C5000 AdBlue Kit Installation Manual
Version 1.0.2

Model:C5000 AdBlue Tank Kits
Date: 08th January 2021

Conditions of Use

- Read this manual completely before working on, or making adjustments to, the Compac equipment.
- Compac Industries Limited accepts no liability for personal injury or property damage resulting from working on or adjusting the equipment incorrectly or without authorization.
- Along with any warnings, instructions, and procedures in this manual, you should also observe any other common sense procedures that are generally applicable to equipment of this type.
- Failure to comply with any warnings, instructions, procedures, or any other common sense procedures may result in injury, equipment damage, property damage, or poor performance of the Compac equipment.
- The major hazard involved with operating the Compac C5000 processor is electrical shock. This hazard can be avoided if you adhere to the procedures in this manual and exercise all due care.
- Compac Industries Limited accepts no liability for direct, indirect, incidental, special, or consequential damages resulting from failure to follow any warnings, instructions, and procedures in this manual, or any other common sense procedures generally applicable to equipment of this type. The foregoing limitation extends to damages to person or property caused by the Compac C5000 processor, or damages resulting from the inability to use the Compac C5000 processor, including loss of profits, loss of products, loss of power supply, the cost of arranging an alternative power supply, and loss of time, whether incurred by the user or their employees, the installer, the commissioner, a service technician, or any third party.
- Compac Industries Limited reserves the right to change the specifications of its products or the information in this manual without necessarily notifying its users.

- Variations in installation and operating conditions may affect the Compac C5000 processor's performance. Compac Industries Limited has no control over each installation's unique operating environment. Hence, Compac Industries Limited makes no representations or warranties concerning the performance of the Compac C5000 processor under the actual operating conditions prevailing at the installation. A technical expert of your choosing should validate all operating parameters for each application.
- Compac Industries Limited has made every effort to explain all servicing procedures, warnings, and safety precautions as clearly and completely as possible. However, due to the range of operating environments, it is not possible to anticipate every issue that may arise. This manual is intended to provide general guidance. For specific guidance and technical support, contact your authorised Compac supplier, using the contact details in the Product Identification section.
- Only parts supplied by or approved by Compac may be used and no unauthorised modifications to the hardware of software may be made. The use of non-approved parts or modifications will void all warranties and approvals. The use of non-approved parts or modifications may also constitute a safety hazard.
- Information in this manual shall not be deemed a warranty, representation, or guarantee. For warranty provisions applicable to the Compac C5000 processor, please refer to the warranty provided by the supplier.
- Unless otherwise noted, references to brand names, product names, or trademarks constitute the intellectual property of the owner thereof. Subject to your right to use the Compac C5000 processor, Compac does not convey any right, title, or interest in its intellectual property, including and without limitation, its patents, copyrights, and know-how.
- Every effort has been made to ensure the accuracy of this document. However, it may contain technical inaccuracies or typographical errors. Compac Industries Limited assumes no responsibility for and disclaims all liability of such inaccuracies, errors, or omissions in this publication.

Document Control

Document Information	
Manual Title	C5000 AdBlue Tank Kit Installation Manual
Current Revision Author(s)	V Amarakoon
Original Publication Date	05/11/20
Authorised By	W Zheng

Revision History			
Version	Date	Author(s)	Revision Notes
1.0.0	05/11/2020	V Amarakoon	New Manual
1.0.1	25/11/2020	V Amarakoon	Updated Error Messages Added Slave Display Configuration
1.0.2	08/01/2021	V Amarakoon	Updated terminal board connections Added error 16

Manufactured By:

The Compac C5000 AdBlue dispenser is designed and manufactured by Compac Industries Limited
52 Walls Road, Penrose, Auckland 1061, New Zealand
P.O. Box 12-417, Penrose, Auckland 1641, New Zealand
Phone: + 64 9 579 2094
Fax: + 64 9 579 0635
Email: techsupport@compac.co.nz
www.compac.biz

Contents

Introduction

This manual contains specific instructions relating to installing AdBlue kits. For the servicing and other information relating to non-AdBlue specific components refer to the Compac C5000 Master Manual.

Static Electricity Precautions

Electronic components used are sensitive to static electricity. Please take anti-static precautions.

An anti-static wrist strap should be worn and connected correctly when working on any electronic equipment. If an anti-static wrist strap is unavailable, or in an emergency, hold onto an earthed part of the pump/dispenser frame whilst working on the equipment. This is not a recommended alternative to wearing an anti-static wrist strap.

NOTE: Compac Industries Limited reserves the right to refuse to accept any circuit boards returned, if proper anti-static precautions have not been taken.

Pre-installation Check

Once the pump is received on site, check that no damage has occurred while in transit – in particular, damage to electronics due to vibration or jarring. All terminals and plugs should be checked, including IC chips to ensure they are securely in place.

Pump Specifications

The AdBlue supply pump must be Adblue compatible. It must either have flooded suction or be fitted with an air separation device to eliminate air prior to the dispenser.

Ensure the supply pump pressure does not exceed the rated pressure of the nozzle.

Refer to the diagram below:

Adblue Flowrate vs Pressure without Nozzle
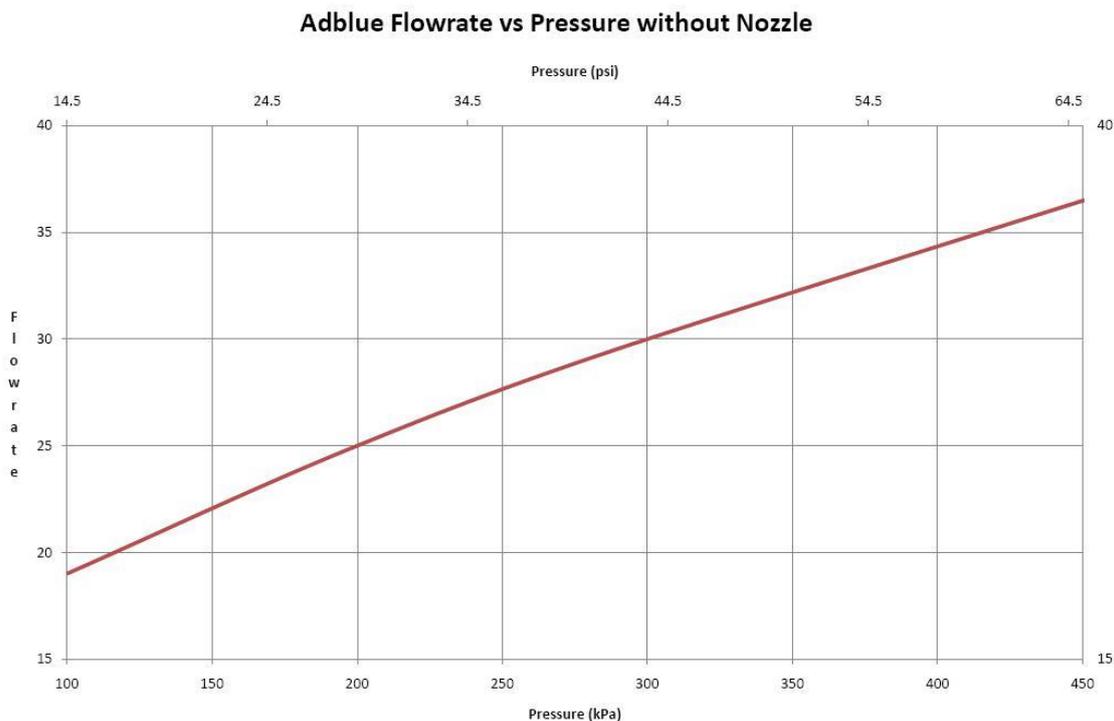
NOTE: Pumps must be rated for AdBlue.

Electrical Requirements

Power cable: 3 Core Steel Wire Armour Cable 2.5mm^2

Core 1: 230 Volt Supply (Active). **Core 2:** Neutral. **Core 3:** Earth.

Dispenser power requirements: 220 - 240 Volts. 50 Hz, +/-10%

Current draw: 25W Idle, 200W with all solenoids active.

Communications cable: 2 Core Steel Wire Armour Cable 1.5 mm2. Maximum cable length 100 m. 12 V current loop. For connecting to controller or other dispensers (option).

Submersible pump(s): Suitable cable for 230V solenoid switching current. 300mA maximum load. Do not wire submersible pumps directly to C5000 Terminal Board .

Prior to pump installation, ensure that there is at least a two-metre tail on all cables.
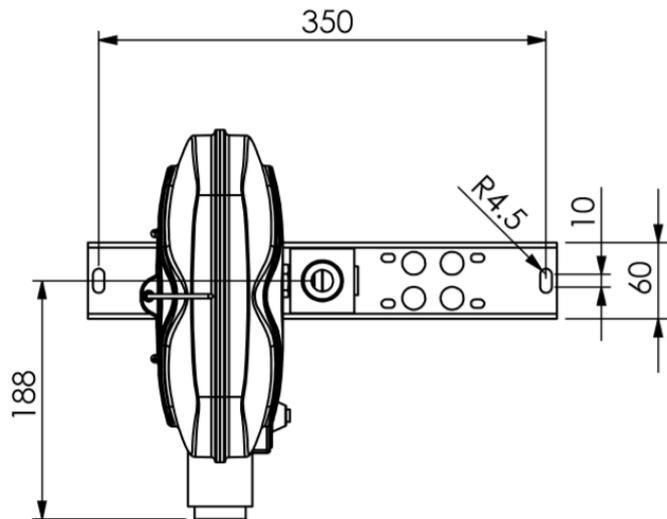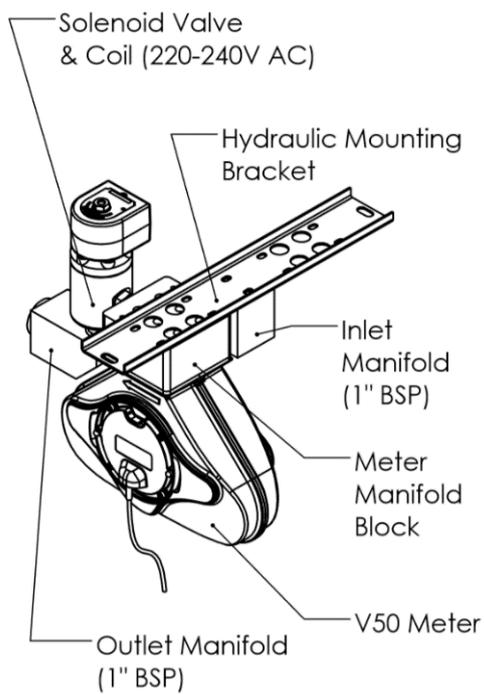
Dispensing Hoses and Nozzles

If customer supplied hose assemblies, pylons, reels, safe breaks and nozzles are used they must comply with the requirements outlined in AS/NZS 2229. All hoses, nozzles and fittings that come in contact with AdBlue must be compatible with it. All dispenser nozzles must trip shut when returned to the nozzle holder.

Generator Power

The power output from onsite generators can cause power spikes that may damage electrical components within the cabinet. When connecting to sites powered by generators, please take the following precautions:

1. Install a power conditioner. Although generators are fitted with power regulators, most are not filtered sufficiently for powering sensitive electrical components. We recommend installing a commercial power conditioner and/or UPS between the generator and the unit.
2. Before starting a generator, make sure the power to the unit is turned off.
3. Start the generator, let the generator reach stable operating speed and wait 30 seconds before reconnecting the power to the unit.
4. For units where the generator starts and stops on demand, install a delay timer or PLC to automatically isolate the unit until the operating speed and consistent power output is achieved.
5. Isolate the unit before shutting down the generator.

Installation

Solenoid Valve
& Coil (220-240V AC)

Hydraulic Mounting
Bracket

Inlet
Manifold
(1" BSP)

Meter
Manifold
Block

V50 Meter

Outlet Manifold
(1" BSP)
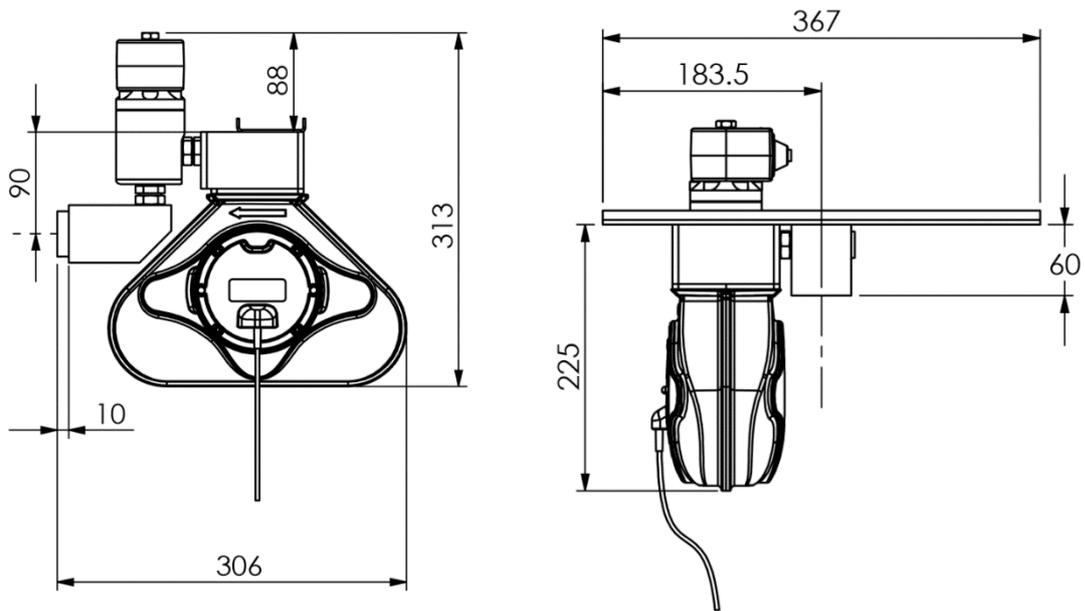
IMPORTANT: The "V50 DEF Module" must be mounted in a "horizontal" orientation (as shown), to ensure correct operation.

NOTE: *Consider the limited length of the cables on the Meter and Solenoid*

The drawings shown are for single units. For dual units, the solenoid and outlet are separated and connected to the meter assembly with a tube.

Installation instructions are as follows:

1. Mount the V50 Module assembly. Ensure that the meter is in the correct orientation by checking the 'In' and 'Out' print on the base of the meter. The meter must be installed in a horizontal orientation.

2. Connect the pump to the Inlet Manifold (1" BSP thread) shown above in the meter manifold diagram.

3. Connect the nozzle hose to the Outlet Manifold (1" BSP thread) shown above in the meter manifold diagram.

4. Mount the C5000 Processor Box. It is recommended to mount the bracket without the lid initially, so that connections can be brought into the processor box. Ensure the bracket is mounted with a minimum of 12mm clearance above the bracket so that the lid can be fitted.

5. Mount the Flameproof Box. Note the box has four 105x185 mounting holes on the bottom of the casing (M6 thread). A bonding wire is attached to the flameproof box for earthing requirements.

6. Mount the DCA unit using mounting holes and glanding found on the bottom of the unit.

7. Connect the nozzle to the microswitch. If this is supplied, it must be mounted first.

Typical Wiring

Electrical cables are terminated at the C5000 Power Supply terminal board, which is housed in the Flameproof Enclosure. The incoming cables are terminated as shown in the following picture. Single hose uses only the pump side A connection. Pump Comm's connections are only used when the dispenser is communicating to a site controller.

NOTE: *Output to pump(s) goes to the pump contactor, not directly to the pump wiring.*

Terminal Board
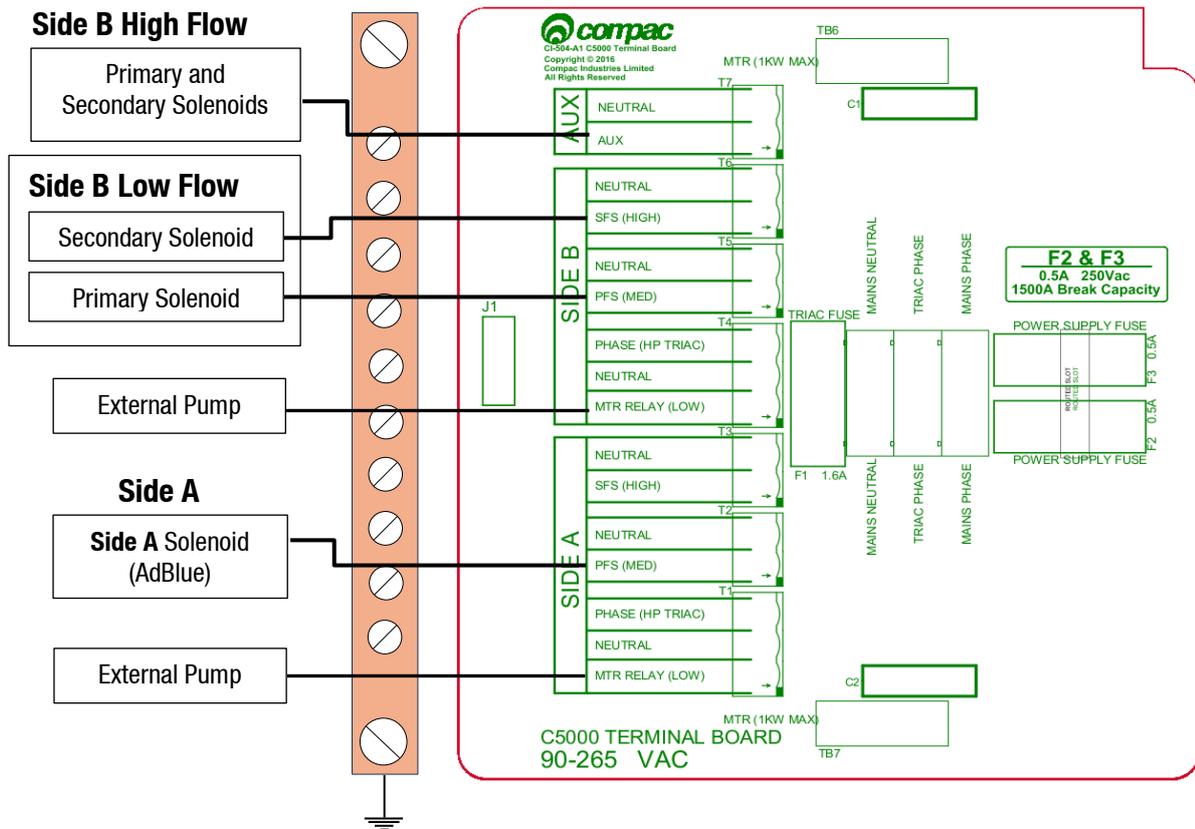
Processor Board

Power Supply PCBs

Flameproof box
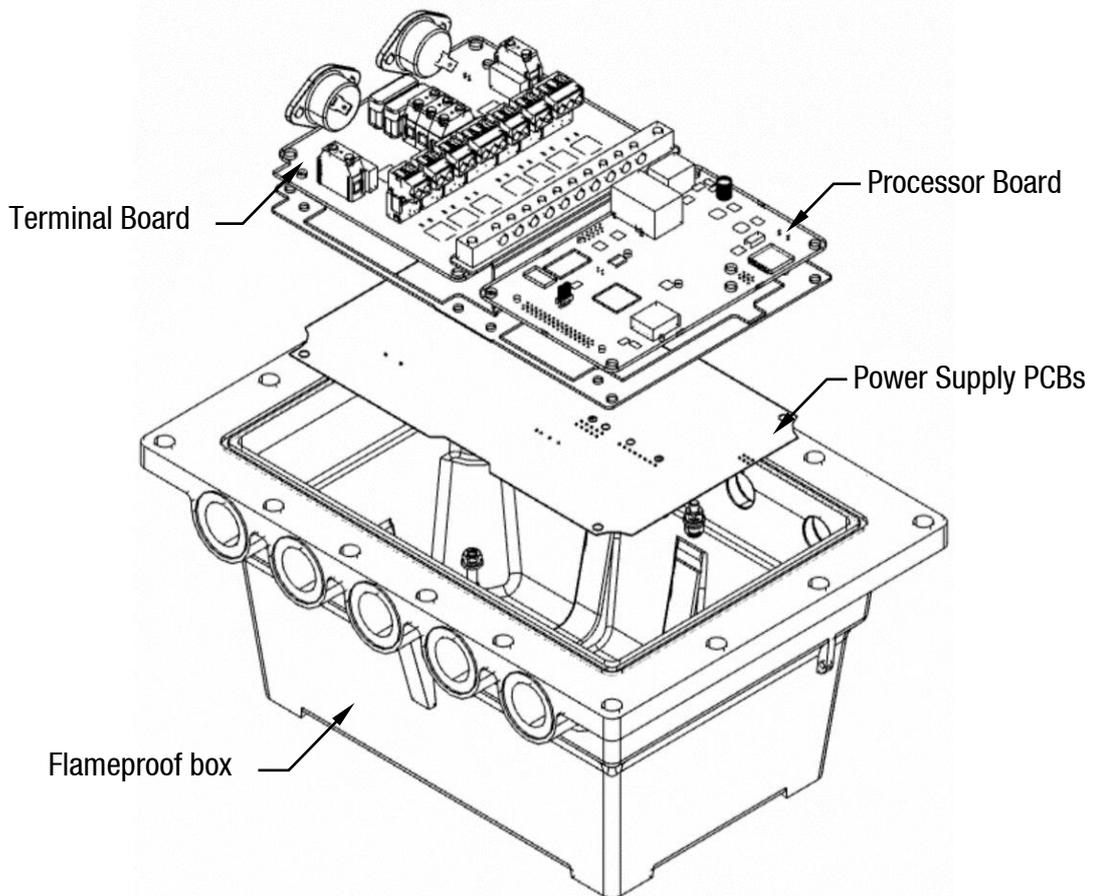
Terminal Board Connections

When using the C5000 electronics for dispenser application, as well as connecting the incoming mains, the external pump contactors will have to be connected to the terminal board.

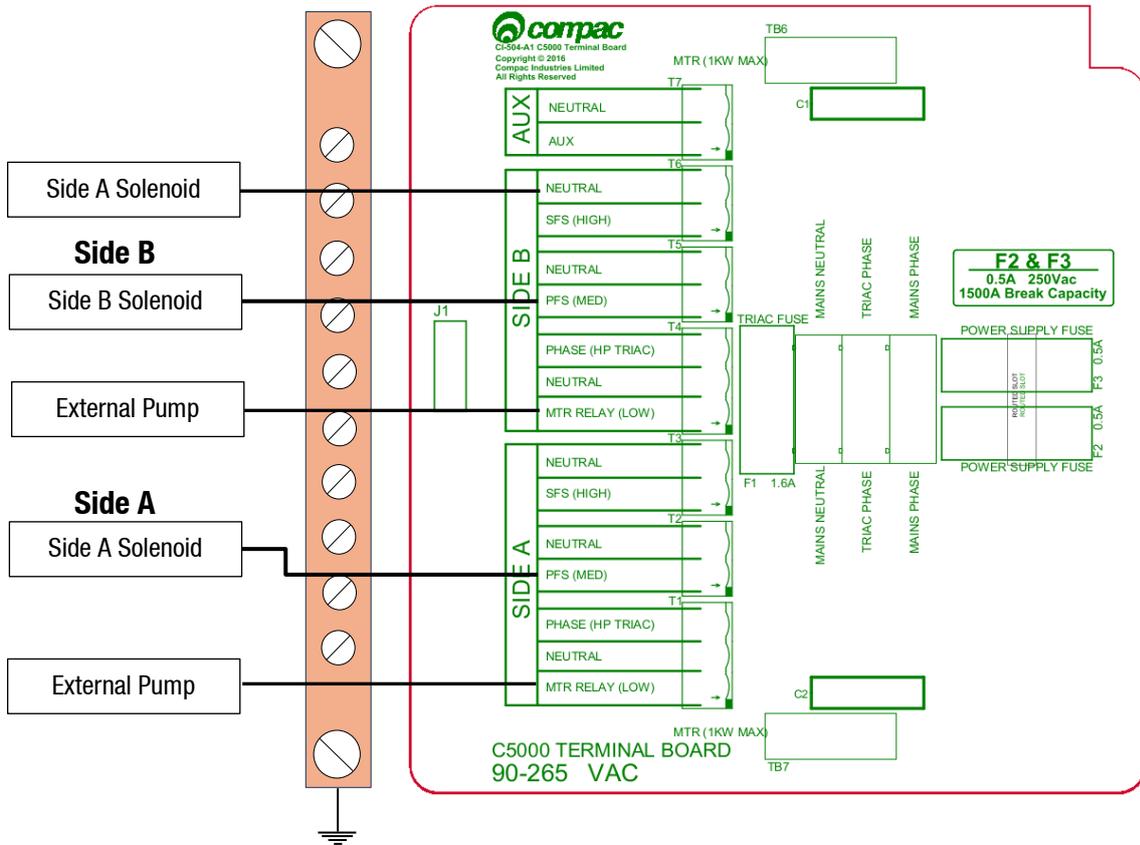Solenoids for side A and B can be wired in if preset and prepay options are desired.

MMA30-160STK

MMA30STK

compac
CI-504-A1 C5000 Terminal Board
Copyright © 2016
Compac Industries Limited
All Rights Reserved

TB6
MTR (1KW MAX)
C1
T7

AUX
NEUTRAL
AUX
T6

Side A Solenoid

NEUTRAL
SFS (HIGH)
T5

Side B
Side B Solenoid

SIDE B
NEUTRAL
PFS (MED)
T4

J1

PHASE (HP TRIAC)
NEUTRAL

External Pump

MTR RELAY (LOW)
T3

NEUTRAL
SFS (HIGH)
T2

Side A
Side A Solenoid

SIDE A
NEUTRAL
PFS (MED)
T1

PHASE (HP TRIAC)
NEUTRAL

External Pump

MTR RELAY (LOW)

TRIAC FUSE
F1   1.6A

MAINS NEUTRAL   TRIAC PHASE   MAINS PHASE

F2 & F3
0.5A   250Vac
1500A Break Capacity

POWER SUPPLY FUSE
ROUTINE SLOT / RESTED SLOT
F3   0.5A
F2   0.5A
POWER SUPPLY FUSE

MAINS NEUTRAL   TRIAC PHASE   MAINS PHASE

C2
MTR (1KW MAX)
TB7

C5000 TERMINAL BOARD
90-265   VAC

MA30STK

compac
CI-504-A1 C5000 Terminal Board
Copyright © 2016
Compac Industries Limited
All Rights Reserved

TB6
MTR (1KW MAX)
C1
T7

AUX
NEUTRAL
AUX
T6

NEUTRAL
SFS (HIGH)
T5

SIDE B
NEUTRAL
PFS (MED)
T4

J1

PHASE (HP TRIAC)
NEUTRAL
MTR RELAY (LOW)
T3

NEUTRAL
SFS (HIGH)
T2

Side A
Side A Solenoid

SIDE A
NEUTRAL
PFS (MED)
T1

PHASE (HP TRIAC)
NEUTRAL

External Pump

MTR RELAY (LOW)

TRIAC FUSE
F1   1.6A

MAINS NEUTRAL   TRIAC PHASE   MAINS PHASE

F2 & F3
0.5A   250Vac
1500A Break Capacity

POWER SUPPLY FUSE
ROUTINE SLOT / RESTED SLOT
F3   0.5A
F2   0.5A
POWER SUPPLY FUSE

MAINS NEUTRAL   TRIAC PHASE   MAINS PHASE

C2
MTR (1KW MAX)
TB7

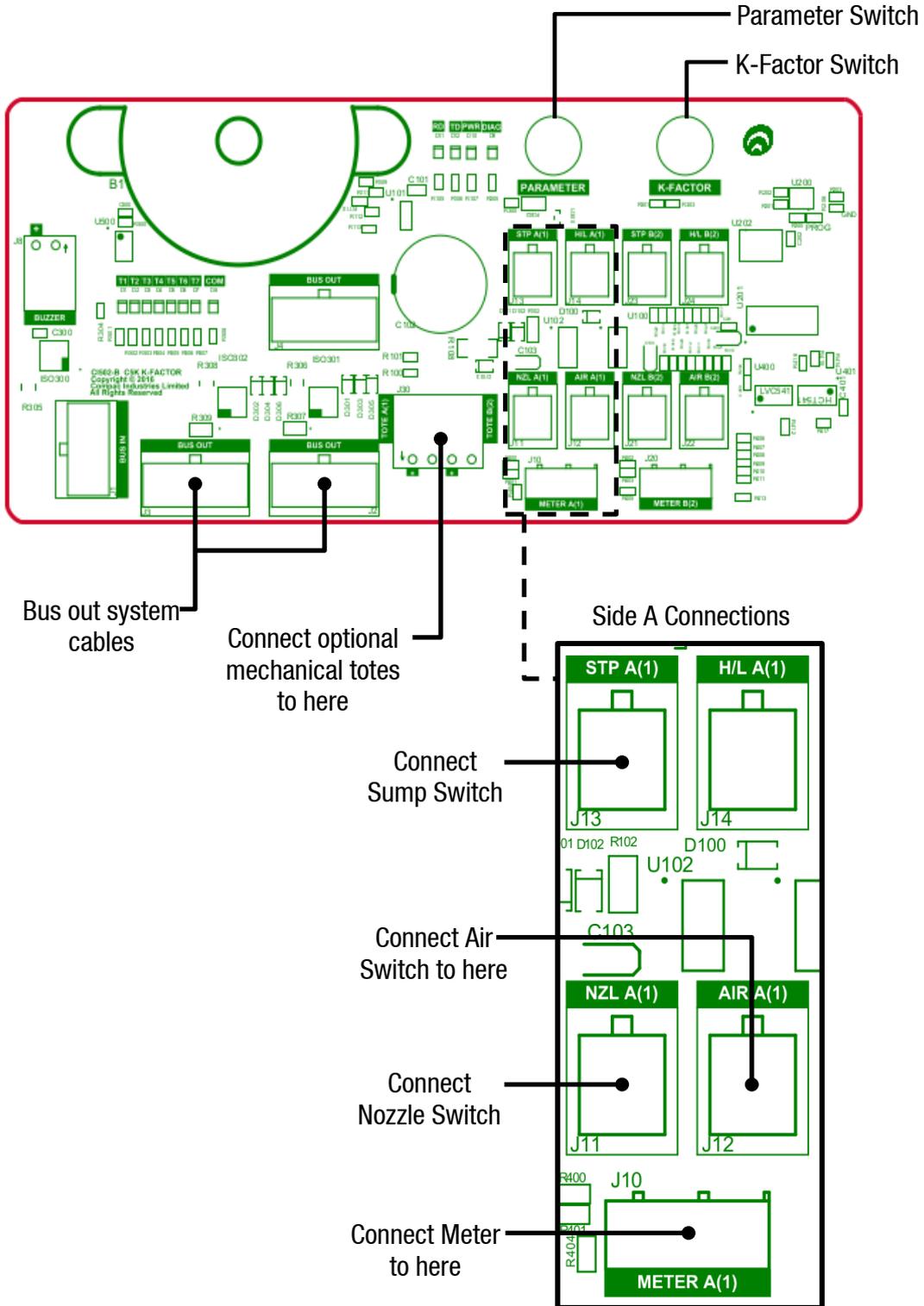C5000 TERMINAL BOARD
90-265   VAC

K-Factor Board

Both the Parameter switch and K-Factor switch are found on the K-Factor board. Meters and air switches are also connected to this board. See below for the location of these.

Parameter Switch

K-Factor Switch

Bus out system cables

Connect optional mechanical totes to here

Side A Connections

Connect Sump Switch

Connect Air Switch to here

Connect Nozzle Switch

Connect Meter to here

10.

Setting up the C5000

K-Factor Settings

The settings that can be accessed from the K-Factor switch are shown below. Not all of these will need to be changed during installation, therefore information on the following pages refers only to the settings that must be changed. Once the pump has been installed, if further customisation of the unit is desired, refer to the C5000 Manual.

Setting	Price display	Litres display
Dispenser settings. These are set in the factory and should not be changed.	b̄Ᾱ or bb	Set to 1000 to inhibit standalone operation, (use *** 1 for purge mode)
Meter ID	id-Ᾱ or id-b	******
Temperature calibration	E-Ᾱ or E-b	***.
Density calibration	d15-Ᾱ or d15-b	****.
Maximum flow		9Ᾱ **** or 9b ****
K-Factor	FᾹ or Fb	*******.
Dispenser setting	c-Ᾱ or c-b	*****4* for V50 meter , ******4 for AdBlue
Solenoid delay		SdᾹ *** or Sdb ***
b Setting		b ****
Slave display		dS ****
Preset rounding		PrLᾹ*** or PrLb*** PrHᾹ*** or PrHb***
Flow time out		n-Ᾱ *** or n-b ***

Changing the K-Factor

The K-Factor is used to calibrate product flow. It is a ratio of litres dispensed per revolution of the meter. The K-Factor may need to be calibrated after periods of time. To calibrate the pump, dispense fuel into a certified measuring container and compare the display value with the one dispensed.

Example:

Display shows 10.00   True volume 20.00

To calculate the correct K-Factor from the information above; firstly, record the existing K-Factor.

$$New\ K\ Factor = Existing\ K\ Factor * \frac{Dispensed\ Amount}{Displayed\ Amount}$$

$$= Existing\ K\ Factor * \frac{20}{10}$$

$$= Existing\ K\ Factor * 2$$

To change the K-Factor, depress the K-Factor switch repeatedly until the following display is shown. To increment a digit, press and hold the parameter switch when the desired digit is flashing. Repeat this procedure for side B if applicable.

```
        FA
    00 1.0000
```

Submersible Delay (Sd)

This is the time delay from when the submersible pump starts to when the solenoids in the dispenser open to allow time for the leak detector to reset.

This is factory set by Compac at 005 (five seconds).

If problems are experienced with the leak detector tripping, firstly check that the solenoid delay is still set and then, if necessary, make it longer as follows.

To change the solenoid delay, depress the K-Factor switch repeatedly until the following display is shown. To increment a digit, press and hold the parameter switch when the desired digit is flashing. Repeat this procedure for side B if applicable.

```
SdA    005
```

Changing the V50 Meter ID

All V50 meters have a specific ID which must match the ID recorded in the dispenser settings. This is a 6-digit number which can be found on the meter.

If the IDs do not match, the dispenser will return an error.

See Using the Dispenser Menus to edit these settings. Use the procedure for both side A and B.
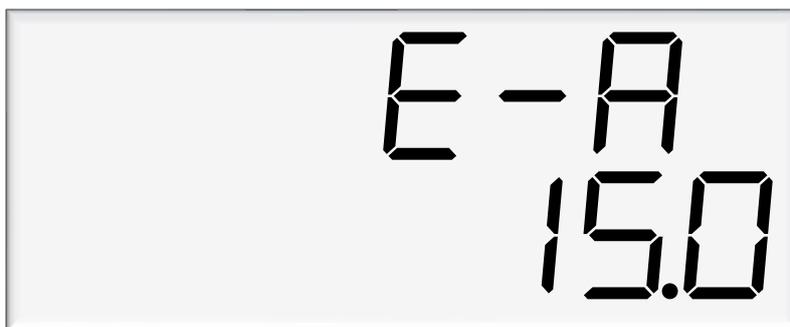
```
id-A
802060
```

As meter IDs are only relevant for V50 operation, this option will not show if the meter is not set to V50. Therefore, it will not be shown for hoses dispensing diesel.

Changing the Temperature Calibration

The temperature calibration can be used to adjust the temperature being retrieved from the meter, if this is not the actual temperature of the product being dispensed. The actual temperature of product being dispensed should be entered in this menu. This will be used to adjust new temperatures returned from the meter.

See Using the Dispenser Menus to edit these settings. Use the procedure for both side A and B.

```
E-A
 15.0
```

As only V50 meters return temperature readings, this option is only for V50 operation and will not appear if the meter is not set to V50. Therefore, it will not be shown for hoses dispensing diesel.

Changing the Density Calibration

The density calibration can be used to adjust the density being retrieved from the meter, if this is not the actual density of the product being dispensed. The actual density of product at 15 °C being dispensed should be entered in this menu. This will be used to adjust new densities returned from the meter.
See Using the Dispenser Menus to edit these settings. Use the procedure for both side A and B.

```
d 15-A
 997.0
```

As only V50 meters return density readings, this option is only for V50 operation and will not appear if the meter is not set to V50. Therefore, it will not be shown for hoses dispensing diesel.

Changing the Slave Display Configuration

Slave displays can be configured as, a clone of the main display, to show side A, or to show side B. Otherwise, it can be disabled. Slave display configuration is a two-step process.

1. Change dS setting to assign a side to the slave display
2. Assign the correct number to the slave display by changing the slave display board dip switches.

Slave display 4
Slave display 3
Slave display 2
Slave display 1
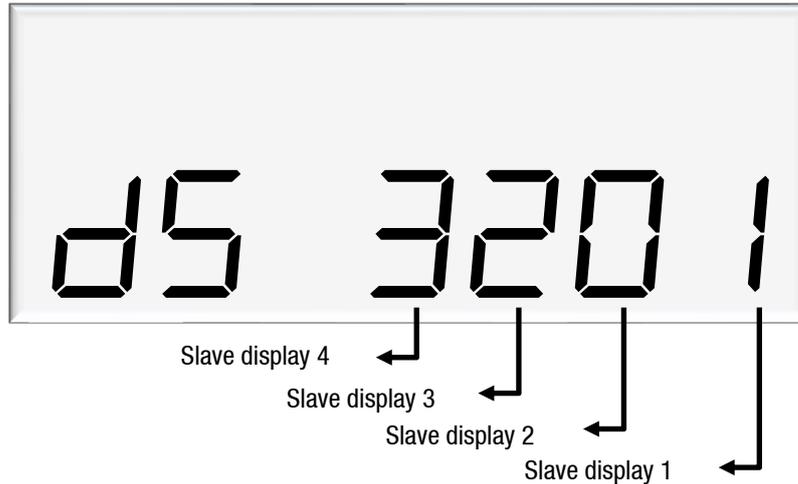
The first digit from the right correlates to slave display 1, and so on. In this example, slave display 1 – clone, slave display 2 – disabled, slave display 3 - side A, slave display 4 - side B.

NOTE: Each digit can have 4 different values, each value has a different meaning.

0 – Disabled
1 – Clone
2 – Side A
3 – Side B

Assigning a number to slave display

Slave display numbers can be set with dip switch 2 and 3 on the slave display board. Use the following table as a guide to configure the slave displays

Slave Display	Switch 1	Switch 2	Switch 3
1	OFF	OFF	OFF
2	OFF	OFF	ON
3	OFF	ON	OFF
4	OFF	ON	ON

CAUTION : *Make sure the device is powered off before attempting to change the dip switches*

Parameter Switch Settings

Changing the Pump Number

If the parameter switch is continually depressed, the following menu to change the pump number will appear. Each side must be numbered between 1-99.

NOTE: *Entering a pump number 0 will disable the pump.*

See Using the Dispenser Menus to edit these settings. Use the procedure for both side A and B.

$$PnA \quad 000$$

Changing the Price

A price must be set before the dispenser can be used.

Set the price in dollars per litre. To set the price, the dispenser needs to be set to standalone mode by changing bA for side A or/and bb for side B to $1***$. After setting up a price, change the bA or/and bb setting back to authorization mode ($0***$).

 See Using the Dispenser Menus to edit these settings.

$$PA0 \quad 1.234$$

Installation Tests

Electrical

This procedure outlines how to perform an electrical operational test, making sure that the dispenser is functioning correctly. Check for any damage that may have occurred in transit. Check all terminals, plugs, and chips to make sure that they are securely in place.

NOTE: *Damage to electronics occurs most commonly from vibration and jarring.*

Before beginning this test, check that fuel has **not** been applied to the dispenser. The factory set-up information should be programmed into the dispenser.

For the location of LEDs, required for this operations test, see page 35 of the C5000 manual.

To perform an electrical operational test:

1. Make sure that the inlet shut-off valves are closed (these are the valves in the inlet lines at the base of the dispenser, but they are not part of the dispenser).
2. Turn on the power supply to the dispenser. Set the dispenser in purge mode (b setting to *** *1*).
3. With the dispenser in a **ready state**, check that the C5000 processor board Power LED is turned on.

NOTE: *If the dispenser is receiving information, RD LED on the K-Factor board will be on. If the dispenser responds to polls for its respective pump number/s, TD LED will also be on.*

4. Lift the nozzle. The display will show $Pur GE$ and the solenoids will energise, starting the pump motor. Check that three output LEDs (T1-7) turn on, indicating a signal is being sent to the triacs to open the solenoid valves. The LEDs that will turn on vary depending on the application.
5. The diagnostic LED (K-factor board) flashes quickly when the start button is pushed, or the nozzle removed from the holster to initiate a fill. When the button is released, or the nozzle returned to the holster it will return to the normal state and flash slowly.
6. Verify solenoid operation by listening for a click, or by using a screwdriver tip or some other metallic tool to check for a magnetic field present on the solenoid coils.

Mechanical

Diesel

Make sure that the electrical commissioning tests have been carried out and the solenoid operation has been verified before carrying out the following tests.

Ensure the power supply to the dispenser is turned on and lift the nozzle. Check all the dispenser fittings, solenoids, and pipework for leaks.

Check all bungs have been removed.

Perform test transactions to ensure flow rate is within acceptable ranges and the dispenser is correctly measuring fuel.

If a preset is required, perform test transactions with presets and ensure they are working correctly.

Calibrate the unit with the K-Factor (see page 12.)

AdBlue

Make sure that the electrical commissioning tests have been carried out and the solenoid operation has been verified before carrying out the following tests.

Slowly open the supply valves to the dispenser, checking for any leaks.

Turn on the power supply to the dispenser.

The dispenser should be in purge mode when it arrives onsite. If it is not, use the Parameter button to put the dispenser into purge mode by changing the b setting to *** 1. Retail dispensers will display Purge in the Dollars display. The temperature and measured density will toggle in the $/L display. Wait for the C5000 to time out and return to the normal display.

Lift the nozzle.

The display will show $Pur\,GE$ and the solenoids will energise, starting the pump motor. Check that three output LEDs (T1-7) turn on, indicating a signal is being sent to the triacs to open the solenoid valves. The LEDs that will turn on vary depending on the variant and side being tested.

In Purge mode the dispenser will only operate for 60 seconds at a time before shutting down. If the dispenser shuts down, hang up the nozzle and start again.

Check all the dispenser fittings, solenoids, and pipework for leaks.

Slowly dispense AdBlue from the dispenser, being careful to shield yourself from splashes as there may be air in the fuel causing it to spray from the nozzle. If the dispenser stops, hang up the nozzle then remove it and start dispensing again.

Continue until the AdBlue flows without any air being present, then hang up the nozzle.

Put the dispenser back into normal mode by changing the b setting back to ***⧠.

Lift the nozzle and slowly dispense AdBlue from the dispenser. The display and tote should increment when fuel is flowing. If the dispenser stops and the error message AIR displays, go back and purge the hose again.

The dispenser can now be calibrated.

Once the pump is connected on site, the final setup check and calibration to complete the installation must be carried out, using the Parameter Switch and Calibration (K-Factor) Switches on the C5000 K-Factor board.

AdBlue Instructions
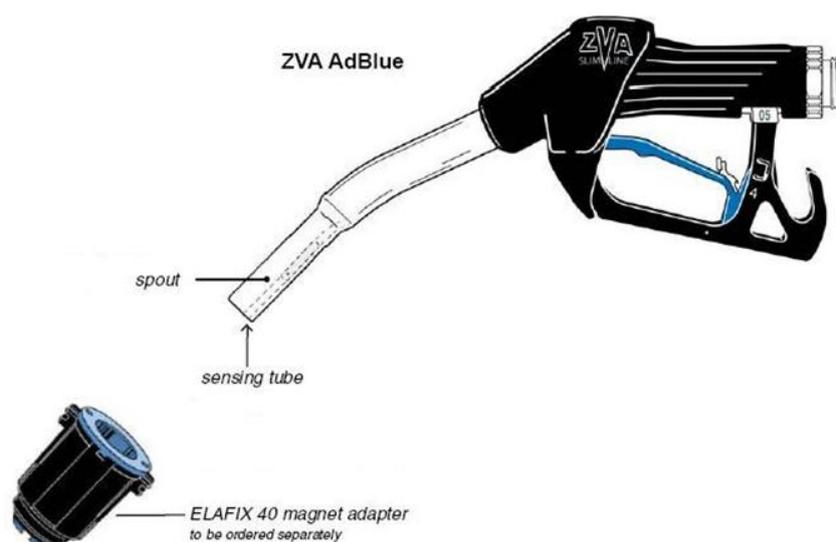
Cleaning the AdBlue Nozzle

If AdBlue evaporates it may form crystals around the dispenser nozzle. A build-up of crystals can block the air passage causing the nozzle to continuously trip off.

If this occurs, rinsing the nozzle in a bucket of warm water will dissolve the crystals and unblock the air passage.

To avoid contamination of the AdBlue, thoroughly dry the nozzle after rinsing.

ZVA AdBlue Nozzle

The ZVA AdBlue nozzle with a magnetic safety catch is commonly used on AdBlue dispensers. The following image is included for reference. For further information refer to ZVA direct.

Automatic nozzle ZVA AdBlue for the refuelling of the "AdBlue" urea solution tanks.

Flow rate up to 40 l/min, working pressure 0,5 – 3,5 bar.

To avoid misfuelling, the standard type of ZVA AdBlue is equipped with a magnet opening in the spout. The nozzle will only open in combination with the magnet adapter ELAFIX 40 which must be installed in the AdBlue filler neck. For the refuelling of other containers or canisters please push an ELAFIX 40 over the spout.

AdBlue tends to crystallise. Due to the evaporation of water, white crystals will show. If these should block the air passage (a sign for this is that the ZVA AdBlue keeps tripping off continuously) this can be solved easily by moving the nozzle spout in a bucket with warm water. To avoid contamination, please rinse the nozzle spout with AdBlue previous to the next refuelling.

Meter Replacement

The V50 meter has a replaceable electronics module. If the meter is not working, replace this. If the meter still does not work the entire meter will need to be replaced.

Replacing the Electronic Module

The electronic module can be replaced without removing the meter from the dispenser.

1. Turn the power off the dispenser.
2. Remove the side panel to access the meter.
3. Undo the four retaining screws on the front of the meter.
4. Snip the sealing wires and remove the electronic module from the meter.
5. Snip any cable ties and noting where it is plugged in and unplug the module from the C5000 board.
6. Fit the new electronic module to the meter. Feed the cable up to the C5000 board and plug it into the same socket as the old module (the clips face outwards).
7. Cable-tie the new cable in place and fix the module in place with screws and new anti-tamper seals.

Pairing the Electronic Module

The new module needs to be paired to the C5000 Processor board using the K-Factor switch.

1. Start the dispenser and copy down the serial number stuck on the face of the new module.
2. Using the K-Factor switch scroll through the menu until you reach the $id-A$ (side A) or $id-b$ (side B) screen depending on which meter the module has been installed in (dual hose models).
3. By pressing then holding in the K-Factor switch, scroll through each digit in turn until the number matches the number printed on the new module.
4. When you have the correct number continue to scroll through until you leave the id menu entirely.

NOTE: On two hose units it is important to do this operation even if you are only replacing one module. Failure to do this is one of the prime causes of setup problems.

5. You will now need to calibrate the new module by comparing a dispensed amount of AdBlue with the displayed amount and adjusting the K-Factor. Refer to the Calibration section of the C5000 manual for details.

Removing the V50 Meter

The entire V50 meter is available as a spare part complete with manifold and electronic module.

CAUTION: When removing the meter, take care to prevent spilling AdBlue onto any electronic component, aluminium or metal surface. Clean up any spillage immediately. Any skin contact should we washed thoroughly with water.

1. Turn off the AdBlue supply to the dispenser.
2. Turn the power off the dispenser.
3. Snip any cable ties and noting where it is plugged in, unplug the meter from the K-Factor board.
4. Undo the six screws holding the meter in place and remove the meter.

Replacing the V50 Meter

1. Make sure the front of the meter containing the electronic module is facing out.
2. Using the six screws, fasten the new meter in place.
3. Feed the meter cable up to the K-Factor board and plug it into the same socket. The clips face outwards.
4. Cable tie the lead neatly out of the way if required.
5. Make sure all connections are tight.
6. Open any valves you may have turned off.
7. Restart the dispenser and pair the new meter to the C5000.
8. Purge the air from the system.
9. Calibrate the new meter.

Error Messages

The unit will have error codes programmed in. The following is a list of error codes and how to rectify these errors.

Error Code	Fault	Action/Information
Er FLo	Excess flow	Maximum flow rate exceeded
Er dEn	Density out of range	Calibrate meter density using the K-Factor switch
	Temperature out of range	Calibrate meter temperature using the K-Factor switch
Er 3	No price	Set a price
Er 8	Reverse flow	Check product is not flowing back into the tank once the delivery has finished.
Er 10	Configuration lost	Reconfigure the unit
Er 14	K-Factor board offline	Check the connecting bus cable
Er 16	LCD Screen	Replace the LCD Screen
Er 31	Transaction ended but fuel is still flowing	Solenoid leaking
Er 50	Meter communication error	Check that the meter is connected correctly. Check correct configuration and correct software installed. Ensure the meter IDs on the dispenser software and V50 meter match
Er 52	Meter error	If the problem persists, repower the unit. Replace the meter if necessary
Er 53	Meter stopped vibrating	If the problem persists, repower the unit. Replace the meter if necessary
Er 54	Temperature sensor failure	If the problem persists, repower the unit. Replace the meter if necessary
Er 55	Meter not ready	Wait for meter to calibrate. If the problem persists, repower the unit
Er 61	V50 meter could not set it's zero point	Try restarting the meter. If the problem persists, Replace the meter.
Er 62	V50 meter could not reset the batch (Could not zero the transaction values when nozzle was lifted to start a new transaction)	Try restarting the meter. If the problem persists, Replace the meter.

Er71	V50 meter is set but variant is not selected	Set variant to DEF
Abd	Slave display offline	Check connections to display Check the slave board configurations
cAL ibP	The K-Factor board has been swapped/replaced	The K-Factor seal must be broken, and the switch must be pressed
cAL ib	The unit needs calibration, usually due to a hardware change	Check the K-Factor and temperature and density calibrations
cAL ibF	K-Factor is not set or is 00.0000	Set the K-Factor, Calibrate meter
Air	May suggest air is in the system. May be density out of range, or coil amplitude too low while meter is operating, displayed until next sale is started	Make sure pump is running. Check pipework for leaks. Purge system. Increase the Solenoid delay on the K-Factor switch