



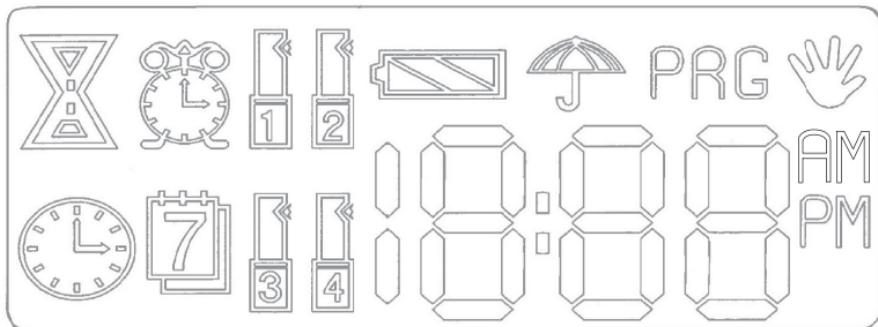
## "DIG" series controller

- Programming instructions





## 1.1 USER INTERFACE



### DESCRIPTION OF DISPLAY AND ICONS

The user interface of the control panel is composed of a liquid crystal display with dedicated icons, a numerical display and four function keys.

After the battery has been inserted, all the icons on the display are illuminated for five seconds to check the correct operation of the LCD; when this check is completed, the main screen with the clock and battery charge indicator is displayed (section 2.1).





**CONFIRM**



**NEXT**



**+**



**-**

## DESCRIPTION OF FUNCTION KEYS

**CONFIRM:** Used to confirm the selected items or continue with programming procedures: keep the button pressed until next screen is displayed.

**NEXT:** To display next screen or next item, check the main menu or exit from programming procedures (exit without saving data). Keep the button pressed until next screen is displayed or the procedure is completed.

**+** : Increase of value in the programming stage

**-** : Decrease of value in the programming stage

### NOTE:

Different functions associated with each key are specified in the detailed description of the user interface in the following sections.

### SERVICE NOTE

- 1) To cut down the electrical consumption of the control panel (energy saving mode), the display turns off automatically if no keys are pressed within one minute.
- 2) To turn on the display press any one of the four keys: the main screen with the clock and the battery charge monitor are always displayed in the default screen (section 2.1).





## DESCRIPTION OF ICONS



### 3.5 DIGIT NUMERICAL DISPLAY

The multifunction 3.5 digit numerical display is used to display the time of day or any other alphanumeric item during programming.



### BATTERY

Displays the battery charged state and is always visible when the display is on: the icon is active during programming and in the default screen.

**Icon battery on:** indicates the battery is charged.

**Flashing icon:** indicates the battery is flat and must be replaced.



### RAIN SENSOR

Displays the status of the outdoor rain sensor (if any) and is always visible: the icon is active during programming and in the default screen.

**Icon on:** indicates that the ground is wet (watering cancelled).

**Icon off:** indicates the ground is dry (watering enabled).





### HOURLASS

Used during programming to indicate watering time (in hours and minutes) is being set.

When the icon starts to flash, together with the irrigator, the item to be set flashes on the numerical display (hours or minutes).



### ALARM CLOCK

Used during programming to indicate the watering start time in hours and minutes, and AM or PM mode are being set.

When the icon starts to flash, together with the irrigator, the item to be set flashes on the numerical display (hours or minutes or AM/PM).



### IRRIGATOR

Used in three different ways: during programming to indicate the zone which is being programmed, in the manual procedure to indicate the valve is open or closed, and in the default screen to indicate that watering is under way.

**Irrigator off:** valve closed (watering not under way)

**Irrigator on:** valve open (watering under way)

**Irrigator flashing:** during programming to indicate the zone being programmed.





### MANUAL

Used in the control procedures of the manual functions.

**Icon off:** manual functions are not active.

**Icon flashing:** entry in the procedures described by the manual.



### CLOCK

Used in the programming procedures of the clock and the weekly calendar to indicate that the time of day, minutes and the AM or PM modes are being set.

When the clock icon flashes, together with other icons, the item to be programmed flashes on the numerical display (hours, minutes, AM/PM or calendar).



### CALENDAR

Used in the programming procedures of the clock or watering programmes to indicate that the weekly calendar is being set.

When the icon flashes in conjunction with the item being programmed the week day is referenced.





AM PM

### AM/PM

In the default screen it indicates the time of day.

**Icon AM on:** it indicates the AM mode

**Icon PM on:** it indicates the PM mode

PRG

### PROGRAMMING

Used to create watering programmes.

When the **PRG** icon flashes, together with other icons, the item to be programmed flashes on the numerical display.

## 2.1 - MAIN MENU CHECK

After the battery has been installed, all the icons on the display will illuminate for five seconds whilst the correct operation of the LCD is being checked.

After five seconds, the main screen with the clock and battery charge indicator is displayed and the main menu check is enabled.

### DISPLAY FUNCTIONAL CHECK



After the battery has been installed, all icons on the display light up in check mode for five seconds.

During this stage the function keys are disabled.





## MAIN DEFAULT SCREEN



After the display check, the main default screen with the clock is displayed automatically: the segment (:) between hours and minutes flashes to indicate that the time count has started. Use key **NEXT** to scroll the four functions available in the main menu: clock preset, programming, manual and run.

## PROGRAMMING THE CLOCK AND WEEKLY CALENDAR



When **NEXT** is pressed, the icon **CLOCK** starts to flash: press **CONFIRM** to enter the clock programming procedure (section 2.2) or **NEXT** to pass to the following function (**PRG**).

In this screen, the keys + and - are disabled.

## WATERING PROGRAMMES



When the icon **PRG** flashes, use the key **CONFIRM** to enter the watering programme procedure (section 2.3) or **NEXT** to pass to the following function (**MAN**) .

In this screen, the keys + and - are disabled.





## MANUAL FUNCTION CONTROL



When the icon **MANUAL** flashes, use the key **CONFIRM** to enter the manual function control procedure (section 2.4) or the key **NEXT** to pass to the following function (**RUN**).

In this screen, the keys **+** and **-** are disabled.

## CONTROL PANEL RUNNING



The **RUN** indication on the display means that the control panel is performing an operation cycle. After two seconds, the main default screen with clock and battery charge state is displayed.

In this screen, the keys **+**, **-**, **NEXT** and **CONFIRM** are disabled.

## 2.2 - PROGRAMMING THE CLOCK AND THE WEEKLY CALENDAR

From the main menu it is possible to access the programming procedure of the clock and weekly calendar.

**NOTE:** the icons printed in grey indicate that they are blinking. The rain sensor and the battery icons are on or off according to the actual charged state of the battery and the ground conditions (wet or dry).





### PROGRAMMING THE CLOCK AND WEEKLY CALENDAR



When the icon **CLOCK** flashes, press **CONFIRM** to enter the clock programming procedure or **NEXT** to pass to the following function (**PRG**).

**CONFIRM**: enters the clock programming procedure.  
In this screen, the keys + and - are disabled.

### PROGRAMMING THE TIME



When the display of the hours flashes, use keys [+ ] and [- ] to set the desired value. Press **CONFIRM** passes to the following item.

**CONFIRM**: confirms the value and pass to the following item (minutes).

**NEXT**: disabled.

[+ ] / [- ]: increases and decreases the parameter to be programmed.

### PROGRAMMING THE MINUTES



When the display of the minutes flashes, use keys [+ ] and [- ] to set the desired value. Press **CONFIRM** to pass to the following item.

**CONFIRM**: confirms the value and pass to the following item (PM/AM).

**NEXT**: disabled.

[+ ] / [- ]: increases and decreases the parameter to be programmed.





### PROGRAMMING PM/AM



Press key **[+]** to select PM and **[-]** to set AM. Press **CONFIRM** to pass to the following item.

**CONFIRM:** confirms the value and passes to the following item (calendar).

**NEXT:** disabled.

**[+]:** selects PM (icon PM on).

**[-]:** selects AM (icon AM on).

### PROGRAMMING THE WEEKLY CALENDAR



When the display flashes, use keys **[+]** and **[-]** to set the current day (1-7). Press **CONFIRM** to end the procedure.

**CONFIRM:** confirms the value and exit from the procedure (default screen).

**NEXT:** disabled.

**[+] / [-]:** increases and decreases the value to be programmed.

### HOW TO EXIT FROM CLOCK PROGRAMMING PROCEDURE



The main screen is displayed when the clock programming procedure is completed.

**CONFIRM:** enters the clock programming procedure.

**NEXT:** main menu check.

In this screen, the keys **+** and **-** are disabled.





## 2.3 - WATERING PROGRAMMES

The creation of the watering programmes consists in three steps (sub-menus): at the beginning of the procedure the programme enable is selected (**ON/OFF**), then the watering cycles are set (**RATE OR CALENDAR**) and finally the watering start programmes are created (**P01-P10**) with setting of watering time and the watering start time.

### 2.3.1- ENABLING WATERING PROGRAMMES (ON/OFF)

From the main menu screen (section 2.1) the watering programmes setting procedure can be selected by pressing **CONFIRM** when the icon **PRG flashes**. The first parameter to be set using the keys [+ ] and [- ] is the programme mode: **off** to disable watering (programme disabled), **ON** to enable the programme (watering cycles enabled).

**NOTE:** the icons printed in grey indicate that they are blinking. The rain sensor and the battery icons are on or off according to the actual charged state of the battery and the ground conditions (wet or dry).





## CREATING WATERING PROGRAMMES

When the icon **PRG** in the main menu flashes (section 2.1), press **CONFIRM** to enter the creation procedure for the watering programme: the watering enable screen is displayed.



**CONFIRM:** enters the programme enable procedure.

**NEXT:** passes to the following function in the main menu (**MAN**).

In this screen, the keys + and - are disabled.





## ENABLING WATERING PROGRAMMES



In this screen it is possible to enable or disable watering programmes using the keys **[+]** and **[-]**: keep one of the two keys pressed until the desired mode is displayed.

Select the mode **ON/OFF** and press **CONFIRM** to enter the watering programme setting procedure (section 2.3) or **NEXT** to exit from the programming procedure.

By selecting **OFF**, the programme setting is disabled and the control panel, is in stand-by mode. If **ON** is selected the programme is enabled.

**CONFIRM:** confirms preset and passes to the following item (rate/cal.)

**NEXT:** exits the programming procedure.

**[+]:** **ON/OFF** setting (cycle check).

**[-]:** **OFF/ON** setting (cycle check).





### **2.3.2 - SELECTING THE RATE MODE OR CALENDAR MODE**

After the execution mode of the programme (**ON/OFF**) is selected, the screen for setting the watering start programmes is displayed: it is possible to choose one of the four preset fixed rates (**h24, h48, h72, h96**) or the weekly calendar mode (**CAL**) to enable watering on the programmed days (**1-7**).

When the watering programme repetition mode is set, the watering start programmes can be defined.

**NOTE:** the icons printed in grey indicate that they are blinking. The rain sensor and the battery icons are on or off according to the actual charged state of the battery and the ground conditions (wet or dry).





## SELECTING THE RATE MODE OR CALENDAR MODE

When the rate or the calendar modes are flashing on the display, use keys **[+]** and **[-]** to check the options.

To confirm your choice press **CONFIRM**: the watering start programmes can be now set if a fixed rate is selected (section 2.3.4) and the weekly programming if the calendar mode is selected (section 2.3.3).

To quit the programming procedure and return to the main menu (section 2.1), press and keep **NEXT** pressed for three seconds.

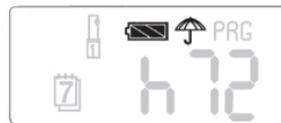
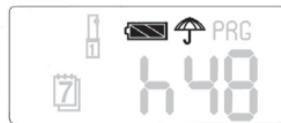
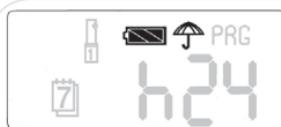
**CONFIRM**: confirms the mode and passes to next programming step.

**NEXT**: exits the programming procedure.

**[+]**: check of modes **h24, h48, h72, h96, CAL.**

**[-]**: check of modes **h24, h48, h72, h96, CAL.**





## DESCRIPTION OF OPERATING MODES

In this screen of the programming procedure the watering programme can be selected: if one of the preset fixed rates is selected, the control panel controls the watering start programmes according to the selected period:

- h24** : watering rate every 24 hours
- h48** : watering rate every 48 hours
- h72** : watering rate every 72 hours
- h96** : watering rate every 96 hours
- CAL** : weekly calendar mode

By selecting the calendar operating mode (**CAL**) the programme can be changed only on the programmed days by setting the weekly calendar.





### 2.3.3 - CALENDAR MODE

With the weekly calendar mode selected (**CAL**), the watering days (**1-7**) can be programmed.

**NOTE:** the icons printed in grey indicate that they are blinking. The rain sensor and the battery icons are on or off according to the actual charged state of the battery and the ground conditions (wet or dry).

#### SELECTING THE WEEKLY CALENDAR DAY



When the day of the week is displayed (**1-7**) on the numerical display, press **CONFIRM** to pass to next screen.

**CONFIRM:** confirms the day and pass to the following item (**ON/OFF**).

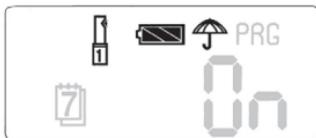
**NEXT:** exits the programming procedure (keep it pressed for 3 sec.)

**[+] / [-]:** keys are disabled.





## ON/OFF SETTING ON THE SELECTED DAY



To select **ON/OFF** use the keys **[+]** and **[-]**, select the desired function and press **CONFIRM** to return to the preceding screen (day selection), press and keep **NEXT** pressed to exit from the programming procedure and return to the main menu (section 2.1).

The irrigator icon lights up when **ON** is selected.

To pass to the start programme definition (section 2.3.4) press **NEXT** after **ON/OFF** programming of day number 7.

**CONFIRM**: confirms the day and passes to the following item (ON/OFF).

**NEXT**: exits the programming procedure (keep it pressed for 3 sec.).

**[+]**: **ON/OFF** mode selection (cyclic check).

**[-]**: **OFF/ON** mode selection (cyclic check).



### 2.3.4 - START PROGRAMMES

Used to select the start programme number in which the watering times are defined.

**NOTE:** the icons printed in grey indicate that they are blinking. The rain sensor and the battery icons are on or off according to the actual charged state of the battery and the ground conditions (wet or dry).

#### SELECTING A START PROGRAMME NUMBER



Use keys **[+]** and **[-]** to select the start programme number in which to set the watering times and the watering start time. Choose the start programme number and press **CONFIRM** to enter the programming procedure of watering data (section 2.3.5).

**CONFIRM:** confirms the start and passes to the following item (**ON/OFF**).

**NEXT:** exits the programming procedure (keep it pressed for 3 sec.).

**[+]:** selects the start programme number.

**[-]:** selects the start programme number.



### **2.3.5 - CREATION OF THE WATERING PROGRAMME**

After selecting the rate mode or setting the days in the calendar mode and the start programme number (**P01-P10**) the watering data can be set.

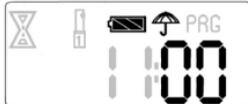
**NOTE:** the icons printed in grey indicate that they are blinking. The rain sensor and battery icons are on or off according to the actual charged state of the battery and the ground conditions (wet or dry).

#### **SETTING WATERING TIMES: HOURS**



Use function keys **[+]** and **[-]** to set the watering time in hours. Upon first start of the control panel or if no information is previously set, zero is displayed on the numerical display. When the desired period has been selected, press **CONFIRM** to enter the minute programming procedure; keep the key pressed for at least 10 secs. to save the data, the active programme and to exit from the procedure. To quit the procedure without saving the data press **NEXT** for three seconds.





**CONFIRM** : confirms the value and passes to the following item (**MINUTES**).

**NEXT**: exits the programming procedure without data backup.

[+]: sets the watering time (0 to 11 hours).

[-]: sets the watering time (0 to 11 hours).

## SETTING WATERING TIMES: MINUTES

Use the function keys **[+]** and **[-]** to set the watering time in minutes. Upon first start of the control panel or if no information is previously set, zero is displayed on the numerical display.



When the desired period has been selected, press **CONFIRM** to enter the time programming procedure; keep the key pressed for approximately 10 secs. to save the data and exit from the procedure.

To quit the procedure without saving the data press **NEXT** for three seconds.



**CONFIRM** : confirms the value and passes to the following item (**START TIME**).

**NEXT**: exits the programming procedure without data backup.

[+]: sets the watering time (0 to 59 minutes).

[-]: sets the watering time (0 to 59 minutes).



## SETTING WATERING START TIME: HOURS



Use keys **[+]** and **[-]** to set the watering start time. Upon first start of the control panel or if no information is previously set, zero is displayed. When the desired start time has been selected, press **CONFIRM** to enter the minute programming procedure; keep the key pressed for 10 secs. to save the data and exit from the procedure. To quit the procedure without saving the data press **NEXT** for three seconds.



**CONFIRM:** confirms the value and passes to the following item (**MINUTES**).

**NEXT:** exits the programming procedure without data backup.

**[+]:** sets the start time (1 -12).

**[-]:** sets the start time (1 -12).





## SETTING WATERING START TIME: MINUTES



Use the function keys **[+]** and **[-]** to set the minutes of the watering start time.

Upon first start of the control panel or if no information is previously set, zero is displayed.

When the desired value has been selected, press **CONFIRM** to enter the **AM/PM** programming procedure; keep the key pressed for approximately 10 secs. to save the data and exit from the procedure.

To quit the procedure without saving the data press **NEXT** for three seconds.

**CONFIRM:** confirms the value and passes to the following item (**AM/PM**).

**NEXT:** exits the programming procedure without data backup.

**[+]:** sets minutes of start time (00 -59).

**[-]:** sets minutes of start time (00-59).





## PROGRAMMING PM/AM



Press key **[+]** to select PM (icon on) and **[-]** to set AM (icon off). Press **CONFIRM** to return to selection of a new programme number (section 2.3.4).

To quit the procedure without saving the data press **NEXT** for three seconds.

**CONFIRM:** confirms the item and returns to selection of a new programme.

**NEXT:** exits the programming procedure without data backup.

**[+]:** selects PM (icon PM on).

**[-]:** selects AM (icon AM on).

### NOTE ON PROGRAMMING MODES

- 1) Watering starts (P01-P10) need not be programmed in chronological order: the control panel performs the watering cycle as nearer as possible to the real time by temporarily creating an order in automatic mode.
- 2) The watering starts (P01-P10) need not be programmed following a chronological order: some positions may be left empty by setting time to zero.
- 3) The programme cycle can be changed at any time.





## 2.4 - MANUAL FUNCTIONS

The user interface of the control panel presents a liquid crystal display with dedicated icons, a numerical display and four function keys.

**NOTE:** the icons printed in grey indicate that they are blinking. The rain sensor and the battery icons are on or off according to the actual charged state of the battery and the ground conditions (wet or dry).

### MANUAL FUNCTIONS



When the icon **MAN** flashes in the main menu (section 2.1), press **CONFIRM** to enter the manual procedure.

**CONFIRM:** enters the clock programming procedure.

**NEXT:** passes to the following function of the main menu (**MAN**).

In this screen, the keys **+** and **-** are disabled.



## MANUAL WATERING ON/OFF SETTING



Use the keys **[+]** and **[-]** to select **ON/OFF**; select the desired function and press **CONFIRM** to enter the watering time setting screen (following screen).  
To quit the manual function control procedure and return the main menu (section 2.1) press **NEXT**.

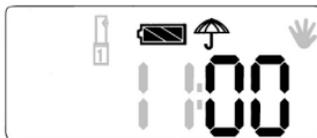
**CONFIRM:** confirms the selection and passes to the following item (**TIME**).

**NEXT:** exits the manual function control.  
**[+]:** selects **ON/OFF mode** (cyclic check).

**[-]:** selects **ON/OFF mode** (cyclic check).



## MANUAL SETTING OF WATERING TIME: HOURS



Use the function keys **[+]** and **[-]** to set the watering time hours. Upon first start of the control panel or if no information is previously set, zero is displayed.

When the desired time has been selected, press **CONFIRM** to enter the **minute** programming procedure.

To quit programming without saving the data press **NEXT**.

**CONFIRM:** confirms the value and passes to the following item (**MINUTES**).

**NEXT:** exits the programming procedure without data backup.

**[+] :** sets the watering time (0 to 11 hours).

**[-] :** sets the watering time (0 to 11 hours).



## MANUAL SETTING OF WATERING TIME: MINUTES



Use the function keys **[+]** and **[-]** to set the watering time minutes. Upon first start of the control panel or if no information is previously set, zero is displayed on the numerical display.

When the desired time has been selected, press **CONFIRM** to enable the opening pulse of the solenoid valve and display the on status (following screen).

To quit programming without saving the data press **NEXT**.

**CONFIRM:** confirms the value and passes to the following item (**EV ON**).

**NEXT:** exits the programming procedure without data backup.

**[+]:** sets the watering time (00 to 59 minutes).

**[-]:** sets the watering time (00 to 59 minutes).



## EXITING FROM THE MANUAL FUNCTIONS



After the opening pulse given by the solenoid valve, the irrigator fixed icon and ON are displayed on the numerical display.

To exit from the manual function control procedure and return to the main menu (section 2.1) press **CONFIRM**.

**CONFIRM**: exits from the manual and return to the main menu.

**NEXT**: disabled.

[+]: disabled.

[-]: disabled.

### SERVICE NOTES

Watering is active until the set manual time has elapsed: to close the solenoid valve and stop watering return to the manual function and select **OFF**.

If the manual watering is added to an automatic cycle (**P01-P10**), the manual cycle will be performed first.

If **CONFIRM** is pressed with the time set to zero, the valve does not open and the system will be as programmed.



#### **NOTE ON MANUAL OPERATION**

- 1) The manual watering cycle comes before a programmed automatic cycle.
- 2) If a watering start has been programmed during a manual opening, the automatic watering cycle will not operate.
- 3) In manual mode it is possible to disable the programmed watering cycle during operation.





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