



COMMANDER II AND CONCEPT 2000 LP GAS DISPENSERS



PROGRAMMING INSTRUCTIONS



Warnings, Cautions and Notes

Throughout this manual, the reader will find statements titled **WARNING**, **CAUTION** or **NOTE** with a short piece of information highlighting a hazard or providing additional clarification, or both. Each of these statements has a particular meaning, as follows:



A Warning indicates that PERSONAL INJURY MAY RESULT if recommended procedures are not carefully followed and tells what to do to avoid such injury. Equipment may also be damaged.



A Caution indicates that EQUIPMENT MAY BE DAMAGED if recommended procedures are not carefully followed and tells what to do to avoid such damage. Potential for personal injury is not expected.



A Note provides clarification of an operational procedure. Neither personal injury nor equipment damage is involved



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The information contained in this manual is subject to change without notice.



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Control Sheet

Periodically sections within this manual may be amended. When this occurs the page footer will identify the change by the Draft Letter increasing by one letter each time, e.g. Draft A, Draft B etc. When amendments are issued this control Sheet will be updated to reflect the latest changes.

The Amendment Table below will provide you with a complete history of all changes to the current revision of the document. You can check whether your manual is current by checking the revision and date issued in the table against the pages in the corresponding section. You can also check that you have all the necessary pages by referring to this table.

Section Title			Date Issued	Pages
Prelim ii	Warnings	Е	6/10/2011	1
Prelim iii	All Rights Recerved	Е	6/10/2011	1
Prelim iv	Table of Contents	Е	6/10/2011	1
Prelim v Control Sheet		Е	6/10/2011	1
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Section B Programming Instructions		Е	6/10/2011	24
Section C	Trouble Shooting	Е	6/10/2011	2
Section D Dispenser Wiring Configuration		Е	6/10/2011	3
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Draft E Control Sheet



SECTION A: INTRODUCTION

1 General

This manual provides instructions for programming Batchen Commander II and Concept 2000 LP Gas Dispensers.

The dispensers can be programmed using either a keypad (portable or fixed) or electronic switches on the Main Processor Board.

This manual provides instructions for programming using a keypad (portable or fixed).

2 Safety Warnings



WARNING! - LP GAS USE

This equipment is designed to dispense Liquefied Petroleum Gas (LPG) to motor vehicles. It contains flammable liquefied gas under pressure and must be installed and serviced by persons trained and experienced in the safe handling of LPG, and in accordance with all relevant local and statutory regulations, and recognised industry procedures.

Failure to observe this warning may result in (but is not limited to):

- the escape of flammable liquid or vapour;
- · explosion;
- fire; or
- freeze burns.

Sudden, uncontrolled depressurisation may result in the propulsion of components at high velocity.



WARNING! - NOZZLE OPERATION

Do not latch the nozzle in the open position.

If there is a leak at the nozzle and it is latched open, the nozzle cannot be shut off without the risk of freeze burns.

Incorrect connection or disconnection, or insufficient tightening of the nozzle may result in a substantial release of LPG when the trigger is operated.





WARNING! - FILLING OF DOMESTIC CYLINDERS

The Commander II AND Concept 2000 dispensers are designed to refuel motor vehicles with LP gas.

If they are used for filling domestic cylinders this may contravene local regulations as the gas dispensed <u>may not</u> be suitable for domestic applications.



NOTE

Service attendants operating this equipment should be fully trained in LPG refuelling and emergency procedures as set out in AS1596 "SAA LP Gas Storage and Handling" Code. All service operations must be carried out by authorised personnel in accordance with relevant local and statutory regulations.

In case of EMERGENCY immediately push the "DISPENSER EMERGENCY STOP".

The "DISPENSER EMERGENCY STOP" is a red push button located on the side of the dispenser. It is clearly labelled in large red letters.

Pushing the "DISPENSER EMERGENCY STOP" will immediately cause dispensing to cease by shutting down the power and LPG to the dispenser. Depending on the configuration of the site all other power and fuels on site may be shut down as well.

In case of a MINOR ACCIDENT immediately push the "PUSH TO STOP".

The "PUSH TO STOP" is a flap located in the Nozzle Receptacle. It is clearly labelled on a black label in Yellow letters.

Push the "PUSH TO STOP" will immediately cause dispensing to cease by shutting down the remote pump and closing the dispenser solenoid valve. Filling may be recommenced by replacing the nozzle into its receptacle and waiting 3 seconds before removing the nozzle to recommence the filling cycle.

Your LPG installation may have other specified emergency procedures. All operators should be familiar with these procedures before commencing operation. Your installer would be pleased to explain these to you if necessary.



3 Password Settings

In order to program the dispenser, a password is required.

Passwords are factory set but can be changed by the operator. Factory settings are shown in the table below.

Password Code	Factory Setting	Access
Pass code 1	111111	Allows totals to be viewed
Pass code 2	222222	Allows price setting, pump number setting and setting of configuration p values. It also enables the temperature and software version number to be viewed.
Pass code 3 333333		Allows k-factor setting, setting configuration a & b values, start flow timeout, currency resolution, minimum flow rate and density It also enables cause of delivery end to be displayed.



4 Parameters and Password Levels

Parameter	Price Display	Setting	Passwo rd Level	Switch Number	Suggested Access
Electronic Volume Totals	Volume sold	Total Volume sold	1	*	Service Attendants
Electronic Value Totals	Value sold	Total Value sold	1	*	Service Attendants
Software Version	Code	1407	2	1	Technician
Display Segment Test		Visual	N/A	1	Technician
Unit Price	Price	100.0	2	1	Technician
LPG Temperature	tEP	LPG	2	1	Technician
Pump Number	Pu nu	01 & 02	2	1	Technician
Configuration p	cFg P	200/201 **	2	1	Technician
K Factor	FActr	1.0000	3	2	Calibrator
LPG Density	dEn	510	3	2	Calibrator
Cause of End Delivery	cdE	See manual	3	2	Calibrator
Preset Cut-Off	Pcut	0.0	3	2	Calibrator
Start Flow Time Out	S Flo	000	3	2	Calibrator
Minimum Flow Rate	L Flo	2.0	3	2	Calibrator
End Flow Time Out	E Flo	0	3	2	Calibrator
Density Error Delay	dEd	10 ***	3	2	Calibrator
Solenoid Delay	Sd	0.40/0.00 ****	3	2	Calibrator
Price Resolution	r	4	3	2	Calibrator
Configuration b	cFg b	00513/00516 *****	3	2	Calibrator
Configuration A	cFg A	2022	3	2	Calibrator
Delivery Start Delay	dSd	0.0	3	2	Calibrator

^{*} To access Electronic Totals without a Keypad tap Nozzle Switch rapidly five times. Total Volume will be displayed for ten seconds followed by Total Value Sold displayed for ten seconds.

^{** 200} for Console or 201 for Stand Alone

^{***} Only available in Density mode.

^{**** 0.40} for Density Probe or 0.00 for Temperature Probe.

^{***** 00513} for Temp. Probe or 00516 for Density Probe.



5 The Keypad

The dispenser can be programmed using the keypad mounted on the door of the unit, as shown in Figure 1. Alternatively, if no keypad is fitted, a portable keypad can be connected to the display card as shown Figure 2.



Figure 1: Keypad Location

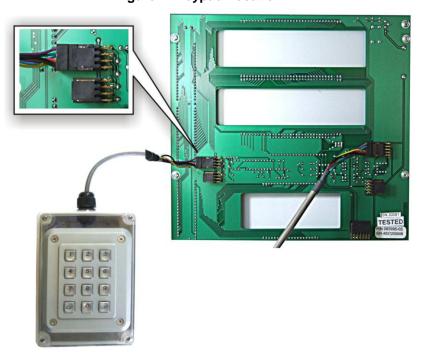


Figure 2: Connecting a Portable Keypad



Switch 2 on the Main Processor Board 6

Changing the settings of certain parameters requires pressing Switch 2 (referred to as the Kfactor Switch) on the Main Processor Board



⚠ NOTE

Switch 2 (the K-Factor switch) is normally used only when the system is initially configured or when the meters are re-calibrated.

This switch should be accessed only by authorised service personnel.

After use the K-Factor switch must be sealed from operation, as shown in Figure 5.

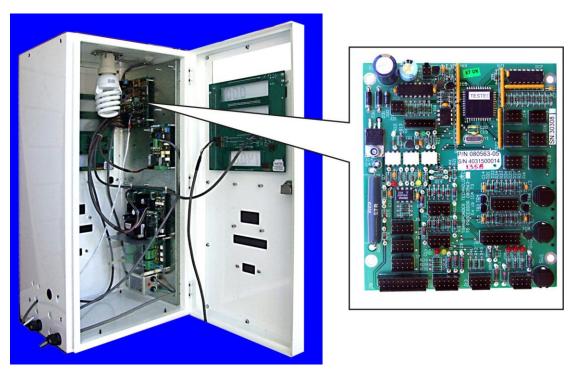


Figure 3: Main Processor Board Location



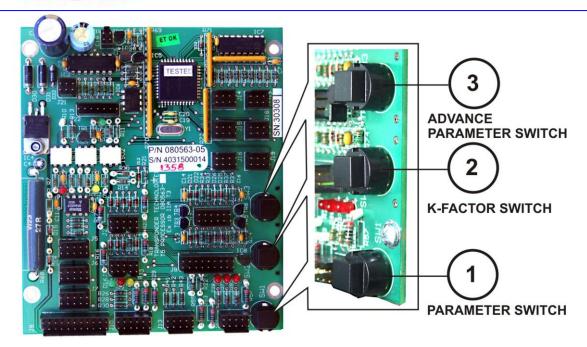


Figure 4: Main Processor Board Switches

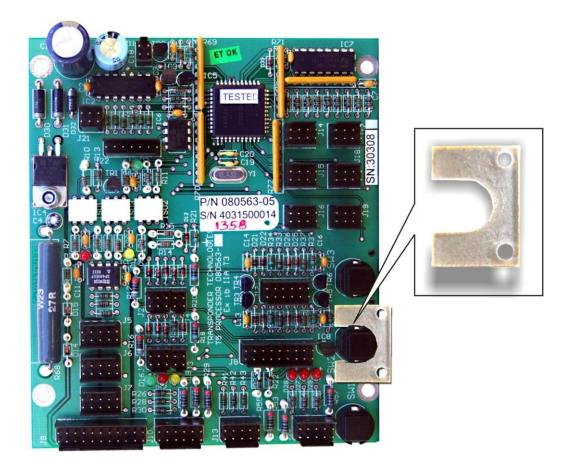


Figure 5: Main Processor Board Switch Seal



SECTION B: PROGRAMMING INSTRUCTIONS



⚠ NOTE

The dispenser has separate display panels for each hose, one on either side of the unit. The side of the dispenser which features the Electronics Cabinet door is referred to as Side A. The opposite side is referred to as Side B.



NOTE

Durring setup the parameters will be displayed on all displays. i.e. there will be two lines displayed in the cents pr. litre display corresponding to the pump being configured.





NOTE

To secure the keypad and switches once programming is complete, insert the switch seal behind Switch 2 (K-Factor switch) as shown in Figure 3.

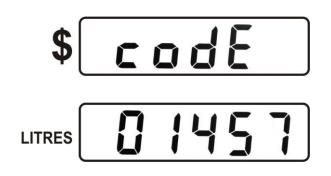


1 To Display the Software Version (read only)

a) To display the software version, enter level 2 the password. If the password has not been reset, press the 2 key six (6) times.



b) The software version will appear in the LITRES display panel.





2 To Display the Total Number of Litres Sold (read only)

 a) To display the total number of litres sold, first enter the level 1 password. If the password has not been reset, press the
 1 key six (6) times.







 b) The number of litres sold will be displayed on LITRES display panel





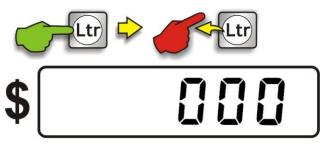
3 To Display the Total Value of Litres Sold (read only)

c) To display the total number of litres sold, first enter the level 1 password. If the password has not been reset, press the 1 key six (6) times



d) Press and release the **Ltr** key until the correct display appears.







e) The number of litres sold will be displayed on **LITRES** display panel





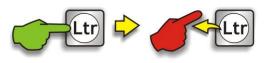
4 To Change the Current Price

a) To change the current price, first enter the level 2.
 Password. If the password has not been reset, press the
 2 key six (6) times.

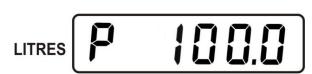


b) Press and release the **Ltr** key until the correct display appears.









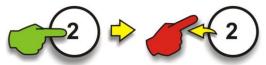
c) The current price will appear in the **LITRES** display panel.

- d) Press and release **Switch 2** on the

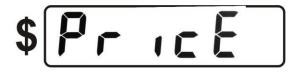
 Main Processor

 Board
- e) Next, press Clr 0-Clr to clear the current price.
- f) The **LITRES** display panel will display **P 100.0**
- g) Enter the new price using the keypad, e.g. **140**.









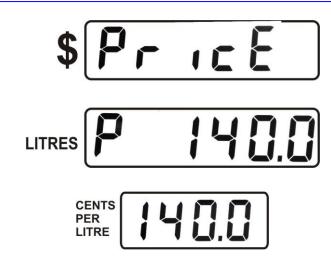






- h) The new price will be displayed on the LITRES display panel
- i) Wait 14 seconds for the unit to time out. The new price will the appear on the PRICE PER LITRE display panel.

Example shows 140.0 cents/litre.





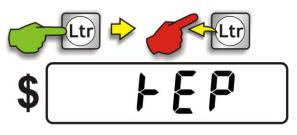
5 To Display the Temperature Setting (read only)

a) To display the current temperature setting, first enter the level 2.
 Password. If the password has not been reset, press the
 2 key six (6) times.

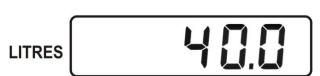


b) Press and release the **Ltr** key until the correct display appears.





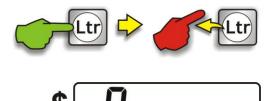
c) The temperature will be displayed on the LITRES display panel





To Change the Pump Number (Side A and Side B) 6

- To change the current pump number, first enter the level 2. Password. If the password has not been reset, press the 2 key six (6) times.
- OR LEVEL 2 PASSWORD
- b) Press and release the Ltr key until the correct display appears.
- PRESS AND RELEASE UNTIL CORRECT **DISPLAY APPEARS**



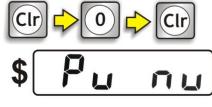
- The current pump number will be displayed on the LITRES display panel
- **LITRES**
- Press and release Switch 2 on the Main Processor **Board**

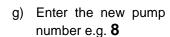
PRESS ONE TIME THEN RELEASE

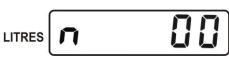
e) Next, press CIr - 0-**CIr** to clear the current pump number.



The **LITRES** display panel will read n 00.







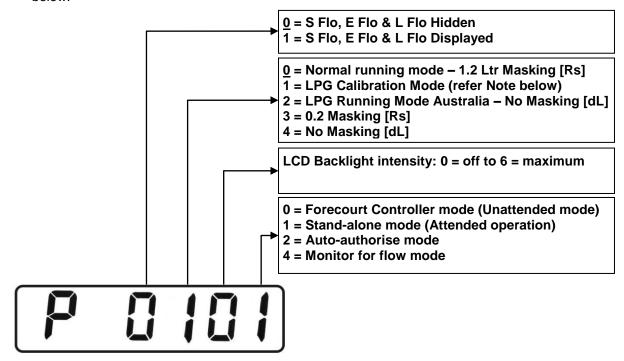
h) The new pump will number be displayed on the LITRES display panel





7 To Change Configuration p

Each digit in this configuration parameter controls an aspect of the systems operation as shown below.



NOTE

When the system is in LPG Calibration Mode the Value display will show non-compensated litres and the Price per Litre display will alternately show the temperature, density and flow rate.

- To change the setting first enter the level 2.
 Password
- b) If the password has not been reset, press the **2** key six (6) times.
- Press and release the Ltr key until the correct display appears.



PRESS AND RELEASE UNTIL CORRECT DISPLAY APPEARS



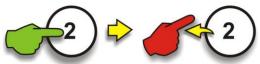


- \$ c F 9 P
- d) The current configuration will be displayed on the LITRES display panel
- LITRES P [2]
- e) Press and release **Switch 2** on the

 Main Processor

 Board
- PRESS ONE TIME THEN RELEASE





Clr to clear the current configuration.



g) Enter the new configuration, e.g. **200**



h) The new configuration will be displayed on the LITRES display panel



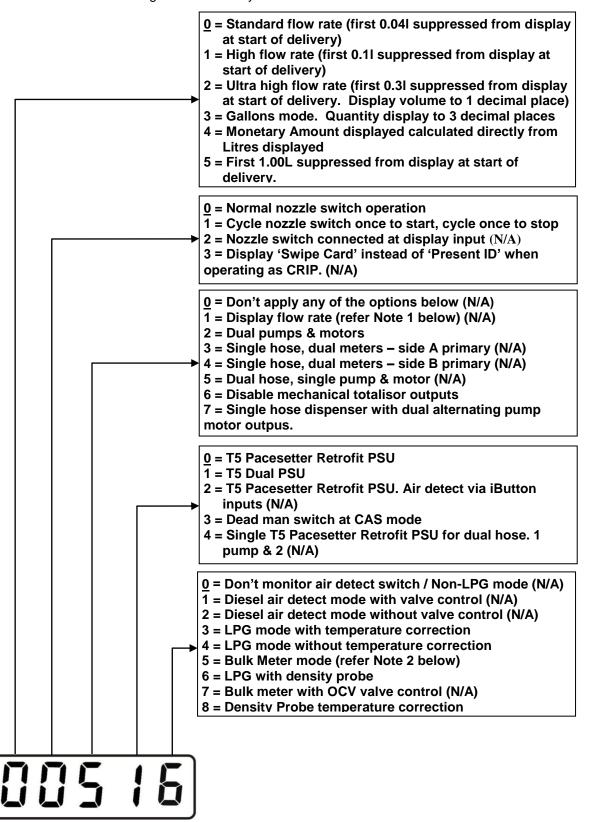






8 To View Configuration b

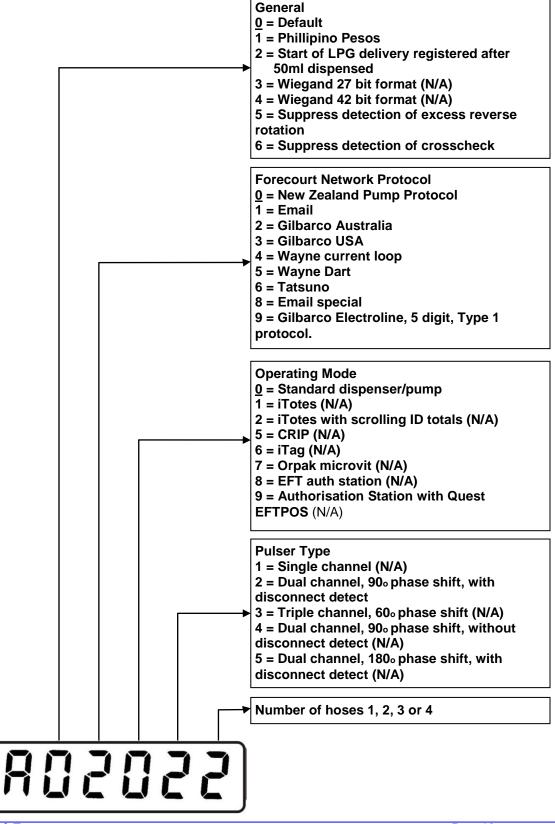
Each digit in this configuration parameter controls an aspect of the systems operation as shown below. This configuration is factory set and should not be altered.





9 To View Configuration A

Each digit in this configuration parameter controls an aspect of the systems operation as shown below. This configuration is factory set and should not be altered.





10 To Calibrate the Meter using the K-Factor

The K-Factor is used to calibrate the meter. It is a ratio of litres dispensed per revolution of the meter. To calibrate the dispenser/pump, dispense fuel into a certified measuring container and compare the displayed value with the amount dispensed.

For example:

Displayed volume: 10.00 litres Measured volume: 20.00 litres

Then, to calculate the correct K-Factor apply the formula below:

[New K-Factor] = [Existing K-Factor] x [Measured volume] [Displayed volume]

= [Existing K-Factor] $\times \frac{20.00}{10.00}$

= [Existing K-Factor] x 2

Change the existing K-Factor to this new value as follows:

 a) To view the current setting, first enter the level 3 password. If the password has not been reset, press the
 3 key six (6) times.



b) Press and release the **Ltr** key until the correct display appears.



PRESS AND RELEASE UNTIL CORRECT

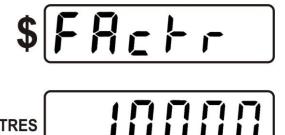




NOTE

This parameter will first be displayed on Side B, while the display on Side A will remain blank until the switch is pressed again, i.e. the parameter will only be shown in the display corresponding to the hose being configured

c) The current configuration will be displayed on the LITRES display panel



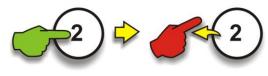


- d) Press and release **Switch 2** on the

 Main Processor

 Board
- e) Next, press Clr 0-Clr to clear the current configuration.
- f) Enter the new configuration, e.g. **0.8888**
- g) The new configuration will be displayed on the LITRES display panel

PRESS ONE TIME THEN RELEASE













11 To Change the LPG Density Setting

\wedge

NOTE

This parameter is only available in Temperature Correction Mode

- a) To view the current setting, first enter the level 3 password. If the password has not been reset, press the
 3 key six (6) times.
- b) Press and release the **Ltr** key until the correct display appears.



PRESS AND RELEASE UNTIL CORRECT DISPLAY APPEARS



- c) The current setting will be displayed on the **LITRES** display panel
- d) Press and release **Switch 2** on the

 Main Processor

Board

- e) Next, press **CIr 0**-**CIr** to clear the current configuration.
- f) Enter the new configuration, e.g. **510** (= 51.0)
- g) The new configuration will be displayed on the LITRES display panel.

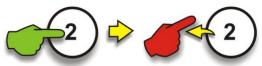


NOTE

The example shown is for propane gas.



PRESS ONE TIME THEN RELEASE









LITRES 5 10. 1



To Display the Cause of Delivery End (Read Only)

This parameter shows why the last delivery ended, as per the table below.

Text Displayed	Explanation			
nd	A delivery has not yet occurred since the system was powered on.			
HoSE	Nozzle stowed.			
Fcc	Forecourt controller stopped the delivery.			
S Flo	Start flow timer expired.			
E Flo	End flow timer expired.			
PrESEt	Stopped at preset amount.			
toP	Delivery quantities reached maximum amount able to be displayed.			
Error	An error occurred during delivery			
Pd	Pulser disconnected.			
dEn	LPG density outside of range.			
tEP	LPG temperature outside of range.			
cAL	Calibration "K" factor below 0.01.			

- a) To view the current setting, first enter the level 3 password. If the password has not been reset, press the
 3 key six (6) times.
- b) Press and release the **Ltr** key until the correct display appears.



PRESS AND RELEASE UNTIL CORRECT DISPLAY APPEARS





 c) The code will be displayed on the LITRES display panel





12 To Change the Price Resolution

This parameter sets the number of decimal places for the Unit Price parameter. It can be set to 0, 1, 2 or 3. As the parameter is changed, the Unit Price (price per litre) display will show zeros with the decimal place in the appropriate location as will the Price display. The default value is 3.

- a) To view the current setting, first enter the level 3 password. If the password has not been reset, press the
 3 key six (6) times.
- b) Press and release the **Ltr** key until the correct display appears.



PRESS AND RELEASE UNTIL CORRECT DISPLAY APPEARS



c) The current setting will be displayed on the **LITRES** display panel



NOTE

This setting (r4) is used where the price is displayed in CENTS PER LITRE

- d) Press and release **Switch 2** on the

 Main Processor

 Board
- e) Next, press **CIr 0**-**CIr** to clear the current configuration.
- f) Enter the new configuration, e.g. **1**





PRESS ONE TIME THEN RELEASE

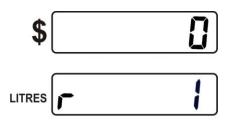






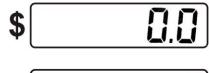


- g) The new configuration will be displayed on the LITRES display panel.
- h) The current number of decimal places will be shown in the PRICE PER LITRE panel.
- i) Or, to change the setting to 2 decimal places, press 2.
- j) The new configuration will be displayed on the LITRES display panel.
- k) The current number of decimal places will be shown in the PRICE PER LITRE panel.
- I) To change the setting to 3 decimal places, press 3.
- m) The new configuration will be displayed on the LITRES display panel.
- n) The current number of decimal places will be shown in the PRICE PER LITRE panel.























13 To Change the Pre-set Cut-off

The Preset cut-off parameter only applies during preset deliveries. It is the amount of litres prior to attaining the preset at which the dispenser will switch from full flow to low flow.

The range of this parameter is 0.00-9.99 litres inclusive. A setting of 0.00 will result in a cut-off margin of 0.32 litres. The default setting is 0.40.

 a) To view the current setting, first enter the level 3 password. If the password has not been reset, press the
 3 key six (6) times.

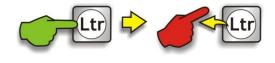


- b) Press and release the **Ltr** key until the correct display appears.
- c) The current setting will be displayed on the **LITRES** display panel
- d) Press and release **Switch 2** on the

 Main Processor

 Board
- e) Next, press **CIr 0**-**CIr** to clear the current configuration.
- f) Enter the new configuration, e.g. **50**
- g) The new configuration will be displayed on the LITRES display panel.

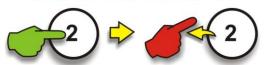








PRESS ONE TIME THEN RELEASE









LITRES - CO.50



14 To Change the Start-flow Timeout

The Start-flow timeout is the length of time that the dispenser will wait for flow to start after the nozzle has been lifted. If this time limit is exceeded then the delivery will finish and the nozzle must be stowed before another delivery can commence.

The range of this parameter is 000-999 seconds inclusive. A setting of 000 will result in a timeout of 4 minutes. The default setting is 000.

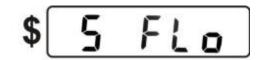
 a) To view the current setting, first enter the level 3 password. If the password has not been reset, press the
 3 key six (6) times.



 b) Press and release the Ltr key until the correct display appears.

PRESS AND RELEASE UNTIL CORRECT DISPLAY APPEARS







- c) The current setting will be displayed on the **LITRES** display panel
- d) Press and release **Switch 2** on the

 Main Processor

 Board
- e) Next, press **CIr 0**-**CIr** to clear the current configuration.
- f) Enter the new configuration, e.g. **000**
- g) The new configuration will be displayed on the LITRES display panel.

PRESS ONE TIME THEN RELEASE













15 To Change the Minimum Flowrate

The system will stop the delivery if three times during the delivery the flow rate drops below this value for at least 10 seconds. The display will also flash the 'no FLo' error message.

The range of this parameter is 000-999 litres/minute inclusive. The default setting is 02.0.

- a) To view the current setting, first enter the level 3 password. If the password has not been reset, press the
 3 key six (6) times.
- b) Press and release the **Ltr** key until the correct display appears.



PRESS AND RELEASE UNTIL CORRECT DISPLAY APPEARS







- c) The current setting will be displayed on the **LITRES** display panel
- d) Press and release **Switch 2** on the

 Main Processor

 Board
- e) Next, press **CIr 0**-**CIr** to clear the current configuration.
- f) Enter the new configuration, e.g. **20** which will change the setting to 2.0 litres
- g) The new configuration will be displayed on the LITRES display panel.

PRESS ONE TIME THEN RELEASE









LITRES L BB.



16 To Change the Delivery Start Delay

THIS FUNCTION HAS BEEN REMOVED. FOR EARLY VERSION SOFTWARE SET TO 0.0

The Delivery Start Delay is the time taken before delivery will start after the LPG density comes into range.

- a) To view the current setting, first enter the level 3 password. If the password has not been reset, press the
 3 key six (6) times.
- b) Press and release the **Ltr** key until the correct display appears.



PRESS AND RELEASE UNTIL CORRECT DISPLAY APPEARS







- c) The current setting will be displayed on the LITRES display panel
- d) Press and release **Switch 2** on the

 Main Processor

 Board
- e) Next, press CIr 0-CIr to clear the current configuration.
- f) Enter the new configuration
- g) The new configuration will be displayed on the LITRES display panel.















17 To Change the Density Error Display

The Density Error is the time that LPG density needs to be out of range before an error message is displayed.

- a) To view the current setting, first enter the level 3 password. If the password has not been reset, press the
 3 key six (6) times.
- b) Press and release the **Ltr** key until the correct display appears.



PRESS AND RELEASE UNTIL CORRECT DISPLAY APPEARS







- c) The current setting will be displayed on the **LITRES** display panel
- d) Press and release **Switch 2** on the

 Main Processor

 Board
- e) Next, press **CIr 0**-**CIr** to clear the current configuration.
- f) Enter the new configuration, e.g. **20**
- g) The new configuration will be displayed on the LITRES display panel.















18 To Change the Solenoid Delay

The Solenoid Delay is the period of time taken until density comes into range and delivery commences. If this period is greater than 40 seconds a density error will be displayed. The available range is 0 to 99 seconds.

When only temperature probe is used The Solenoid Delay is the period of time taken until delivery commences.

- a) To view the current setting, first enter the level 3 password. If the password has not been reset, press the
 3 key six (6) times.
- b) Press and release the **Ltr** key until the correct display appears.



PRESS AND RELEASE UNTIL CORRECT DISPLAY APPEARS

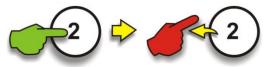






- c) The current setting will be displayed on the **LITRES** display panel
- d) Press and releaseSwitch 2 on theMain ProcessorBoard
- e) Next, press **CIr 0**-**CIr** to clear the current configuration.
- f) Enter the new configuration, e.g. **20**



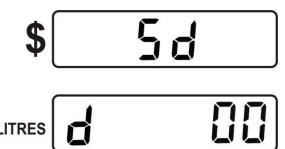








g) The new configuration will be displayed on the LITRES display panel.





SECTION C: TROUBLE SHOOTING

1 Fatal Error Codes

Displayed Error Msg.		Fault	Action	
Err	11	Excess pulses detected on either pulser channel.	Pulse channel detector may have failed.	
Err	12	Excess pulser reverse rotation.	Non-return valve may be faulty.	
Err	16	Pulser disconnected.	Check pulser connections.	
Err	17	Illegal pulser state or state transition.	Check pulser. Channel may have failed or excess rotation speed may have occurred.	
Err 34 Processor Silicon Serial device not detected.		Processor Silicon Serial Number device not detected.	SSN IC is damaged or missing. Processor may require replacement.	
Err	35	EEPROM data error.	Re-enter configuration data. If error reoccurs replace Processor board.	
Err	36	EEPROM totals data error.	Re-power system. If error reoccurs replace Processor board.	
Err	38	Flash memory error.	Replace Processor board.	
Err	39	EEPROM failure.	EEPROM not responding. Replace processor board.	
Err	80	PSU Expansion Card offline.	Check connections to PSU Expansion card.	
Err	84	Temperature Probe Interface Card offline.	Check TBus power. Check connections to Temperature IFC. Check power supply board fuses.	
Err	Err 88 Data message response from Display board not detected.		Check TBus power. Check connections to Display board.	
Err	Err 89 Display board not detecting data message from processor.		Check TBus power. Check connections to Display board. Check power supply board fuses.	



2 Non-Fatal Error Codes

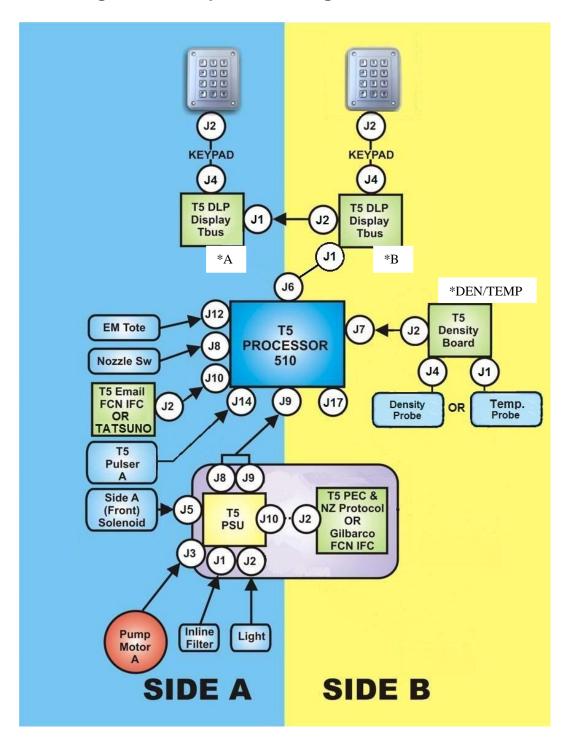
The following errors are classified as non-fatal and either clear after a short timeout or do not prevent another delivery from starting:

Displayed Error Msg.	Fault	Action	
AGAin	ID was not correctly read.	Present ID again. If error keeps reoccurring then check the connections to the Reader and replace Reader if necessary.	
		The x in the error message is a code indicating the reason the ID was rejected. Possible reasons are:	
		expired ID	
		invalid ID	
		wrong ISO and/or Access No	
x	ID rejected.	Pre-allocated dollar limit reached.	
		Limit reached	
		ID already in use	
		Expired timer	
		Invalid function code	
		System error	
Err 19	The air detect switch has closed during delivery*.	Check for possible sources of air introduction in pumping components.	
dEn	LPG density is out of range	If there is a real-time density probe attached, check for faults or check LPG. If using static density parameter, check the value it is set to.	
tEP	LPG temperature is out of range	If there is a real-time temp probe attached, check for faults or check LPG. If using a static temp parameter, check the value it is set to.	



SECTION D: DISPENSER WIRING CONFIGURATION

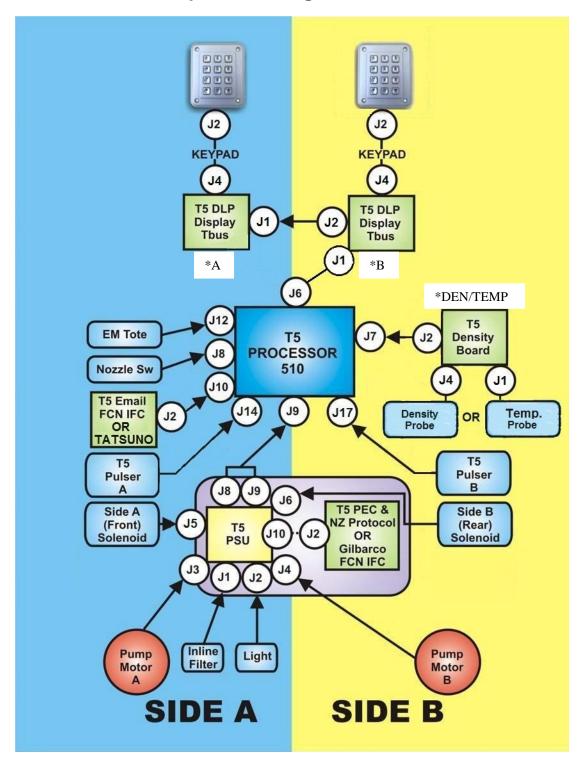
1. Single Hose Dispenser Configuration



Switch Settings:						
*A	ON	*DEN/TEMP (For Density Probe)	ON 1 2 3 4			
*B	ON	*DEN/TEMP (For Temp. Probe)	ON 1 2 3 4			



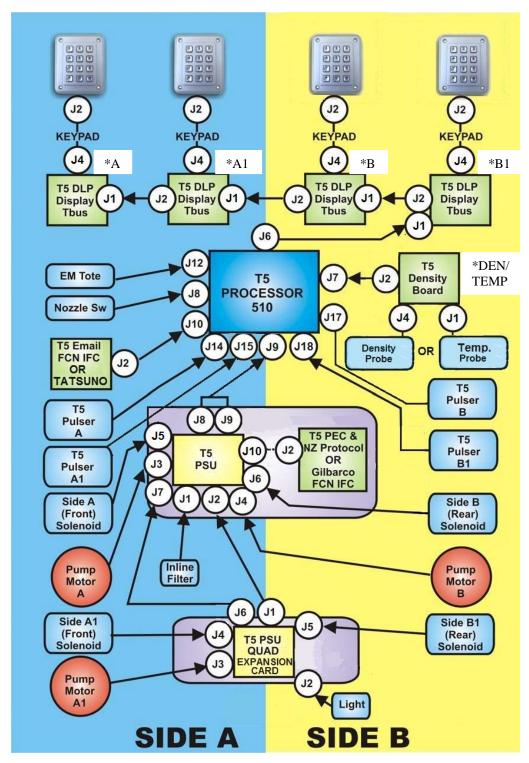
2. Dual Hose Dispenser Configuration



Switch Settings:						
*A	ON 1 2	*DEN/TEMP (For Density Probe)	ON 1 2 3 4			
*B	ON	*DEN/TEMP (For Temp. Probe)	ON 1 2 3 4			



3. Quad Hose Dispenser Configuration



	Switch Settings:						
*A	ON 1 2	*B	ON 1 2	*DEN/TEMP (For Density Probe)	ON 1 2 3 4		
*A1	ON 1 2	*B1	ON	*DEN/TEMP (For Temp. Probe)	ON 1 2 3 4		