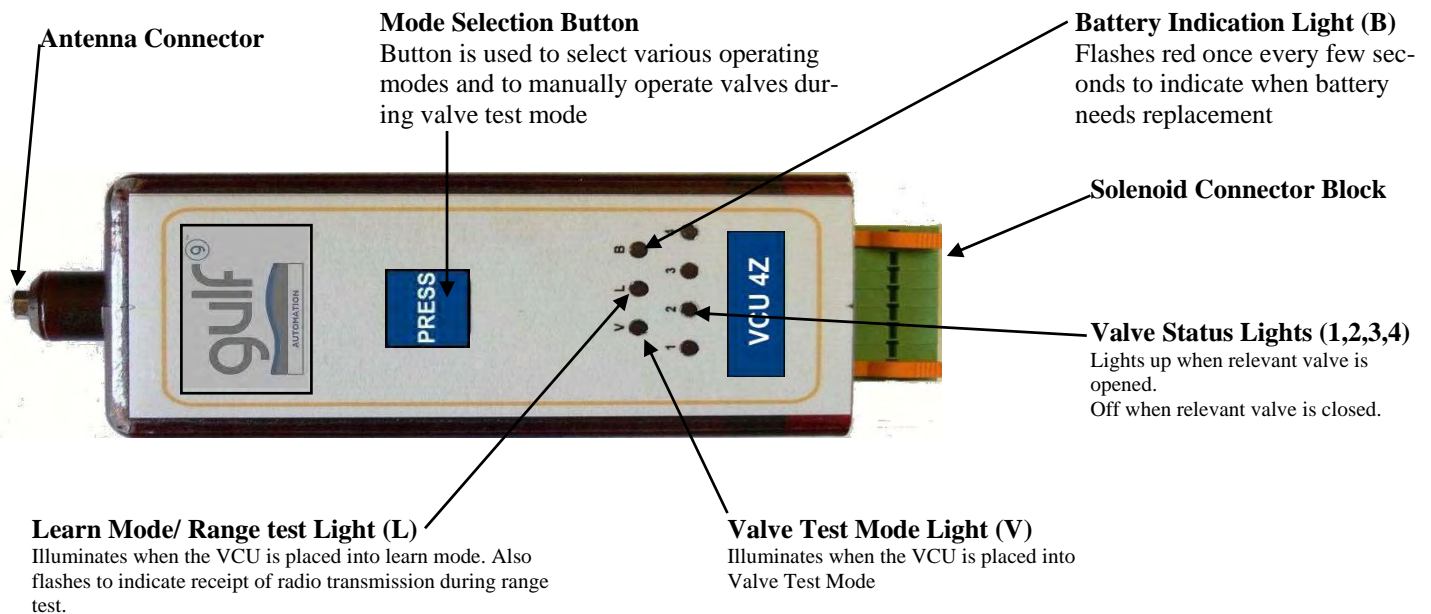


4 Zone and 2 Zone VALVE CONTROL UNIT Installation & User Guide

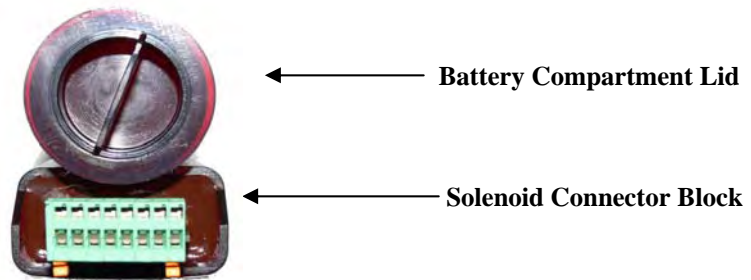
The Valve Control Unit (VCU) is a wireless irrigation receiver. It is used in conjunction with a Gulf ICI or RICO transmitter to provide a complete wireless switching system for irrigation valve control. The VCU receives instructions from the transmitter and activates up to 4 D.C. latching solenoids.



INSTALLATION GUIDE

1.1 Applying Power

The Valve Control Unit (VCU) is powered from a long-life lithium battery (supplied). Do NOT use standard D-Type batteries –they will not work and could possibly damage the unit. Firstly, remove the Battery Compartment Lid. Then connect the connector on the battery to the connector in the Battery Compartment. The Learn Mode light will light up for 1 sec to indicate that power is connected. Refit the Battery Compartment Lid ensuring that the lid is pushed in all the way.



1.2 Learn Procedure

The Valve Control Unit (VCU) firstly needs to learn the unique identity number of the transmitter unit that it will work with. This is so that it reacts only to a transmitter that it recognises and will not react to somebody else's transmitters. The Learning procedure is best carried out with the VCU in close proximity to the transmitter unit, although it can be performed with the VCU at its chosen site.

If a VCU 2Z is used the unit must be instructed to control zones 1 & 2 or Zones 3 & 4. For Zones 1 & 2 put the unit in Learn mode as per instruction below. If the unit must control Zones 3 & 4 press Mode Selection button a second time while the unit is in Learn mode. The Learn LED will go OFF briefly to indicate that the button was pressed. The same operation must be done for Zones 7 & 8 and Zones 11 & 12 etc.

Firstly connect the antenna supplied to the antenna connector.

Then follow the procedure below depending on the transmitter type that the VCU is operating with:-

ICI500W—First place the VCU into Learn mode by pressing firmly on the Mode Selection button for 5 seconds. The Learn Mode light will illuminate to indicate that the VCU is in Learn Mode. Then on the ICI press and hold button 'A', 'B', or 'C' for about 5 seconds (see table on right for which button to press on the ICI). The ICI will then send a Learn transmission to the VCU. The VCU indicates that it has accepted the Learn transmission by switching off the Learn Mode light and exiting Learn Mode

ICI Button Press	Valve Stations Controlled
A	1-4
B	5-8
C	9-12

RICO — Use the RICO PC software's Configuration Hardware Wizard and follow the steps presented on-screen

1.3 Positioning the Valve Control Unit

The Valve Control Unit (VCU) must be positioned within 15 metres of the solenoid valves it is to control. This could be in a valve box or above ground. Please note that if the VCU is placed inside a valve box this will reduce the operating range significantly. Once a suitable position has been found, a Range Test should be conducted to ensure that the VCU is within signal range of the transmitter unit. On the transmitter unit, simultaneously press the 'A' and 'P' buttons. The ICI/RICO will then start to send Range Test signals. It will automatically stop sending after a period of approximately 20 minutes. To manually stop sending Range Test signals press the 'B' and 'C' buttons simultaneously.

Alternatively, if using a RICO system then Range Test functions can be controlled using the PC software under the Windows-> Config option.

The VCU will indicate receipt of a Range Test signal by flashing the Range Test light. A full strength signal will be indicated by the Range Test light flashing 8 times, with each flash spaced approximately one second apart. There is then a break in the signal for about ten seconds before a further 8 transmissions are sent. This sequence is repeated continuously by the transmitter while it remains in Range Test mode.

Once a position has been found with acceptable signal strength then the VCU can be mounted, or simply placed inside the valvebox, taking care to ensure that the flexible antenna is as high as possible.

If there is a large obstacle such as a hill between the transmitter and the VCU then you can get around this by installing a Gulf Repeater unit

Num of flashes	Signal Strength
8	Very Good
7	Average
5	Below Average
2	Poor
1	Very Weak
0	No Communication

1.4 Connecting Solenoid Valves

The Valve Control Unit will switch up to 4 d.c. latching solenoid valves. The valves should be connected as shown in the table on the right. You will need to insert a small screwdriver in the upper connector hole to open up the spring-loaded connection hole in the lower row. Then insert the solenoid wire into the lower hole according to the table on the right. Remove the screwdriver to clamp the wire in place. **IMPORTANT** – The cable length between the VCU and the solenoid should not be greater than 15 metres. A good connection must be made. **Note: Ensure that all the strands of the solenoid wire are properly in the connector. As a short between the RED and BLACK wires of the solenoid could damage the unit.**

Row Station Number	Connector Pin	Valve
1	1	Red
	2	Black
2	3	Red
	4	Black
3	5	Red
	6	Black
4	7	Red
	8	Black



2. OPERATING GUIDE

2.1 Automatic Operation

The VCU enters automatic operation immediately after powering up. While in Automatic operation mode it will scan for incoming radio signals from the previously learned transmitter. If the transmitter sends a "VALVE CONTROL" signal then the VCU will activate the appropriate solenoid valve. As a safety precaution the VCU will automatically close all valves if no signals are received for a period of 9 minutes.

2.2 Manual Operation – Valve Test Mode

Press and hold the Mode Selection Button until the Valve Test Mode light is switched on. This should take about 2 seconds. Release the push-button once the Valve Test Mode light is on. The VCU will enter into the VALVE TEST MODE. While the Valve Test Mode light is on, press the push-button once. The Valve Test light will go OFF to indicate that the button is pressed, release the button and the Valve Test Light will come back on. The unit will then open / close VALVE 1 depending on what state it was previously in. Press the button once again to perform the opposite operation.

To operate valve 2 press the button twice, three times for valve 3 and four times for valve 4. The VCU exits Valve Test Mode if the button has not been pressed for 30 seconds.

The Valve Status indication lights will show which valves are currently open – the appropriate light will flash when a valve is open and remain off when a valve is closed.

WARRANTY

This warranty is issued by the manufacturers of the Valve Control Unit, hereinafter referred to as the Company. The Company warrants to the original purchaser that for a period of ONE YEAR from the date of purchase, the equipment is free from defect under normal use, both in workmanship and material, subject to the following conditions.

- Repair or replacement of any part of this equipment, found by the Company to be defective, shall be at the election of the Company. The costs of such repair shall be borne by the Company in full, provided that the equipment is returned via an authorised distribution agent.
- This warranty does not cover the Lithium battery supplied with each VCU, since the life of the battery is dependant on the frequency of valve operations and the amount of radio frequency noise in the vicinity of the installation.
- This warranty shall become void and cease to operate if any repairs to the equipment are affected by any persons not duly authorised by the Company, or if any substitute parts not approved by the Company are used in the equipment, or if the serial number of the equipment is removed.
- The Company shall not be responsible for damages resulting from fire, flood, civil disturbances or any Act of God. The Company shall not, in terms of this warranty be responsible nor held liable for any consequential loss or damage of any kind caused by or due to the failure or malfunction of the equipment.
- The Company shall not be responsible for transportation or other costs than those incurred within the provisions of Point 1 of this warranty.
- This warranty shall not apply to the equipment if it is purchased or used beyond the borders of the Republic of South Africa, Lesotho, Swaziland, Namibia, Botswana, Mozambique, Angola and Zimbabwe.
- Where service is requested under warranty and no fault or defect can be found by the Company, all costs incurred will be for the purchaser's account.
- This document, as well as your invoice will serve as proof of purchase. For the purpose of warranty, it will be essential to produce this document and invoice. Failure to do so will render the purchaser liable for the service costs.