Drawing No :- TPC307
Date :- 17/06/08
Issue :- 2

STC1

OWNER / OPERATOR

MANUAL

Part Number - 1352400

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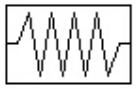
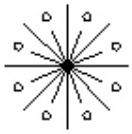
SPECIFICATIONS

Height	210mm (8.3”)
Width	220mm (8.6”)
Depth	115mm (4.5”)
Weight	2.5 Kg
Voltage	115 / 230V - 50 / 60Hz 1ph
IP Rating	IP54
Temperature Probe	10,000 Ohms @ 25°C
Temperature Range	0°C - +55°C (32°F – 131°F)
Proportional Time Range	15% - 100% (Continues)
Memory	On Board
Outputs	Heating, Drying, Venting
Maximum Venting Current	5 Amps

Explanation of Symbols

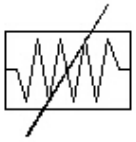


Heating

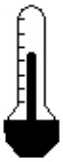


Venting

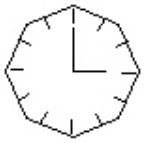
Drying



Heater Disconnected

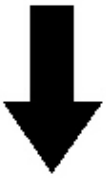


Temperature



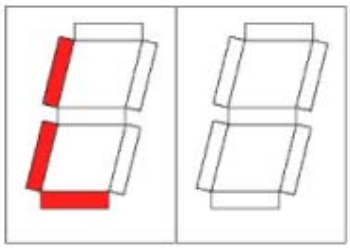
Drying Time

Increment

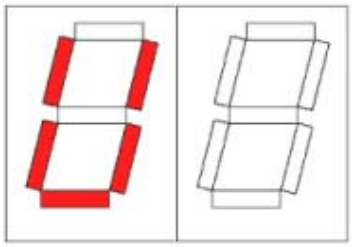


Decrement

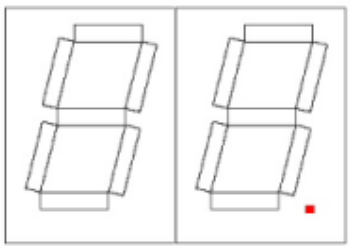
Explanation Display Prompts



Keypad “LOCKED”



Keypad “UNLOCKED”



Crossover “SELECTED”

Overview

The STC1 Controller has been designed to work in conjunction with the range of Small Timber Dryers manufactured by Ebac Industrial Products Ltd. These products include the LD800, LD82, LD3000 and FD100 range of equipment. The controller will operate from supply voltages of 115V to 230V at 50 or 60Hz

PLEASE REFER TO THE RESPECTIVE DEHUMIDIFIER OPERATOR MANUAL TO ENSURE THE CORRECT SUPPLY VOLATGE IS USED

The controller consists of a proportional timer, to control the drying cycle, and thermostat to control the heating cycle, both functions can be programmed to operate independently, or with crossover selected, reliant upon the other function

Installation

Ebac Industrial Products recommend the STC1 Controller is mounted outside the drying kiln in order to allow easy monitoring and adjustment.

Note:- the fixing points located on the underside of the control box, 1 "hook" type positioned towards the top, and 2 holes located at the bottom of the controller.

Using a suitable wall fixing, secure the single top mounting first.

Remove the 2 screws retaining the front cover, identify the 2 remaining fixing holes.

Ensure the control box is level, and mark through these fixings onto the wall.

Using suitable wall fixings secure to the 2 remaining points to the wall.

Further information regarding Kiln design and installations can be found within the Timber Dryer manual.

Mounting Temperature Probe

The temperature probe is a sensitive probe and maybe susceptible to interference from power cables. In order to minimize risk from interference, and possible inaccurate readings, do not route the wires to the temperature probe along side power cabling.

Remove the self adhesive backing from the plastic mounting clip, and secure to the internal wall, centrally within the drying chamber

Clip the temperature probe into the plastic holder. Using suitable wall clips secure the probe cable between the STC1 control box and mounting clip.
Note:- Do not attempt to cut the cable down, coil any excess cable into a loop at one end.

Vent Connection

This should only be performed by a competent electrician

A kiln vent unit can be installed and controlled via the STC1 controller, connection details are as follows :-

Mount the vent unit in accordance with the manufactures instructions

Remove the centre "knock out" from the cable entry panel located at the bottom of the STC1 control unit.

Fit the suitable cable gland to this hole and pass the vent power cable into the STC1 control Box and make the following connections.

L - Live
N - Neutral
E - Earth

Operation

Each time power is applied to the unit, the STC1 will go through a lamp check, then display the software version, after which the STC1 enters the program / run mode and ready for operation.

Temperature Control...
When the temperature inside the kiln increases to the "set point", the heaters are switched off, if the temperature continues to increase to a level of 2°C above the "set point" the venting unit is switched on, therby reducing the temperature inside the kiln.

If "Crossover" is selected the compressor is switched off in place of switching on the venting unit. The "Crossover" mode should always be used for Installations which do not have venting units.

Proportional Control....
This sets the amount of time, each hour, where the compressor is operational and consequently drying. For example, if the display shows 25, then the drying will be operational for 15 minutes each hour, ie 25%. Likewise if the display shows 50, then Drying will be operational for 30 minutes each hour, ie 50%. Setting to "C" will enable maximum drying, i.e. the compressor will be operational continuously.
Note, with “Crossover” selected, and temperatures inside the kiln, higher than the “Set Point” + 2°C , the compressor will be switched off.
A 6 minute “OFF” time is preprogrammed into the controller to prevent the compressor from being cycled too frequently and consequently damaged. Basically the compressor will not start for 6 minutes from the last time it switched off

Access to the STC Controls is possible by loosening the 2 "thumb" screws fitted to the clear protective cover. To maintain a water tight enclosure, please ensure the cover is replaced and securely tightened after adjustments have been completed.

Display & Adjustment of Temperature Set Point
Press the temperature button and the display now shows the "Set Point"
With the temperature button pressed, pressing the UP and DOWN Arrow keys will adjust the Temperature Setting

Adjustment of Drying Time
Press the Time button and the display now shows the "Drying Time"
With the time button pressed, pressing the UP and DOWN Arrow keys will adjust the Time Setting at 5% increments between 15% and 90%
Setting the display to show "C" will disable the proportional control and switch the compressor on permanently.

Crossover Control
The "Crossover" function provides added safety in "overheat" situations, basically with crossover enabled the compressor is switched off when the kiln temperature reached the set point +2°C, thereby preventing the temperature inside the kiln rising any further.

With Crossover enabled.
When the temperature inside the drying kiln reaches the set point + 2°C the compressor is switched off.

With Crossover disabled
When the temperature inside the drying kiln reaches the set point + 2°C the compressor continues to operate, and the kiln vent opens

To Enable / Disable
Enable - Press and Hold the Temperature button for 10 seconds, A Red Dot is displayed in the bottom right corner of the display

Disable - Press and Hold the Temperature button for 10 seconds, No Red Dot is displayed in the bottom right corner of the display

Ebac Industrial Products recommends when a vent unit is not installed, crossover is enabled.

No Heat Selection
This function prevents the heaters operating
Adjust the temperature set point until the display shows 0°C

The NO HEAT lamp illuminates and the heating will not operate.

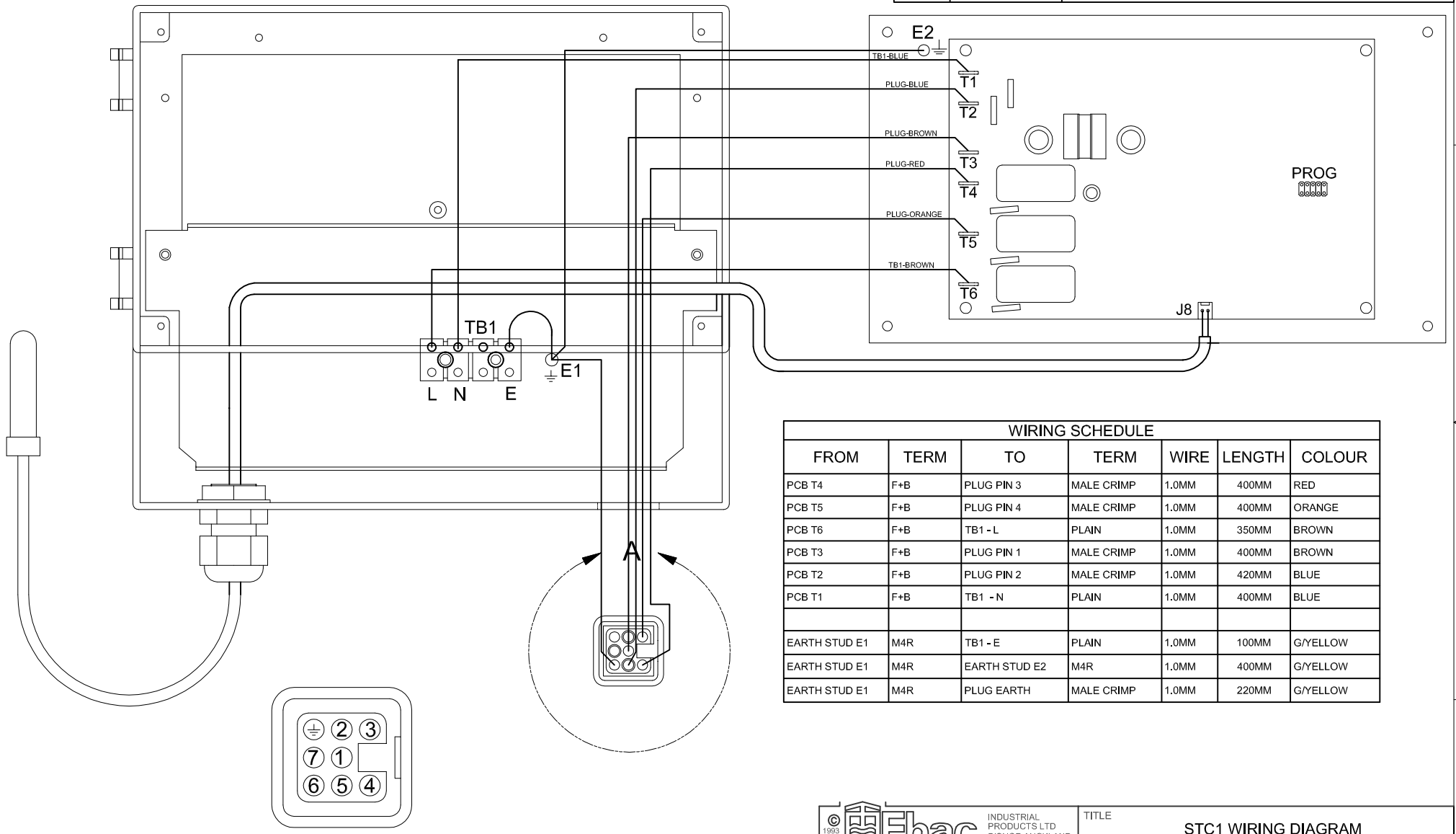
To revert back to normal control, adjust the temperature to the desired setting.

Locking The Keypad
This function allows the keypad to be locked to avoid unauthorized changes to the settings
To Lock - Press and hold the DOWN ARROW Key for 10 seconds
To Unlock - Press and hold the DOWN ARROW key for 10 seconds

Spare Parts

Description	Part No.
Controller PCB Assembly	1619300
Temperature Probe Assembly	1619301
M16 Cable Gland	3032511
M16 Nut	3032512
Male Insert	3033809
Housing	3033812
Male Contact	3033814
Plastic Spacer	3100798
Plastic Controller Housing	3170378
Plastic Probe Clip	
STC1 Controller Label	2352403

ISS.	DATE	COMMENTS
1	07/02/06	ORIGINAL
2	19/09/06	PCB IDENTS CHANGED - CJL
3	15/06/07	WIRING INFO ADDED - CJL



DETAIL A
SCALE 1.50 : 1

WIRING SCHEDULE						
FROM	TERM	TO	TERM	WIRE	LENGTH	COLOUR
PCB T4	F+B	PLUG PIN 3	MALE CRIMP	1.0MM	400MM	RED
PCB T5	F+B	PLUG PIN 4	MALE CRIMP	1.0MM	400MM	ORANGE
PCB T6	F+B	TB1 - L	PLAIN	1.0MM	350MM	BROWN
PCB T3	F+B	PLUG PIN 1	MALE CRIMP	1.0MM	400MM	BROWN
PCB T2	F+B	PLUG PIN 2	MALE CRIMP	1.0MM	420MM	BLUE
PCB T1	F+B	TB1 - N	PLAIN	1.0MM	400MM	BLUE
EARTH STUD E1	M4R	TB1 - E	PLAIN	1.0MM	100MM	G/YELLOW
EARTH STUD E1	M4R	EARTH STUD E2	M4R	1.0MM	400MM	G/YELLOW
EARTH STUD E1	M4R	PLUG EARTH	MALE CRIMP	1.0MM	220MM	G/YELLOW

Ebac INDUSTRIAL PRODUCTS LTD BISHOP AUCKLAND ENGLAND

TITLE: STC1 WIRING DIAGRAM

3RD ANGLE PROJECTION

DO NOT SCALE
IF IN DOUBT ASK

DIMENSIONS IN m.m.
TOLERANCES UNLESS OTHERWISE STATED
0. ± 1
0.0 ± 0.25
0.00 ± 0.05
ANGULAR ± 0.5 DEGREE

MATERIAL

FINISH

DRAWN : C LILLY

CAD SCALE : NTS

DRG.NO. 5010102

SHEET 1 OF 1

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