

Dual loop temperature controller cum profile programmer with data logging	
OPERATOR INTERFACE SPECIFICATION	
Operator Interface	3.5" TFT Color display
Main display	Real Time Views: Numeric, Vertical Trend, Horizontal Trend, Vertical Bar Graph, Horizontal Bar Graph, Control loop Historical view with date & time select.
Decimal Place	3 decimal place auto ranging for PV
Indications	Output indicators, Alarm indication, Units, Communications activity indicator.
INPUT SPECIFICATION	
No. of Input	Four Universal Inputs
Linear(process) input range	4-20mA, 0-20mA, 10V, 2V, 0.8V, 80mV, 40mV
Thermocouple types:	K, J, N, R, S, B, L, T & 2 downloaded custom curve
Resistance thermometer types:	3-wire Pt100/PT1000
Maximum Linearisation error	0.04deg for Ktype Thermocouple
Cold junction error	<1°C at 25°C ambient
Input sample rate	8Hz (125ms)
Isolation	Channel To Channel: 300VRMS or dc (double insulation) Channel To Ground: 300VRMS or dc (double insulation)
Common mode rejection:	>178db
Series mode rejection:	>95dB
OUTPUT SPECIFICATION	
No. of output	Five Configurable Outputs.
Output 1	0-20ma range heating output (Loop Resistance: 500ohm max)
Output 2	0-20ma range heating output(Loop Resistance: 500ohm max)
Output 3	2 A Relay configurable as alarm or time proportionedheat/cool output.
Output 4	2 A Relay configurable as alarm or time proportionedheat/cool output.
Output 5	2 A Relay configurable as alarm or time proportionedheat/cool output.
Analogue output Calibration accuracy	<± (1% of reading + 100uA offset)
Thermal Drift	<100ppm/°C
Functions	Control outputs, alarms, events, retransmission
Output limit	Low & high limit of output shall be configurable
Minimum pulse time	Minimum pulse time of time proportioning output shall be configurable
Safe output power	User shall define the safe output power. Controller will give the defined safe output power at any abnormal situation like sensor break etc.


 15/09/2020
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CONTROL SPECIFICATION	
No. of Control loop	2
Control types	Dual channel -Heat &Cool PID
PID Control	2 set of PID
PID output range	-100% to 100%
Cooling type	Linear, Fan , oil, water
Modes	auto , manual, standby & forced manual
Tuning	Auto Tuning of PID parameters with High & Low overshoot Inhibition
Feed forward	Feed forward for SV/PV or disturbance variable
Alarm	Two alarm per channel
Alarm Types	Absolute high & low, deviation high, low or band, rate of change
Latching	Auto or manual latching, non-latching, event only
Programmer Specifications	
No. of Programmes	100 programmes can be store locally
Segment	25 segment for each programme
Segment type	Ramp, Dwell, Step, End, Wait
Minimum ramp rate	0.01 deg per hour
Data Logging	
Channels	4 input channels & 30 virtual channels (Math, Timer, Counter)
Memory	50 MB Onboard flash memory
Sample rate	8Hz parallel sampling for all channels
Data retention/Deletion	First in first out (FIFO) strategy
Data archiving	Through USB port and over Ethernet modbus communication
Communication	
Digital Communication	10/100baseT Ethernet Modbus
Software Specification	
1. PC based software for Configuration & application backup of controller	
2. PC based software for historical data archiving & analysis	
General Specification	
Dimension	96(H) X 96(W) MM
Front Panel Sealing	IP65
Power supply	100-230Vac +/-15%, 48-62Hz
Approvals	CE ,cUL listed


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