TECHNICAL PRODUCT DATASHEET

EZ-Fill Switch Panel Controller

P/N 610-00062-000 – Single tank

P/N 610-00062-003 – Dual tank
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1. Revision Log

<table>
<thead>
<tr>
<th>Rev</th>
<th>Date</th>
<th>Changes</th>
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<tbody>
<tr>
<td>1.00</td>
<td>9/16/04</td>
<td>Initial requirements</td>
</tr>
<tr>
<td>1.10</td>
<td>11/29/04</td>
<td>Removed dual tank operation – unit is functional with single tank only.</td>
</tr>
<tr>
<td>1.20</td>
<td>11/30/04</td>
<td>Added dual tank functionality.</td>
</tr>
<tr>
<td>1.30</td>
<td>12/10/04</td>
<td>Changed operation of Class1 LED to pump status indicator.</td>
</tr>
<tr>
<td>1.40</td>
<td>12/30/04</td>
<td>Changed default state of flush/fill valve and corresponding time delay.</td>
</tr>
<tr>
<td>1.50</td>
<td>03/21/18</td>
<td>New switches and harness.</td>
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2. System Overview

The EZ-Fill Switch Panel Controller (SPC) is the primary component of an electronically controlled refill system that allows quick and easy refills of foam concentrate tanks. It has four buttons for operation with illuminated borders for status indication. The EZ-Fill SPC (p/n 610-00062-000-single, 610-00062-003-dual) comes in two pre-configured versions, which are illuminated and labeled as follows:

Single tank:

![Figure 1. EZ-Fill Switch Panel Controller single tank configuration.](image)
2.1. Basic Operation

2.1.1. FILL Button

Press and Release function:
Commands the flush select valve to the ‘fill’ position, and then commands the foam pump motor to run for 60 seconds or until the tank level full input is activated. The foam pump motor can be turned off at any time by pressing the FILL button again. After the fill cycle completes (either by the tank level full input being activated, pressing the FILL button a second time, or completion of the 60 second run time), the flush select valve is commanded back to the ‘flush’ position. During fill cycle, the illuminated FILL button border will flash (red or green depending on current tank selection).

Press and Hold function:
The flush select valve is set to the ‘fill’ position and then a couple of seconds later the foam pump motor is commanded to run as long as the FILL button is held (force fill). As soon as the button is released, the flush select valve is commanded back to the ‘flush’ position.

Button illumination indications:
- The FILL button border will flash when fill is active (red or green depending on current tank selection).
- The FILL button border will be on steady when fill is not active (red or green depending on current tank selection).

2.1.2. FLUSH Button

Press and Release function:
Commands the foam pump motor OFF, the flush select valve to the ‘flush’ position, the tank select valve to ‘Tank B’ position and the foam pump motor to run for 30 seconds to flush the system of residual foam concentrate. The flush select valve is maintained in the ‘flush’ position as the default state.
Press and Hold function:
Same as above

Button illumination indications:
- The FLUSH button border will FLASH BLUE while the system is flushing. BOTH TANK buttons will be OFF and the FILL button border will be ON STEADY BLUE (see Figure 4)
- The button border color configuration will default to the pre-configured preset (Figures 2 & 3) when FLUSH is not active.

Figure 4. EZ-Fill Switch Panel Controller flush configuration.

2.1.3. **A Button**

Press and Release function:
Commands the tank select valve to the ‘Tank A’ position.

Press and Hold function:
Same as above.

Button illumination indications:
- Figures 1 & 2, depending on single or dual tank pre-configurations.

2.1.4. **B Button**

Press and Release function:
Commands the tank select valve to the ‘Tank B’ position.

Press and Hold function:
Same as above.

Button illumination indications:
- Figure 3.
3. Wiring

![Diagram of EZ-Fill Switch Panel Controller](image)

Figure 5. Typical installation overview (single foam tank system).
Figure 6. Typical installation overview (dual foam tank system).
4. Connector Description

The EZ-Fill Switch Panel Controller has one connector, as well as the H-bridge Control Module (p/n 610-00063-single, 610-00063-001-dual), and the following definitions apply:

### Panel Controller

**Mating Connector:**
DEUTSCH DT06-4S

**Terminals:**
0462-201-16141 & 0462-201-1631

<table>
<thead>
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<th>POSITION</th>
<th>CIRCUIT</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>1</td>
<td>[S+]</td>
<td>Module supply (+9VDC … +32VDC)</td>
</tr>
<tr>
<td>2</td>
<td>[S-]</td>
<td>Module ground (ground)</td>
</tr>
<tr>
<td>3</td>
<td>[CH]</td>
<td>CAN High Communications</td>
</tr>
<tr>
<td>4</td>
<td>[CL]</td>
<td>CAN Low Communications</td>
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</table>

### H-Bridge Control Module

**Mating Connector:**
DEUTSCH DT06-12SA

**Terminals:**
0462-201-16141 & 0462-201-1631

<table>
<thead>
<tr>
<th>POSITION</th>
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<th>DESCRIPTION</th>
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<tr>
<td>1</td>
<td>[S+]</td>
<td>Module supply (+9VDC … +32VDC)</td>
</tr>
<tr>
<td>2</td>
<td>[CH]</td>
<td>CAN High Communications</td>
</tr>
<tr>
<td>3</td>
<td>[O+]</td>
<td>OUTPUT Valve B (positive)</td>
</tr>
<tr>
<td>4</td>
<td>[O+]</td>
<td>OUTPUT Valve A (positive)</td>
</tr>
<tr>
<td>5</td>
<td>[O-]</td>
<td>OUTPUT Motor Signal (negative, -500mA)</td>
</tr>
<tr>
<td>6</td>
<td>---</td>
<td>---</td>
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<td>7</td>
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<td>---</td>
</tr>
<tr>
<td>8</td>
<td>[I]</td>
<td>INPUT Tank Level A (polarity selectable)</td>
</tr>
<tr>
<td>9</td>
<td>[I]</td>
<td>INPUT Tank Level B (polarity selectable)</td>
</tr>
<tr>
<td>10</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>11</td>
<td>[CH]</td>
<td>CAN Low Communications</td>
</tr>
<tr>
<td>12</td>
<td>[S-]</td>
<td>GROUND Module ground (ground)</td>
</tr>
</tbody>
</table>
5. Mounting

Figure 7. EZ-Fill Switch Panel Controller panel envelope and cutout dimensions.

Torque nuts to 7 in-lbs MAX

Figure 8. EZ-Fill Switch Panel Controller mounting hardware and dimensions.
6. Illuminated Button Borders

The **EZ-Fill Switch Panel Controller's** illuminated button borders determine module operation status.

**FILL BUTTON**
- **Flashing green/red**
  Foam fill is currently active.

**FLUSH BUTTON**
- **Flashing blue**
  Foam flush is currently active.

**TANK A BUTTON**
- **On Solid Red**
  Foam tank A is currently selected.

**TANK B BUTTON (dual tank only)**
- **On Solid Green**
  Foam tank B is currently selected.

*Figure 9. EZ-Fill buttons layout.*
7. Module Operating Parameters

Voltage Supply………………………………………… +9…32 VDC
Temperature range …………………………………… -40…+85 C

Maximum continuous current
  Electric valve control output (Valve 1)………………6A
  Electric valve control output (Valve 2)………………6A
  Foam fill pump control output……………… 500mA

Overlay (switch panel)………………………………… UV resistant
Environmental Sealing………………………………… IP 67

Protection
  o Internal thermal fuse
  o Reverse Voltage Protection on Power Input
  o CAN bus communication lines protected for accidentally connecting with System Voltage
  o Electrical protection per SAE J1113 for Heavy Duty Trucks (24V)
    - ESD protection on pins and enclosure
    - Transient protection on Power Input Lines