



Certificate of Compliance

Certificate: 1233494

Master Contract: 161241

Project: 80176935

Date Issued: 2023-10-19

Issued To: nVent Thermal LLC
899 Broadway Street
Redwood City, California, 94063
United States

Attention: James Lim

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: *Richard Zhang*
Richard Zhang

PRODUCTS

CLASS - C287801 - HEATERS Cable and Cable Sets - For Hazardous Locations

CLASS - C287881 - HEATERS-Cable and Cable Sets - For Hazardous Locations-Certified to U.S. Standards

Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Class III

Parallel self-regulating heating cables for heating of pipe or vessel tracing, **QTVR*-CT where ** indicates watts per foot (min. 10, max 20) @10°C (50°F) and * indicates 1 for 120V ac products and 2 for 208-277V ac; max continuous exposure temperature 110°C (225°F), T-Code Rating T4; min recommended installation temperature (-60°C) (-76°F); usage -WS.

Termination Kits:

Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Class III

HAK-C-100 Connection Kit.



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Class I, Div. 2, Gr. A, B, C, D; Class II, Div. 2, Gr. F, G; Class III

JBM-100-A Multiple Power Connection Kit, JBS-100-A Single Entry Power Connection Kit, , JBS-100-L-A and JBM-100-L-A Light Module Connection Kits, JS-100-A Single Entry Power Connection Kit, T-100 Splice/Tee Connection Kit, S-150 Splice Kit, E-150 End Seal Kit, E-100-A End Seal Kit, E-100-L/LR Lighted End Seal Kits, C75-100-A Heating Cable Gland Kit, CS-100 Core Sealer, HCS-100-A Core Sealer Kit, JBU-100-A, JBU-100-A6 and JBU-100-L-A termination kits.

Class I, Div. 2, Gr. A, B, C, D; Class II, Div. 2, Gr. F, G; Class III

PMKG-LS, PMKG-LT, and PMKG-LE Kits.

Notes

1. Installation in accordance with the CEC Part I for Canada or with the NEC for US.
2. Installation instruction sheet provided with each cable set assembly.
3. The overall hazardous locations designation is determined by the hazardous locations designation of the accessory with the lowest ratings. (e.g. box and/or sealing fitting).

APPLICABLE REQUIREMENTS

CSA C22.2 No. 60079-30-1:17	- Explosive atmospheres- Part 30-1: Electrical resistance trace heating-
CSA C22.2 No. 30-M1986	- Explosion- Proof Enclosures for Use in Class I Hazardous Locations
CSA C22.2 No. 213-17	- Nonincendive Electrical Equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
ANSI/UL 60079-30-1 Ed. 1	- Explosive Atmospheres – Part 30-1: Electrical Resistance Trace Heating – General and Testing Requirements
UL 1203:2013 Ed. 5	- Standard for Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations
UL 121201 Ed. 9	- Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations

MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.



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I. Heating Cable Sets (Field-Assembled Heating Cable Sets)

Heating devices intended for field assembly shall be clearly and permanently marked with the following information:

- a) the manufacturer's name, trademark, or other recognized symbol of identification;
- b) the catalogue number, reference number, or model;
- c) the month and year of manufacture, date code, applicable serial number, or equivalent;
- d) the word "parallel" and the usage marking as shown in Table 1 of CSA Std. 130-16;
- e) the rated voltage;
- f) the rated output in watts per unit length or area and the specified temperature;
- g) the maximum permissible steady-state current;
- h) the Class(es) and, where appropriate, Division(s) and Group(s) of hazardous locations rating (e.g., Class I, Division 2, Groups A, B, C, and D);
- i) the temperature code (e.g., T3A, T4, etc.) or the maximum sheath temperature of the heating device except where engineered systems contain this information on drawings or other documentation; *and*
- j) the cCSAus Mark.

Connections and Termination Components

The cartons or containers and the instructions of all connection and termination kits shall be clearly marked with the following information:

- a) the manufacturer's name, trademark, or other recognized symbol of identification;
- b) the catalogue number, reference number, or model;
- c) intended use (i.e., FOR USE WITH _____(Manufacturer)____ MODEL (type, series, or designation) HEATING CABLE/SURFACE HEATING DEVICE ONLY);
- d) the words "SEE INSTALLATION INSTRUCTIONS" and any applicable notices, warnings, or directions to the user;
- e) the maximum permissible steady-state current;
- f) the rated voltage;
- g) maximum temperature continuous exposure;
- h) when required by Clause 4.6.1, the words "Temperature at the point of connection to branch circuit conductors may exceed 60°C";
- i) the Class(es) and, where appropriate, Division(s) and Group(s) of hazardous locations rating (e.g., Class I, Division 2, Groups A, B, C, and D);
- j) the temperature code (e.g., T3A, T4, etc.) or the maximum sheath temperature of the heating device except where engineered systems contain this information on drawings or other documentation; *and*
- k) the cCSAus Mark.

II. Packaging

The original carton, container, spool, or reel in or on which the heating device or heating device set



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leaves the factory shall be clearly marked with the following information:

- a) the manufacturer's name, trademark, or other recognized symbol of identification;
- b) the catalogue number, reference number, or model;
- c) the month and year of manufacture, date code, applicable serial number, or equivalent;
- d) the words "Refer to installation instructions", or equivalent wording, and any applicable notices, warnings, and directions to the installer;
- e) the warning "CAUTION: a ground fault protection device must be used with this heating device" and "ATTENTION : ce produit doit être utilisé avec une protection de mise à la terre";
- f) the maximum voltage for which the heating device or heating device set is intended;
- g) the maximum rated current or, for factory-assembled heating device sets, the total wattage;
- h) the rated output of the device expressed in total watts, watts per unit length, or watts per unit area at a reference temperature, if applicable;
- i) the words "heating cable", "heating cable set", "surface heating device", or "surface heating device set", and usage marking and usage as shown in Table 1 (CSA Std. 130-16);
- j) the manufacturer's declared minimum installation temperature (-60°C);
- k) the Class(es) and, where appropriate, Division(s) and Group(s) of hazardous locations rating (e.g., Class I, Division 2, Groups A, B, C, and D);
- l) the temperature code (e.g., T3A, T4, etc.) or the maximum sheath temperature of the heating device except where engineered systems contain this information on drawings or other documentation; *and*
- m) the cCSAus Mark.

III. Installation Instructions

The manufacturer shall provide complete instructions for the installation and maintenance of the heating device and a statement that the heating device set must be installed in accordance with applicable codes. Instructions shall also include caution or warning notices that are specific to the heating device and its intended use. Instructions shall include the following:

- a) applicable ground fault protection requirements, when a ground fault protection device is not provided with the heating device;
- b) any restrictions that the heating portion of the heating device set shall not touch, cross over, or overlap itself;
- c) restrictions relating to the minimum spacing between adjacent heating devices, e.g., distance between parallel runs of heating cable;
- d) the recommended location of any temperature control sensor(s);
- e) restrictions regarding clearances from combustible surfaces;
- f) the minimum bending radius of each flexible heating device;
- g) recommended attachment methods;
- h) an explanation of the attribute and application markings for the heating device or heating device set;
- i) recommended inspection and test procedures;
- j) the minimum installation temperature for the heating device or heating device set (-60°C);
- k) restrictions on permissible thickness and material (or insulation factor) of thermal insulation;
- l) explanation of specific applications;



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- m) Instructions shall include any restrictions regarding alteration of sets (for Series Heating Cable Sets); and
n) Field Assembly of Heating Devices:
- a list of the components of the heating device set;
 - the maximum length of the heating device;
 - the recommended size of the overcurrent protective device;
 - the order, preparation, and method of assembling all components; and
 - explanation of specific applications.

Notes:

Products certified under Class C287801 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca

