USER MANUAL

DG 2201 Display Panel

CONTROLLI

ISO 9000

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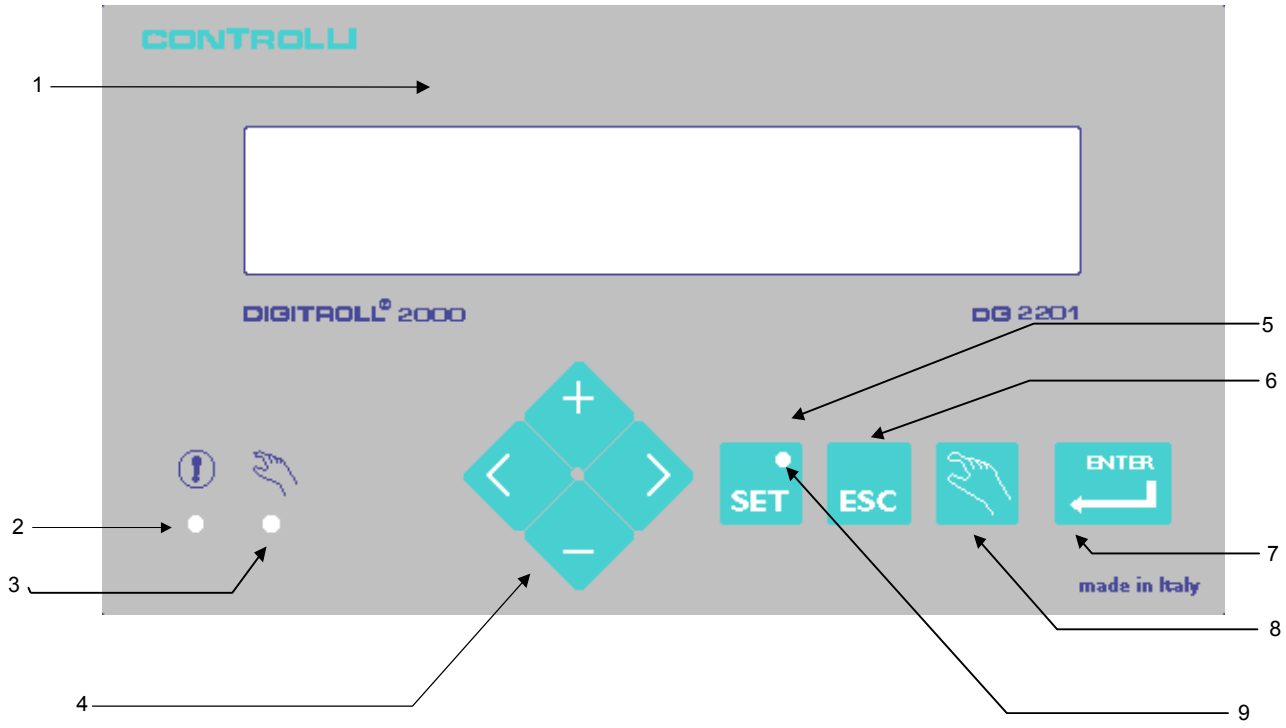
The purpose of this manual is to inform you about the use of the product. Data relating to OPERATION, INSTALLATION AND START-UP are included in the relevant data sheet (p.n. DBL032E), which is always enclosed in the product package.

FRONT PANEL DESCRIPTION

HOW TO USE THE KEYS



1) 4 lines x 40 rows display

2) Active alarm LED:

off when no alarm is active inside the Controller

blinking with at least one active is indicated, and until the user has not accessed to the visualization pages of the alarms themselves.

3) Start ” LED ”:

steadily lighted after starting procedures have been completed (Key 8).

4) Shift keys to move cursor within a page, (left = previous parameter, right = next parameter), and to modify the numerical parameters (increase, decrease).

5) Access key to “Program” mode, enabling change of selected parameter value.

6) Esc key to return to main menu.

7) Enter key to acknowledge parameters change.

8) Access key to “Start” mode.

9) “Program” LED:

steadily lighted with “Program” mode active.

PREFACE

A few hints on operation sequence

How to change numerical parameters

- Pressing either  or  the value changes according to pressure time length. Once the higher/lower limit is reached, with reference to chosen parameter, computation is resumed from either the maximum or minimum value.

Parameter alteration

- Parameters can only be changed after 

has been pressed; in case users and relevant levels of access to modifiable parameters have been set, (ref. page 10 “Turning on”), a “PASSWORD REQUEST PAGE”, is displayed, where user i.d. number and relevant password have to be digited:

	I	N	S	E	R	T			:			U	S	E	R		N	U	M	B	E	R					9	9										
												P	A	S	S	W	O	R	D						9	9	9										

- When this page appears, the blinking cursor goes on the first slot on the left-hand of “USER NR”
- Press either  or  until the right value appears
- Press either  or  until the cursor gets to “PASSWORD” number
- Press either  or  until the right value appears
- Press 

to confirm the set values

- Should “USER NR” and “PASSWORD” be inconsistent, a “WRONG PASSWORD / USER NR PAGE”: will appear.

				I	N	C	O	R	R	E	C	T		U	S	E	R		N	.			/		P	A	S	S	W	O	R	D		
						(	P	R	E	S	S		E	N	T	E	R		T	O		E	S	C	)									

As previously shown, it is necessary to press ENTER to return to “PASSWORD REQUEST PAGE”

- If both “USER NR” and “PASSWORD” are correctly set, the page on which SET had been pressed will appear, and “Program” LED will turn on; the cursor goes on the left of the first modifiable parameter on the current page.

Note If users have not been defined, after pressing SET “Program” LED turns on and the cursor flashes on the left of the first modifiable character of the current page.

Qualification to change parameters is lost after:

- either pressing SET, which causes the exit from “Program” mode

or

- automatically returning to main page (“CONTROLLER STATUS PAGE”), in case no key has been pressed for about 5 minutes.

Note check of user access level takes place the same minute a value is being modified. Should user not be qualified for this operation, a “#” appears beside the cursor blinking on the value.

Hidden line display

Should a page consist of more than 4 lines, the below mentioned procedure will have to be observed in order to display the hidden lines:

- Press either  or  until the cursor gets to the character on the last row that indicates “high” or “low” and thus points out the presence of hidden lines
- Press either  or  until the line(s) appears

Return to source page

Getting back from any current page to its source page requires the simple pressure of ESC and the presence of the cursor (anywhere) within the page.

Note the display panel switches back to main page after no key has been pressed for about 5 minutes.

Return to main page

In order to get back to main page press repeatedly ESC, until “CONTROLLER STATUS PAGE” appears (the cursor may be positioned anywhere within the page) :

	B	**U**	**I**	**L**	**D**	**I**	**N**	**G**		N	E	T							**C**	**E**	**N**	**T**	**R**	**A**	**L**			**C**	**O**	**N**	**T**	**R**	**O**	**L**	**L**	**E**	**R**	
	S	**U**	**B**	**N**	**E**	**T**			1	0				**N**	**O**	**D**	**E**				3															
	D	**A**	**T**	**E**		T	U	E		1	3		F	E	B		2	0	0	3									**T**	**I**	**M**	**E**		1	6	:	4	3
																P	R	G	M	:		D	G	2	0	0	2					v	.	4	.	0	.	6

Operating time display change

Into “IOC index” page or “Modifiable parameters” page, when the device operating time is displayed, at the beginning is in seconds.

Pushing continuously the  key, the time in minutes, hours and seconds is cyclically displayed.

The eventual size change is carried out taking into consideration the measure displayed in that moment.

DISPLAY & PROGRAMMING

Turning on

On first turning on the device, a “USER DEFINITION REQUEST PAGE” is displayed, enabling the choice to add a password protection for modifiable parameters:

				A		N	E	W		U	S	E	R	?																	N	O		
																														Y	E	S		

- When this page appears, the blinking cursor is on the left of “NO”
- Press either  or  to shift the cursor from “YES” to “NO”
- Press  to confirm

If you have chosen to add new users, a “USER DEFINITION PAGE” will be displayed :

		U	S	E	R		N	R								P	A	S	S	W	O	R	D					P	R	I	O	R	I	T	Y		
						0															0											0						
						0															0											0						
						0															0											0						
						0															0											0						
						0															0											0						

This contains the following information:

- user identification nr. (2 figures)
- password number (3 figures)
- priority level, identifying modifiable parameter classes (ranging from 0 to 100)

Note Any user has access to parameters (or parameter class) change, whose priority level is either lower or equal to his own access level. Presently pre-set parameters have priority = 50.

Users ‘ setting

When displaying “USER DEFINITION PAGE”, the blinking cursor is on the left of user identification number:

USER NUMBER	PASSWORD	PRIORITY
1	999	100
2	888	75
3	777	50
4	666	25
5	555	75

- Press either  or  until the cursor reaches the value to be changed
- Press either  or  until the desired value is attained
- Repeat the a.m. sequence for the value to be changed
- Press  to confirm

“CONTROLLER STATUS PAGE” will be displayed again.

Note no more than 5 identified users may be registered; an appropriate character on the last row of both the first and last line indicates the opportunity to display hidden lines.

In order to display hidden lines:

- Press either  or  until the cursor gets on the character in the last row which indicates either “high” or “low”
- Press either  or  until the desired line appears

Note a record of identified users (if any) an relevant passwords should be carefully kept; in case this information were lost or forgotten, a new configuration of controller will be required to delete existing users records.

Data display and programming

Once users and relating passwords have been configured, i.e. whenever the display panel is turned on after the very first time, “CONTROLLER STATUS PAGE” will appear; this contains a summary of the information concerning controller position inside the network, current date and time, implemented software package.

	B	U	I	L	D	I	G		N	E	T	W	O	R	K					C	E	N	T	R	A	L				C	O	N	T	R	O	L	L	E	R
	S	U	B	N	E	T			1	0				N	O	D	E				3																	
	D	A	T	E		T	U	E		25	3		F	E	B		2	0	0	3									T	I	M	E		1	6	:	4	3
																P	R	G	M	:		D	G	2	0	0	2					v	.	4	.	0	.	6

Press ESC and select the page on which the data has to be searched:

	I	N	D	E	X			I	O	C																										
	T	I	P	I	C	A	L	S																												
	D	I	A	G	N	O	S	T	I	C		A	L	A	R	M	S																		
	A	L	L		A	L	A	R	M	S																										

- Pressing either ◄ or ► to select the line

- Pressing ENTER, to get into the environment relating to the selected line, i.e.:

· By choosing “INDEX IOC” line, a page is entered on which modifiable parameter values, inside the controller may be found through their index on the list inside the controller and afterwards displayed and changed.

· By choosing “TYPICALS” line, a page is entered on which parameters - grouped and subdivided for typicals and sub-classes - may be displayed and changed.

Note a list of parameters is to be found on “Modifiable parameters description”, copy of which is supplied together with the configured Controller.

“Controller Status Page” display and setting

General information concerning Controller time and date are gathered on this page.

	B	U	I	L	D	I	N	G		N	E	T							C	E	N	T	R	A	L			C	O	N	T	R	O	L	L	E	R	
	S	U	B	N	E	T			1	0				N	O	D	E				3																	
	D	A	T	E		T	U	E		1	3		F	E	B		2	0	0	3									T	I	M	E		1	6	:	4	3	
																P	R	G	M	:		D	G	2	0	0	2						v	.	4	.	0	.	6

- Name of the network on which the Controller is installed
- Controller name
- Controller address on the network
- Current time and date
- Controller software issue

Changing date and time

Once the page “CONTROLLER STATUS PAGE” has been displayed, time and date may be changed

	B	U	I	L	D	I	N	G		N	E	T							C	E	N	T	R	A	L			C	O	N	T	R	O	L	L	E	R	
	S	U	B	N	E	T			1	0				N	O	D	E				3																	
	D	A	T	E		T	U	E		1	3		F	E	B		2	0	0	3									T	I	M	E		1	6	:	4	3	
																P	R	G	M	:		D	G	2	0	0	2						v	.	4	.	0	.	6

Once the page “Controller Status Page”; the blinking cursor goes on current time and namely is positioned on the column “:” between hour and minutes:

- Press 

; “Program” LED lights up
- Press either  or  until the cursor gets in front of the data to be changed
- Press either  or  until the desired value is reached
- Repeat this procedure for any datum to change
- Press 

to confirm
- Press 

to exit “Program”; accordingly the relevant LED will turn off

Note In case day value is not congruous with the month, when pressing 

a question mark “?” with the cursor blinking on it will appear beside the day.

The mistake will have to be corrected. Then press again 

to confirm. If the mistake has been duly rectified, the date will be accepted and the question mark will disappear.

Program takes into account leap years, not summer time.

Controller modifiable parameters display and setting

Direct access

Modifiable parameters inside the Controller may be displayed and - in case - changed using a data traceability direct criterion, based on an index univocally associated to any parameter and indicated on the document describing the control strategy (Modifiable Parameter Description).

- Press ESC to call the page on which the data search mode has to be chosen

	I	N	D	E	X			I	O	C																										
	T	Y	P	I	C	A	L	S																												
	D	I	A	G	N	O	S	T	I	C		A	L	A	R	M	S																			
	A	L	L		C	L	A	S	S	E	S		A	L	A	R	M	S																		

- The cursor is placed by the first line
- Press ENTER

A page containing the below mentioned information will be displayed:

- index connected to the required parameter (for either display or change)
- label describing the parameter (if filled in during configuration procedures by Controller)
- parameter value and data relating type
- limits for changing parameter (set during configuration procedures by Controller)

I	O	C					2	8		S	T	A	T	I	O	N		E	X	T	E	R	N	A	L		T	E	M	P	E	R	A	T	U	R	E		
									1	1		M	E	M	R		m			-	1	0	0	0	0	0		M			1	0	0	0	0	0	0	0	0
I	O	C			1	5	3	5		S	T	A	T	I	O	N		V	A	L	V	E		1		C	O	M	M	A	N	D						
								1	0	0		M	E	M	R		m			-	1	0	0	0	0	0		M			1	0	0	0	0	0	0	0	0

- When displaying a page, the cursor is placed on the first available slot next to “IOC” label on the first line
- Press either + or – until the desired value appears; parameters associated to set IOC index may thereafter be read

Follow the procedure below to change parameter set value:

- Press 

; “Program” LED will turn on

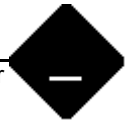
Note If users have been defined, the “PASSWORD REQUEST PAGE” will be displayed; for setting “USER Nr” and “Password see § “Parameter alteration” on page 6.

If users have not previously been defined, cursor will blink on the first slot on the right of “IOC” label on the first line

- Press either  or  until the cursor reaches the slot in front of the data to change
- Press either  or  until the desired value is attained
- By repeating the above mentioned operations, the other parameter on the same may be changed
- Press 

to confirm set data
- Press 

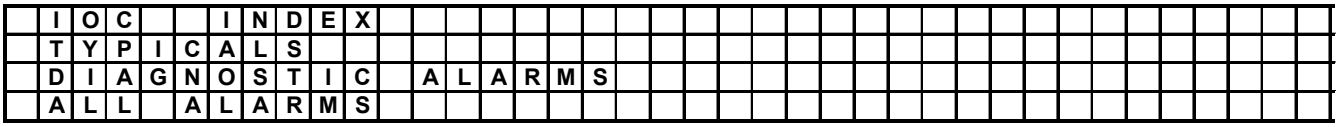
to exit “Program”, the relating LED will turn off

Note When pressing either  or  in order to change desired IOC value, the semi page associated to the other displayed parameter remains unvaried, unless the changeable parameter is updated.Any such change will not be displayed before exit of “Program” (relating LED turned off).

Return to main page

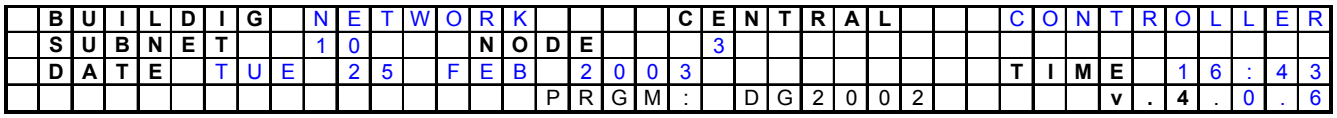
- Press ESC

The following page will be displayed



- Press ESC again to return to “CONTROLLER STATUS PAGE”

The following page will be displayed



Access for parameter classes

Controller parameters may also be displayed and changed using a parameter subdivision for classes.

Classes are as follows:

- Alarms
- Inputs
- Calendar
- Changeable parameters
- Optimizer
- Outputs

Parameters are gathered for application outline within each class.

Field Alarm display

“ALARMS” page displays the last “X” alarms arising from control strategy on the basis of information received by Controller from on-field equipment.

Alarm LED (see on page 5 “Front Panel Description”) operates as follows:

- LED off whenever no alarm is active inside Controller
- blinking LED when at least one alarm has been registered and the user has not yet displayed the relevant page.

Note 0 to 159 alarms may be displayed; display is not in progressive order since diagnostic alarms registered by Controller will also be included (see “Diagnostic Alarms display” on page 41).

In order to display alarms:

- Return to “CONTROLLER STATUS PAGE” (see “Return to main page” on page 8)

From hence press “CONTROLLER STATUS PAGE” press ESC; the following page is displayed

IOC INDEX
TYPICALS
DIAGNOSTIC ALARMS
ALL ALARMS

- Press either  or  until the cursor gets on the beginning of the line containing “TIPICALS”
- Press 

The page “CHOICE OF PATTERN ”, will be displayed; this includes a list of available application schemes:

	C	E	N	T	R	A	L																A	I	R		T	R	E	A	T	M	E	N	T		1	/2	
	H	2	O																																						

- Press either  or  until the cursor reaches the first blank slot on the left of the selected application name
- Press 

The following page will be displayed:

	A	**L**	**A**	**R**	**M**	**S**		**F**	**R**	**O**	**M**		**F**	**I**	**E**	**L**	**D**		**I**	**N**	**P**	**U**	**T**	**S**																
	C	**A**	**L**	**E**	**N**	**D**	**A**	**R**										**C**	**H**	**A**	**N**	**G**	**E**	**A**	**B**	**L**	**E**		**P**	**A**	**R**	**A**	**M**	**E**	**T**	**E**	**R**	**S**	
	O	**P**	**T**	**I**	**M**	**I**	**S**	**E**	**R**				**O**	**U**	**T**	**P**	**U**	**T**	**S**																					

- The cursor is at the beginning of the line containing “ALARMS FROM FIELD”
- Press 

“ALARM FROM FIELD” page will be displayed; it contains the following information:

- alarm progressive number
- address of network device generating the alarm
- date and time of alarm
- alarm state (“ACTIVE” or “VANISHED”)
- standard label alarm type
- special label (if any) filled in by user when configuring

Note Appendix A on page 49 presents a list of acronyms identifying alarm types and relevant meaning

	N	**R**	**.**				3		**A**	**D**	**D**	**R**	**E**	**S**	**S**			**:**		**S**	**U**	**B**	**N**	**E**	**T**			1	0		**N**	**O**	**D**	**E**			2	
	D	**A**	**T**	**E**		1	4	:	0	2	:	9	6															**T**	**I**	**M**	**E**		1	0	:	5	9	
	A	C	T	I	V	E																											I	N	P				
	S	T	A	T	I	O	N		P	U	M	P		B	L	O	C	K																						

- When displaying the page, cursor is on the first slot at the right of “Nr.” label on the first line
- Press either  or  until the desired value is displayed; the parameters associated to set alarm number may hence be read.

Note display panel allows no alarm recognition, just reading.

Consecutive alarms may have no consecutive numbers, since they are registered by Controller together with the diagnostic alarms (see “Diagnostic Alarms display” on page 41).

To return to any previous page, refer to either § “Return to source page” or § “Return to main page” both on page 8.

Input display

All inputs relating to a given application scheme are displayed on “INPUT” page.

To display inputs:

- Return to main page (see “Return to main page” on page 8)

With “CONTROLLER STATUS PAGE” press ESC; the following page will be displayed

	I	O	C			I	N	D	E	X																										
	T	Y	P	I	C	A	L	S																												
	D	I	A	G	N	O	S	T	I	C		A	L	A	R	M	S																			
	A	L	L		A	L	A	R	M	S																										

- Press either  or  until the cursor reaches the beginning of the line containing “TYPICALS”

- Press 

The page “PATTERN CHOICE” will be displayed, including a list of application schemes inside Controller:

	S	T	A	T	I	O	N												A	I	R		T	R	E	A	T	M	E	N	T	1	/	2			
	H	2	O																																		

- Press either  or  until the cursor gets on the first blank slot on the left of the selected application scheme (name)

- Press 

The following page will be displayed:

	I	**N**	**P**	**U**	**T**		**F**	**I**	**E**	**L**	**D**			**A**	**L**	**A**	**R**	**M**	**S**																		
	C	**A**	**L**	**E**	**N**	**D**	**A**	**R**								**C**	**H**	**A**	**N**	**G**	**E**	**A**	**B**	**L**	**E**			**P**	**A**	**R**	**A**	**M**	**E**	**T**	**E**	**R**	**S**	
	O	**P**	**T**	**I**	**M**	**I**	**S**	**E**	**R**								**O**	**U**	**T**	**P**	**U**	**T**	**S**														

- Press either  or  until the cursor gets at the beginning of the line containing “INPUTS”

- Press 

“INPUTS” page is being displayed; it supplies the following information:

- input progressive number within the selected appliance scheme
- descriptive label associated to input (if filled in during Controller Configuration phase)
- input value in real time reading
- possible alarms relating to displayed input: they are signaled by “*” above the corresponding acronym

Note A list of acronyms identifying the various alarm types provided for inputs as well as their meaning is to be found in Appendix B on page 52

				S	**1**	**0**		T	.		R	O	O	M			A	I	R		T	R	E	A	T	M	E	N	T		1						
	V	**A**	**L**	**U**	**E**						1	9	.	8			C							**A**	**L**	**A**	**R**	**M**		**C**	**O**	**N**	**D**	**I**	**T**	**I**	**O**	**N**
	H	**I**	**G**	**H**				**L**	**O**	**W**						**O**	**U**	**T**						**R**	**E**	**A**	**D**	**I**	**N**	**G**				**D**	**I**	**G**	**I**	**T**

- When the page is being displayed, the cursor is placed on the first line on the left of input number

- Press either  or  until the required value is displayed; selected input associated parameters may hence be read.

To return to any previous page, refer to either § “Return to source page” on page 8 or § “Return to main page” on page 8.

Calendar parameters display and change

A list of program types the user may both display and change is to be found on “Calendar” page.

To display program types:

- Return to “CONTROLLER STATUS PAGE” (see “Return to main page” on page 8)

From “ CONTROLLER STATUS PAGE ” press ESC; the following page will be displayed:

	I	O	C			I	N	D	E	X																								
	T	Y	P	I	C	A	L	S																										
	D	I	A	G	N	O	S	T	I	C		A	L	A	R	M	S																	
	A	L	L		A	L	A	R	M	S																								

- Press either  or  until the cursor reaches the beginning of the line with “TYPICALS”

- Press 

The page “CHOICE OF PATTERN”; it includes a list of available application schemes:

	S	T	A	T	I	O	N												A	I	R		T	R	E	A	T	M	E	N	T	1	/	2			
	H	2	O																																

- Press either  or  until the cursor gets on the first blank slot on the left of selected application scheme name

- Press 

The following page will be displayed:

```
 FIELD       ALARMS      INPUTS
 CALENDAR                CHANGEABLE PARAMETERS
 OPTIMIZER               OUTPUTS
```

- Press either  or  until the cursor gets the beginning of the line containing “CALENDAR”

- Press 

“CALENDAR” page will be displayed:

```
 DAILY
 WEEKLY
 VACATION PERIODS
 HOLYDAYS
```

It includes the following information:

- daily programs (5 max), for any of which up to 6 times switches and relevant program mode may be defined
- weekly programs, allowing the choice of either a daily program or a program mode for any day of the week
- vacation periods (10 max) for any of which beginning and end dates as well as relevant program mode has to be chosen
- holidays (15 max); single dates and relevant program mode needs to be defined

Daily programs display and setting

- When displaying “CALENDAR” page (see page 22) the cursor is on the first line
- Press 

The page containing daily program parameters is displayed:

displayed daily program identification number

hour for any time switch-over

mode provided for any time switch-over

	D	A	I	L	Y		P	R	O	G	R	A	M									0	1													
					C	O	M	M	1		C	O	M	M	2		C	O	M	M	3		C	O	M	M	4		C	O	M	M	5		C	O	M	M	6
T	I	M	E		0	8	:	1	5		1	7	:	1	5		1	9	:	0	0		0	0	:	0	0		0	0	:	0	0		0	0	:	0	0
M	O	D	E				N	M					R	F					F	A					#	#					#	#				#	#	

- When displaying the page, the cursor blinks on the first slot preceding the daily program number
- Press either  or  to obtain the required value; parameters associated to selected daily program may hence be read

Operator is able to change all the values set within any program by performing the following operations:

- Press 

; “Program” LED will turn on.

Note If users have been codified, “PASSWORD REQUEST PAGE” will be displayed; details concerning “USER Nr.” and “PASSWORD” set are to be found on “Parameter alteration” § on page 6.

If no user has been previously codified, the cursor will get to the first slot on the left of first switch-over hour.

- Press either  or  until the cursor reaches the slot before the datum to be changed
- Press either  or  until required value or character is being displayed
- Repeat the operation for any datum to be changed
- Press 

to confirm the set value

The over mentioned operations will be reiterated for each program to be changed

- Press 

to exit program environment; “Program” LED turns off

Note If - by mistake - a time switch-over is set at some later hour than the following one(s), when pressing 

by incongruous hour a question mark “?” will appear underneath the blinking cursor.

It is therefore necessary, to correct the mistake and press 

to confirm; if the error has been put right, the data will be accepted and the question mark will disappear.

The setting of “##” datum in the “mode” range causes corresponding switch-over time cancellation; this cancellation is allowed from the last foreseen switch-over time.

A cancellation attempt of a switch-over hour different from the last expected one, is signaled by a question mark “?” on the “mode” field.

Weekly programs display & setting

“CALENDAR” window (see on page 22) displays the following page:

	D	A	I	L	Y																												
	W	E	E	K	L	Y																											
	V	A	C	A	T	I	O	N		P	E	R	I	O	D	S																	
	H	O	L	Y	D	A	Y	S																									

- When the page is displayed the cursor appears on the first line
- Press either  or  to bring the cursor at the beginning of the line with “WEEKL**Y”**
- Press 

The page containing weekly program parameters is displayed:

W	E	E	K	L	Y			P	R	O	G	R	A	M																			
												M	O	N		T	U	E		W	E	D		T	H	U		F	R	I		S	A	T		S	U	N
D	A	I	L	Y									0	1			0	3			0	1			0	4			0	5			0	0			0	0
M	O	D	E										#	#			#	#			#	#			#	#			#	#			R	F			F	A

- When displaying the page, the cursor blinks on the first slot before Monday (label “MON”) associated to daily program number

Operator can change both daily program for any day of the week and the mode set for the single day

Note for each day of the week it is possible to choose between associated daily program and a program mode valid for the whole day. A possible mistake is pointed out by a question “?” on the following week day.

- Press 

; “Program” LED turns on

- Press either  or  until the cursor gets before the data to be changed

- Press either  or  until either the required value or character appears

- Press 

to confirm the set value

The over mentioned operations have to be repeated for each program to be changed

- Press 

to exit program environment; “Program” LED turns off.

Note: the weekly programs must be configured as follows:

Daily program setting

corresponding to “Daily” must be inserted a numeber 1 to 5 of the daily program chosen for that day and,

corresponding to “Mode”, “##” must be inserted.

Fixed mode setting

corresponding to “Daily” must be inserted 0 number (no daily program) and, corresponding to “Mode”, NM for confort, RF for fixed reduced, FA for Antifrost must be inserted.

Vacation display & setting

“CALENDAR” window (see on page 24) displays the following page:

```
DAILY
WEEKLY
VACATION PERIODS
HOLIDAYS
```

- When the page is displayed, the cursor appears on the first line:

- Press either  or  to bring the cursor at the beginning of the line with “VACATION PERIODS”

- Press 

The page containing the first vacation period, including beginning and end periods, associated mode is displayed:

```
VACATION PERIOD 01
BEGINNING 15 AUG 96 END 30 AUG 96
MODE FA
```

Note in case no vacation period has been set during programming, the following page is displayed

```
VACATION PERIOD 01
BEGIN 01 JAN 96 END 01 JAN 96
MODE ##
```

- When displaying the page, the cursor blinks on the first slot before the number identifying the vacation period

Operator can change beginning and end of the selected vacation period as well as the associated mode

Press 

; “Program” LED turns on Note

If users have been defined, “PASSWORD REQUEST PAGE” is displayed; for “USER Nr.” and “PASSWORD” setting procedure, refer to “Parameter alteration” § on page 6.

If no user has been defined, the cursor keeps on the first slot on the right of the number which indicates vacation period.

- Press either  or  until the cursor gets before the data to be changed
- Press either  or  until either the required value or character appears
- The over mentioned operations have to be reiterated for each datum to be changed
- Press 

to confirm the set value

The over mentioned operations have to be repeated for each program to be changed

- Press 

to exit program environment; “Program” LED turns off

Holidays display & setting

“CALENDAR” window (see on page 24) displays the following page:

```
DAILY
WEEKLY
VACATION PERIODS
HOLYDAYS
```

- When the page is displayed, the cursor appears on the first page

- Press either  or  to bring the cursor at the beginning of the line with “HOLIDA**YS**’”

- Press ENTER 

The page relating to the date of the first holiday will be displayed:

```
HOLIDAYS 01
01 MAY      MODE FA
```

Note If no holiday has been set during programming, the following page will appear:

```
HOLIDAY 01
01 JAN      MODE ##
```

- When the page is displayed, the cursor appears on the first slot preceding the number identifying the holiday

Operator can always change both holiday date and relevant mode by the following operations:

Note If users have been codified, “PASSWORD REQUEST PAGE” will be displayed; details concerning “USER Nr.” and “PASSWORD” set are to be found on “Parameter alteration” § on page 6.

If no user has been previously codified, the cursor will get to the first slot preceding the number identifying the holiday:

- Press either  or  to bring the cursor to the datum you want to change
- Press either  or  until the required value/character appears
- Press  to confirm

The over mentioned operations will have to be reiterated for each program to be changed

- Press  to exit program environment; “Program” LED turns off.

To return to any previous page, see either “Return to source page” or “Return to main page” both on page 8.

Modifiable parameters display and change

A list of those parameters, which users can change, is included on “MODIFIABLE PARAMETERS” page.

To display “MODIFIABLE PARAMETERS” follow below listed instructions:

To return to any previous page, see either “Return to source page” or “Return to main page” both on page 8.

Go to “CONTROLLER STATUS PAGE” and press ESC : the following page will appear

	I	O	C			I	N	D	E	X																									
	T	Y	P	I	C	A	L	S																											
	D	I	A	G	N	O	S	T	I	C		A	L	A	R	M	S																		
	A	L	L		A	L	A	R	M	S																									

- Press either  or  until the cursor gets at the beginning of “TYPICALS”

- Press 

The page “CHOICE OF PATTERN” will appear; it includes a list of available applications schemes:

	S	T	A	T	I	O	N															A	I	R		T	R	E	A	T	M	E	N	T	
	H	2	O																																

- Press either  or  until the cursor gets on the first blank slot on the right of the selected application scheme name.

- Press 

The following page will be displayed:

	A	L	A	R	M	S		F	R	O	M		F	I	E	L	D		I	N	P	U	T	S													
	C	A	L	E	N	D	A	R										M	O	D	I	F	I	A	B	L	E		P	A	R	A	M	E	T	E	R	S
	O	P	T	I	M	I	S	E	R									O	U	T	P	U	T	S													

- Press either  or  until the cursor gets at the beginning of "MODIFIABLE PARAMETERS"

- Press 

"MODIFIABLE PARAMETERS" page will appear and includes the following information:

- index associated to the parameter at issue
- label describing parameter
- parameter value and relevant standard
- limits within which the modifiable parameter can change (set by user during Controller configuration)

I	O	C					2	8		S	T	A	T	I	O	N		E	X	T	E	R	N	A	L		T	E	M	P	E	R	A	T	U	R	E		
									1	1		M	E	M	R		m				-	1	0	0	0	0	0		M			1	0	0	0	0	0	0	0	0
I	O	C			1	5	3	5		S	T	A	T	I	O	N		V	A	L	V	E		1		C	O	N	T	R	O	L							
								1	0	0		M	E	M	R		m				-	1	0	0	0	0	0		M			1	0	0	0	0	0	0	0	0

Note: only those parameters which user labeled with a comment during configuration will be displayed within "TYPICAL"

- When the page appears, the blinking cursor goes on the first slot on the right of "IOC" label on the first line

- Press either  or  to scroll along available parameters and find the required one (in alternative digit the IOC value referring to the required parameter)

Operator can change the set value by the following operations:

- Press 

; “Program” LED will turn on

Note If users have been codified, “PASSWORD REQUEST PAGE” will be displayed; details concerning “USER NR.” and “PASSWORD” set are to be found on “Parameter alteration” § on page 6.

If no user has been previously codified, the cursor will get to the first slot on the right of “IOC” label on the first label

- Press either  or  until the cursor reaches the data to be modified
- Press either  or  until the required value appears
- Repeat this procedure for any data to be changed
- Press 

to confirm
- Press 

to exit program environment; “Program” LED will turn off

Note When pressing either  or  to set wished IOC value, the half page relating to the other displayed parameter will be unvaried, provided no update from on-field equipment comes up.

Any such change will not however be displayed until exit of program environment (“Program” LED off).

To return to any previous page, see either “Return to source page” or “Return to main page”, both on page 8.

Optimizer parameters display and change

A list of parameters relating to optimization is to be found on “OPTIMIZER” page.

The below mentioned sequence of operations has to be followed in order to display “Optimizer” page:

- Return to “CONTROLLER STATUS PAGE” (see “Return to main page” on page 8)

Once there, press ESC; the page reproduced below will be displayed.

	I	O	C			I	N	D	E	X																								
	T	Y	P	I	C	A	L	S																										
	D	I	A	G	N	O	S	T	I	C		A	L	A	R	M	S																	
	A	L	L		A	L	A	R	M	S																								

- Press either or to bring the cursor to the begin of “TYPICALS”

- Press ENTER

The page “CHOICE OF PATTERN” will appear; it includes a list of available application schemes inside the Controller:

	S	T	A	T	I	O	N															A	I	R		T	R	E	A	T	M	E	N	T	
	H	2	O																							U									

- Press either or until the cursor reaches the first blank slot on the left of the selected application scheme name

- Press ENTER

The following page will be displayed:

	F	I	E	L	D			A	L	A	R	M	S					I	N	P	U	T	S														
	C	A	L	E	N	D	A	R										M	O	D	I	F	I	A	B	L	E		P	A	R	A	M	E	T	E	R	S
	O	P	T	I	M	I	S	E	R									O	U	T	P	U	T	S														

- Press either  or  until the cursor gets at the beginning of “OPTIMIZER”

- Press 

The following page appear:

	D	I	S	A	B	L	E	D						O	P	T	I	M	I	S	E	R															
	R	O	O	M		S	E	T		N	M			2	0	°	C		R	F			1	6	°	C		F	A				8	°	C			
	M	A	X		A	D	V	A	N	C	E			O	N							0	d	:	0	1	h	:	0	0	m	:	0	0	s			
	M	A	X		A	D	V	A	N	C	E			O	F	F						0	d	:	0	1	h	:	0	0	m	:	0	0	s			
	A	D	V	A	N	C	E															0	d	:	0	0	h	.	0	0	m	.	0	0	s			
	P	H	A	S	E	:			N	O	N	E										M	O	D	E	:		N	M									
	P	R	O	J	E	C	T		E	X	T		T	E	M	P	E	R	A	T		1	7	°	C													

It includes the following information:

- optimizer status (on / off)
- room temperature set points, one for each mode
- max. advance allowed for turning on with reference to set switching time
- max. advance allowed for turning off with reference to set switching time
- current advance for turning on with reference to set switching time
- Optimizer step (NONE, WARMAP, COOLDOWN)
- Mode ON
- Minimum outside temperature value of setting project

- At page displaying, the slider is placed on the first line, next to the room set value for the normal mode.

Note in order to display hidden lines:

- Press eithe  or  until the cursor reaches the character on last row, either displaying “high” or “low”

- Press either  or  until the required line appears

---

Operator can change ambient set relating to program mode, starting maximum advance time and minimum switching off time, project minimum external temperature:

- Press 

; “Program” LED will turn on

Note If users have been codified, “PASSWORD REQUEST PAGE” is displayed; for “USER NR.” and corresponding “PASSWORD” setting procedure, refer to “Parameter alteration” on page 6.

- If no user has been previously codified, the cursor will get on the first line, beside ambient set value for NM mode

- Press either  or  until the cursor reaches the blank slot before the data to be changed

- Press either  or  until the required value appears

- Repeat the over mentioned sequence of operations for any of parameters to change

- Press 

to confirm input data

- Press 

to exit program environment; “Program” LED will turn off

Note optimizer has to be entitled during configuration procedure, when sensors required for its regular operation are fixed; so in order to inhibit optimizer operating through display “max. advance ON” and “max. advance OFF” have to be set to 0 (zero).

To return to any previous page, see either “Return to source page” or “Return to main page”, both on page 8.

Output display

Outputs relating to a given application scheme are displayed on “OUTPUT” pages.

Output display is carried out through the following operation sequence:

- Return to main page (see § “Return to main page” on page 8)

From “CONTROLLER STATUS PAGE” press ESC; the following page is displayed

	I	O	C			I	N	D	E	X																									
	T	Y	P	I	C	A	L	S																											
	D	I	A	G	N	O	S	T	I	C		A	L	A	R	M	S																		
	A	L	L		A	L	A	R	M	S																									

- Press either or until the cursor gets to the beginning of “TYPICALS ”
- Press ENTER

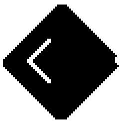
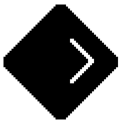
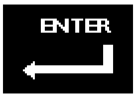
The page “CHOICE OF PATTERN”, will be displayed; it includes a list of available application schemes inside the Controller:

	S	T	A	T	I	O	N															A	I	R		T	R	E	A	T	M	E	N	T		1	/	2	
	H	2	O																																		

- Press either or until the cursor reaches the first blank slot on the left of the selected application scheme
- Press ENTER

The following page will be displayed:

	F	I	E	L	D			A	L	A	R	M	S					I	N	P	U	T	S															
	C	A	L	E	N	D	A	R										M	O	D	I	F	I	A	B	L	E		P	A	R	A	M	E	T	E	R	S
	O	P	T	I	M	I	Z	E	R									O	U	T	P	U	T	S														

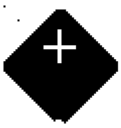
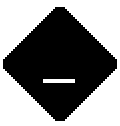
- Press either  or  until the cursor reaches the beginning of "OUTPUT" line
- Press 

The page "OUTPUT" will be displayed with the below listed information:

- output progressive number on the selected scheme
- associated label describing the output (if user filled in during Controller configuration)
- output value in real time reading
- any arisen alarm relating to the displayed output will be indicated by a "*" above the corresponding acronym

Note: Appendix C on page 51 includes a list of acronyms identifying the various alarms for outputs as well as relating meanings

				P	**1**		P	O	W	E	R		S	T	A	T	I	O	N		P	U	M	P		1		C	O	M	M	A	N	D					
	V	**A**	**L**	**U**	**E**						1	0	0											**A**	**L**	**A**	**R**	**M**		**S**	**T**	**A**	**T**	**U**	**S**				
								R	**E**	**-**	**R**	**E**	**A**	**D**	**I**	**N**	**G**		**A**	**C**	**T**	**I**	**V**	**A**	**T**	**I**	**O**	**N**	**S**			**H**	**O**	**U**	**R**				

- When displaying the page, the cursor is on the first line, on the left of the number identifying the output
- Press either  or  until the required value appears; parameters associated to selected output will be available

To return to any previous page, see either "Return to source page" or "Return to main page" both on page 8.

Diagnostic alarms display

Alarms, recorded inside the Controller are displayed in the page “DIAGNOSTIC ALARMS”, generated by hardware and software arisen from Controller and I/O Modules associated to it.

Active alarm LED (see on page 5 “Front panel description”) operates in the following way:

off when no alarm is active inside the Controller

blinking with at least one active is indicated, and until the user has not accessed to the visualization pages of the alarms themselves.

Note The number of displayable alarms can vary from 0 to 159 with non progressive numerical sequence, as in this sequence also field alarms, recorded inside the Controller are included (see “Alarm display” on page 19).

To display alarms the following operation sequence is to be performed:

- Return to “CONTROLLER STATUS PAGE” (see “Return to main page” on page 8).

When inside “ CONTROLLER STATUS PAGE ” press ESC; the following page is displayed:

```
 IOC  INDEX
 TYPICALS
 DIAGNOSTIC ALARMS
 ALL ALARMS
```

- The cursor is positioned on the first line
- Press either  or  until the cursor gets the beginning of the line displaying “DIAGNOSTIC ALARMS “
- Press 

“DIAGNOSTIC ALARM” page is displayed, which contains the following information:

- alarm progressive number
- network device address that generated the alarm
- date and time of alarm
- alarm state (“ACTIVE” or “VANISHED”)
- standard label describing alarm type
- user label, if filled in during Controller configuration

Note Appendix D on page 54 contains the list of acronyms identifying the field alarm types and the corresponding meaning.

	N	R	.				0		A	D	D	R	E	S	S			:		S	U	B	N	E	T			1	0		N	O	D	E				2
	D	A	T	E		1	9	:	0	2	:	9	6															H	O	U	R		1	1	:	5	9
	A	C	T	I	V	E																									O	N	L	I	N		
	C	O	N	T	R	O	L	L	O	R			R	E	A	D	Y																				

- When displaying the page, cursor is on the first slot at the right of “Nr.” label on the first line
- Press either  or  until the desired value is displayed; the parameters associated to set alarm number may hence be read.

Note display panel allows no alarm recognition, just reading.

Consecutive alarms may have no consecutive numbers, since they are registered by Controller together with the diagnostic alarms (see “Diagnostic Alarms display” on page 41).

To return to the previous page refer to paragraph “Return to source page” or “Return to main page” both on page 8.

All classes alarms displaying

On the “ALL CLASSES ALARMS” page, the alarms inside the controller are displayed. They are caused by hardware and software problems of the Controller and the I/O Modules, associated to it adding the field (engineering) alarms.

The active alarm LED (see “Frontal panel description” reference 2) operates as follows:

- off when no alarm is active inside the Controller
- blinking with at least one active is indicated, and until the user has not accessed to the visualization pages of the alarms themselves.

Note the displayed alarms can change from 0 to 159 having progressive numbering, being included in the numbering also the field alarms inside the Controller (see “field alarms display” on page 19).

For alarm displaying see as follows:

- Return to “CONTROLLER STATUS PAGE” (see “Main page return” on page 8)

From “CONTROLLER PAGE STATUS” push ESC ; the following page is displayed:

```
  IOC   INDEX
  TYPICALS
  DIAGNOSTIC  ALARMS
  ALL ALARMS
```

- The cursor is placed corresponding to the first line.

- Push  or  untill it placed the cursor at the beginning of the line containing “ALL CLASSES ALARMS”.

- Push 

It is displayed the “ALL CLASSES ALARMS” containing the following information:

- alarm progressive numbering
- belonging tipical name
- device network address generating the alarm
- alarm sending date and time
- alarm status (“ACTIVE” or “OFF”)
- standard label of the alarm type
- IOC number
- personalized label if edited by the operator during the Controller configuration

Note D appendix on page 54 contains the list of the acronym of the fields alarms and its meaning.

	A	L	L	.		N	.		1	1					T	Y	P	I	C	A	L			P	U	M	P		M						
	S	1	1		N			2							D	A	T	E		2	4	:	0	2	:	0	3		T	I	M	E		1	1	:	5	9	
	A	C	T	I	V	E									E	N	G												I	O	C		5	3	4				
	P	U	M	P		B	L	O	C	K					M	2		C	O	O	L																	

- At page displaying, the cursor is placed on the first space at the right of the “AL. N.” label in the first line.
- Push  or  utill the desired value appears; therefore the parameters associated to the alarm number setting can be read.

Note All engineering alarms can be read by entering the proper reset page. Consecutive diagnostic alarms can be non-progressive field numbered, being inside the Controller together the “Field Alarms” on page 19.

To return at previous pages see the “Source page” on page 8 or “Main page” on page 8.

Engineering alarms reset

Following the instructions contained in this page, the engineering alarms are resetted in an action only.

From “Controller status page”, push ESC ; the following page is displayed:

```
 INDEX  IOC
 TYPICALS
 DIAGNOSTIC  ALARMS
 ALL ALARMS
```

- The cursor is placed corresponding to the first line

- Push ◄ or ► until to place the cursor at the beginning of the line containing the “ALL ALARMS”

- Push ENTER

The “ALL ALARMS” page is displayed:

```
 ALL. N .  11    TYPICAL  PUMPS  M
 S11  N  2       DATE  24:02:03     TIME  11:59
 ACTIVE          ENG                IOC   534
 PUMP  BLOCK  M2    COOL
```

- Push ☞

The alarm RESET page is displayed

```
          - ENG ALARMS RESET -
          - ENTER OK  ESC NO -
```

- Push ENTER to confirm all alarms reset

- Push ESC to cancel the action

Display & setting in the “Start” page

The purpose of this page is to supply a powerful tool in the start-up phase of the equipment; in this environment the Controller is driven to a “STOP” state in which

- adjusting process is inhibited
- input are read
- outputs can be forced

Input and output forcing display is possible by selecting an Input/Output module among those associated to the Controller.

Note the access to “Program” environment is possible only when the page “CONTROLLER STATUS PAGE” is displayed. To return to the previous page refer to paragraph “Return to source page” or “Return to main page” both on page 8.

When inside “ CONTROLLER STATUS PAGE ” press  ; the “Program” LED will turn on

---

Note If users have been codified, “PASSWORD REQUEST PAGE” will be displayed; details concerning “USER Nr.” and “PASSWORD” set are to be found on “Parameter alteration” § on page 6.

---

has been previously codified, the cursor will get to the first slot on the left of first switch-over hour.

If no user has been previously codified, the page “CHOICE OF I/O MODULE” is displayed, containing the list of I/O modules associated to the Controller:

	M	O	D	U	L	E		O	N	E										M	O	D	U	L	E		T	W	O										

When getting in the “Choice of I/O Module” page, the blinking cursor goes on the first character of the first line:

- Press either  or  until the cursor get the beginning of the line corresponding to the I/O module to be displayed
- Press 

The following page is displayed (CHOICE OF INPUTS/OUTPUTS):

	I	N	P	U	T	S																											
	O	U	T	P	U	T	S																										

Input display

On getting to the “Choice of Inputs/Outputs” page, the blinking cursor ge ts on the first character on the first line:

- Press 

or

- Press either  or  until the cursor is at the beginning of the line corresponding to “INPUTS”

- Press 

In both cases the page containing the inputs associated to the selected I/O module is displayed, showing the following information:

- progressive number on the input port of the selected I/O module
- input current value and corresponding engineering unit 8 for analogic inputs
- descriptive label associated to the input (if filled in during Controller configuration phase)

	M	O	D	U	L	E		O	N	E									*		I	N	P	U	T	S				*				^
I	0	1	=				1	9	.	8		C				T	.		R	O	O	M						U	T	A					
I	0	2	=					1								C	O	M	M	U	T	A	T	O	R			E	/	I		U	T	A	
I	0	3	=				5	0	.	0		%	H	R		H	R		R	O	O	M						U	T	A					v

Note digital inputs are displayed with the value representing the physical state of contact at the terminals:

1 = open contact or not energized input

0 = closed contact or energized input

Note To display the hidden lines:

- Press either  or  until the cursor gets on the character on the last column, indicating “high” or “low”

- Press either  or  until the desired line appears.

Output

- Press either  or  until the cursor gets at the beginning of the row corresponding to “OUTPUT” label

- Press 

The page of outputs associated to the selected I/O module is displayed, which contains the following information:

- progressive number on the output port of the selected I/O module
- output current value
- descriptive label associated to the output (if filled in during Controller configuration phase)

	M	O	D	U	L	E		T	W	O											*		O	U	T	P	U	T	S		*					^
U	0	1	=						6	4					B	A	T	T	E	R	Y			W	A	R	M			U	T	A					
U	0	2	=					1	0	0					F	A	N									U	T	A									
U	0	3	=							0					B	A	T	T	E	R	Y			C	O	L	D				U	T	A				v

Note To display the hidden lines:

- Press either  or  until the cursor gets on the character on the last column, indicating “high” or “low”

- Press either  or  until the desired line appears.

- Once the page is displayed, the cursor is positioned on the character “=” of 01 output

Operator ca modify the set value of the outputs in the following way:

- Press either  or  until the cursor is just before the datum to be changed

- Press either  or  until the desired value appears

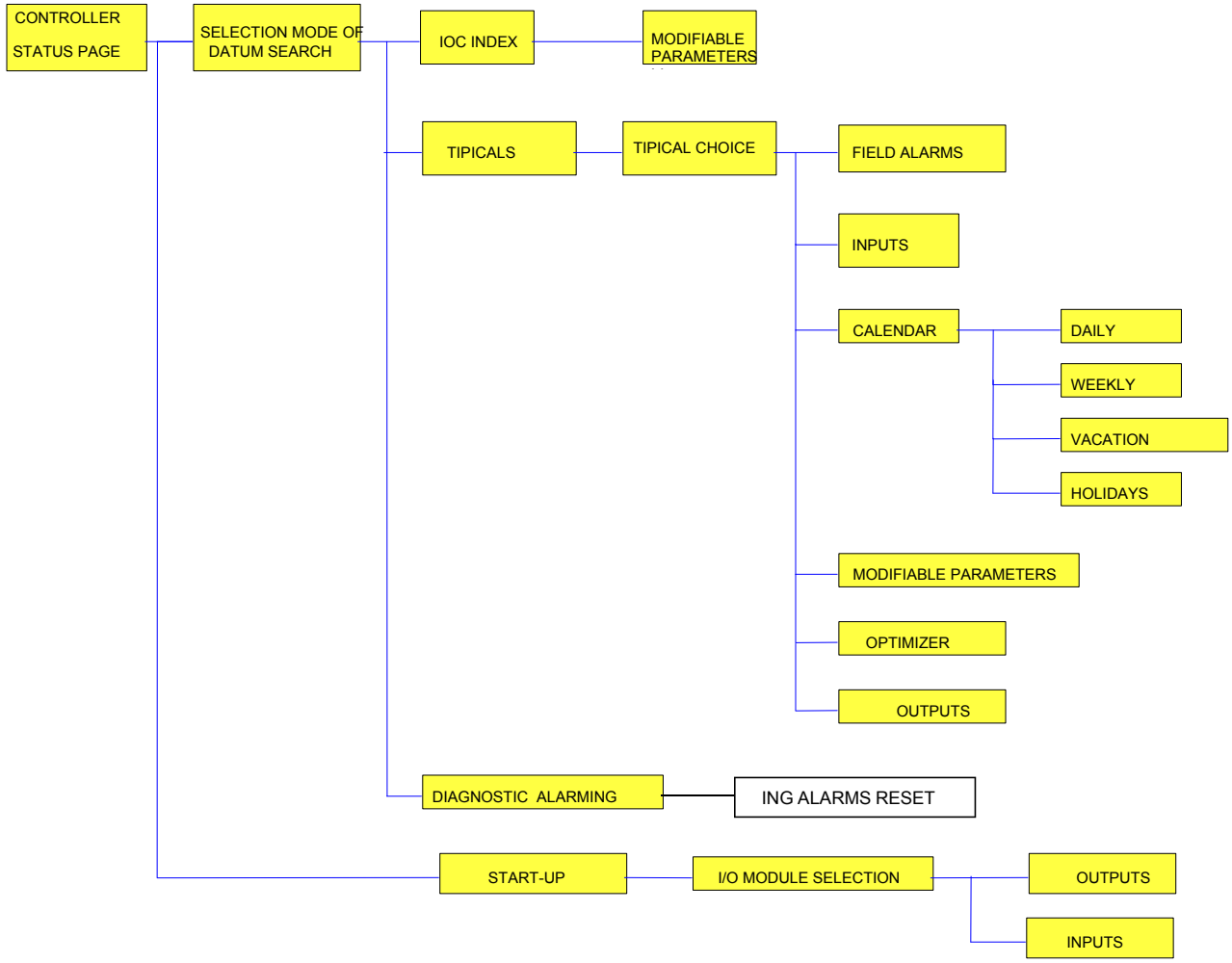
  Repeat the operation for each datum to modifiy

- Press 

to confirm the set value

To return to the previous page refer to paragraph “Return to source page” or “Return to main page” both on page 8.

PAGE CONFIGURATION



APPENDIX A

Alarms

The following table shows the list of acronyms relevant to field alarms, subdivided according to types, with the explanation of their meanings:

Acronym	Associated to	Description
ALT	Analogic input	Alarm for value read by sensor higher than the max. threshold foreseen
BAS	Analogic input	Alarm for value read by sensor lower than the max. threshold foreseen
FUO	Input (except transmitters and digital)	Alarm for value read be sensor out of the max. and min values defined for the sensor itself
LET	Inputs	Not active
DIG	Digital inputs	Allarm generated by a state of the digital input different from the expected one during the correct operation
RIL	Output	Not active
ORE	Output	Alarm of overcoming of maintenance estimated hours
ATT	Output	Allarm for overcoming of maintenance estimated start-up hours
ING	Status/Command	Alarm active in the case the input return state does not confirm the realisation of output command

APPENDIX B

Input alarms

The following table shows the list of acronyms relevant to input alarms, subdivided according to types, with the explanation of their meanings:

Acronym	Associated to	Description
ALT	**Analogic input**	**Alarm for value read by sensor higher than the max. threshold foreseen**
BAS	**Analogic input**	**Alarm for value read by sensor lower than the max. threshold foreseen**
FUO	**Input (except transmitters and digital)**	**Alarm for value read be sensor out of the max. and min values defined for the sensor itself**
LET	**Input**	**Not active**

APPENDIX C

Output alarms

The following table shows the list of acronyms relevant to output alarms, subdivided according to types, with the explanation of their meanings:

Acronym	Associated to	Description
DIG	**Digital input**	**Allarm generated by a digital input state different from the expected one during correct operation**
RIL	**Output**	**Not active**
ORE	**Output**	**Alarm of overcoming of estimated hous for maintenance**
ATT	**Output**	**Alarm for overcoming of maintenance estimated start-ups**

APPENDIX D

Diagnostic alarms

The following table shows the list of acronyms relevant to diagnostic alarms, subdivided according to types, with the explanation of their meanings:

Acronym	Associated to	Description
ONLIN	**Controller**	**Signal of presence on network**
FWATC	**Controller**	**Damaged clock alarm**
FKEEP	**Controller**	**Alarm for damaged Controller keeping network time**
NCMIP	**Controller**	**Communication interface damage alarm**
NVFLD	**Controller**	**Control strategy lack alarm**
NVFLC	**Controller**	**Application program lack alarm**
NVLIO	**I/O Module**	**Communication interface damage alarm**
NVFLM	**I/O Module**	**Configuration lack alarm**
NVSTM	**I/O Module**	**Alarm for I/O module not present on network**