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THD3 & 6 three Phase Burst Firing Power Controller instruction manual

1) Installation

The controller should be mounted to allow airflow through the heatsink naturally. The maximum ambient temperature should not exceed 45 Deg. C.

2) Protection Fuse

External protection fuses shall be fitted for protecting the semi-conductors of a THD.

THD3 8A, 500V very Fast Fuses, e.g. RS: 420-202
THD6 12.5A, 500V very Fast Fuses, e.g. RS: 420-224

A 100mA delay fuse on the print circuit board is used to protect the low voltage supply of the electronic control circuit.

3) Wiring

A THD controller should be connected according to the wiring diagram as shown in fig. 1. The size of cables for controlling signals should be larger than 0.5 mm sq. and the cable to L, N. Cables to the load must be sufficient to withstand the maximum current rating of the LOAD and meet the IEE WIRING REGULATIONS.

4) Set-up procedure

After connecting the load to the THD controller, set the input signal to minimum (0V). Switch on the mains supply. The output voltage or current to the load should be zero (except the leakage current which is less than 10mA). Gradually increase the input signal and check that the output is switching ON and OFF according to the input signal. The output LED will illuminate when the output is switched ON.

5) Input Switch A THD has I/P SW which allow users to select and solder/link these switches for different inputs.

Input signal	SW1	SW2	SW3	SW4
0-5V	0	0	0	0
0-10V	0	1	0	0
0-20V	0	1	1	0
4-20mA	1	0	0	1

1: short circuit by linking (solder) the switch solder pads; 0: open circuit

6) ALL STANDARD UNITS ARE FACTORY SET UP AS FOLLOWS

a) Set the cycle Pot to fully anti-clockwise in order to have minimum cycle period.
Set the input switch for 0-10V range.
b) With the input at minimum (0V), switch on the mains supply to a THD unit.
c) With an input of 9V for 0-10V input range (for other input range, set the input to 90% of the max. input), adjust the MAX pot clockwise until the output voltage or current is at maximum.
d) With 8V input signal, the output is switching on nearly 100%. The output LED switches on for about 90% and off for about 10% of the switching period.
e) With the input at 1V for 0-10V input range (for other input range, set the input to 10% of the max. input), adjust MIN POT until the output is zero.
f) With 2V input signal, the output switches on slightly. The output LED switches on for about 10% and off for about 90% of the switching period.
g) Repeat step c) to f) until the output is at maximum and zero and all the conditions are met.
h) Set the input to 5V, the output on and off period (the output LED on and off time) is nearly equal. Adjust the cycle time pot clockwise to increase the cycle time to a desirable value.

Specification

Supply voltage	415Vac, +/-10%; 47Hz to 63Hz
Current rating	THD3 - 6A per phase; THD6 - 9A per phase
Operating temp.	0 to 45 Deg. C
Storage temp.	-10 to 80 Deg. C
Input signal	0-10V as standard, >50 kilo-ohm input impedance Users select for 0-20V, 0-5V & 4-20mA input 4-20mA, 330 ohms input impedance
Cycle Time	adjustable from 1 sec to 28 seconds.
Isolation	2500Vrms between input and output
Min. holding current	30mA
Repetitive peak voltage	800V
Dimensions	W: 100mm x H: 130mm x D: 62mm
Mounting	DIN rail mounted

Wiring Diagram