

ETR-3400 CONTROL SPECIFICATIONS

UNIVERSAL INPUT SELECTIONS

Display in temperature or engineering units

Input Set 1

- Input 1:** Thermocouple - J, K, T, E, B, R, S, N
RTD - PT 100 DIN, PT100 JIS
Current or Voltage - 4-20mA, 0-20mA, 0 - 1V,
0 - 5V, 1 - 5V and 0 - 10V
- Input 2:** Analog input for remote set point adjustment
4-20mA, 0-20mA, 0 - 1V, 0 - 5V, 1 - 5V
and 0 - 10V
- Input 3:** Second set point

Input Set 2

- Input 1:** Thermocouple - J, K, T, E, B, R, S, N
RTD - PT 100 DIN, PT100 JIS
Current or Voltage - 4-20mA, 0-20mA, 0 - 1V,
0 - 5V, 1 - 5V and 0 - 10V
- Input 2:** Input for Heater Break Alarm
- Input 3:** Second set point

CONTROL FEATURES

Temperature Range: Selectable

Set Point: Full range adjustable

Control Modes: Can be configured as:

- On/Off • Proportional (P) • Proportional with manual reset • Proportional/Integral (PI) • Proportional Derivative (PD) • Proportional/Integral/Derivative (PID)

Heating and Cooling Proportional Band:

0 - 900°F (0 - 482°C)

Integral (Reset): 0 - 1000 seconds

Derivative (Rate): 0 - 360 seconds

Ramp Rate: 0 - 99.9°F (0 - 55.5°C)/minute

Dwell: 0 - 9999 minutes

Anti-Reset (Wind-up): Inhibits integral action outside proportional band

Cooling: Adjustable dead band from
-199.9 - 199.9°F/-111.0 - 111.0°C

Manual Mode: Configurable or automatic transfer to open loop control should sensor no longer function

Heating or Cooling Cycle Time: .1 - 100 seconds

Sensor Break Protection: Configurable status of control and secondary outputs

Control Action: Selectable – Direct action for cooling, reverse action for heating

POWER

Supply Voltage: 90 - 264VAC, 50/60Hz;
11-28VAC/VDC optional

Consumption: Less than 5VA

Data Retention: 10 years (EEPROM)

OUTPUTS

Main output with 2 optional independent secondary outputs

Relay: SPST relay rated 2A, 240V maximum resistive load

Pulsed Voltage: 5V/30mA to drive SSR

Current: 4-20mA/0-20mA

Voltage: Isolated 1 - 5V/0 - 10V

Triac: 1A/240VAC

Secondary Outputs:

A1 Secondary Output: 5V/30mA to drive SSR

A2 Secondary Output:

Form A Relay - 2A/240VAC
Alarm Functions: Dwell Timer,
Deviation High/Low Alarm,
PV1 High/Low Alarm,
PV2 High/Low Alarm,
PV1 or PV2 High/Low Alarm.
PV1-PV2 High/Low Alarm,
Loop Break Alarm,
Sensor Break Alarm.

Alarm Mode: Normal, Latching, Hold, Latching/Hold.

Dwell Timer: 0 - 6553.5 minutes

Communications: RS-485, RS-232 Serial
Communications; 4-20mA/0-20mA, 1 - 5V/0 - 5V,
analog retransmission of process value

INDICATION

4 digit red .4" LED Process Value display

Selectable Decimal Placement: For normal or high resolution display. Example: 0000; 000.0; 00.00; or 0.000

°F/°C: Selectable with 2 LED indicators

Sample Rate: 10 samples/second

SPECIFICATIONS

Accuracy: $\pm .1\%$ of span, $\pm$ least significant digit

Control Stability: $\pm 0.15\%$ (typical) of full scale

Cold Junction Compensation: 0.1°C/°C ambient

External Resistance: 100 ohms, maximum

Common Mode Rejection: 120dB

Normal Mode Rejection: 60dB

Input Impedance: 10M ohms

Operating Temperature for Rated Accuracy:
14 - 122°F (-10 - 50°C)

Humidity: 0 - 90% RH (non-condensing)

Insulation: 20M ohm minimum (500VDC)

Breakdown: 2000VAC, 50/60Hz, 1 minute

Vibration: 10 - 55Hz, amplitude 1mm

Shock: 200m/s² (20 grams)

Dimensions:

H – $1\frac{5}{16}$ " (24mm)

W – $1\frac{7}{8}$ " (48mm)

D – $4\frac{5}{16}$ " (109mm)

Depth behind panel – $3\frac{3}{8}$ " (76mm)

Panel Cutout – $\frac{7}{8}$ " x $1\frac{25}{32}$ " (22mm x 45mm)

Weight – 4 oz. (113 grams)