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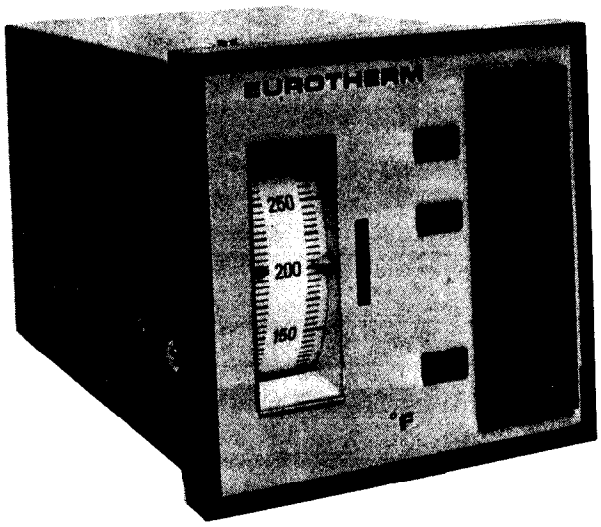
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EUROTHERM EUROTHERM



Analog Setpoint Potentiometric Temperature Controllers

MODEL 917

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- ☐ **High reliability — Solid state construction**
- ☐ **Precision control — Via 3-term control action (PID)**
- ☐ **Output stage power feedback — Corrects for line voltage changes**
- ☐ **Overshoot inhibition circuitry for fast start up without overshoot.**
- ☐ **Versatile — Plug-in output boards provide a wide range of interchangeable, isolated output drive conditions, as well as easy servicing**
- ☐ **5 year warranty**
- ☐ **Made in U.S.A.**

The Model 917 temperature control instrument is a precision analog setpoint, solid state, 3-term unit designed for industrial and laboratory applications.

Precision control is insured by the 3-term control action, unique circuitry to inhibit overshoot on start up or setpoint change and output stage power feedback to compensate for line voltage variations. Ruggedly constructed and physically housed in a 3.78" x 3.78" x 6" deep case, this unit affords maximum control capability in a minimum size package.

Controller inputs can be thermocouple, resistance thermometer or millivolt signals.

Thermocouple break protection and cold junction compensation are provided as standard on thermocouple input ranges.

Controls required for normal operation are accessible behind a hinged door on the instrument fascia.

Important instrument functions are monitored on the front panel by LED indicators.

Specifications

SET-POINT
Rotating drum calibrated over 9" for easy reading and settability

SET-POINT RESOLUTION
± 0.25% of span

INPUT SIGNAL
Thermocouple, RTD, or mV (8 mVDC minimum)

DEVIATION INDICATION
± 10% of span

CALIBRATION ACCURACY
± 0.5% of span

PROPORTIONAL BAND
Adjustable 1-10% standard, 2.5-25% optional

INTEGRAL (RESET)
Fixed 6 mins (.17 repeats/minute) standard, switched variable times optional

DERIVATIVE (RATE)
Fixed 1 min standard, switched variable time optional

OPERATING CONDITIONS
Temperature 0-50°C (32-122°F), Power supply 115VAC or 230VAC (field selectable) ± 15%, 49 to 62 Hz

STABILITY
Power Supply — less than 0.1% calibration shift for ± 15% variation from nominal supply voltage

Common Mode - 300 VAC sensor to ground maximum. Resulting error less than 0.1% of span

Temperature — drift typically less than 2 u V/°F or 0.1%/°F, which ever is greater.

MAXIMUM THERMOCOUPLE RESISTANCE
100 ohms (loop resistance)

POWER CONSUMPTION
5VA maximum

WEIGHT
3 lbs.

SIZE
3.78 x 3.78 inches — 6 inches deep

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Table 1
OUTPUT CODES

DESIGNATION	DESCRIPTION	APPLICATION
SCT	Slow Cycle Triac 2A, 240VAC Zero Crossing Fired	Time proportional contactors
ZCP	Zero Crossing SCR trigger pulses	Eurotherm SCR power packs and open stacks-Resistive loads
PAP	Phase Angle SCR trigger pulses	Eurotherm SCR power packs and open stacks-Inductive and temperature sensitive loads
0-5V (0-10V)	Isolated 0-5V dc analog output (10mA)	Eurotherm drivers and external analog input devices
4-20mA (1-5mA, 0-10mA)	Isolated 4-20mA analog output (12 Vdc max)	SCR trigger units, reactor control units, etc.
LGC	D.C. Logic output to drive solid state contactors.	Solid state contactors (3-32V dc)

DUAL OUTPUTS
(HEAT/COOL)
Example /SCT-SCT

HEAT CHANNEL	DESCRIPTION	APPLICATION
SCT	Slow Cycle Triac 2A, 240VAC Zero Crossing Fired	Time proportional contactors
ZCP	Zero Crossing SCR trigger pulses	Eurotherm SCR power packs and open stacks-Resistive loads
LGC	D.C. Logic output to drive solid state contactors.	Solid state contactors (3-32V dc)
COOL CHANNEL		
SCT	Slow Cycle Triac 2A, 240VAC Zero Crossing Fired	Solenoid valves (water) or fan contactors (air)

CYCLE TIME
Slow cycle outputs — approx. 20 seconds at 50% power — not adjustable

Fast cycle outputs — .2 seconds at 50% power — not adjustable

Table 2
INPUT CODES

DESIGNATION	INPUT SENSOR	DESIGNATION	INPUT SENSOR
B	Pt 30% Rh/Pt6% Rh Thermocouple	S	Pt 10% Rh/Pt Thermocouple
C	Hoskins Alloy W5% Re/W26% Re Thermocouple	T	Copper/Constantan Thermocouple
G1	Englehard Alloy W/W26% Re Thermocouple	E	Ni10% Ch/Constantan Thermocouple
G2	Hoskins Alloy W/26% Re Thermocouple	N	No cold junction compensation
J	Iron/Constantan Thermocouple	KP2	Platinel II Thermocouple
K	Chromel/Alumel Thermocouple	RTD	Resistance Temperature Detector (Resistance Thermometer)
R	Pt 13% Rh/Pt Thermocouple		

Table 3
SCALES

	PREFERRED SCALES TABLE — °C										
RANGE	J	K	T	R	S	B	C	G	KP2	RTD 3 & 4	SCALE DIVISON
0-100°C										X	1°
0-200°C	X	X	X								1°
0-300°C	X		X								2°
0-400°C	X	X	X							X	2°
0-600°C	X	X									5°
0-800°C	X	X									5°
0-1300°C		X							X		10°
0-1600°C				X	X						10°
0-1800°C						X					10°
0-2000°C							X	X			10°
-100 to + 100°C			X							X	1°

	PREFERRED SCALES TABLE — °F										
RANGE	J	K	T	R	S	B	C	G	KP2	RTD 3 & 4	SCALE DIVISON
32-200°F										X	1°
32-300°F			X								2°
32-400°F	X	X									2°
32-600°F	X		X								5°
32-800°F	X										5°
32-1200°F		X									10°
32-1400°F	X										10°
32-1600°F		X									10°
32-2400°F		X							X		10°
32-2900°F				X	X						10°
32-4000°F							X	X			20°
-150 To + 200°F										X	2°

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Table 4
PROPORTIONAL BAND

DESIGNATION	DESCRIPTION
P10	1-10% Adjustable Proportional Band
P25	2.5-25% Adjustable Proportional Band

NOTE:
When ordered without access door on front panel, proportional band potentiometer will be pre-set at maximum.

Table 5
3 - TERM AMPLIFIER BOARD

DESIGNATION	DESCRIPTION
FT	Fixed Time Constants — Standard; integral (reset) time fixed at 6 minutes and derivative (rate) time fixed at 1 minute
DVT	Digital Variable Time Constants — Optional; integral (reset) time adustable from 1/8 - 32 minutes (9 steps) with off position and derivative (rate) adjustable from 1/16 - 8 minutes (9 steps) with off position

Table 6
VOLTAGE INPUT

DESIGNATION	DESCRIPTION
115V	115 and 230 volts A.C. input
105V	105 and 210 volts A.C. input

Table 7
REAR TERMINALS

DESIGNATION	DESCRIPTION
S	Standard screw type terminals
X	Optional plug in connectors for 151/917 sleeve

NOTE:
If plug-in option (x) is selected, Mounting sleeve 151/917 must be ordered separately

Table 8
OPTIONS

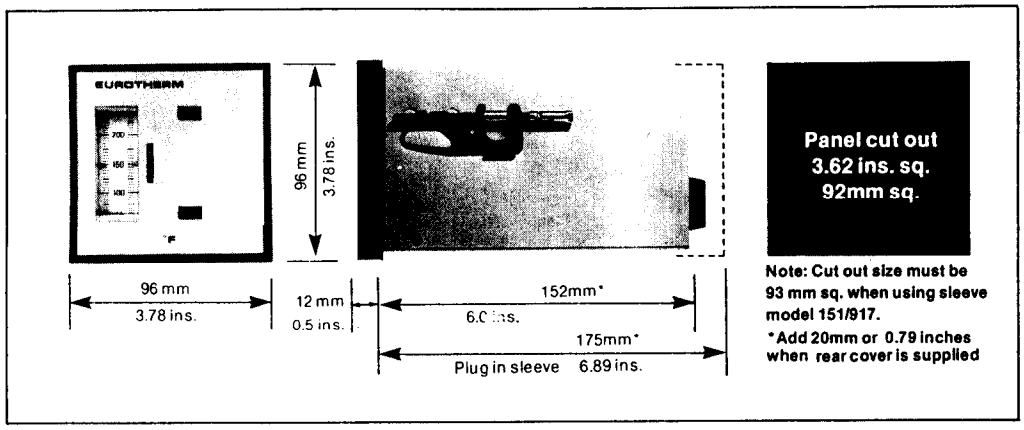
DESIGNATION	DESCRIPTION
A	Access door on instrument fascia for front adjustments
DL	Deviation Limit Alarm - adjustable from ± 1-10% of span above and below setpoint. 2A 240VAC - on-off action with contact open above and below setpoint.
LL	Low Limit Alarm - adjustable from 1 - 10% of span below setpoint - 2A, 240VAC - on-off action with contact open below setpoint
HL	High Limit Alarm - adjustable from 1 - 10% of span above setpoint - 2A, 240VAC - on-off action with contact open above setpoint.
RC	Rear terminal cover to shield electrical connections

STANDARD MILLIVOLT RANGE/SCALES			
RANGE	SCALE	WITHOUT CJC (N)	SCALE DIVISION
0-10mV	0-100%	X	1%
0-20mV	0-100%	X	1%
0-30mV	0-100%	X	1%
0-40mV	0-100%	X	1%
0-50mV	0-100%	X	1%

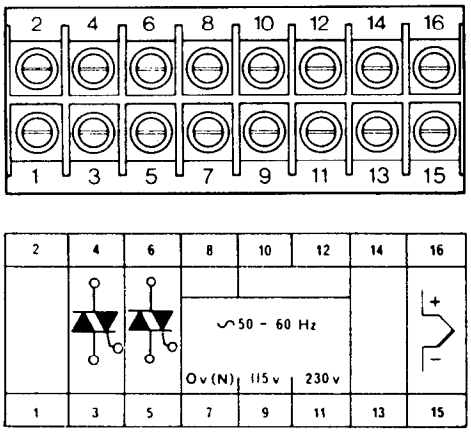
END ZONE CONTROLLERS	
SET POINT RANGE	PROPORTIONAL BAND
– 1 to + 1mV	1mV
– 2 to + 2mV	2mV
– 3 to + 3mV	3mV
– 5 to + 5mV	5mV
All Compatible with "Master Controller Type 917 with setpoint range of ten times the above "Half Range" and Prop. Band of 10%.	

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Installation & Dimensional Details



Rear Terminal Block



Ordering Code

DESCRIPTION	CODE
Analog Temp. Control	917
Outputs	See Table 1
Inputs	See Table 2
Scale/Range	See Table 3
Prop. Band	See Table 4
Amplifier	See Table 5
Voltage	See Table 6
Terminals	See Table 7
Options	See Table 8

917	SCT	J	32-800°F	P10	FT	115V	S	HL	A

PRODUCT CODE
OUTPUT
INPUT
SCALE/RANGE
PROP. BAND
AMPLIFIER
VOLTAGE
TERMINALS
OPTIONS

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A EUROTHERM INTERNATIONAL COMPANY
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