



Project: \_\_\_\_\_  
Customer: \_\_\_\_\_  
Engineer: \_\_\_\_\_  
Pump Manufacturer: \_\_\_\_\_

## Technical Data Submittal Document

**Model GPL + GLU  
Limited Service Full Voltage  
Across the Line Start  
Electric Fire Pump Controller  
with Automatic Power Transfer Switch**



### **Contents:**

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

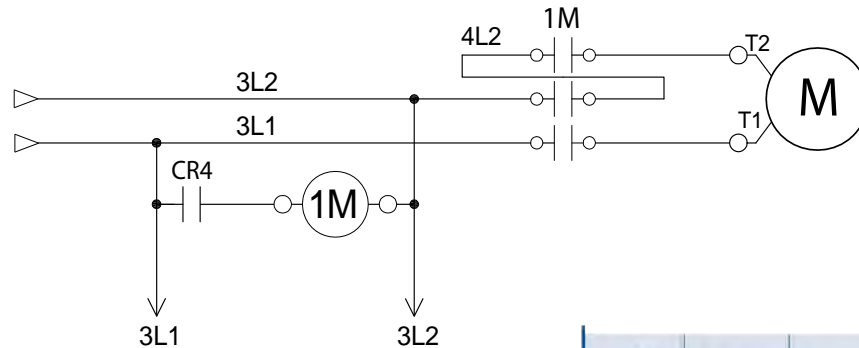
**Note: The drawings included in this package are for controllers covered under our standard offering. Actual AS BUILT drawings may differ from what is shown in this package.**



# Technical Data

## Model GPL + GLU Electric Fire Pump Controller with Automatic Power Transfer Switch

From Automatic Power Transfer Switch\*



**Starting Method:** Full Voltage

Across the line (Direct on line)

**Typical Voltage Applied at Start:** 100%

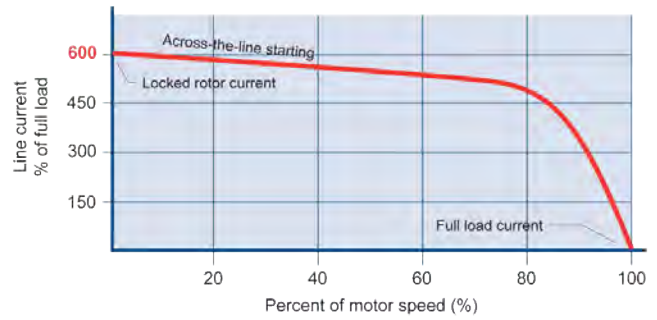
**Inrush Current:** 6 x normal load current

**Starting Torque:** 100%

**Motor Type:** Across the line (Direct on line)

**No. of Contactors:** 1 at 100% of horsepower

**Min. ampacity of motor conductors:** 3 at 125% x 100% of Full load Current (FLC)



<b>Shortcircuit Withstand Rating</b>	208V to 240V- 1ph - 50/60Hz	
	Normal Power	Alternate Power
Standard	65,000A	
Optional	n/a	

<b>Standard, Listings, Approvals and Certifications</b>	Built to NFPA 20 (latest edition)	
	Underwriters Laboratory (UL)	<ul style="list-style-type: none"> <li>• UL218 - Fire Pump Controllers</li> <li>• UL 1008 - Automatic power transfer switches for fire pump controllers</li> <li>• CSA C22.2 No. 14 Industrial Control Equipment</li> </ul>
	New York City	Accepted for use in the City of New York by the Department of Buildings
<b>Enclosure</b>	<b>Protection Rating</b> <input type="checkbox"/> Standard: NEMA 2 <b>Optional</b> <input type="checkbox"/> NEMA 12 <input type="checkbox"/> NEMA 4X-304 sst painted <input type="checkbox"/> NEMA 3 <input type="checkbox"/> NEMA 4X-304 sst brushed finish <input type="checkbox"/> NEMA 3R <input type="checkbox"/> NEMA 4X-316 sst painted <input type="checkbox"/> NEMA 4 <input type="checkbox"/> NEMA 4X-316 sst brushed finish	
	<b>Accessories</b> <ul style="list-style-type: none"> <li>• Wall mounting 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>

\*Please see Disconnecting Means details on page 3.



## Technical Data

### Model GPL+ GLU Electric Fire Pump Controller with Automatic Power Transfer Switch

<b>Limitations</b>	<ul style="list-style-type: none"> <li>• Across the line starting only</li> <li>• Horsepower rating of maximum 30hp</li> <li>• Can only be installed where acceptable by the authority having jurisdiction</li> <li>• Not accepted in FM insured property</li> </ul>
<b>Surge Suppression</b>	Surge arrestor rated to suppress surges above line voltage
<b>Disconnecting Means</b>	Circuit breaker (inverse time non adjustable) rated between 150% and 250% of motor full load current
<b>Service Entrance Rating</b>	Suitable as service entrance equipment
<b>Emergency Start Handle</b>	<ul style="list-style-type: none"> <li>• Push and slide to lock</li> <li>• Across the line start (direct on line)</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 can be stored in memory for up to 5 years.</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 for fresh water application</li> <li>• Pressure sensing connection 1/2" Female NPT</li> <li>• Rated for 0-500PSI working pressure (calibrated at 0-300psi)</li> <li>• Internally mounted</li> </ul>



# Technical Data

## Model GPL + GLU Electric Fire Pump Controller with Automatic Power Transfer Switch

<b>Visual Indications &amp; Alarms</b>	<ul style="list-style-type: none"> <li>• Power available</li> <li>• Phase reversal</li> <li>• Motor run</li> <li>• Pump room alarm</li> <li>• Motor trouble</li> <li>• Phase loss</li> <li>• Phase unbalance</li> <li>• Low water level</li> </ul>	<ul style="list-style-type: none"> <li>• Locked rotor</li> <li>• Periodic test</li> <li>• Fail to start</li> <li>• Low discharge pressure</li> <li>• Low pump room temperature</li> <li>• Pump on demand/Automatic start</li> <li>• Emergency start</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>• Overcurrent</li> <li>• Undercurrent</li> <li>• Undervoltage</li> <li>• Overvoltage</li> </ul>
<b>Remote Alarm Contacts</b>	<p>SPDT-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               <ul style="list-style-type: none"> <li>• Overvoltage</li> <li>• Low pump room temperature</li> </ul> </li> <li>• Common motor trouble               <ul style="list-style-type: none"> <li>• Overcurrent</li> <li>• Undercurrent</li> </ul> </li> <li>• Fail to start</li> <li>• Ground fault</li> <li>• Undervoltage</li> <li>• High Pump room temperature</li> <li>• Phase unbalance</li> </ul>		
<b>ViZiTouch Operator Interface</b>	<ul style="list-style-type: none"> <li>• Embedded microcomputer with software PLC logic</li> <li>• 4.2" color touch screen (HMI technology)</li> <li>• Upgradable software</li> <li>• Expandable storage</li> <li>• Multi-language</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> </ul>	
	<b>Manual Start</b>	<ul style="list-style-type: none"> <li>• Start pushbutton</li> <li>• Run test pushbutton</li> <li>• Deluge valve start</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



## Technical Data

### Model GPL+ GLU Electric Fire Pump Controller with Automatic Power Transfer Switch

<b>Automatic Power Transfer Switch</b>	<b>Surge Suppression</b>	Surge arrestor rated to suppress surges above line voltage
	<b>Disconnecting Means</b>	Circuit breaker (inverse time non adjustable) rated between 150% and 250% of motor full load current
	<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>• Transfer switch in alternate (emergency) position</li> <li>• Transition timers</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> 4" alarm bell - 85 dB at 10ft. (3m)
		<b>Generator Start Connection</b> SPDT-8A-250V.AC



## Technical Data Model GPL + GLU Electric Fire Pump Controller with Automatic Power Transfer Switch

<input type="checkbox"/> A4	Flow switch provision
<input type="checkbox"/> A8	Foam pump application w/o pressure transducer and run test solenoid valve
<input type="checkbox"/> A9	Low zone pump control function
<input type="checkbox"/> A10	Medium zone pump control function
<input type="checkbox"/> A11	High zone pump control function
<input type="checkbox"/> A13	Non-pressure actuated controller w/o pressure transducer and run test solenoid valve
<input type="checkbox"/> A16	Lockout/interlock circuit from equipment installed inside the pump room
<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"/> B11B	Built in alarm panel same as B11 but 220-240VAC supervisory power
<input type="checkbox"/> B19	High motor temperature thermistor relay c/w visual indication and alarm contact (Form C-SPDT)
<input type="checkbox"/> B21	Ground fault alarm detection c/w visual indication and alarm contact (Form C-SPDT)
<input type="checkbox"/> C1	Extra motor run alarm contact (Form C-SPDT)
<input type="checkbox"/> C4	Periodic test alarm contact (Form C-SPDT)
<input type="checkbox"/> C6	Low discharge pressure alarm contact (Form C-SPDT)
<input type="checkbox"/> C7	Low pump room temperature alarm contact (Form C-SPDT)
<input type="checkbox"/> C10	Low water reservoir level alarm contact (Form C-SPDT)
<input type="checkbox"/> C11	High electric motor temperature alarm contact (Form C-SPDT)
<input type="checkbox"/> C12	High electric motor vibration c/w visual indication and alarm contact (Form C-SPDT)
<input type="checkbox"/> C14	Pump on demand/automatic start alarm contact (Form C-SPDT)
<input type="checkbox"/> C15	Pump fail to start alarm contact (Form C-SPDT)
<input type="checkbox"/> C16	Control voltage healthy alarm contact (Form C-SPDT)
<input type="checkbox"/> C17	Flow meter valve loop open c/w visual indication and alarm contact (Form C-SPDT)
<input type="checkbox"/> C18	High water reservoir level c/w visual indication and alarm contact (Form C-SPDT)
<input type="checkbox"/> C19	Emergency start alarm contact (Form C-SPDT)
<input type="checkbox"/> C20	Manual start alarm contact (Form C-SPDT)
<input type="checkbox"/> C21	Deluge valve start alarm contact (Form C-SPDT)
<input type="checkbox"/> C22	Remote automatic start alarm contact (Form C-SPDT)
<input type="checkbox"/> C23	Remote manual start alarm contact (Form C-SPDT)
<input type="checkbox"/> C24	High pump room temperature alarm contact (Form C-SPDT)
<input type="checkbox"/> Cx	Additional visual and alarm contact (specify function) (Form C-SPDT)

<input type="checkbox"/> D1	Low suction pressure transducer for fresh water rated at 0-300PSI with visual indication and alarm contact
<input type="checkbox"/> D1A	Low suction pressure transducer for sea water rated at 0-300PSI with visual indication and alarm contact
<input type="checkbox"/> D10	Omit mounting feet (when applicable)
<input type="checkbox"/> D14	Anti-condensation heater & thermostat (normal power section)
<input type="checkbox"/> D14A	Anti-condensation heater & humidistat (normal power section)
<input type="checkbox"/> D14B	Anti-condensation heater & thermostat & humidistat (normal power section)
<input type="checkbox"/> D15	Tropicalization
<input type="checkbox"/> D18	CE Mark with factory certificate
<input type="checkbox"/> D26	Modbus RTU provision
<input type="checkbox"/> D26A	Modbus TCP/IP provision
<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"/> D34	Field programmable I/O board - 8 Input / 5 output
<input type="checkbox"/> D35	Field programmable I/O board - 8 Input / 10 output
<input type="checkbox"/> D36	Redundant pressure transducer for fresh water rated for 0-500PSI (calibrated at 0-300PSI)
<input type="checkbox"/> D36A	Redundant pressure transducer for sea water rated for 0-500PSI (calibrated at 0-300PSI)
<input type="checkbox"/> D37	Window kit for operator interface
<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)

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



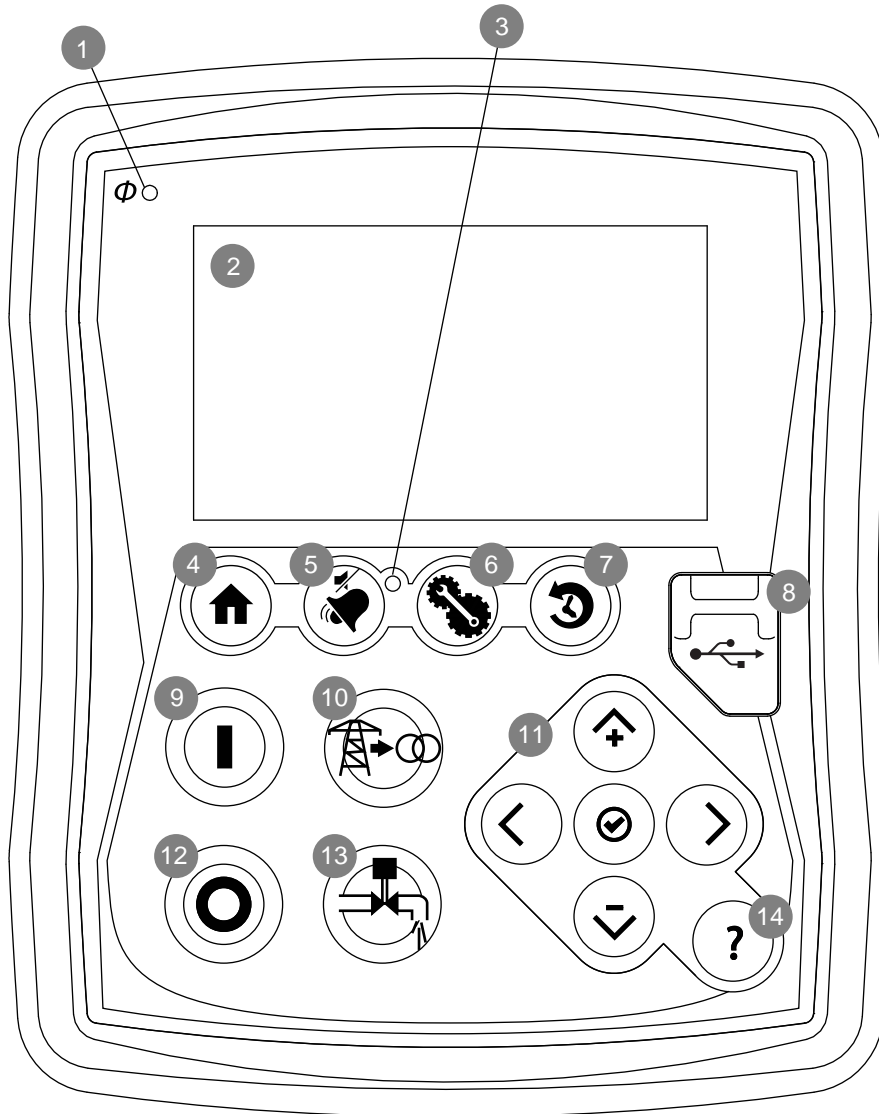
## Technical Data Model GPL+ GLU Electric Fire Pump Controller with Automatic Power Transfer Switch

<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	Slovak
<input type="checkbox"/> L10	Croatian

<input type="checkbox"/> L11	Czech
<input type="checkbox"/> L12	Portuguese
<input type="checkbox"/> L13	Dutch
<input type="checkbox"/> L14	Russian
<input type="checkbox"/> L15	Turkish
<input type="checkbox"/> L16	Swedish
<input type="checkbox"/> L17	Bulgarian
<input type="checkbox"/> L18	Thai
<input type="checkbox"/> L19	Indonesian
<input type="checkbox"/> L20	Slovenian

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

ViZiTouch Operator Interface



- |                               |                                  |
|-------------------------------|----------------------------------|
| 1 - Power on LED              | 8 - USB port                     |
| 2 - Color touch screen        | 9 - START button                 |
| 3 - Alarm LED                 | 10 - TRANSFER SWITCH TEST button |
| 4 - HOME page button          | 11- Contextual navigation pad    |
| 5 - ALARM page button         | 12 - STOP button                 |
| 6 - CONFIGURATION page button | 13 - RUN TEST button             |
| 7 - HISTORY page button       | 14 - HELP button                 |

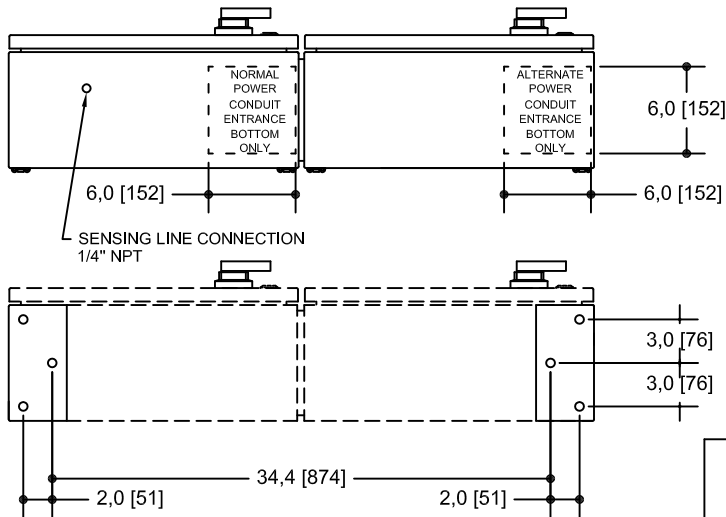
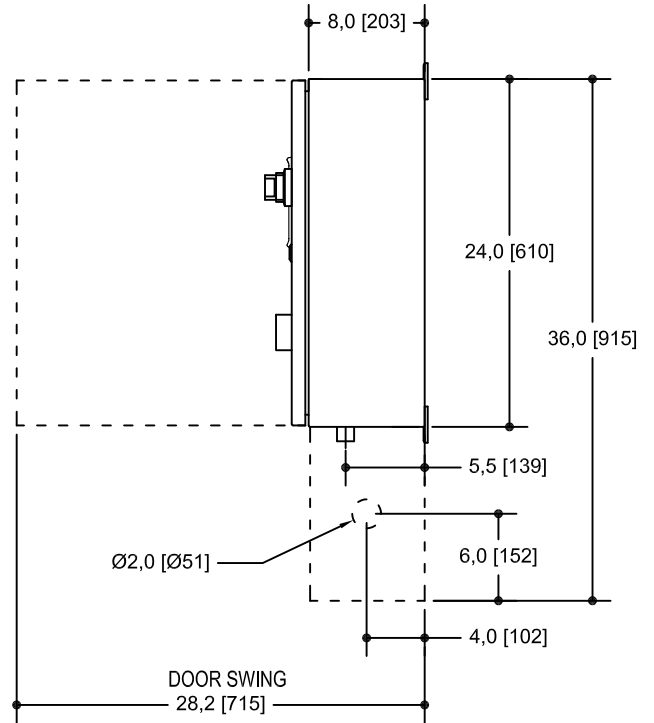
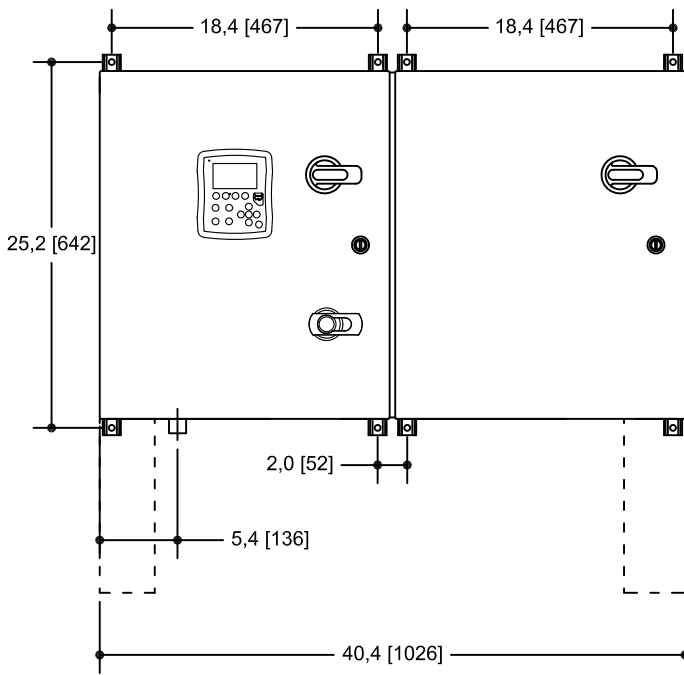


# LIMITED SERVICE PUMP CONTROLLER

## 1 AND 3 PHASE

Dimensions

MODEL : GPL  
& GLU  
BUILT TO LATEST NFPA 20 STANDARD EDITION

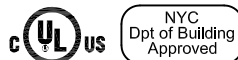


VOLT/Hz	HP RATING		WITHSTAND RATING [kA] RMS			
			NORMAL SIDE		ALT. SIDE	
			Std	HIGH (OPT. D13)	Std	HIGH (OPT. F6)
<b>1 PHASE</b>						
200-208 / 60	3	15	65	N/A	65	N/A
230-240 / 50-60	3	15	65	N/A	65	N/A
<b>3 PHASES</b>						
200-208 / 60	3	30	65	N/A	65	N/A
230-240 / 50-60	3	30	65	N/A	65	N/A
380-416 / 50-60	3	30	25	65	25	65
440-480 / 50-60	3	30	25	65	25	65
575-600 / 60	3	30	18	25	18	25

**NOTES :**

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS).
- PAINT : TEXTURED RED RAL 3002.
- USE WATERTIGHT CONDUIT CONNECTOR ONLY.
- PROTECT EQUIPMENT AGAINST DRILLING CHIPS.
- AMBIENT TEMPERATURE : BETWEEN 41°F (5°C) AND 104°F (40°C).

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



REV.	DATE	DESCRIPTION	APP.
1.	12/08/06	GENEAREL REVISION	DES.
0.	12/01/10	FIRST ISSUE	VER.

DRAWING No.

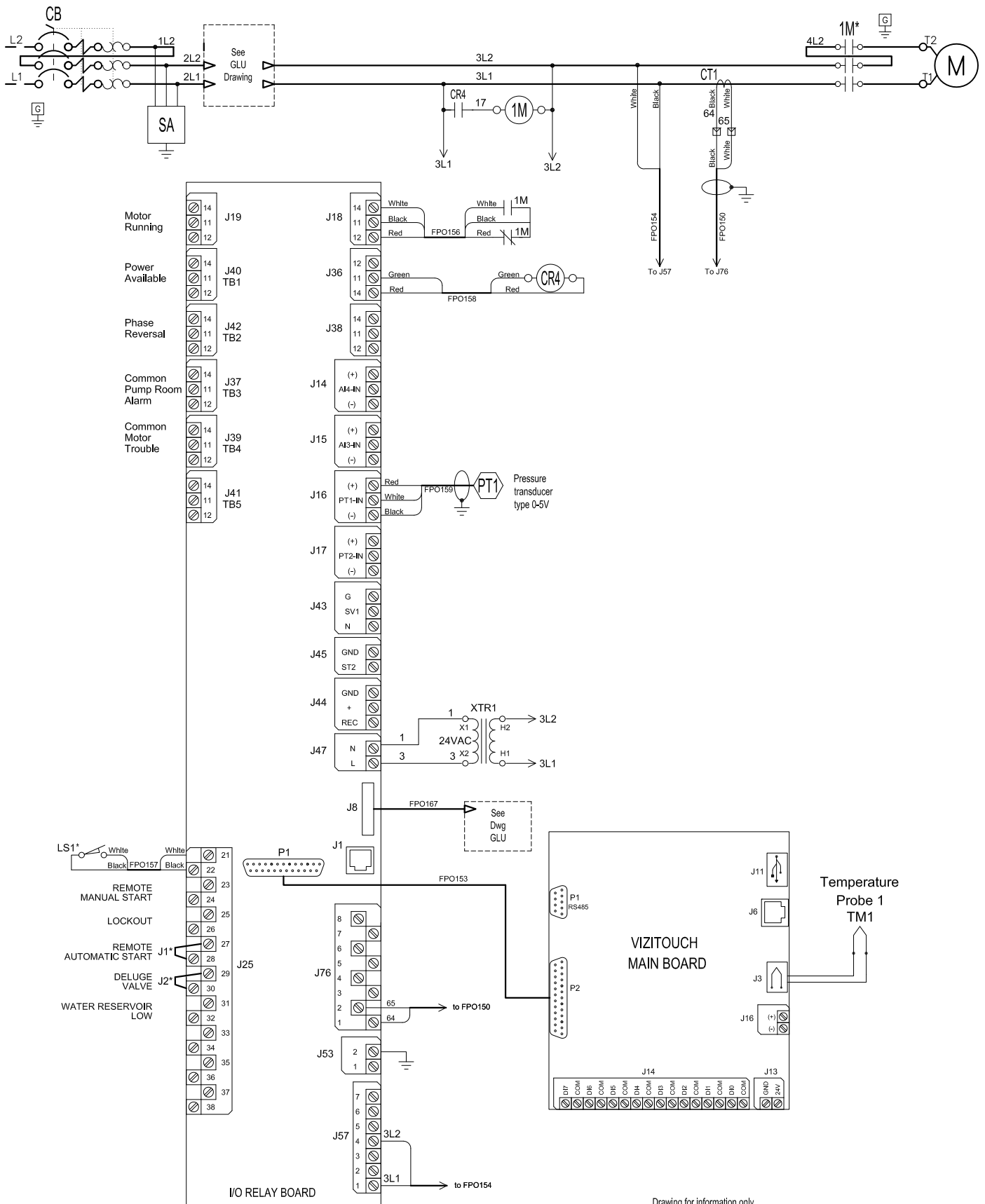
GPL-DI101 / E

# LIMITED SERVICE PUMP CONTROLLER WITH AUTOMATIC POWER TRANSFER SWITCH 1 PHASE

MODEL :GPL+ GLU

Wiring schematic

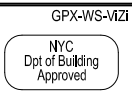
BUILT TO THE LATEST EDITION OF THE NFPA20 STANDARD



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

\* REMOVE JUMPER TO USE THIS FEATURE

\* Contact closed when Emergency Start is in ON position



REV.	DATE	DESCRIPTION	APP.
3.	12/11/21	Correct Signal Input	DES.
2.	12/08/06	General Revision	VER.

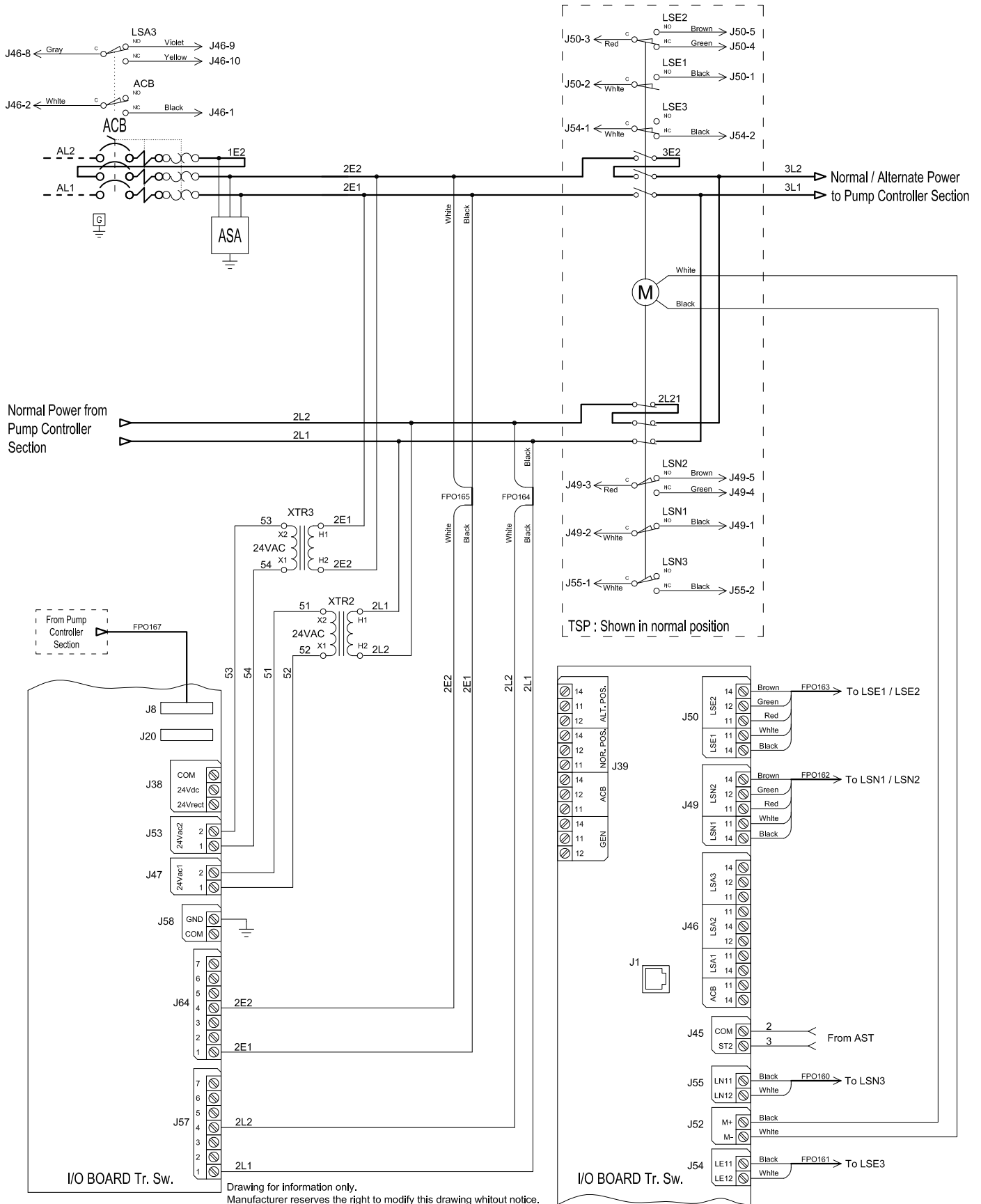
Drawing No.
GPL-WS510 /E

# AUTOMATIC POWER TRANSFER SWITCH FOR LIMITED SERVICE PUMP CONTROLLER 1 PHASE

MODEL : GLU

Wiring schematic

BUILT TO LATEST NFPA 20 STANDARD EDITION

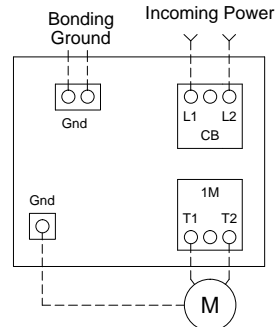


Drawing for information only.  
Manufacturer reserves the right to modify this drawing without notice.  
Contact manufacturer for "As Built" drawing.



1.	12/08/06	GENERAL REVISION	DES.	Drawing No.
0.	12/01/10	FIRST ISSUE	VER.	GLU-WS500 /E
REV.	DATE	DESCRIPTION	APP.	

**Power Terminals**  
**Model : GPL 1 PHASE**



- 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.
  - 5 - Field wiring and lug sizes based on copper conductors only.  
Do not use aluminium conductors.

**Circuit breaker (CB) Field Wiring according to Bending Space (AWG or MCM). TERMINALS L1 - L2**

Bending Space	3 " (76 mm)				
HP Voltage	3	5	7.5	10	15
208	1x (10 to 1)	1x (8 to 1)	1x (6 to 1)	1x (4 to 1)	1x (3 to 1)
220 to 240	1x (10 to 1)	1x (8 to 1)	1x (8 to 1)	1x (6 to 1)	1x (3 to 1)

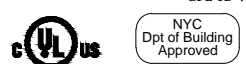
(Use Copper Conductors Only)

**Wiring Size for motor connection for Model GPL (AWG or MCM). TERMINALS T1 - T2**

HP Voltage	3	5	7.5	10	15
208	1x (10 to 3)	1x (8 to 3)	1x (6 to 3)	1x (4 to 1)	1x (3 to 1)
220 to 240	1x (10 to 3)	1x (8 to 3)	1x (8 to 3)	1x (6 to 1)	1x (3 to 1)

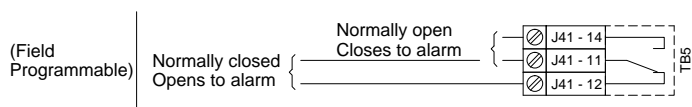
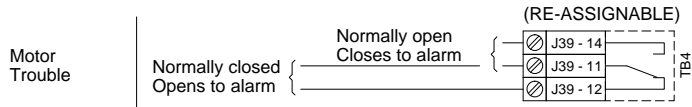
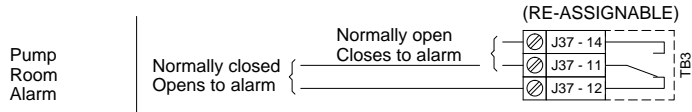
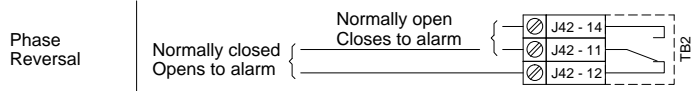
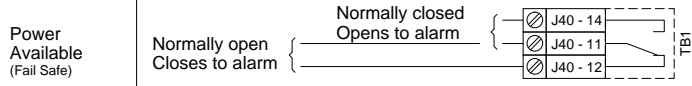
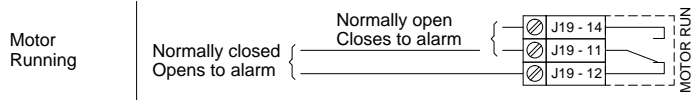
(Use Copper Conductors Only)

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

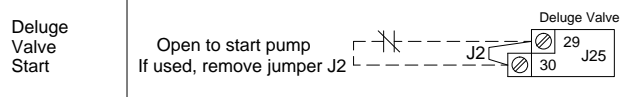
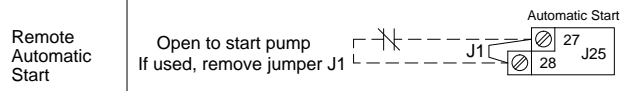
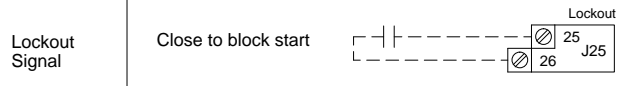
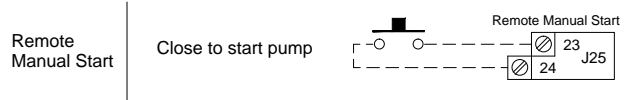


REV.	DESCRIPTION	DD/MM/YY	Drawing number
6	UPDATE WIRE SIZE	06/11/14	GPL-TD500 1/2 /E
5	FIELD PROG	11/11/13	
4	GENERAL REVISION	19/10/12	

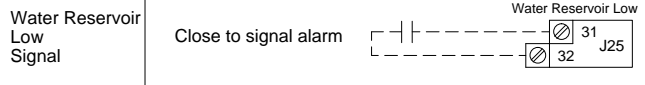
### Remote Alarm Terminals (I/O board)



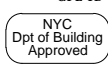
### Control Terminals (I/O board)



### Field Connections for External Devices (I/O board)



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



REV.	DESCRIPTION	DD/MM/YY	Drawing number
6	UPDATE WIRE SIZE	06/11/14	GPL-TD500 2/2 /E
5	FIELD PROG	11/11/13	
4	GENERAL REVISION	19/10/12	

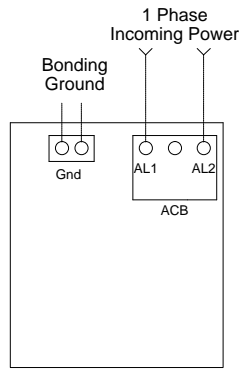
# Automatic Power Transfer Switch For Limited Service Pump Controller

Model: GLU

Terminal Diagram and Sizing

Built to the latest edition of the NFPA 20 standard

## Power Terminals



**Notes:**

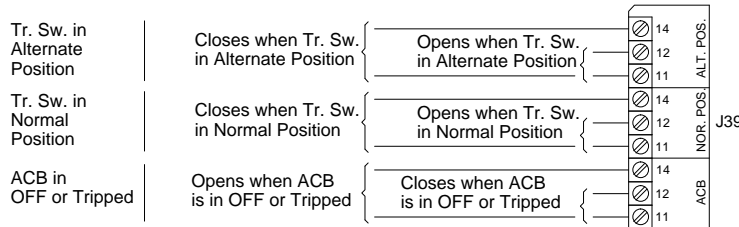
- 1 - For proper wire sizing, refer to NFPA70 and NEC (USA) or CEC (Canada) or local code.
- 2 - Controller suitable for service entrance in USA.
- 3 - Controller is phase sensitive.
- 4 - Field wiring and lug sizes based on copper conductors only.  
Do not use aluminium conductors.

### Circuit Breaker (CB) Field Wiring according to Bending Space (AWG or MCM). TERMINALS L1 - L2

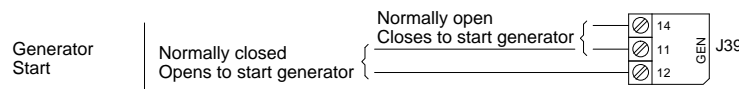
Bending Space	3 " (76 mm)				
HP Voltage	3	5	7.5	10	15
208	1x (10 to 1)	1x (8 to 1)	1x (6 to 1)	1x (4 to 1)	1x (3 to 1)
220 to 240	1x (10 to 1)	1x (8 to 1)	1x (8 to 1)	1x (6 to 1)	1x (3 to 1)

(Use Copper Conductors Only)

### Remote Alarm Terminal (I/O board Tr. Sw.)



### Field Connections for External Devices (I/O board Tr. Sw.)



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



REV.	DESCRIPTION	DD/MM/YY	Drawing number
3	UPDATE WIRE SIZE	06/11/14	GLU-TD500 /E
2	GENERAL REVISION	06/08/12	
1	ADD COPPER NOTES	19/06/12	