

# MultiPort II Lubricator

Mobile, Progressive, Grease



## General

The MultiPort II Lubricator is an electrically driven multiple outlet lubrication unit designed primarily for use with progressive divider valve systems. The unit is capable of housing up to three independent or combined pumping elements for direct feed to lubrication points or through a distribution network of progressive divider valves. These lubricators are available with 12 & 24 VDC motors which make them ideal for use in mobile applications. An integral controller is available, or the pump can be controlled by an external controller (such as SMDC) or by the customer's PLC/DCS/etc.

## Operation

Power supplied to a motor with gear box drives a precision eccentric cam which engages with up to three spring load piston elements. This action creates a suction and pressure stroke of the element(s), thereby displacing a fixed volume of lubricant through an outlet check valve. Lubricant is discharged through main line tubing to a series of progressive divider valves and on to multiple lubrication points. Each independent piston element incorporates an adjustable relief valve.

## Features

- + Compact rugged design
- + Minimal maintenance required
- + High pressure capabilities
- + Rotating mixing arm in reservoir assures grease delivery to inlet of pump element



Multiport II 3 Liter - 24vdc

## Technical Data

### Lubricator

Reservoir Capacity	3 liter (7 lb) or 7 liter (15 lb)	
Grease <sup>1</sup>	NLGI grade 000-2	
Maximum Working Pressure	250 bar (3625 psi)	
Output/ min.	3.0 cc (0.18 cu. in.) per element	
Discharge Element Output Port	1/4" NPT(F) or 1/4"BSPP(F)	
Operating Temperature Range <sup>1</sup>	24VDC	-4°F to 122°F (-20°C to 50°C)
	12VDC	14°F to 122°F (-10°C to 50°C)
Operating Voltage	12 or 24 VDC	
Pumping Elements	1 to 3	
Motor <sup>2</sup>	2 amp (24VDC)	4 amp (12VDC)
Controller Fuse	5 amp (24VDC)	8 amp (12VDC)
Enclosure Rating	IP-66	
Low Level Switch	Capacitive Prox Switch, DC NPN, 10-36VDC, Normally Closed(N.C.)	
Cycle Switch Input	DC NPN, 10-36VDC	
Fill Connection	Quick disconnect or Zerk	
Lubricator Weight with Reservoir <sup>3</sup>	3L 21 lbs / 7L 24 lbs (3L 10 Kg / 7L 11 Kg)	

<sup>1</sup> Lubricant must be pumpable at the operating temperature. Contact lubricant manufacturer with specific questions.

<sup>2</sup> Operates at 40 rpm @ 68°F, 1000 psi back pressure

<sup>3</sup> Approx with 1 element



Refer to the following datasheets:

- + Datasheet #46911:  
SMDC Controller
- + Datasheet #35635:  
PVB Mobile Divider Valve
- + Datasheet #35744  
Manual Fill Pumps

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## How To Order

### 24VDC

55412-

#### Controller

C- Controller  
X- No Controller

#### Reservoir Capacity

3- 3 Liter Grease Reservoir with Mixing Arm  
7- 7 Liter Grease Reservoir with Mixing Arm

#### Level Switch

X- No Low Level Switch  
L- Low Level Switch

#### Left Element Position

C- Element Combined with Center Element  
Y- Element - Independent Outlet  
N- Without Element

BSPP Option (Leave Blank for 1/4"NPT Outlets)  
B- 1/4"BSPP Outlet thread

#### Fill Connector

U- Universal Fill connector (ISO7241-1B)  
Z- Zerk Fitting (Grease Nipple)

#### Right Element Position

C- Element Combined with Center Element  
Y- Element - Independent Outlet  
N- Without Element

#### Center Element Position

B- Element Combined with Left & Right Elements  
(Requires 'C' Code at Left & Right Element positions)  
L- Element Combined with Left Element  
(Requires 'C' Code at Left Element position)  
R- Element Combined with Right Element  
(Requires 'C' Code at Right Element position)  
Y- **Element - Independent Outlet**  
N- Without Element  
F- Fast Fill Connector  
(Requires 'Y' Code at Left or Right Element positions)

### 12VDC

55626-

#### Controller

C- Controller  
X- No Controller

#### Reservoir Capacity

3- 3 Liter Grease Reservoir with Mixing Arm  
7- 7 Liter Grease Reservoir with Mixing Arm

#### Level Switch

X- No Low Level Switch  
L- Low Level Switch

#### Left Element Position

Y- **Element - Independent Outlet\***  
(Requires 'N' Code at Right & 'N' or 'F' at Center Element positions)  
N- Without Element

BSPP Option (Leave Blank for 1/4"NPT Outlets)  
B- 1/4"BSPP Outlet thread

#### Fill Connector

U- Universal Fill connector (ISO7241-1B)  
Z- Zerk Fitting (Grease Nipple)

#### Right Element Position

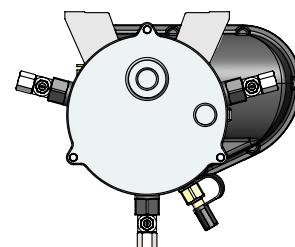
Y- **Element - Independent Outlet\***  
(Requires 'N' Code at Left & 'N' or 'F' at Center Element positions)  
N- Without Element

#### Center Element Position

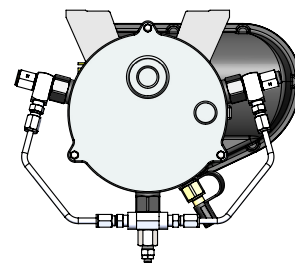
Y- **Element - Independent Outlet\***  
(Requires 'N' Code at Left & Right Element positions)  
N- Without Element  
F- Fast Fill Connector  
(Requires 'Y' Code at Left or Right Element positions)

\*Note: Multiport II 12VDC is limited to one pumping element only.

Top View: Independent Elements - 24vdc



Top View: Elements Combined - 24vdc



#### NOTE:

Items in **BOLD** are standard options.

Other options may have longer lead time.

All Multiport II versions are CE approved.





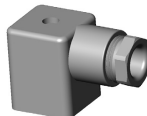

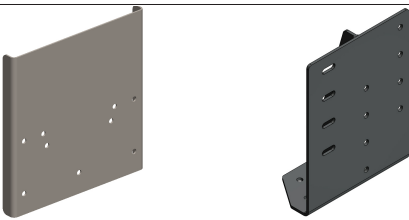



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## Accessories

Description		Part #	
Low Level Switch Kit	3 Liter	55536-1FB	
	7 Liter	55536-3FB	
Pressure gauge (Dual scale 0-3000 psi/0-200 bar, 1/4" NPT, LM)			
(Dual scale 0-5000 psi/0-350 bar, 1/4" NPT, LM)		U902F	
Field-Wireable DIN Plug		MCC2510A	
DIN Blank Plug (to cover unused terminals)		55625	
Pump Mounting Plate		55389 (STR)	
		37431 (90°)	
Mating Fill Connector for Universal Fill Plug 1/4"NPT(F)		UX43521	
Mating Fill Connector for Universal Fill Plug 1/4"BSPP(F)		734142583*	
Manual Push Gun for Fast Fill Connector		F40534	
Manual Fill Pump	35 lb. Pail	37304	
	120 lb. keg	37303	

\*Use with Copper Seal 35010

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## Service Parts

Item	Description	Part #	Qty.	
1	Nut	37915	3	
2	Washer	22076-5S	3	
3	Tie rod: for 3 liter (7 lb.)	44460-4	3	
	Tie rod: for 7 liter (15 lb.)	44460-6	3	
4	Reservoir: 3 liter (7 lb.)	55535-1FB	1	
	Reservoir: 7 liter (15 lb.)	55535-3FB	1	
5	O-ring	45831-1	1	
6	DIN Cable (not shown) <sup>4</sup>	35732-1	2	
7	Motor cover screw	22081-17S	8	
8	Motor cover non-control	55558-3	1	
	Motor cover w/controller 24VDC	55558-1	1	
	Motor cover w/controller 12VDC	55558-2	1	
9	Motor cover gasket	66245	1	
10	Motor (24 VDC) & worm gear	31703-1	1	
	Motor (12 VDC) & worm gear	31703-2	1	
11	Standard pump element w/ relief valve NPT	55487	1	
	Standard pump element w/ relief valve BSPP	55487B	1	
	Standard pump element w/o relief valve <sup>5</sup>	55480	1	
12	Copper seal	25589-5	1	
13	Copper seal	25589-7	1	
14	Relief Valve 250 bar	22474	1	
15	Mixing arm with wiper	55534	1	
16	Plug <sup>1</sup>	22454	1	
17	Grease fill fitting <sup>2</sup>	52043	1	
18	Cap	53160	1	
19	Controller Fuse 5 amp (24VDC)	31076-2	1	
	Controller Fuse 8 amp (12VDC)	31076-4	1	
20	Bearing	25101-2	1	
21	Shaft seal	22178-6	1	
22	Shaft key	25104-6	1	
23	Fast fill connector <sup>3</sup>	F80223	1	
24	Window	66243	1	
25	Window gasket	66246	1	
26	LLS DIN Cable (not shown) <sup>6</sup>	55865-3	1	
27	Low Level Switch Kit	3 Liter	55536-1FB	1
		7 Liter	55536-3FB	1
28	Socket Head Screw <sup>7</sup>	55926	4	

<sup>1</sup> Copper seal (part #25589-7) required for installation.

<sup>2</sup> Mating connector is UX43521.

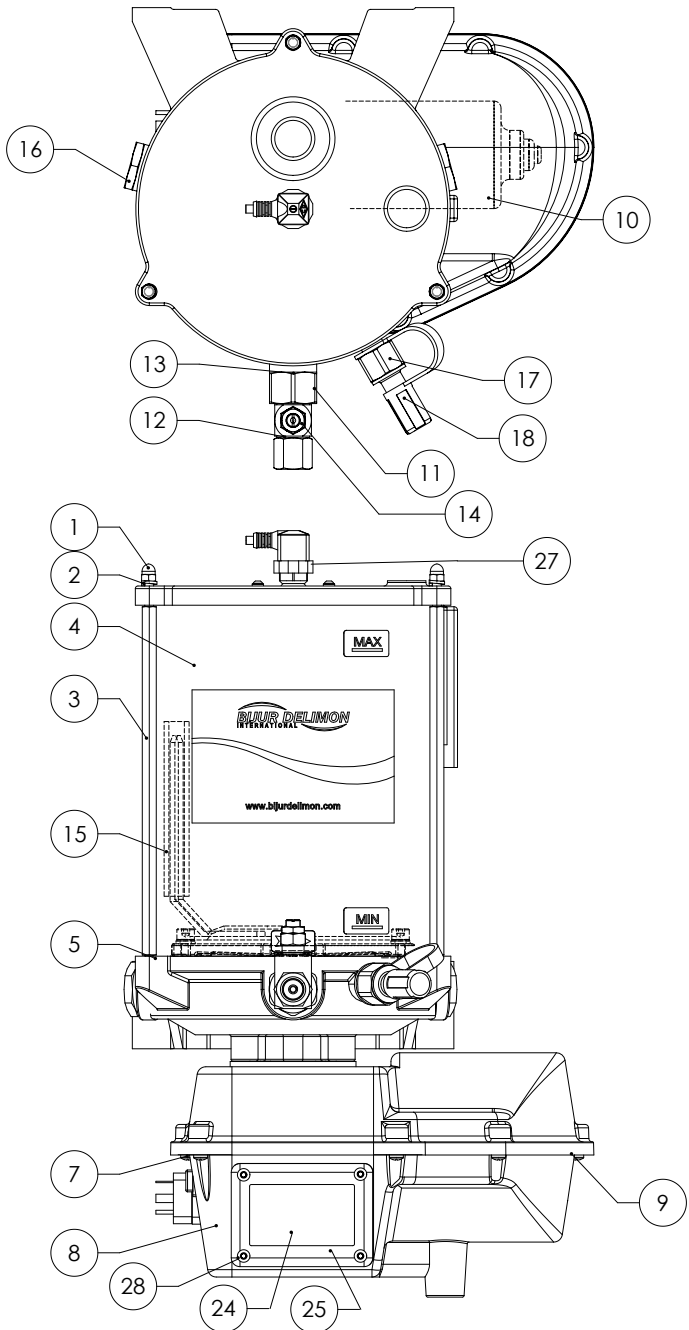
<sup>3</sup> Use with Push Gun F40534.

<sup>4</sup> Quantity 1pc for units without controller & low level switch

<sup>5</sup> Part Number 55480 is only used with multiple elements are combined.

<sup>6</sup> Only supplied with low level switch models

<sup>7</sup> Torque Spec 2.4Nm (21 IN-LBS)



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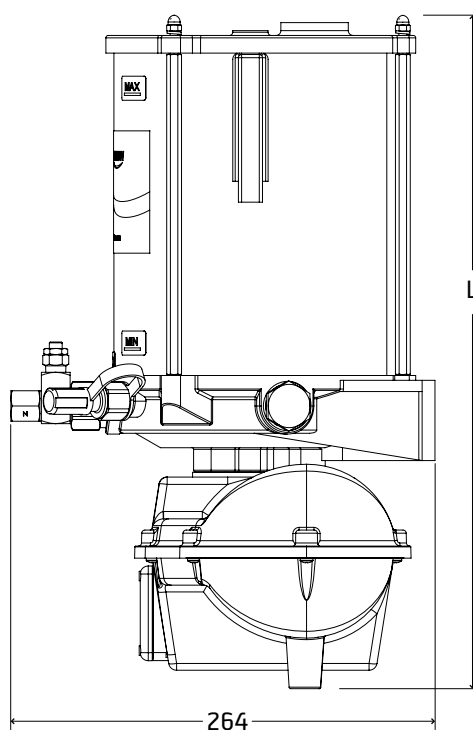
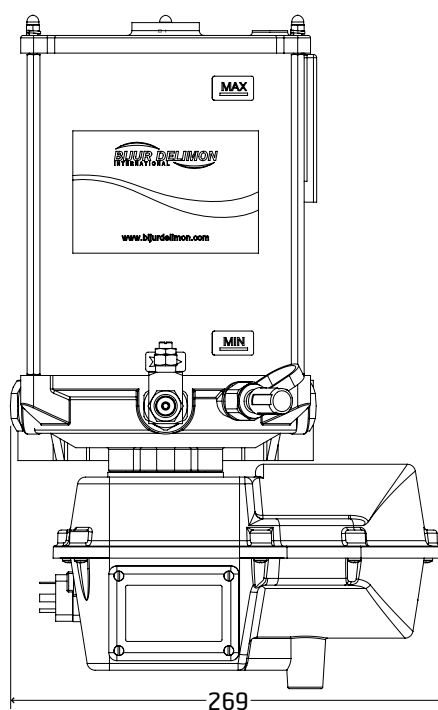
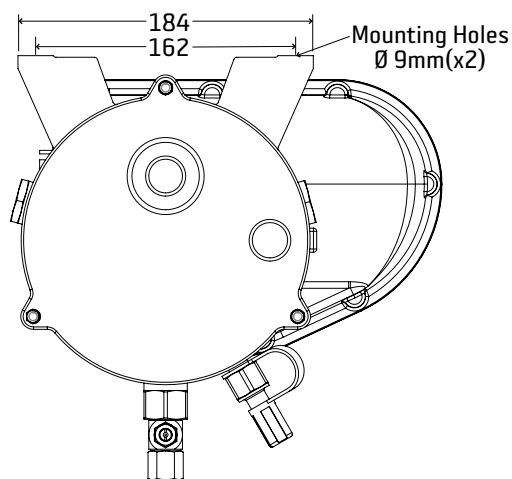
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## Dimensional Schematics

Measurements shown in millimeters.



Multiport II 3 Liter  
with controller and low level switch

### 'L' Dimensions

Description		"L"
With Low Level Switch	3 Liter (7 lb.)	455
	7 Liter (15 lb.)	655
Without Low Level Switch	3 Liter (7 lb.)	419
	7 Liter (15 lb.)	619

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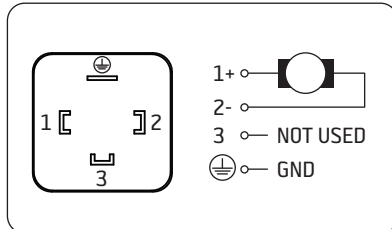
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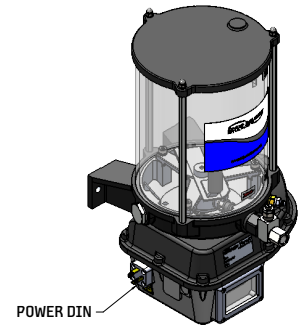
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## Wiring

### MultiPort II - No Controller

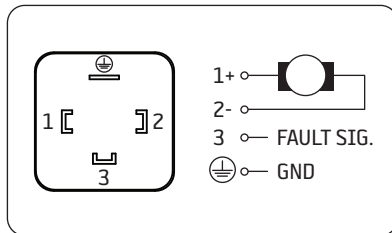


12/24VDC DIN Connector - Power In

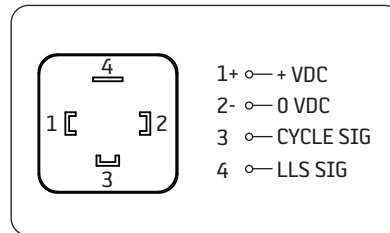


MULTIPOINT II  
WITHOUT CONTROLLER

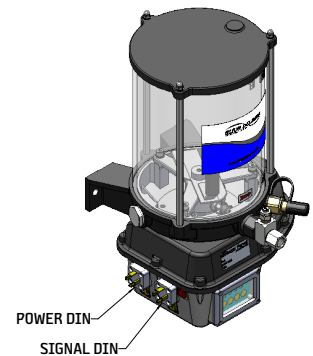
### MultiPort II - With Controller



12/24VDC DIN Connector - Power In  
Fault Out - Dash Light

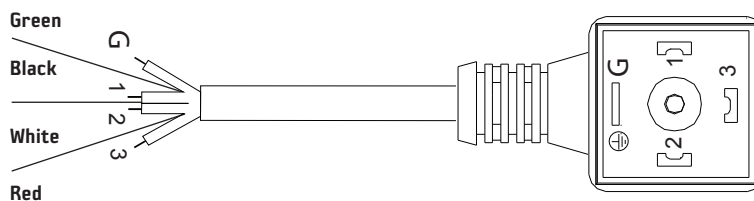


DIN Signal Connector  
**NPN Cycle Switch In**  
NPN Low Level Switch In



MULTIPOINT II  
WITH CONTROLLER

### MultiPort II - Color Codes - Cable Assembly 35732-1



Power: Black-Positive / White-Negative / Green-Ground / Red-Alarm Signal Out  
Signal: Black + VDC / White 0 VDC / Green LLS / Red Cycle Switch

Note for Mechanical Cycle Switch connections:  
Connect Cycle Switch Common to Wire #1(Black) &  
Either the Normally Closed(N.C.) or Normally Open(N.O.) to Wire #3(Red)

#### NOTE:

*MPII includes diodes on the DIN connectors to prevent reverse motor rotation and controller damage, so if you wire it incorrectly, nothing happens.*

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## Programming Controller

### Operation Mode

#### Timer Control Mode (d 1)

*Recommended for Systems without a Pressure Switch or Cycle Switch*

**Low level alarm function enabled\***

In this mode, the lubricating system runs according to the preset run time and idle time.

#### Pressure Control Mode (d 2)

*Recommended for Injector Systems*

**Pressure switch function enabled/  
Low level alarm function enabled\***

A pressure switch installed downstream from the pump

functions as the key monitoring device for the entire system. Normally the system will build up sufficient pressure required to activate the pressure switch (normally open) in a predetermined period of time (called monitor time) once the pump starts. The user can adjust the monitor time to a setting greater than the time required to satisfy the pressure switch (normally 1.5 times greater). If the system fails to reach sufficient pressure during that time period an alarm signal will be displayed (EEPP appears on the digital readout). Possible causes for this type of alarm could be pump malfunction, broken supply line or crushed supply line prior to pressure switch. Lubrication intervals are adjustable from 1 to 9999 (seconds/minutes/hours). An adjustable run delay (1-99 seconds) following a pressure switch closure assures adequate pressure downstream from the pump.

#### Cycle Control Mode (d 3)

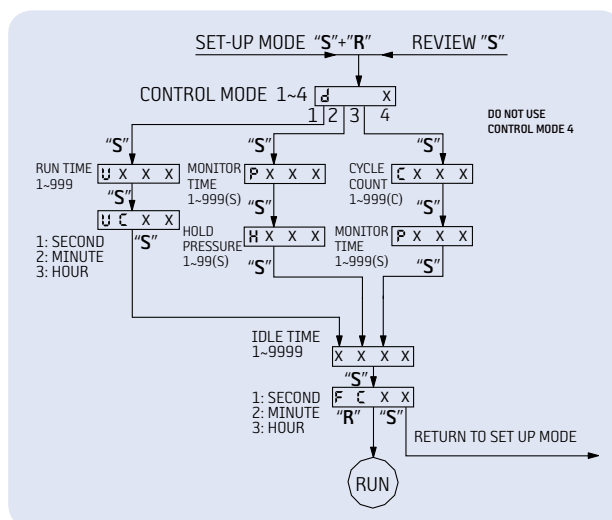
*Recommended for Progressive systems*

**Cycle switch function enabled/ Low level alarm function enabled\***

The cycle switch mounted on a progressive divider valve is the key monitoring device for the entire system. Normally when grease is being discharged from the outlets of the divider valve, a cycle pin engages with the switch, confirming a successful lubrication cycle. The controller can be programmed to allow for a predetermined number of cycle counts (1-999). Once the preset number of counts is obtained the controller will stop the pump and revert back to the idle time setting (1-9999 seconds/minutes/hours). If there is no activity from the cycle switch within a specified period of time (Monitor time: 1-999 seconds), an alarm signal will be displayed (EEcY appears on the digital readout). Possible causes for this type of alarm could be pump malfunction, divider valve malfunction, broken supply line or blocked supply line or feed line.

#### Control Mode (d 4)

*Do not use Control Mode 4 with MultiPort II Mobile Systems.*



\* For lubricators fitted with low level switch

### Controller Status LEDs

<b>Red Steady</b>	Lubrication cycle
<b>Yellow Steady</b>	Low Level
<b>Green Steady</b>	Power supply on
<b>None Lit</b>	No input power to controller

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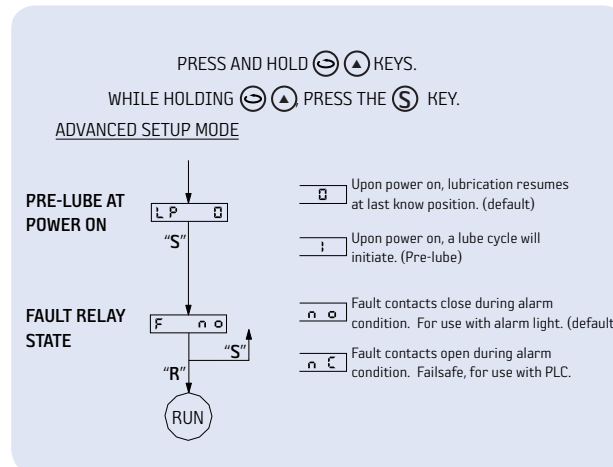
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## Operation Mode Cont.

### Advanced Setup Mode

*In Advanced Setup Mode, additional features may be set to suit special application requirements.*

**To enter Advance Setup Mode:**



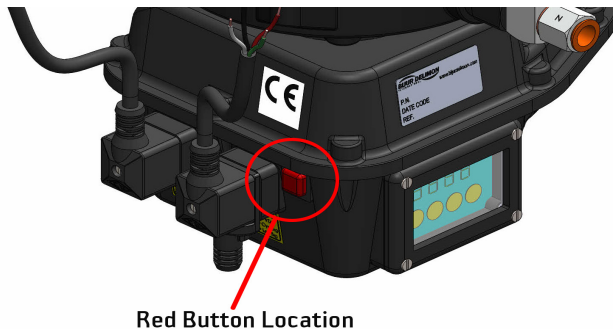
### Fault Conditions:

- **"EEPP"-Monitor time-out**  
(Mode d2 - Injectors) Pressure switch did not activate within monitor time.
- **"EEHP"-Pressure switch failure**  
(Mode d2 - Injectors) Pressure switch was activate at the beginning of a lube cycle. Once customer fixes pressure switch - alarm will clear automatically.
- **"EEcY"-Monitor time-out**  
(Mode d3 - Progressive) Cycle switch did not activate within monitor time.
- **"EE"-Internal memory failure**  
(Checked at power up) No recovery. Turn off power and try again. If problem persists, replace control.
- **"EELL"-Yellow LED"-Low Level**  
(Steady Yellow) Low lubricant level has been detected.
- **"LLPP"-Green LED"-Low Voltage**  
Check and apply correct voltage

### Red "Jog" Button

*Only Equiped on pumps with integral control.*

The motor runs while the button is pressed and stops when the button is released. The control does not monitor during this operation, and this button does not initiate a normal lube event; the button only runs the motor.



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