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MANUAL FOR USE AND MAINTENANCE IRRIGAMATIC PRO35

IrrigaMatic

ON OFF

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PRO35
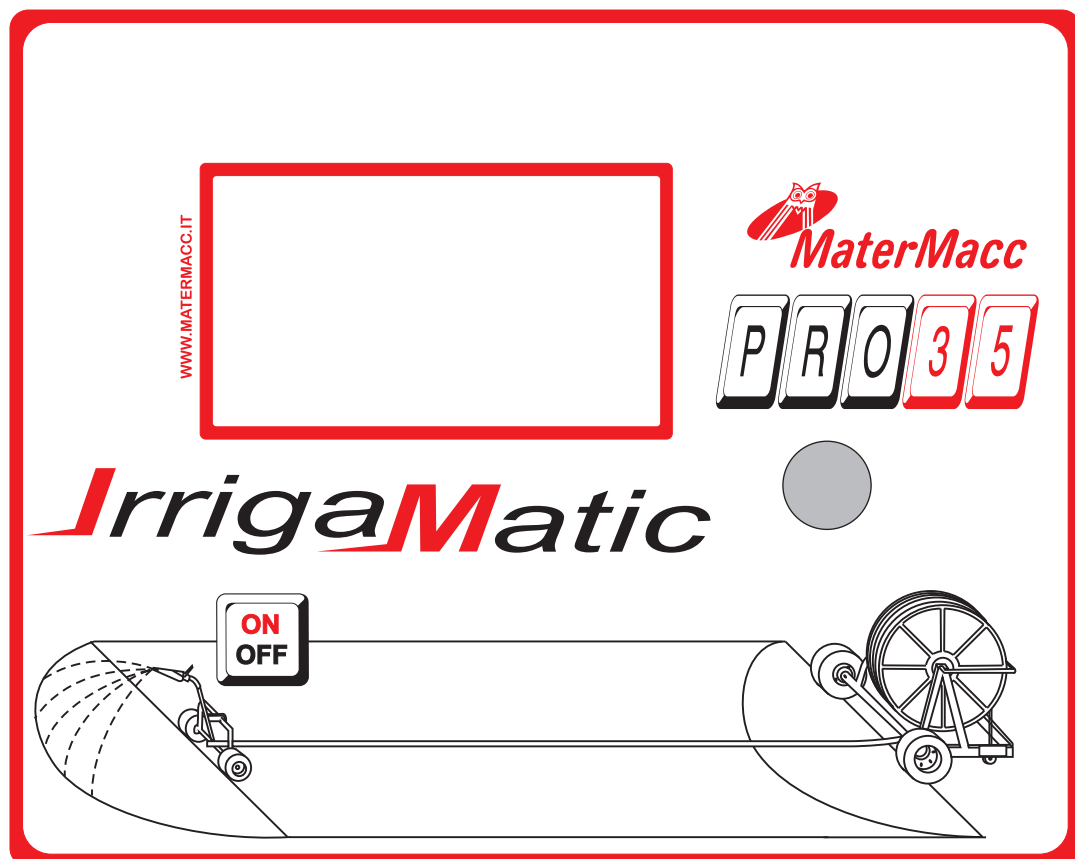
Carefully read this Handbook before using the centraline

INTRODUCTION

This manual guide contains a description of the work and the necessary instructions for performing basic operations and regular maintenance of the device.
This guide is for convenience divided into easily-defined chapters.
These instructions are intended for professional users only, who are to possess specific knowledge about how to use the device, special admittance and training.

It is recommended to use original spare parts and accessories. Non-original parts in addition to forfeiture of the guarantee can be dangerous and may affect the durability and specifications of the machine.

This symbol indicates that it is necessary to pay maximum attention to the discussed issue.

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It is possible that some devices, described in the manual, will not be present in your device, depending on the selected equipment and the intended market .

UPDATING THE MANUAL

Information, descriptions and illustrations contained herein shall reflect the state of the equipment at the time of its sale.
The manufacturer reserves the right to perform from time to time possible changes in the equipment for technical or commercial reasons. Such changes do not require the Producer to intervene in sold up devices and do not render this publication inappropriate.
Possible additions the manufacturer finds necessary to provide in the future should be kept together with this manual guide and shall be an integral part thereof.

COPYRIGHT

Copyright on this manual is owned by the manufacturer of the equipment. This guide contains texts, drawings and technical schedule, which can not be released or transferred to a third party in whole or in part without the written permission of the manufacturer of the device.

WARRANTY

Verify on delivery that the equipment has not been damaged during the transport and that the accessories are integral and complete.

Any claims must be made in writing within 8 days from reception.

The warranty against any defect of the materials is valid one year from the delivery date of the equipment.

The warranty does not include shipment expenses (the material travels at risk and danger of the addressee).

Any damage caused to people or things are excluded from the warranty.

The warranty is limited to the repair or free replacement of the faulty piece.

The retailers and the users are not entitled to any indemnification from the manufacturer for any damages (costs for work, transport, defective job, direct or indirect incidents, no profit on harvests, etc).   .

WARRANTY DECLINE

Besides what is reported in the supply contract the warranty declines:

In case the limits referred to in the technical data table or in other tables in the handbook are exceeded.

In case the instructions described in this handbook have not been followed carefully.

In case of wrong use, faulty maintenance or mistakes made by the client.

In case of non original spare parts.

The contractual guarantee is not applied if the cited conditions are not respected even only partially.

The use of spare parts not approved by the Manufacturer invalidates every guarantee and releases the Manufacturer of Retailer from every liability due to malfunctioning or incidents.

The removal or modification of the shelters and protections releases the Manufacturer from every liability due to damages to things and/or people.

However, the Manufacturing Company is available to assure an immediate and accurate technical attendance and all that can be necessary for the better functioning maximum production of the equipment.

NOTES ON SAFETY

For the safe operation of the device first read carefully these notes.

Power supply
The device is designed for the specified type of current.

Maintenance
Maintenance procedures performed by the operator are described in the documentation supplied to the customer with the product.
Do not perform maintenance operations, which are not specified in the client documentation.

Cleaning
Before proceeding to cleaning, disconnect the power cord from the device.
Use specific multifunctional cleaning spray, since the use of other cleansers may result in breakage and possible incidents.

Electrical safety
Use only the power cord supplied with the equipment.
Do not place the unit where there is a chance of stepping on the power cord.
Do not put any objects on the device.
In the case of one of the below mentioned situations, immediately turn off the device and disconnect the power cord.

   The device produces noise or an unusual smell.
   Power cable is damaged or worn.
   Some liquid spilled into device.
   Any part of the device is damaged.

To resolve this issue, contact an authorized service center.

Operational safety
Do not perform maintenance procedures, if they are not described in the documentation, or no training was provided to the operator by the authorized regional dealer.

Always follow all warnings and instructions marked on the device or supplied with it.

Always pay utmost care when moving or transferring the device.

Always install the device in a spacious room, so you can perform the maintenance.

Do not place the device near a source of heat .

Recycling and processing

In accordance with European standards electrical and electronic devices should not be recycled together with domestic waste.
In the member states of the European Union you are to take electrical appliances to special places free of charge . For further information please contact the local agency responsible for recycling.

For further information, contact the local agency responsible for recycling, or ask for special instructions.

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WARRANTY
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1 GENERAL FEATURES

FUNCTIONS:

- **Current date and time.**

- **Measurement of wound and unwound tube.**

- **Setup of work start time at a given time**

- **Start delay 0...120 min.**

- **Work speed adjustment (5 to 850 m/h).**

- **Display of the irrigation time and work end time.**

- **Setup of work end time and new calculation of the adjusting parameters.**

- **Final pause 0...120 min.**

- **Auxiliary irrigator control**

- **Programmed start-up of rewind end signaller.**

- **4 available irrigation criteria: 1) m/h, 2) rain measurement: a) with flowmeter, b) by set flow rate, c) by flow rate estimated setting pressure on the nozzle, diameter of the nozzle, width of the irrigated area and mm of water.**

- **Operations once the irrigation is over.**

- **Automatic stop for energy saving.**

OPTIONS:

Connection with a pressure switch

Speed measurement with feeling roller

Management of a timed auxiliary irrigator

Connection with wind - rain feelers

Connection with a flow meter.

Connection with an integrated GSM card for data transmission and receipt. Through a cellular phone it permits to:

Send a SMS when a programmed event takes place (end of work, wind, rain, ...).
Check a few parameters of the installation
· carries out some speed start - stop - change for the current sector.

2 GENERAL TECHNICAL SPECIFICATIONS

UProcessore GRAPHIC LCD 128X64 pixel

Display: With Baclight 128x64 pixel LCD

Commands: incremental encoder with button

Inputs:

Digital:
Speed sensor (on roller or pinion)
Unwinding end sensor
Rewinding end sensor
Pressostat
Wind/rain sensor
Flow meter (4-20mA)

Analog:
4-20mA transducer
Battery monitor

Outputs:

Digital:

Relè SPDT 2A 30Vdc per funzioni aux

Modulated: 3 H-bridge max 3A to pilot Shunt/Bypass valves and auxiliary irrigator

IN/OUT available
1 analog or digital IN

Power: 12 Vdc battery

Operating Range: -20…70 °C free air

Temperature and Humidity: **Ambient temperature**
-5...25°C; Storage temperature 30...70°C; RH % 10...60 non condensing.

2.1 INTERFACE

The user interface is made up of a panel comprising:

1. A graphic LCD 128X64 pixel with Baclight.

2. Incremental encoder to set up device

3. Push button to switch ON/OFF the console

The display shows the value of various parameters during operation, where appropriate illustrated with icons.
In the event of anomalies the corresponding messages are shown, where appropriate illustrated with icons.
During device setup the Baclight of the LCD display is always on. It turns off automatically if the encoder is idle for a preset period of time. The Baclight switches on again automatically at the first press of the encoder.

3. INSTRUCTIONS FOR USE

3.1 START UP AND MAIN MENU

1 Connect power supply cables of electronic console to a 12V d.c. voltage source

2 When switching electronic console on the LCD will display name and version of its firmware

3 A series of messages follow

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Ver. 0.x(x)
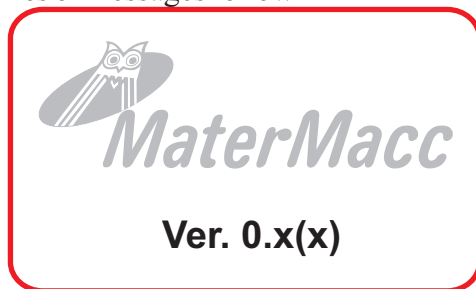
The first message informs about the execution of the machine initialization. Flow valve closing If mounted at the inlet.

FLUX OPEN

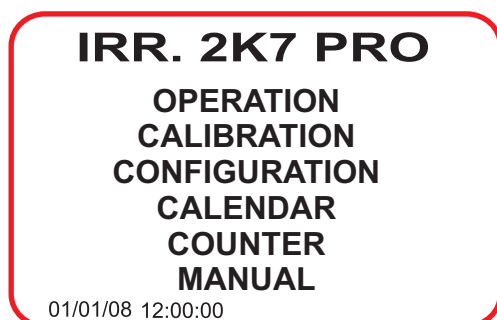A second message: the BYP valve opens to make sure speed is set to zero.

BYP OPEN

A third message confirms the device has been initialized correctly:

INIT
COMPLETE

The electronic console goes to standby waiting for new commands from the user who can access the menus listed below:

4 The control unit therefore awaits new controls provided by the user who can access the menus listed below (normally the **"MANUAL"** menu is not visible).

IRR. 2K7 PRO

OPERATION
CALIBRATION
CONFIGURATION
CALENDAR
COUNTER
MANUAL

01/01/08 12:00:00

5 Position the focus on the desired menu by browsing the menus, turning the control to the left or right.

6 Press the control

3.2 ACCESSING THE MENU
General procedure

The console then awaits new commands from the user, who can access the menus listed below:

To access the menus mentioned above, proceed as follows:

1. By turning the knob position the focus on the desired menu by browsing the menus.

2. Press the knob.

3. If the menu is password-protected, the label "PASSWORD" appears, under which the characters making up the necessary password must be entered.

4. To enter a password:

A)   Press the knob: the first character will become **"0*"**, meaning that the character is now editable.

B)   Change the character by turning the knob to the left or right

C)   Confirm the selected character by pressing the knob.

D)   Position the focus on the next space by turning the knob to the left or right.

E)   Repeat steps a) to d) until the last character has been entered, then position the focus on [NEXT] and press the knob; if the password is correct the console will show the first value of the menu parameter; otherwise, it will remain at the password menu. To exit this menu, position the focus on [BACK], and the console returns to the main menu.

3.3 PERFORMING AN IRRIGATION CYCLE

3.3.1 PREPARING

1 **BEFORE STARTING TO LAY THE TUBE** position the focus on "OPERATION" and press the knob. The display will indicate whether the previous cycle completed correctly:

> **ROLL TUBE**
> **0 m**

2. If the value is not zero, set it to zero as follows:

A) Position the focus on the value, pressing the knob. The display will show, for example:

> **ROLL TUBE**
> **07* m**

B) Turn the knob to the left to set the value to zero and confirm by pressing the knob. The display will show:

> **ROLL TUBE**
> **00* m**

3. Perform the tube unrolling operations as normal; after completion, the display will show for example:

> **ROLL TUBE**
> **100 m**

4. To change the value position the focus on the value, press the knob and then turn it to the left or right:

> **ROLL TUBE**
> **100* m**

5. Confirm by pressing the knob. The display Will show the selected value, for example:

> **ROLL TUBE**
> **102 m**

6. To continue, position the focus on **NEXT** ➡ and press the knob. The display will show, for example:

> **START TIME**
> **11:25**
> **25/03/2008**

A To change the start time, position the focus on the minute and/or hour value and press the knob. The display will show, for example:

> **START TIME**
> **14*:25**
> **25/03/2008**

B To change the start time, turn the knob and confirm by pressing it. The display will show, for example:

> **START TIME**
> **14:25**
> **25/03/2008**

7 To continue, position the focus on **NEXT** ➡ and press the knob. The display will show, for example:

> **START PAUSE**
> **0 min.**

A To change the duration of the start delay, position the focus on the minute and/or hour value and press the knob. The display will show, for example:

> **START PAUSE**
> **0* min.**

B To change the duration of the start delay, turn the knob and confirm by pressing it. The display will show, for example:

> **START PAUSE**
> **3 min.**

8 To continue, position the focus on **NEXT** ➡ and press the knob. The display will show, for example

> **SECTOR 1**
> **260 m**
> **30 m/h**

A To change the value of the sector length and/or speed, position the focus on the parameter and press the knob. The display will show, for example:

SECTOR
260 m
30* m/h

B To change, for example, the return speed, turn the knob and confirm by pressing it. The display will show, for example:

SECTOR
260 m
35 m/h

9 To continue, position the focus on **NEXT** → and press the knob. The display will show, for example

END PAUSE
0 min

A To change the duration of the end delay, position the focus on the minute and/or hour value and press the knob. The display will show, for example:

END PAUSE
0* min

B To change the duration of the end delay, turn the knob and confirm by pressing it. The display will show, for example:

END PAUSE
5 min

10 To continue, position the focus on → **NEXT** and press the knob. The display will show, for example:

STOP TIME
17 : 29
15/03/08

A To change the end time (reduction of times), position the focus on the minute and/or hour value and press the knob. The display will show, for example:

STOP TIME
17* : 29
15/03/08

B To change the end time, turn the knob and confirm by pressing it. The display will show, for example:

STOP TIME
16 : 29
15/03/08

11 To continue, position the focus on "NEXT" and press the knob. The display will show a screen summarising the operation cycle to be performed, for example:

RECAPITULATE
14:25 - 15/03/08
03 [min]
102 [m]
052 [m/h]
03 [min]
16:28 - 15/04/08

A If the values shown are acceptable, position the focus on → **NEXT** and press the knob

for 5 seconds to begin the irrigation cycle. The console prepares to carry out all operations necessary for the newly entered cycle, showing on the display for example:

START PAUSE

11:32:03   14:25

– – –   – – –   – – –

B To change the parameters entered, position the focus on ← and go through the screens in reverse as **BACK** Shown in 1. to 9.

3.3.2 ACTIONS DURING THE IRRIGATION CYCLE

During irrigation, the display alternates between:
- rewind speed
- hose to be gathered (morft)
- estimated end of work

To stop this rotation, place the cursor on the alternating sizes. The display stops at the current one. To change the size displayed, press the knob.

During irrigation, it is possible to:

A Manually change the instantaneous rewinding speed by means of the BYP valve (following the manual intervention the console will resume regulation according the regulation algorithm around the value entered).

B Change the rewinding speed set by the current sector.

C Interrupt the cycle.

D Restart the cycle.

3.3.2.1 CHANGING THE INSTANTANEOUS SPEED

1 Position the focus on **MAN** by turning the knob, and press it. The label changes to show **- REG +**.

2 Position the focus on **- REG +** by turning the knob and press it to reduce the speed, or on **- REG +** and press it to increase the speed.

3 Position the focus on **- REG +** by turning the knob, and press it. The label changes to show **MAN**

3.3.2.2 CHANGING THE REWINDING SPEED FOR THE CURRENT SECTOR

1 Place the cursor on **V 35 m/h** rotate the knob and then press it for at least 5s. The label changes and reads **35* m/h** .

2 Rotate the knob to the right or left and then press it for at least 5s to confirm the value set.

3.3.2.3 INTERRUPTING/RESTARTING A CYCLE

1 Interrupting: during a cycle, position the focus on **STOP** by turning the knob, and press it. The label changes to show **RUN**: the console commands the valves to suspend the cycle:

A closing/opening the **FLUX** valve (depending on whether it is in inflow or outflow phase).

B opening the **BYP** valve to set speed to zero.

2 Restarting: when a cycle is suspended, position the focus on **RUN** by turning the knob, and press it. The label changes to show **STOP**: the console commands the valves to restart the cycle:

A opening/closing the **FLUX** valve (depending on whether it is in inflow or outflow phase).

B activating the **BYP** valve to regulate the return speed.

3.4 CALIBRATING THE MACHINE

> ### !!! ATTENTION !!!
>
> ### *The calibration menu is password-protected.*
> ### *It is only accessible to the manufacturer of the*

3.5 CONFIGURING THE MACHINE

> ### !!! ATTENTION !!!
>
> ### *The configuration menu is password-protected.*
> ### *It is only accessible to the manufacturer of the*

3.6   SETTING THE CALENDAR

The calender is set using the menu CALENDAR.

The date is given in the format: dd/mm/yy.

The time is given in the format: hh/mm/ss.

1   Position the focus on **CALENDAR** and press the knob. The display shows the following:

<div align="center">

CALENDAR
16 :15
15/03/08

</div>

2   To change an item, position the focus on the value to be changed and press the knob. The display shows, for example:

<div align="center">

CALENDAR
16 :15*
15/03/08

</div>

3   Change by turning the knob to the left or right and confirm by pressing the knob. The display shows for example:

<div align="center">

CALENDAR
16 :20
15/03/08

</div>

4   To exit the menu, position the focus on **NEXT** and press the knob.

3.7 ADJUSTING THE COUNTERS

The counters are set by accessing the menu CONTATORI.
Only the value of the partial knob can be reset.

Position the focus on CONTATORI and press the knob. The display shows, for example:

<div align="center">

COUNTER
TOTAL   PARTIAL
2:33   0:33

</div>

To reset the value of the partial counter, position the focus on the partial counter value and press the knob for around 10 seconds. The display shows, for example:

<div align="center">

COUNTER
TOTAL   PARTIAL
2:33   0:00

</div>

4 USER PARAMETERS

The knob parameters - defined by the user - at the beginning and/or during an irrigation cycle are as summarised in the following table.

N°	Parameter	Description	UM	Range	Default
1	UNW. TUBE	M of tube unwound before starting to work	M	0...900	
2	START TIME	Time when the irrigation cycle should begin (system based on RTC, with self increasing date)	hh:mm	0...23:59	Present time
3	START PAUSE	Starting interval for irrigation on field edges (v = 0 => BYP open)	mm	0...99	
4	SECTOR 1	Length of the unwound tube	m		
5	SPEED OF RETURN SECTOR 1	Speed for trolley return for a single sector available	m/h	5...250	
6	FINAL PAUSE	Lasted final pause	min.		
7	END TIME	Time calculated based on 1)...5)	hh:mm		*calculated modifiable

4.1 PASSWORD-PROTECTED USER PARAMETERS

#	Parameter	Description	Range	Default	UM
1	Position of the flow valve.	Position of the flow valve.	0 = inlet 1 = discharge	**0**	
17	Sensor of end of winding up.	Sensor of end of winding up.	"0" = absent; "1" = present	**1**	
47	Measure units in use	Measure units in use	0 = meters 1 = feet	0	
55	Modem_gsm_actif	Indicates if the GSM modem is present This parameter is connected with the parameter of "modem_gsm_presente".	0 = active 1 = not active	1	
57	auto_turn-off_time	Sets the automatic turn-off time at the end of work.	0...30	0	min.
58	alarm_activat_distance	Length of hose used as reference to validate the alarm threshold supplied by the user via SMS.	0...1500	100	m
61	m_fw_third_motor	Sets the distance from the starting point at which the auxiliary irrigator must be activated	0...1500	250	m
62	m_rw_third_motor	Sets the distance from the starting point at which the auxiliary irrigator must be deactivated	0...1500	250	m
64	m_rw_third_motor	Meters of hose unwound before activating auxiliary output (relay).	0...1500	250	m
65	min_wait_for_no_press	Minutes to wait before signalling no pressure alarm. This time is only for the first "signalling" of the alarm. The following ones use a time of 5 seconds.	0...60	0	min

5 ERROR MESSAGES

The console keeps a list of the last 6 errors which may have occurred.
The error messages are displayed in order on the first line of the LCD in alternation with other messages on the display, for example:

1 / 2 ALL 04   then for example   2 / 2 ALL 06

These flashing messages indicate, for example, that first there was an interruption in the BYP knob circuit, followed by a lost trolley.

The following table lists the exceptions which may occur during and operation cycle, and the respective messages displayed.

The list of events is intended to indicate a sequence of the errors which occur, in order to assist with the reconstruction of events in case of malfunction.

#	Type	Description	Conditions	Actions	Locking	Suspension	Display
1	SC on flow valve	A short circuit has been detected on the flow valve.			Yes	No	DEV CC
2	Timeout on flow valve opening	The limit time for flow valve opening has been exceeded (par. C#2 or par. C#4).			No	No	TIMEOUT OPEN DEV
3	Timeout on flow valve closing	The limit time for flow valve closing has been exceeded (par. C#3 or par. C#5).			Yes	No	TIMEOUT CLOSE DEV
4	SC on bypass valve	A short circuit has been detected on the flow valve.			No	No	BYP CC
5	Timeout on bypass valve opening				Yes	No	???
6	Speed adjustment limit	End of stroke reached for bypass valve without reaching the required speed			No	No	???
7	Trolley lost	No pulses for some time(par. C#8 or par. C#9).		If no pulses are received for a time such as par. C#8 an average speed measured as the minimum threshold is set	No	Yes	??? / ???

#	Type	Description	Conditions	Actions	Locking	Suspension	Display
				(determined by par. M#12) in order to force the transmission of long pulses. If no pulses are received for a time such as par. C#9 despite forcing the transmission of long pulses the cycle is stopped.			
8	Rain or wind	The cycle is suspended for as long as the alarm persists	Valid only if the rain or wind sensor is provided (par. C#18) and if no time compression has been carried out.		No	Yes	???
9	Zero pressure	Detection of zero pressure in the tube	Valid only if the sensor is provided (par. C#13).	If the flow valve is located at the inlet and the pressure switch is located downstream the flow valve (par. C#13) a cyclical emergency check is carried out*.	No	Yes (waiting for pressure to return)	???
						Yes	???
				In all other cases the cycle is suspended.			
10	Limit time exceeded	When the time for end of work has come, the cycle is not over yet.	Only if a time compression has been carried out.		No	Yes	ERR TIME
12	Error of end of winding up.	The alarm is triggered by the signal of end of winding up with a length of the tube different from 0.	The alarm is released only if the sensor of end of winding up is provided (par. C#17).		No	No	???

6 USING THE GSM MODULE (OPTIONAL)

The following applies only if the IRRIGAMATIC PRO45 console used supports the GSM module.
The user is reminded that consoles in the PRO series are preconfigured to support the GSM module.
However, the option to enable the module is reserved to the console manufacturer.
The following applies only to consoles with an ENABLED GSM module.

6.1 SIM CARD ASSEMBLY INSTRUCTIONS

1 Disconnect the console from the power source
2 Insert the SIM card into the SIM-holder connector.
3 Connect the console to the power source.
4 Switch on the console.
5 Check whether the GSM module is active (cf. parameter # of the user menu).
6 Wait for the GSM module to initialise.
7 Check for network coverage.

6.2 MANAGING THE CONTACT LIST

Telephone numbers and respective details are stored in the device's internal memory. As a result, it is not necessary to reprogram the contact list if the SIM card is replaced.
The contact list is managed via SMS commands, and can contain up to 5 phone numbers.
Each user is assigned a name, number and status.

Example:

Position in Contact list	Name	Number	Status
1	Antonio	+393491234567	ON
2	Paolo	+393471234567	OFF
3	-	-	-
4	Leonardo	+393481234567	ON
5	-	-	-

6.2.1 ADDING A NUMBER TO THE LIST

Write SMS **WPBn(name, number, status)**

Position in Contact list	Name	Number	Status
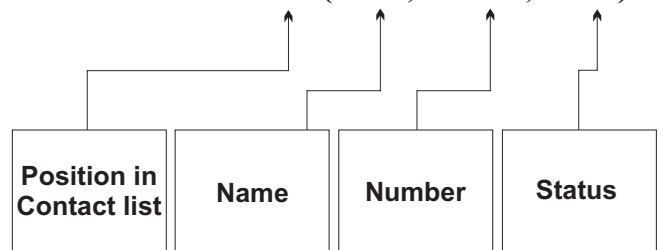
Example:

To add the user "Antonio", with phone number "+393491234567" in the first position, to receive messages from the PRO 45 device, send the following SMS message:

WPB1(ANTONIO,+393491234567,ON)

!! IMPORTANT !!

IThe user phone number should always be preceded by the country dialling code (e.g. +39 for Italy)
SMS messages should always be written in UPPER CASE

6.2.2 DELETING A NUMBER FROM THE LIST

To delete a user from the list, simply send a write message with no content between the brackets.

Example: to delete the user in the second position of the list.

SMS to be sent   WPB2( )

6.2.3 ENABLING/DISABLING MESSAGES TO A USER

Each user in the list can be enabled or disabled independently.

Status SMS   WPBSn(status)

Position of the user in the list **(1 ÷ 5)**

User status   **- ON**   = enabled
                 - OFF = disabled

Example: disabling messages to the user in first position on the list.

SMS to be sent   WPBS1(OFF)

To re-enable messages

SMS to be sent   WPBS1(ON)

6.2.4 READING THE LIST

To view the contents of the contact list and the status of each user, simply send the following read command to the device.

READ SMS to be sent   RPB

On receiving this command, the device returns an SMS in the following format:

SMS received
#1_name1_number1_status,#2_name2_number2_status2 etc.

Example of SMS received

#1_Antonio_+393491234567_ON
#2_Paolo_+393471234567_OFF
#3_ _ _OFF
#4_Leonardo_+393481234567_ON
#5_ _ _OFF

6.2.5 QUERYING THE MACHINE STATUS

1   Compose the message SYS on a mobile phone.
2   Send the SMS to the console, which replies with a corresponding SMS.

Example: SYS query,

1. Compose the following SMS: SYS
2. Send the SMS to the console.
3. The console replies with, for example:
   SYS_23/03/08 08:52:57_S13_V0.0m/h_L126m_ST23/03/08 08:45:00_ET23/03/08 10:47:00

4.   Interpreting the message:

SYS_23/03/08 08:52:57 = current system date and time (based on console on-board RTC).

S13 =   System status code (cf. table):

V0.0m/h = current return speed

L126m = length of tube currently unwound

ST23/03/08 08:45:00 = irrigation start date and time

ET23/03/08 10:47:00 = irrigation end date and time

6.2.6 QUERYING THE RETURN SPEED

1   Compose the message **RSC** on a mobile phone
2   Send the SMS to the console, which replies with a corresponding SMS.

Example RSC query

1   Compose the message **RSC**.
2   Send the SMS to the console
3   The console replies with, for example: **S1_30m/h**.

Interpreting the message

S1   =   **current sector 1**
30m/h =   **return speed set by Sector1**

6.2.7 CHANGING THE CURRENT RETURN SPEED

> ## *!! ATTENTION !!*
>
> **Commands affecting the regulation parameters of the machine are to be used exclusively when in view of the machine (10...15m).**

> ## *!! ATTENTION !!*
> ### *The machine regulation MUST NOT be changed if the machine is not in view.*

Compose the message **WSC** on a mobile phone.
Send the SMS to the console, which replies with a corresponding SMS

Example of a **WSC** message.

1 Compose the message WSC35.
2 Send the SMS to the console.

6.2.8 STARTING AND STOPPING THE MACHINE REMOTELY

> ## *!! ATTENTION !!*
>
> **The commands to start and stop the machine are to be used exclusively when in view of the machine (10...15m).**

> ## *!! ATTENTION !!*
> ### **THE MACHINE MUST NOT BE STARTED WHEN NOT IN VIEW!**

An operation cycle may be started by sending an SMS to the console.

To start an irrigation cycle

1 Compose the SMS **START**.
2 Send the SMS to the console.
3 The console replies with an SMS indicating successful receipt of the command and time at which the SMS was sent:

START_OK_23-03-08_08:50:20

TO STOP IRRIGATION TEMPORARILY

1 Compose the SMS **STOP**.
2 Send the SMS to the console.
3 The console replies with an SMS indicating successful receipt of the command and time at which the SMS was sent

STOP_OK_23-03-08_08:55:10

TO RESTART THE SUSPENDED CYCLE, USE THE START CONTROL

TO STOP IRRIGATION PERMANENTLY

1 Compose the SMS **ALT**.
2 Send the SMS to the console.
3 The console replies with an SMS indicating successful receipt of the command and time at which the SMS was sent

ALT_OK_23-03-08_08:55:10

6.3 SMS COMMANDS

Commande	Reply	Remarks
RGO	#<n>_<state>_<name>_<code> <n> operator's index up to max 10 <state> operator's state indicate the operator's state according to the following diagram: 0 = unknown 1 = available 2 = current 3 = prohibited <nome> operator's name <Code> operator's code to be used in the WGO command to set the operator's data manually	This operation is rather long and requires at least 20 seconds.
WGO(<code>) <Code> operator's code	---	Sets the GSM operator manually. Be sure the code is written correctly.
RPB	#<Index>_<name>_<number>_<state> <indice> element index up to max 5 <name> element name <name> element number <State> element state indicates the element state: ON= active OFF=not active	
WPB<index>(<name>,<number,<state>) **<indice> element index** **up to max 5** **<nome> element name** **<nome> element number** **<stato> element state** **indicates the element state:** **ON= active** **OFF=not active**		
WPB<index>(<name>,<state>) <indice> element index up to max 5 <nome> element name <nome> element number <state> element state indicates the element state: ON= active OFF = not active		

Commande	Reply	Remarks
WPBALLN\<index>(< length >) **\<index> element index** **up to max 5** **< length > length of the unwound tube** **indicates the length of unwound tube that determines the alarm condition.**		If \<index> refers to a non present or non active user, the command is ignored. If this function is activated for a member of the list the same function will be deactivated for the previous active member of the same list.
RPBALLN	**RPBALLN_#\<index>_\<name>_\<number>** **_\<state>_\<lenght>** **\<index> element index** **up to max 5** **\<name> element name** **\<name> element number** **\<state> element state** **indicates the element state:** **ON= active** **OFF=not active**	
- - -	END_\<date_time> \<Date_time> date and time of the system	It notifies the end of the irrigation process to all the active elements in the
- - -	ALARM_\<date_time>_\<allarm_code> \<data_ora> date and time of the system \<numero_allarme> number of the alarm for a full list of the alarms please refer to the "Exceptions" table.	It notifies an alarm to all the active elements in the list.

Commande	Reply	Remarks
SYS	SYS_<date_time>_S<state_sistem>_V<speed_o_height>_L<length>_ST<date_time_beginning>_ET<data_ora_fine> <date_time> date and time of the system <state_sistem > state of the system indicates the state either: 0 = system stopped 1 = opening of bypass and start 2 = closing flow and start 3 = starting time 4 = flow opening 5 = starting pause 6 = bypass adj. 7 = bypass adj. on 8 = opening of bypass and end 9 = final pause 10 = closing flow and end 11 = opening of bypass and adj.stop 12 = closing flow and adj.stop 13 = idle waiting for adj.stop 14 = opening flow start adj. again 15 = closing flow in an emergency 16 = opening flow in an emergency 17 = idle for emergency 18 = error 19 = error causing a lockup 20 = error causing a suspension <speed_o_height> speed of tube windup <lunghezza> length of the unwound tube <Date_time_beginning> date and time for the process to begin <Date_time_beginning> date and time for the process to end	
RSC	S<number_sector>_<speed_o_height><number_sector> sector in process <Speed_o_height> value of the set parameter	If the process is not active the reply is "S0".
WSC	---	You should expect a value expressed in meters/feet or mm. This command does not update the time of end of the process.

Commande	Reply	Remarks
START	START_\<result>_\<date_time> \<result> result of the request The possible values are: OK = positive result KO = negative result \<Date_time> date and time of the system	
STOP	STOP_\<result>_\<date_time> \<result> result of the request The possible values are: OK = positive result KO = negative result \<Date_time> date and time of the system	
ALT	ALT_\<result>_\<date_time> \<result> result of the request The possible values are: OK = positive result KO = negative result \<Date_time> date and time of the system	
WTS(\<date>,\<time>) \<data> date in format DD/MM/YY \<ora> time in format HH:MM:SS	WTS_\<result>_\<date_time> \<Result> result of the request The possible values are: OK = positive result KO = negative result	
WTS(\<date>,\<time>) \<data> date in format DD/MM/YY \<ora> time in format HH:MM:SS	WET_\<result>_\<date_time> \<Result> result of the request The possible values are: OK = positive result KO = negative result	

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Note:

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