DISIBEINT ELECTRONIC SL

User's manual

Digital control relay **SNI**

DISIBEINT ELECTRONIC S.L, has been present in the field of the manufacture of components for the industrial automation for more than 35 years, and maintains in constant evolution their wide range of products structured in five families:

· Sensors, magnetic switches and transducers
· Level relays for liquids and solids
·Timers
· Control, surveillance and logic relays
· Digital control relay
· Data transmission

Our permanent preoccupation is to give a suitable answer to the problems that appear in the automation of the different industrial processes, providing the most suitable material for each application.

GUARANTEE

The products provided by DISIBEINT has a guarantee period of two years, against all defect due to the materials or to the manufacture of the equipment. It does not cover the defects caused during the transport or by a bad application, neither the elements subject to wearing down, nor the direct or indirect consequences caused in the installation by the inadequate use of the equipment.

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DISIBEINT reserves the right to modify the specifications stated in this document without previous notice.

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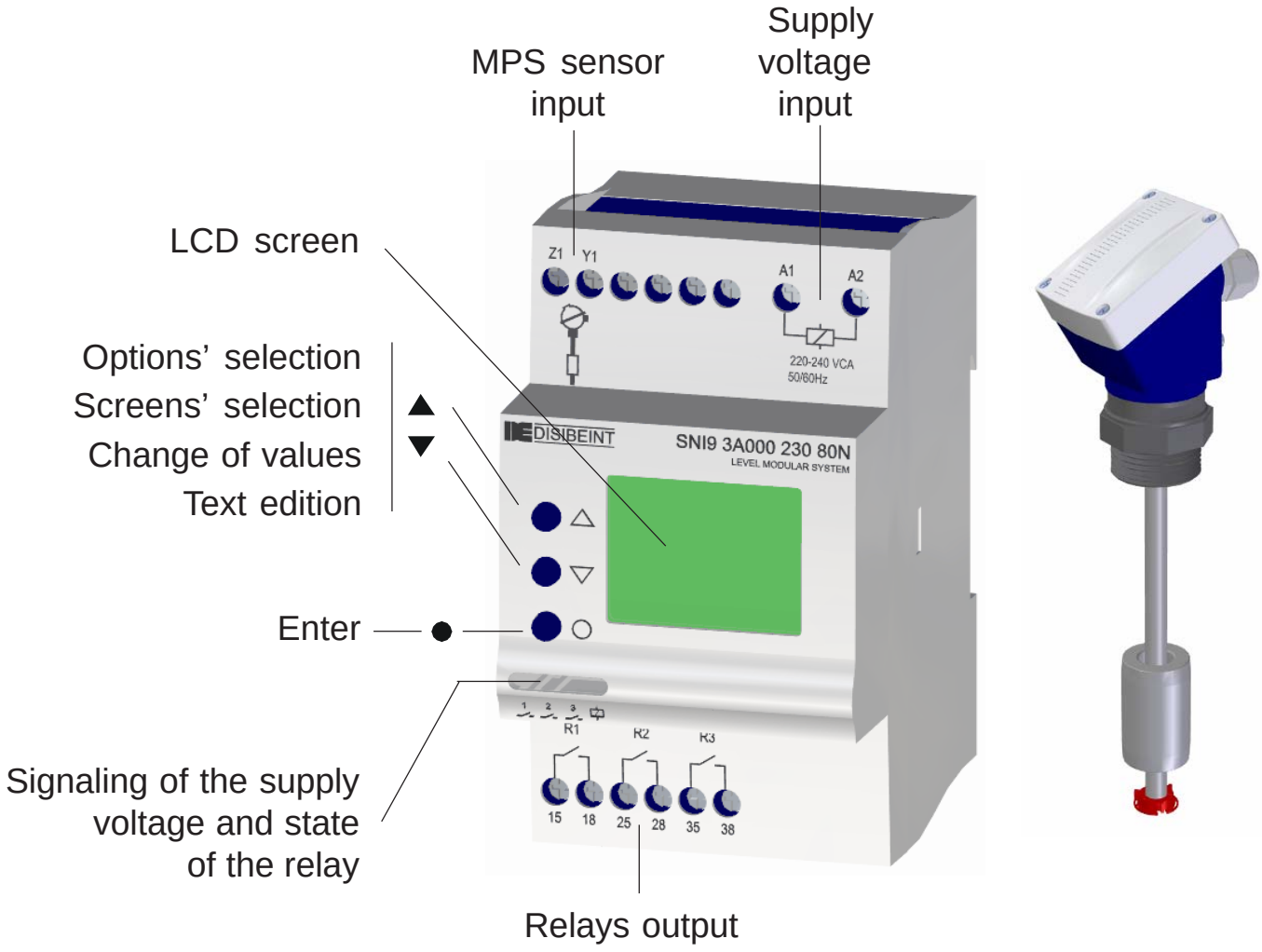
DESCRIPTION OF THE EQUIPMENT

The model SNI is a controller of the level for liquids.

The detection and control system is based on the combination of the MPS sensor with the controller SNI. In the sensor MPS there is a certain quantity of modules (from 1 to 80) connected in series and separated among themselves for the distance that the user decides.

A float that moves along of the guide tube takes care of activate or to deactivate the contact placed in each module. The signal generated by this effect is processed in the controller SNI in such a way that is possible to configure the actions to perform when the float goes to the position of a determined module. These actions can be associated to three relays, to 4-20mA loop or to a communication series RS232 or RS485.

PARTS OF THE EQUIPMENT



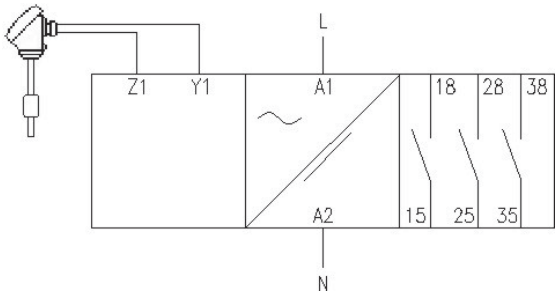
TECHNICAL DATA (1/2)

Function	Level control. From 1..80 points of control.
Operating mode	Through user's set up.
Level Indication	By two status screens: PROPORTION: Percentual indication. MODULES: Quantitative indication of the number of activated modules.
Out put (depending on options)	- From 1..3 independent relays - Analogical 4-20 mA - Communication RS232 - RS485
Timing	Related to magnitude or to relay. Several functions.
Repetibility	± 30 PPM
Ranges	0,01..99,99 s 0,01..99,99 m 0,1..999,9 h
Sensor	IMN MPS
Thermal derive	± 0,000149 ms / ºC
Ageing	± 0,0000249 ms /year

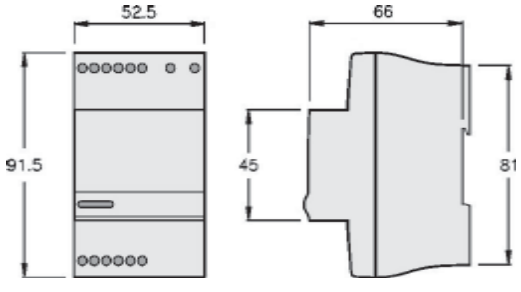
Control - Interface	Number of relays	Type of relay	Comunic.	Version	Supply	Range
9 - With display Default languages: · Spanish · English · French · Catalan (Other on request)	0 - 0 relays 3 - 3 relays	0 - No relays A - SPST NO	0 - No bus 4 - 4-20 mA 3 - RS232 8 - RS485	00..99	024 - 24 VAC 048 - 48 VAC 110 - 110..125 VAC 230 - 220..240 VAC 400 - 380..415 VAC	80N
Q - Without display Without communic.						
U - Without display Communication RS232 / RS485						

To compose the reference, select one code per column. Example: SNI9 3A400 230 80N

Connection



Dimensions



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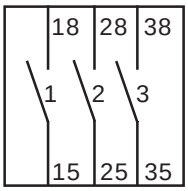
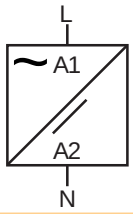
TECHNICAL DATA (2/2)

Output relays



Resistive load	AC	6 A / 240 V
	DC	6 A / 24 V
Inductive load	AC	3 A / 240 V
	DC	3 A / 24 V
Mechanical life		> 10^6 oper.
Mech. switching rate		18.000 oper. / hour
Elect. life at full load		360 oper. / hour
Contact material		AgSnO Alloy
Operating voltage		240 VAC (85 ºC)
Volt. between contacts		1000 VAC
Volt. coil/contact		4000 VAC
Isolation resistance		> 100 MΩ (500 VDC)
Indication		1 red led for relay

Supply voltage



Galvanic isolation	Yes
Frequency	45..65 Hz
Operating margins	+10% -15%
Voltage/ Consumption (VA)	24 / 2,5 VA 48 / 2,5 VA 110 / 2,5 VA 230 / 2,5 VA 400 / 2,5 VA
Overvoltage category	III (EN61010)
Interrupción aliment.	20..60 ms
Reset	80 ms
T. puesta en marcha	60 ms
Indication	Green led

Constructives and ambientals dats

Voltage phase-neutral	300 V
Overvoltage category	III
Rated impulse voltage	4 kV
Pollution degree	2 (EN61010)
Protection	IP 20
Approximate weight	280 g
Storage temperature	-30..+80ºC
Operating temperature	-20..+50ºC
Humidity	< 95% HR
Housing	Cycoloy - Light grey
Socket	Lexan - Transparent
Leds cover	Technyl - Dark blue
Button, terminal block, clip	Brass
Pins of the terminal block	
Approvals	Designed and manufactured under EEC standards. Electromagnetic compatibility , directives 89/366/EEC and 92/31/EEC. Electric safety, directive 73/23/EEC. Plastics: UL 91 V0

QUALITY CERTIFICATE

The company

DISIBEINT ELECTRONIC S.L.
Segle XX, 91
E08032 Barcelona (Spain)
CIF: B60893849

declares unders its sole responsability that all the products included in its general catalogueand grouped under the generic denominations

- Sensors
- Level Relays
- Timers
- Control Relays
- Programmable Controllers

and with the brand name

DISIBEINT

are manufactured following the company's quality and procedures manuals, which are drawn up according to the ISO9001 standards' specifications.

Additionally, the above-mentioned products are marked with the CE logo and are in conformity with the Directive of Electromagnetic Compatibility EMC 89/366/EEC and with the Low Voltage Directive LVD 73/23/EEC.

EMILIO JOLIS OLIVA
Director

Barcelona, 1st October, 2005

CONVENTIONS USED IN THIS MANUAL

Symbols	
	It refers to the information own of the theme that is treated.
	Indicate important warnings to take into account.
	It refers to how the keys must be pressed to perform the actions indicated in the examples.
	General information about the controller or about this manual, too.

Screens	
	In the pages where is explained how to access to the different screens and menus (pages 18..44), it is shown the way to come to the resolution of every option. This way is highlighted by a dark background of the of the screens related in that option. The union of several screens by means of a dashed line, means that the option is valid for all of them.

GENERAL CONCEPTS

Modules MPS80: Each module becomes activated when the float reaches its height while goes up due to the action of the level of liquid. Otherwise, the module is deactivated.

Output relays: The relay activates when the module selected for its activation does it and it becomes deactivated when the module selected for itsdeactivation, that it does not have reason to be the same does it. Is essential that the release module be the same or inferior to the detection module. The state of the contacts of the relay depends on the selection settled with the option STATE CONTACT (see page 20).

Loop 4-20 mA (optional): The value sent by the 4-20mA loop is the percentage of actived modules. It can be selected 4-20 or 20-4.

Communication with PC (optional): It is possible to communicate to the controller SNI with a computer via the serial port RS232 for its remote programming or to process the data that it generates. For a standing-alone communication, the programming interface CBPZ is required. For a multiple communication (up to 31 equipments) an RS232-RS485 conversor must be used, reference SBAZ.

Display's illumination: The display remains illuminated while its is accessed to the different screens. If a key is not pressed for longer than 30 seconds, the light turns off. In order to turn the light on, it is enough to press any key once only.

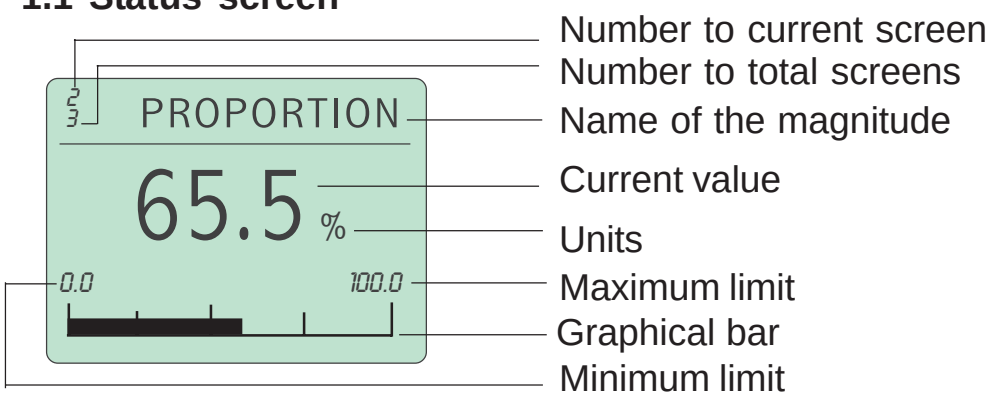
Working mode: After setting up the controller's parameters, it can be back to the normal working mode by executing the option RETURN from the set up menu. The status screens can be also visualized if any key is pressed for longer than 3 minutes.

Interactive menus: Only those options that can be configured are accessible in menus, being the rest of the they no visible. This characteristic is interactive, this is, that it is produced automatically in function of the active options at each moment.

Change of values: The screens used to change a numerical value contain the margins between that value can be adjusted. These margins can depend on another options, so that they can visualize different values in function of another previous relations.

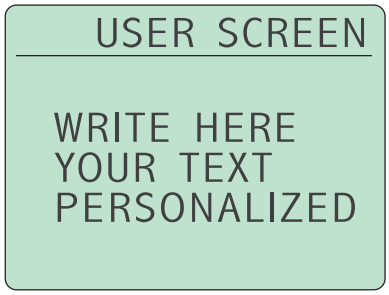
TYPES OF SCREENS (1/5)

1.1 Status screen



The status screens show the actual values of the magnitudes that the equipment controls . In the normal working mode, the equipment shows the status screen that the user has chosen like preferring magnitude of visualization.
In order to move around among the different status screens of status, press ▲ ▼
By pressing ● from anyone, it is entered to the set up menu.
The default status screen is the one shown when the equipment is powered or when any key is not pressed for longer than 3 minutes. To select it, execute the option SEE SCREEN (see page 35).

1.2 User screen



The text edited in the user screen is the one that will be shown next to the status screens when the equipment is i the normal working mode. The characters that can be used are the following:

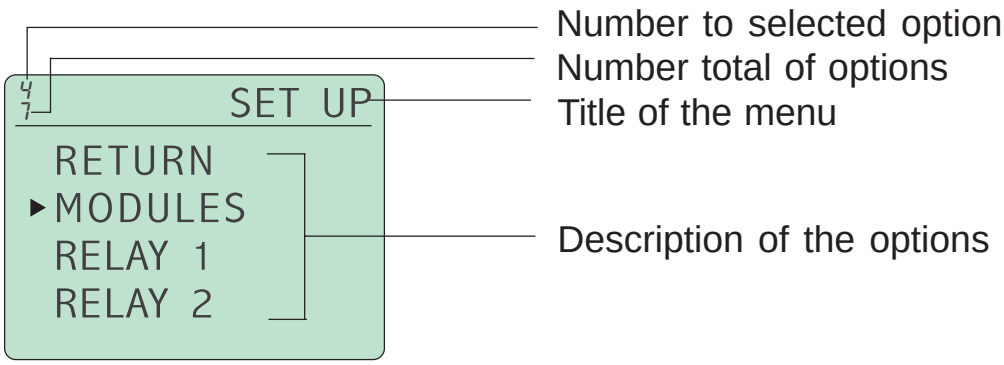
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Å Æ ß Ç Ñ Ø - / # % < = > 0 1 2 3 4 5 6 7 8 9

Pressing ▲ and ▼ the desired character is selected and becomes validated by pressing ●, moving up to the following position of the right hand or to the line below. The repeated pulsation of this key ● provokes the advance of the cursor.

A validated character can not get modified, that means that is not possible to move back. In order to modify a text, is necessary to enter again into the edition screen.
In order to abandon this screen is essential to advance until the last position of the last row.

TYPES OF SCREEN (2/5)

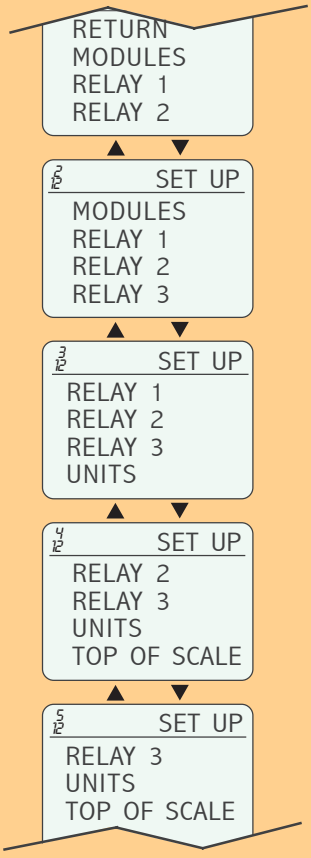
2.1 Screen of options menu



2.2 Selection of options menu

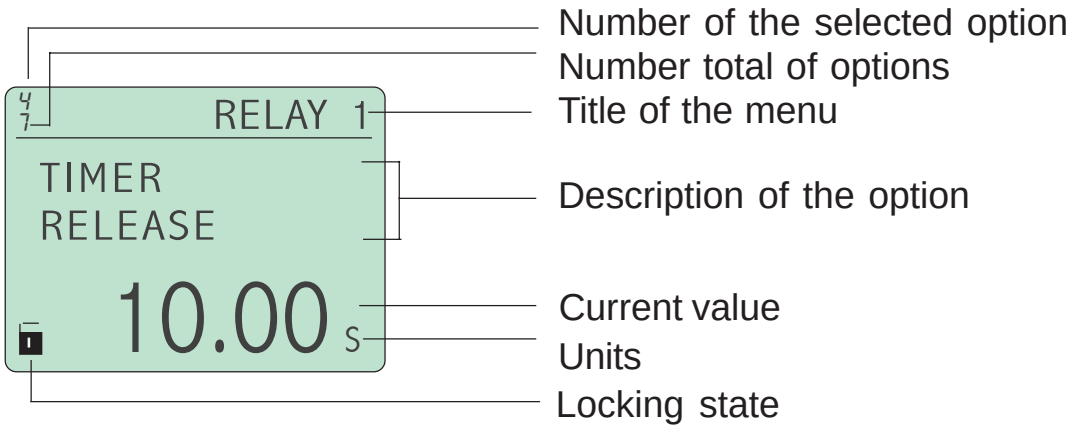
Are those in which a series of options is visualized, line by line. The selection of one option carries to a new menu. The digits placed at the top of the screen indicate, from top to down, the number of the selected option and the total number of options. The options are disposed in an endless loop, in such a way than after the last option it comes to the first one of the series. In the same way, moving back from the first option it comes to the last one of the series.

Press the keys ▲▼ until the cursor indicate the desired value and ● to validate it and jump to a new menu. In order to abandon a menu of options and to return the preceding screen, the option RETURN must selected.

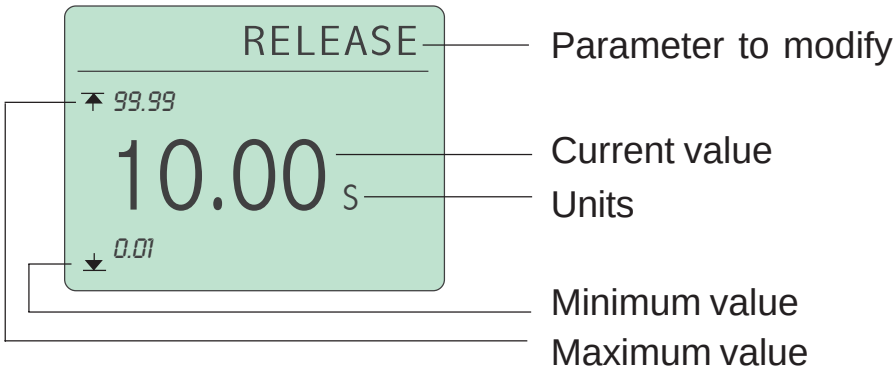


TYPES OF SCREENS (3/5)

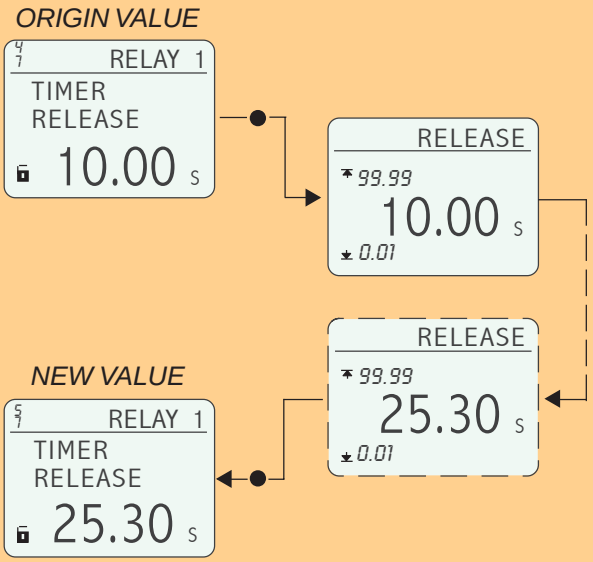
3.1 Informative screen of numerical value



3.2 Screen for changing a numerical value

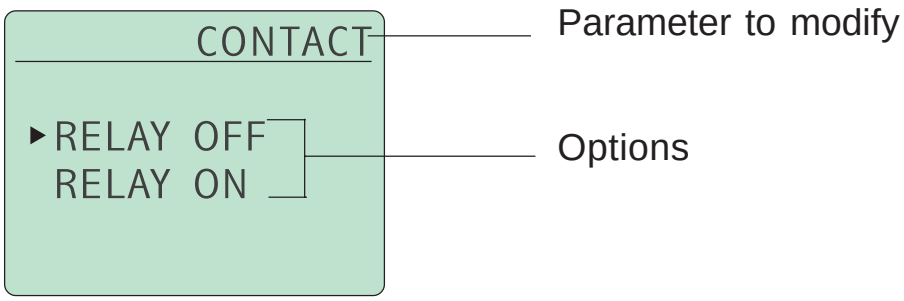


Once placed on the screen that shows the parameter we want to modify its value, press ● in order to access to the screen for changing the value. Since the modification is done digit by digit and not like a complete value, the first digit at left remains blinking. Press ▲▼ to modify the value and ● to validate it and to advance to the following digit. When the last digit becomes validated the preceding screen is visualizated again.

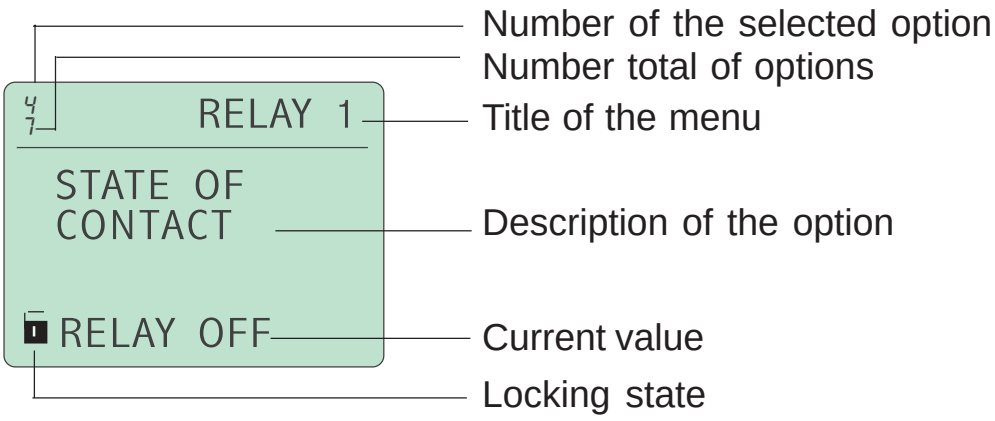


TYPES OF SCREENS (4/5)

4.1 Informative screen of alphanumeric value

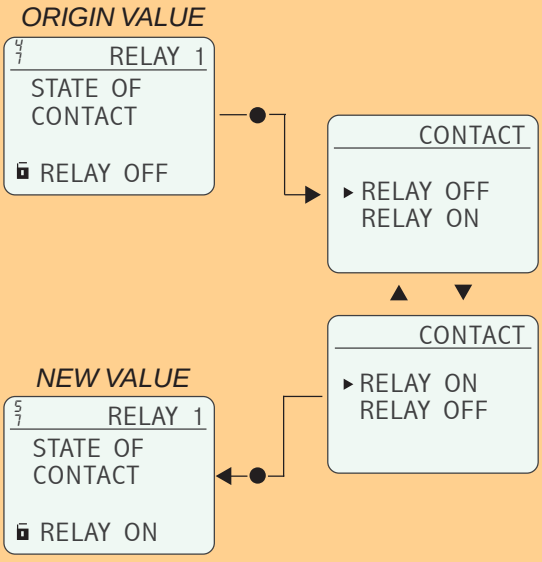


4.2 Screen for changing an alphanumerical value



Once placed on the screen that shows the parameter we want to modify its value, press ● in order to access to the screen for changing the value.

Press ▲ ▼ until the cursor indicates the desuired value and ● to validate it and return to the preceding screen.

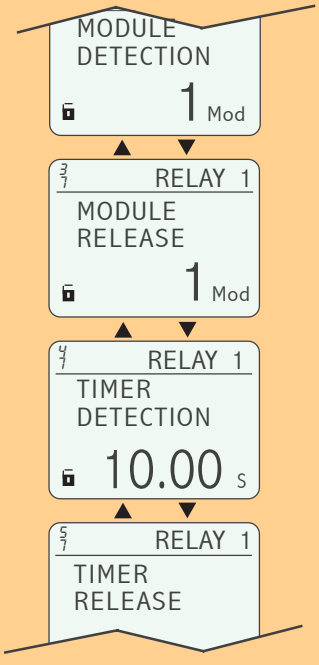


TYPES OF SCREENS (5/5)

5.1 Screens menus

Are those in which is visualized a series of screens, all them related under the same concept. The digits placed at the top of the screen indicate, from top to down, the number of the selected screen and the total number of screens. The screens are disposed in an endless loop, in such a way than after the last screen it comes to the first one of the series. In the same way, moving back from the first screen it comes to the last one of the series.

Each one of the screens usually displays the definition of a parameter and its actual value. Press the keys ▲▼ to move to a new screen and ● to modify the value visualized in it. If no-one value is visualized on the screen, pressing ● it is accessed to a new menu. In order to abandon a screens menu and return to the preceding one, the RETURN screen must be selected.



QUICK START

1 - Connect the sensor MPS to terminals Y1 and Z1 of the controller SNI. Place the float of the sensor in the more elevated part of it.

2 - Apply supply voltage to the controller SNI.

3 - Set up the total number of installed modules using the sequence: SET UP - MODULES.

- If the number of modules is more than 6, the controller SNI assigns automatically to each module its proportional value in relation to totality.

- If the number of modules is 6 or less, the proportional value in relation to totality must be assigned manually to each one. Once the number of modules has been validated, press ▼ to access to the different screens for setting the percentage. You will find as much percentage screens as modules had been installed.

4 - Execute the sequence RETURN RETURN to go back to the status screens and verify that the equipment is able to recognize all of the modules by displacing the float along the tube. If your checking is satisfactory, go to the following point. Otherwise, check the assembly of the modules and the rest of connections, and repeat the steps 1 to 4 stated on this page.

5 - Set up the parameters that your application needs. Now you can choose two solutions: configure each parameter individually (see Advanced Programming, page 17) or use the «user programs» than, as an example, contains several parameters already configured for some «typical» applications. You will only need to modify those parameters belonging to your particular application. Read carefully the description of these programs and see if they becomes adapted to your needs. (see pages 14..16).

USER PROGRAMS (1/3)

User programs are permanent in the controller SNI.

In order to modify them, load the program you desire (for example, number 1) into memory by means of the sequence SET UP-OPTIONS-PROGRAM 1. Modify the parameters, values, timers, etc. and do the opportune checkings until everything work correctly.

Bear in mind that the disconnection of the supply voltage does not provoke the loss of data. For your safety, save your changes by means of the sequence SET UP-OPTIONS-SAVE PROG. (see page 32).

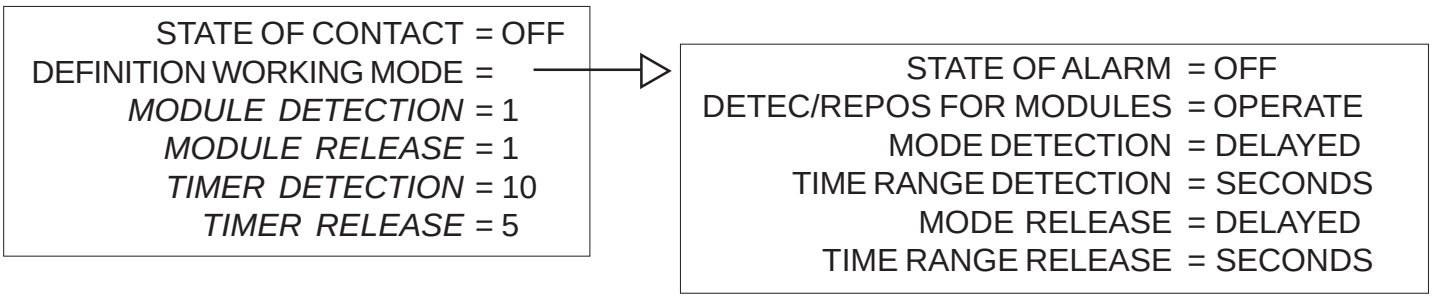
Remember than every time that Program 1 is loaded into memory, the default factory parameters will be restored. If the User Program is loaded (SET UP-OPTIONS-PROG USER), you will obtain the parameters that you modified (see page 33).

It is not required to load any user program when the equipment turns on: it is kept the same configuration that was operative the last time that the equipment was turned off.

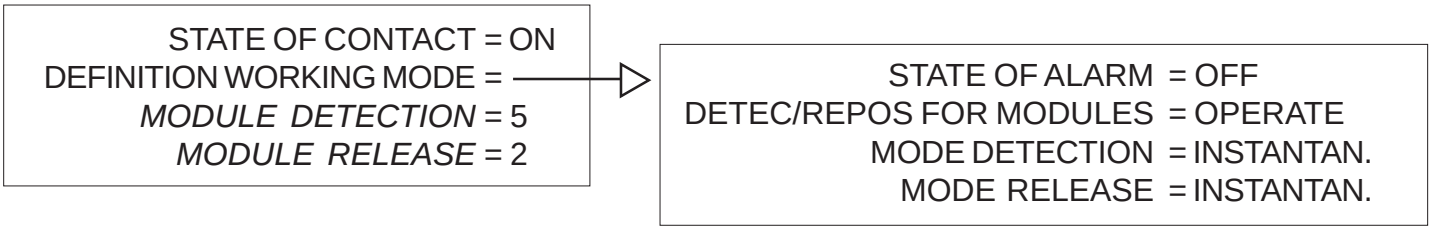
USER PROGRAMS (2/3)

PROGRAM 1: Control of maximum and minimum level with alarms for maximum and for minimum in a filling system.
It is supposed 6 modules installed in the sensor MPS.

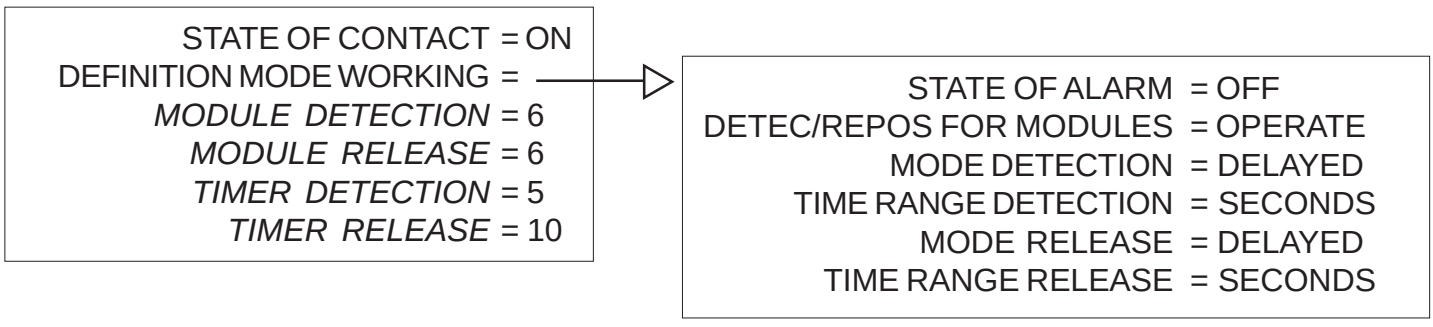
RELAY 1: Alarm for emptying: protection of the pump.



RELAY 2: Control of the pump according to the levels of maximum and minimum.



RELAY 3: Alarm for filling: safety for overflow.

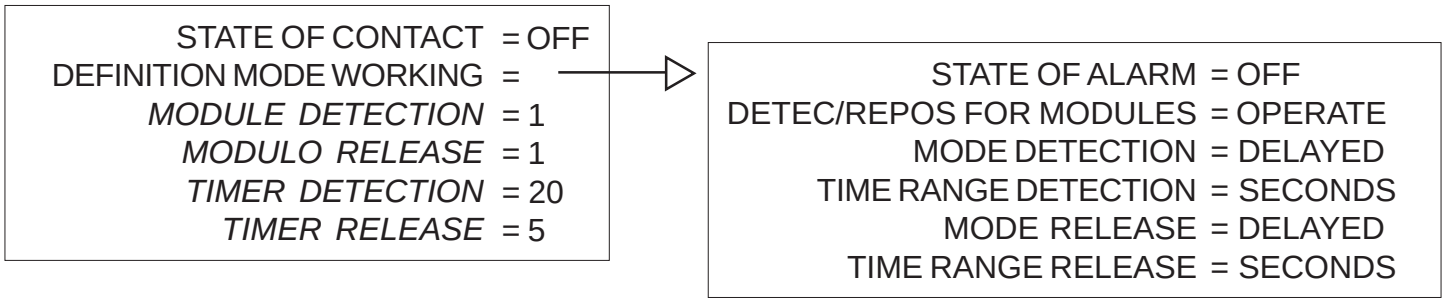


NOTE: Options in italics are only available according to the ones selected in DEFINITION WORKING MODE.

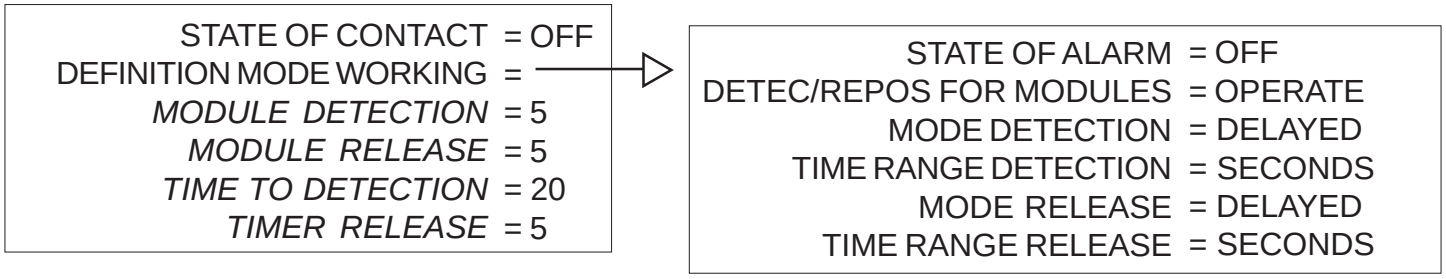
USER PROGRAMS (3/3)

PROGRAM 2: Independent control of three level set points.
It is supposed 10 modules installed in the sensor MPS.

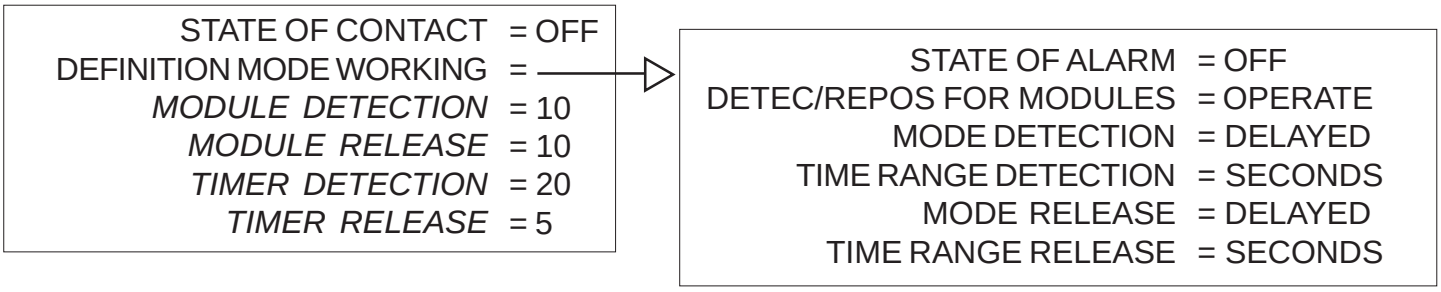
RELE 1: Detection and release in module 1.



RELE 2: Detection and release in module 5.



RELE 3: Detection and release in module 10.



NOTE: Options in italics are only available according to
the ones selected in DEFINITION WORKING MODE.

ADVANCED PROGRAMMING

If you want to program by your own the controller SNI, it is not necessary to load any program. Set the parameters showed in the screens that appear when putting the equipment on for the first time. Follow the steps below before beginning to program:

Determine what action will make each relay (Ex.: relay 1 to start up or to stop the pump, relay 2 to shoot an alarm, ...)

Determine what module will execute each action (Ex.: the pump will activate in 9th module and will stop in 3rd, the maximum alarm will activate in 11th, ...)

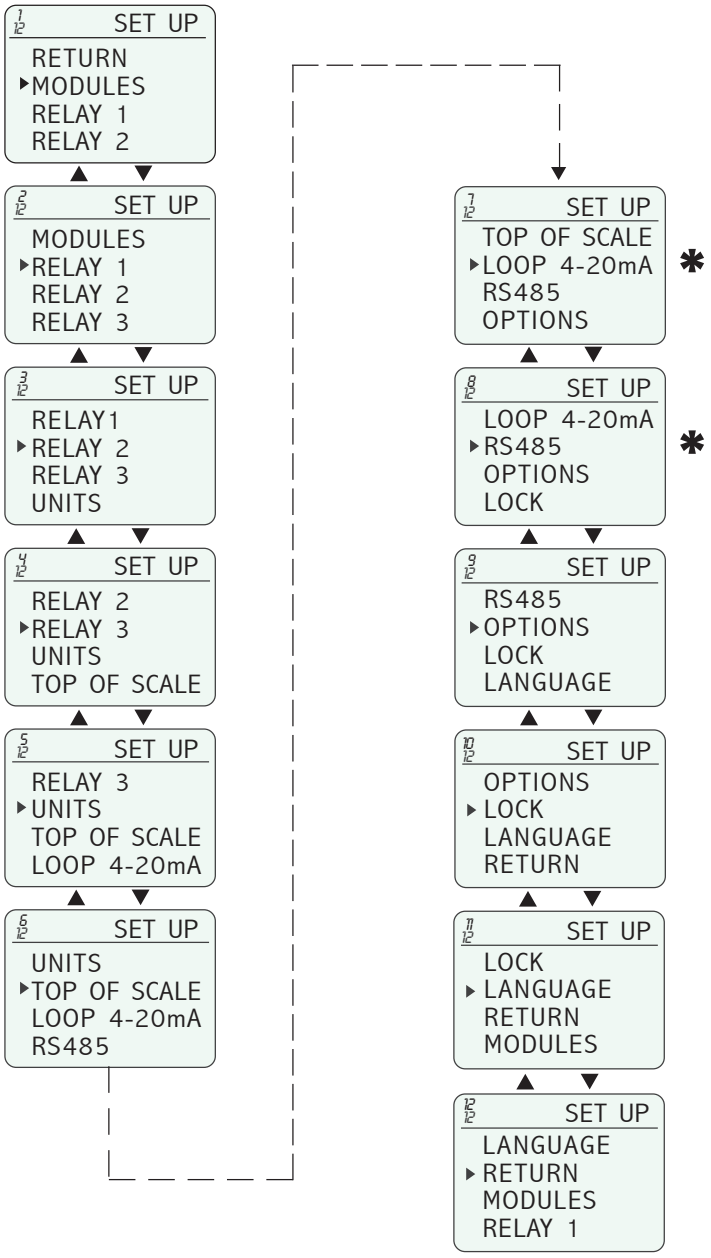
Determine what actions will have timing (Ex.: 8 seconds when detecting maximum level, 5 seconds when detecting minimum alarm, ...)

Begin to program. Remember that certain options will be available according to which are settled in other previous options. Enter to the menu SET UP and select RELAY 1. Look for the screen DEFINITION MODE WORKING and select it. Look for the screen DETEC/RELEAS BY MODULES and set like OPERATIVE. If you set this option like NON OPERATIVE, you will not have available the rest of options. If you want to add timing to the detection or to the release, set the screens MODE DETECTION or MODE RELEASE like DELAYED, respectively. In the following screen you will be able to set the time units. Select the screen RETURN to return to the previous screen and program the rest of options of RELAY 1.

Proceed in the same way for the rest of relays, in case that you are going to use them.

Consult the following pages to know the rest of programming possibilities offered by the controller SNI.

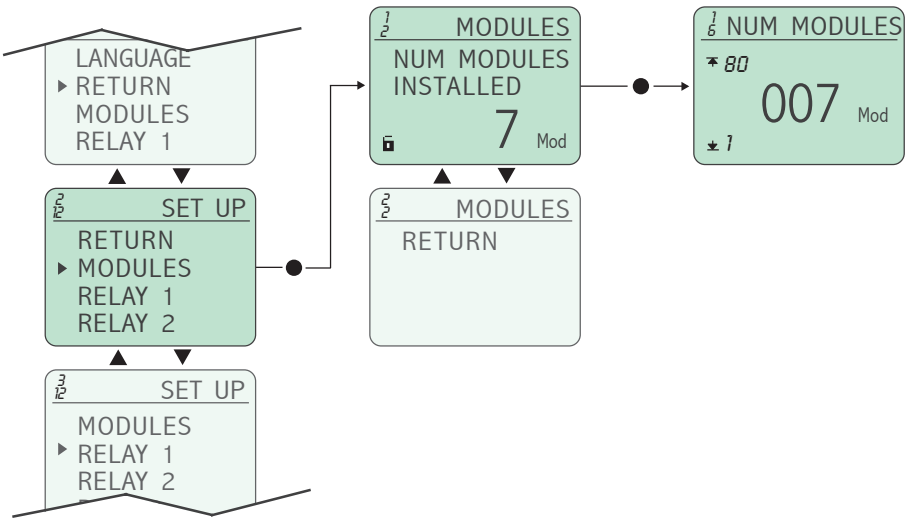
SET UP MENU



ⓘ	Is the main menu from which is possible to set up all the parameters involved in the equipment. It is accessed from the status screens when pressing the button “Enter”. It is also possible to arrive by chosing the succesives options RETURN included in whichever of the rest of menus or screens.

*	These options depend on the selected equipment, it means that they cannot be available in the one you have.

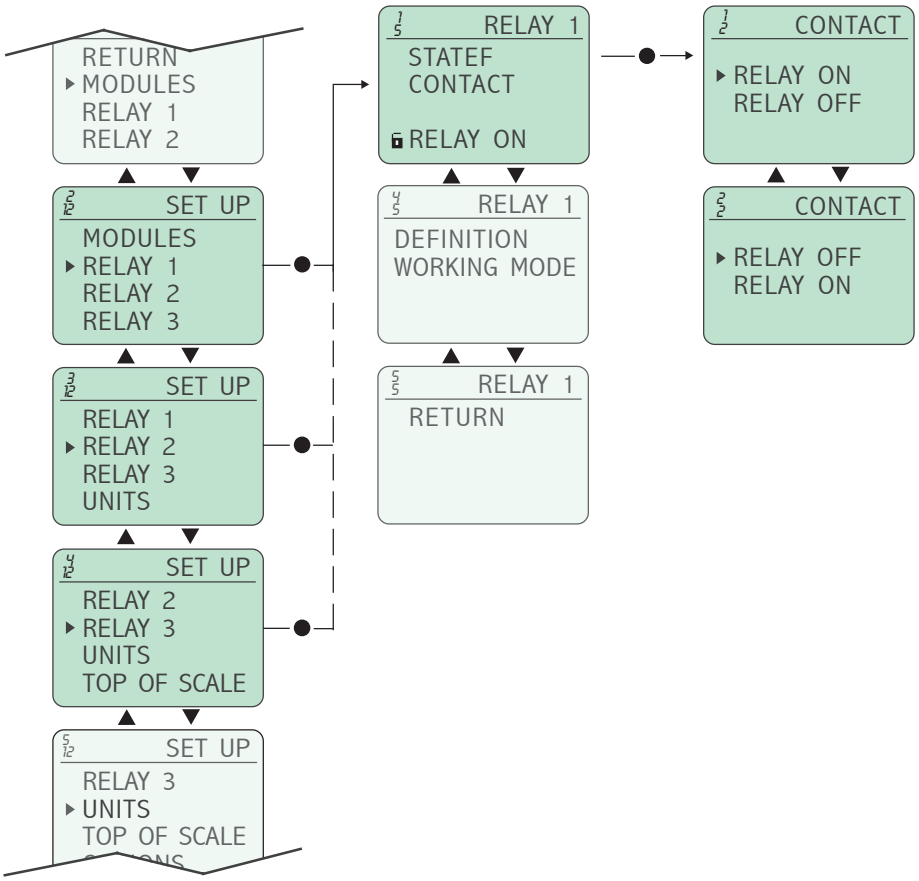
NUMBER TOTAL OF MODULES



With this option is defined the number total of modules installed in the sensor MPS. In order to get a right operation is essential to access to this option as the first step before setting up whichever other parameter.

Defining a number of modules different to the total of modules installed in the sensor MPS will provoke a wrong operation of the equipment.

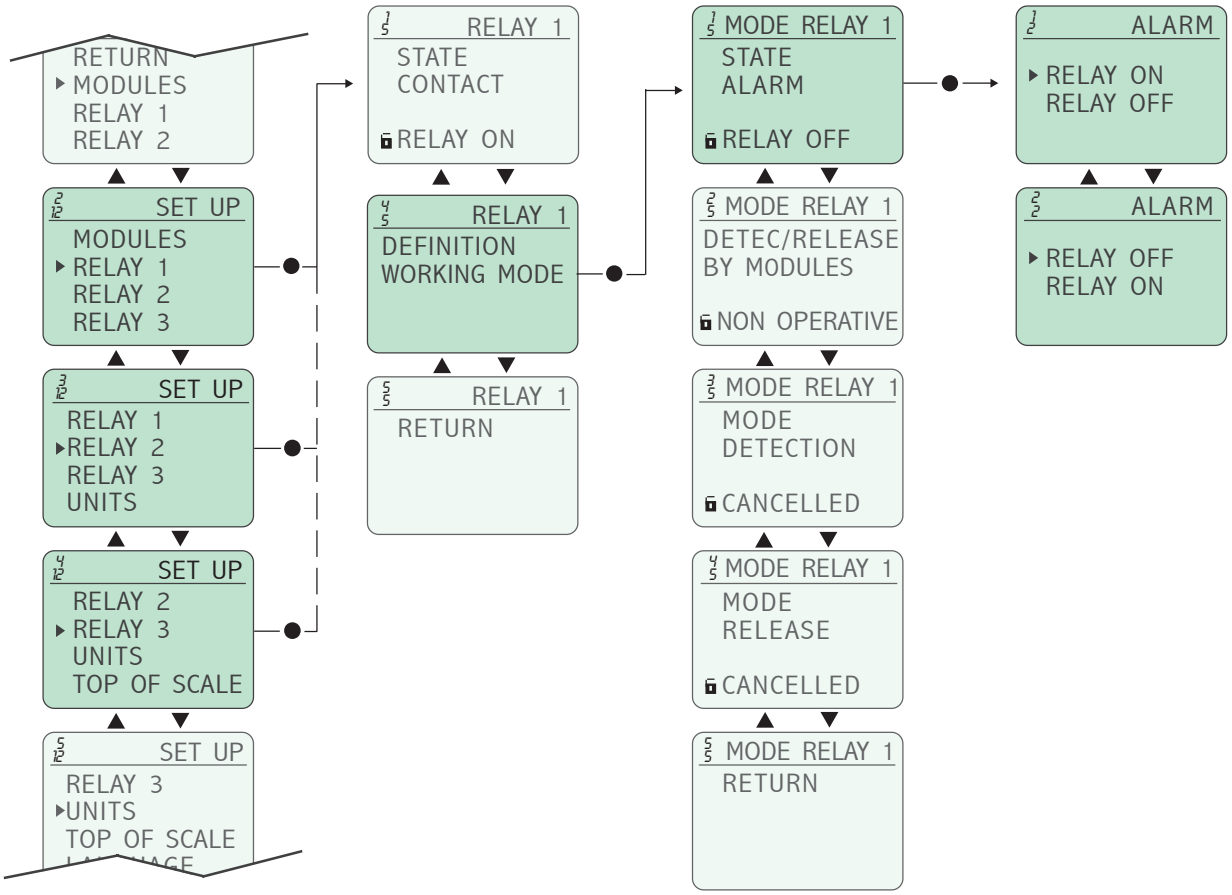
STATE OF THE RELAY CONTACTS



The informations existing in this page and in the following ones are refered to the set up of RELAY 1 and are also extensive to RELAY 2 and RELAY 3, being necessary to set up the parameters of each relay independently.

The state of the relay (OFF/ON) indicates the position of the contacts of the relay when the equipment is turned on and suposing that the float of the sensor MPS is placed in its lower part and all the modules are deactivated. The state of the contacts of the relay must be set up according to the required operation you need to perform.

STATE OF THE RELAY IN ALARM MODE

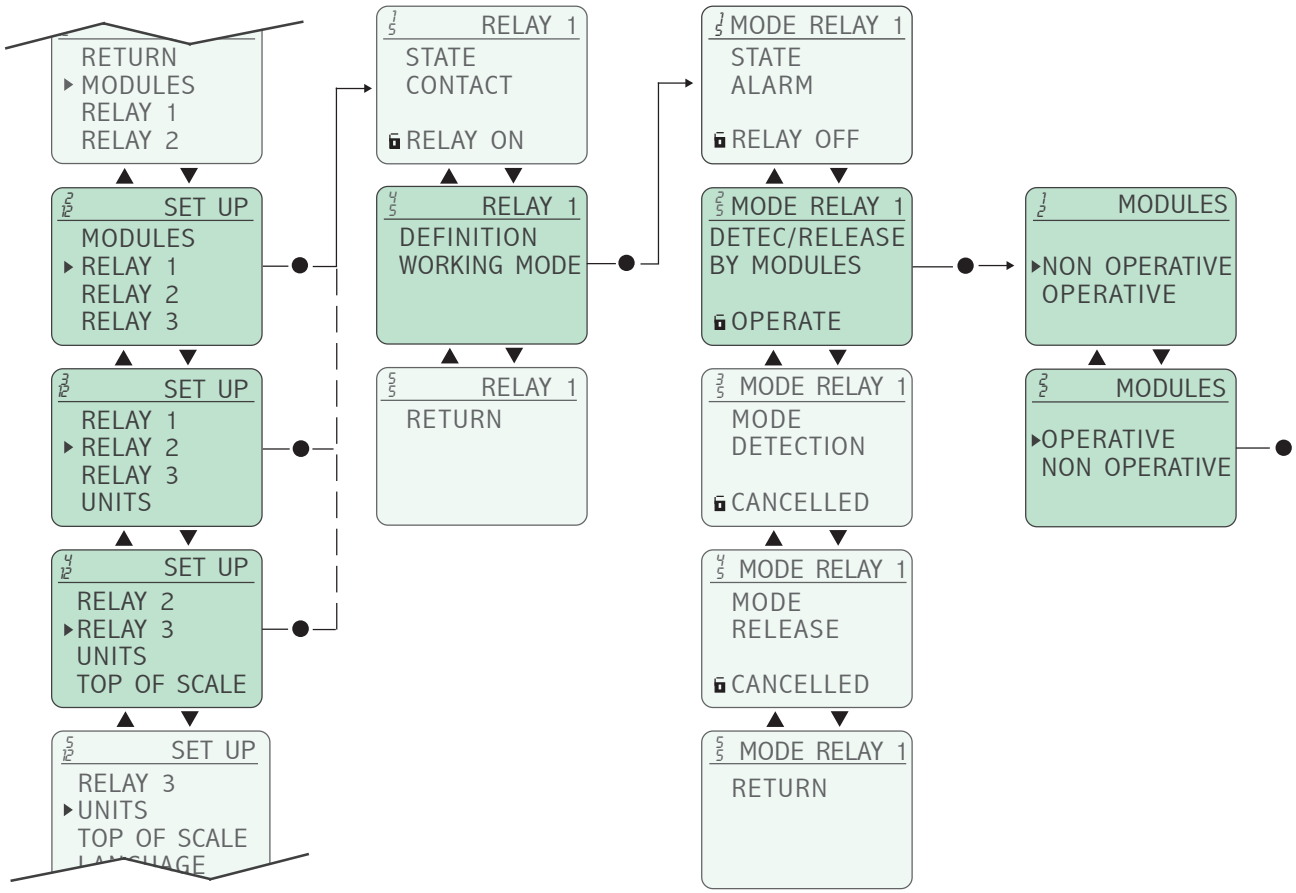


The “alarm mode” is that which is produced in some of the following circunstances:

- Broken communication between SNI and MPS.
- Internal error in SNI.
- Memory error.

Because the controller SNI would remain without information, some undesired situation could happen like, for example, the pump could remain always working or the alarm of maximum level would never activate. By means of this option can be set up the state of the contacts of the relay when this situation is produced.

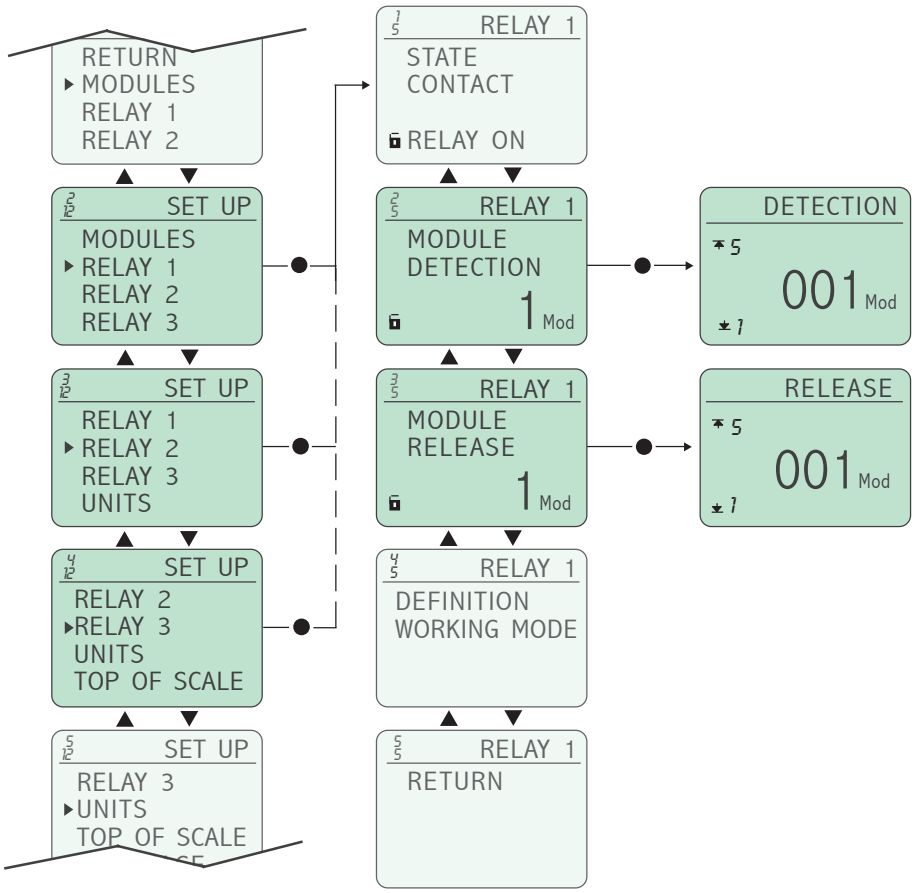
DETECTION/RELEASE BY MODULES



Is essential to set the option DETEC/RELEASE BY MODULES as OPERATIVE to allow the relays work when the float is situated in the position of a determinate module.

Until this option is not activated, the screens of selection of modules are not available (see following page).

MODULES OF DETECTION AND RELEASE

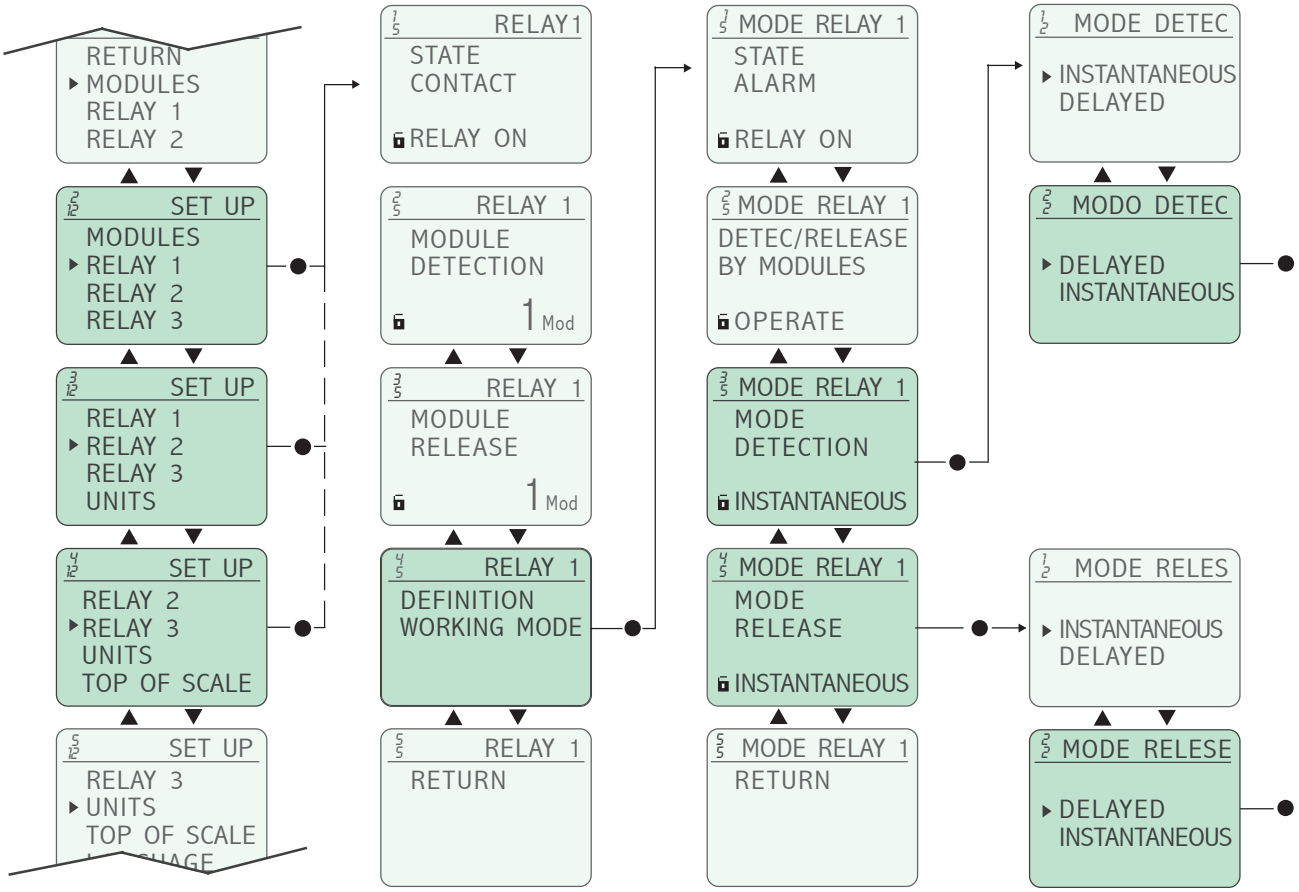


Previous conditions	DETEC/RELEASE BY MODULES = [OPERATIVE]

It allows to set the number of the module in which the relay will operate when the float reach to the height where it is placed. The detection happens when the level of the liquid raises and releases on the opposite case. By this reason the release module must be equal or lower to the detection module. The screen for changing the value indicates the limits between those the value can be adjusted.

The modules are numerated starting by the lower part of the sensor MPS, being the number 1 the lowest module.

DELAY ON DETECTION AND/OR ON RELEASE (1/3)

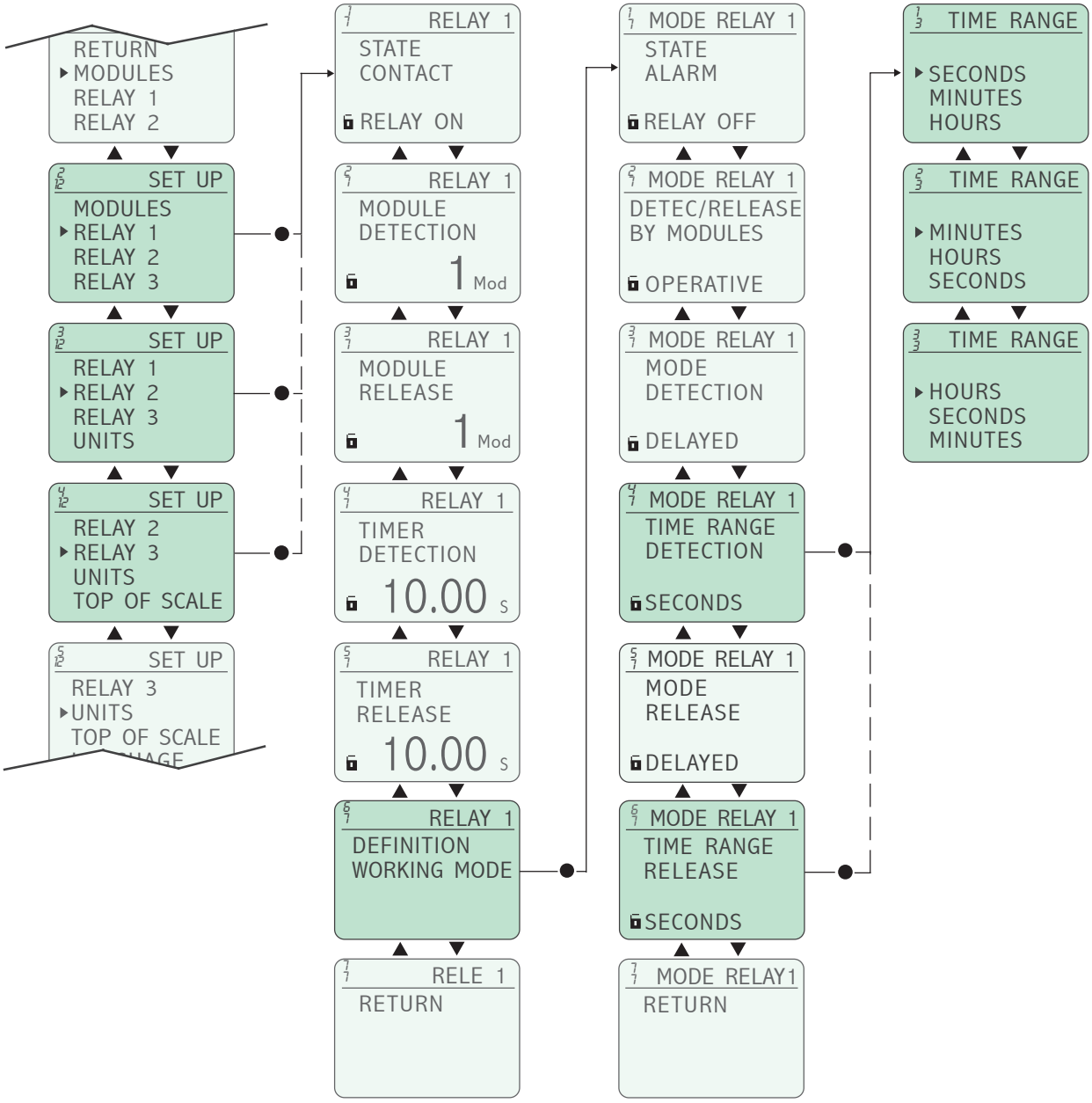


In the case that inside of the tank could be produced some turbulences allowing wrong operations or repetitive switching of the relays in undesired time spans, is possible to add a delay on detection and/or on release.

Activation

The relay will not operate until the signal will be kept for a time longer than the adjusted one. For this reason, MODE DETEC and/or MODE RELEASE must be set as DELAYED.

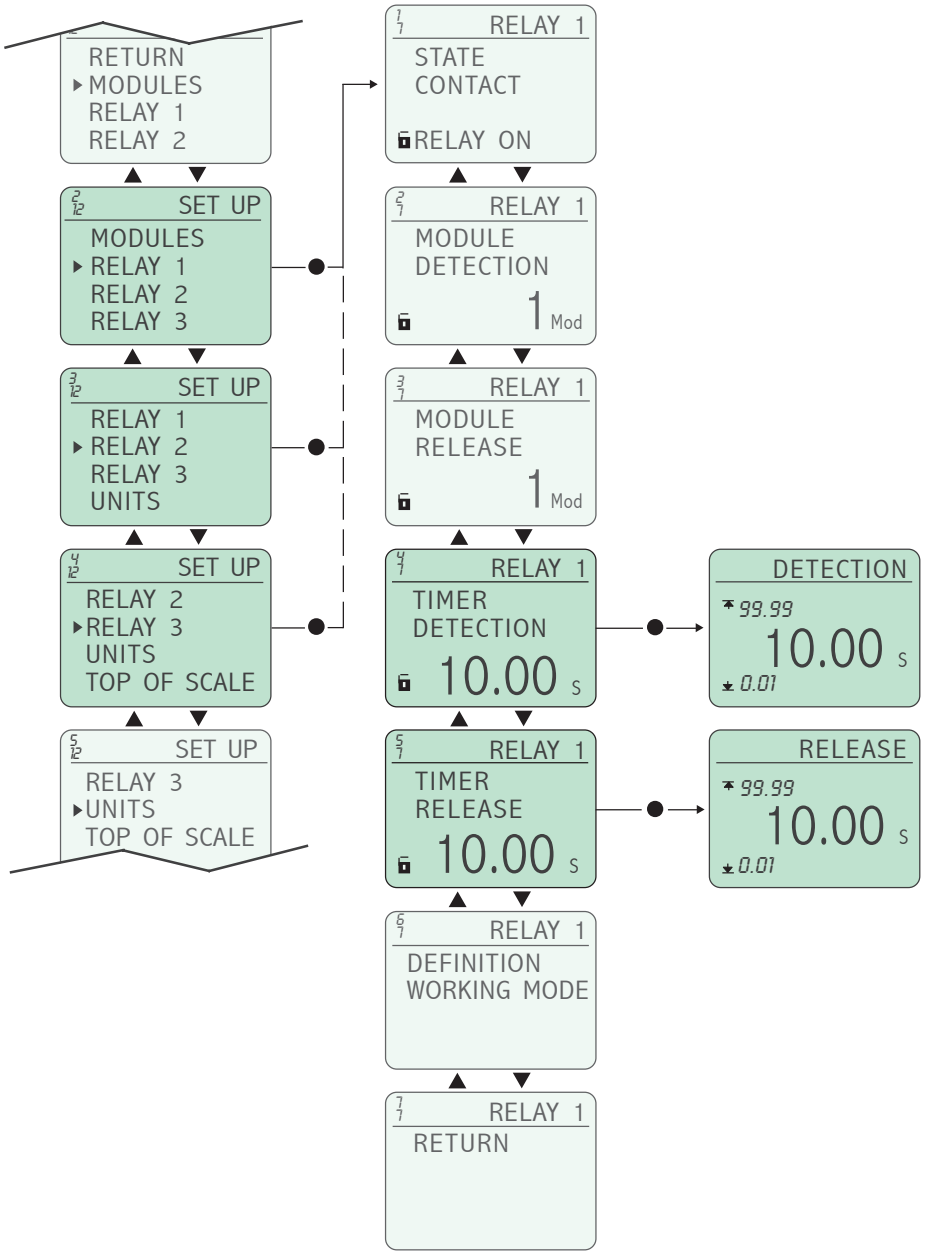
DELAY ON DETECTION AND/OR ON RELEASE (2/3)



Ranges

The time ranges for the detection and/or for the release can be set as SECONDS, MINUTES or HOURS.

DELAY ON DETECTION AND/OR ON RELEASE (3/3)

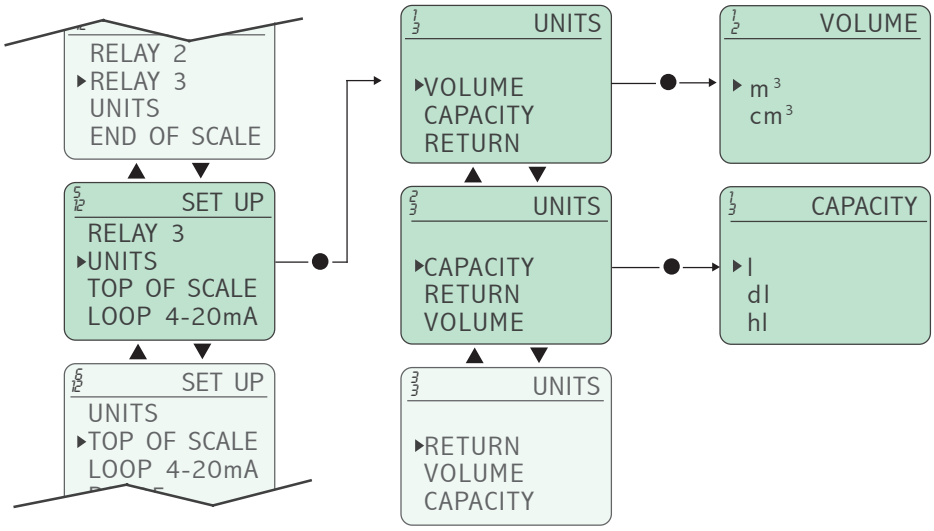


Time

It allows to set the exact time for the detection and/or the release.

The time margins depend on the previously selected range, and can be adjusted between the following values:
· 0,01..99.99 SECONDS
· 0,01..99.99 MINUTES
· 0,1..999.9 HOURS

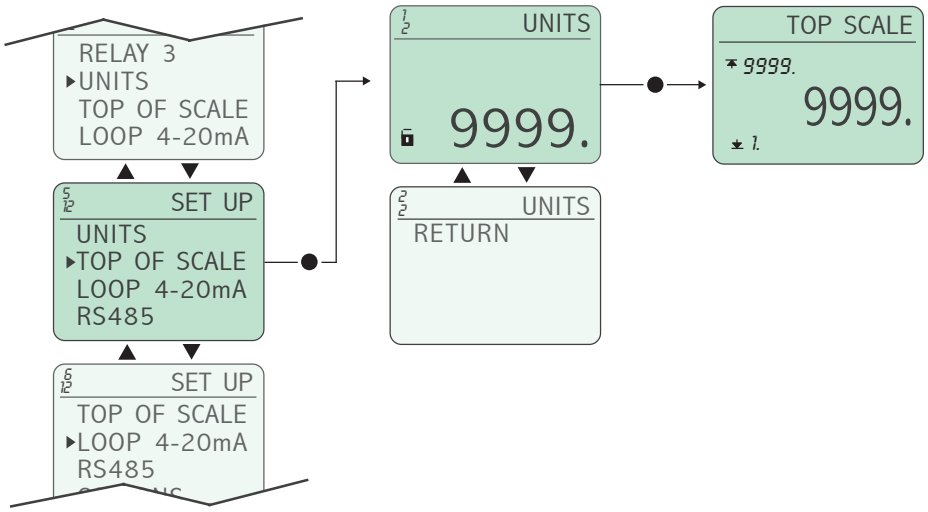
READING UNITS



In order to facilitate the reading of the level in the tank to be controlled is possible to define in what units the reading will be performed. The possible values are :
- for VOLUME: m^3, cm^3
- for CAPACITY: l, dl, hl

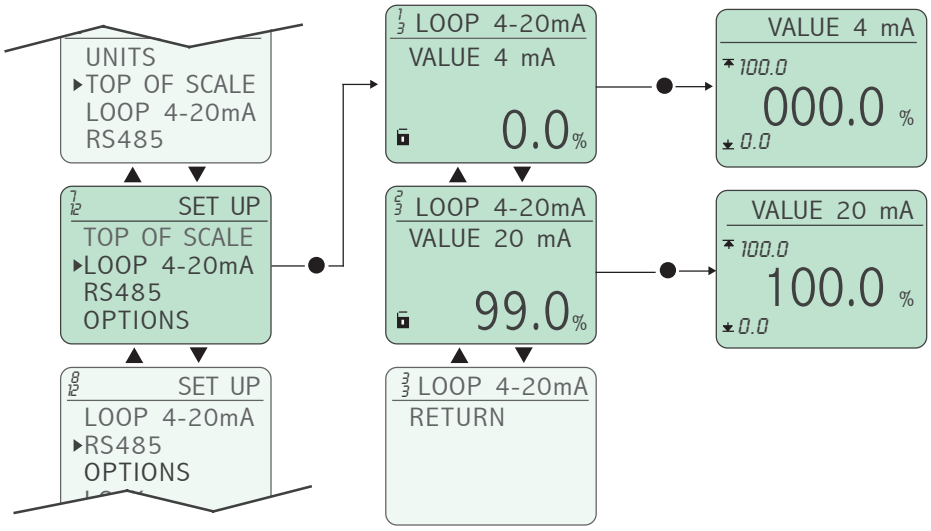
To complete the set up of the reading is necessary to acces to the option TOP OF SCALE. (see following page).

TOP OF SCALE



With this option is possible to set the maximum value of volume or capacity that the tank is able to contain. The reading will be so much exact when much more modules will be proportionally distributed along the sensor MPS. For instance, a tank of 2000 litres with three modules proportionally distributed will only show the values 0, 1000 and 2000. If 20 modules are installed, the intervals will be of 100 litres per reading.

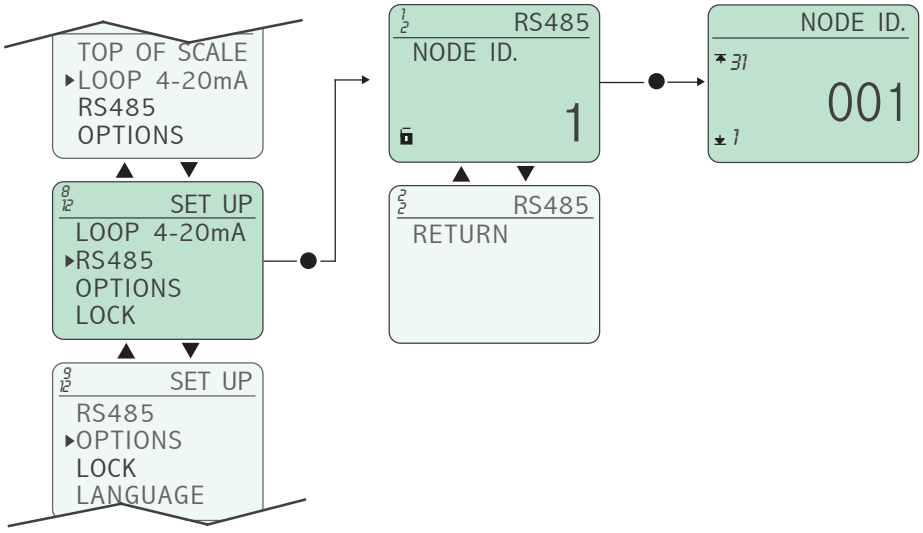
LOOP 4-20 mA



The value sent through of the 4-20 mA current loop is the percentage of active modules at every moment. It is necessary to set the value of the percentage for the countervalue of 4 mA and 20 mA. So, is possible to send, for example, only an 80% of the total value. It is also possible to invert the loop sense by setting 100% at 4 mA and 0% at 20 mA.

This feature is optional.
Consult the order codes at page 3.

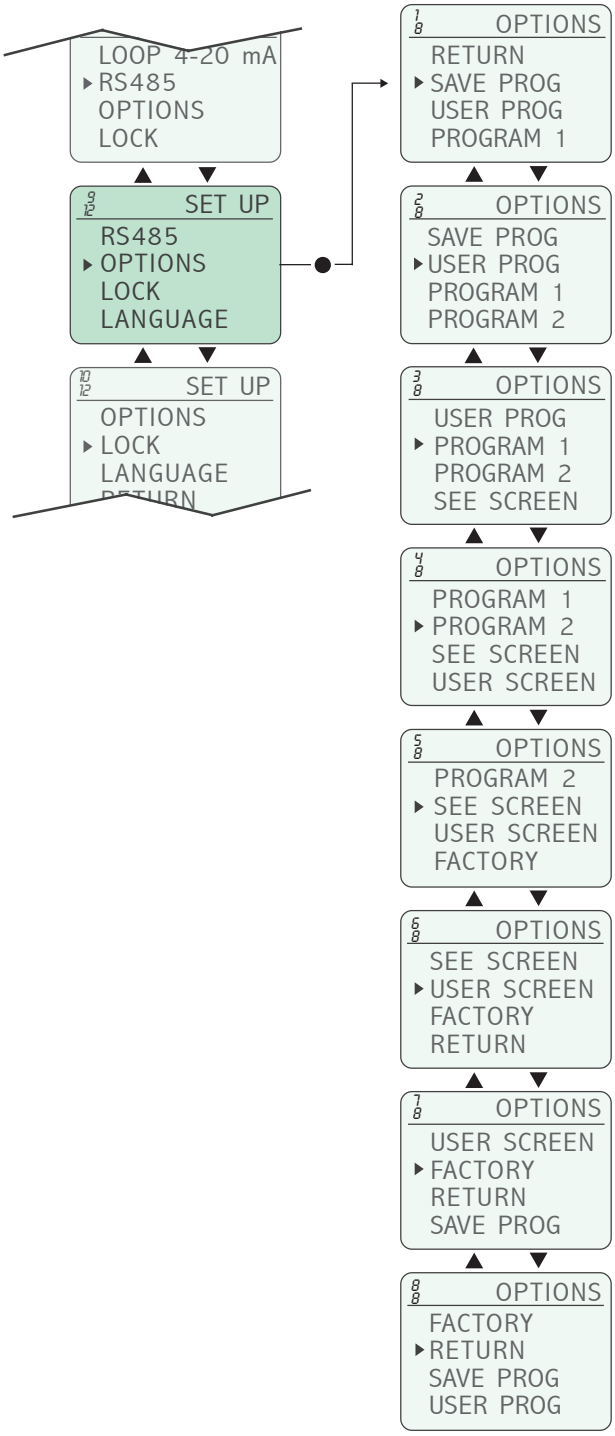
RS485



Is possible to communicate the controller SNI with a computer via the serial port RS232 for the remote programming or to process the generated data.
With the option RS485 can be connected up to 31 equipments in the same network, being equal or different among them. A node number, exclusive identification number, must be assigned to each equipment.
Is essential to employ the converter RS232-RS485 (reference SBAZ).
For extended information relative to programming with a computer, consult the *deCom* user's manual.

This feature is optional.
Consult the order codes at page 3.

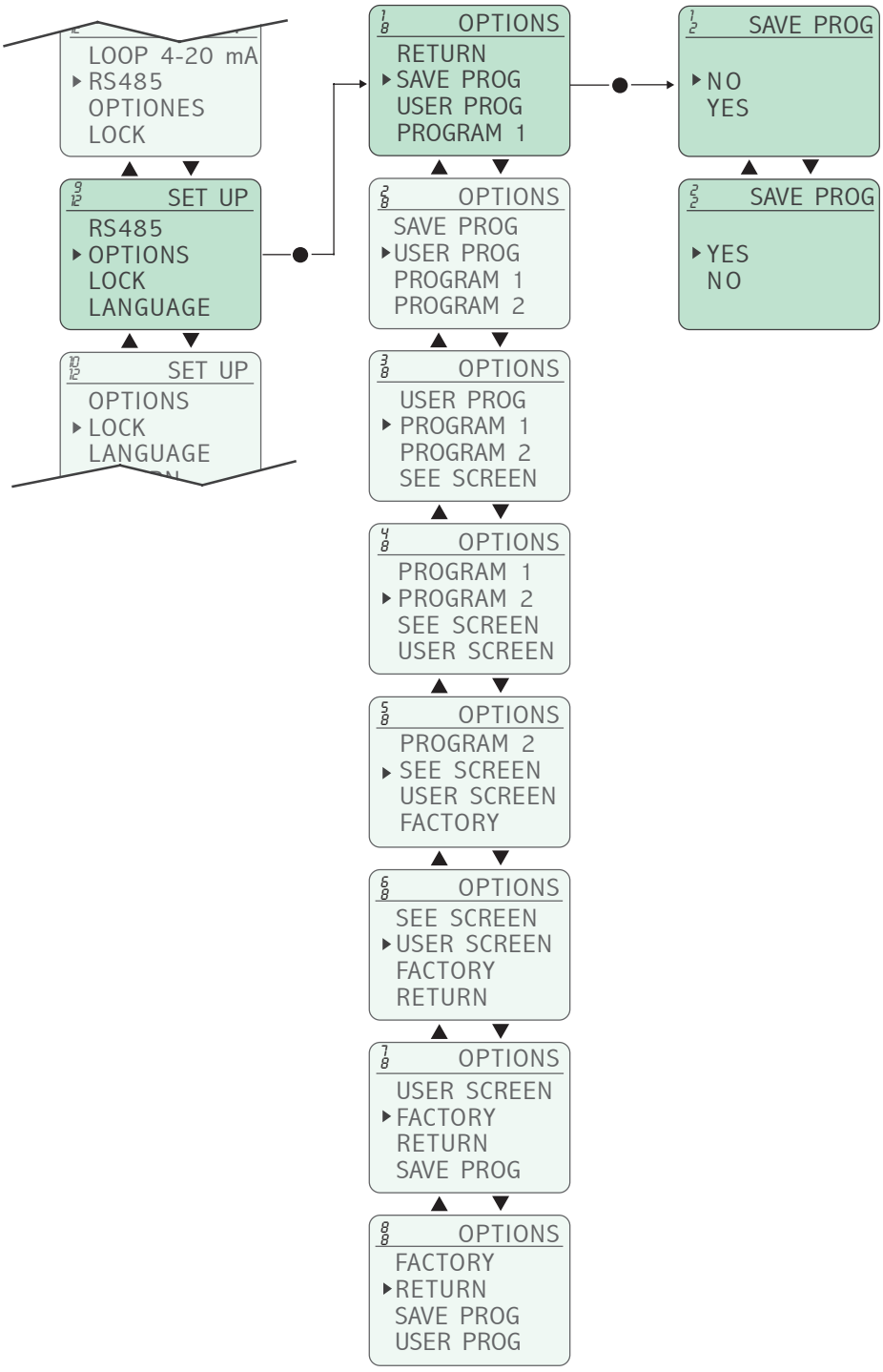
OPTIONS MENU



With the options menu are set those parameters which are not basic for the operative of the equipment.

The informative screens are also available from here.

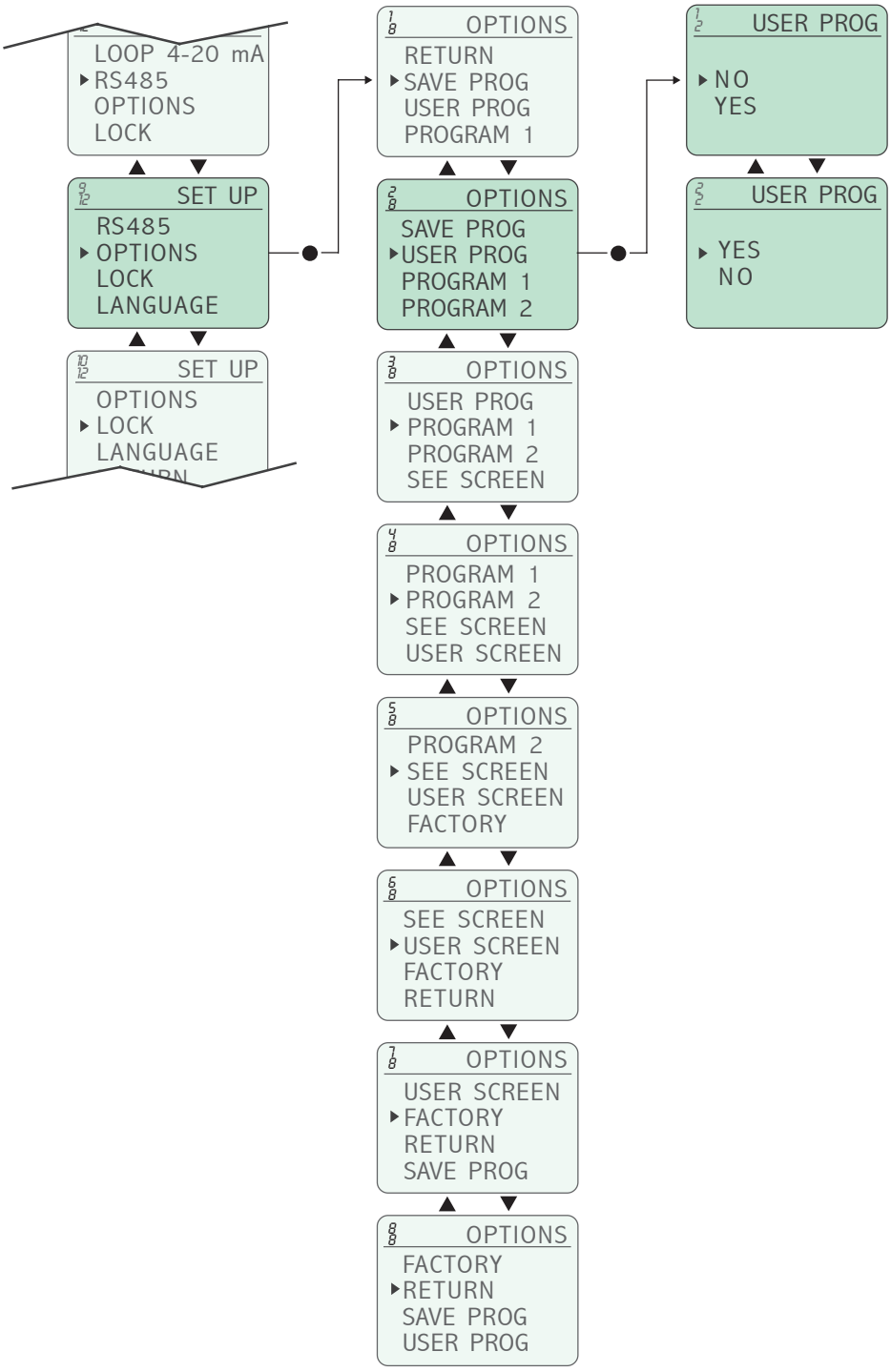
SAVE PROGRAM



It stores the changes done in the different parameters and options. Each time that SAVE PROGRAM is executed, the values stored in the user program are overwritten.

You will find more information related to the user program in the pages 14..16.

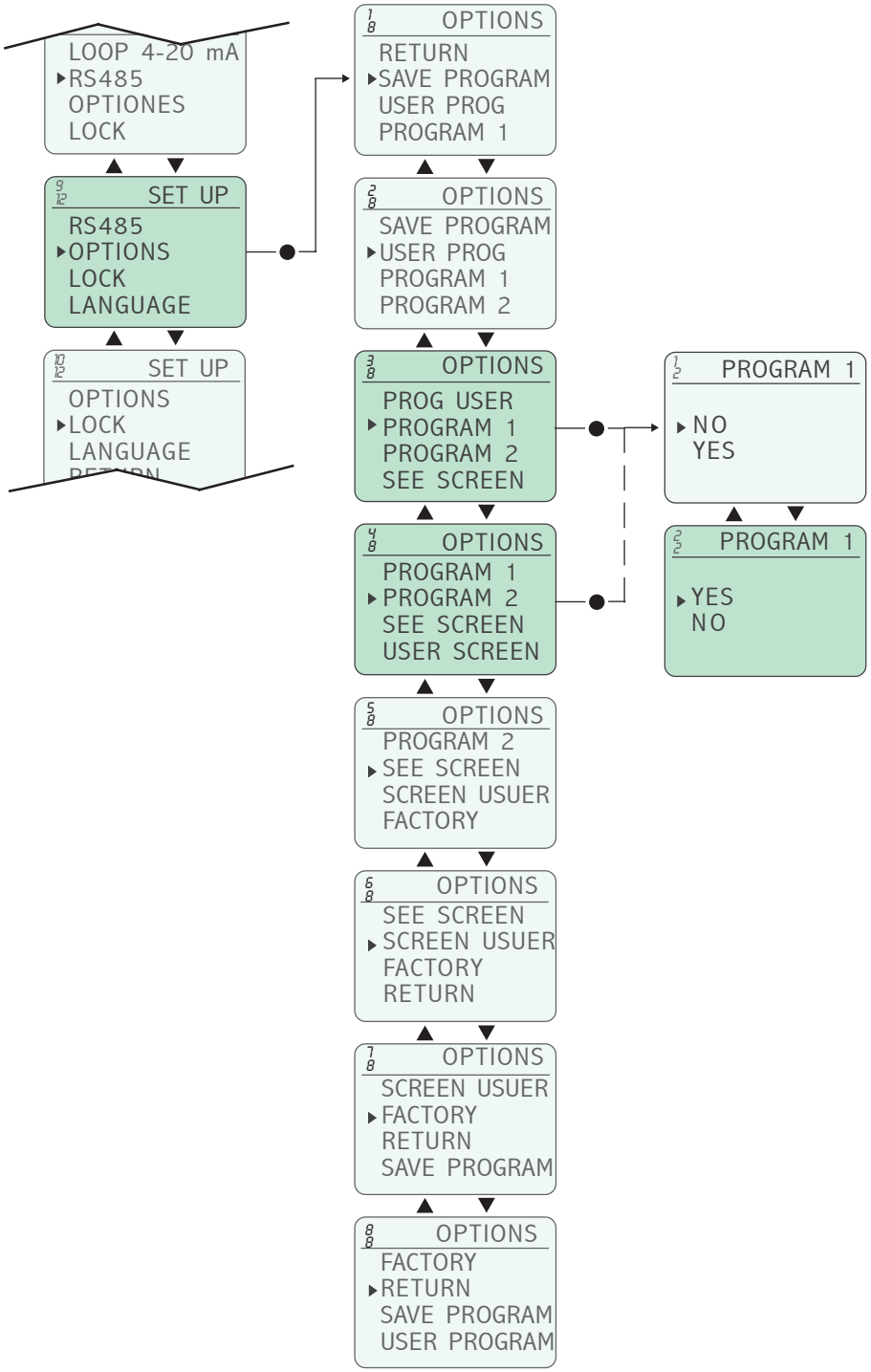
USER PROGRAMS



It loads into memory the program that was stored with the option SAVE PROGRAM, becoming the working program. Each time that this option is executed, the values stored in the memory are overwritten.

You will find more information related to the user program in the pages 14..16.

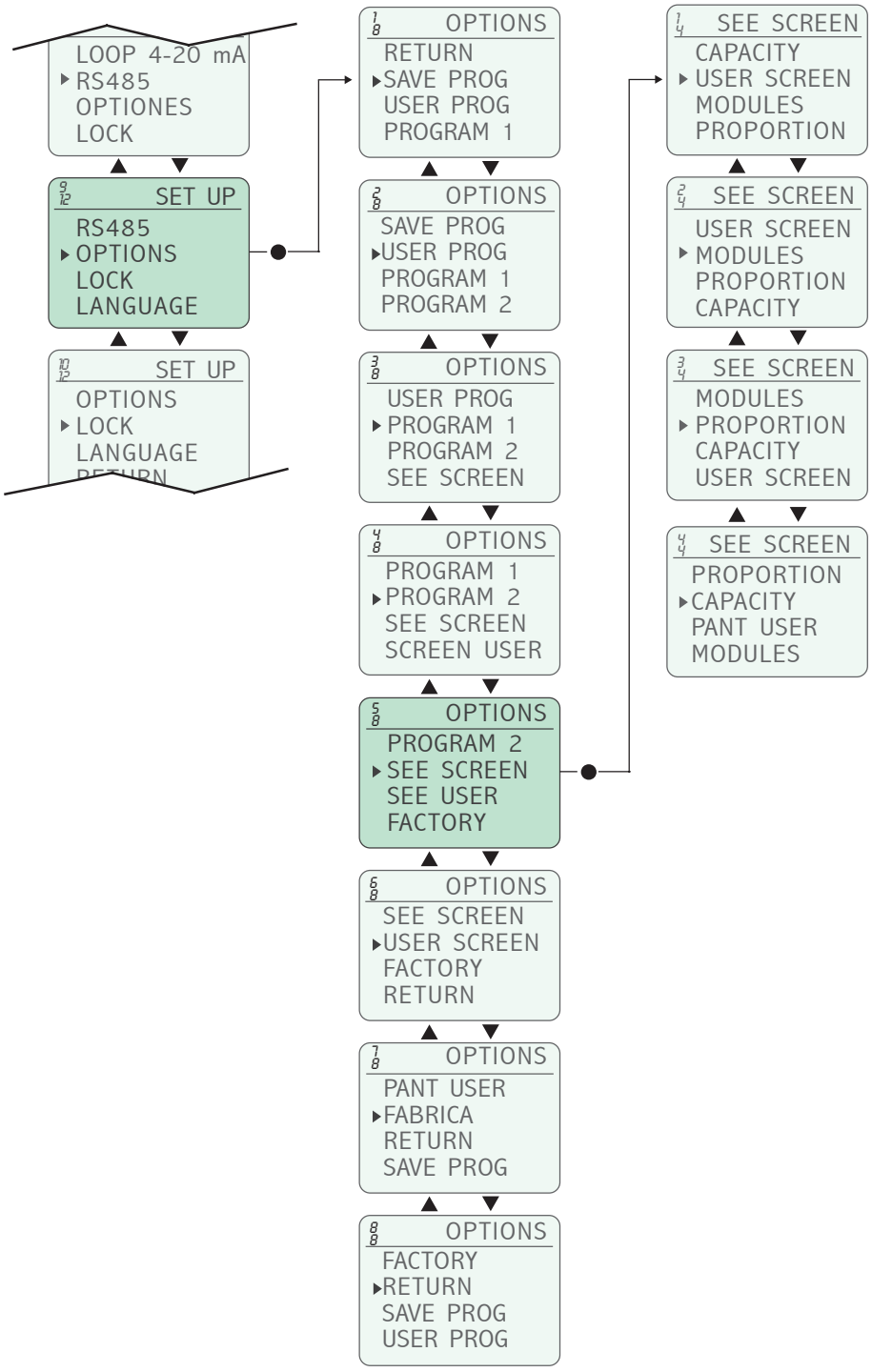
PROGRAM 1 AND 2



It loads into memory the selected program, becoming the working program. Each time that this option is executed, the values stored in the memory are overwritten.

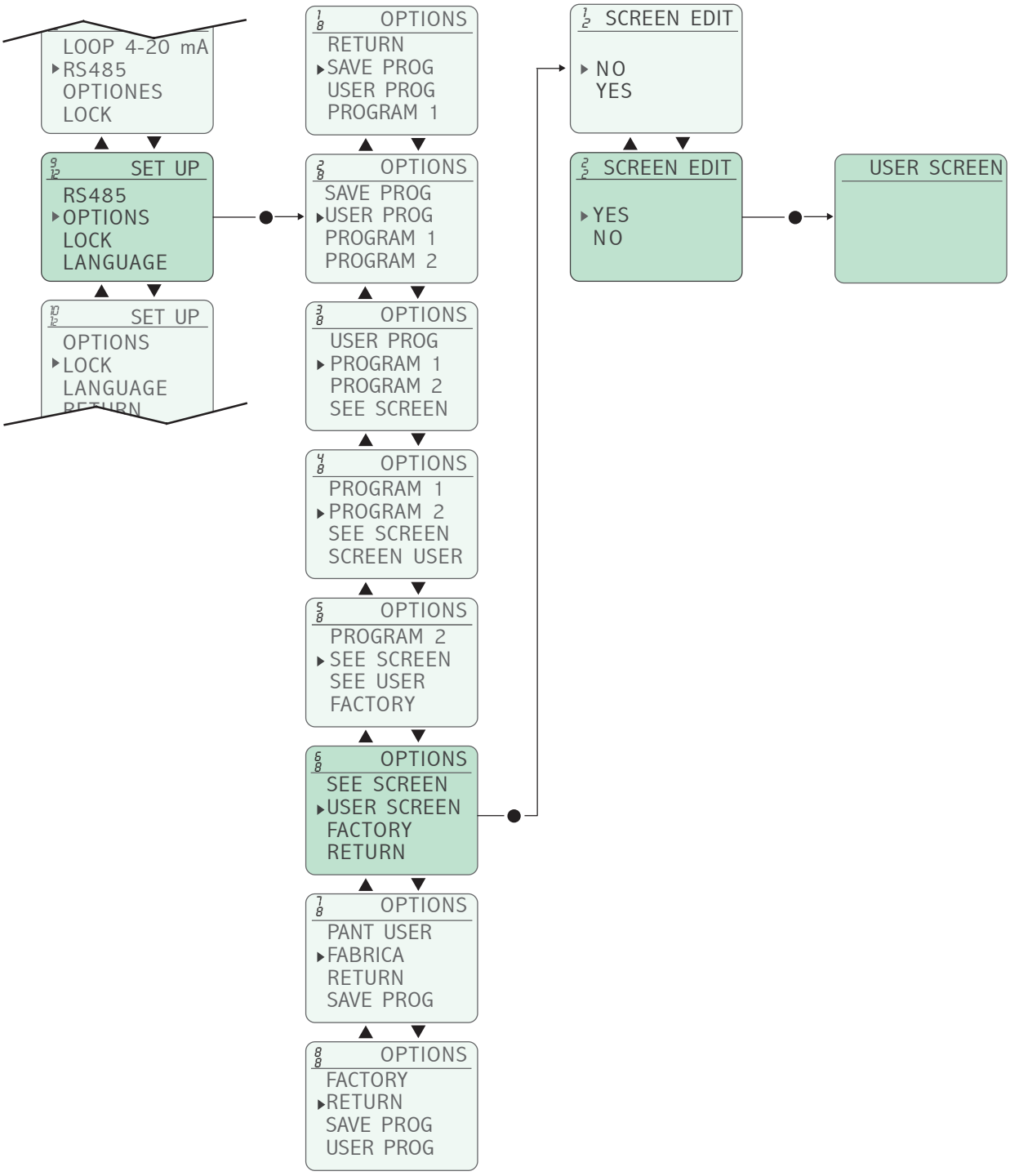
You will find more information related to the user program in the pages 14..16.

SEE SCREEN



This option allows to set which will be the default screen in the status screens menus (normal working mode).

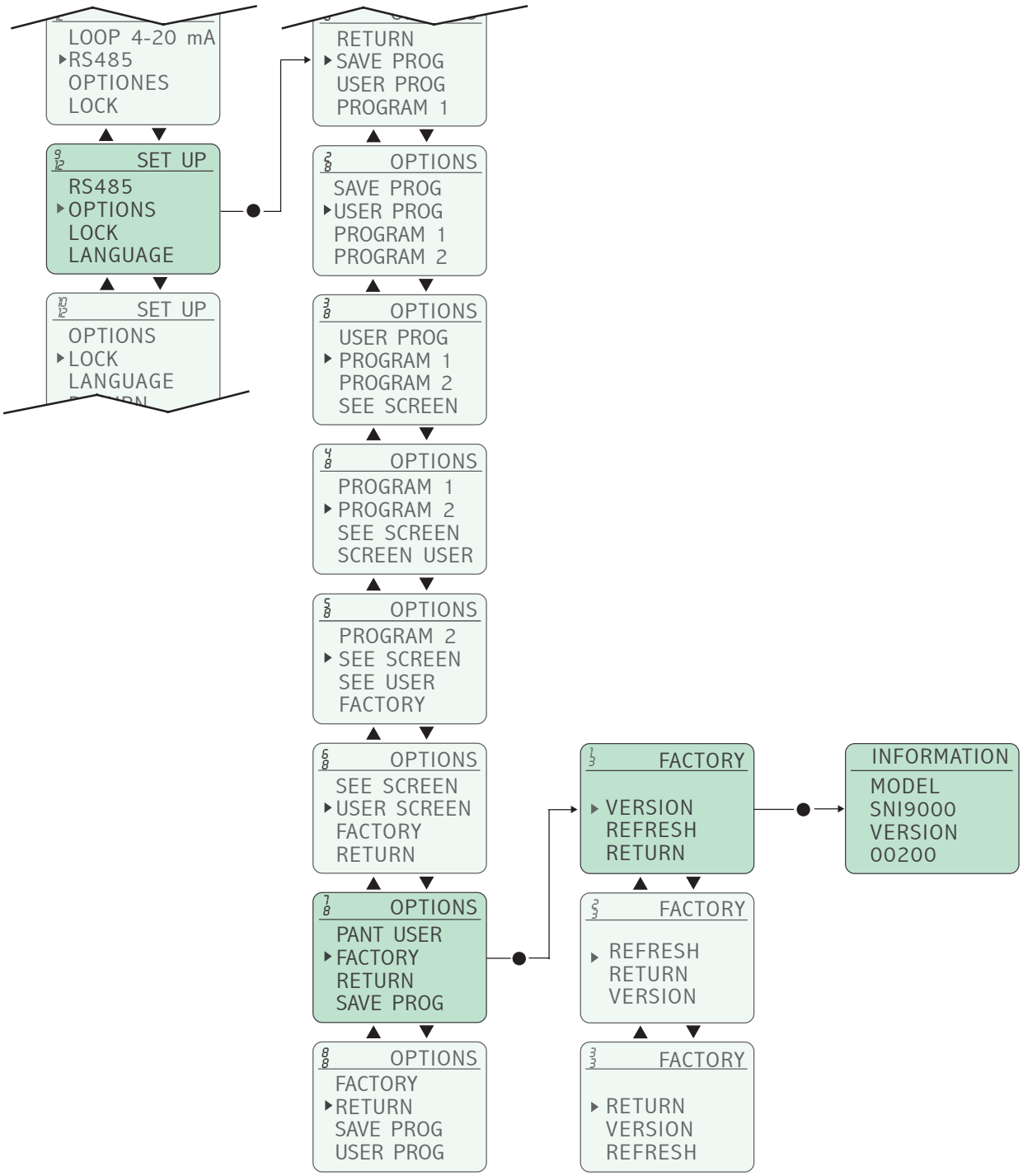
EDIT USER SCREEN



In this screen it can be edited any text to identificate the equipment. It can be used 4 lines and 13 characters each.

To learn which are the available characters and the way to edit them see “1.2 USER SCREEN” at page 8.

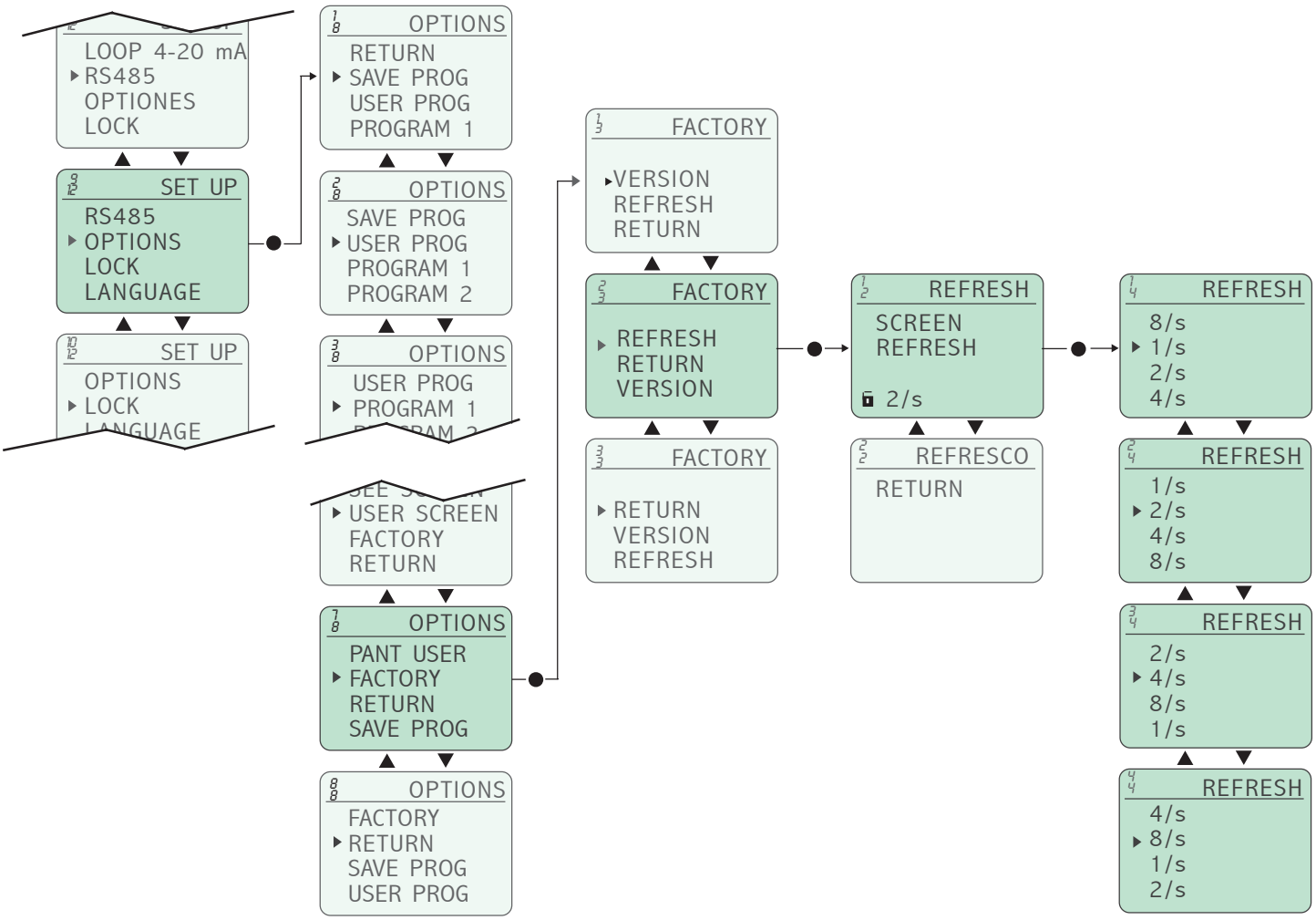
INFORMATION OF MODEL AND VERSION



Access to this option if you want to know the exact reference of the model and the version of the built-in software.

This is an informative screen. It is active for 3 seconds and returns automatically to the previous screen once the time has elapsed.

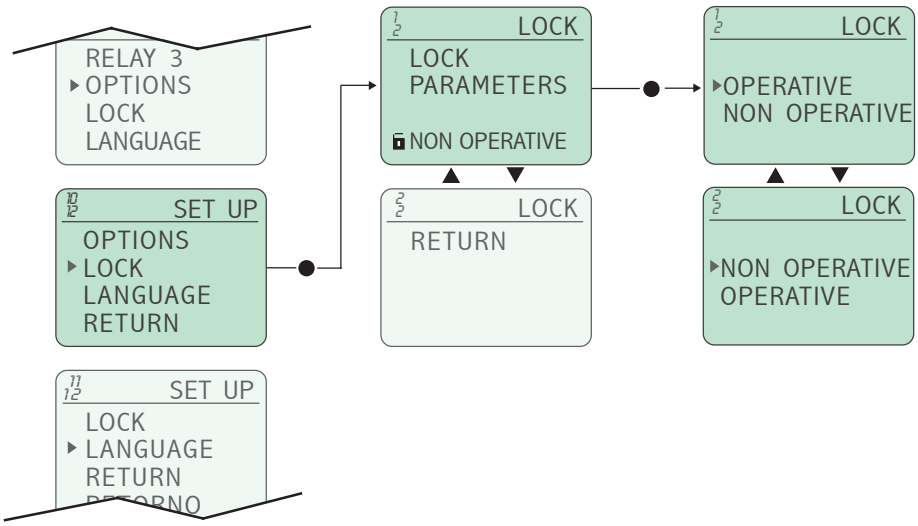
SCREEN REFRESH



It is defined as the time of regeneration of the information showed in the LCD. Only the status screens are affected for this option.

The value indicates the times that the screen is regenerated each second. So, with the value 1/s the screen is regenerated 1 time per second, and with the value 8/s it is done 8 times per second.

LOCKING PARAMETERS

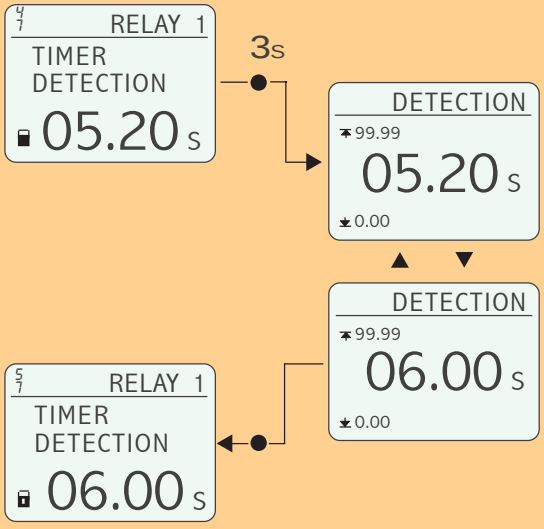


All the parameters of the equipment can be locked in order to avoid any undesired modification.

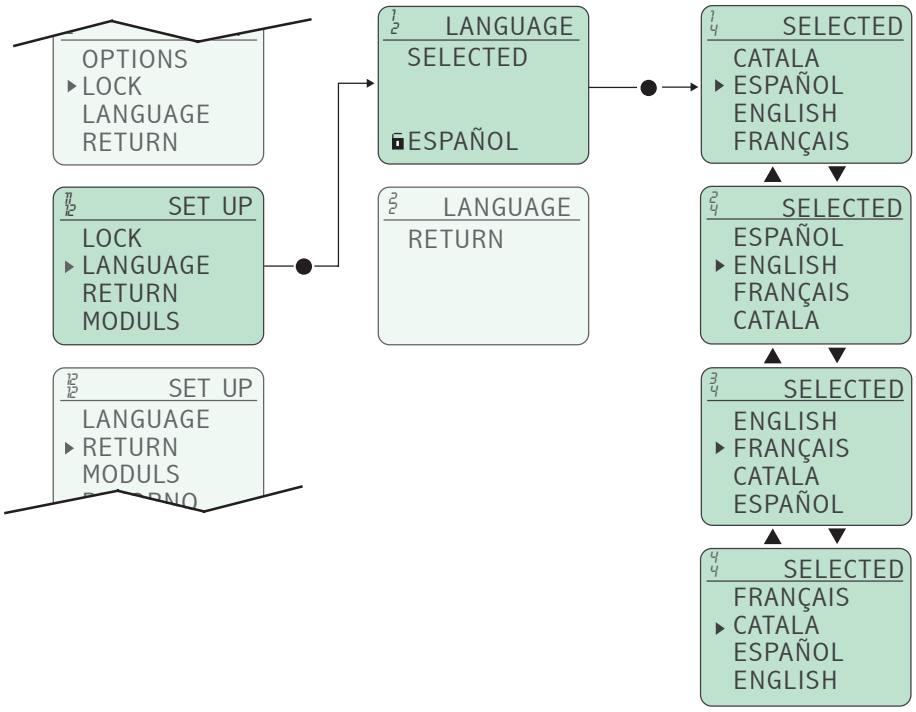
In the LCD the state of parameters is indicated as follows:

- Locked parameters:
- Unlocked parameters:

It is possible to modify the value of a locked parameter without access to the above mentioned options. To do that, once placed in the screen showing the parameter and the value to be modified, hold the button ● for 3 seconds and will reach to the screen of change of value.
Once the change has been validated, it returns to the previous screen and the parameter become locked again.



LANGUAGE

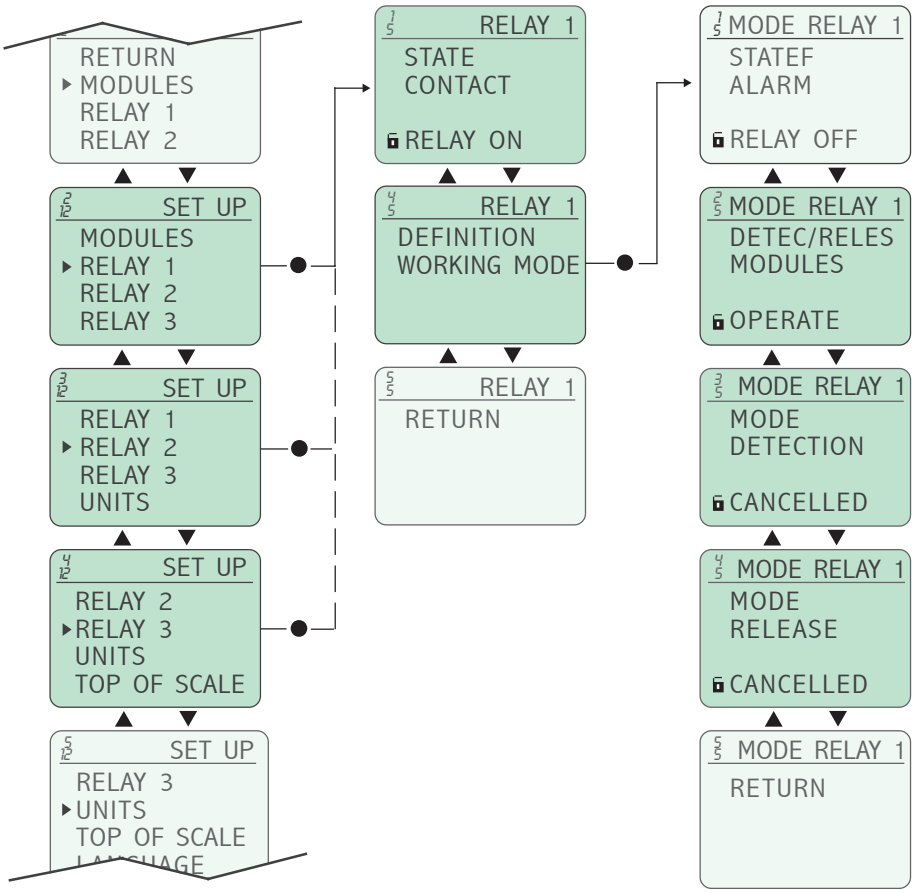


The controller SIN incorporates four different languages for showing the texts in the screen. Three of them are the same in all the models: Spanish, English and French, being optional the fourth one.

See the composition of the reference (page 3) to know the available languages.

Complementary Functions (1/4) AUXILIARY CONTACT

The relays that are not related with the detection or the release by modules can be used to perform complementary functions (see pages 41..44).

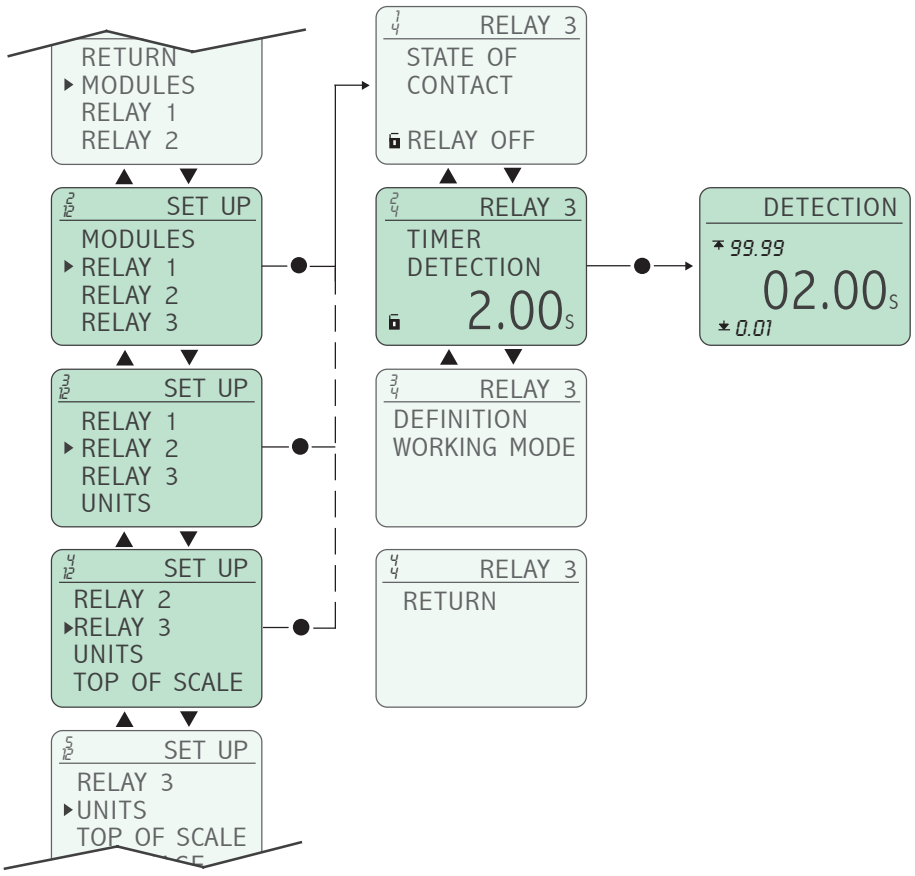


Previous conditions

STATE OF CONTACT = **[** RELAY ON **]**
DETEC/REPOS BY MODULES = **[** NON OPERATIVE **]**
MODE DETECTION = **[** CANCELLED **]**
MODE RELEASE = **[** CANCELLED **]**

When the supply voltage is connected the contact of the relay operates instantaneously and will remain in this state until the supply voltage is disconnected.

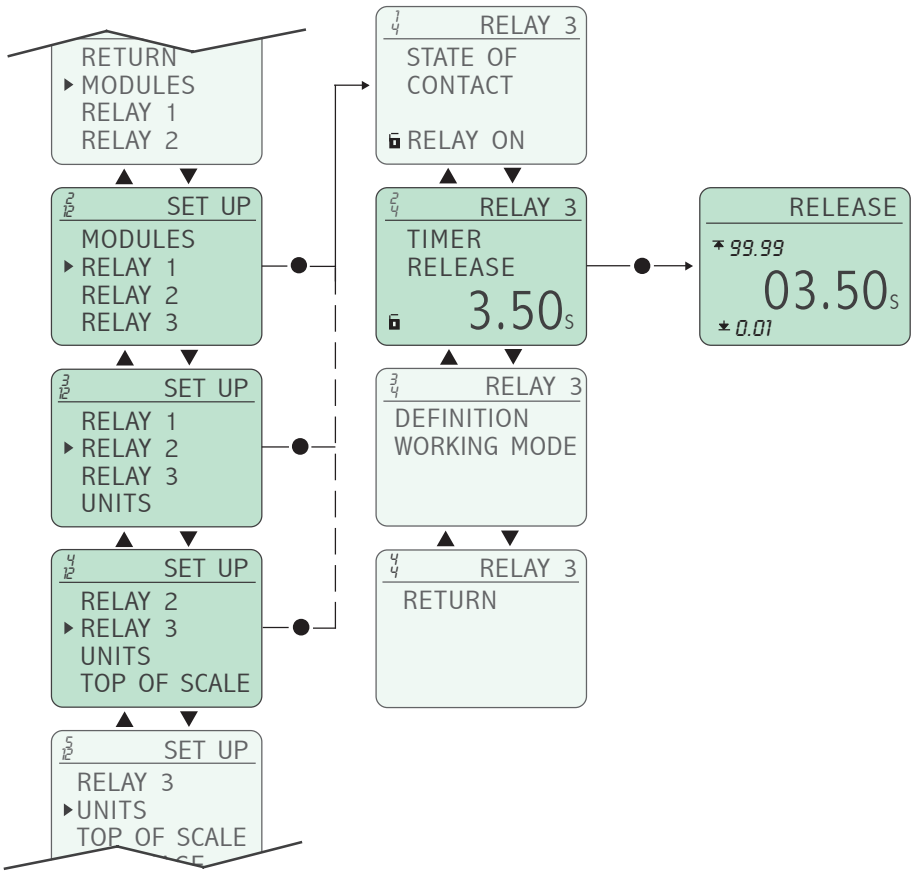
Complementary Functions (2/4) DELAY ON CONNECTION



Previous conditions	STATE OF CONTACT = **[** OFF **]** DETEC/REPOS BY MODULES = **[** NON OPERATIVE **]** MODE DETECTION = **[** DELAYED **]** MODE RELEASE = **[** CANCELLED **]**

When the supply voltage is connected the relay remains released and the time circuit starts up. Once the time has elapsed the relay operates. It can remain in this state for an undefined time.

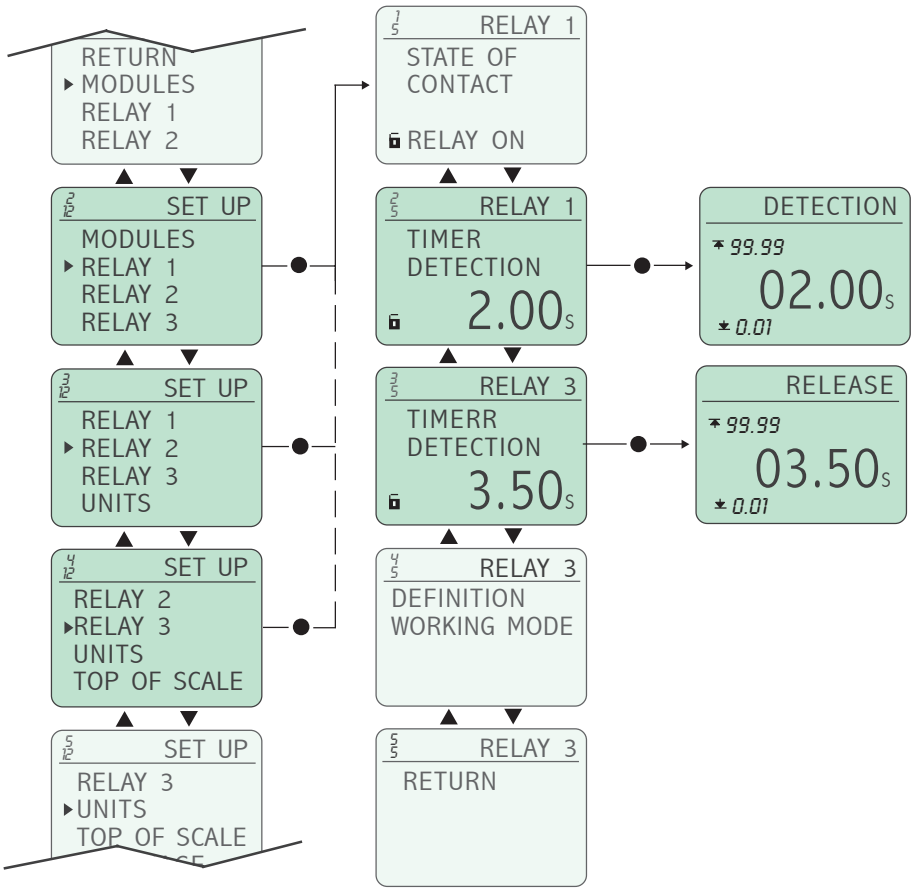
Complementary Functions (3/4) DELAY ON INTERVAL



Previous conditions	STATE OF CONTACT = **[** ON **]** DETEC/REPOS BY MODULES = **[** NON OPERATIVE **]** MODE DETECTION = **[** DELAYED **]** MODE RELEASE = **[** CANCELLED **]**

When the supply voltage is connected the relay operates instantaneously and the time circuits starts up. Once the time has elapsed the relay releases. It can remain in this state for an undefined time.

Complementary Functions (4/4) — RECYCLER TIMER



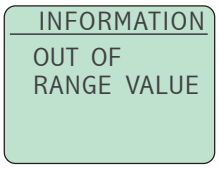
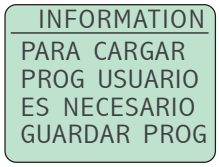
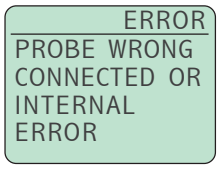
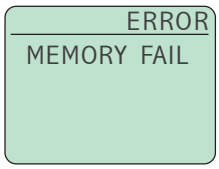
Previous conditions	DETEC/REPOS FOR MODULES = **[** NON OPERATIVE **]** MODE DETECTION = **[** DELAYED **]** MODE RELEASE = **[** DELAYED **]**

Cycle OFF-ON	STATE OF CONTACT = **[** RELAY OFF **]** When the supply voltage is connected the timing adjusted in TIMER DETECTION starts up. Once the time has elapsed the relay operates until the time adjusted in TIME RELEASE elapses. The cycle repeates non-stop itself.

Cycle ON-OFF	STATE OF CONTACT = **[** RELAY ON **]** When the supply voltage is connected the relay operates instantaneously and the timing circuit adjusted in TIMER DETECTION starts up. Once the time has elapsed the relay releases and remains in this state until the time adjusted in TIME RELEASE elapses. The cycle repeates non-stop itself.

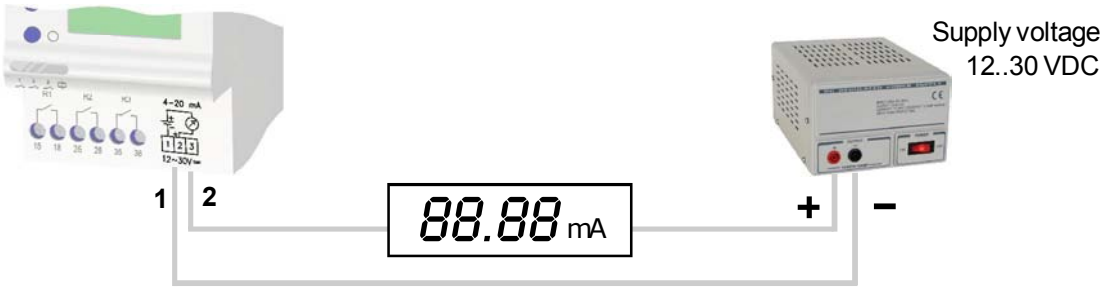
ERROR AND INFORMATIVE SCREENS

In front of certain situations the controller SNI displays informative screens, usually related with errors or unapropiated actions.

	Cause	Solution
	It has been introduced a value out of the allowed limits in the magnitude which is being adjusted.	Introduce whichever value between the allowed limits.
	It was attempted to load into memory the user program, but this was not loaded previously.	Save an user program.
	The sensor MPS is not connected, the connection is defective or is damaged. An internal error has been produced.	Check the connections from the sensor MPS and the controller. In the case that the connection be correct and the sensor seems to be right, contact with the manufacturer.
	An error in the internal memory of the controller has been produced.	Contact with the manufacturer.

OUTPUTS COMMUNICATION (1/2)

LOOP CURRENT 4-20 mA



ACCESORIOS

CBPZ

Interface for remote programming from PC. Allows connection of any standard digital control relay that is not equipped with communication bus or 4-20mA output to a PC via the RS232 port.

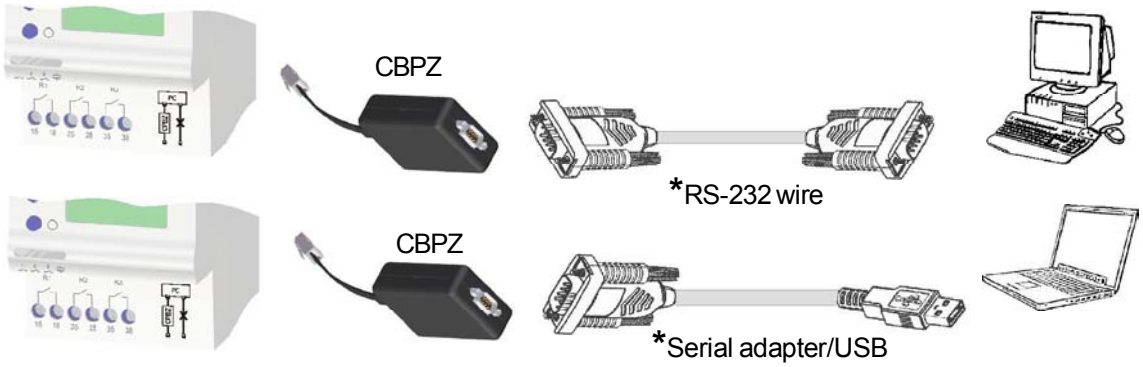
SBAZ

Signal converter RS485 to RS232 for remote programming via PC.
Allows connection of up to 31 digital control relays bus communica-tions for a single RS485 RS232 encrypted.

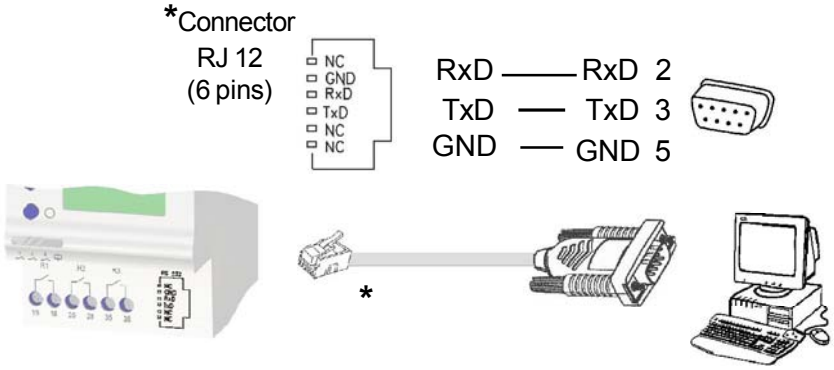
OUTPUTS COMMUNICATION (2/2)

REMOTE PROGRAMMING FROM PC

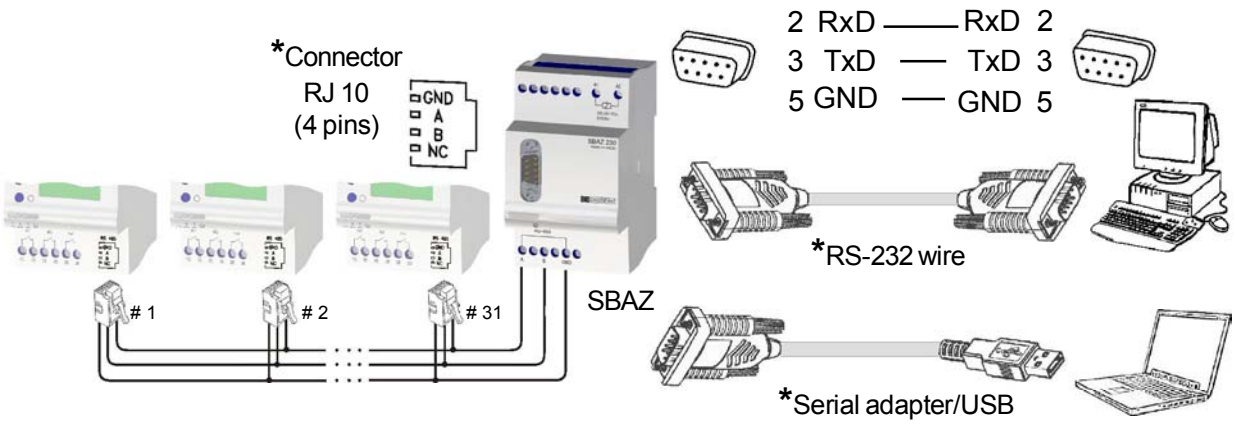
STÁNDARD MODE



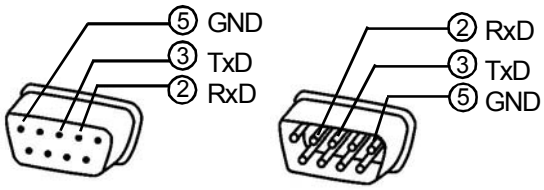
RS232 COMMUNICATION



RS485 COMMUNICATION



* Disibeint not supply cables or connectors. You can find these products in stores specializing in computer equipment.



Your Notes

Manufacturing program

Sensors

A wide variety of types of sensors allows an easy way to find out the efficient solution for the control of the level in a large number of products.

Level relays

Its combination with the level sensors is the suitable complement for the control of the level in wells, tanks and reservoirs.

Timers

From the common functions of timing and passing through the multifunction models, it is arrived to elements with specific functions

Control relays

This wide family who contributes to confidence and yield in complex installations where the security is the essential element.

Digital control relays

This family of controllers combines the own characteristics of the classic relays and improve them by adding new benefits.

Data transmission

This family of controller combines the own characteristics of the classic relays and them improvement adding sophisticated benefits.

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