

Adding an expansion DOU

GTI-PM-008-1018-GB

# PRECISION IRRIGATION CONTROL SYSTEMS

For Golf, Sportsturf & Landscape applications

DESIGNERS AND MANUFACTURERS OF



# Adding an Expansion DOU

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## DOU hardware configurations

The GTI-PC system consists of one Central Decoder Output Unit (DOU) and optionally one, two or three Expansion DOU's.

The examples below explain the DOU part number:

- TRI-CEN-230-04 A Trident Central, 230V with 4 CSG's.
- GEM-CEN-230-03 A Gemini Central, 230V with 3 CSG's.
- TRI-EXP-230-02 A Trident Expansion, 230V with 2 CSG's.

DOU's are manufactured in 2, 3 and 4 CSG versions.



## Valid DOU – CSG combinations

There must always be at least one central DOU in the system. Any other DOU can be a Central or Expansion type.

The number of CSG's in an Expansion DOU cannot exceed the number of CSG's in the Central DOU. For example:

- One Central and one Expansion DOU:
  - A 3-CSG Central and a 2-CSG Expansion is OK.
  - A 3-CSG Central and a 3-CSG Expansion is OK.
  - A 3-CSG Central and a 4-CSG Expansion is not permitted.
- 1. One Central and two Expansion DOU's:
  - A 3-CSG Central, 3-CSG Expansion and 3-CSG Expansion is OK.
  - A 4-CSG Central, 3-CSG Expansion and 2-CSG Expansion is OK.
  - A 2-CSG Central, 3-CSG Expansion and 2-CSG Expansion is not permitted.
  - A 3-CSG Central, 4-CSG Expansion and 2-CSG Expansion is not permitted.

## Setting the DOU number - DIP switches

Each DOU has 6 DIP switches mounted on the Micro Board just above the 6 red indicators. The first four switches are used to set the **DOU number**.

The Central and Expansion DOU's can be set as follows:

D.O.U. number	Switch 1	Switch 2	Switch 3	Switch 4
1 Central	ON	ON	ON	ON
2 Expansion	OFF	ON	ON	ON
3 Expansion	ON	OFF	ON	ON

“ON” is where the switch is moved to the left as you look at the front face of the DOU.

The order of the DOU's is not important. The highest DOU number cannot exceed the total number of DOU's found in the system.



After altering the DIP switches, you must either press the RESET button (Located directly beneath the DIP switches) or cycle the mains power.

## Power supply and earthing

DOU power supply:

Check the power supply tag to ensure correct incoming mains voltage before connecting the DOU. This tag is located near the bottom left corner of the power board. The supply voltage is also printed on the DOU. Serial Number Label located on the right side of the enclosure.

The mains supply input is internally protected by a 5A circuit breaker. Always replace the metal terminal cover.

The incoming mains supply must be capable of delivering 5-amps continuously, and an external safety isolating device must also be provided as part of the building installation.

The standard DOU enclosure is manufactured from painted mild steel and designed to be wall-mounted inside a dry building and away from direct sunlight. The ambient temperature in which it operates must lie within the range  $-5^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  ( $23^{\circ}\text{F}$  to  $140^{\circ}\text{F}$ ). Extra environmental protection must be provided if the D.O.U. is to be installed in an outdoor location.

The DOU must be installed in full compliance with the Local and National Electricity Supply Authority Regulations, and only by competent and fully trained personnel. It is essential that the installation and servicing procedures and instructions issued in this documentation be followed during any installation and servicing of this equipment. The product must not be installed or serviced before isolating all incoming mains voltage supplies elsewhere. The DOU contains hazardous voltages.

All incoming cables must be protected from abrasion and must be relieved from mechanical strain (cable glands are supplied with the DOU in order to help meet this requirement). If an incoming (mains) power supply cable should slip its anchorage, placing a strain upon the individual conductors, then the protective earth conductor must be the last to take the strain.

Any additional power cord anchorage required during installation must be made from insulating material, or must contain a lining made from insulating material. All unused cable entry holes in the gland plate at the bottom of the DOU enclosure MUST be plugged with the special plastic bungs that are fitted upon leaving the factory.

It is the Installer's responsibility to ensure full compliance with the above two paragraphs.

In all situations you must ensure that each DOU has its own switched and fused mains electrical supply.



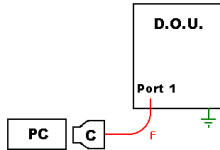
It is highly recommended to not daisy-chain the electrical supply from one DOU to the next

#### DOU earthing:

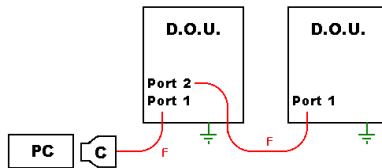
The D.O.U. must be **permanently** connected to a good quality earth for safety reasons and for good surge protection. Use at least 2.5mm<sup>2</sup> (12 or 14 AWG) wire, or (preferably) 12mm (1/2") sleeved braiding to a grounded copper earth spike.

Each site may require a different DOU configuration. GTI DOU's can be configured in numerous ways. For example:

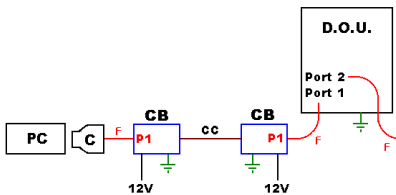
1. Standard single DOU configuration:



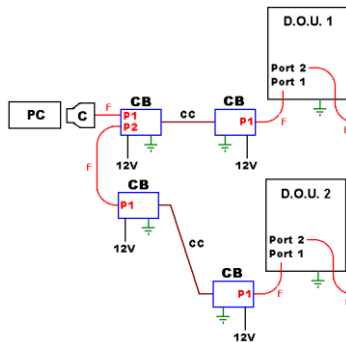
2. Multiple DOU configuration:



3. DOU is remote from the PC using Communication Boosters:



4. A distributed DOU configuration using Communication Boosters:





## Updating the GTI software

The installed software needs to be updated to cater for the expanded system.

Procedure:

- Save the database to a memory stick using the **Database Save and Restore** utility
- Expand the Database (See next chapter).
- Uninstall the GTI software
- Install the GTI software.
  - During installation you will be asked to select the DOU type (Gemini or Trident) and the number of DOUs in the system. Make sure you select the correct configuration.
- Restore the expanded database from the memory stick
- Unlock the software



Make sure you have the database already expanded before you go to site to avoid delays

See bulletin GTI-TB-035 to learn how to save and restore the database.



## Expanding the GTI or VIP database

The existing database must be expanded. This can only be done by:

1. The installer: Who has GTI MapMaker or DB Centre software.

The procedure is as follows:

- The database is saved to a memory stick using the **Database Save and Restore** utility on the customer's PC
  - The database is imported in to MapMaker
  - MapMaker is used to expand the database
  - The database is exported using MapMaker
  - The database is restored on the customer's PC using the **Database Save and Restore** utility
2. By Bailoy. You need to email a copy of the database to [support@Bailoy.com](mailto:support@Bailoy.com).
    - Please compress (ZIP) all the files found on the memory stick to one file. Attach this ZIP file to your email.

See bulletin GTI-TB-035 to learn how to save and restore the database.



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