

CERTIFICATE OF CONFORMITY



1. HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS

2. Certificate No: FM17US0043
3. Equipment: Classic 800 Series Thermal Flow, Level, Interface & Temperature Switches
(Type Reference and Name)

4. Name of Listing Company: Telematic Controls Inc.

5. Address of Listing Company: 3364 114th Avenue S.E.
Calgary, Alberta, T2Z 3V6
Canada

6. The examination and test results are recorded in confidential report number:

3021488 dated 14th December 2005

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600:2018, FM Class 3615:1989, FM Class 3810:2005,
ANSI/ISA-12.00.01:2002, ANSI/ISA-12.22.01:2002

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

10 Equipment Ratings:

Explosionproof for Class I, Division 1, Groups B, C and D, T2D Ta=-50°C to +75°C; T3 Ta=-50°C to +65°C;
Flameproof for Class I, Zone 1, AEx d IIB+H2 T2 Ta=-50°C to +75°C; T3 Ta=-50°C to +65°C; hazardous (classified) locations

11 The marking of the equipment shall include:

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

2 April 2020

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
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Class I Division 1, Groups B, C, D; T2D Ta = -50°C to +75°C; T3 Ta= -50°C to +65°C

Class I, Zone 1, AEx d IIB+H2 T2 Ta= -50°C to +75°C; T3 Ta= -50°C to +65°C

12 Description of Equipment:

The Classic 800 Series Thermal Flow, Level, Interface & Temperature Switches use thermal dispersion technology for indication of flow, level and interface. Two platinum RTDs are used in the sensors, one RTD measures the actual process temperature while the other RTD is heated to create a temperature differential. Changes in flow rate or level are detected by the temperature differential between the RTDs.

The Classic 800 Series Thermal Switches, consist of cast aluminium housings and a thread in aluminium blank or window cover. The window covers for both models have a cemented tempered glass window, secured by an internal retaining ring. The probe can be constructed of 316L Stainless Steel, Titanium GR.2, Hastelloy C-276, Monel 400, Inconel 600, Alloy 20 or Nickel 200 with lengths up to 288 inches.

Operation Temperature Ranges:

The maximum ambient operating temperature range of the Classic 800 Series is $-50^{\circ}\text{C} \leq \text{Ta} \leq +75^{\circ}\text{C}$. The process temperature range of the Classic 800 Series is -45°C to $+200^{\circ}\text{C}$.

Electrical data:

The electronic connection has the following maximum values:

V= 12-24Vdc/ 100-240Vac, 6Watts, 50Hz/ 60Hz

812RabcdeC1fg9E. Kayden Classic 812 Flanged.

a = Material of Construction - Sensor A, G, J, M, O, T or X.

b = Process Connection - Flange A or B.

c = Flange 112,113,114,115,116, 121, 122, 123, 124, 125, 126, 131, 132, 133, 134, 135, 136, 141, 142, 143, 144, 145, 146, 151, 152, 153, 154, 155, 156, 161, 162, 163, 164, 165, 166, 171, 172, 173, 174, 175, 176, 181, 182, 183, 184, 185, 186, 191, 192, 193, 194, 195, 196, 201, 202, 203, 204, 205 or 206.

d = Flange Material A, E, G, J, M, O, R, T or X.

e = Insertion Length Mxxxx or lxxxx (xxxx = custom length up to a maximum of 730cm or 288 inches).

f = Cover - For Local Electronics/Sensor Enclosure B or G.

g = Remote Enclosure & Cover 0A, 1B or 1G.

814RabcdeC1gh9E. Kayden Classic 814 Flanged Retractable Packing Gland.

a = Material of Construction - Sensor A, G, J, M, O, T or X.

b = Process Connection - Flange A or B.

c = Flange 131, 132, 133, 134, 135, 136, 141, 142, 143, 144, 145, 146, 151, 152, 153, 154, 155, 156, 161, 162, 163, 164, 165, 166, 171, 172, 173, 174, 175, 176, 181, 182, 183, 184, 185, 186, 191, 192, 193, 194, 195, 196, 201, 202, 203, 204, 205 or 206.

d = Flange Material A, E, G, J, M, O, R, T or X.

e = Pressure Rating J, T, or X.

f = Insertion Length Mxxxx or lxxxx (xxxx = custom length up to a maximum of 730cm or 288 inches).

g = Cover - For Local Electronics/Sensor Enclosure B or G.

h = Remote Enclosure & Cover 0A, 1B or 1G.

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816RabcdC1ef9E. Kayden Classic 816 Threaded Retractable Packing Gland.

- a = Material of Construction - Sensor A, G, J, O, M, T or X.
- b = Process Connection - MNPT E or F.
- c = Pressure Rating - Retractable Packing Gland J, T or X.
- d = Insertion 'U' Lengths 0060, 0120, 0180, 0240, 0360, 0480, 0600, Mxxxx or lxxxx (xxxx = custom length up to a maximum of 730cm or 288 inches).
- e = Cover - For Local Electronics/Sensor Enclosure B or G.
- f = Remote Enclosure & Cover 0A, 1B or 1G.

830RA3D0035abcdC1ef9E. Kayden Classic 830 InLine Threaded.

- a = Bleed Port A.
- b = Sensor Orientation H or V.
- c = Injection Tubes 0, 1 or 2.
- d = Mounting Bracket Kit A or B.
- e = Cover - For Local Electronics/Sensor Enclosure B or G.
- f = Remote Enclosure & Cover 0A, 1B or 1G.

810RabcC1de9E. Kayden Classic 810 Threaded.

- a = Material of Construction - Sensor A, G, J, M, O, T or X.
- b = Process Connection - MNPT C, D, E, F, G or H.
- c = Insertion 'U' Lengths 0012, 0020, 0040, 0060, 0090, 0120, 0180 0240, Mxxxx or lxxxx (xxxx = custom length up to a maximum of 730cm or 288 inches).
- d = Cover - For Local Electronics/Sensor Enclosure B or G.
- e = Remote Enclosure & Cover 0A, 1B or 1G.

832RA3abcdefgC1hi9E. Kayden Classic 832 InLine Flanged.

- a = Process Connection - Flange A or B.
- b = Flange 111, 112, 113, 114, 115, 116, 121, 122, 123, 124, 125, 126, 131, 132, 133, 134, 135, 136, 141, 142, 143, 144, 145, 146, 151, 152, 153, 154, 155, 156, 161, 162, 163, 164, 165, 166, 171, 172, 173, 174, 175, 176, 181, 182, 183, 184, 185, 186, 191, 192, 193, 194, 195, 196, 201, 202, 203, 204, 205 or 206.
- c = Flange Material A, E, G, J, M, O, R, T or X.
- d = Assembly Body Length 0070, 0080, 0090, 0100, 0110, 0120, 0130, 0140, 0150, 0160, 0170, 0180, 0190, 0200, Mxxxx or lxxxx (xxxx = custom length up to a maximum of 180 cm or 72 inches).
- e = Bleed Port A.
- f = Sensor Orientation H or V.
- g = Pipe Schedule 0, 1 or 2.
- h = Cover - For Local Electronics/Sensor Enclosure B or G.
- i = Remote Enclosure & Cover 0A, 1B or 1G.

13 Specific Conditions of Use:

None

14 Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

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15 Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

16 Certificate History

Details of the supplements to this certificate are described below:

Date	Description
14 th December 2005	Original Issue.
23 rd March 2017	<u>Supplement 2:</u> Report Reference: Project ID 3060851 Dated 23 rd March 2017. Description of the Change: Update of L10-800-C-E AC to DC power supply module, consisting of 1700-0125-L Power Supply PCB & 1790-0417-F Logic Board PCB - Update to include alternative Certified AC to DC power supply module CUI Inc. model VSK-S5-15UA. Convert Certificate to new format.
17 th December 2017	<u>Supplement 3:</u> Report Reference: Project ID 3061442 Dated 17 th December 2017. Description of the Change: Update of power supply and display circuits to create the Classic Pro 800 Series. Remove Basic 400 Series from listing
31 st May 2019	<u>Supplement 4:</u> Report Reference: RR218726 Dated 31 st May 2019. Description of the Change: Removal of the listing of the Classic 800 Pro Series. Updated FM3600 to latest revision of the standard.
7 th July 2019	<u>Supplement 5:</u> Report Reference: RR219321 Dated 7 th July 2019. Description of the Change: Removal of the listing of the Classic 828 Sanitary Plug.
10 th July 2019	<u>Supplement 6:</u> Report Reference: PR453188 Dated 10 th July 2019. Description of the Change: Evaluate revised Classic 810 threaded series probe construction.
11 th October 2019	<u>Supplement 7:</u> Report Reference: RR220685 Dated 11 th October 2019. Description of the Change: De-listing 821RA and 823RA.
2 nd April 2020	<u>Supplement 8:</u> Report Reference: RR222369 Dated 2 nd April 2020. Description of the Change: 1) Documentation update. 2) Removal of environmental ratings from the listings and markings. 3) Removal of NEMA 250 and IEC 60529 standards 4) Ambient temperature corrected in Section 12 to +75°C. 5) Distinction created on the label with regards to the ambient temperature and the (limitation temperature) for the electronics.

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