3200 SPECIFICATION

General

Line voltage:
90–264V 50–60 Hz
Switchmode power supply
Digital display:
4 LED 10mm (0.4in) digits,
green high brightness
Displaying:
Process temperature (PV) or
setpoint (SP) in: °C or °F
(Bar, PSI, Ph, rh displayed,
processed as °C)
Function/option mnemonics
Error messages
SP1/2 indicators (flashing)
Keypad:
3 tactile elastomeric keys
Range:
Sensor dependent: see 'Inputs'
Display range:
Normal: –250° to 3500°
Hi-res: –199.9° to 999.9°
Microcomputer: Intel 83C51
8 bit, 16k PROM, 0.25k RAM,
12 MHz. Data retention:
10 years unpowered

Environmental

– Approvals pending
Conformity testing Jan 93
Safety: UL873, VDE0411–1
CSA22.2/142–M1987
Protection:
Fascia NEMA 4X/IP65
EMC Emission:
EN50 081–1, VDE0871/78–B1
FCC Rules 15 s/part J, Class A
EMC Immunity: EN50 082–2/B
Ambient: 0–50°C (32–130°F)
Weight: 100g (3.5oz)
Mouldings: FR polycarbonate
Pack: Recyclable styrene/6

Control Characteristics

SP1 Autotuned PID parameters

SM = sensor maximum

bAnd	Proportional band/Gain or Hysteresis	0.1–(25%SM) °C/°F e.g. Type K: 0.1–300°C/548°F
inEt	Integral time/Reset	0.1–60 minutes or Off
dErt	Derivative time/Rate	1–200 seconds or Off
dAC	Deriv. approach control	0.5–5 × Proportional band
tyCt	Proportional cycle-time	0.1–81 seconds or On/Off

SP2 Operating modes and parameters

SP2A	Deviation alarms	High, low, band (out of limits) ±0-(25%SM) °C/°F from setpoint
	Full scale alarms	High, low. 0–100% sensor range
SP2b	Alarm output action	Latching or non-latching
	Sequence alarm action	Alarm off till PV reaches setpoint

Cool channel when cool strategy selected

bnd2	Cool Prop band/Gain	0.1–(25%SM) °C/°F or hysteresis
tyC2	Cool Prop cycle-time	0.1–81 sec linear or non-linear
SEb2	Heat-Cool deadband	±0–250°C/°F from setpoint
PL2	Cool max power limit	0–100% duty cycle

Manual controls

SP tP	Read SP1 output power	0–100% duty cycle
hAnd	Manual heat power	0–100% e.g. if sensor fails
PL1	Heat max power limit	0–100% duty cycle
PArk	Park mode	Temporarily turns output(s) off. A commissioning aid

Safety, calibration and data

hiSC	Full scale	0–100% sensor range
LoSC	Scale minimum	Including negative
SPAn	Sensor span (and zero)	±0–(25%SM) °C/°F
burn	Burn-out protection	Upscale or downscale
rEUd	SP1/2 output and	Fully configurable (invert)
rEUL	indicator modes	e.g. direct/reverse
ChEC	Control accuracy check	Variance, max, min to 0.1°C/°F
dAtA	Autotune tuning data	10 tuning cycle results

Inputs

Thermocouples – 9 types

Type	Sensor range			Linearity (±°C)
B	0 to 1800°C	32 to 3272°F	Pt-30%Rh/Pt-6%Rh	2.0*
E	0 to 600°C	32 to 1112°F	Chromel/Con	0.5
J	0 to 800°C	32 to 1472°F	Iron/Constantan	0.5
K	–50 to 1200°C	–58 to 2192°F	Chromel/Alumel	0.25*
L	0 to 800°C	32 to 1472°F	Fe/Konst	0.5
N	–50 to 1200°C	–58 to 2192°F	NiCroSil/NiSil	0.25*
R	0 to 1600°C	32 to 2912°F	Pt-13%Rh/Pt	2.0*
S	0 to 1600°C	32 to 2912°F	Pt-10%Rh/Pt	2.0*
T	–200 to 250°C	–273 to 482°F	Copper/Con	0.25*

(*): Linearity exceptions | B:5°(70°–500°C) K/N:1°>350°C R/S:5°<300°C T: 1°<–25°>150°C
Standards: IPTS 68/DIN 43710
CJC rejection: 20:1 (0.05°/°C) typical
External resistance: 100Ω maximum

Resistance thermometer

RTD-2 wire	Sensor range		Linearity
Pt100	–200 to 400°C	–273 to 752°F	±0.25°C <–100°C±0.5°C

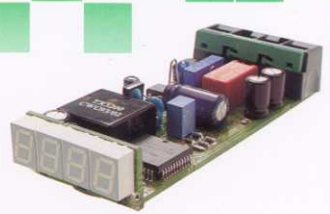
Standards: DIN 43760 (100Ω 0°C/138.5Ω 100°C Pt)
Bulb current: 0.2mA maximum

Linear process inputs

No.	0–20mV displays	4–20mV displays	Display range
1	0–100		0–400
2		0–100	–25–400
3	0–1000		0–3000
4		0–1000	–250–3000
5	0–2000		0–3000

Input mV range: –10 to 50mV
See "PIM Process Interface Module" for additional input/output options

3200 SPECIFICATION



Applicable to all inputs

SM = sensor maximum
Calibration accuracy:
±0.25%SM ±1°C
Linearity:
5–95% sensor range
Sampling frequency:
Input 10Hz, CJC 2 sec
Common mode rejection:
Negligible effect up to 140dB,
240V, 50–60Hz
Series mode rejection:
60dB, 50–60Hz
Temperature coefficient:
150 ppm/°C SM
Reference conditions:
22°C ±2°, rated voltage, after
15 mins setting time

Output devices (two)

Miniature power relay:
2A/250V~ resistive load
Form A/SPST (AgCdO)

SSd + –

Solid state relay drive:
To switch a remote SSR
5Vdc +0/–15% 10mA
non-isolated