APPLICATION NOTE

Product Family: Process Controllers

Number: AN-LC-005

Subject: TC33-1100-AC pulse out control of basic heater element.

Date Issued: 08/06/03

Revision: Original

Application Description

An Automation Direct TC33 Temperature controller is to be used as a temperature control for a wood dryer. The pulse output from the TC33 will control the heater element via a solid state relay.

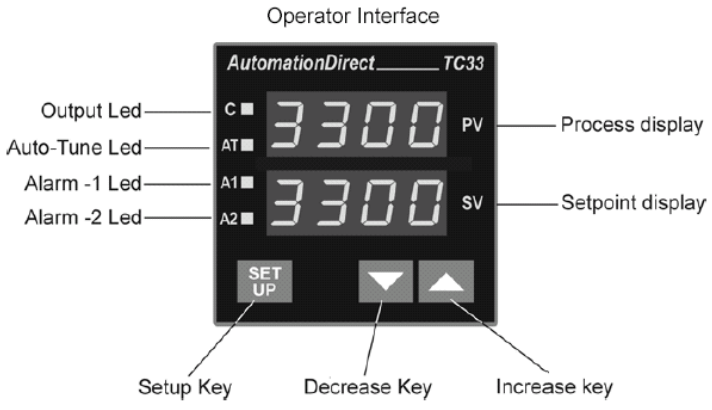
Specifications

Master Control:	1 x TC33-1100-AC
User supplied HW:	1 x SS relay or SCR
	1 x J type T/C

Process: User needs to control a heater via the pulse output feature to a Solid State relay.

Display: PV (process variable) –58 to 1400*F and SV (set point variable) –58 to 1400*F

Alarms: High temperature is 1000*F



TC33 Basic Program

Cycle 3 CONFIGURATION	DEFAULT	NEW	COMMENTS
Type	1	0	J type T/C (-58 to 1400*F)
Unit	0	1	degrees Fahrenheit
Act	0	0	reverse acting
Cntr	1	1	PWM PID control terminals 11-12
Sphl	1370	1400	Upper range for SV and PV
A1fu	0	0	N/A
A2fu	0	1	High alarm function for alarm relay 2
Cycle 2 ALARMS	DEFAULT		
Atun	0	NO	only active during tuning procedure
Pb	10	x.x	P set during auto tune
Ir	0	x.x	I set during auto tune
Dt	0	x.x	D set during auto tune
Ct	0.5	0.5	default
Hyst	0	0	not using Hysterisis control (ON/OFF)
A1sp	610	610	N/A
A2sp	610	1000	High temp alarm
Cycle 1 OPERATION	DEFAULT		
RATE	0	0	rate of rise disabled
T SP	0	0	time for soak disabled
RUN	1	1	enable run mode

Manual fine-tuning parameters

PARAMETER	RESPONSE	SOLUTION
Proportional Band	Slow Response	Decrease
Proportional Band	Large Oscillation	Increase
Integral Rate	Slow Response	Increase
Integral Rate	Large Oscillation	Decrease
Derivative Time	Slow Response or Instability	Off (dt = 0)
Derivative Time	Large Oscillation	Increase

Technical Assistance:

If you have questions regarding this Application Note, please contact us at 770-844-4200 for further assistance.

Basic Diagram: