



GTI EC SYSTEMS

Designers and manufacturers of





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OVERVIEW

GTI EC controllers are economical irrigation systems for smaller sites on a modest budget, yet retain many of the powerful features found in their GTI PC stablemate. Available in Pro and Lite editions, GTI EC customers now have a choice with how they want to irrigate.

Both editions are available for sites that use either 2- or 3-core control cables. The Gemini system is used with 2-core control cable, the Trident system with 3-core. This makes them an ideal replacement for older controllers such as the SC3000 or Watermation TW1 and TW2 and, in most cases, can utilise the existing site control cables, decoders and solenoids.

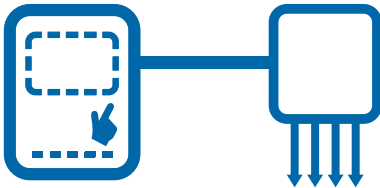
Forwards and backwards compatible with all equipment manufactured by Bailoy, means both GTI EC editions are fully upgradable or flexible to your existing infrastructure.



HARDWARE OVERVIEW

The GTI EC uses a single DOU (Decoder Output Unit) with 4 control cable outputs (CSGs) available allowing control of up to 448 stations (436 on Gemini). The DOU is IP65 rated so can be installed in most environments allowing for simple retrofitting into existing controller locations.

The DOU is connected to a dedicated touch screen tablet, running GTI EC software. This can be installed up to 10 meters from the DOU using a fibre optic cable, or up to 1600 meters using a Communication Booster.



HOST OF USEFUL FEATURES

Built-in decoder programmer

Programme, read and check your decoders from the DOU using the GTI software.

Built-in pump start

A volt-free contact that can be used to control pump systems. The contact is closed when irrigation is taking place.

Rain switch input

Turn off irrigation when there is too much rainfall.

Two alarm inputs

Both inputs are fully configurable with the alarm status shown in the main window of the GTI EC software. Alarms can optionally STOP the irrigation, for example:

- Detecting low system pressure
- Low tank level
- Pump failure

All alarm conditions are logged for later reference or can be sent via email to the user when an alarm is raised.

Built-in surge protection

Each CSG output has a built-in surge protector. This device can be replaced by the user when the need arises.

LED indicators to check DOU status

Invaluable for quickly diagnosing DOU hardware issues.



Status indicators inform user

SOFTWARE OVERVIEW

GTI EC software is simple to use with guided steps for every process and no confusing spreadsheets or multiple windows. Once the database of site information has been setup, the user could be irrigating in just a few minutes.

The combination of hardware and software will provide the user with lots of features to set up and adjust irrigation run times quickly and easily and view data to diagnose any system issues giving precision-control of their irrigation on a daily basis.

GTI was designed to be user friendly and specifically based on:

- What do I want to water?
- When are my irrigation programmes scheduled to run?
- What is irrigating?

**EASY
TO USE**



Deliberately uncomplicated interface

TWO EC CHOICES



The GTI EC Pro is designed to flow manage all your irrigation requirements.

Irrigation programmes are scheduled by Hole/Area or station priority. The software then automatically irrigates in the quickest and most efficient order. Alternatively, the programme can be scheduled using the step sequence feature. This allows users to design up to 10 unique sequences to suit their irrigation needs.

The GTI EC Pro has a comprehensive email report and alert feature, providing a range of diagnostic data and alerts on programme and station issues.



The GTI EC Lite is designed to emulate older controllers like the SC3000 and TW2 by using the step sequence feature. This allows users to design up to 10 unique sequences to suit their irrigation needs.

The GTI EC Lite can be upgraded to benefit from flow management and email features by simply ordering a feature unlock key.

SOFTWARE FEATURES

Pro Flow managed system

This feature manages the hydraulic configuration. It ensures pump capacity and flow limits of the pipe distribution network are never exceeded which ensures sprinkler heads maintain the specified coverage at all times.

The strict flow management creates a near constant flow from the pump station, which also helps minimise pump wear and reduce electrical power usage.

GTI EC **Lite** upgrade option

**FLOW
MANAGED
SYSTEM**

Trident - Hydraulic Configuration [Ltr/Minute]

Hydraulic zones			
1	260	11	50
2	400	12	50
3	220	13	50
4	170	14	50
5	100	15	50
6	300	16	50
7	200	17	50
8	145	18	50
9	200	19	50
10	210	20	50
		21	50
		22	50
		23	50
		24	50
		25	50
		26	50
		27	50
		28	50
		29	50
		30	50

Pump capacity 300

OK

GTI EC Pro's flow management functionality allows users to configure hydraulic zones

Easy to use screen layouts

Simple guided steps, no confusing spreadsheets or multiple windows. Very easy to use with colour coded buttons for extra simplicity.

Status bar

Displays the name of the running (or next scheduled) irrigation programme. It also shows the system, internet, and rain switch hold status.

Adds water consumption column if flow managed feature is installed (GTI EC Pro).

Irrigation programmes

Create irrigation programmes for one, multiple or all of your stations, for any application. With up to 10 standard irrigation programmes you get plenty of setup options.

Standard Irrigation Program Directory

	Duration [HH MM]	Consumption [Ltr]	Program info...
Grn 1mm	00:44	14326	
Tee 1mm	00:48	11758	
App 1mm	00:38	11600	
Range 1mm	00:05	754	↑
1mm	02:11	38880	
Topdress	01:04	20938	↓
Every day	00:00	0	
Fertiliser	00:02	116	

Email

Program...	Program list...	Edit program...	Change program name...	Close
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User configurable Standard Irrigation Programmes

Irrigation schedule

Add up to 12 programme starts per day with the option to schedule on 7 or 14 day cycles.

Each scheduled programme is based on one of the 10 standard irrigation programmes, but can be adjusted to the specific day or time in the schedule.

Pro

Extensive email features

- Email alerts following set number of errors occurring during irrigation programme
- Documents containing the irrigation programme, schedule, water consumption records, etc. can be emailed to you
- Send an email as soon as an external alarm is raised
- Database changes can be automatically sent to Bailoy as backup

GTI EC **Lite** upgrade option

Day 10	Wed	08 November		
Day 11	Thu	09 November		
Day 12	Fri	10 November		
Day 13	Sat	11 November		
Day 14	Sun	12 November		
Day 1	Mon	13 November		
Day 2	Tue	14 November		

Email... View the selected day... Close

Adjust the programme or stop a station from running

RECORDS WATER USE

Pro Water consumption records

The GTI EC software logs the calculated water consumption for all controller-based irrigation whether scheduled programmes, manual, or diagnostic tests. Consumption from the current or previous years can be viewed and compared as a list or graph.

Diagnostic test facilities

Test the operation of a single, selection of, or all stations, with results stored in the easy-access diagnostic logbook:

- Test by station, hole or course
- Diagnostic logbook allows for data to be analysed after the tests are complete, so users and technicians can do other jobs while the diagnostic test is in progress

May	2012	2013
01	0	0
02	0	36906
03	12800	33404
04	0	0
05	1200	0
06	500	36938
07	0	106900
08	0	106856
09	1200	91572
10	0	91572
11	0	91572
12	0	91572

	2012	2013
January	0	0
February	0	0
March	0	161359
April	140884	134
May	12700	243508
June	108778	2747848
July	1020700	783009
August	0	0
September	0	0
October	0	0
Grand total	1294639	6107912

Stations to test: Hole 1 (5 Stations). (Time: 10 Seconds/Station)

Station	CSG-Dec	Result

Additional information

Select stations to test... Start the station test Close

Diagnostics visually displayed on screen

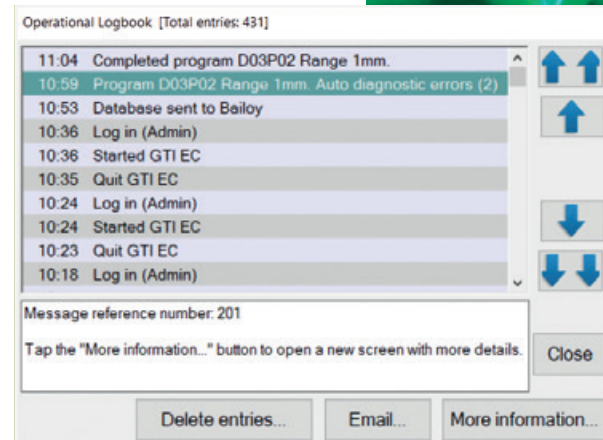
Operational logbook

The logbook is used to record events from multiple conditions such as every time an irrigation programme is completed or stopped. The irrigation programme, together with logged station faults etc., are stored for later historical reference or analysis.

Manual irrigation

Manually select multiple stations for quick irrigation, simply choose from your list of courses and holes. Stations can be irrigated sequentially or by shortest time possible.

The manual irrigation feature is flow managed (GTI EC Pro).



USER FRIENDLY FEATURES

Rain hold

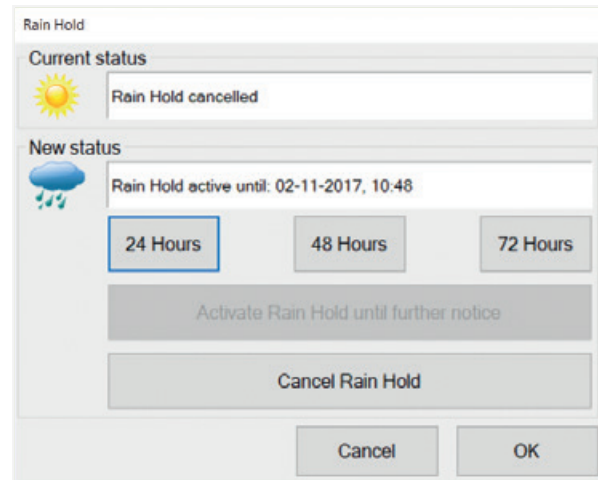
Prevent irrigation for a specific period or until Rain Hold is manually disabled again.

Other features

Each station is given a unique name that the user can immediately associate with an actual area. For example, West Course, Hole 2, Front Tee. No need to learn about difficult to remember electrical zones and decoder numbers.

Easily upgrade or update your GTI EC software through downloads or usb drive.

Remote assistance (internet required).



The screenshot displays the 'Rain Hold' control window. It is divided into two main sections: 'Current status' and 'New status'. The 'Current status' section shows a sun icon and the text 'Rain Hold cancelled'. The 'New status' section shows a cloud with rain icon and the text 'Rain Hold active until: 02-11-2017, 10:48'. Below this, there are three buttons: '24 Hours' (which is highlighted with a blue border), '48 Hours', and '72 Hours'. At the bottom of the 'New status' section, there is a large button labeled 'Activate Rain Hold until further notice'. Below that is a button labeled 'Cancel Rain Hold'. At the very bottom of the window, there are two buttons: 'Cancel' and 'OK'.

SYSTEM FEATURES

Gemini

- For use on sites with 2-core control cables
- Suitable for retro fitting by utilising existing control cables
- 109 stations per control cable
- Up to 4 separate control cables (CSGs)
- Built-in decoder programmer – programme, read and check decoders from DOU using GTI EC software
- Built-in pump start volt-free contact
- Rain switch input – turn off irrigation when there is too much rainfall
- Alarm sensor inputs – used to detect low system pressure and low tank level
- Built-in surge protection
- LED indicators for instant DOU status
- Compatible with all Bailoy manufactured Gemini and Watermation TW1 and TW2 decoders
- Available in multiple languages

**109
STATIONS
PER CONTROL
CABLE**



Trident

- For use on sites with 3-core control cables
- Suitable for retro fitting by utilising existing control cables
- 112 stations per control cable
- Up to 4 separate control cables (CSGs)
- Built-in decoder programmer – programme, read and check decoders from DOU using GTI EC software
- Built-in volt-free pump start contact
- Rain switch input – turn off irrigation when there is too much rainfall
- Alarm sensor inputs – used to detect low system pressure and low tank level
- Built-in surge protection
- LED indicators for instant DOU status
- Compatible with all Bailoy manufactured Trident, SC3000 and CDS decoders
- Available in multiple languages



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