

Installation and Operation Instructions - gulf Irrigation Controller Interface (ICI)

INSTALLATION:

- 1) Find a suitable location, preferably where the antenna is positioned within view of the Valve Control Units.
- 2) Mount the ICI by using the four mounting holes (2 at the top and 2 at the bottom)
- 3) Ensure that the power to the Irrigation Controller is switched off.
- 4) Determine which of the 2 AC terminals of the Controller is connected to the Common terminal in the Controller. This can be achieved using a continuity checker between the 2 AC terminals and the Common terminal. Connect the Common to the terminal on the ICI marked 24V AC 2. Connect the other AC wire to the terminal marked 24V AC 1.
- 5) 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 wire into the lower hole then remove the screwdriver from the connector in order to clamp the wire in place.
- 6) Connect the Zone outputs of the Irrigation controller to the Zone inputs off the ICI. Connect Zone 1 from the Irrigation Controller to Z1 on the ICI etc. The table on the right shows which zone controls which VCU.
- 7) Only connect the wires for the actual zones (stations) that will be installed, ensuring that there are no shorts between any of the connections.
- 8) If the ICI is to be connected to an existing wired installation.
 - a. Switch off the supply to the Irrigation controller.
 - b. Connect the AC supply from the Irrigation Controller to the ICI as per no 4 above. Connect Zone 1 input to the next available valve output on the Irrigation Controller. Continue to wire according to the above table.
- 9) Fit the antenna to BNC connector.
- 10) Switch on the power to the Irrigation Controller. The POWER LED will light up.

Insert Screwdriver



Zone Number	Corresponding VCU
1	A
2	A
3	A
4	A
5	B
6	B
7	B
8	B
9	C
10	C
11	C
12	C
Pump Controller	P

OPERATION:

- 1) Each ICI can control up to 3 Valve Control Units (VCUs). Each VCU can control up to 4 valves (stations). The ICI can additionally control a single Pump Control Unit (PCU). Once the ICI is installed and powered up the unit is ready to be programmed.
- 2) The ICI and VCU's need to get "Married" to each other in order to work. This is done by following steps 3 to 8 below.



- 3) Place the VCU into Learn mode by holding in the button for about 5 seconds (for a PCU just press the Learn button). Learn mode will time out after one minute.
- 4) Press and hold the **A** button on the ICI until the LED starts to flash Red (about 5 seconds). The IC500W will then transmit a Learn code to the VCU.
- 5) The VCU will now learn the ICI's address. When this has happened the Learn LED on the VCU or PCU will go OFF permanently.
- 6) The VCU can now be installed and the valves connected to it.
- 7) If more than one VCU is to be installed repeat steps 2 to 5 above and press the corresponding button e.g. **B** for VCU B and **C** for VCU C and **P** for Pump Controller (or Master Valve).

LED INDICATIONS ON ICI

Each LED relates directly to a particular Valve Control Unit (VCU):

- LED A relates to VCU A (Station Numbers 1 to 4)
- LED B relates to VCU B (Station Numbers 5 to 8)
- LED C relates to VCU C (Station Numbers 9 to 12)
- LED P relates to PUMP Controller.

Each LED has 3 states:

LED State	Meaning
OFF	No current activity - all stations off.
Flashing GREEN	A Station attached to the VCU is ON. The number of flashes indicates which station is ON e.g. If LED A flashes 3 times it means Station Number 3 is ON. . If LED B flashes 3 times it means Station Number 7 is ON.
Flashing RED	The ICI is busy communicating with a VCU.

There are also some other temporary indications from the LED's.



Installation Tips

MAXIMISE RANGE - In order to maximise the operating range of the system, the antenna should be positioned such that there are little or no obstacles between the antenna and the VCU. Try to maximise the elevation of the ICI. A range of 1 km can be achieved if the ICI and VCU are in unobstructed line of sight of each other. Any walls or buildings in the way will diminish the range that can be achieved. Radio signals are masked by metallic structures, so avoid these if at all possible. If the desired range cannot be achieved using the standard "Rubber Duck" antenna then an external Dipole antenna may be purchased which will boost the range significantly. Also a Repeater unit can be purchased to extend the range or to circumvent large objects (buildings or hills).

ANTENNA ALIGNMENT – Try to match the alignment of the ICI antenna and the VCU internal antenna i.e. If the VCU box is mounted horizontally then the ICI should also be mounted horizontally in order to maximise range.

SPLASHPROOF – The ICI is designed to be splash proof, not waterproof. It cannot be submersed in water.

RANGE TEST MODE – The ICI can be placed in Range Test mode by simultaneously pressing buttons A and P. Range Test mode is indicated when all LEDs are flashing red. Range Test mode is exited after 20 minutes or by simultaneously pressing buttons B and C. While in Range Test mode the ICI will send bursts of 8 test transmissions. Each time a VCU receives a transmission it will flash the "L" LED in the VCU.

12 OR MORE STATIONS – You can use multiple ICI's to cater for more than 12 stations. Each ICI is factory-coded with a unique address so they will not interfere with each other. However, you will need to follow a procedure to instruct the ICI that there are further ICIs in the irrigation sequence. Press the 'A' and 'B' buttons at the same time on first ICI. This will cause the ICI to delay transmission when all stations are switched off so as to allow enough time for the next ICI to transmit without interference. To cancel this, press the 'C' and 'D' buttons at the same time.

VCU BATTERY REPLACEMENT – If an existing VCU has its battery replaced there is no need to "Re-Learn" it, just carry on as normal.

WARRANTY

This warranty is issued by the manufacturer of the ICI and VCU500W wireless irrigation system, 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.

1. 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.
2. This warrantee 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.
3. This warranty shall become void and cease to operate if any repairs to the equipment are effected 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.
4. 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.
5. The Company shall not be responsible for transportation or other costs than those incurred within the provisions of Point 1 of this warranty.
6. 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.
7. 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.
8. 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.