

## PROGRAMMING INSTRUCTIONS

**KEYS:**            **MODE: SHIFT KEY**    **INC: UP ARROW KEY**    **DEC: DOWN ARROW KEY**

### MENU NUMBERS:

There are (33) different menus, (the full menu list is shown on the next page).  
For purposes of this manual, the following will be used, when referring to a specific menu number.

Menu no. 7 = M7, Menu no. 24 = M24, etc.

The MENU LIST is grouped, as follows:

<b>M2 thru M9</b>	Programmable Timer settings
<b>M10 thru M19</b>	Programmable operational settings
<b>M20 thru M28</b>	Status and Operational timer displays
<b>M30 thru M32</b>	Test <u>INPUTS &amp; OUTPUTS</u> and <u>CHECKSUM</u>
<b>M99</b>	Pass Code entry

CHECKSUM is the PROGRAM IDENTIFIER

(Note; M29, M33-97, are not assigned)

### MOVING THROUGH THE MENUS:

Press and hold the **Mode** key, use the **INC** or **DEC** keys to select a menu number, release the **Mode** key. Briefly the menu Tag name is displayed, then the value of the current setting is displayed for view or edit.

- Pass Code**    In order to change settings for any menu item it requires the operator enter a pass code, see M99. Without a valid pass code the operator can only **view** menus and settings. User Pass Code = **181**
- Checksum**    The checksum is a program verification process. Each time the LSC-100A is powered up the program's checksum is evaluated and displayed before the unit goes into Run mode.  
Note; The Checksum is a 4-digit hexadecimal number. (Examples. 72b9, 6EFd, 7d4B, F9EC, etc.)
- Errors**        The LSC-100A can determine (6) different conditions. If any of these occur and Error code is displayed and a beeper sounds. To silence the beeper press both the **INC** and **DEC** keys. Each error has an accumulated timer to record how long an error occurred. Following is a list of errors;
- E1** - Hi Psi switch indication a possible blockage in the lube line
  - E2** - Lube reservoir is low
  - E3** - Too few pulses received on Cycle Switch #1
  - E4** - Too few pulses received on Cycle Switch #2
  - E5** - Motor current is too low, likely there is an open circuit
  - E6** - Motor current is over 9 amps, likely there is a short circuit
- Status LED's**    There are (5) status LED's located along the bottom edge of the display window. The first LED (Yellow on the left) indicates each time Cycle Switch#1 transitions. The second LED (Yellow) indicates each time Cycle Switch#2 transitions. The third LED (Red) indicates High PSI input is active. The fourth LED (Red) indicates when the lube reservoir is low. And the fifth LED (Green) indicates when the pump motor is on.
- Lube Modes**    There are (3) Lubrication modes of operation. Each has On/Off time settings (see next page). Mode is selected with the **INC** key.
- Extra Cycle**    To add an extra Lube Cycle Press and hold the **DEC** key for 2 seconds.

**MENU FUNCTION LIST WITH FACTORY SETTINGS**

<u>Menu #</u>	<u>Tag</u>	<u>Factory Setting</u>	<u>Function</u>
1	<b>run</b>		RUN MODE: Lube timer is displayed HOURS (hh), MINUTES (mm) & SECONDS, (ss) <u>PUMP ON</u> is shown in MINUTES (mm) & SECONDS (ss) and <u>PUMP OFF</u> is shown in HOURS (hh) and MINUTES (mm).
2	<b>1 on</b>	30 Min	<u>SET PUMP ON TIMER</u> for <u>LOW LUBE SETTING</u> . Set MINUTES (mm) & SECONDS (ss). Range: 0-59 minutes (mm), & 5-59 seconds (ss). Wait 5 seconds, after releasing MODE key, use INC / DEC to change minutes/seconds. Press both INC & DEC <u>together</u> to move cursor between minutes (mm) & seconds (ss).
3	<b>1 of</b>	5 Min	<u>SET PUMP OFF TIMER</u> for <u>LOW LUBE SETTING</u> . If <u>Menu #8</u> = tiE, set HOURS (hh) & MINUTES (mm). Range (0-48 hours & 2-59 minutes). Use INC / DEC to set either HOURS (hh) or MINUTES (mm). Press both INC & DEC together to move cursor between hours (hh) and minutes (mm).  If <u>Menu #8</u> = PULS, Use INC / DEC to set OFF pulse set point.
4	<b>2 on</b>	5 Min	<u>SET PUMP ON TIMER</u> for <u>MEDIUM LUBE SETTING</u> . Set MINUTES (mm) & SECONDS (ss). Range: 0-59 minutes (mm), & 5-59 seconds (ss). Wait 5 seconds, after releasing MODE key, use INC / DEC to change minutes/seconds. Press both INC & DEC <u>together</u> to move cursor between minutes (mm) & seconds (ss).
5	<b>2 of</b>	30 Min	<u>SET PUMP OFF TIMER</u> for <u>MEDIUM LUBE SETTING</u> . If <u>Menu #8</u> = tiE, set HOURS (hh) & MINUTES (mm). Range (0-48 hours & 2-59 minutes). Use INC / DEC to set either HOURS (hh) or MINUTES (mm). Press both INC & DEC together to move cursor between hours (hh) and minutes (mm).  If <u>Menu #8</u> = PULS, Use INC / DEC to set OFF pulse set point.
6	<b>3 on</b>	5 Min	<u>SET PUMP ON TIMER</u> for <u>HIGH LUBE SETTING</u> . Set MINUTES (mm) & SECONDS (ss). Range: 0-59 minutes (mm), & 5-59 seconds (ss). Wait 5 seconds, after releasing MODE key, use INC / DEC to change minutes/seconds. Press both INC & DEC <u>together</u> to move cursor between minutes (mm) & seconds (ss).
7	<b>3 of</b>	30 Min	<u>SET PUMP OFF TIMER</u> for <u>HIGH LUBE SETTING</u> . If <u>Menu #8</u> = tiE, set HOURS (hh) & MINUTES (mm). Range (0-48 hours & 2-59 minutes). Use INC / DEC to set either HOURS (hh) or MINUTES (mm). Press both INC & DEC together to move cursor between hours (hh) and minutes (mm).  If <u>Menu #8</u> = PULS, Use INC / DEC to set OFF pulse set point.

**MENU FUNCTION LIST WITH FACTORY SETTINGS**

Menu #	Tag	Factory Setting	Function
8	<b>OF t</b>	tiE	Select lube off mode; based on cycle pulses or based on time. PULS = cycle count mode or tiE = timer mode. This setting applies to all 3 modes (Low, medium, and High).
9	<b>OF S</b>	Hr.In	Select Off Time Scale.  If Menu #9 = Hr.In, the off time setting will be in Hours & Minutes If Menu #9 = In.Sc, the off time setting will be in Minutes & Seconds If Menu #9 = HrS, the off time setting will be in whole Hours
10	<b>SEtr</b>	tiE	Select lube run mode; based on cycle pulses or based on time. PULS = cycle count mode or tiE = timer mode
11	<b>CyC1</b>	0	Set Cycle count set point #1
12	<b>CyC2</b>	0	Set Cycle count set point #2
13	<b>HI-F</b>	45 Sec	High psi set accum. time required to create an error (range 5 - 120 sec, INC once beyond 120 = Off)
14	<b>Lo-F</b>	Off	Low lube set accum. time required to create an error (range is 1 - 10, 10 - 120 sec, INC beyond 120 = Off)
15	<b>Lo-P</b>	POS	Low Lube sensor switch polarity press INC to select POS or NEG
16	<b>L-tP</b>	FL-0	Lamp Type, select the mode for the dash lamp, Press INC to select. FL-0 = flash mode, flash the Error number and no motor status FL-1 = flash mode, flash the Error number and On continuous = motor On Cont = continuous mode, On = Error, Off = no Error, no motor status
17	<b>P-Ot</b>	FULL	Pump voltage output. Set pump voltage. If set to FULL the controller will drive the pump to supply voltage. (range is 5.0 - 25.0 INC once beyond 25.0 = FULL)
18	<b>P-tP</b>	nl-C	Pump Type. Normal Current (nL-C), Low Current (Lo-C)
19	<b>Strt</b>	S-ti	Start up mode. Normal timer(S-ti), Always start a cycle at power up (S-on)
20	<b>t-rn</b>		View total motor run time hhhh mm.ss Press no key to view hhhh = hours Hold the INC key to view mm.ss mm = minutes, ss = seconds
21	<b>t-to</b>		View total System ON time hhhh mm.ss Press no key to view hhhh = hours Hold the INC key to view mm.ss mm = minutes, ss = seconds
22	<b>t-rS</b>		Reset run timers and error timers. Hold the INC button for 5 sec to clear.
23	<b>t-E1</b>		View total Over Pressure error time
24	<b>t-E2</b>		View total Low lube error time

**MENU FUNCTION LIST WITH FACTORY SETTINGS, (CONT'D)**

Menu #Tag	Factory Setting	Function
25	<b>t-E3</b>	View total Cycle switch error time
26	<b>t-E4</b>	View total Loss of revolution error time
27	<b>t-E5</b>	View total Motor error time (short or open)
28	<b>A-Ct</b> OFF	Alarm Override; Allows Controller to continue operation for a specified number of faults. When enabled, a fault count will be displayed until a successful lube event occurs or the counter threshold is reached. Upon a successful lube event, the fault counter is reset. 2-999 = Controller will continue operation during fault condition for the specified number of faults. Off = Controller will not operate during fault conditions.
30	<b>inS</b>	Test (7) inputs, (2) outputs; Press INC = Dash lamp, press DEC = Beeper Vertical bars; Off time cycle Sw, Dash PB, Cycle sw2, Cycle sw1, Low lube, Hi Psi sw
31	<b>P-tS</b>	Motor test, display amps, press INC = Motor On, DEC = Motor Of
32	<b>SErL</b>	View Serial number
98	<b>type</b> PUP	Grease System Type PUP = Standard Pump Type Grease System Spry = Spray Grease System
99	<b>P-Cd</b>	Enter Pass code, use INC or DEC keys until the pass code is displayed. After 4 minutes w/ no key strokes, the controller will revert back to the Run Mode.

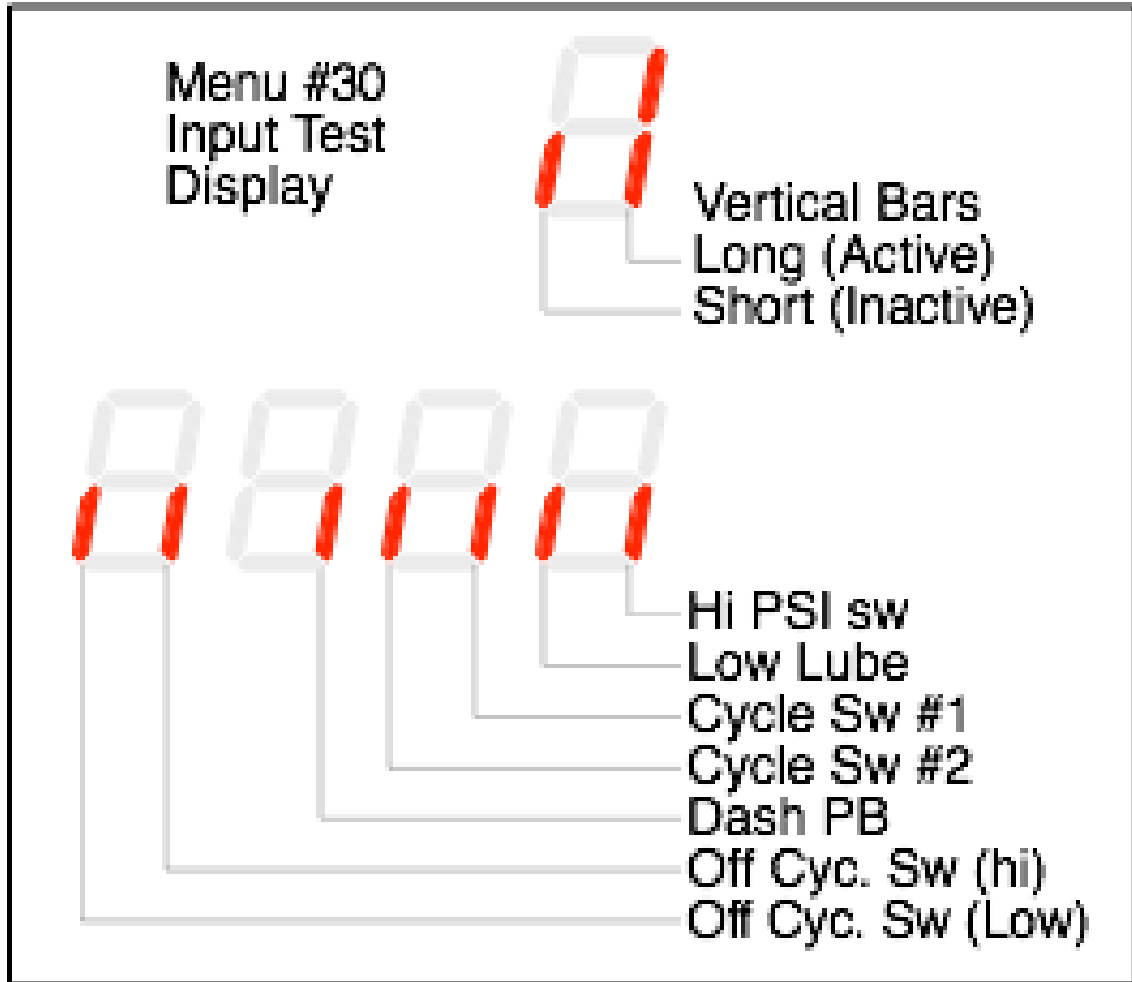
## Spray Grease System Menus

1	<b>run</b>		Run mode, lube timer is displayed (hours hh) (minutes mm) (seconds ss). Pump on is mm ss and Pump off is hh mm
2	<b>t-on</b>	30 Min	Set pump ON timer. Set min/sec mm ss range (0-59 min, 5-59 sec) wait 5 sec after releasing Mode key, use INC / DEC to change min/sec. Press both INC & DEC together to move cursor between mm & ss
3	<b>t-oF</b>	5 Min	Set pump OFF time. If Menu #8 = tiE, set hrs/min hh mm range (0-48 hrs, 2-59 min). Use INC / DEC to set either hrs or min. Press both INC & DEC together to move cursor between hh and mm. If Menu #8 = PULS, Use INC / DEC to set OFF pulse set point.
4	<b>A-on</b>	1 Min	Set Air valve on-time before the pump starts. Set min/sec mm ss range (0-4 min, 5-59 sec) wait 5 sec after releasing Mode key, use INC / DEC to change min/sec. Press both INC & DEC together to move cursor between mm & ss
5	<b>A-oF</b>	1 Min	Set Air valve on-time after the pump stops. Set hrs/min mm ss range (0-4min, 5-59 sec). Use INC / DEC to set either min or sec. Press both INC & DEC together to move cursor between mm and ss.
8	<b>OF t</b>	30 Min	Select lube off mode; based on cycle pulses or based on time. PULS = cycle count mode or tiE = timer mode.
9	<b>OF S</b>	Hr.In	Select Off Time Scale. If Menu #9 = Hr.In, the off time setting will be in Hours & Minutes If Menu #9 = In.Sc, the off time setting will be in Minutes & Seconds
10	<b>SEtr</b>	tiE	Select lube run mode; based on cycle pulses or based on time. PULS = cycle count mode or tiE = timer mode.
11	<b>CyC1</b>	Off	Set Cycle count set point #1 (0 = Off)
12	<b>CyC2</b>	Off	Set Cycle count set point #2 (0 = Off)
13	<b>HI-F</b>	45 Sec	High psi set accum. time required to create an error (range 5 - 120 sec, INC once be-
14	<b>Lo-F</b>	Off	Low lube set accum. time required to create an error (range is 1 - 10, 10 - 120 sec, INC beyond 120 = Off)
15	<b>Lo-P</b>	POS	Low Lube sensor switch polarity press INC to select POS or NEG
17	<b>P-Ot</b>	FULL	Pump voltage output. Set pump voltage. If set to FULL the controller will drive the pump to supply voltage. (range is 5.0 - 25.0 INC once beyond 25.0 = FULL)
18	<b>P-tP</b>	nl-C	Pump Type. Normal Current (nL-C), Low Current (Lo-C)
19	<b>Strt</b>	S-ti	Start up mode. Normal timer(S-ti), Always start a cycle at power up (S-on)
20	<b>t-rn</b>		View total motor run time hhhh mm.ss Press no key to view hhhh = hours Hold the INC key to view mm.ss mm = minutes, ss = seconds

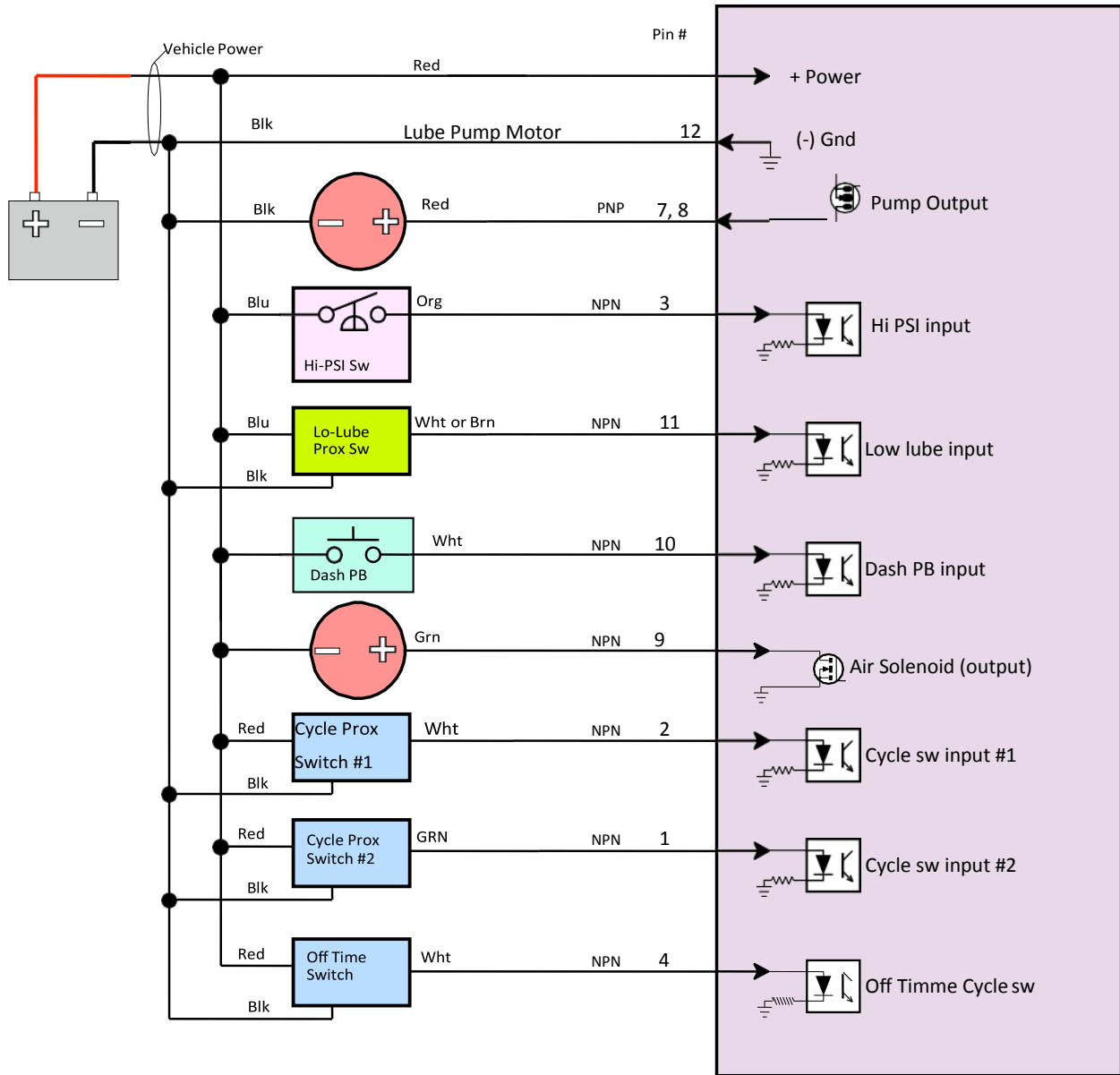
## Spray Grease System Menus

- 21 **t-to** View total System ON time hhhh mm.ss Press no key to view hhhh = hours  
Hold the INC key to view mm.ss mm = minutes, ss = seconds
- 22 **t-rS** Reset run timers and error timers. Hold the INC button for 5  
sec to clear.
- 23 **t-E1** View total Over Pressure error time
- 24 **t-E2** View total Low lube error time
- 25 **t-E3** View total Cycle Switch #1 error time
- 26 **t-E4** View total Cycle Switch #2 error time
- 27 **t-E5** View total Motor error time (short or open)
- 30 **inS** Test (7) inputs, (2) outputs; Press  
INC = Air Valve Press DEC =  
Beeper  
Vertical bars; Off time cycle Sw, Dash PB, Cy-  
cle sw2, Cycle sw1, Low lube, Hi Psi sw
- 31 **P-tS** Motor test, display amps, press INC = Motor On, DEC = Motor Off
- 32 **SErL** View Serial number
- 98 **tyPE** PUP Grease System Type  
PUP = Standard Pump type grease system  
SPry = Spray grease system
- 99 **P-Cd** Enter Pass code, use INC or DEC keys until the pass code is displayed.  
After 4 minutes w/ no key strokes, the GC101 will revert back to the  
Run mode.

**MENU FUNCTION LIST WITH FACTORY SETTINGS, (CONT'D)**



GREASE SPRAY SYSTEM



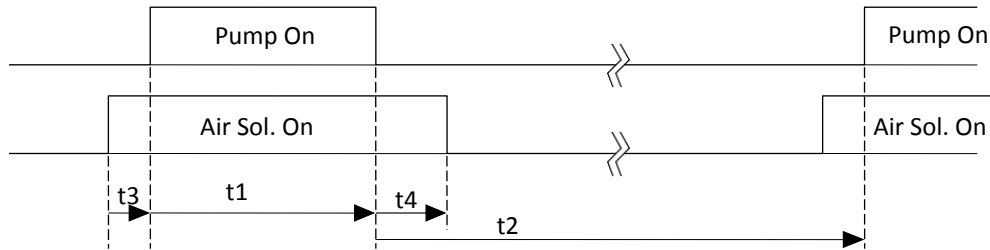


## GREASE SPRAY SYSTEM

When setup as a grease spray system, this LED indicates the air solenoid status



When the air valve is on before the pump starts (t3 in diagram below) this LED will be on.



t1 (Menu #2) = Pump On time (Lube Motor & Lube Low LEDs = on)

t2 (Menu #3) = Pump OFF time

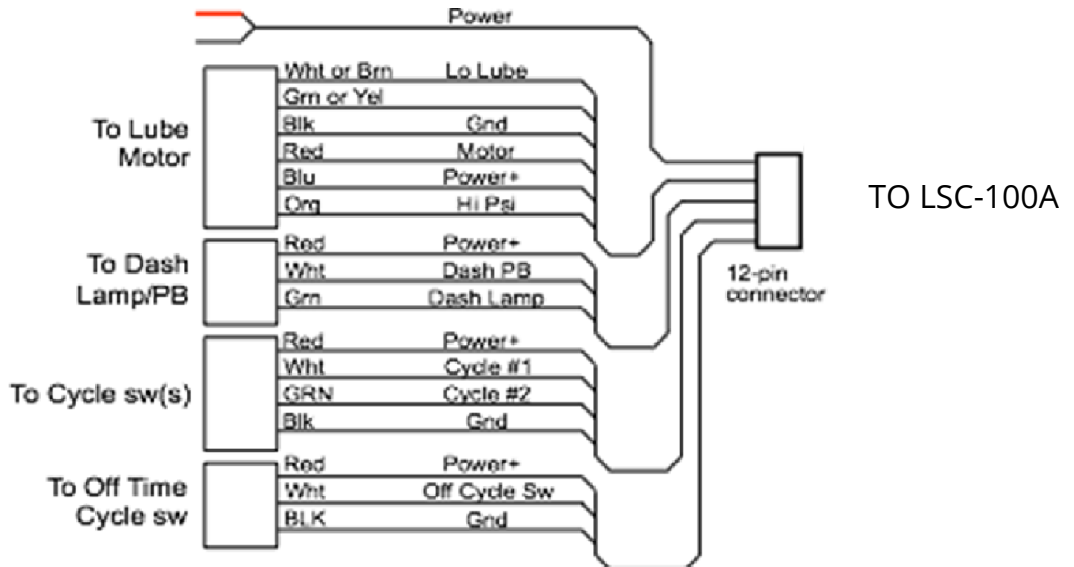
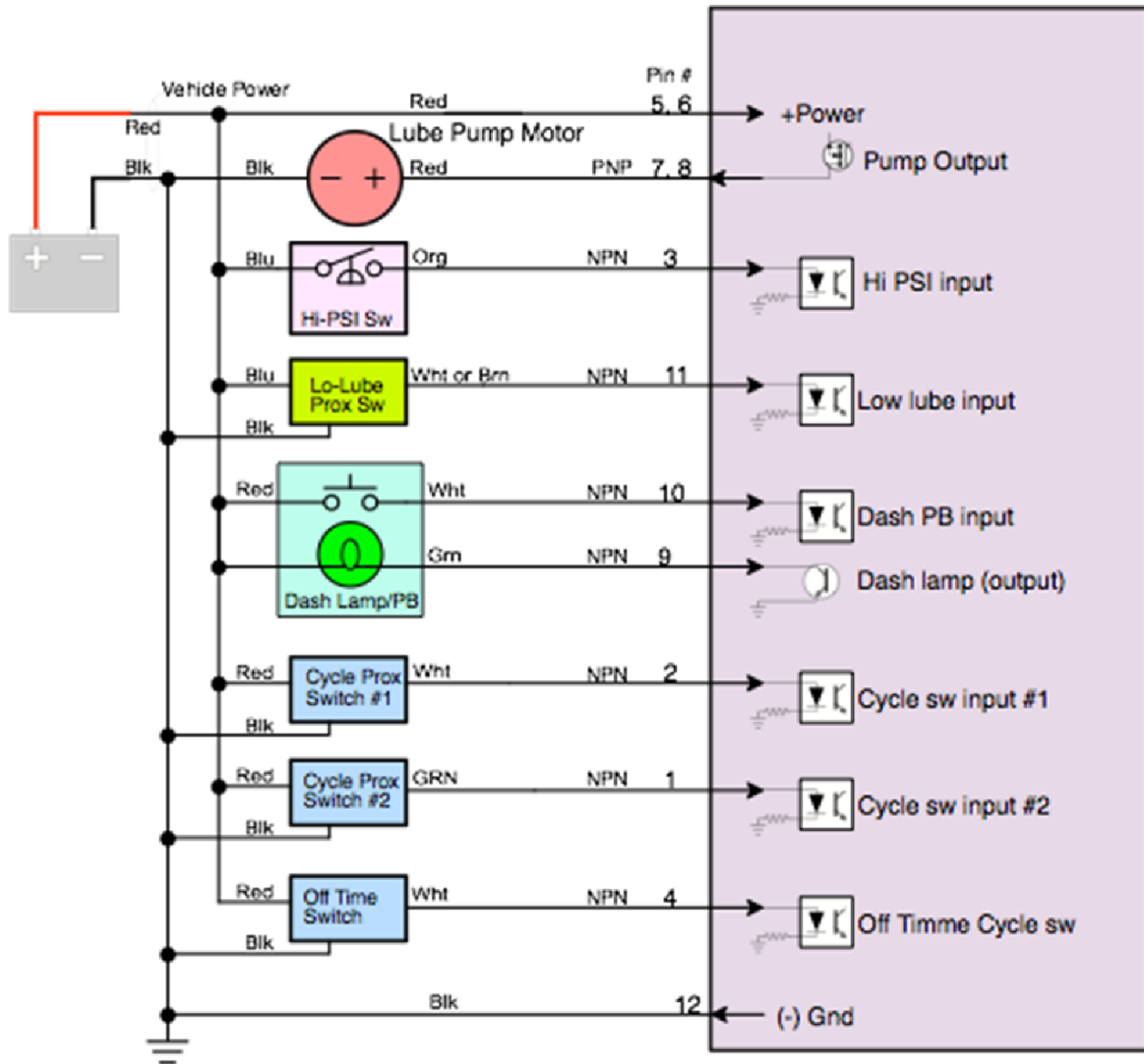
t3 (Menu #4) = Air valve on-time before the pump starts (Lube Low & Med = on)

t4 (Menu #5) = Air valve on-time after the pump stops (Lube Low = on)

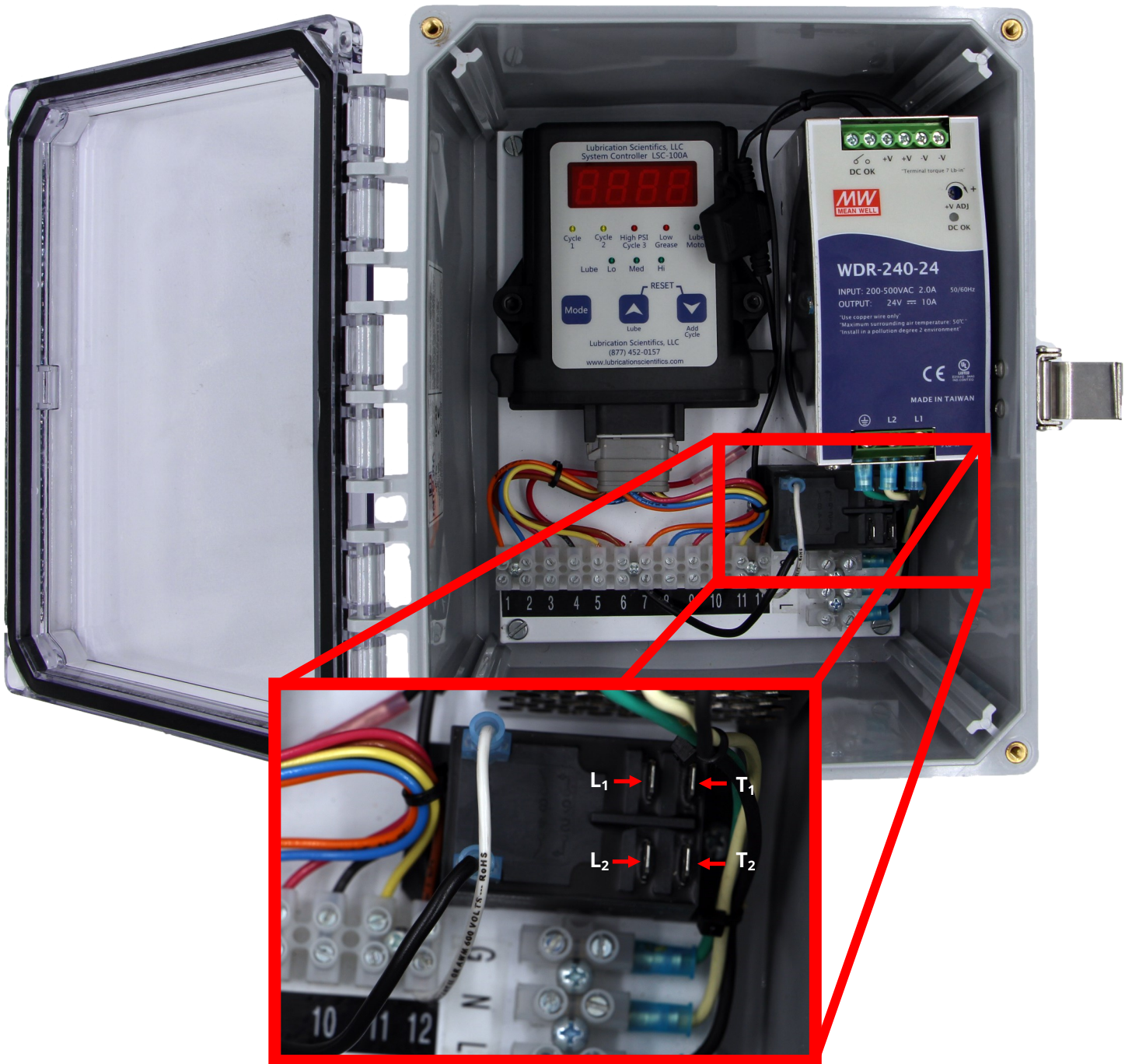
User pass code = **181** used to only edit menu # 2 - 18

Master pass code = **1322**

LSC-100A WIRING DIAGRAM



### LSC-100A WIRING DIAGRAM



24 VDC—30 Amp Relay  
Max Switching Voltage  
250 DC Conforming to IEC  
250 VAC conforming to IEC

- 1 - RPM Input (+) - Orange
- 2 - Cycle Switch Input (+) - Blue
- 3 - Pressure Switch Input (+) - Red
- 4 - Spare Input - Black
- 5 - Power In (+) - Green or Yellow
- 6 - Power In (+) - White or Brown
- 7 - Pump Power Out (+) - Orange
- 8 - Pump Power Out (+) - Blue
- 9 - Dash Lamp Output (-) - Red
- 10 - Dash Push Button Input (-) - Black
- 11 - Low Lube Input (+) - Green or Yellow
- 12 - Common Ground (-) - White or Brown

