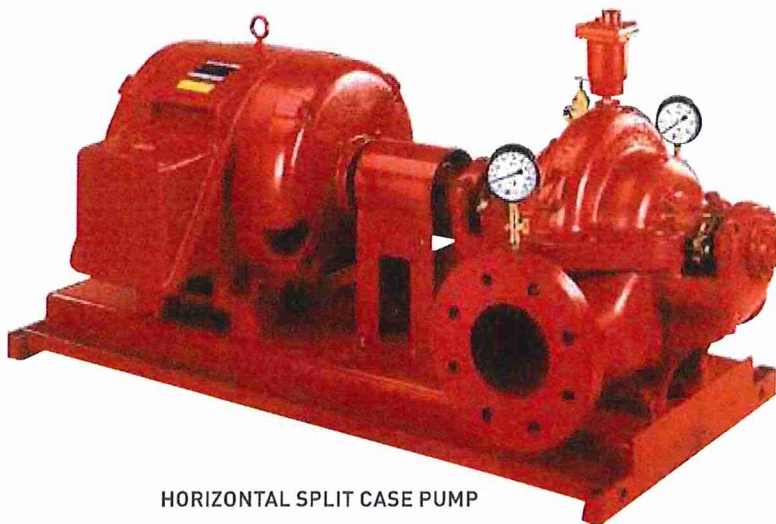


**JP DEPT OF  
GENERAL SERVICES**

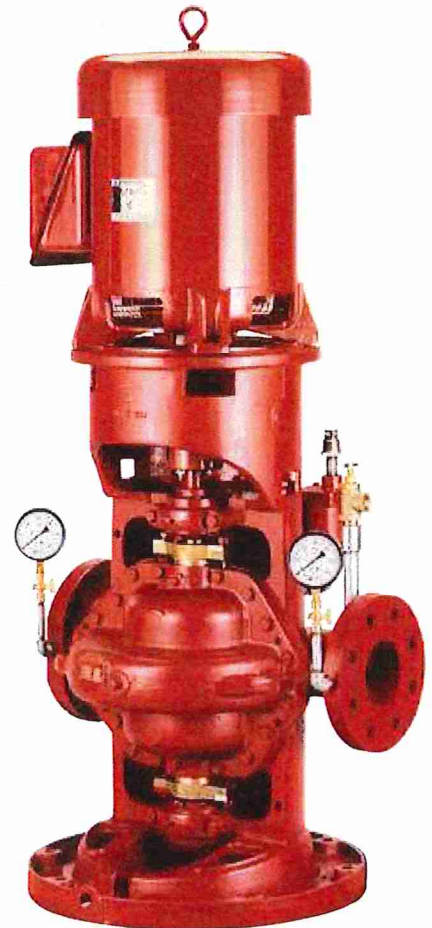
**UL/FM APPROVED  
ELECTRIC HSC FIRE PUMP**

**JULY 22, 2024**

FLUID PROCESS & PUMPS, LLC.  
405 COMMERCE PT. • HARAHAN, LA 70123  
PHONE 504.733.1330 • FAX 504.736.9348



HORIZONTAL SPLIT CASE PUMP



VERTICAL SPLIT CASE PUMP

# AURORA® 900 SERIES SPLIT CASE FIRE PUMPS

Built Per NFPA 20



[WWW.AURORAPUMP.COM](http://WWW.AURORAPUMP.COM)

# AURORA® 900 SERIES

## Split Case Fire Pumps

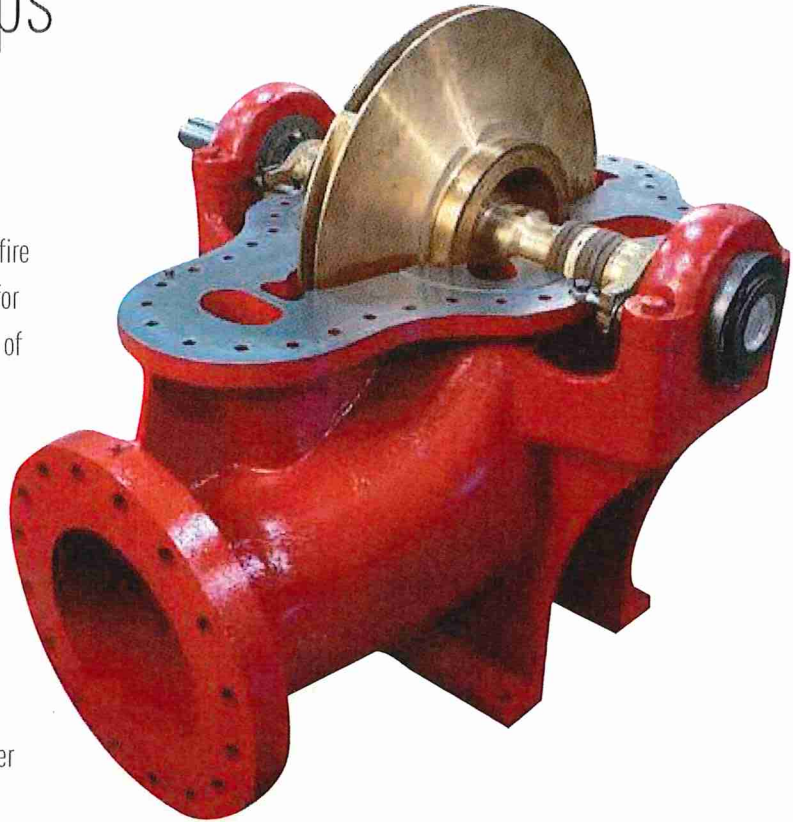
Horizontal split case pumps are the most common type of fire pump. These pumps are specifically designed and tested for fire service applications where reliability of performance is of vital importance. Split case pumps are characterized by:

- Easy access to all working parts;
- Rugged construction;
- Liberal water passages; and
- Efficient operation.

Split case fire pumps are specified when the source of water is located above the surface of the ground and provides a positive suction pressure to the pump at any performance point. Single-stage or multistage pumps are available dependent upon discharge pressure requirements.

Aurora split case fire pumps are built per the rigid standards of NFPA 20 and are listed by Underwriters Laboratories (UL) and approved by Factory Mutual (FM).

Available in a broad range of operating pressures and flows from a minimum of 250 GPM, Aurora split case pumps can be driven by either an electric motor or diesel engine. Aurora's UL-Listed, FM-Approved fire pump packages also include the system controller, with a full range of options and accessories available to complete the NFPA-compliant fire pump package.

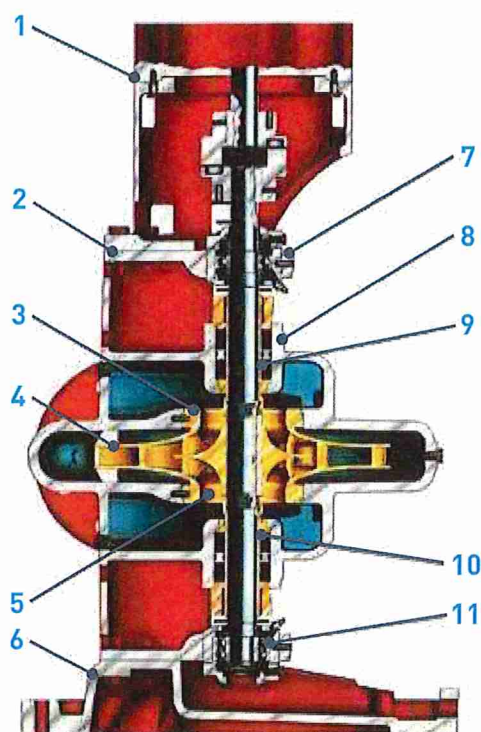


In addition to horizontal split case pumps, Aurora also offers split case performance in a vertical format. Vertical fire pumps provide distinct advantages over horizontal pump constructions.

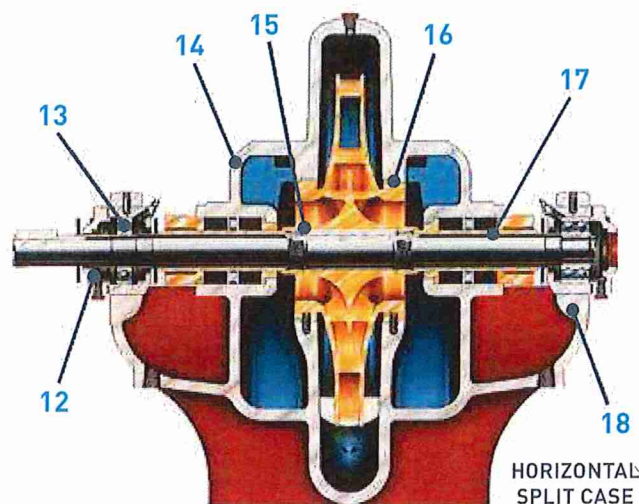
- Less floor space is required.
- In-line piping arrangement allows piping in any direction in most cases.
- Elevated motor protects against potential flooding if the pump station is in a low area.
- Components are register-fitted to prevent misalignment.



# Pump Features



VERTICAL  
SPLIT CASE



HORIZONTAL  
SPLIT CASE

- 1. Computer Machined**  
major components with 360 degree registered fits to assure concentricity of parts.
- 2. Integral Bearing Arms**  
eliminate bearing misalignment and simplify maintenance.
- 3. Enclosed Impeller Design**  
provides high efficiency and performance.
- 4. Dynamically Balanced Impeller**  
is keyed to the shaft and secured by adjustable shaft sleeves.
- 5. Double Suction Impeller**  
balances hydraulic thrust loads.
- 6. Cast Iron Drip Rim Base**  
directs condensation and any stuffing box leakage to drain.
- 7. Short Bearing Span**  
holds shaft deflection to .002" at face of stuffing box at maximum load.
- 8. Internal Water Seal Passages**  
between volute and stuffing box cannot be damaged.
- 9. Interwoven, Graphite Impregnated T.F.E.**  
diagonally cut packing rings seal the pump shaft.
- 10. Stuffing Boxes**  
are extra deep for proper sealing. Split packing glands simplify packing maintenance.
- 11. Double Row Thrust**  
ball bearing.
- 12. Grease Seals**  
and nonsparking neoprene rotating slingers protect both bearings during pump operation and washdown.
- 13. Bearings**  
selected for 50,000 hour minimum life at maximum load. Average bearing life 5 x minimum.
- 14. Split Case Design**  
simplifies disassembly. The suction and discharge piping and shaft alignment are not disturbed.
- 15. O-Ring Sealed Shaft Sleeves**  
prevent corrosion of the shaft. This eliminates the need for stainless steel shafts.
- 16. Case Wearing Rings**  
and throttle bushings protect the casing from wear and are easily and inexpensively replaced.
- 17. Bronze Shaft Sleeve**  
prevents shaft wear, is slip fit over the shaft, keylocked, and extends the entire length of the seal box.
- 18. Certified Performance Test with Positive Suction Pressure**  
is provided for each fire pump for customer approval. Pumps are also hydrostatically tested per NFPA 20 at no less than 250 psi.



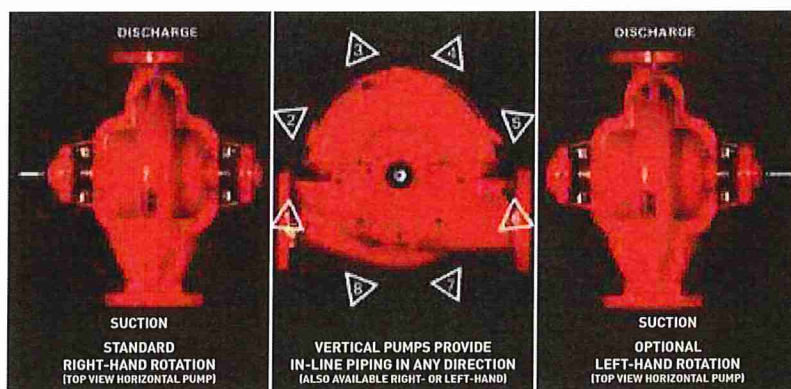
# Fire Pump Feature Selector

## Standard

- Bronze fitted pump construction
- Bronze shaft sleeves
- Bronze case wearing rings
- Dynamically balanced impellers
- Stainless steel impeller key
- Carbon steel shaft
- Corrosion-resistant lantern rings\*
- Bronze stuffing box bushings
- Bronze or stainless steel glands
- Interwoven graphite-impregnated T.F.E. packing rings
- Cast integral bearing arms (most models)
- Regreaseable ball bearings
- Double row thrust bearing (outboard side)
- Upper casing lifting lugs
- Water slingers and grease seals
- Hydrostatic and Certified Performance test\*\*
- Coupling guard
- Suction and discharge gauges with shutoff cocks
- Automatic air release valve
- Casing relief valve (electric driven units only)

## Optional

- Ductile iron casings (available in selected 481 and 485 models)
- Some models available in 316 SST, duplex and super duplex
- Right- or left-hand rotation
- Impeller wearing rings
- Stainless steel shafts
- Double row ball bearings on inboard side
- External bypass line from casing to stuffing boxes (optional on Model 480s, standard on Model 490s)
- Formed steel drip-rim base (horizontal electric driven units only)
- 15' Suction lift test to verify performance at 150% of rated flow
- Available accessories include valves, headers, main relief valves, increasers and reducers, waste cones, and more.



\* Standard on Model 490s; furnished when suction pressure is below 40 psi on Model 480s.

\*\* Test is performed with positive suction pressure.



[WWW.AURORAPUMP.COM](http://WWW.AURORAPUMP.COM)

800 AIRPORT ROAD, NORTH AURORA, ILLINOIS 60542 USA  
PARALLELWEG 4, 7102 DE, WINTERSWIJK, THE NETHERLANDS  
NO. 10 JIA YE ROAD BIN HU DISTRICT, WUXI CITY, JIANG SU PROVINCE, CHINA 214124

Because we are continuously improving our products and services, Pentair reserves the right to change specifications without prior notice.  
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**FLUID PROCESS & PUMPS, LLC**

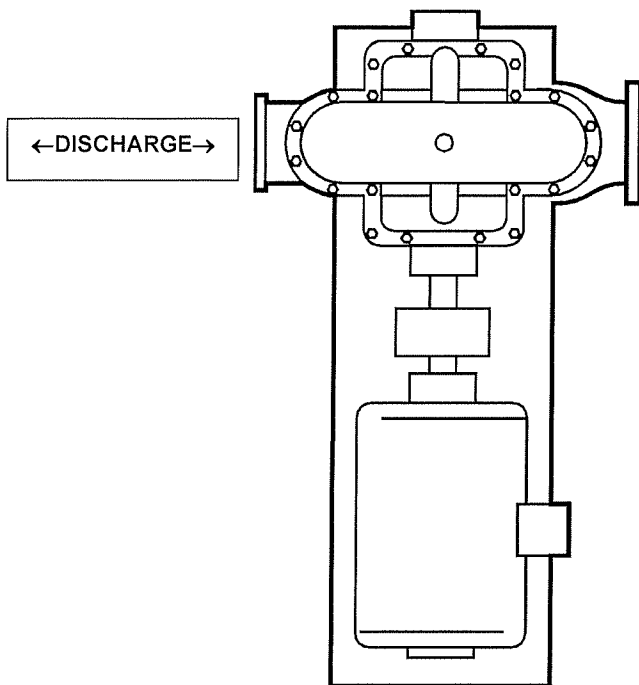
P.O. BOX 10608

NEW ORLEANS, LA 70181

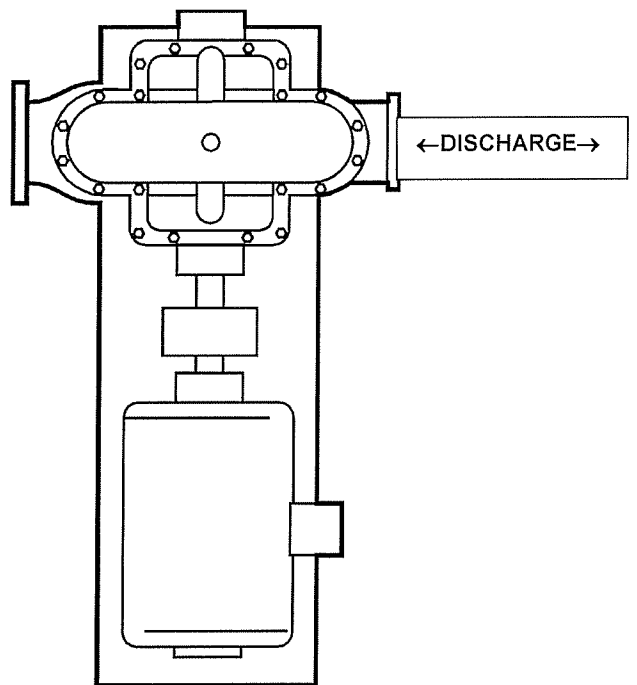
TEL: 504 / 733-1330

FAX: 504 / 736-9348

RIGHT HAND



LEFT HAND



PUMP NO. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PUMP NO. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**PLEASE VERIFY ROTATION**



SUBMITTAL DATA FOR  
FIRE PUMPS  
405 Commerce Pt., Harahan, LA 70123  
(504) 733-1330 FAX (504) 736-9348

NO. OF PRINTS
X For Approval
Final
Reproducible

SALES OFFICE: NEW ORLEANS, LA PO# \_\_\_\_\_  
 Factory Order#: \_\_\_\_\_ Service: FIRE WATER  
 Job: JPDEPT OF GENERAL SERVICES  
 Engineer: \_\_\_\_\_  
 Contractor: \_\_\_\_\_  
 Sold To: \_\_\_\_\_ PO#: \_\_\_\_\_  
 Reference: FIRE PUMP

<b>PUMP</b> Number of Units <u>1</u> Model <u>5-481-11C</u> Size <u>5x6x11C</u> GPM <u>1000</u> TDH <u>130 PSI (300' TDH)</u> RPM <u>3560</u> Construction: <input type="checkbox"/> Standard Fitted <input checked="" type="checkbox"/> Bronze Fitted <input type="checkbox"/> _____ Case <u>C.I.</u> Imp. <u>BRZ</u> Shaft <u>STEEL</u> Sleeve <u>BRZ</u> Case Ring <u>BRZ</u> Imp. Ring _____		Pump Only <input type="checkbox"/> Rotation: <input checked="" type="checkbox"/> RH <input type="checkbox"/> LH Connections: <input type="checkbox"/> Threaded <input checked="" type="checkbox"/> Flanged <input checked="" type="checkbox"/> 125# <input type="checkbox"/> 250# Lubrication: <input checked="" type="checkbox"/> Grease <input type="checkbox"/> Oil Stuffing Box: <input checked="" type="checkbox"/> Packing <input type="checkbox"/> Latern Ring	<b>MOTOR</b> HP: <u>125</u> Phase: <u>3</u> Hertz: <u>60</u> Volts: <u>460</u> RPM: <u>3560</u> Frame: <u>404TS</u> Enclosure: <input checked="" type="checkbox"/> ODP <input type="checkbox"/> TEFC <input type="checkbox"/> X Proof <input type="checkbox"/> Vertical <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Part Winding <input checked="" type="checkbox"/> Hi Efficiency <input checked="" type="checkbox"/> Aurora Furnish <input type="checkbox"/> Others Furnish <input checked="" type="checkbox"/> Factory Choice Mfg: _____	<b>OPTIONS</b> Base: <input type="checkbox"/> Steel Drip Rim <input checked="" type="checkbox"/> Steel Form <input type="checkbox"/> Fabricated Steel <input type="checkbox"/> Cast Iron Ring Type Coupling: Mfg: <u>F/C</u> Size: _____ <input type="checkbox"/> Spacer <input checked="" type="checkbox"/> Guard Test: <input checked="" type="checkbox"/> Certified Performance <input type="checkbox"/> Wit.Certified Performance <input checked="" type="checkbox"/> Hydro <input type="checkbox"/> _____
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Note: Motor not mounted at factory on vertical units

#### SPECIAL REQUIREMENTS

PLEASE VERIFY THE FIRE PUMP IS OPERATING AT 3/60/460V

PLEASE VERIFY FIRE PUMP ROTATION

CERTIFIED Section: 912 Page: \_\_\_\_\_ Curve Number: 184-5X6X11C-3560  
 PRINT: Special: \_\_\_\_\_ Maintenance Sent: \_\_\_\_\_  
 By: M. GUIDRY Date: 7/22/2024 Office: NEW ORLEANS, LA

This order will not be processed for manufacturing until approval is received. Prints are not to scale and are certified correct only for this order. All orders are subject to acceptance at Aurora Pump, North Aurora, Illinois.

firesub

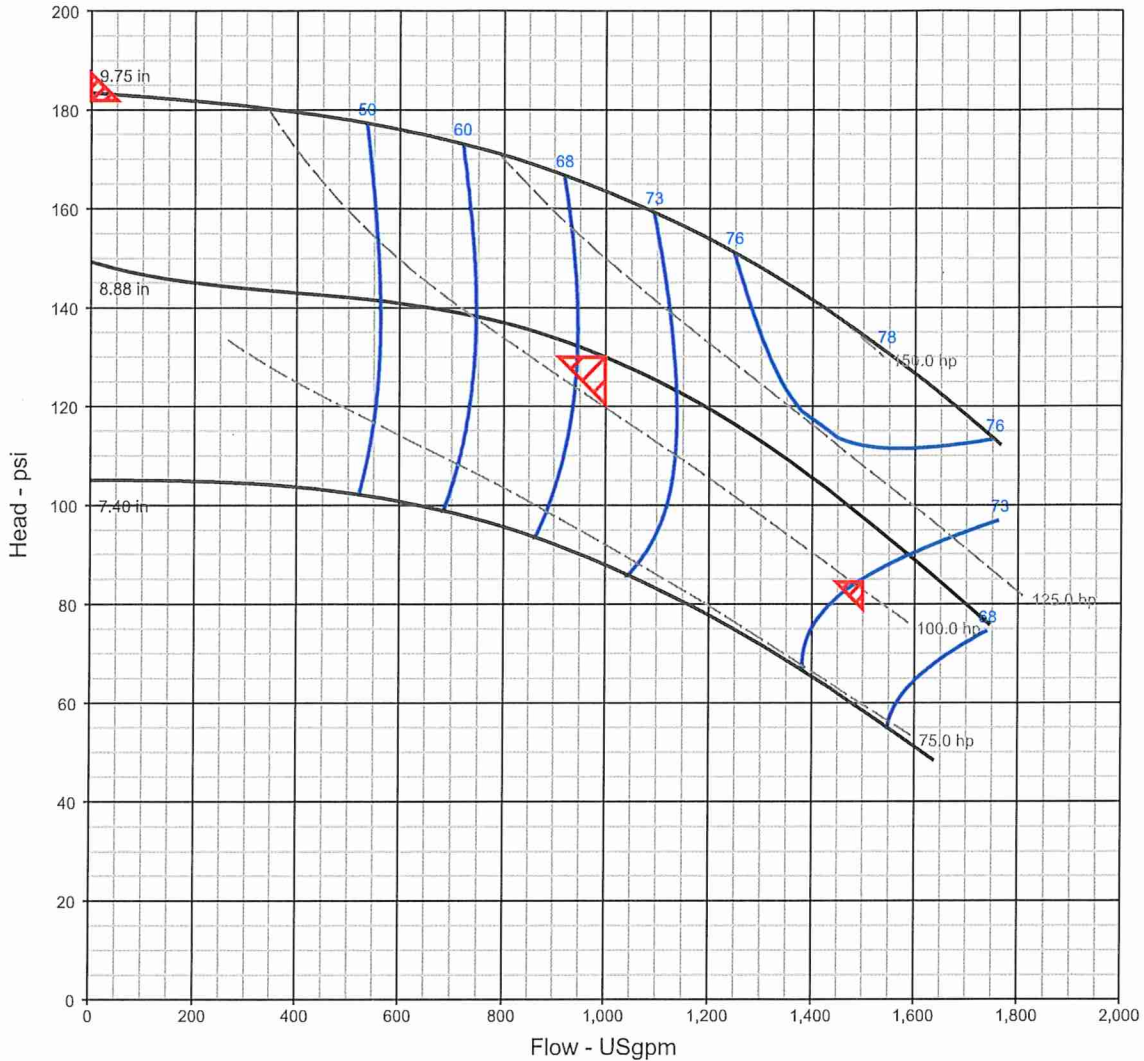




**PENTAIR**

Customer : Fluid Process &  
Pumps  
Project name : Default

**Pump Performance Curve**  
Encompass 3.0 - 24.1.1

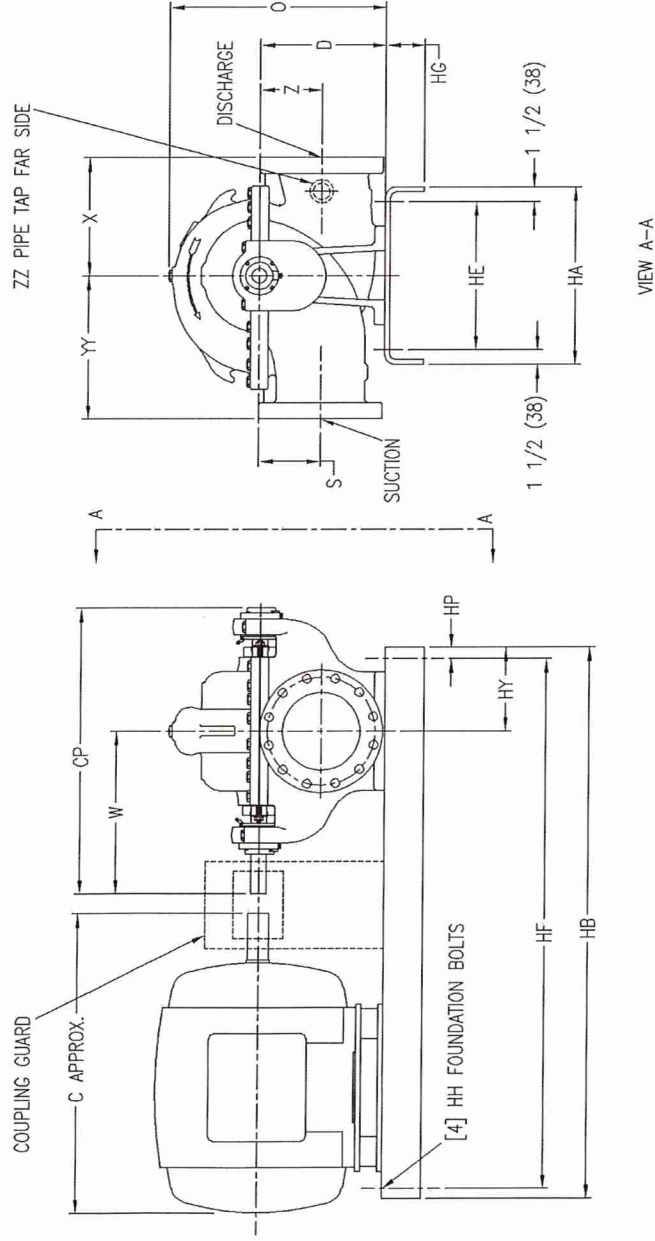


Item Number / Tags	: 001	Size	: 5-481-11C
Service	:	Stages	: 1
Quantity	: 1	Driver type	: Motor
Quote number	: 240360	Frequency	: 60 Hz
Date last saved	: 22 Jul 2024 1:14 PM	Speed, rated	: 3560 rpm
Flow, rated	: 1,000.0 USgpm	Based on curve number	: 184-5X6X11C-3560
Differential head / pressure, rated	: 130.0 psi	Efficiency	: 69.69 %
Flange rating (suction / discharge)	: 125/250	Max working pressure, allowable	: 325.0 psi.g
Secondary Point (150% of rated flow)	: 1,500.0 USgpm	Max Shutoff Head (Calculated)	: 152.0 psi
Secondary Point (65% of rated head)	: 84.50 psi	Max suction pressure, allowable	: 173.0 psi.g
Max Shutoff per NFPA	: 182.0 psi	Suction pressure, max (user specified)	: 30.00 psi.g
		Pump shutoff w/ suction pressure	: 182.0 psi.g
		Power driver, minimum	: 125 hp

## General Arrangement

**WARNING**

DO NOT OPERATE THIS MACHINE WITHOUT PROTECTIVE GUARD IN PLACE. ANY OPERATION OF THIS MACHINE WITHOUT PROTECTIVE GUARD CAN RESULT IN SEVERE BODILY INJURY.



CP	W	X	YY	D	Z	S	HY	ZZ
28.50	16.00	11.25	13.25	12.00	5.50	5.50	6.00	1.25
C	HA	HB	HE	HF	HG	HH	HP	O
30.00	22.00	60.00	19.00	58.00	4.00	0.63	1.00	19.75

## NOTES:

**Not for construction, installation, or application purposes unless certified.**

All dimensions are in inches


Dimensions may vary  $\pm 1/2"$  (13mm) due to normal manufacturing tolerances.

Bases are designed to be completely filled with grout.

Coupling gap may vary  $1/8"$  (3mm) through  $2 1/16"$  (52mm)

See configuration for estimated total weight.

Pump Data	
Series	Horizontal Splitcase
Model	5-481-11C
Size	5x6x11C
Flow	1,000.0 USgpm
Rated Pressure	130.0 psi.g
RPM	3560 rpm
Rotation	Right handed
Liquid Type	Water
Discharge Size	5.00 in
Suction Size	6.00 in
Impeller Diameter	8.94 in
Connection Type	125/250
Base Type	Steel bent form base
-	-
Pump Materials of Construction	
Pump	Bronze fitted with Cast Iron casing
Shaft	Carbon Steel AISI C1045
Motor Data	
Power	125 hp
Phase	3
Frequency	60 Hz
Volts	460 V
RPM	3600
Frame	404TS
Service Factor	1.15
Enclosure	ODP
Manufacturer	Weg
Site Information	
Elevation	300.0 ft
Temperature	77.00 deg F
Estimated Weights	
Pump	630.0 lb
Driver	830.0 lb

Quote Information	
Customer	Fluid Process & Pumps
Customer Quote	0
Job Name	Default
Market	-
 PENTAIR	
Quote Item	001
Quote Date	13 Mar 2024



# TORNATECH

**Project:** JP Dept of General Services

**Customer:** \_\_\_\_\_

**Engineer:** \_\_\_\_\_

**Pump Manufacturer:** Aurora

## 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

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.



May 2024





**TORNATECH**

## Technical Data

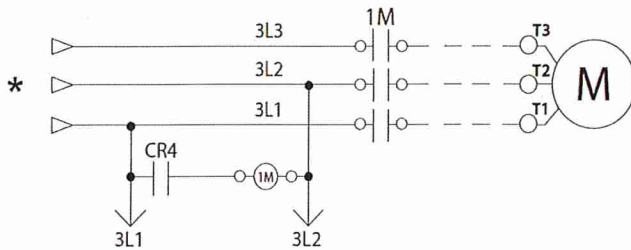
### GPx Series Full Service Electric Fire Pump Controller with Automatic Power Transfer Switch

#### Select starting method



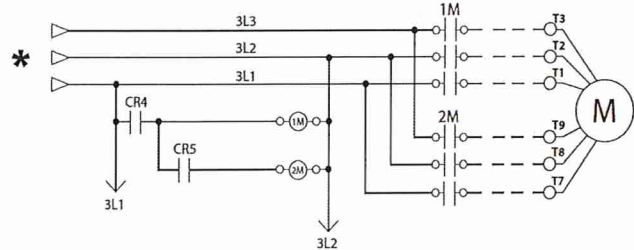
#### Model GPA

Across the line



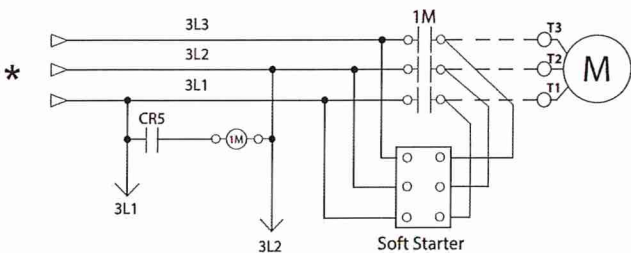
#### Model GPP

Partwinding



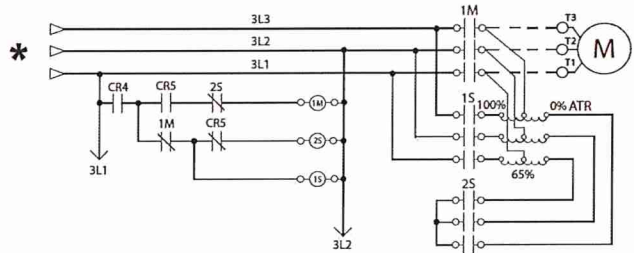
#### Model GPS

Soft Start Soft Stop



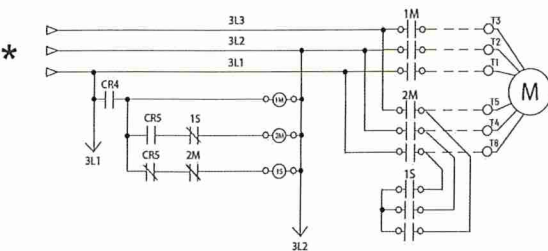
#### Model GPR

Autotransformer



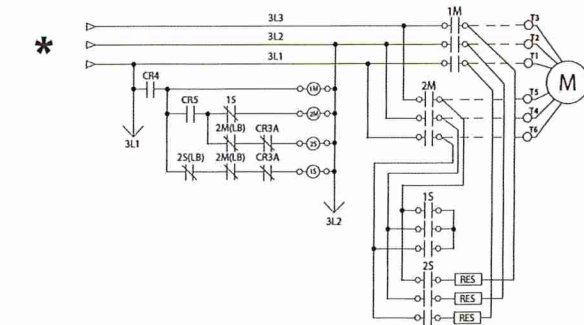
#### Model GPY

Wye-Delta Open



#### Model GPW

Wye-Delta Closed



\*From Automatic Power Transfer Switch





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

Standard, Listings, Approvals and Certifications	<b>Built to NFPA 20 (latest edition)</b>		
	<b>Underwriters Laboratory (UL)</b>	<ul style="list-style-type: none"> <li>• UL218 - Fire Pump Controllers</li> <li>• UL 1008 - Automatic power transfer switches for fire pump controllers</li> </ul>	
	<b>FM Global</b>	Class 1321/1323	
	<b>New York City</b>	Accepted for use in the City of New York by the Department of Buildings	
	<b>CE Mark</b>	Various EN, IEC & CEE directives and standards	
	Built in Canada or U.A.E	Built in Europe	
	<input type="checkbox"/> CE Mark Option	Supplied as Standard	
Enclosure	<b>Protection Rating</b>		
	Built in Canada or U.A.E	Built in Europe	
	<input checked="" type="checkbox"/> Standard: NEMA 2	<input type="checkbox"/> Standard: IP55	
	<b>Optional</b>		
	<input type="checkbox"/> NEMA 12	<input type="checkbox"/> NEMA 4X-304 sst painted	<input type="checkbox"/> IP54
	<input type="checkbox"/> NEMA 3	<input type="checkbox"/> NEMA 4X-304 sst brushed finish	<input type="checkbox"/> IP55
	<input type="checkbox"/> NEMA 3R	<input type="checkbox"/> NEMA 4X-316 sst painted	<input type="checkbox"/> IP65
	<input type="checkbox"/> NEMA 4	<input type="checkbox"/> NEMA 4X-316 sst brushed finish	<input type="checkbox"/> IP66
	<b>Accessories</b> <ul style="list-style-type: none"> <li>• Bottom entry gland plate</li> <li>• Lifting Lugs</li> <li>• Keylock handle</li> </ul>		
	<b>Paint Specifications</b> <ul style="list-style-type: none"> <li>• Red RAL3002</li> <li>• Powder coating</li> <li>• Glossy textured finish</li> </ul>		

Shortcircuit Withstand Rating	200V to 208V 60Hz	220V to 240V 60Hz	380V to 415V 50 Hz / 60Hz	440V to 480V 60Hz	575V to 600V 60Hz
	HP (kw)				
<input checked="" type="checkbox"/> Standard 100kA	5 - 150 (3.7 - 110)	5 - 200 (3.7 - 149)	5 - 300 (3.7 - 223)	5 - 400 (3.7 - 298)	N/A
<input type="checkbox"/> Optional 150kA					
<input type="checkbox"/> Standard 50kA	200 (149)	250 (186)	350 - 450 (261 - 335)	450 - 500 (335 - 373)	5 - 500 (3.7 - 373)
<input type="checkbox"/> Optional 100kA	N/A	N/A	350 - 500 (261 - 373)	450 - 500 (335 - 373)	
<input type="checkbox"/> 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



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

<b>Ambient Temperature Rating</b>	<b>Standard:</b> <input checked="" type="checkbox"/> 4°C to 40°C / 39°F to 104°F <b>Optional:</b> <input type="checkbox"/> 4°C to 55°C / 39°F to 131°F Controllers built in Dubai, UAE (Tornatech FZE) are supplied standard with 55°C rating.
<b>Surge Suppression</b>	Surge arrestor rated to suppress surges above line voltage
<b>Disconnecting Means</b>	<ul style="list-style-type: none"> <li>Isolating switch and circuit breaker assembly:               <ul style="list-style-type: none"> <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>
<b>Service Entrance Rating</b>	Suitable as service entrance equipment
<b>Emergency Start Handle</b>	<ul style="list-style-type: none"> <li>Flange mounted</li> <li>Integrated limit switch</li> <li>Pull and latch activation</li> <li>Across the line start (direct on line)</li> </ul>
<b>Locked Rotor Protector</b>	<ul style="list-style-type: none"> <li>Operate shunt trip to open circuit breaker</li> <li>Factory set at 600% of motor full load current</li> <li>Trip between 8 and 20 seconds</li> </ul>
<b>Electrical Readings</b>	<ul style="list-style-type: none"> <li>Voltage phase to phase (normal power)</li> <li>Amperage of each phase when motor is running</li> </ul>
<b>Pressure Readings</b>	<ul style="list-style-type: none"> <li>Continuous system pressure display</li> <li>Cut-in and Cut-out pressure settings</li> </ul>
<b>Pressure and Event recorder</b>	<ul style="list-style-type: none"> <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>
<b>Pressure Sensing</b>	<ul style="list-style-type: none"> <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>





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

<b>Audible Alarm</b>	Alarm buzzer - 85dB at 3 meters		
<b>Visual Indications</b>	<ul style="list-style-type: none"> <li>• Power available</li> <li>• Motor run</li> <li>• Periodic test</li> <li>• Manual start</li> </ul>	<ul style="list-style-type: none"> <li>• Deluge valve start</li> <li>• Remote automatic start</li> <li>• Remote manual start</li> <li>• Emergency start</li> </ul>	<ul style="list-style-type: none"> <li>• Pump on demand/Automatic start</li> <li>• Pump room temperature (°F or °C)</li> <li>• Lockout</li> </ul>
<b>Visual &amp; Audible Alarms</b>	<p>Visual only</p> <ul style="list-style-type: none"> <li>• Alternate lock rotor current</li> <li>• Alternate power phase reversal</li> <li>• Automatic transfer switch trouble</li> <li>• Control voltage not healthy</li> <li>• Invalid cut-in</li> <li>• Lock rotor current</li> <li>• Loss of power</li> <li>• Low ambient temperature</li> </ul> <p>Visual and Audible</p> <ul style="list-style-type: none"> <li>• ACB in OFF or tripped</li> <li>• Alternate IS tripped/open</li> <li>• Fail to start</li> </ul>		
<b>Remote Alarm Contacts</b>	<p>DPDT-8A-250V.AC</p> <ul style="list-style-type: none"> <li>• Power available</li> <li>• Phase reversal</li> <li>• Motor run</li> <li>• Common pump room alarm (field re-assignable)** <ul style="list-style-type: none"> <li>• Overvoltage</li> <li>• Undervoltage</li> <li>• Phase unbalance</li> <li>• Low pump room temperature</li> <li>• High Pump room temperature</li> </ul> </li> <li>• Common motor trouble (field re-assignable)** <ul style="list-style-type: none"> <li>• Overcurrent</li> <li>• Fail to start</li> <li>• Undercurrent</li> <li>• Ground fault</li> </ul> </li> <li>• Free (field programmable)**</li> </ul>		

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



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

<b>ViZiTouch V2.1 Operator Interface</b>	<ul style="list-style-type: none"> <li>• Embedded microcomputer with software PLC logic</li> <li>• 7.0" color touch screen (HMI technology)</li> <li>• Upgradable software</li> <li>• Multi-language</li> </ul>		
<b>Communication Protocol Capability</b>	<ul style="list-style-type: none"> <li>• Protocol: Modbus</li> <li>• Connection type: Shielded female connector RJ45</li> <li>• Frame Format: TCP/IP</li> <li>• Addresses: See bulletin MOD-GPx</li> </ul>		
<b>Operation</b>	<b>Automatic Start</b>	<ul style="list-style-type: none"> <li>• Start on pressure drop</li> <li>• Remote start signal from automatic device</li> <li>• Deluge valve start</li> </ul>	
	<b>Manual Start</b>	<ul style="list-style-type: none"> <li>• Start pushbutton</li> <li>• Run test pushbutton</li> <li>• Remote start from manual device</li> </ul>	
	<b>Stopping</b>	<ul style="list-style-type: none"> <li>• Manual with Stop pushbutton</li> <li>• Automatic after expiration of minimum run timer ***</li> </ul>	
	<b>Timers</b>	Field Adjustable & Visual Countdown	<ul style="list-style-type: none"> <li>• Minimum run timer ***(off delay)</li> <li>• Sequential start timer (on delay)</li> <li>• Periodic test timer</li> </ul>
	<b>Actuation</b>	Visual Indication	<ul style="list-style-type: none"> <li>• Pressure</li> <li>• Non-pressure</li> </ul>
	<b>Mode</b>		<ul style="list-style-type: none"> <li>• Automatic</li> <li>• Non-automatic</li> </ul>

\*\*\*Can only be used if approved by the AHJ

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

Automatic Power Transfer Switch	<b>Surge Suppression</b>	Surge arrestor rated to suppress surges above line voltage
	<b>Disconnecting Means</b>	<ul style="list-style-type: none"> <li>• Isolating switch and circuit breaker assembly: <ul style="list-style-type: none"> <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>
	<b>Locked Rotor Protector</b>	<ul style="list-style-type: none"> <li>• Operate shunt trip to open circuit breaker</li> <li>• Factory set at 600% of motor full load current</li> <li>• Trip between 8 and 20 seconds</li> </ul>
	<b>Visual Indications</b>	<ul style="list-style-type: none"> <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>
	<b>Visual Alarms</b>	<ul style="list-style-type: none"> <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 pushbutton	
	Bypass for re-transfer and generator shutdown	
	Electrically operated and mechanically held in the normal or alternate position	
	Provision for manual operation	
	<b>Remote Alarm Contacts</b> SPDT-8A-250VAC <ul style="list-style-type: none"> <li>• Isolating switch in the OFF position</li> <li>• Transfer switch in normal position</li> <li>• Transfer switch in alternate (emergency) position</li> </ul>	
	<b>Time Delays</b> <ul style="list-style-type: none"> <li>• Momentary normal power outage override (factory set at 3 sec - field adjustable 1 to 3 sec)</li> <li>• Alternate (emergency) power available delay (factory set at 3 sec - field adjustable 1 to 3 sec)</li> <li>• Transfer trouble delay (factory set at 20 sec - field adjustable 1 to 60 sec)</li> <li>• Retransfer to normal (factory set at 5 min - field adjustable 1 to 20 min)</li> <li>• Generator cooldown (factory set at 5 min - field adjustable 1 to 20 min)</li> </ul>	
	<b>Voltage Sensing</b> <ul style="list-style-type: none"> <li>• Transfer to alternate (normal power dropout) 85% of nominal - field adjustable 0 to 100%</li> <li>• Phase reversal transfer to alternate</li> <li>• Retransfer to normal (normal power pickup) 90% of nominal - field adjustable 0 to 100%</li> </ul>	
	<b>Audible Alarm (AIS Open)</b> Alarm buzzer - 85dB at 3 meters	
	<b>Generator Start Connection</b> SPDT-8A-250V.AC	



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

<input type="checkbox"/> A4	Flow switch provision	<input type="checkbox"/> C19	Emergency start alarm contact (DPDT)
<input type="checkbox"/> A8	Foam pump application w/o pressure transducer and run test solenoid valve.	<input type="checkbox"/> C20	Manual start alarm contact (DPDT)
<input type="checkbox"/> A9	Low zone pump control function	<input type="checkbox"/> C21	Deluge valve start alarm contact (DPDT)
<input type="checkbox"/> A10	Middle zone pump control function	<input type="checkbox"/> C22	Remote automatic start alarm contact (DPDT)
<input type="checkbox"/> A11	High zone pump control function	<input type="checkbox"/> C23	Remote manual start alarm contact (DPDT)
<input type="checkbox"/> A13	Non-pressure actuated controller w/o pressure transducer and run test solenoid valve	<input type="checkbox"/> C24	High pump room temperature alarm contact (DPDT)
<input type="checkbox"/> A16	Lockout/interlock circuit from equipment installed inside the pump room	<input type="checkbox"/> C25	Second set of standard alarm contacts (DPDT) (Typical for city of Los Angeles and Denver)
<input type="checkbox"/> 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	<input type="checkbox"/> Cx	Additional visual and alarm contact (Specify function) (DPDT)
<input type="checkbox"/> B11B	Built in alarm panel same as B11 but 220-240VAC supervisory power	<input type="checkbox"/> D1	Low suction pressure transducer for fresh water rated at 0-300PSI with visual indication and alarm contact
<input type="checkbox"/> B19A	High motor temperature c/w thermostat relay and alarm contacts (DPDT)	<input type="checkbox"/> D1A	Low suction pressure transducer for sea water rated at 0-300PSI with visual indication and alarm contact
<input type="checkbox"/> B19B	High motor temperature c/w PT100 relay and alarm contacts (DPDT)	<input checked="" type="checkbox"/> D5	Pressure transducer and run test solenoid valve for fresh water rated for 0-500PSI (for factory calibration purposes only)
<input type="checkbox"/> B21	Ground fault alarm detection c/w visual indication and alarm contact (DPDT)	<input type="checkbox"/> D5D	Pressure transducer and run test solenoid valve for sea water rated for 0-500PSI
<input type="checkbox"/> C1	Extra motor run alarm contact (DPDT)	<input type="checkbox"/> D10	Omit mounting feet (when applicable)
<input type="checkbox"/> C4	Periodic test alarm contact (DPDT)	<input type="checkbox"/> 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*
<input type="checkbox"/> C6	Low discharge pressure alarm contact (DPDT)	<input type="checkbox"/> D13A	High withstand rating for: • 380V to 480V = 65kA* • 600V = 25kA*
<input type="checkbox"/> C7	Low pump room temperature alarm contact (DPDT)	<input type="checkbox"/> 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*
<input type="checkbox"/> C10	Low water reservoir level alarm contact (DPDT)	<input type="checkbox"/> D14	Anti-condensation heater & thermostat
<input type="checkbox"/> C11	High electric motor temperature alarm contact (DPDT)	<input type="checkbox"/> D14A	Anti-condensation heater & humidistat
<input type="checkbox"/> C12	High electric motor vibration c/w visual indication and alarm contact (DPDT)	<input type="checkbox"/> D14B	Anti-condensation heater & thermostat & humidistat
<input type="checkbox"/> C14	Pump on demand / automatic start alarm contact (DPDT)		
<input type="checkbox"/> C15	Pump fail to start alarm contact (DPDT)		
<input type="checkbox"/> C16	Control voltage healthy alarm contact (DPDT)		
<input type="checkbox"/> C17	Flow meter valve loop open c/w visual indication and alarm contact (DPDT)		
<input type="checkbox"/> C18	High water reservoir level c/w visual indication and alarm contact (DPDT)		

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



# TORNATECH

## Technical Data

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

<input type="checkbox"/>	D15	Tropicalization
<input type="checkbox"/>	D18	CE Mark with factory certificate
<input checked="" type="checkbox"/>	D26	Modbus with RTU frame format and RS485 connection
<input type="checkbox"/>	D27	Motor heater connection (external single phase power source and heater on/off contact)
<input type="checkbox"/>	D27A	Motor heater connection (internal single phase power source and heater on/off contact)
<input type="checkbox"/>	D28	Customized drawing set
<input type="checkbox"/>	D34A	Field programmable I/O board - 5 Input / 5 output
<input type="checkbox"/>	D36	Redundant pressure transducer for fresh water rated for 0-500PSI
<input type="checkbox"/>	D36A	Redundant pressure transducer for sea water rated for 0-500PSI
<input type="checkbox"/>	D43	Seismic Certification compliant to CBC 2019, IBC 2018 rigid base/wall mounted only
<input type="checkbox"/>	D44	Special Seismic Certification compliant to OSHPD rigid base/wall mounted only
<input type="checkbox"/>	E1	Permanent load shedding contacts
<input type="checkbox"/>	E2	Temporary pump motor start period load shedding contacts
<input type="checkbox"/>	E3	Temporary & permanent load shedding contacts
<input type="checkbox"/>	F2	Anti condensation heater & thermostat (alternate power section)
<input type="checkbox"/>	F2A	Anti condensation heater & humidistat (alternate power section)
<input type="checkbox"/>	F2B	Anti condensation heater & thermostat & humidistat (alternate power section)
<input type="checkbox"/>	F6	High withstand rating for (model GPU only) : • 208V to 480V=150kA      • 600V=100kA

<input type="checkbox"/>	L01	Other language and English (bilingual)
<input type="checkbox"/>	L02	French
<input type="checkbox"/>	L03	Spanish
<input type="checkbox"/>	L04	German
<input type="checkbox"/>	L05	Italian
<input type="checkbox"/>	L06	Polish
<input type="checkbox"/>	L07	Romanian
<input type="checkbox"/>	L08	Hungarian
<input type="checkbox"/>	L09	Slovakian
<input type="checkbox"/>	L10	Croatian
<input type="checkbox"/>	L11	Czech
<input type="checkbox"/>	L12	Portuguese
<input type="checkbox"/>	L13	Dutch
<input type="checkbox"/>	L15	Turkish
<input type="checkbox"/>	L16	Swedish
<input type="checkbox"/>	L21	Danish
<input type="checkbox"/>	L25	Chinese
<input type="checkbox"/>	L28	Finnish
<input type="checkbox"/>	L29	Norwegian

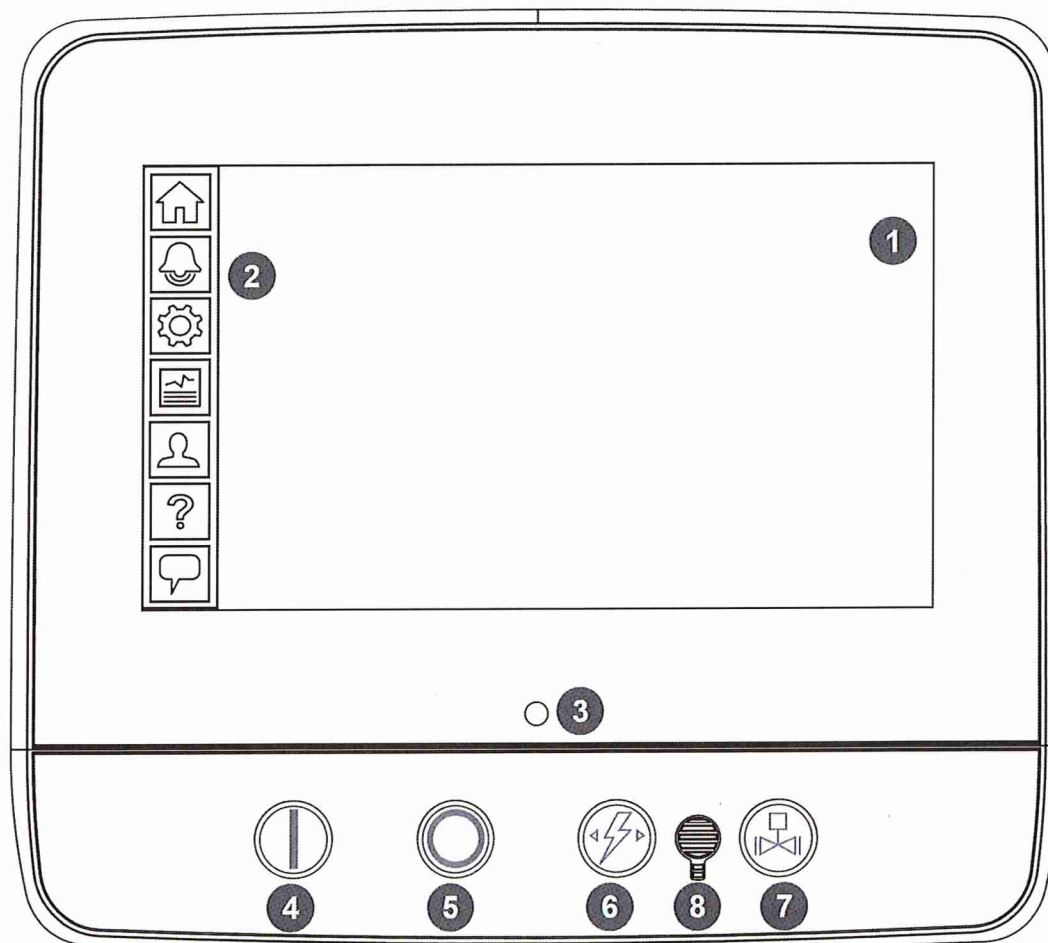
Additional Options:

<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____
<input type="checkbox"/>	_____

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



#### ViZiTouch V2.1 Operator Interface



- |                        |                                 |
|------------------------|---------------------------------|
| 1 - Color touch screen | 3 - Power LED (3 colors)        |
| 2 - Onscreen menu      | 4 - START button                |
| • HOME page            | 5 - STOP button                 |
| • ALARM page           | 6 - TRANSFER SWITCH TEST button |
| • CONFIGURATION page   | 7 - RUN TEST button             |
| • HISTORY page         | 8 - Alarm buzzer                |
| • SERVICE page         |                                 |
| • MANUAL page          |                                 |
| • LANGUAGES page       |                                 |





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ACD		07/02/24
FINAL APPROVAL	FC	07/02/24

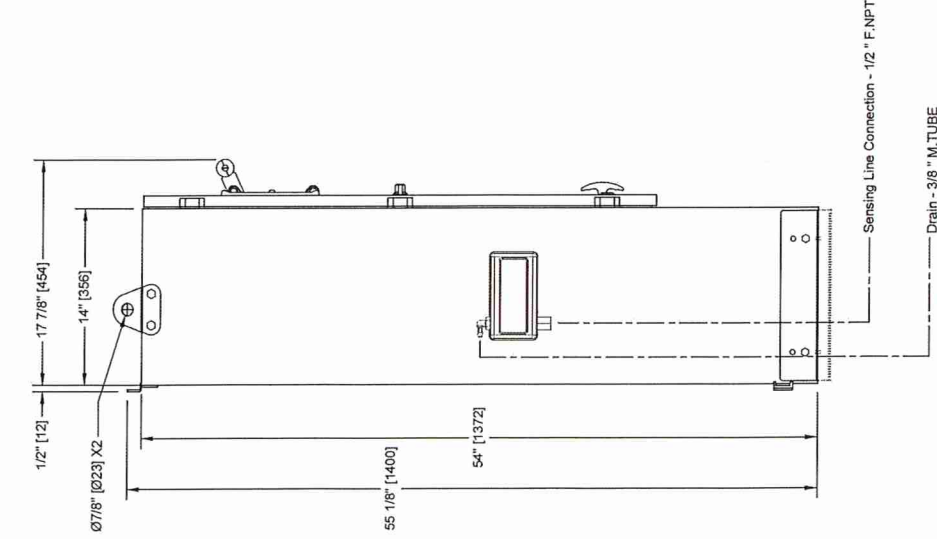
## ELECTRIC FIRE PUMP CONTROLLER WITH AUTOMATIC TRANSFER SWITCH

**MODEL: GPA/GPP/GPY**

BUILT TO THE LATEST EDITION OF THE NFPA20 & NFPA70

THIRD ANGLE  
PROJECTION

DRAWING NUMBER  
GPX-D1822 /E  
DWG REV. 1  
SHEET 1 OF 1



Voltage / Power Table		
Voltage	Min HP	Max HP
208	40	60
220 - 240	40	75
380 - 400 - 415	75	125
440 - 480	75	150
600	100	200

### Notes:

- Standard NEMA: NEMA 2
- Standard paint : textured red RAL 3002.
- All dimensions are in inches [millimeters]
- Center of screen: 47-5/8" [1208] 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.



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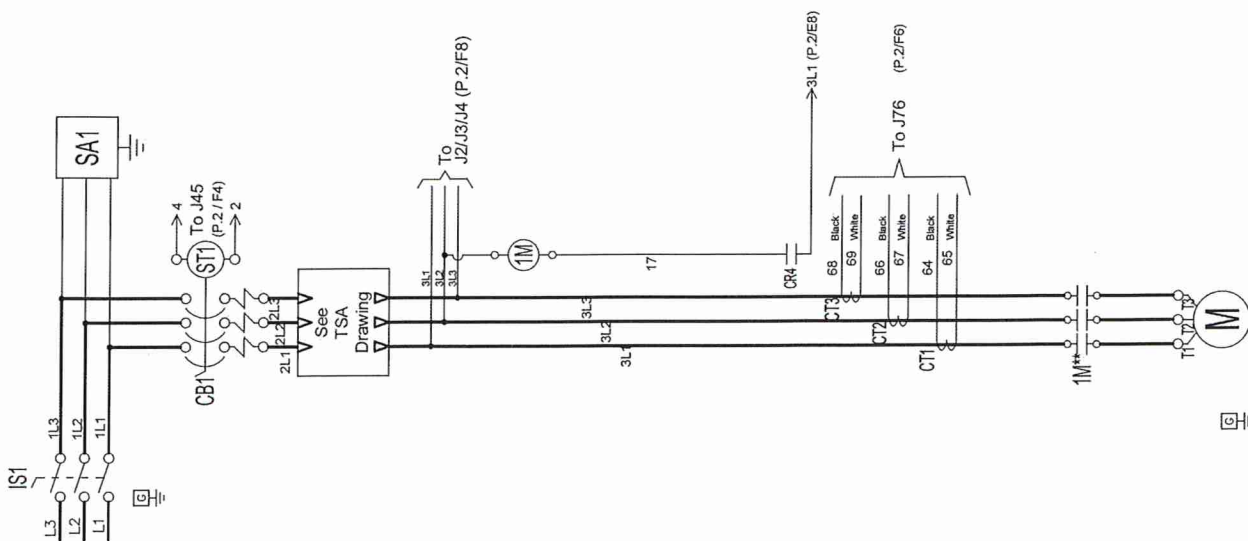
## ELECTRIC FIRE PUMP CONTROLLER FULL VOLTAGE / ACROSS THE LINE WITH AUTOMATIC TRANSFER SWITCH

**MODEL: GPA+GPU**

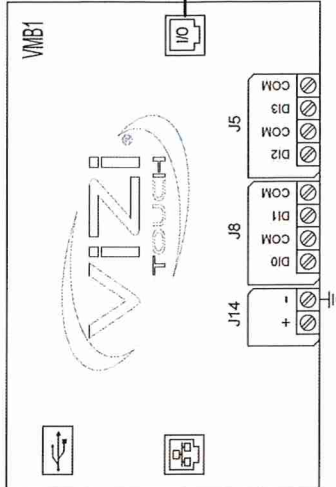
BUILT TO THE LATEST EDITION OF THE NFPA20 & NFPA70



DRAWING NUMBER  
GPA-WS810/E  
DWG REV. 0  
SHEET 1 OF 2



To I/O  
UP  
(P.2/E2)



Legend	
1M	Contactor
AB	Alarm Bell
CB	Circuit Breaker
CR	Control Relay
CT	Current Transformer
EB	Electric IO Board
IS	Isolating Switch
J	Jumpers
LS	Limit Switch
PT	Pressure Transducer
SA	Surge Arrester
ST	Short Trip
SV	Solenoid Valve
VMB	Main Board
XTR	Transformer



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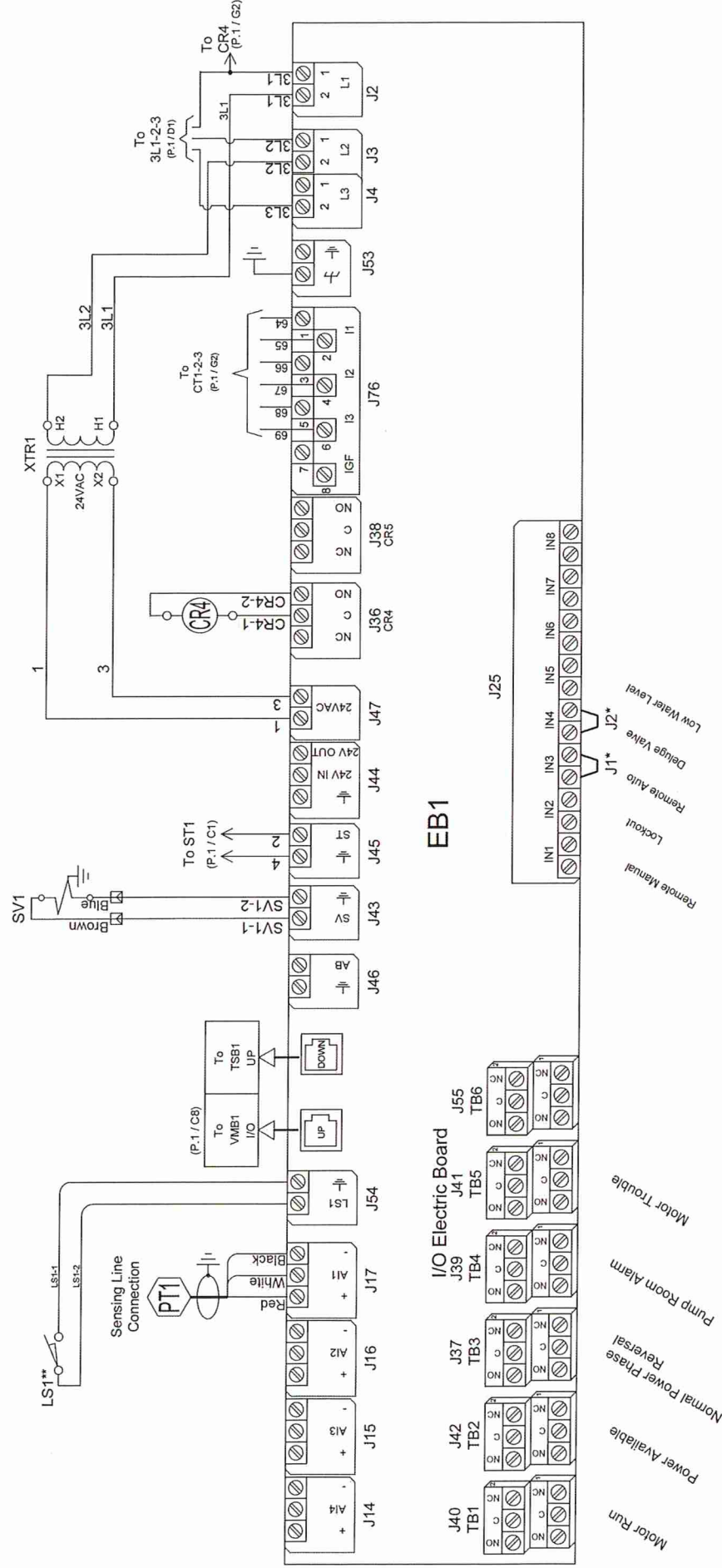
BY	DD/MM/YY
DRAWN BY	ACD
FINAL APPROVAL	FC

## ELECTRIC FIRE PUMP CONTROLLER FULL VOLTAGE / ACROSS THE LINE WITH AUTOMATIC TRANSFER SWITCH

**MODEL: GPA+GPU**

BUILT TO THE LATEST EDITION OF THE NFPA20 & NFPA70

DRAWING NUMBER	GPA-WS810/E
DWG REV. 0	
SHEET 2 OF 2	



\* Remove jumper to use this feature

\*\* Contact closes when emergency start is in "ON" position





DRAWN BY \_\_\_\_\_ ACCESSION NO. \_\_\_\_\_

28/02/23

**MODEL:** GPU

BUILT TO THE LATEST EDITION OF THE NFPA20 &amp; NFPA70

DWG REV. 0  
SHEET 1 OF 1





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FINAL APPROVAL	FC

## ELECTRIC FIRE PUMP CONTROLLER

**MODEL: GPX**

BUILT TO THE LATEST EDITION OF THE NFPA70 & NFPA70



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 L1 - L2 - L3

Bending Space	5" (127 mm)					8" (203 mm)				
	HP	7.5	10	15	20	25	30	40	50	60
Voltage	208	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 (1/0 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 (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 (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 (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 (8 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (4 to 1/0)

Bending Space	12" (305 mm)					16" (406 mm)				
	HP	7.5	100	125	150	200	250	300	350	400
Voltage	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)	3x (250 to 500)	3x (250 to 500)	3x (250 to 500)	3x (250 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)	2x (250 to 500)	2x (250 to 500)	2x (250 to 500)	2x (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 (400 to 500)	2x (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 (350 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 (300 to 500)
	Bending Space	5" (127 mm)	8" (203 mm)				12" (305 mm)			

### ALUMINUM CONDUCTORS for Isolating Switch (IS1).

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

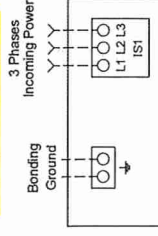
Bending Space	5" (127 mm)					8" (203 mm)				
	HP	7.5	10	15	20	25	30	40	50	10" (254 mm)
Voltage	208	1x (10 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (1 to 1/0)	1x (1/0)	1x (3/0)	1x (4/0 to 250)	1x (300) ** or 1x (250) 90°C *
	220 to 240	1x (10 to 1/0)	1x (8 to 1/0)	1x (6 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (2 to 1/0)	1x (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 (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 (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 (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	7.5	100	125	150	200	250	300	350	400
Voltage	208	2x (2/0 to 500)	2x (4/0 to 500)	2x (300 to 500)	2x (350 to 500)	3x (300 to 500)	3x (250 to 500)	3x (250 to 500)	3x (250 to 500)	3x (250 to 500)
	220 to 240	1x (350) **	2x (3/0 to 500)	2x (250 to 500)	2x (300 to 500)	2x (500)	3x (400 to 500)	3x (300 to 500)	3x (300 to 500)	3x (300 to 500)
	380 to 416	1x (3/0)	1x (250 to 350)	1x (350) **	2x (3/0 to 500)	2x (4/0 to 500)	2x (300 to 500)	2x (300 to 500)	2x (400 to 500)	3x (400 to 500)
	440 to 480	1x (1/0 to 3/0)	1x (3/0)	1x (250)	1x (300 to 350) **	2x (3/0 to 500)	2x (250 to 500)	2x (300 to 500)	2x (400 to 500)	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 500)	2x (300 to 500)	2x (400 to 500)
	Bending Space	5" (127 mm)	8" (203 mm)				12" (305 mm)			

\* For standard enclosure, use 90°C aluminum wire. Consult Factory for Use of Conductors Rated Lower than 90°C.

\*\* Consult Factory

### 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.

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





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	FC	28/02/23
FINAL APPROVAL		

## AUTOMATIC TRANSFER SWITCH FOR ELECTRIC FIRE PUMP CONTROLLER

**MODEL: GPU**

BUILT TO THE LATEST EDITION OF THE NFPA20 & NFPA70



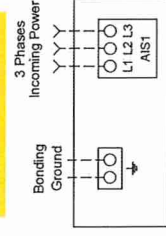
DRAWING NUMBER  
**GPU-TD800/E**  
DWG REV. 0  
SHEET 1 OF 1

### COPPER CONDUCTORS for Isolating Switch (AIS1).

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

		5" (127 mm)							8" (203 mm)							
Bending Space	HP	5	7.5	10	15	20	25	30	40	50	60					
	Voltage															
208		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 (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 (3 to 1/0)	1x (2 to 1/0)	1x (1 to 3/0)	1x (3/0 to 250)	1x (4/0 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 (6 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (2 to 1/0)	1x (3/0 to 250)	1x (4/0 to 250)					
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 (6 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (3/0 to 250)	1x (4/0 to 250)					
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 (6 to 1/0)	1x (4 to 1/0)	1x (3 to 1/0)	1x (2 to 1/0)					
		12" (305 mm)					16" (406 mm)									
Bending Space	HP	75	100	125	150	200	250	300	350	400	450					
	Voltage															
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)	3x (250 to 500)	3x (250 to 500)	3x (250 to 500)	3x (250 to 500)	3x (250 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)	3x (250 to 500)	3x (250 to 500)	3x (250 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 (250 to 500)	2x (250 to 500)	2x (250 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 (350 to 500)	2x (400 to 500)	2x (400 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)					
		8" (203 mm)					12" (305 mm)									
Bending Space	HP	5" (127 mm)														

### Power Terminals



### ALUMINUM CONDUCTORS for Isolating Switch (AIS1).

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

Bending Space		5" (127 mm)							8" (203 mm)			10" (254 mm)	
		HP	5	7.5	10	15	20	25	30	40	50	60	
Voltage													
208	1x (10 to 1/0)	1x (6 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 *	1x (250)	
220 to 240	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 (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)	1x (1/0)	
380 to 416	1x (10 to 1/0)	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 to 1/0)	1x (1 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 (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)	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 (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)	1x (2 to 1/0)	

Bending Space		12" (305 mm)					16" (406 mm)					
		HP	75	100	125	150	200	250	300	350	400	450
Voltage												
208	2x (2/0 to 500)	2x (4/0 to 500)	2x (4/0 to 500)	2x (250 to 500)	2x (350 to 500)	3x (300 to 500)	3x (300 to 500)	3x (300 to 500)	3x (300 to 500)	3x (300 to 500)	3x (300 to 500)	3x (300 to 500)
220 to 240	1x (350) **	2x (250 to 500)	2x (250 to 500)	2x (250 to 500)	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)
380 to 416	1x (3/0)	1x (250 to 350)	1x (250 to 350)	1x (350) **	2x (3/0 to 500)	2x (3/0 to 500)	2x (3/0 to 500)	2x (3/0 to 500)	2x (3/0 to 500)	2x (3/0 to 500)	2x (3/0 to 500)	2x (3/0 to 500)
440 to 480	1x (1/0 to 3/0)	1x (3/0)	1x (3/0)	1x (250)	1x (300 to 350) **	1x (300 to 350) **	1x (250) 90°C *	1x (250) 90°C *	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)
600	1x (1 to 1/0)	1x (2/0 to 3/0)	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 (400 to 500)

Bending Space		8" (203 mm)					12" (305 mm)					
		HP	75	100	125	150	200	250	300	350	400	450
Voltage												
208	2x (2/0 to 500)	2x (4/0 to 500)	2x (4/0 to 500)	2x (250 to 500)	2x (350 to 500)	3x (300 to 500)	3x (300 to 500)	3x (300 to 500)	3x (300 to 500)	3x (300 to 500)	3x (300 to 500)	3x (300 to 500)
220 to 240	1x (350) **	2x (250 to 500)	2x (250 to 500)	2x (250 to 500)	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)
380 to 416	1x (3/0)	1x (250 to 350)	1x (250 to 350)	1x (350) **	2x (3/0 to 500)	2x (3/0 to 500)	2x (3/0 to 500)	2x (3/0 to 500)	2x (3/0 to 500)	2x (3/0 to 500)	2x (3/0 to 500)	2x (3/0 to 500)
440 to 480	1x (1/0 to 3/0)	1x (3/0)	1x (3/0)	1x (250)	1x (300 to 350) **	1x (300 to 350) **	1x (250) 90°C *	1x (250) 90°C *	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)	2x (300 to 500)
600	1x (1 to 1/0)	1x (2/0 to 3/0)	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 (400 to 500)

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





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**TORNATECH**

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

## MODEL: GPA/GPR/GPS

BUILT TO THE LATEST EDITION OF THE NFPA70 & NFPA70



## ELECTRIC FIRE PUMP CONTROLLER

DRAWING NUMBER  
**GPX-TD801/E**  
DWG REV. 0  
SHEET 1 OF 1

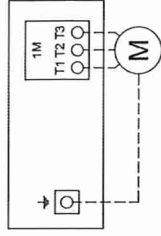
### COPPER CONDUCTORS for Motor Connection (1M).

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

HP	7.5	10	15	20	25	30	40	50	60
<b>Voltage</b>									
208	1x (10 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 (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 (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 (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 (8 to 2)	1x (8 to 2)	1x (6 to 2)	1x (6 to 2)	1x (4 to 2/0)

HP	75	100	125	150	200	250	300	350	400	450	500
<b>Voltage</b>											
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)

### Motor Terminals



Models: GPA/GPR/GPS

### ALUMINUM CONDUCTORS for Contactor (1M).

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

HP	7.5	10	15	20	25	30	40	50	60
<b>Voltage</b>									
208	1x (10 to 2/0) **	1x (10 to 2/0) **	1x (6 to 2/0) **	1x (4 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 (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 (4 to 2/0) **	1x (2 to 2/0) **	1x (1 to 1/0)	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 (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 (4 to 2/0) **	1x (4 to 2/0) **	1x (2 to 1/0)

HP	75	100	125	150	200	250	300	350	400	450	500
<b>Voltage</b>											
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)	2x (600)	2x (600)	2x (600)	2x (600)	2x (600) 90°C *
380 to 416	Consult Factory	Consult Factory	Consult Factory	Consult Factory	Consult Factory	Consult Factory	Consult Factory	Consult Factory	Consult Factory	Consult Factory	Consult Factory
440 to 480	1x (1/0)	1x (3/0)	Consult Factory	1x (300) 90°C *	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	Consult Factory	1x (3/0) 90°C *	Consult Factory	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 aluminum wire. Consult Factory for Use of Conductors Rated Lower than 90°C.  
\*\* Option V659 required.

- 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.



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BY DD/MM/YY

DRAWN BY ACD

18/12/23

FINAL APPROVAL FC

19/12/23

## ELECTRIC FIRE PUMP CONTROLLER

**MODEL: GPX**

BUILT TO THE LATEST EDITION OF THE NFPA20 & NFPA70

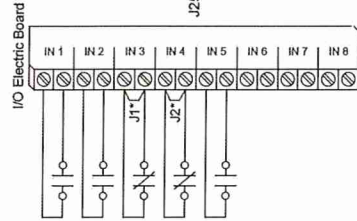


DRAWING NUMBER  
**GPX-TD803/E**  
DWG REV. 0  
SHEET 1 OF 1

### Field Connections

Terminals Wire Size:  
24 - 12 AWG  
0.5 Nm

- Remote Manual
- Lockout
- Remote Auto
- Deluge Valve
- Low Water Level



### Network Connections

Terminals Wire Size:  
Shielded Female Connector RJ45

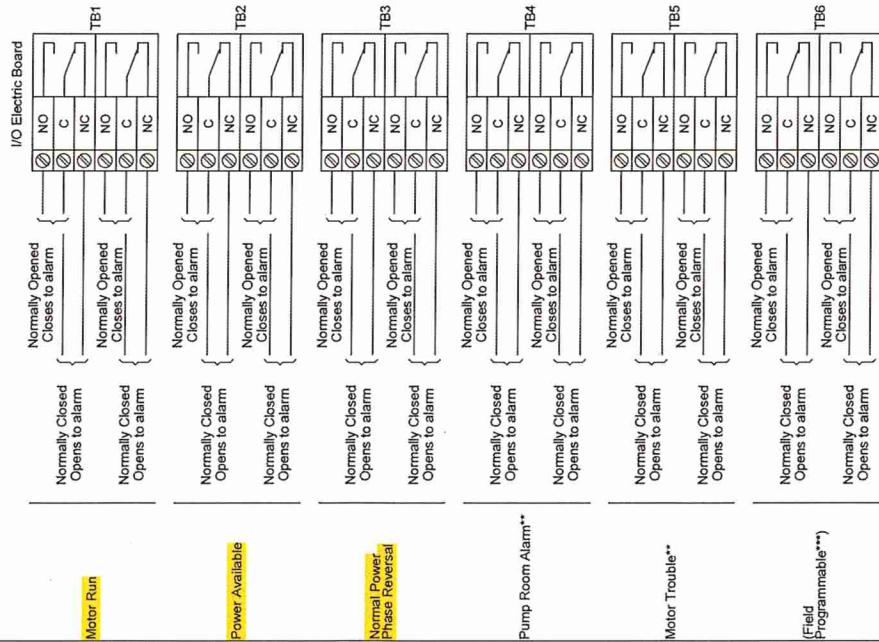
Modbus TCP/IP RJ45

Located on Main Board



### Alarm Contacts

Terminals Wire Size:  
24 - 12 AWG  
0.5 Nm



\* Remove jumper to use this feature  
\*\* Re-assignable  
\*\*\* Not available on GPS models



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DRAWN BY	BY	DD/MM/YY
ACD	ACD	28/02/23

FINAL APPROVAL	FC	28/02/23
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## AUTOMATIC TRANSFER SWITCH FOR ELECTRIC FIRE PUMP CONTROLLER

**MODEL: GPU**

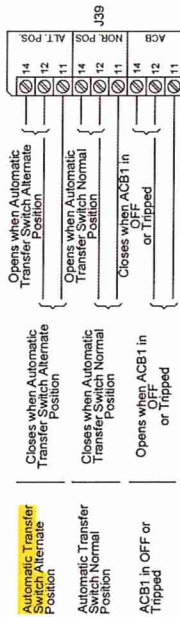
BUILT TO THE LATEST EDITION OF THE NFPA20 & NFPA70



DRAWING NUMBER  
**GPU-TD801/E**  
DWG REV. 0  
SHEET 1 OF 1

### 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

