

Temperature Regulating Controller Designed To Meet Safety Standards

The Watlow Series 146 is a DIN rail mount, regulating temperature controller with a thermocouple or RTD input. The DIN rail mounting provides for quick and easy installation with the use of simple hand tools. The controller may also be flush mounted.

The Series 146 is designed to meet the needs of a wide range of safety applications. Factory selectable options include high or low control mode with either manual or automatic reset on power loss.

The Series 146 has an LED indicator for output status and can be ordered with an integral adjustable set point or a fixed set point.



Features and Benefits

DIN rail mount

- Provides compact, cost-effective control

Sensor break protection

- De-energizes system for safety

FM Limit control

- Assures machinery and personal safety

Three-year warranty

- Assures Watlow Control Confidence®

Custom temperature ranges available

- Designed to your application's specific criteria

PROHEAT

Excellence in distribution

<http://www.proheatinc.com>

117 East Adams Street

P.O. Box 48

LaGrange, KY 40031

Phone (502) 222-1402 Fax (502) 222-0714



Specifications—2089

Control Mode

- High or low limit, factory selectable
- Manual or automatic reset on power loss, factory selectable
- Latching alarm with manual reset on over or under temperature
- Internal and/or customer supplied external reset switch

Operator Interface

- LED indication of output status
- Dial scale calibrated to compensate for sensor non-linearities
- Integral set point
 - Dual temperature scale (°C and °F)
- Fixed set point
 - Manufactured to specified value

Input

- Thermocouple or platinum RTD available
- Thermocouple with automatic cold junction compensation
- Thermocouple may be isolated or grounded
- Thermocouple and RTD break protection de-energizes output
- 2- or 3-wire RTD input, 100Ω, 500Ω, or 1000Ω @ 0°C calibrated for 0.003850Ω/Ω°C curve

Output

- Electromechanical relay, 8A, Form C, SPDT: 8A @ 240V~ resistive, 8A @ 28V=(dc) resistive, 275VA pilot duty rated

Accuracy

Adjustable Set Point:

- Calibration accuracy: ±1% of span, at 25°C ± 3°C (77°F ± 5°F) ambient and rated line voltage ± 1%
- Set point accuracy: ± 3% of dial scale
- Accuracy span: 540°C (1000°F) minimum

Fixed Set Point:

- Calibration accuracy: ±6°C/±10°F of setting, at 25°C ± 3°C (77°F ± 5°F) ambient and rated line voltage ± 1%



Temperature Stability

- Thermocouple: Typically 9μV/°C ambient (5μV/°F ambient) input referenced
- RTD: Typically 0.2°C/°C ambient (0.2°F/°F ambient)

Voltage Stability

- ±0.01% of span (min span of 540°C or 1000°F) per % of rated line voltage

Agency Approvals

- CE: EN61010 - Safety
EN61326 - Industrial Immunity, Class B Emissions
Installation Category 2, Pollution Degree 2
-  873, File #E43684
-  to C22.2 No. 24, File #43684
- Approved for use in commercial cooking applications
- FM Class 3545, File J.I. 3007307

Terminals

- Captive screw, cage clamp connection, 4 mm (0.155 in.) max. width screwdriver blade, 30 to 14-gauge wire

Mounting

- DIN rail, DIN EN50022, 35 mm x 7.5 mm
- Sub-panel flush mounting

Power

- 24V~, +10%/-15%, 50/60 Hz
- 120V~, +10%/-15%, 50/60 Hz
- 230V~ to 240~, +10%/-15%, 50/60 Hz
- 10VA max power

Operating Environment

- 0 to 55°C (32 to 131°F)
- 0 to 90% RH, non-condensing
- Storage temperature: -20 to 85°C (-4 to 185°F)

Dimensions

- Width: 60 mm (2.28 in.)
- Height: 115 mm (4.45 in.)
- Depth: 100 mm (3.89 in.)

Weight



- 0.3kg (0.7 lb.)

Ordering Information—2012

	1	4	6	-		-		0	0
Series 146 DIN rail mount, temperature limit, electromechanical relay output									
Output Type E = Electromechanical relay, 8A, Form C									
Line Voltage 1 = 120V~ 2 = 230V~ to 240V~ 3 = 24V~									
Input and Range									
Type E 619 = 0 to 799°C (32 to 1470°F)									
Type J 601 = 0 to 315°C (32 to 600°F) 602 = 0 to 750°C (32 to 1382°F) 615 = Fixed at 315°C (600°F) 618 = -17 to 93°C (0 to 200°F) 620 = 149 to 427°C (300 to 800°F) 623 = 43 to 54°C (110 to 130°F) 625 = 121 to 221°C (250 to 430°F)									
Type K 603 = 0 to 1250°C (32 to 2282°F) 611 = 0 to 600°C (32 to 1112°F) 626 = 16 to 149°C (60 to 300°F) 627 = 0 to 66°C (32 to 150°F) 628 = -17 to 315°C (0 to 600°F)									
Type T 629 = -200 to 350°C (-328 to 662°F) 632 = Fixed at -75°C (-103°F)									
RTD 101 = -73 to 600°C (-100 to 1112°F) (100Ω) 104 = -73 to 600°C (-100 to 1112°F) (1000Ω) 105 = 0 to 80°C (32 to 176°F) 106 = Fixed at 200°C (392°F) 107 = Fixed at 350°C (662°F) 108 = Fixed at 110°C (230°F) 109 = Fixed at 150°C (302°F) 110 = Fixed at 120°C (248°F) 111 = Fixed at 250°C (482°F)									
Limit Mode 1 = High limit, manual reset on power loss 2 = Low limit, manual reset on power loss 3 = High limit, automatic reset on power loss 4 = Low limit, automatic reset on power loss									
Remote Options 0 = Regulating control, integral setpot N = Regulating control, no setpot (customer provided) S = Regulating control, remote setpot with remote reset P = Regulating control, remote setpot									
Note: Electromechanical relays are warranted for 100,000 closures only.									

Your Authorized Watlow Distributor is:

Note: Specifications subject to change without notice.

UL® ,  are registered trademarks of Underwriter's Laboratories, Inc.