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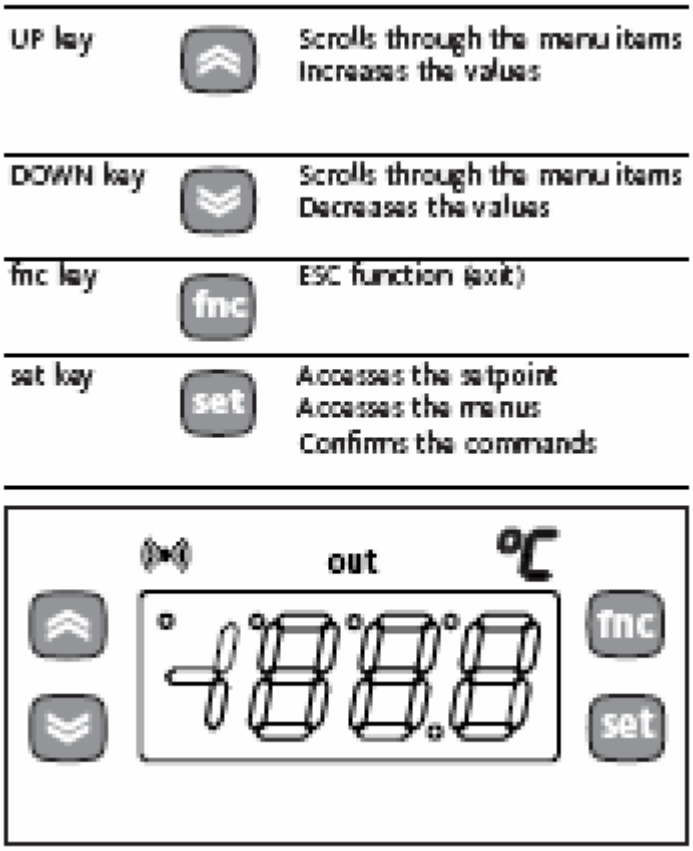
REF: 10325

STC-92 SAUNA TEMPERATURE CONTROLLER PROGRAMMING INSTRUCTIONS

1. THE USER INTERFACE

The user has a display and four keys for controlling status and programming of the instrument.

KEYS AND MENUS



At start-up the instrument performs a Lamp Test; for few seconds the display and the leds blink, in order to verify their integrity and correct operation. The instrument has two main menus: the “Machine Status” and “Programming” menu.

2. ACCESSING AND USING MENUS

Resources are arranged in a menu, which can be accessed by pressing and quickly releasing the “set” key (“Machine Status” menu) or by holding down the “set” key for more than 5 seconds (“Programming” menu).

To access the contents of each folder, indicated by the relevant label, just press the “set” key once. You can now scroll through the contents of each folder, modify it or use its functions.
If you do not use the keyboard for over 15 seconds (time-out) or if you press the “fnc” key once, the last value shown on the display is confirmed and you return to the previous screen mask.

3. MACHINE STATUS MENU
(See Machine Status Menu)

To access the “Machine Status” menu Press and quickly release the “set” key.
If alarms are not present, the label “SEt” appears. By using the “UP” and “DOWN” keys you can scroll through the other folders in the menu:
-Pb1: probe 1 value folder;
-SEt: Setpoint setting folder.

Set Setting
Access the “Machine Status” menu by pressing and quickly releasing the “set” key. The label of the “SEt” folder appears.
To display the Setpoint value press the “set” key again.
The value appears on the display.
To change the Setpoint value, use the “UP” and “DOWN” keys within 15 seconds.
If the parameter is LOC = y the Setpoint cannot be changed.

Displaying Probes
By pressing the “set” key when the appropriate label appears, the value of the probe associated to it is displayed.

4. PROGRAMMING MENU
(See Programming Menu)

To enter the “Programming” menu, press the “set” key for more than 5 seconds.
If specified, the access PASSWORD will be requested, (parameter “PA1”), and (if the password is correct) the label of the first
folder will follow.
To scroll through the other folders, use the “UP” and “DOWN” keys; the folders contain the level 1 parameters.
If the password is wrong, the display will show the PA1 label again.
To enter the folder, press “set”. The label of the first visible parameter appears. To scroll through the other parameters, use the “UP” and “DOWN” keys; to change the parameter, press and release “set”, then set the desired value using the “UP” and “DOWN” keys, and confirm with the “set” key to move to the next parameter.
PLEASE NOTE: It is suggested to switch-off and switch-on again the instrument everytime it is changed the configuration of the parameters: this prevents malfunctioning on regulation and delay time occuring.

5. PASSWORD

The password “PA1”allow access to level 1 parameters. In the standard configuration passwords are not present.
To enable them (value-0) and assign them the desired value, access the “Programming” menu, within the folder with the “diS” label.
If password is enabled, it will be requested at the entrance of the “Programming” menu (see the “Programming Menu“ section).

6. KEYBOARD LOCKING

The instrument includes a facility for disabling the keyboard, by programming the “Loc” parameter (see folder with “Dis” label).
If the keyboard is locked, you can still access the programming menu by pressing the “set” key.
The Setpoint can also be viewed.

7. DIAGNOSTICS

The alarm condition is always signalled by the buzzer (if present) and by the led of the alarm icon  .

8. LED INDICATIONS

Position	Associated function	Status
Out	Relay 1	ON for relay ON, flashing for delay, disabled protection or activation
	Alarm	ON for an active alarm
°C	Setpoint	ON when setting the Setpoint

9. FUNCTION WITH FAULTY SENSOR

The alarm signal produced by a faulty thermostat probe (probe 1) is shown as E1 on the instrument display.
When the sensor detects an error condition:
• the code E1 is displayed
• the regulator is activated as indicated by the "On" and "Off" parameters if programmed for the duty cycle or:

Ont	Oft	Regulator output
0	0	OFF
0	>0	OFF
>0	0	ON
>0	>0	**Duty cycling**

10. PARAMETER TABLE

PARAMETER	DESCRIPTION	RANGE	DEFAULT*	VALUE**	LEVEL***	U.M.
diF	**REGULATOR (folder with "CP")** **Relay regulator tripping differential. The regulator stops on reaching the Setpoint value (as indicated by the adjustment probe), and restarts at temperature value equal to the Setpoint plus the value of the differential.** **Note: the value 0 cannot be assumed.**	**0.1...30.0**	**2.0**		**1**	**°C/°F**
HSE	**Maximum possible setpoint value.**	**LSE..140**	**140**		**1**	**°C/°F**
LSE	**Minimum possible setpoint value.**	**-55...HSE**	**-55**		**1**	**°C/°F**
HC	**Heat/Cool Mode. If set to H the generic regulator actuates for hotoperation. If set to C the generic regulator actuates for cold operation**	**H/C**	**H/C***		**1**	**flag**
Ont(1)	**REGULATOR PROTECTIVE DEVICES (folder with "CP" label)** **Regulator activation time in the event of faulty probe. If set to "1" with Oft at "0", the regulator is always on, while for Oft >0, it functions always in duty cycle mode.**	**0…250**	**0**		**1**	**min**
OFt(1)	**Regulator in disabled state time in the event of a faulty probe. If set to "1" with Ont at "0", the regulator is always off, while at Ont>0, it functions always in duty cycle mode.**	**0…250**	**1**		**1**	**min**
dOn	**Delay time in activating the regulator relay after switch-on of instrument.**	**0…250**	**0**		**1**	**sec**
dOF	**Delay after switch off. The indicated time must elapse between switch-off of the regulator relay and the successive switch-on.**	**0…250**	**0**		**1**	**min**
dbi	**Delay between switch-ons. The indicated time must elapse between two successive switch-ons of the regulator.**	**0…250**	**0**		**1**	**min**
OBO(!)	**delay time in activating the outputs after switch-on of the instrument or after a power failure. 0= not active.**	**0…250**	**0**		**1**	**min**
LOC	**DISPLAY (folder with label "diS")** **Keyboard locking. However, you can enter parameter programming,** **modify them and change the status of this parameter to unlock the keyboard.** **y = yes (keyboard locked); n = no.**	**n/y**	**n**		**1**	**flag**
PA1	**Password 1. When enabled (value other than 0) it constitutes the access key for level 1 parameters.**	**0…250**	**0**		**1**	**number**
ndt	**number display type. View with decimal point. y = yes; n = no**	**n/y**	**n**		**1**	**flag**
CA1	**Calibration 1. Positive or negative temperature value added to the value read on the adjustment room probe (probe 1) before being displayed and used for adjustment.**	**-12.0… +12.0**	**0**		**1**	**°C/°F**
	Continue next page!					

dro	**Selection of °C or °F to view the temperature read by the probe: 0 = °C, 1 = °F. PLEASE NOTE: the switch between °C and °F DO NOT modify setpoint, differential, etc. (for example set=10°C become 10°F).**	**0/1**	**0**		**1**	**flag**
H00 (!)	**CONFIGURATION (folder with label "CnF") Probe type selection, PTC or NTC. 0 = PTC; 1 = NTC.**	**0/1**	**0/1***		**1**	**flag**

(1) see Duty Cycle Diagram

* DEFAULT column: for HC, H00 parameters default is depending on model;
the decimal point is visible when ndt=1

** VALUE column: to be filled manually, with customized settings (if different from the default value).

*** LEVEL column: indicates the level of visibility of parameters accessible by PASSWORD (see the related paragraph)

(!) WARNING!

• If one or more of these parameters highlighted with (!) are modified, teh controlller must be switched off and switched on again to ensure correct operation.

• It is strongly recommended, anyway to switch off and switch on again the controller anytime parameters have been changed to prevent malfunctioning on configuration and/or ongoing timings**.**

DANMAR – APPLICATION NOTES – 09/2010