DIGITAL ELECTRONIC CONTROLLER

OPERATING INSTRUCTIONS

INSTRUMENT DESCRIPTION

GENERAL DESCRIPTION

A digital controller with microprocessor that is typically used in applications that have temperature control with an ON/OFF operation.
For freeze protection applications the temperatures are pre set 5 DegC for line sensing and 7 DegC for air sensing. Should these need altering a password is required to access the parameters in the table shown .
The password is available from the supplier.
All temperatures are in Degrees C.

FRONT PANEL DESCRIPTION

1 - Key P : Used for setting the Set point and for programming the function parameters
2 - Key DOWN : Used for decreasing the values to be set and for selecting the parameters.
3 - Key UP : Used for increasing the value to be set and for selecting the parameters.
4 - Led OUT : Indicates the temperature control device on/off.

PROGRAMMING

PARAMETERS PROGRAMMING

To access the instrument's function parameters, press the key **P** and keep it pressed for about 5 seconds, after which the rP led will light up. Press P button once and 0 will appear on screen then using the up arrow enter the password number obtained from your supplier, press P once again and first parameter SLS will be be on screen.
Using the UP and DOWN keys, the desired parameter can be selected and pressing the P key, the display will alternately show the parameter code and its setting that can be changed with the UP and DOWN keys.
Once the desired value has been set, press the key P again: the new value will be memorised and the display will show only the code of the selected parameter.
Pressing the UP and DOWN keys, it is possible to select another parameter and change it as described.
To exit the programming mode, do not press any key for about 20 seconds and controller will auto reset to run mode..

TEMPERATURE CONTROL

The instrument operates as an ON/OFF controller via the output relay and is dependent upon the probe measurement – the Set Point **"SP"** - the differential (hysteresis) **"rd"** .
In the event of probe error or breakage, it is possible to set the instrument so that that the output OUT continues to work in cycles according to the times programmed in the parameter **"rt1"** (activation time).
If an error occurs on the probe the instrument activates the output for the time rt1.
Programming "rt1" = oF the output in probe error condition will remain switched off.
Programming instead rt1 to any value the output in probe error condition will remain switched on.
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PROGRAMMABLE PARAMETERS TABLE

Par.		Description	Range	Def.	Note
1	**S LS**	Minimum Set Point	-58 to HS	5 or 7	locked
2	**S HS**	Maximum Set Point	LS to 109	5 or 7	locked
3	**S P**	Set Point	LS To HS	5 or 7	locked
4	**rd**	Differential		2.0	
5	**rt1**	Activation Time output for probe error or broken.	Of to 99 mins	99	Heat 'on'

PROBLEMS

SIGNALLING
Error Signalling:

Error	Reason	Action
E1 -E1	The probe may be interrupted or in short circuit, or may measure a value outside the range allowed	Check the correct connection of the probe with the instrument and check the probe works correctly
EPR	Internal memory error	Press P button or switch off leave for a few seconds and turn on again.

In probe error status, the output OUT behaves as set by the parameters rt1.

TECHNICAL DATA

ELECTRICAL DATA

Power supply: 230 VAC +/- 10%
Frequency AC: 50/60 Hz
Power consumption: 3 VA approx.
Input 1 input for temperature probe NTC (103AT-2, 10KΩ @ 25 °C).
Output: 1 relay output SPST - NO
Electrical life for relay outputs: 50000 op. (om. VDE)
Action type: type 1.B (EN 60730-1)
Over voltage category: II
Protection class : Class II
Insulation: Reinforced insulation between the low voltage part (supply 115/230 V and relay output) and front panel; Reinforced insulation between the low voltage section (supply 115/230 V and relay output) and the extra low voltage section (inputs); Reinforced between supply and relay output; No insulation between supply 12 V and inputs.

MECHANICAL DATA

Housing: Self-extinguishing plastic, UL 94 V0
Pollution situation: 2
Operating temperature: 0 To 50 °C
Operating humidity: < 95 RH% without condensation
Storage temperature: -10 To +60 °C

FUNCTIONAL FEATURES

Temperature Control: ON/OFF mode
Measurement range: NTC: -50* To 109 °C
Display resolution: 0,1° (range -99.9* to +99.9*)
Overall accuracy: +/- (0,5 % fs + 1 digit)
Sampling rate: 130 ms.
Display 2 ½ Digit Red h 17.7 mm
Software class and structure : Class A
Compliance: ECC directive 89/336 (EN55022: class B; EN61000-4-2: 8KV air, 4KV cont.; EN61000-4-3: 10V/m; EN61000-4-4: 2KV supply, inputs, outputs; EN61000-4-5: supply 2KV com. mode, 1 KV\ diff. mode; EN61000-4-6: 3V), 2006/95/CE (EN 60730-1, EN 60730-2-7, EN 60730-2-9)
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NB: Digitemp must be protected by a 20 amp fused supply.