



Certificate of Compliance

Certificate: 70066266

Master Contract: 206947

Project: 80073740

Date Issued: April 30, 2021

Issued To: PR Electronics A/S
Lerbakken 10, Lerbakken 2
Ronde, South Jutland County, DK-8410
Denmark

Attention: Peter Bergmann

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.

Semyon Baum
Issued by: Semyon Baum



PRODUCTS

CLASS - C225804 - PROCESS CONTROL EQUIPMENT Intrinsically Safe, Entity - For Hazardous Locations

CLASS - C225882 - PROCESS CONTROL EQUIPMENT For Hazardous Locations - Certified to US Standards

Class I, Division 1, Groups A, B, C, D

Ex ia IIC T6...T4

Class I, Zone 0: AEx ia IIC T6...T4

Ex ib [ia] IIC T6...T4

Class I, Zone 1: AEx ib [ia] IIC T6...T4



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Model 5431, 5434, 5435, 5437, 5825, 6431 & 6437 Series Universal Temperature Transmitters as Intrinsically Safe for Class I, Division 1, Groups ABCD & Class I, Zone 0: Ex ia IIC and with Intrinsically Safe Outputs for Class I, Division 1, Groups ABCD & Class I, Zone 0: Ex [ia] IIC; Ambient temperature -50C to +85C. Install per I.S. Control Drawing 5437QC01 or 5825QC01 or 6437QC01, as appropriate.

Model 5825 & 6437 are the DIN Rail version of model 5437.
 Model 6431 is the DIN Rail version of model 5431.

Series Universal Temperature Transmitters:

- 5434abd & 5825-34abd - 2-wire TC temperature transmitter
- 5431abd, 5825-31abd & 6431abd - 2-wire universal temperature transmitter
- 5435abcd & 5825-35abcd - 2-wire HART® temperature transmitter
- 5437abcd, 5825-37abcd & 6437abcd - 2-wire HART® temperature transmitter

- a: D = Zone 0 / Div 1 approved
- b: 1 = single input (4Wire); 2 = dual input (7Wire); 3: two single channels
- c: S = SIL ; “ “ = No SIL
- d: M = Marine; “ “ = No Marine

Type	Ex Approval	Input	SIL Approval	Marine Approval
5434/5825-34	D: Zone 0 / Div 1	1: single input (4W)		M: Marine -: None
5431/5825-31/6431	D: Zone 0 / Div 1	1: single input (4W) 2: dual input (7W)		M: Marine -: None
6431	D: Zone 0 / Div 1	3: two single channels		M: Marine -: None
5435/5825-35	D: Zone 0 / Div 1	1: single input (4W)	S: SIL -: No SIL	M: Marine -: None
5437/5825-37/6437	D: Zone 0 / Div 1	1: single input (4W) 2: dual input (7W)	S: SIL -: No SIL	M: Marine -: None
6437	D: Zone 0 / Div 1	3: two single channels	S: SIL -: No SIL	M: Marine -: None

Terminals 1, 2 / 3, 4 / 11, 12	Terminals: 3, 4, 5, 6, 7, 8, 9 / 5, 6, 7, 8, 9, 10, 11, 12 / 41, 42, 43, 44, 51, 52, 53, 54	Terminals: 3,4,5,6 and 3,7,8,9 / 5,6,7,8 and 9,10,11,12 / 41,42,43,44 and 51,52,53,54	Temperature Range
EX ia			
Ui: 30 VDC; Ii: 120 mA; Pi: 900 mW Li: 0 µH; Ci: 1.0 nF	Uo: 7.2 VDC Io: 12.9 mA Po: 23.3 mW Lo: 200 mH Co: 13.5µF	Uo: 7.2 VDC Io: 7.3 mA Po: 13.2 mW Lo: 667 mH Co: 13.5µF	T4: -50 ≤ Ta ≤ 85°C T5: -50 ≤ Ta ≤ 70°C T6: -50 ≤ Ta ≤ 55°C



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Ui: 30 VDC; Ii: 100 mA; Pi: 750 mW Li: 0 μ H; Ci: 1.0 nF			T4: $-50 \leq Ta \leq 85^{\circ}\text{C}$ T5: $-50 \leq Ta \leq 75^{\circ}\text{C}$ T6: $-50 \leq Ta \leq 60^{\circ}\text{C}$
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Notes :

IS Installation instructions

1. Install per Installation drawings 5437QC01 or 5825QC01 or 6437QC01 as appropriate.
2. Install in accordance with the US the National Electrical Code (NEC) or for Canada the Canadian Electrical Code (CEC).
3. The transmitter must be installed in a suitable enclosure to meet installation codes stipulated in the Canadian Electrical Code (CEC) or for US the National Electrical Code (NEC).
4. If the enclosure is made of non-metallic materials or of painted metal, electrostatic charging shall avoided.

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

Ex nA IIC T6...T4

Class I, Zone 2: AEx nA IIC T6...T4

Ex nA [ic] IIC T6...T4

Class I, Zone 2: AEx nA [ic] IIC T6...T4

Model 5431, 5434, 5435, 5437, 5825, 6431 & 6437 Series Universal Temperature Transmitters as Suitable for Class I, Division 2, Groups ABCD & Class I, Zone 2, Ex nA IIC and with Class I, Division 2 & Class I, Zone 2, Ex nA IIC. Wiring Practices and with Non-Incendive Field Wiring Outputs for Class I, Division 2 & Class I, Zone 2, Ex [ic] IIC. Ambient temperature -50C to +85C. Install per Non-Incendive Installation drawing 5437QC01 or 5825QC01 or 6437QC01, as appropriate.

Model 5825 & 6437 are the DIN Rail version of model 5437.

Model 6431 is the DIN Rail version of model 5431.

Model 6431x3xx contains two 5431 modules

Model 6437x3xx contains two 5437 modules

Series Universal Temperature Transmitters:

5434abd & 5825-34abd - 2-wire TC temperature transmitter

5431abd, 5825-31abd & 6431abd - 2-wire universal temperature transmitter

5435abcd & 5825-35abcd - 2-wire HART® temperature transmitter

5437abcd, 5825-37abcd & 6437abcd - 2-wire HART® temperature transmitter

a: A = Zone 2 / Div2 approved

b: 1 = single input (4Wire); 2 = dual input (7Wire); 3: two single channels

c: S = SIL; “ “ = No SIL

d: M = Marine; “ “ = No Marine



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Type	Ex Approval	Input	SIL Approval	Marine Approval
5434/5825-34	A: Zone 2 / Div 2	1: single input (4W)		M: Marine -: None
5431/5825-31	A: Zone 2 / Div 2	1: single input (4W) 2: dual input (7W)		M: Marine -: None
6431	A: Zone 2 / Div 2	3: two single channels		M: Marine -: None
5435/5825-35	A: Zone 2 / Div 2	1: single input (4W)	S: SIL -: No SIL	M: Marine -: None
5437/5825-37	A: Zone 2 / Div 2	1: single input (4W) 2: dual input (7W)	S: SIL -: No SIL	M: Marine -: None
6437	A: Zone 2 / Div 2	3: two single channels	S: SIL -: No SIL	M: Marine -: None

Terminals 1, 2 / 3, 4 / 11, 12	Terminals: 3, 4, 5, 6, 7, 8, 9 / 5, 6, 7, 8, 9, 10, 11, 12 / 41, 42, 43, 44, 51, 52, 53, 54	Temperature Range
Ex nA		
Supply voltage: max 37 VDC		T4: $-50 \leq T_a \leq 85^\circ\text{C}$ T5: $-50 \leq T_a \leq 70^\circ\text{C}$ T6: $-50 \leq T_a \leq 55^\circ\text{C}$
Supply voltage: max 30 VDC		T4: $-50 \leq T_a \leq 85^\circ\text{C}$ T5: $-50 \leq T_a \leq 75^\circ\text{C}$ T6: $-50 \leq T_a \leq 60^\circ\text{C}$
Non Incendive Field wiring parameters Outputs - Ex ic		
V _{max} = 30 VDC, C _i =1nF, L _i =0		T4: $-50 \leq T_a \leq 85^\circ\text{C}$ T5: $-50 \leq T_a \leq 75^\circ\text{C}$ T6: $-50 \leq T_a \leq 60^\circ\text{C}$

Notes :

Div 2 / Zone 2 (Ex nA) and Non-Incendive Field Wire (Ex ic) Wiring Practices Installation instructions:

1. Install per Installation drawing 5437QC01 or 5825QC01 or 6437QC01, as appropriate.
2. The transmitter must be installed in an enclosure providing a degree of protection of at least IP54 according to IEC60529 that is suitable for the application and is correctly installed. Cable entry devices and blanking elements shall fulfil the same requirements.
3. If the enclosure is made of non-metallic materials or of painted metal, electrostatic charging shall be avoided.
4. Use supply wires with a rating of at least 5 K above the ambient temperature.
5. Temperature transmitter require connecting to Class 2 Power Supply with Transient protection. See Installation drawing 5437QC01 or 5825QC01 or 6437QC01, as appropriate.



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APPLICABLE REQUIREMENTS

CSA Std C22.2 No. 157-92 (R2012)	Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations.
CAN/CSA C22.2 No. 60079-0:11	Explosive atmospheres # Part 0: Equipment # General requirement.
CAN/CSA C22.2 No. 60079-11:11	Electrical Apparatus for Explosive Gas Atmospheres # Part 11: Intrinsic Safety "i".
CAN/CSA C22.2 No. 60079-15:12	Electrical apparatus for explosive gas atmospheres — Part 15: Construction, test and marking of type of protection “n” electrical apparatus
CSA 61010-1-12	Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General requirements
UL Std No. 913, Ed. 8	Intrinsically Safe Apparatus and Associated Apparatus for use in Class I, II, and III, Division 1, Hazardous (Classified) Locations.
UL 60079-0, Ed 5	Explosive atmospheres # Part 0: Equipment # General requirement
UL 60079-11, Ed. 6	Electrical Apparatus for Explosive Gas Atmospheres - Part 11: Intrinsic Safety "i".
UL 60079-15, Ed. 4	Electrical apparatus for explosive gas atmospheres — Part 15: Construction, test and marking of type of protection “n” electrical Apparatus
UL 61010-1 Ed. 3	Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General requirements.

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.

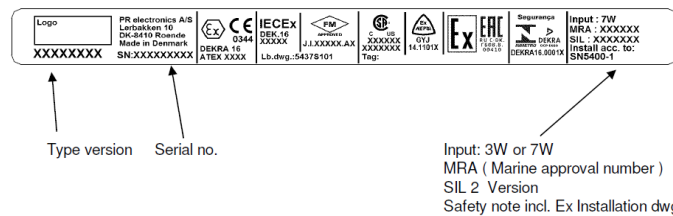
The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada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

Markings information as shown below and appear on a metal nameplate or adhesive aluminum foil. Separate labels are required for Division and Zone markings.

- Manufacturer’s name: “PR Electronics”, or CSA Master Contract Number “206947”, adjacent to the CSA Mark in lieu of manufacturer’s name.
- Model number: As specified in the PRODUCTS section, above.

- The characters “CSA 16.70066266”, designating the certification body, followed by the last two digits of the year of report issue, followed by a period, followed by the original report number.
- Hazardous Location designation: As specified in the PRODUCTS section above (may be abbreviate).
- Method of Protection (Ex) markings: As specified in the PRODUCTS section above.
- Temperature code: As specified in the PRODUCTS section above.
- Model number: As specified in the PRODUCTS section above.
- Electrical rating: As specified in the PRODUCTS section above.
- Ambient temperature rating: As specified in the PRODUCTS section above.
- Enclosure rating: As specified in the PRODUCTS section above.
- Manufacturing date in MMY format, or serial number, traceable to year and month of manufacture.
- Identification of factory location, when produced at multiple locations.

An example copy of the nameplate is shown below:



Division1 / Ex ia, Intrinsic Safe Installation

IS,CL I, Div 1, GP ABCD, T6..T4
 Ex ia IIC T6...T4 Ga
 Class I Zone 0 AEx ia IIC T6...T4 Ga
 Class I Zone 1 AEx ib [ia Ga] IIC T6...T4 Gb
 Ex ib [ia Ga] IIC T6...T4 Gb
 Pi = 900 mW
 T4: -50 ≤ Ta ≤ 85°C
 T5: -50 ≤ Ta ≤ 70°C
 T6: -50 ≤ Ta ≤ 55°C

P i= 750 mW
 T4: -50 ≤ Ta ≤ 85°C
 T5: -50 ≤ Ta ≤ 75°C
 T6: -50 ≤ Ta ≤ 60°C

Division 2 / nA, Non Incendive Installation

NI, CL I, Div 2, GP ABCD T6..T4
 Ex nA IIC [ic] T6..T4 Gc
 Class I Zone 2 AEx nA [ic] IIC T6..T4 Gc

See Installation drawing 5437QC01 or 5825QC01 or 6437QC01, warning marking, and documentation for detail.



Supplement to Certificate of Compliance

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The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
80073740	2021-04-30	Update to cCSAus report # 70066266 (last project 80021723) for intrinsically safe Universal Temperature Transmitters to: 1. Update certificate and report so the same installation drawings are referenced on all pages. 2. Add new revision of leaded parts list with same plastic material as used in the 53xx Series with CSA approval certificate 1125003. Revision number for installation drawing removed from all pages, except descriptive documents.
80021723	2019-11-27	Variation to the CSA certificate 70066266 Modification to the schematics and PCB affecting the safety critical components. Changes to entity parameters. Ex nA models are not affected by this modification. Standards marking 1 Class I, Division 1, Groups A, B, C, D Standards marking 2 Ex ia IIC T6...T4 Standards marking 3 Ex ib [ia] IIC T6...T4 Ambient Temperature: various Required to start the project: Un-populated PCB board Gerber file **See separate document for our terms and conditions**
000070200260	2018-11-29	Update report 70066266 with: include additional information in the report; repair typo; change of PCB 6437-1-01 to 6437-1-02 which gives access to the extension port of the module, this is similar to what is certified for the Head mounted version; add model 6431x2Bx / 6437x2Bx which is a two-channel version of the rail mounted transmitter.
000070175092	2018-03-28	Evaluation to update report 70066266 (Project 70159602) to add DIN rail models 6437axxx and 6431axxx. Quote assumes evaluation only and no testing is required.



000070159602	2017-10-19	Evaluation to update report 70066266 to reflect: 1) Update to report 7066266 to marking: Ex/AEx ib [ia] IIC T6...T4 2) Updated PCB revision with additional zener diode protecting R344 during ESD test. 3) Update revision for applicable drawing.
000070154405	2017-09-25	Evaluation to update report 70066266 to reflect updates to PCB board, drawing updates, add model 5825 series, add new label materials and add two alternate potting compounds.
000070066266	2016-06-22	Evaluation for CSA Canadian and US Certifications of Series Universal Temperature Transmitters Models 5431, 5434, 5435 & 5437 as Intrinsically Safe for Class I, Division 1, Groups ABCD and Class I, Zone 0, Ex/AEx ia IIC and Suitable for Class I, Division 2, Groups ABCD and Class I, Zone 2: Ex/AEx nA IIC; Not Hazardous location. Ambient temperature -50C to +85C. Applicable Requirements: CSA Std C22.2 No. 157-92 (R2012); CAN/CSA C22.2 No. 60079-0:11; CAN/CSA C22.2 No. 60079-11:11; CAN/CSA C22.2 No. 60079-15:12; CSA 61010-1-12; UL Std No. 913, Ed. 8; UL 60079-0, Ed 5; UL 60079-11, Ed. 6; UL 60079-15, Ed. 4; UL 61010-1 Ed. 3