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.

**Contents:**
- Submittal Data Sheets
- Dimensional Data
- Wiring Schematics
- Field Connections

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

**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.
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
No. of Motor Connections & Sizing: 3 at 100% of Full load Current (FLC)

<table>
<thead>
<tr>
<th>Shortcircuit Withstand Rating</th>
<th>Normal Power</th>
<th>Alternate Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>208V to 240V - 1ph - 50/60Hz</td>
<td>65,000 A</td>
</tr>
</tbody>
</table>

Built to NFPA 20 (latest edition)
- UL218 - Fire pump controllers
- UL1008 - Automatic power transfer switches for fire pump controllers
- CSA C22.2 No. 14 Industrial Control Equipment
New York City
- Accepted for use in the City of New York by the Department of Buildings

Protection Rating
- Standard: NEMA 2
- Optional
  - NEMA 12
  - NEMA 3
  - NEMA 3R
  - NEMA 4

Paint Specifications
- Red RAL3002
- Powder coating
- Glossy textured finish

Enclosure
- Waterproof weatherproof
- NEMA 12 NEMA 4X-304 sst painted
- NEMA 3 NEMA 4X-304 sst brushed finish
- NEMA 3R NEMA 4X-316 sst painted
- NEMA 4 NEMA 4X-316 sst brushed finish

Accessories
- Wall mounting lugs
- Keylock handle
### Limitations
- Across the line starting only
- Horsepower rating of maximum 30hp
- Can only be installed where acceptable by the authority having jurisdiction
- Not accepted in FM insured property

### Pressure Sensing
- Pressure transducer for fresh water application
- Pressure sensing connection 1/2” Female NPT
- Rated for 0-500psi working pressure (calibrated at 0-300psi)
- Internally mounted

### Surge Suppression
Surge arrestor rated to suppress surges above line voltage

### Disconnecting Means & Locked Rotor Protector
Circuit breaker (inverse time non adjustable) rated between 150% and 250% of motor full load current

### Service Entrance Rating
Suitable as service entrance equipment

### Emergency Start Handle
- Push and slide to lock
- Across the line start (direct on line)

### Electrical Readings
- Voltage phase to phase
- Amperage of each phase when motor is running

### Pressure Readings
- Continuous system pressure display
- Cut-in and Cut-out pressure settings

### Pressure and Event Recorder
- Pressure readings with date stamp
- Event recording with date stamp
- Under regular maintained operation, events can be stored in memory for up to 5 years
- Data viewable on operator interface display screen
- Downloadable by USB port to external memory device
## Submittal Data Sheet
### Model GPL + GLU Electric Pump Controller

<table>
<thead>
<tr>
<th>Audible Alarm</th>
<th>4” alarm bell - 85 dB at 10ft. (3m)</th>
</tr>
</thead>
</table>
| Visual Indications and Alarms | • Power available  
• Phase reversal  
• Motor run  
• Pump room alarm  
• Motor trouble  
• Phase loss  
• Phase unbalance  
• Low water level  
• Locked rotor  
• Periodic test  
• Fail to start  
• Low discharge pressure  
• Low pump room temperature  
• Pump room temperature (°F or °C)  
• Pump on demand/Automatic start  
• Emergency start  
• Manual start  
• Deluge valve start  
• Remote automatic start  
• Remote manual start  
• Overcurrent  
• Undervoltage  
• Undercurrent  
| Remote Alarm Contacts | SPDT-8A-250V.AC  
• Power available  
• Phase reversal  
• Motor run  
• Common pump room alarm  
  • Overvoltage  
  • Low pump room temperature  
• Common motor trouble  
  • Overcurrent  
  • Undercurrent  
• Motor run  
• Phase revers  
• Undervoltage  
• Phase unbalance  
• Motor trouble  
| VIZITouch Operator Interface | • Embedded microcomputer with software PLC logic  
• 4.2” color touch screen (HMI technology)  
• Upgradable software  
| Operation | ** Can only be used if approved by the AHJ **  
| Automatic Start | • Start on pressure drop  
• Remote start signal from automatic device  
| Manual Start | • Start pushbutton  
• Run test pushbutton  
• Deluge valve start  
• Remote start from manual device  
| Stopping | • Manual with Stop pushbutton  
• Automatic after expiration of minimum run timer **  
| Timers | Field Adjustable & Visual Countdown  
| Actuation | • Minimum run timer** (off delay)  
• Sequential start timer (on delay)  
• Periodic test timer  
| Mode | Visual Indication  
• Pressure  
• Non-pressure  
• Automatic  
• Non-automatic  

** Visual Indications and Alarms and Remote Alarm Contacts correspond to specific conditions based on the pump controller's functions.**
<table>
<thead>
<tr>
<th>Surge Suppression</th>
<th>Surge arrester rated to suppress surges above line voltage</th>
</tr>
</thead>
</table>
| 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  
  Overcurrent sensing nonthermal type, magnetic only  
  Instantaneous trip setting of not more than 20 times the motor full  
  • Common flange mounted operating handle |
| Locked Rotor Protector | • Operate shunt trip to open circuit breaker  
  • Factory set at 600% of motor full load current  
  • Trip between 8 and 20 seconds |
| Visual Indications | • Alternate (emergency) isolating switch in the OFF position  
  • Alternate (emergency) voltage phase to phase  
  • Transfer switch in normal position  
  • Transfer switch in alternate (emergency) position  
  • Transition timers |

**Automatic Power Transfer Switch**

**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**

**Remote Alarm Contacts**

SPDT-8A-250VAC  
• Isolating switch in the OFF position  
• Transfer switch in normal position  
• Transfer switch in alternate (emergency) position

**Time Delays**

• Momentary normal power outage override (factory set at 3 sec - field adjustable 1 to 3 sec)  
• Alternate (emergency) power available delay (factory set at 3 sec - field adjustable 1 to 3 sec)  
• Transfer trouble delay (factory set at 20 sec - field adjustable 1 to 60 sec)  
• Retransfer to normal (factory set at 5 min - field adjustable 1 to 20 min)  
• Generator cooldown (factory set at 5 min - field adjustable 1 to 20 min)

**Voltage Sensing**

• Transfer to alternate (normal power dropout) 85% of nominal - field adjustable 0 to 100%  
• Phase reversal transfer to alternate  
• Retransfer to normal (normal power pickup) 90% of nominal - field adjustable 0 to 100%

**Audible Alarm (AIS Open)**

4” alarm bell - 85 dB at 10ft. (3m)

**Generator Start Connection**

SPDT-8A-250V.AC
**Submittal Data Sheet**

**Model GPL + GLU Electric Pump Controller**

<table>
<thead>
<tr>
<th>Option Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A4</td>
<td>Flow switch provision</td>
</tr>
<tr>
<td>A8</td>
<td>Foam pump application w/o pressure transducer and run test solenoid valve</td>
</tr>
<tr>
<td>A9</td>
<td>Low zone pump control function</td>
</tr>
<tr>
<td>A10</td>
<td>Medium zone pump control function</td>
</tr>
<tr>
<td>A11</td>
<td>High zone pump control function</td>
</tr>
<tr>
<td>A13</td>
<td>Non-pressure actuated controller w/o pressure transducer and run test solenoid valve</td>
</tr>
<tr>
<td>A16</td>
<td>Lockout/interlock circuit from equipment installed inside the pump room</td>
</tr>
<tr>
<td>A18</td>
<td>Additional visual and alarm contact (specify function) (Form C-SPDT)</td>
</tr>
<tr>
<td>A19</td>
<td>Low suction pressure transducer for fresh water rated at 0-300PSI with visual indication and alarm contact</td>
</tr>
<tr>
<td>A1A</td>
<td>Low suction pressure transducer for sea water rated at 0-300PSI with visual indication and alarm contact</td>
</tr>
<tr>
<td>B11</td>
<td>Built in alarm panel (120V.AC supervisory power) providing indication for: • Audible alarm &amp; silence pushbutton for motor run, phase reversal, loss of phase. • Pilot lights for loss of phase &amp; supervisory power available</td>
</tr>
<tr>
<td>B19</td>
<td>High motor temperature thermistor relay c/w visual indication and alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>B21</td>
<td>Ground fault alarm detection c/w visual indication and alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C1</td>
<td>Extra motor run alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C4</td>
<td>Periodic test alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C6</td>
<td>Low discharge pressure alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C7</td>
<td>Low pump room temperature alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C10</td>
<td>High water reservoir level alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C11</td>
<td>High electric motor temperature alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C12</td>
<td>High electric motor vibration c/w visual indication and alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C13</td>
<td>Pump on demand/automatic start alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C14</td>
<td>Pump fail to start alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C15</td>
<td>Control voltage healthy alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C16</td>
<td>Flow meter valve loop open c/w visual indication and alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C18</td>
<td>High water reservoir level c/w visual indication and alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C19</td>
<td>Emergency start alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C20</td>
<td>Manual start alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C21</td>
<td>Deluge valve start alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C22</td>
<td>Remote automatic start alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C23</td>
<td>Remote manual start alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C24</td>
<td>High pump room temperature alarm contact (Form C-SPDT)</td>
</tr>
<tr>
<td>C26</td>
<td>Motor heater connection (external single phase power source and heater on/off contact)</td>
</tr>
<tr>
<td>C27</td>
<td>Motor heater connection (internal single phase power source and heater on/off contact)</td>
</tr>
<tr>
<td>C28</td>
<td>Customized drawing set</td>
</tr>
<tr>
<td>C29</td>
<td>Field programmable I/O board - 8 Input / 5 output</td>
</tr>
<tr>
<td>C30</td>
<td>Field programmable I/O board - 8 Input / 10 output</td>
</tr>
<tr>
<td>C31</td>
<td>Redundant pressure transducer for fresh water rated for 0-500PSI (calibrated at 0-300PSI)</td>
</tr>
<tr>
<td>C32</td>
<td>Redundant pressure transducer for sea water rated at 0-500PSI (calibrated at 0-300PSI)</td>
</tr>
<tr>
<td>C33</td>
<td>Window kit for operator interface</td>
</tr>
<tr>
<td>C34</td>
<td>Permanent load shedding contacts</td>
</tr>
<tr>
<td>C35</td>
<td>Temporary pump motor start period load shedding contacts</td>
</tr>
<tr>
<td>C36</td>
<td>Temporary &amp; permanent load shedding contacts</td>
</tr>
<tr>
<td>C37</td>
<td>Field programmable I/O board - 8 Input / 10 output</td>
</tr>
<tr>
<td>C38</td>
<td>Field programmable I/O board - 8 Input / 10 output</td>
</tr>
<tr>
<td>C39</td>
<td>Redundant pressure transducer for fresh water rated for 0-500PSI (calibrated at 0-300PSI)</td>
</tr>
<tr>
<td>C40</td>
<td>Redundant pressure transducer for sea water rated at 0-500PSI (calibrated at 0-300PSI)</td>
</tr>
</tbody>
</table>

**Note:** Options chosen from this page are not electrically represented on the wiring schematics in this submittal package.
ViZiT Touch Operator Interface

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

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

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).

VOLT/Hz | HP RATING | WITHSTAND RATING [kA] RMS
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>NORMAL SIDE</td>
</tr>
<tr>
<td></td>
<td>Std</td>
<td>HIGH</td>
</tr>
</tbody>
</table>

1 PHASE
- 200-208 / 60 3 15 65 N/A 65 N/A
- 230-240 / 50-60 3 15 65 N/A 65 N/A

3 PHASES
- 200-208 / 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

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

**Model:** GPL 1 PHASE

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

<table>
<thead>
<tr>
<th>Bending Space</th>
<th>5&quot; (127 mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HP Voltage</strong></td>
<td>3</td>
</tr>
<tr>
<td>208</td>
<td>1x (10 to 1/0)</td>
</tr>
<tr>
<td>220 to 240</td>
<td>1x (10 to 1/0)</td>
</tr>
</tbody>
</table>

*(Use Copper Conductors Only)*

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

<table>
<thead>
<tr>
<th>HP Voltage</th>
<th>3</th>
<th>5</th>
<th>7.5</th>
<th>10</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>208</td>
<td>1x (10 to 3)</td>
<td>1x (8 to 3)</td>
<td>1x (6 to 3)</td>
<td>1x (4 to 2/0)</td>
<td>1x (3 to 2/0)</td>
</tr>
<tr>
<td>220 to 240</td>
<td>1x (10 to 3)</td>
<td>1x (8 to 3)</td>
<td>1x (8 to 3)</td>
<td>1x (6 to 2/0)</td>
<td>1x (4 to 2/0)</td>
</tr>
</tbody>
</table>

*(Use Copper Conductors Only)*

---

Notes:
1. For proper wire size, refer to NFPA70 and NEC (USA) or CEIC (Canada) or local codes.
2. Controller suitable for service entrance in USA.
3. For more accurate motor connections refer to motor manufacturer or motor nameplate.
5. Hooking and lug sizes based on copper conductors only.
   - Do not use aluminium conductors.
Remote Alarm Terminals (I/O board)

Motor Running
- Normally closed
  - Opens to alarm
  - J19 - 14
  - J19 - 12

Control Terminals (I/O board)

Remote Manual Start
- Close to start pump
  - Remote Manual Start
  - 23
  - 24
  - J25

Power Available (Full Serc)
- Normally closed
  - Opens to alarm
  - J40 - 14
  - J40 - 12

Lockout Signal
- Close to block start
  - Lockout
  - 25
  - 26

Phase Reversal
- Normally closed
  - Opens to alarm
  - J52 - 14
  - J52 - 12

Remote Automatic Start
- Open to start pump
  - Automatic Start
  - J1
  - 27
  - J25

Pump Room Alarm
- Normally closed
  - Opens to alarm
  - J67 - 14
  - J67 - 12

Deluge Valve Start
- Open to start pump
  - If used, remove jumper J1
  - J20
  - 30

Motor Trouble
- Normally closed
  - Opens to alarm
  - J99 - 14
  - J99 - 12

Filed Connections for External Devices
(I/O board)

Water Reservoir Low Signal
- Close to signal alarm
  - Water Reservoir Low
  - 31
  - 32

Flow / Zone Start / Stop Signal
- Close to signal alarm
  - Flow / Zone
  - 33
  - 34

Manufacturer reserves the right to modify this drawing without notice.
For drawing to approval or installation, please contact manufacturer.
Power Terminals

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

<table>
<thead>
<tr>
<th>Bending Space</th>
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</tr>
<tr>
<td>220 to 240</td>
<td>1x (10 to 1/0)</td>
</tr>
</tbody>
</table>

(Use Copper Conductors Only)

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

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

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