Certificate of Compliance

Certificate:	70186511	**Master Contract:**	217989
Project:	80196758	**Date Issued:**	2024-11-27

Issued to: **Pyromation LLC**
5211 Industrial Rd
Fort Wayne, Indiana 46825
United States

Attention: Jim Crowell

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: *Rawn Murphy*
Rawn Murphy

PRODUCTS

Class 2258 02 PROCESS CONTROL EQUIPMENT - For Hazardous Locations
Class 2258 82 PROCESS CONTROL EQUIPMENT - For Hazardous Locations - Certified to US Standards

Class I, Division 2, Groups A, B, C, D T6…T1
Class II, Division 2, Groups F, G
Class III, Division 2

Class I, Zone 2 Group IIC T6…T1
Zone 22 Group IIIB
Zone 22 IIIA

Model(s)
HL05 Series - Hazardous Location RTD / Thermocouple Temperature Sensor Equipment Includes Heat-Tracing and Remote-Mount AssembliesXP08 and XP09

Certificate: 70186511 **Master Contract**: 217989

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Product Name/ Model Number - XP08 and XP09

Config Code	Parameters		
Product Type Name	**Model Numbering Type Example**	**Rating**	**Non-incendive installation drawing**
XP08 Heat-Tracing Assembly with RTD	HL05-RBF185M483-HT-0304-18RD-31, OR, GS, T440	(w/transmitter) ≤30Vdc, 4-20mA (w/o transmitter) See installation drawing number	J280008
XP08 Heat-Tracing Assembly w/Thermocouple	HL05-JP48G-HT-0304-18RD-31, OR, GS	(w/transmitter) ≤30Vdc, 4-20mA (w/o transmitter) See installation drawing number	J280008

Enclosure Rating: Type 4X. The equipment has been separately tested against the requirements of CAN/CSA-C22.2 No. 60529:16 and ANSI/IEC 60529-2004 (2011) and meets IP66.

Complete Model Numbering Configuration Coding is in the Description section of the report.
See the Conditions of Acceptability for Ambient Temperature and Process Temperature with corresponding Temperature Code.

Config Code	Parameters		
Product Type Name	**Model Numbering Type Example**	**Rating**	**Non-incendive installation drawing**
XP09 Remote-Mount Assembly w/RTD	HL05-R1T185L483-012-00-16-T3P048-31,OR, GS, T-442	(w/transmitter) ≤30Vdc, 4-20mA (w/o transmitter) See installation drawing number	J280009
XP09 Remote-Mount Assembly w/Thermocouple	HL05 JJ48U-012-00- 19 -T3A 048-9HP31-GS, OR,T-441	(w/transmitter) ≤30Vdc, 4-20mA (w/o transmitter) See installation drawing number	J280009

Enclosure Rating: Type 4X. The equipment has been separately tested against the requirements of CAN/CSA-C22.2 No. 60529:16 and ANSI/IEC 60529-2004 (2011) and meets IP56.

Complete Model Numbering Configuration Coding is in the Description section of the report.
See the Conditions of Acceptability for Ambient Temperature and Process Temperature with corresponding Temperature Code.

Conditions of Acceptability (XP08 and XP09):
• Process Temperature Range: -40°C to 435°C (applies to the sensor and metal sheath)
• The equipment shall be installed in accordance with manufacturer's instructions installation drawings.
• End-user shall ensure proper earthing of the device upon installation in accordance with the Canadian (CSA C22.1) and the National (NFPA 70) Electrical Codes. Mounting of the device for installation must ensure that the metallic body is reliably connected to the system earth; continuity to be checked and confirmed.
• The equipment may only be powered by a power supply unit with a limited energy electric circuit, in accordance with CAN/CSA C22.2 No. 61010-1-12 and ANSI/UL 61010-1, or a Class 2 power source as defined in the Canadian Electrical Code C22.1 and/or the National Electrical Code (NFPA 70).
• Cable entries and blanking elements shall be used that are suitable for the application and correctly installed.
• All designated enclosure entries shall maintain the degree of enclosure protection (Type and/or IP) only by applying a compatible attachment device (e.g., cable gland) having the same or higher degree of enclosure protection.
• When the process temperature range exceeds the service temperature range it shall be verified by on-site temperature measurements, taking the worst-case conditions into account, that the service temperature does not exceed the ambient temperature range of the enclosure. Service Temperature at the Field Wiring Enclosure (including transmitter or terminal block) shall not exceed the T ambient marked on the Equipment assembly.
• User must ensure that each major component of the installed system: sheath materials, sensor assembly lead-wire extensions and transmitter assembly are suitable for exposure to the process temperature and resulting service temperature.
• Installation must conform to the respective certification installation drawing for each component assembly and the user shall ensure the ambient temperature is not exceeded for either component within the installed system after installation.

Config Code: XP08, XP09

Temperature Class	Parameters		
	T_ambient	T_Service – see Note 1	T_Process
T6	– see below: Enclosure / Electronics	-40°C ≤ Ts ≤ 75°C	-40°C ≤ Tp ≤ 125°C
T5	– see below: Enclosure / Electronics	-40°C ≤ Ts ≤ 90°C	-40°C ≤ Tp ≤ 90°C
T4	– see below: Enclosure / Electronics	-40°C ≤ Ts ≤ 125°C	-40°C ≤ Tp ≤ 125°C
T3	– see below: Enclosure / Electronics	-40°C ≤ Ts ≤ 190°C	-40°C ≤ Tp ≤ 190°C

T2	– see below: Enclosure / Electronics	-40°C ≤ Ts ≤ 285°C	-40°C ≤ Tp ≤ 285°C
T1	– see below: Enclosure / Electronics	-40°C ≤ Ts ≤ 435°C	-40°C ≤ Tp ≤ 435°C
Enclosure	Electronics (Transmitter or Terminal Block)	Ta*: (Field Wiring Enclosure)	T-code (Field Wiring Enclosure and Electronics) See Note 1
31, 34, 91	T440, T441, T442, T71, T72, T82 Terminal Block	-40°C ≤ Ta ≤ 40°C -40°C ≤ Ta ≤ 60°C	T6 T5
74, 93, 93_AD, 94	T71, T72, T82 Terminal Block	-40°C ≤ Ta ≤ 55°C -40°C ≤ Ta ≤ 70°C -40°C ≤ Ta ≤ 85°C -40°C ≤ Ta ≤ 80°C -40°C ≤ Ta ≤ 95°C	T6 T5 T4 T6 T5
75T142C-T, 75T142C-D	T142 w/o display T142 w/ display	-40°C ≤ Ta ≤ 55°C -40°C ≤ Ta ≤ 70°C -40°C ≤ Ta ≤ 85°C -40°C ≤ Ta ≤ 55°C -40°C ≤ Ta ≤ 70°C -40°C ≤ Ta ≤ 70°C	T6 T5 T4 T6 T5 T4
76T71-D10, 76T72-D10, 76T82-D10	T71, T72, T82 w/ display	-40°C ≤ Ta ≤ 55°C -40°C ≤ Ta ≤ 70°C -40°C ≤ Ta ≤ 85°C	T6 T5 T4

Note 1: T-code for installation is the higher temperature T-code for the process connection and/or assembly service temperature. Ta: applies to the field wiring enclosure portion.
*Note 2: XP09 Config Codes w/ PVC extension leadwires, 1st character option code "P" = Ta minimum -26°C

Product Name/ Model Number - RT01, MG01 and BS01

Config Code	Parameters		
Product Type Name	**Model Numbering Type Example**	**Rating**	**Non-incendive installation drawing**
RT01 RTD Assemblies with Extension Lead-wire	HL05-R1T185L483-006-00-16-T3P048-0, CG	(w/transmitter) ≤30Vdc, 4-20mA (w/o transmitter) See installation drawing number	J280010
MG01 MgO Insulated Thermocouples with Extension Lead-wire	HL05-KKK48UM-012-05A,306-16-T3T120-3, CG	(w/transmitter) ≤30Vdc, 4-20mA (w/o transmitter) See installation drawing number	J280010
BS01 Miniature Sensors w/ RTD	HL05-RBF185LBS3-BST-3P02(1/2),24-T3120-2, CG	(w/transmitter) ≤30Vdc, 4-20mA (w/o transmitter) See installation drawing number	J280010
BS01 Miniature Sensors w/Thermocouple	HL05-JBSU-AT-3P02(1/2),24-T3120-2, CG	(w/transmitter) ≤30Vdc, 4-20mA (w/o transmitter) See installation drawing number	J280010

Enclosure Rating: Type 4X. The equipment has been separately tested against the requirements of CAN/CSA-C22.2 No. 60529:16 and ANSI/IEC 60529-2004 (2011) and meets IP56.

Complete Model Numbering Configuration Coding is in the Description section of the report.
See the Conditions of Acceptability for Ambient Temperature and Process Temperature with corresponding Temperature Code.

Conditions of Acceptability(RT01, MG01 and BS01):
• Process Temperature Range: -40°C to 435°C (applies to the sensor and metal sheath)
• The equipment shall be installed in accordance with manufacturer's instructions installation drawings.
• End-user shall ensure proper earthing of the device upon installation in accordance with the Canadian (CSA C22.1) and the National

(NFPA 70) Electrical Codes. Mounting of the device for installation must ensure that the metallic body is reliably connected to the system earth; continuity to be checked and confirmed.

• The equipment may only be powered by a power supply unit with a limited energy electric circuit, in accordance with CAN/CSA C22.2 No. 61010-1-12 and ANSI/UL 61010-1, or a Class 2 power source as defined in the Canadian Electrical Code C22.1 and/or the National Electrical Code (NFPA 70).

• Cable entries and blanking elements shall be used that are suitable for the application and correctly installed.

• All designated enclosure entries shall maintain the degree of enclosure protection (Type and/or IP) only by applying a compatible attachment device (e.g., cable gland) having the same or higher degree of enclosure protection.

• When the process temperature range exceeds the service temperature range it shall be verified by on-site temperature measurements, taking the worst-case conditions into account, that the service temperature does not exceed the ambient temperature range of the enclosure. Service Temperature at the Field Wiring Enclosure (including transmitter or terminal block) shall not exceed the T ambient marked on the Equipment assembly.

• User must ensure that each major component of the installed system: sheath materials, sensor assembly lead-wire extensions and transmitter assembly are suitable for exposure to the process temperature and resulting service temperature.

• Installation must conform to the respective certification installation drawing for each component assembly and the user shall ensure the ambient temperature is not exceeded for either component within the installed system after installation.

• Temperature sensor element must be protected from impact, environmental and / or physical damage by installation.

• This device must be connected to a field wiring enclosure, which provides a minimum ingress protection of IP56 and protects against mechanical impact.

•Temperature sensors with lead-wire extensions not enclosed in (stainless steel) flex armour shall be installed with suitable protection from physical/environment damage.

• All connections shall be terminated within a Division 2/Zone 2 compliant enclosure having a termination connection for use with the conductor and wire size that is tool-secured and maintains the required spacings.

Config Code: RT01, MG01, BS01

Temperature Class	Parameters		
	T_ambient*	T_Service – see Note 1	T_Process
T6	-40°C ≤ Ta ≤ 80°C	-40°C ≤ Ts ≤ 75°C	-40°C ≤ Tp ≤ 75°C
T5	-40°C ≤ Ta ≤ 95°C	-40°C ≤ Ts ≤ 90°C	-40°C ≤ Tp ≤ 90°C
T4	-40°C ≤ Ta ≤ 95°C	-40°C ≤ Ts ≤ 125°C	-40°C ≤ Tp ≤ 125°C
T3	-40°C ≤ Ta ≤ 95°C	-40°C ≤ Ts ≤ 190°C	-40°C ≤ Tp ≤ 190°C
T2	-40°C ≤ Ta ≤ 95°C	-40°C ≤ Ts ≤ 285°C	-40°C ≤ Tp ≤ 285°C
T1	-40°C ≤ Ta ≤ 95°C	-40°C ≤ Ts ≤ 435°C	-40°C ≤ Tp ≤ 435°C

Enclosure	Electronics (Transmitter or Terminal Block)	Ta*: (Field Wiring Enclosure)	T-code (Field Wiring Enclosure and Electronics) See Note 1
31, 34, 91	T440, T441, T442, T71, T72, T82 Terminal Block	-40°C ≤ Ta ≤ 40°C -40°C ≤ Ta ≤ 60°C	T6 T5
74, 93, 93_AD, 94	T71, T72, T82 Terminal Block	-40°C ≤ Ta ≤ 55°C -40°C ≤ Ta ≤ 70°C -40°C ≤ Ta ≤ 85°C -40°C ≤ Ta ≤ 80°C -40°C ≤ Ta ≤ 95°C	T6 T5 T4 T6 T5
75T142C-T, 75T142C-D	T142 w/o display T142 w/ display	-40°C ≤ Ta ≤ 55°C -40°C ≤ Ta ≤ 70°C -40°C ≤ Ta ≤ 85°C -40°C ≤ Ta ≤ 55°C -40°C ≤ Ta ≤ 70°C -40°C ≤ Ta ≤ 70°C	T6 T5 T4 T6 T5 T4
76T71-D10, 76T72-D10, 76T82-D10	T71, T72, T82 w/ display	-40°C ≤ Ta ≤ 55°C -40°C ≤ Ta ≤ 70°C -40°C ≤ Ta ≤ 85°C	T6 T5 T4

Note 1: the temperature at the field wiring enclosure end of the sensor shall not exceed T_ambient and that of the user supplied field wiring enclosure.
*Note 2: Config Codes w/ PVC extension leadwires, 1st character option code "P" = T_ambient minimum -26°C

APPLICABLE REQUIREMENTS

ANSI/ISA-12.12.01 : 2017 - Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations

CSA C22.2 No. 61010-1-12, Rev May 11, 2012; Update No. 1 Rev July 15, 2015; Update No. 2, Rev April 29, 2016 - Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements - Third Edition; Update No. 1: July 2015; Update No. 2: April 2016

UL 61010-1, Third Edition, Rev April 29, 2016 - UL Standard for Safety Electrical Equipment For Measurement, Control, and Laboratory Use; Part 1: General Requirements - Third Edition; Including Revisions through April 29, 2016

CSA C22.2 No. 94.2-07 (First Edition) - Enclosures for Electrical Equipment, Environmental Considerations

CSA C22.2 No. 94.1-07 (First Edition) - Enclosures for Electrical Equipment, Non-Environmental Considerations

UL 50 (Twelfth Edition) - UL Standard for Safety Enclosures for Electrical Equipment, Non-Environmental Considerations - Twelfth Edition

UL 50E (First Edition) - UL Standard for Safety Enclosures for Electrical Equipment, Environmental Considerations

CSA C22.2 No. 213-17 - Third Edition - Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified Locations)

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Notes:

Products certified under Class(es) C225802 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca

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