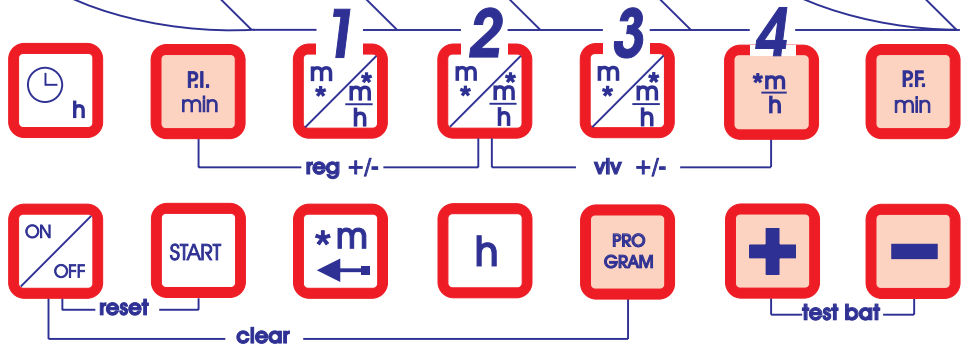
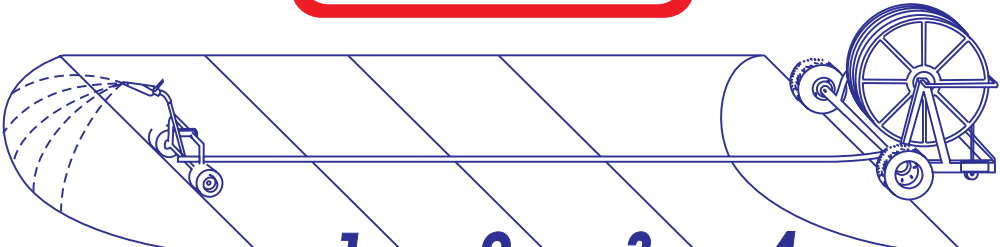





# MaterMacc

## MANUAL FOR USE AND MAINTENANCE



**IRRIGAMATIC** **P450**

\*FOR ENGLISH SYSTEM \*m = FEET ( f IN DISPLAY )



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## **1. GENERAL FEATURES**

- Sprinkler trolley rewinding speed adjustment (programmable from 5 to 250 m/h).
- Program possibilities up to four different rewinding speeds.
- Irrigation start time (programmable up to max. 23 hours and 59 min).
- Pause when irrigation starts (programmable from 0 to 99 min).
- Pause when irrigation ends (programmable from 0 to 99 min).
- Unwound and rewind hose measurement (up to 999 meters).
- Calculated irrigation end time (up to max. 23 hours and 59 min).
- Partial and total irrigation hours counter.
- Automatic programmable shut-off (up to 99 min), for energy saving.
- Loading state test of power supply battery.
- Test of connected sensors.
- Memorizing the last 16 operations carried out during the irrigation cycle
- Possibility of detecting the rewinding speed by sensor mounted on:
  - **gearbox output pinion.**
  - **roller on PE hose (as an alternative).**
- Rain adjustment (only with flowmeter) with water measurement in m<sup>3</sup>.
- Predisposition for a pressure sensor.
- Predisposition for rain and wind sensors.

### **SPECIAL FUNCTIONS**

- " End-of-unwinding advise" by setting the required hose quantity to be unwound.
- Possibility to end the irrigation cycle before the hose is totally rewound, by setting the required quantity of hose to be rewound.
- Possibility to set a limit time within which you wish to end irrigation.  
Useful whenever water is only available at fixed times.

## **2. INTRODUCTION**

This manual contains information needed for adjustment, use and maintenance of the electronic Irrigamatic console and its accessories.



### **NOTE**

**Please read this manual carefully before using your new IRRIGAMATIC**

Please note the data of your IRRIGAMATIC; they will be useful to you for ordering accessories, spare parts, and whenever you need to contact your dealer in general.

The manual contents and drawings are updated on printing date and refer to the features of the console they are supplied with. Matermacc s.r.l. reserves the right of updating and/or modifying them without prior notice.

## **3. GUARANTEE**

- Upon delivery of your console please make sure your equipment has not been damaged during transportation and the accessories are whole and sound.
- Any claim shall be submitted in writing within 8 days from receipt.
- The guarantee lasts 1 year from date of delivery against any material defect.
- The guarantee does not include any shipping costs **(the material travels at the consignee's risk and peril)**.
- Any damage caused to people or property is excluded from the guarantee.
- The guarantee is limited to free repair or replacement of the defective part.
- Neither the retailers nor the users cannot claim with the maker for any damage or costs that might occur **(labour costs, transportation, defective work, direct or in direct accidents, lack of profit on harvest, etc.)**

### **3.1 VALIDITY OF THE GUARANTEE**

Besides what is mentioned in the supply contract, the guarantee expires:

- If the instructions described in this manual are not followed carefully.
- In case of customer's misuse, faulty maintenance or mistakes.
- Should non-original spares be used.



### **NOTE**

**However, Matermacc S.r.l is always at your complete disposal to ensure immediate accurate technical support and whatever can be necessary for the best performance and correct operation of the equipment.**

## 4. DESCRIPTION OF THE EQUIPMENT

The IRRIGAMATIC P450 console is equipped with 14 keys by which the operator programs the system according to their own requirements and with a display sending a series of information.



**ON/OFF switching key**



**Working cycle start**



**Irrigation start time**



**Initial pause (minutes)**



**Rewinding speed ( from 5 to 250m/h) and length ( from 0 to 250m) programmed for the first sector**



**Rewinding speed (from 5 to 250m/h) and length (from 0 to 250m) programmed for the second sector**



**Rewinding speed (from 5 to 250m/h) and length (from 0 to 250m) programmed for the third sector**



**Rewinding speed (from 5 to 250 m/h) programmed for the fourth sector.**



**Final pause (minutes)**



**Display the unwound PE hose meters.**



**Expected (calculated) end-of-irrigation time.**



**If it is pressed together with keys  or  it allows to modify the value of the displayed function.**



**It increases the value of the function being displayed.**



**It decrease the value of the function being displayed.**

## 5. CARRYING OUT THE IRRIGATION CYCLE

For a correct irrigation procedure, we recommend executing the various phases in the right order as described below.

PHASE	DESCRIPTION	
1	Switch console on.	(see par. 6 - page 04)
2	Unwind the tube. The console will measure and display the meters of tube being unwound.	(see par. 7 - page 05)
3	Programming the working cycle.	(see par. 8 - page 06)
4	Start the working cycle by pressing START.	(see par.9 - page 13)
5	End of working cycle	(see par. 10 - page15)

## 6. STARTING-UP

### 6.1 SWITCHING THE CONSOLE ON

Press key  .

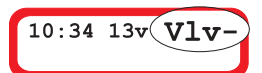
The IRRIGAMATIC model and the version of the installed program is displayed (for ex. v1:45)



### 6.2 INITIALIZATION

The console carries out a series of tests and preliminary operations automatically. Then some info is displayed such as:

- 1 Present time (for ex. 10:34)
- 2 Voltage and charge of the supply battery "**Batt OK**" or "**Batt err**"
- 3 End-of-work motor is set in closed valve conditions.
- 4 Speed adjustment motor is set in conditions of zero speed.



### 6.3 END OF START-UP PHASE

When this is displayed, the console is ready to be programmed (PGM) and awaits hose unwinding.




If the **Not End** message is displayed, however, the console does not wait for hose unwinding, but continues its working cycle from the point where it had been interrupted.



See par. 13 page 19 message

Not End

## 7. UNWINDING THE HOSE

The hose shall be unwound at the end of the starting-up phase and before pressing the key  to start the working cycle.

### END-OF-UNWINDING ADVISING (IF REQUIRED)

During unwinding, the console may give you a signal corresponding to a programmed quantity of hose unwound. (See par. 11.1 page 16).

The console measures the meters of hose automatically while unwinding (up to max. 999 meters).

The quantity of unwound hose will be displayed (for ex. 350m).



If the unwound meters are measured by the sensor mounted on the pinion, the console also displays the number of layer being unwound at that moment ( for ex. layer no. 4 ).



If after unwinding the hose, the display still displays meters = 0, it means that the unwound meters have not been measured due to a trouble or a failure. (See paragraph 12 SENSORS TEST on page 18).

## IMPORTANT

Make sure the quantity displayed by the console is correct.




If it is not, modify the displayed value manually.

If the hose is being unwound after switching the console on, enter the measure of the unwound meters read on the hose manually.


### 7.1 MANUAL INPUT OR CORRECTION OF THE UNWOUND METERS

1 Press key  to display the arrow.



2 Press key  without releasing it and then press keys  or  to modify or set the meters required

## NOTE

If the console is being switched off, the unwound meters remain stored in memory only when the console is switched off accidentally when the working cycle is in process (after pressing key  ) and before finishing rewinding.

In any other cases when the console is being switched off the unwound meters are set to zero.



## 8. PROGRAMMING

We recommend to program at the end of the start-up phase and before pressing key  to start the working cycle.

However the set values can also be modified while executing the working cycle, always by following the same input procedure

### 8.1 PROGRAMMING THE WORKING CYCLE

#### NOTE


The values that were modified when the working cycle is in process (IRR) are not stored in memory when the electronic console is being switched off. When switching up next, the values being displayed will be the ones set during the previous programming phase.

#### 8.1.1 PROGRAMMING THE IRRIGATION START TIME (Only if required).

The time can be set up to max. 23h and 59' from the time displayed by the clock.

The irrigation start time **is not** stored in memory when the electronic console is switched off.




##### 1 Recall the irrigation start time.

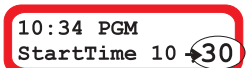
Press key . The time is the same displayed by the clock.



##### 2 Set the required irrigation start time. (For ex. 12:30)

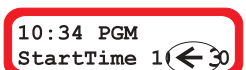
###### ● Set the minutes.




Press key  without releasing it and then press keys  or  to set the required minutes.

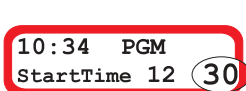


###### ● Set the hour.

Press key  to turn the arrow to the left.



Press key  without releasing it and then press keys  or  to set the required hour.




#### 8.1.2 PROGRAMMING THE INITIAL PAUSE




It's possible to set the initial pause (without rewinding the hose) up to max. 99 minutes.


##### 1 Recall the initial pause.


Press key .



##### 2 Set the minutes.

Press key  without releasing it and then press keys  or  to set the required minutes (for ex. 5 min).



When the irrigation cycle is in process (IRR), press key  to display the minutes missing to the end of the initial pause, indicated by **rI (residual initial pause)**.



### 8.1.3 PROGRAMMING SECTOR

The rewinding speed in the various sectors can be programmed from 5 to 250 m/h.

The length in meters of Sector 1, Sector 2, Sector 3 can be programmed from 0 to 250 m.

## !! ATTENTION !!

The programmed meters of length in Sector 1, Sector 2 and Sector 3 cannot be modified when the working cycle is in process (IRR).

Make sure they are correct before pressing key  .

## IMPORTANT

For a full single-speed rewinding, the required speed has to be programmed only in Sector 4 and set to zero the programmed meters of length on Sectors 1,2 and 3.


Sector 4 is always considered as the last sector in the irrigation cycle to be carried out. For this reason, the only data to be programmed is the required speed that will be kept until the end of rewinding.

### SECTOR 1

## NOTE




To exclude the Sector 1, set to zero the meters of length.

#### 1 Recall the speed to set.

Press key  .




#### 2 Set the required speed (for ex. 20 m/h).




Press key  without releasing it and then press keys  or  to set the speed required.



#### 3 Set the meters of length for Sector 1 (for ex. 100 m).

Press key  to turn the arrow to the left and allow programming of the meters.



Press key  without releasing it and then press keys  or  to set the meters required.



#### NOTE:


Press key  to turn the arrow to the right to modify the programmed speed (if required).

## SECTOR 2

### NOTE




To exclude the Sector 2, set to zero the meters of length.

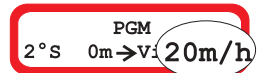
#### 1 Recall the speed to set.

Press key .




#### 2 Set the required speed (for ex. 20 m/h).




Press key  without releasing it and then press keys  or  to set the speed required.



#### 3 Set the meters of length for Sector 2 (for ex. 100 m).

Press key  to turn the arrow to the left and allow programming of the meters.



Press key  without releasing it and then press keys  or  to set the meters required.




**NOTE:** Press key  to turn the arrow to the right to modify the programmed speed (if required).

## SECTOR 3

### NOTE




To exclude the Sector 3, set to zero the meters of length.


#### 1 Recall the speed to set.

Press key .




#### 2 Set the required speed (for ex. 20 m/h).




Press key  without releasing it and then press keys  or  to set the speed required.




#### 3 Set the meters of length for Sector 3 (for ex. 100 m).

Press key  to turn the arrow to the left and allow programming of the meters.



Press key  without releasing it and then press keys  or  to set the meters required.



**NOTE:** Press key  to turn the arrow to the right to modify the programmed speed (if required).




## SECTOR 4

### 1 Recall the speed to set.

Press key .

PGM  
4°Sect → Vi 6m/h

### 2 Set the required speed (for ex. 20 m/h).

Press key  without releasing it and then press keys  or  to set the speed required.

PGM  
4°Sect → Vi 20m/h


## NOTE

The setting rewinding speed values in the various sectors can be modified automatically by the console if the function "end-of-irrigation time limit" has been enabled. (See par. 11.3 page17).

### 8.1.4 PROGRAMMING THE FINAL PAUSE




It's possible to set the final pause up to max. 99 min.

#### 1 Recall the final pause.


Press key .

10:34 PGM  
PF → 0min

#### 2 Set the minutes.

Press key  without releasing it and then press keys  or  to set the required minutes (for ex. 5 min)

10:34 PGM  
PF → 5min

When the irrigation cycle is in process (IRR), press key  to display the minutes missing to the end of the final pause, indicated by rF (residual final pause).

rF IRR → 5min

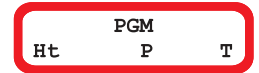
## 8.2 PROGRAMMING THE USER'S MENU

Further minor functions have been added to a menu, access to which is possible both during the programming phase and at work.

### 1 Access to the user's menu.

When the console is on press on keys  and  at the same time.

The following will be displayed:





### 2 Selection of the required function

The various functions are listed in sequence.

Press key  to move forward

## NOTE

You can quit this menu at any time by pressing any keys of the main functions. ( , , etc. )

In any case, after approx. 15 seconds after pressing any key, the console quits this menu automatically to return to the normal operating conditions.

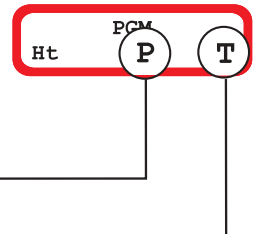
## AVAILABLE FUNCTIONS

### 8.2.1 IRRIGATION HOUR COUNTER

#### 1 Two counters are displayed:

P = Partial irrigation hours, that can be set to zero.

T = Total irrigation hours, that cannot be set to zero.



#### 2 Set the partial hours (P) to zero (only if required).


Press keys  and  and  at the same time for approx 4 seconds until 0 is displayed next to the letter P.














### 8.2.2 CLOCK SETTING/ADJUSTMENT

This operation should be carried out only in case of differences between the real time and the one displayed by the console.

## NOTE

The time displayed by the clock during the working cycle (IRR) cannot be modified. Check and correct if necessary the time being displayed before pressing .

- 1 **Set the hours.** Press key  to move forward and display the clock time 
- 2 Press key  without releasing it and then press keys  or  to modify the displayed hour. 
- 3 **Set the minutes.** Press key  to move forward and display the minutes.
- 4 Press key  and without releasing it, press keys  or  to set the required minutes. 

### 8.2.3 DISPLAYING "PLUVIOMETRY OPERATION STATE"

Press key  to display the state.

It shows only if the console is enabled to the pluviometry operation. It is usually disabled and **N (= NO pluviometry)** is displayed. It can be modified only if the flowmeter is mounted on the irrigator.



### 8.2.4 DISPLAY OF THE POSITION OF THE END-OF-WORK VALVE

Press key  to display the position of the end of work valve.

It only indicates in which position the end of work valve is mounted and therefore what system has been used on the irrigator to end the irrigation. In particular:



**A** End of work valve set on outlet.  
In this case the irrigation stops by pressure drop.


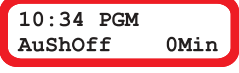






**B** End of work valve set on inlet.  
In this case the irrigation is stopped by overpressure.



### 8.2.5 AUTOMATIC SHUT-OFF

To save energy, a time limit can be set and once it has elapsed the console goes off automatically after the end of irrigation. This time can be programmed up to 99 minutes.

- 1 **Set the time.**  
Press key  to display the automatic shut-off function. 
- 2 Press key  without releasing it and then press keys  or  to set the required minutes. (For ex. 5 min) 

## IMPORTANT

If zero minutes are set,  **THERE IS NOT AUTOMATIC SHUT-OFF** and the console shall be switched off manually by pressing key .

### 8.3 DISPLAY THE EXPECTED END-OF-IRRIGATION TIME

Press key **h** to know at what time the end of irrigation is expected.  
 This time is calculated by the console by adding up the initial pause, the final pause and the time needed to carry out the cycle, based on the unwound meters and on the speed that has been programmed in the various sectors.

#### 8.3.1 CALCULATION EXAMPLE OF END-OF-IRRIGATION TIME

##### 1 Programming values

● Present time	10:34				
● Irrigation start time	12:30				
● Initial pause				5' +	
● Rewinding speed for Sectors 1, 2, 3, 4.	20m/h	}	17h : 30' +		
● Unwound meters	350m				
● Final pause				5' =	
<b>Total irrigation time</b>					<b>17h : 40'</b>

##### 2 How to calculate the time

The expected end-of-irrigation time is given by:

Irrigation start time	12 : 30 +
Total irrigation time	17h : 40' =
<b>End-of-irrigation time</b>	<b>6 : 10</b>

##### 3 Displaying the expected end-of-irrigation time

Press key **h**.

10:34 PGM  
 CalcTime 6c10

The time is displayed as "6c10" where "c" indicates the calculated time.

If the total irrigation time exceeds 24 hours, the console will display the message "Err Hc" ( See paragraph 13.2 page 22).

#### 8.3.2 END-OF-IRRIGATION TIME WITH END-OF-UNWINDING ADVISING


If key **h** is pressed after enabling the function "end-of-unwinding advising" (See par. 11.1 page 16) is possible to know before starting unwinding, the expected time, calculated based on the meters set to get the advising (for ex. 300m).

For this reason the time is displayed with a "z" between hours and minutes to indicate the calculated time with end-of-unwinding advising.

10:34 PGM  
 CalcTime 3z40

## 9. WORKING CYCLE

### 9.1 WORKING CYCLE START

After unwinding the hose and entering the programming data correctly, start the working cycle by pressing key .

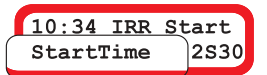
### 9.2 CARRING OUT THE WORKING CYCLE

1 The console signals to the operator that the working cycle is starting.



2 **Irrigation start time.** (Only if programmed)

The irrigation start time is displayed until it is reached.



3 The end-of-work motor is set on irrigation condition.  
In particular:

A With end-of-work valve mounted on the outlet, the motor reaches the closed discharge position.



B With end-of-work valve set on inlet, the motor reaches the position of "valve open" to let the irrigation start.



4 **Initial pause.** (Only if programmed)

The initial pause is carried out with the adjustment motor in zero speed position.

The console displays the minutes remaining to the end of initial pause, indicated by rI (residual initial pause).



5 The speed adjustment motor is driven shortly to make rewinding up easier.



### 9.3 VISUALISATIONS

During the working cycle the following information are displayed:

1 Preset speed Vi (for ex. 20m/h), relative to the sector in process (For ex. 1st sector).



2 The meters that remain to the end of the sector (for ex. 56 meters)



3 Measured speed:

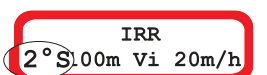
● When the working cycle begins, the measured speed is displayed by three hyphens because the rewinding speed is almost zero.



● While the hose is being rewound up, by effect of the adjustment made by the console, the speed will be equal or close to the set speed (Vi).



4 When the sector is over, the console would automatically switch to the next programmed sector, (For ex. 2nd sector).





## 9.4 SPECIAL VISUALISATIONS

### 9.4.1 VISUALISATIONS WITH END-OF-IRRIGATION LIMIT TIME

If during the execution of the working cycle the end-of-irrigation limit time function is active (see paragraph 11.3 page 17), the console signals this condition as follows:

**1 Clock.**

A small "o" blinks between the hours and the minutes



**2 Speed.**

The speed displayed (Vo) is calculated by the console to finish the irrigation at the established time, instead of the programmed speed (Vi).



**3 Pause. (only if programmed)**

To finish the irrigation within the set limit time, the console can reduce the time programmed for pauses. In particular:

- **Initial pause**

Both the initial pause minutes that had been programmed, displayed by rI (for ex. 5 min) and the minutes calculated by the console, (displayed with a little "0") are displayed at the same time. (For ex. 1 min).



- **Final pause**

Both the final pause minutes that had been programmed, displayed by rF (for ex. 5 min) and the minutes calculated by the console, (displayed with a little "0"), are displayed at the same time. (For ex. 1 min).



### 9.4.2 VISUALISATIONS WITH END-OF-IRRIGATION PROGRAMMED AFTER A CERTAIN NUMBER OF REWOUND METERS

If the function has been enabled (see par. 11.2 page 16), by pressing



key (see par. 8.3 page 12) the console will display the time expected for end-of-irrigation based on the programmed meters of hose to be rewound not on the total meters of hose that have been unwound. This is the reason why the time calculated is displayed with a small "z" blinking between the hours and the minutes.

and



It is possible to use this function also in combination with the end-of-irrigation limit time function.

## 10. END OF WORKING CYCLE

The end-of-work procedure starts:

**A** by activating the end-of-rewinding sensor (if mounted on the irrigator)  
In this case when the sensor is activated, the console displays

IRR  
End Rewind

**B** when reaching the programmed meters to end the irrigation before  
rewinding the whole hose (see par. 11.2 page 16).  
When the required number of meters has been reached, the console  
displays

Stop m0

### 10.1 END-OF-WORK PROCEDURE

1 The speed adjustment motor is set at zero speed.

IRR Reg Stop

2 The final pause is executed. (Only if programmed)  
The console displays the minutes remaining to the end of the final pause,  
indicated by rF (residual final pause).

IRR rF 5Min

**At this point, the end-of-work valve is commanded in different way, depending the position of the valve on the irrigator.** (See paragraph 8.2.4 pag. 11).

#### ● WITH END-OF-WORK VALVE MOUNTED AT THE OUTLET.

1 The console drive the end-of-work valve to the discharge position.  
At the same time the relay inside the console is activated for one minute.  
The contact of this relay is used for controlling an esternal advise system and  
is available at terminal M10 of the console.

IRR Vlv+ Vlv Stop

2 The valve is kept in this position for a certain lapse of time to allow an  
adequate pressure drop. The console displays this waiting condition as  
follows:

Vlv Wait

3 When this time has elapsed, the console drive the end-of-work  
valve to the closed position.

Vlv Wait Vlv-

4 When the valve stops, the console remains idle waiting for switching off and the  
following message will be displayed:

PGM  
End Irrig

5 If the automatic shut-off function is enabled ( see par. 8.2.5 page 11 ), for the  
whole duration that has been set and until it is switched off automatically,  
the following message will be displayed by the console:

PGM  
AuShOff

#### ● WITH END-OF-WORK VALVE MOUNTED ON THE INLET

1 The console drive end-of-work valve to the closed position to end the  
irrigation. At the same time the relay inside the console is activated for  
one minute. The contact of this relay is used for controlling an esternal advise  
system and is available at terminal M10 of the console.

IRR Vlv- Vlv Stop

2 When the valve stops, the console will remain idle waiting for  
switching off and the following message will be displayed:

PGM  
End Irrig

3 If the automatic shut-off function is enabled ( see par. 8.2.5 page 11 ), for the  
whole duration that has been set and until it is switched off automatically, the  
following message will be displayed by the console:

PGM  
AuShOff

## 11. SPECIAL FUNCTIONS



### 11.1 END-OF-UNWINDING ADVISING

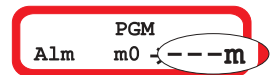
During the unwinding the console may give you a signal corresponding to a programmed quantity of hose unwound.

To get this signal, it is necessary to equip the installation with an advise signal (blinking, siren, radio, etc.) controlled by the relay contact available on the console (terminal M10).

This setting should be made before unwinding the hose




#### 1 Access to the function end-of-unwinding advising

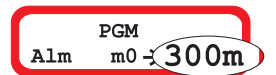
Press keys  and  at the same time to access the function. The hyphens being displayed show the function is disabled.



#### 2 Enabling and meter setting.



By setting the meters, the console would enable the function automatically.

Press key  without releasing it and then press keys  or  to set the required number of meters (for ex. 300m).



The meters are displayed starting from 500 for a quicker setting.


#### 3 Disabling the function . (Only if required)

If you wish to disable this function after setting the meters, press keys  and  at the same time for approx. 5 seconds until the hyphens are displayed.





**By switching the console off, this function will be disabled automatically.**

### 11.2 PROGRAMMED END-OF-IRRIGATION AFTER A CERTAIN NUMBER OF REWOUND METERS

This function permits to end the irrigation before rewinding the whole hose, by setting the required number of meters to be rewound. This function can be enabled only after pressing key  and starting the working cycle.




#### 1 Access to the function

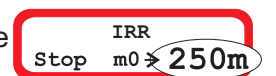
Press keys  and  at the same time to access the function. The hyphens being displayed show the function is disabled.





#### 2 Enabling and meter setting.

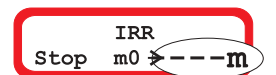
By setting the meters, the console would enable the function automatically.

Press key  without releasing it and then press keys  or  to set the required number of meters (for ex. 250m).




#### 3 Disabling the function . (Only if required)

If you wish to disable this function after setting the meters, press keys  and  at the same time for approx. 5 seconds until the hyphens are displayed.



**By switching the console off, this function will be disabled automatically.**

## 11.3 END-OF-IRRIGATION TIME LIMIT

This function allows to establish the time within which irrigation should be ended. Any considerations concerning the application of this function should be related to the indication of the end-of-irrigation time, displayed by pressing key  (see par. 8.3 page 12).

For this reason, it is important to set all programming values correctly.

If the end-of-irrigation limit time is programmed in different way, this function can be used in two ways. In particular:

**A** By programming the limit time equal to the expected end of irrigation time.

In this case, in case of interruptions during the working cycle (for ex. because there is not enough pressure) the console would automatically guarantee the arrival time established by recalculating the programming values in view of the time that is still available.

**B** By programming a time limit different than the expected end-of-irrigation

The limit time should be reached before the expected end-of-irrigation time. The console would calculate the new programming values automatically. (initial pause, final pause, rewinding speed).

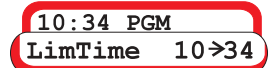
### 11.3.1 PROGRAMMING EXAMPLE OF END-OF-IRRIGATION TIME LIMIT

This example refers to the values used in par. 8.3 of page 12.

**1 Enabling the limit time function.**




Press keys  and  at the same time.

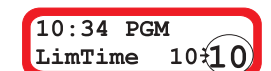
The limit time is the same displayed by the clock.



**2 Set the time (for ex. 6:10).**

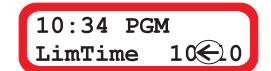
● **Set the minutes.**




Press key  without releasing it and then press keys  or  to set the required minutes.

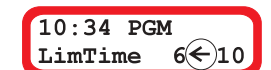


● **Set the hour.**

Press key  to turn the arrow to the left.



Press key  without releasing it, and then press keys  or  to set the required hour.



**3 Disabling the limit time function. (Only if required)**

Press keys  and  and  at the same time until the time displayed becomes the same as the time displayed by the clock.



If the " Err Hc " message is displayed, the function end-of-irrigation time limit won't be accepted.

## 12. SENSOR TEST

You can check the sensors connected to the IRRIGAMATIC console.  
To access the **TEST** function, proceed as follows:

1 **Make sure the console is off and the irrigator is off, too.**

2 **Access to the test function**

Press keys  and  and  at the same time and do not release them for at least 5 seconds until the following is displayed:



3 **Check the operation of the speed sensor.**

Make sure the speed sensor receives the pulses (for ex. unwind hose).  
The display should show the progressive mm. count increase



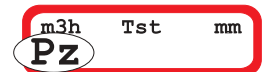
4 **Check the operation of the end rewinding sensor.**

Activate the sensor by approaching the magnet to the sensor. Fr should be displayed.  
Otherwise check the distance between the magnet and the tip of the sensor  
This distance should be less than 5 mm.



5 **Check the pressure switch operation. (Only if equipped with one)**

Make sure Pz is displayed when the machine is not under pressure.  
When the machine is working at the regular working pressure, Pz should be disappeared. If it does not, check the calibration pressure of the pressure switch.



6 **Check the flow meter operation. (Only if equipped with one)**

Let the water flow through the flow meter, the flow rate in  $mt^3/h$  should be displayed (for ex. 60  $m^3/h$ ).





7 **Check the wind/rain sensor. (Only if equipped with one)**

Activate the wind/rain sensor. Pg should be displayed.



8 **Check the relay operation.**

1 To switch on the relay, press keys  and  at the same time. Rel should be displayed.

2 To switch-off the relay, press keys  and  at the same time. Rel should be displayed.



9 **How to quit the test function.**

To quit the sensor test function, switch the console off by pressing  .

### IMPORTANT

Should the operation of the various connected sensors not be displayed, check the installation and the integrity of cables, connections, sensors and repeat the test.  
If the result is still negative, contact your dealer or MATERMACC servicing center.

## 13. DISPLAY MESSAGES

### 13.1 OPERATING MESSAGES

**Stop Press0**

This message can only be displayed if the pressure switch is connected to the console. It shows the pressure in the hose has fallen below the pressure switch calibration value. The pressure switch is only checked during the working cycle. When there is not enough pressure in the hose, the cycle is interrupted. The end-of-work valve is set on closed valve condition.

The speed adjustment motor is set on zero speed.

The console remains in stand-by until the pressure returns above the pressure switch calibration value. While the inactivity the following message is displayed.

When the pressure returns, the console will automatically continues the irrigation cycle from where it has previously been interrupted.

**Reg?**

During the working cycle, the speed adjustment motor is controlled by the console in order to maintain the programmed speed.

When the motor reaches end of stroke, the console will display this condition as follows:

If this message is displayed and the measured speed is lower than the programmed speed, it would mean that the highest possible speed of the irrigator has been reached.

Therefore the programmed speed value or the machine adjustments should be modified.

**m/h^^^^**

During the working cycle, if the rewinding speed exceed 250 m/h, the console would display the following message:

**Not End**

The message might appear at the end of the starting phase.

This message means that the console has been switched off when the irrigation cycle was not over yet. Consequently the end-of-rewinding sensor was not activated. This is the reason why this message is displayed when switching on the console and the cycle starts again automatically from the point where it had been interrupted. Should you wish to restart a new cycle deleting the programmed values, a RESET operation should be carried out. (See par. 14 page 24) Should you wish to restart a new cycle deleting the programmed values, a CLEAR operation should be carried out. (See par. 14 page 24)








**Stop Trol?**

If during the working cycle the rewinding speed equal to zero for more than 3 minutes, this message will be displayed. This is the time needed by the console to establish that the trolley is stopped. Therefore the speed adjustment motor is controlled automatically to reach the programmed speed. Find out why the trolley is stopped.



TRR ---m/h  
**Stop Trol?**

**Alm Trol**

This is the case when the "Stop Carr?" condition persists for more than 9 minutes. When the Alm Carr message is displayed the irrigation cycle is interrupted by the normal end-of-work procedure. (See par. 10.1 page 15).



PGM  
**Alm Trol**

Possible causes:

- A) Lack of pressure (and pressure switch not connected)
- B) Carriage locked
- C) Turbine locked
- D) Speed sensor out of order
- E) Feeler roller jammed or skidding. (Only if equipped with one)

**End Irrig**

This message is displayed at the end of the irrigation cycle until the console is switched off and indicates the irrigation has been ended regularly.



PGM  
**End Irrig**

## 13.2 ERROR MESSAGES

**Err Mot**

This error message is displayed when there is a problem with the speed adjustment motor or the end-of-work motor. The Err Mot message always comes together with a second message that identifies the cause of the problem better. In particular:

**Reg Sc** Short circuit of speed adjustment motor

It takes place when:

- A) The speed adjustment motor or its connections are short-circuited.
- B) the motor is subject to great efforts, such as to determine an absorption of current higher than the safety limit set on the console.

**Reg Tm** Max. time exceeded for speed adjustment motor to reach position

It takes place when:

- A) the motor effort is considerable and does not allow to reach the end of stroke position within the allowed time limit .
- B) Motor reduction unit breakdown.

**Vlv Sc** Short circuit of the motor of the end of work valve.

It takes place when:

- A) there is a short circuit of the end-of-work motor or its connections.
- B) the motor is subject to great efforts, such as to determine an absorption of current higher than the safety limit set on the console.

**Vlv Tm** Max. time exceeded for the end-of-work motor to reach the required position

It takes place when:

- A) the motor effort is considerable and does not allow the equipment to reach the end of stroke position within the allowed time limit .
- B) Motor reduction unit breakdown.

**Err Mot**

**Reg Sc**  
Err Mot

**Reg Tm**  
Err Mot

**Vlv Sc**  
Err Mot

**Vlv Tm**  
Err Mot

### **IMPORTANT**

**The Err Mot message means that there is a failure or an abnormal working condition. This is the reason why when it is displayed, the console remains in this error condition and does not allow to work normally. Moreover the relay inside the console is activated for approx. 1 minute. Therefore the regular working conditions must be reset, by identifying and solving the failure or trouble.**




**Err Hc**

It is displayed when pressing key  and the duration of the working cycle has been calculated in over 24 hours.

**Err Hc**

**NOTE**


**This message does not jeopardize the console operation in any way.**  
When the cycle lasts less than 24 hours , press key  to obtain the information concerning the arrival time.

**ReWind End Err**


It is displayed when pressing key  and the end-of-rewinding sensor is active.

**ReWind End Err**

It takes place when:

- A) The hose has not been unwound, therefore the end-of-rewinding sensor is still active.
- B) If the sensor is still active when the hose is fully unwound, check the distance between the magnet and the sensor and remove the magnet to deactivate the sensor if needed . After removing the cause, press key  again.

**Meters Err**

This message is displayed when pressing key  and it means the sum of the meters programmed in sectors 1, 2 and 3 is higher than the unwound meters, measured by the console during the hose unwinding phase (see par.7 page 05).

**Meters Err**

Make sure that:

- A) The displayed unwound meters are correct.
- B) The meters programmed for sectors 1, 2 and 3 are set correctly, considering the meters that have actually been unwound.

### 13.3 MOTOR DRIVE MESSAGES

**Reg+**

It means that the console is controlling the adjustment motor to increase the rewinding speed.

**Reg+**

**Reg-**

It means that the console is controlling the adjustment motor to reduce the rewinding speed.

**Reg-**

**Reg □□**

It means that the adjustment motor has reached the end of stroke position at lowest speed.

**Reg□□**

**Reg##**

It means that the adjustment motor has reached the end of stroke position at highest speed.

**Reg##**

**Vlv+**

It means the console is controlling the end-of-work motor valve to reach the open valve position.

**Vlv+**

**Vlv-**

It means the console is controlling the end-of-work motor valve to reach the closed valve position.

**Vlv-**

**Vlv □□**

It means that the end-of-work motor valve has reached the fully open valve position.

**Vlv□□**



**Vlv##**

It means that the end-of-work motor valve has reached the fully closed valve position.

**Vlv##**

## **14. EXTRA FUNCTIONS**

### **Battery test**

At any time you can know if the battery charge is still good by pressing key  and  at the same time.

The display shows the voltage (in Volts) of the battery supplying power to the console (for ex. 13v).





13v

### **Reset**

This operation should be carried out if you wish to start a new cycle with the same programmed values.

To carry out the reset function, switch the console on by pressing

key  and  at the same time. Do not release this keys for at least 5 seconds until Reset is displayed. Then release the keys.





Reset

### **Clear**

This operation should be carried out if you wish to start a new cycle by erasing the programmed values. This operation is also useful to clean and remove from the console any incorrect data that might cause operation failures during the normal use of the appliance. After this operation, the set speed (Vi) is taken to a preset value of 6m/h.

To carry out the Clear function, switch the console on by pressing

key  and  at the same time. Do not release this keys for at least 5 seconds until Clear is displayed. Then release the keys.



Clear

## 15. MANUAL MOTOR CONTROL

At any time you can control the motors connected to the IRRIGAMATIC console manually.

### 15.1 SPEED ADJUSTMENT MOTOR CONTROL.

#### 1 Increase speed.

Press keys  and  and  at the same time. The speed adjustment motor is controlled by the console intermittently.

During the motor rotation Reg+ is displayed.

When the end of stroke position is reached, Reg? is displayed.




#### 2 Reduce speed.

Press keys  and  and  at the same time. The speed adjustment motor is controlled by the console intermittently.




During the motor rotation Reg- is displayed.

When the end of stroke position is reached, Reg? is displayed.







### 15.2 END-OF-WORK VALVE MOTOR CONTROL

#### 1 Open the valve .

Press keys  and  and  . During the motor rotation Vlv+ message is displayed. You can now release the keys because the motor is still active automatically until the valve opens completely. If you wish to stop before reaching the end of stroke position, press the three keys at the same time again.



#### 2 Close the valve.

Press keys  and  and  . During the motor rotation Vlv- message is displayed. You can now release the keys because the motor is still active automatically until the valve shuts completely. If you wish to stop before reaching the end of stroke position, press the three keys at the same time again.





**EC DECLARATION OF CONFORMITY 98/37/Matermacc S.r.l.**  
Viale Ponte Rosso 35  
33078 SAN VITO AL TAGLIAMENTO (PN) ITALIA

**HEREBY DECLARES that IRRIGAMATIC**

Model **P450**

Serial n°

Tipy

Produced by **Matermacc s.r.l.**  
San Vito al Tagliamento (PN) Italia

In \_ \_ \_ \_

**complies with these safety and health requirements demanded by  
EC directives 98/37/ and 89/336 as further modified.**

**Matermacc s.r.l.**  
The President  
(Fiordo Antonino Francesco)

date  
\_ \_ / \_ \_ / \_ \_

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