



Series 142

User's Manual



Safety High Limit or On-Off Heat Controller



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0600-0023-0000 Rev E
 March 2002
 Supersedes
 0600-0023-0000 Rev D

\$5.00
 Made in the U.S.A.

General Description

The Watlow Series 142 Safety Limit is a compact, environmentally protected safety limit or temperature controller. The limit has a single thermocouple input and is available in several common ranges.

The Series 142 Safety Limit has a single mechanical relay output, and operates as a high limit, latching control with manual and/or auto-power reset. Fixed set points are available.

The Series 142 Safety Limit controller is ideally suited for limit applications requiring tamper-proof operation, agency approvals and immunity to hostile environments.

- The factory-fixed set point cannot be altered by operator action or neglect.
- Agency approvals ensure compliance with recognized standards.
- Epoxy potting makes the Series 142 resistant to environments with vibration or humid/corrosive conditions.

Compact size and sub-panel mounting make the Series 142 readily adaptable to many applications. Its single, factory-fixed set point thermocouple input and Form C, 3 amp electromechanical relay output provides simplicity and reliability for many applications. Sensor break protection ensures fail-safe process shut down upon input failure.


Safety Information


We use note, caution and warning symbols throughout this manual to draw your attention to important operational and safety information.

A “NOTE” marks a short message to alert you to an important detail.

A “CAUTION” safety alert appears with information that is important for protecting your equipment and performance. Be especially careful to read and follow all cautions that apply to your application.

A “WARNING” safety alert appears with information that is important for protecting you, others and equipment from damage. Pay very close attention to all warnings that apply to your application.

The safety alert symbol, , (an exclamation point in a triangle) precedes a general CAUTION or WARNING statement.

The electrical hazard symbol, , (a lightning bolt in a triangle) precedes an electric shock hazard CAUTION or WARNING safety statement.

Installation

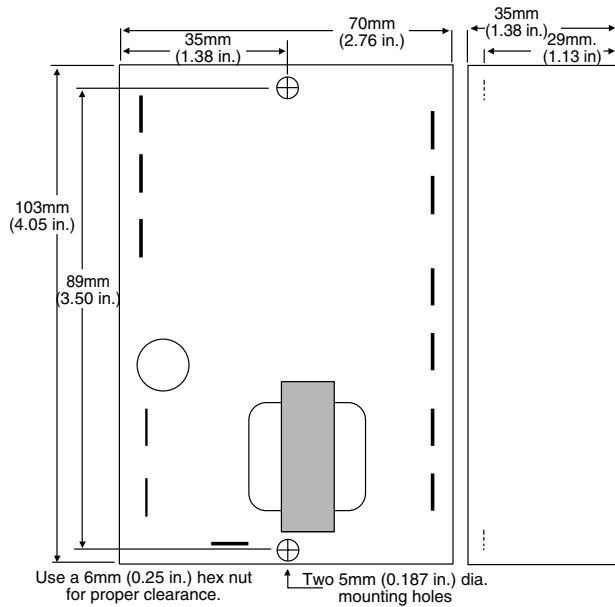


Figure 2a — Series 142 dimensions.

Installation Procedure

1. Drill two 5mm (0.187 in.) diameter holes in the desired panel location.
2. Mount the unit with two 6-32 screws, 6mm (0.25 in.) hex nut and #6 internal tooth lock washer.
3. Use the correct thermocouple type per the model number on the unit sticker. See the side of the case.
 - Use correct thermocouple polarity. Red is negative.
 - Insulate the thermocouple mounting from the mounting surface to prevent heat migration input errors.
 - Thermocouple leads should be twisted pair wire and routed separately from any other lines.
 - In electrically-noisy environments (heavy switching contactors, motors, solenoids, etc.), use shielded thermocouple lead wire with the shield connected at the sensor end only.
 - Use a separate thermocouple to maintain the limit function of this controller; do not parallel thermocouple input from the primary controller.
4. All wiring and fusing must conform to the National Electric Code (NEC) NFPA70 and any other locally applicable codes.
5. Fuse the independent load voltage on the L1 (hot) side and connect it to the common (C) side of the relay.

NOTE: For applications where the CE mark is required, all quick connect and spade terminals must be pre-insulated to meet IEC 730 specifications.

Units With Remote Setpot Assembly

1. Drill two 51mm (2.0 in.) diameter holes in the desired remote setpot assembly location. See Figure 2b.
2. Using the dial scale as a location template, center and mark all four mounting holes on the dial scale with a center punch.
3. For bolted dial scale assembly, drill four 3mm (0.125 in.) diameter clearance holes. If you are using a screw assembly, use a tap drill. Tap drill sizes used are:

Tap Drill Size	Screw/Thread Size
#44 - 2mm dia. (0.086 in.)	#4.36
#43 - 2mm dia. (0.089 in.)	#4.40
#42 - 2mm dia. (0.093 in.)	#4.48

4. Drill four 5mm (0.189 in.) diameter holes in desired panel location. See Figure 2b.
5. Mount the Series 142 with four screws.
6. Connect sensor, load and remote setpot assembly per Wiring Diagram. See the wiring pages.

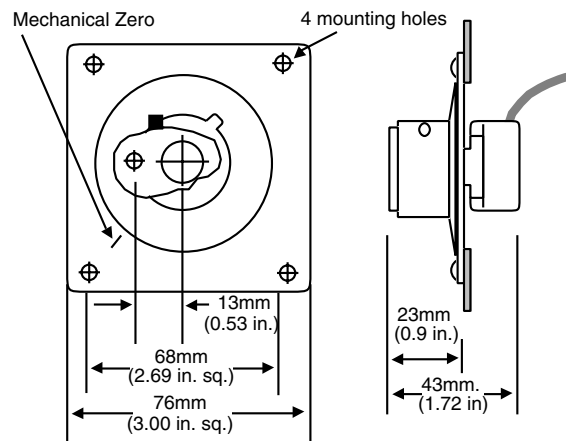


Figure 2b — Setpot dimensions and mechanical zero location.

Dial Scale Alignment to Mechanical Zero

1. Turn the dial scale knob completely counterclockwise (to mechanical zero).
2. If the “Indicator” line on the setpot knob skirt, and “Mechanical Zero” (represented by a small line beyond the low end of the scale) are not aligned, loosen both set screws on the setpot knob, and rotate the knob until both lines meet.
3. Tighten both set screws.

Wiring

NOTE: All terminals are 4mm (1/4 in.) quick connects.

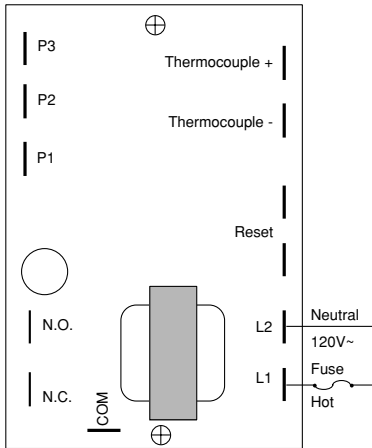


Figure 3a — 120V~ power wiring (142A - 1_00).

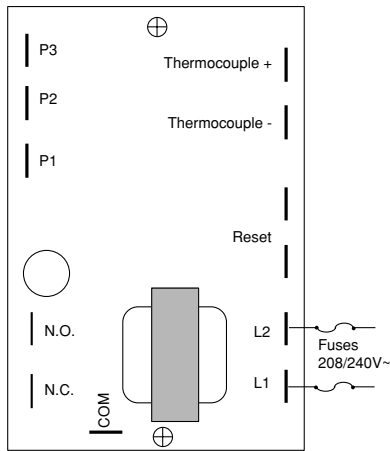


Figure 3b — 208/240V~ power wiring (142A - 2_00).

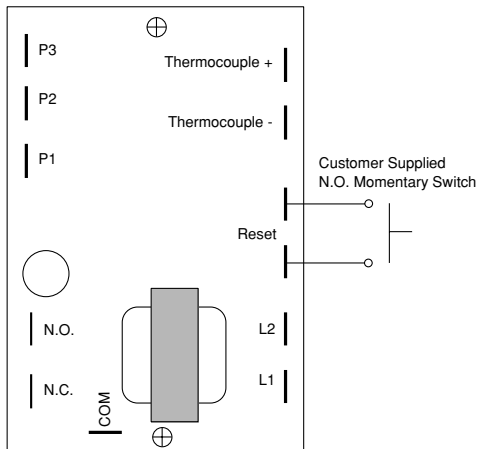


Figure 3c — Reset switch.

NOTE: Jumping the reset terminals does not convert from limit to an on-off control mode.

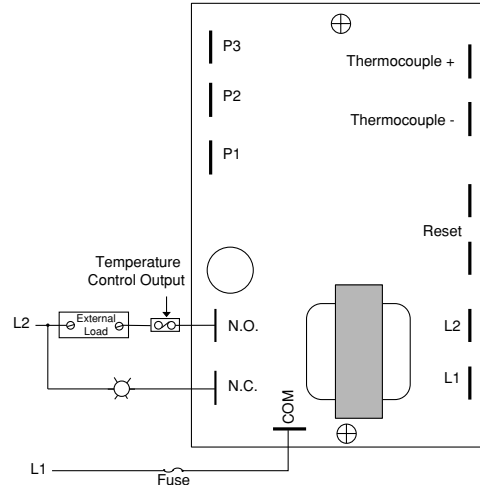


Figure 3d — 3A mechanical relay wiring.

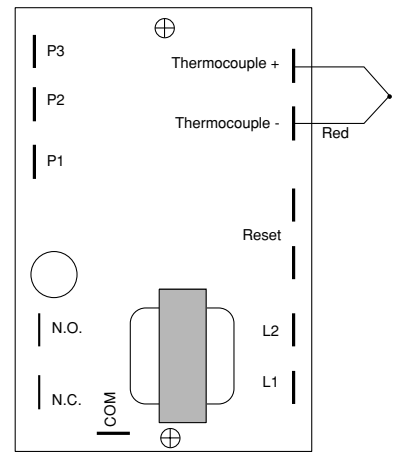


Figure 3e — Thermocouple wiring.

NOTE: Extension wire for thermocouples must be of the same alloy as the thermocouple itself to limit errors.

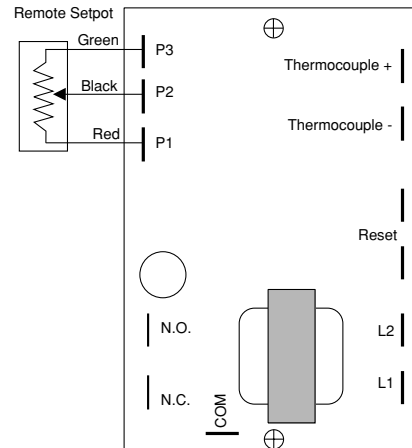


Figure 3f — Remote setpot (142A - 2_00).

System Wiring Example

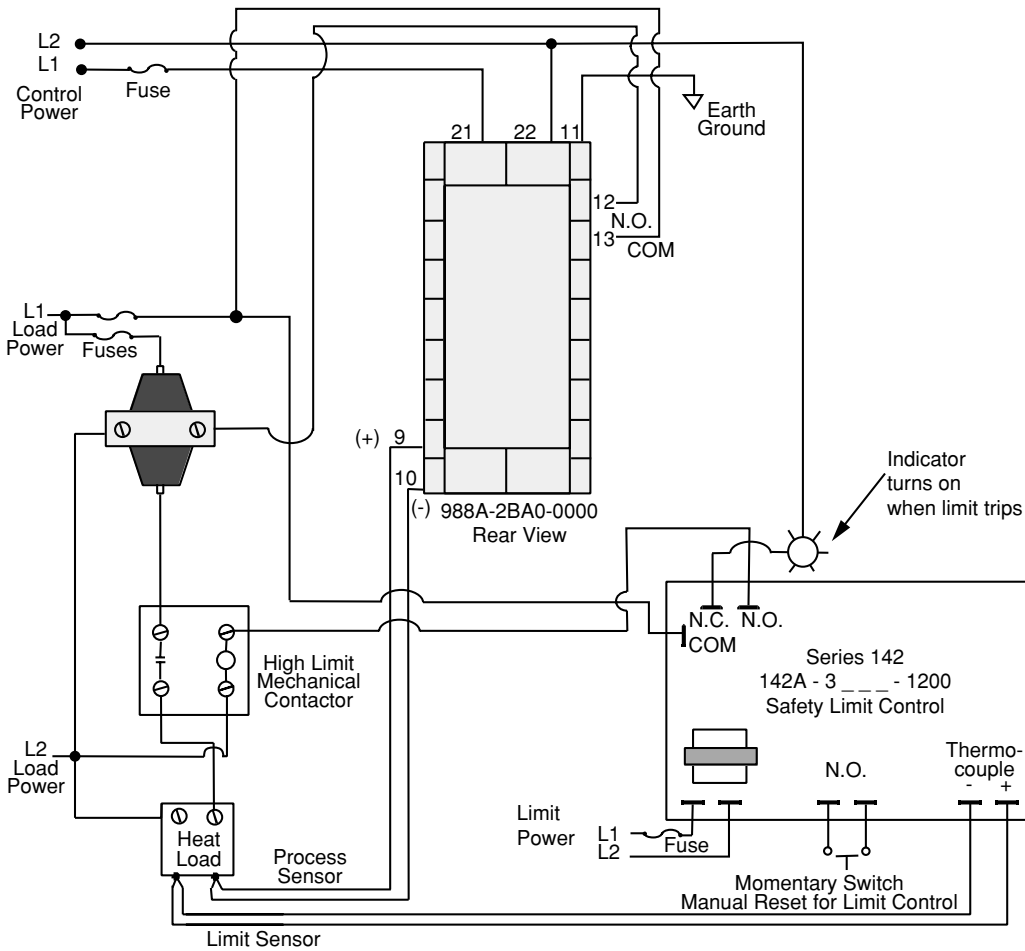


Figure 4 — System wiring example.



WARNING:

Install high or low temperature limit control protection in systems where an overtemperature fault condition could present a fire hazard or other hazard. Failure to install temperature limit control protection where a potential hazard exists could result in damage to equipment and property, and injury or death to personnel.



CAUTION:

Watlow mercury relay loads must have a unity power factor. For RESISTIVE LOADS ONLY.

Specifications

(2072)




Limit Control Mode

- High limit control
- Latched manual reset with $\pm 1.7^{\circ}\text{C}$ (3°F) hysteresis
- Can only be reset when process temperature drops below limit set point. Terminals are provided for remote reset in the event of an overtemperature condition. (Reset switch supplied by user.)

On-off Temperature Control Mode

- Off — when process temperature exceeds factory-fixed or remote adjustable set point
- On — when process temperature is less than factory-fixed or remote adjustable set point
- Hysteresis (switching differential) $\pm 1.7^{\circ}\text{C}$ (3°F) nominal

Agency Approvals

-  and , File #E43684
197 Commercial Cooking Appliances
873 Temperature Indicating and Regulating Equipment
991 Test for Safety Related Controls Employing Solid State Devices
-  #C3236001 approved, Gas Appliance Thermostat, ANSI Z21.23
- CE 89/336/EEC Electromagnetic Compatibility Directive EN61326, Immunity, Class B Emissions
- CE 73/23/EEC Low Voltage Directive EN60730-1, EN60730-2-9, Safety

Operator Interface

- Non-adjustable, factory-fixed or remote adjustable set point

Remote Set Point

- Dial scale calibrated to compensate for sensor non-linearity
- Dual $^{\circ}\text{F}/^{\circ}\text{C}$ scales

Accuracy

Adjustable Set Point

- Calibration accuracy: $\pm 1\%$ of span, at $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ ($77^{\circ}\text{F} \pm 5^{\circ}\text{F}$) ambient and rated line voltage $\pm 1\%$
- Set point accuracy: $\pm 3\%$ of dial scale
- Accuracy span: 540°C (1000°F) minimum

Fixed Set Point

- Calibration accuracy: $\pm 6^{\circ}\text{C} \pm 10^{\circ}\text{F}$ of setting, at $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ ($77^{\circ}\text{F} \pm 5^{\circ}\text{F}$) ambient and rated line voltage $\pm 1\%$

Thermocouple Stability

- Thermocouple: Typically $9\mu\text{V}/^{\circ}\text{C}$ ambient ($\pm 5\mu\text{V}/^{\circ}\text{F}$ ambient) input referenced
- RTD: Typically $0.2^{\circ}\text{C}/^{\circ}\text{C}$ ambient ($0.2^{\circ}\text{F}/^{\circ}\text{F}$ ambient)

Voltage Stability

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

Thermocouple Input

- Grounded or ungrounded Type E, J, K or T. Sensor break protection de-energizes output.
- Factory-set, thermocouple ranges

Output

- Electromechanical relay¹, SPDT, 3A @ 120/240V~ or 3A @ 30V= (dc), Form C, with RC suppression on on-off temperature controller version. Off-state output impedance is $20\text{k}\Omega$ with RC suppression.

Output Relay Status Upon Power Restoration

(Assuming process temperature is not above set point.)

- Auto reset: Output relay automatically re-energizes
- Manual reset: Manual reset is required to re-energize output relay

Line Voltage/Power

- 120V~, $\pm 10\%$; (108-132V~), 50/60Hz, $\pm 5\%$
- 208/240V~, $\pm 10\%$; (187-264V~), 50/60Hz, $\pm 5\%$
- Power consumption 4VA maximum

Operating Environment

- 0 to 65°C (32 to 149°F)
- 0 to 90% RH, non-condensing

Storage Temperature

- -40 to 85°C (-40 to 185°F)

Terminals

- 1/4 inch quick connect lugs (spade/ appliance)

Dimensions

Controller

- | | | |
|---------------------|--------|-------------|
| • Length | 102mm | (4 in.) |
| • Width | 70mm | (2.8 in.) |
| • Height | 103mm | (4.05 in.) |
| • Controller Weight | 0.36kg | (0.79 lb.) |
| • Shipping Weight | 0.57kg | (1.25 lbs.) |

Set Point Assembly

- | | | |
|-----------------------|--------|-------------|
| • Dial Scale | 76mm | (3 in. sq.) |
| • Pot Depth Behind | 25mm | (1.0 in.) |
| • Knob Depth in Front | 31mm | (1.2 in.) |
| • Lead Length | 610mm | (24 in.) |
| • Weight | 0.09kg | (0.2 lb.) |

¹Electromechanical relays are warranted for 100,000 closures only.

UL® is a registered trademark of Underwriter's Laboratories, Inc.

Note: Specifications subject to change without notice.

Ordering Information

(2071)

To order, complete the code number
to the right with the information below:

1 4 2 A - - - 0 0

Series 142 = Temperature safety limit,
limit, latching 3A relay, environmentally sealed
controller, or basic on-off temperature controller

Output Type

A = Electromechanical relay¹, Form C, 3A, with RC
suppression on on-off temperature controller, without
contact suppression on limit controller

Set Point

2 = Remote/Adjustable²
3 = Fixed (See below for available factory-fixed set points)

Input (Thermocouple)

ANSI Type E

669 = 110°C (230°F)	679 = 185°C (365°F)	682 = 302°C (575°F)
685 = 129°C (265°F)	684 = 232°C (450°F)	664 = 566°C (1050°F)
670 = 150°C (302°F)	675 = 260°C (500°F)	
668 = 155°C (311°F)	678 = 296°C (565°F)	

ANSI Type J

706 = 0 to 315°C (32 to 600°F)	603 ³ = 275°F (135°C)	617 = 316°C (600°F)
626 = 10°C (50°F)	604 ³ = 300°F (149°C)	618 = 329°C (625°F)
718 = 16°C (61°F)	605 ³ = 325°F (163°C)	693 = 343°C (650°F)
653 = 46°C (115°F)	606 ³ = 350°F (177°C)	620 = 357°C (675°F)
666 = 63°C (145°F)	707 = 360°F (182°C)	621 = 371°C (700°F)
686 = 65°C (149°F)	607 ³ = 375°F (191°C)	622 = 385°C (725°F)
609 ³ = 68°C (155°F)	608 ³ = 400°F (204°C)	623 = 399°C (750°F)
681 = 79°C (175°F)	699 ³ = 425°F (218°C)	624 = 413°C (775°F)
672 = 85°C (185°F)	689 = 444°F (229°C)	625 = 427°C (800°F)
600 ³ = 93°C (200°F)	704 = 465°F (240°C)	627 = 454°C (850°F)
688 = 102°C (215°F)	698 ³ = 450°F (232°C)	628 = 468°C (875°F)
601 ³ = 107°C (225°F)	612 ³ = 475°F (246°C)	696 = 482°C (900°F)
719 = 110°C (230°F)	613 ³ = 500°F (260°C)	630 = 496°C (925°F)
602 ³ = 121°C (250°F)	614 = 525°F (274°C)	631 = 510°C (950°F)
715 = 129°C (265°F)	615 = 550°F (288°C)	632 = 524°C (975°F)
	616 = 575°F (302°C)	633 = 538°C (1000°F)

ANSI Type K

716 = 50°C (122°F)	673 = 648°C (1198°F)	649 = 982°C (1800°F)
711 = 52°C (125°F)	637 = 649°C (1200°F)	650 = 1010°C (1850°F)
125 = 125°C (257°F)	638 = 677°C (1250°F)	651 = 1038°C (1900°F)
619 = 149°C (300°F)	639 = 704°C (1300°F)	652 = 1066°C (1950°F)
667 = 238°C (460°F)	640 = 732°C (1350°F)	692 = 1093°C (2000°F)
671 = 288°C (550°F)	687 = 750°C (1382°F)	654 = 1121°C (2050°F)
695 = 300°C (572°F)	717 = 399°C (750°F)	655 = 1149°C (2100°F)
690 = 315°C (600°F)	641 = 760°C (1400°F)	656 = 1177°C (2150°F)
674 = 700°C (700°F)	642 = 788°C (1450°F)	657 = 1204°C (2200°F)
677 = 420°C (788°F)	643 = 816°C (1500°F)	658 = 1232°C (2250°F)
629 = 427°C (800°F)	644 = 843°C (1550°F)	659 = 1260°C (2300°F)
691 = 468°C (875°F)	645 = 871°C (1600°F)	660 = 1288°C (2350°F)
634 = 565°C (1050°F)	646 = 899°C (1650°F)	661 ⁴ = 1316°C (2400°F)
635 = 593°C (1100°F)	647 = 927°C (1700°F)	662 ⁴ = 1343°C (2450°F)
636 = 621°C (1150°F)	648 = 954°C (1750°F)	663 ⁴ = 1371°C (2500°F)

ANSI Type T

708 = -20°C (-4°F)	694 = 135°C (275°F)
705 = -200 to 350°C (-328 to 662°F)	712 = 175°C (347°F)
680 = 16°C (60°F)	713 = 200°C (392°F)
714 = 79°C (175°F)	710 = 250°C (482°F)

Line Voltage/Power

1 = 120V~
2 = 208/240V~

Control Operation

2 = **High Limit Control**—Manual reset on power loss and overtemperature
3 = **High Limit Control**—Auto reset on power loss/manual reset on
overtemperature
4 = **Temperature Control**—on-off heat

1 Electromechanical relays war-
ranted for 100,000 closures
only.

2 User selectable range. Consult
factory for details. Setpot
required, sold separately.

3 CSA_{US} Gas Appliance
Thermostat approved.

4 Not within calibration toler-
ance range per ANSI circular
MC96.1.

Note: User documentation may
be available in French, German,
Spanish, Italian, and Dutch, as
well as English. Check Watlow's
website (www.watlow.com/) for
availability. Specify language at
time of order.

Declaration of Conformity

Series 142

WATLOW Winona, Inc.

1241 Bundy Boulevard

Winona, Minnesota 55987 USA



Declares that the following product:

English

Designation: Series 142
Model Numbers: 142A – (2 or 3)(600 to 999) – (1 or 2)(1, 2, 3 or 4) (any two letters or numbers.)
Classification: Temperature Limit Control, Installation Category II, Pollution degree II
Rated Voltage: 120 or 208/240 V~ (ac)
Rated Frequency: 50 or 60 Hz
Rated Power Consumption: 6 VA maximum

Meets the essential requirements of the following European Union Directives by using the relevant standards show below to indicate compliance.

89/336/EEC Electromagnetic Compatibility Directive

EN 61326:1997 With A1:1998 – Electrical equipment for measurement, control and laboratory use – EMC requirements (Industrial Immunity, Class A Emissions).

EN 61000-4-2:1996 With A1, 1998 – Electrostatic Discharge Immunity
EN 61000-4-3:1997 – Radiated Field Immunity
EN 61000-4-4:1995 – Electrical Fast-Transient / Burst Immunity
EN 61000-4-5:1995 With A1, 1996 – Surge Immunity
EN 61000-4-6:1996 – Conducted Immunity
EN 61000-4-11:1994 Voltage Dips, Short Interruptions and Voltage Variations Immunity
EN 61000-3-2:1995 With A1-3:1999 – Harmonic Current Emissions
EN 61000-3-3:1995 With A1:1998 – Voltage Fluctuations and Flicker

73/23/EEC Low-Voltage Directive

EN 60730-1: 1993 Automatic electrical controls for household and similar use, Part 1: General requirements:

EN 60730-2-9: 1995 Automatic electrical controls for household and similar use, Part 2; Particular requirements Section 2.9 Temperature sensing controls

déclare que le produit suivant :

Français

Désignation : Séries 142
Numéros de modèles : 142A – (2 ou 3)(600 à 999) – (1 ou 2)(1, 2, 3 ou 4) (N'importe quelle combinaison de deux lettres ou chiffres)
Classification : Régulation de température, Catégorie d'installation II, Degré de pollution 2
Tension nominale : 120 ou 208/240 V~ (c.a.)
Fréquence nominale : 50 ou 60 Hz
Consommation d'alimentation nominale : 6 VA maximum

Répond aux normes essentielles des directives suivantes de l'Union européenne en utilisant les standards normalisés ci-dessous qui expliquent les normes auxquelles répondre :

Directive 89/336/CEE sur la compatibilité électromagnétique

EN 61326:1997 avec A1 :1998 – Matériel électrique destiné à l'étalonnage, au contrôle et à l'utilisation en laboratoire – Exigences CEM (Immunité industrielle, Émissions de catégorie A).

EN 61000-4-2:1996 Avec A1, 1998 – Immunité aux décharges électrostatiques
EN 61000-4-3:1997 – Immunité aux champs de radiation
EN 61000-4-4:1995 – Immunité contre les surtensions électriques rapides/ Rafale
EN 61000-4-5:1995 avec A1, 1996 – Immunité contre les surtensions
EN 61000-4-6:1996 – Immunité conduite
EN 61000-4-11:1994 Immunité contre les écarts de tension, interruptions courtes et variations de tension
EN 61000-3-2:1995 avec A1-3 :1999 – Émissions de courant harmoniques
EN 61000-3-3:1995 avec A1 :1998 – Fluctuations et vacillements de tension

Directive 73/23/CEE sur les basses tensions

EN 60730-1 : 1993 Commandes électriques automatiques à usage domestique et similaire, Partie 1: Exigences générales

EN 60730-2-9 : 1995 Commandes électriques automatiques à usage domestique et similaire, Partie 2: Exigences particulières, Section 2.9 Commandes de détection de la température

(2210)

Erklärt, dass das folgende Produkt:

Deutsch

Bezeichnung: Serie 142
Modell-Nummern: 142A – (2 oder 3)(600 bis 999) – (1 oder 2)(1, 2, 3 oder 4) - (Beliebige zwei Ziffern oder Buchstaben)
Klassifikation: Temperaturregler, Installationskategorie II, Verschmutzungsgrad 2
Nennspannung: 120 oder 208/240 V~ (ac)
Nennfrequenz: 50 oder 60 Hz
Nennstromverbrauch: Max. 6 VA

Erfüllt die wichtigsten Normen der folgenden Anweisung(en) der Europäischen Union unter Verwendung des wichtigsten Abschnitts bzw. der wichtigsten Abschnitte die unten zur Befolgung aufgezeigt werden.

89/336/EEC Elektromagnetische Kompatibilitätsrichtlinie

EN 61326:1997 mit A1:1998 – Elektrisches Gerät für Messung, Kontrolle und Laborgebrauch – EMV-Anforderungen (Störfestigkeit Industriebereich, Klasse A Emissionen)

EN 61000-4-2:1996 mit A1, 1998 – Störfestigkeit gegen elektronische Entladung
EN 61000-4-3:1997 – Störfestigkeit gegen Strahlungsfelder
EN 61000-4-4:1995 – Störfestigkeit gegen schnelle Stöße/Burst
EN 61000-4-5:1995 mit A1, 1996 – Störfestigkeit gegen Überspannung
EN 61000-4-6:1996 – Geleitete Störfestigkeit
EN 61000-4-11:1994 Störfestigkeit gegen Spannungsabfall, kurze Unterbrechungen und Spannungsschwankungen
EN 61000-3-2:1995 mit A1-3:1999 – Harmonische Stromemissionen
EN 61000-3-3:1995 mit A1:1998 – Spannungsfuktationen und Flimmern
EN 61000-3-3: 1995 Grenzen der Spannungsschwankungen und Flimmern

73/23/EEC Niederspannungsrichtlinie

EN 60730-1: 1993 Automatische elektrische Regelsysteme für de Haushalt und ähnlichen Einsatz, Teil 1: Allgemeine Richtlinien

EN 60730-2-9: 1995 Automatische elektrische Regelsysteme für den Haushalt und ähnlichen Einsatz, Teil 2: Spezifische Richtlinien Abschnitt 2.9, Temperaturregelsysteme

Declara que el producto siguiente:

Español

Designación: Serie 142
Números de modelo: 142A – (2 o 3)(600 a 999) – (1 o 2)(1, 2, 3 o 4) - (Cualesquiera dos letras o números)
Clasificación: Control de temperatura, Categoría de instalación II, Grado de contaminación 2
Tensión nominal: 120 o 208/240 V~ (CA)
Frecuencia nominal: 50 o 60 Hz
Consumo nominal de energía: 6 VA máximo

Cumple con los requisitos esenciales de las siguientes Directrices de la Unión Europea mediante el uso de las normas aplicables que se muestran a continuación para indicar su conformidad.

89/336/EEC Directriz de compatibilidad electromagnética

EN 61326:1997 CON A1:1998.– Equipo eléctrico para medición, control y uso en laboratorio – Requisitos EMC (Inmunidad industrial, Emisiones Clase A).

EN 61000-4-2:1996 con A1, 1998 – Inmunidad a descarga electrostática
EN 61000-4-3:1997 – Inmunidad a campo radiado
EN 61000-4-4:1995 – Inmunidad a incremento repentino/rápidas fluctuaciones eléctricas transitorias
EN 61000-4-5:1995 con A1, 1996 – Inmunidad a picos de voltaje o corriente
EN 61000-4-6:1996 – Inmunidad por conducción
EN 61000-4-11:1994 Inmunidad a caídas de voltaje, variaciones y pequeñas interrupciones de voltaje
EN 61000-3-2:1995 con A1-3:1999 – Emisiones de corriente armónica
EN 61000-3-3:1995 con A1:1998 – Fluctuaciones de voltaje y centelleo.

73/23/EEC Directiva de Baja Tensión

EN 60730-1: 1993 Controles eléctricos automáticos para electrodomésticos y aparatos de uso similar, Parte 1: Requerimientos generales

EN 60730-2-9: 1995 Controles eléctricos automáticos para electrodomésticos y aparatos de uso similar, Parte 2: Requerimientos particulares Sección 2.9, Controles para detección de temperatura

Jim Boigenzahn Winona, Minnesota, USA
Name of Authorized Representative Place of Issue

General Manager December 2001
Title of Authorized Representative Date of Issue

Signature of Authorized Representative

Glossary

automatic power reset — A feature in latching limit controllers that does not recognize power outage as a limit condition. When power is restored, the output is re-energized automatically, as long as the temperature is within limits.

electrical noise immunity — Ability of a temperature control to operate normally in the presence of electrical noise interference.

fixed set point — Temperature set point is preset at the factory. It cannot be readjusted in the field.

latched output — Limit control output latches in de-energized condition when overtemperature condition occurs and cannot be reset unless temperature drops below set point.

limit or limit controller — A highly reliable, discrete safety device (redundant to the primary controller) that monitors and limits the temperature of the process or a point in the process. When temperature exceeds or falls below the limit set point, the limit controller interrupts power through the load circuit. A limit controller can protect equipment and people when it is correctly installed with its own power supply, power lines, switch and sensor.

manual reset — A feature on a limit controller that requires human intervention to return the limit to normal operation after a limit condition has occurred.

safety limit — An automatic limit intended for use in applications where an over-temperature fault may cause a fire.

Returns

- Call or fax Customer Service for a Return Material Authorization (RMA) number before returning a controller.
- Put the RMA number on the shipping label, and also on a description of the problem.
- 20% of net price restocking charge applies to all standard units returned to stock.

Technical Assistance

If you encounter a problem with your Watlow controller, review all of your configuration information to verify that your selections are consistent with your application: inputs; outputs; alarms; limits; etc. If the problem persists after checking the above, you can get technical support by dialing +1 (507) 492-5300, 7 a.m. to 7 p.m. Central Standard Time. An applications engineer will discuss your application with you.

Please have the following information available when calling:

- Complete model number
- Serial Number
- All configuration information
- User's Manual

Warranty

The Watlow Series 142 is warranted to be free of defects in material and workmanship for 36 months after delivery to the first purchaser for use, providing that the units have not been misapplied. Since Watlow has no control over their use, and sometimes misuse, we cannot guarantee against failure. Watlow's obligations hereunder, at Watlow's option, are limited to replacement, repair or refund of purchase price, and parts which upon examination prove to be defective within the warranty period specified. This warranty does not apply to damage resulting from transportation, alteration, misuse, or abuse.

Your Feedback

Your comments or suggestions on this manual are welcome. Please send them to: Technical Writer, Watlow Controls, 1241 Bundy Boulevard, P.O. Box 5580, Winona, Minnesota 55987-5580; phone: +1 (507) 454-5300; fax: +1 (507) 452-4507. The Series 142 User's Manual is copyrighted by Watlow Winona, Inc., © 2001, with all rights reserved. (2209)