



Certificate of Compliance

Certificate: 70022457

Master Contract: 171818

Project: 80138861

Date Issued: September 30, 2022

Issued To: Badger Meter Inc.
4545 West Brown Deer Road
Milwaukee, Wisconsin, 53224-9536
United States

Attention: Dennis Schwartz ,PE

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 - C225884 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe Entity - For Hazardous Locations - Certified to US Standards

Class I, Div. 1, Groups C and D; Class II, Div. 1, Groups E, F, and G:

B2900 Series Flow Monitor - Models B29bd-e (Submitter labeled monitor), and Ba29bd-e (Privately labeled monitor). Temperature Code T3C at maximum ambient 70 °C. Enclosure Type 4X. Rated 28 VDC, with battery back-up and opto-isolated 4-20mA Loop. Uses a 3.6 V, non- rechargeable Lithium Battery, Xeno Energy part number S11-0205-10-03, or Tadiran TL-5930/F; Blancett part number B300028.

Intrinsically safe when installed per Drawing No. 290001. Entity parameters are: Vmax = 28Vdc, Imax = 26mA, Ci = 0.5µF, Li = 0mH. Pulse Output opto-isolated entity parameters are: Vmax = 28Vdc, Imax = 100mA, Ci = 0µF, Li = 0mH. Reset Input entity parameters are: Vmax = 5Vdc, Imax = 5mA, Ci = 0µF, Li = 0mH. RS485 opto-isolated entity parameters are: Vmax = 10Vdc, Imax = 60mA, Ci = 0µF, Li = 0mH.



Certificate: 70022457

Project: 80138861

Master Contract: 171818

Date Issued: September 30, 2022

a – Private Label

Not Present = Blancett

AW = AW-Lake

FC = Flocorp

G = GCT Turbines

H = Hedland

K = Kimray

M = Mirusso

P = Pembina

S = Sur-Flo

J = JJTECH

GR = GR Energy

Services

FS = Fleaux Services

VP = Viper Production,

LLC

b – Type

A = Advanced

d – Monitor Type

M = Meter Mount

R = Remote Mount

S = Swivel Mount

e – Unit of Measure

CS = Customer Select

APPLICABLE REQUIREMENTS

| | |
|---|---|
| CAN/CSA C22.2 No. 0-10 Tenth Edition; (2010) | General requirements - Canadian Electrical Code, Part II |
| CAN/CSA C22.2 No. 157-92 Third Edition; (<i>Reaffirmed 2012</i>) | Intrinsically safe and non-incendive equipment or use in hazardous locations |
| CAN/CSA C22.2 No. 94.1-15 Second Edition; (2015) | Enclosures for electrical equipment, nonenvironmental considerations |
| CAN/CSA C22.2 No. 94.2-15 Second Edition; (2015) | Enclosures for electrical equipment, environmental considerations |
| CAN/CSA C22.2 No. 61010-1-12 Third Edition; (<i>Reaffirmed 2017</i>) | Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements |
| ANSI/UL 913 -Fifth Edition; (<i>1998</i>) | Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division I, Hazardous (Classified) Locations |
| ANSI/UL 50 Thirteenth Edition; (2015) | Standard for Safety Enclosures for Electrical Equipment, Non-Environmental Considerations |
| ANSI/UL 50E Second Edition; (2015) | Standard for Safety Enclosures for Electrical Equipment, Environmental Considerations |
| ANSI/UL 61010-1 Third Edition; (2012) | Standard for Safety Electrical Equipment For Measurement, Control, and Laboratory Use; Part 1: General Requirements |

MARKINGS



Certificate: 70022457

Project: 80138861

Master Contract: 171818

Date Issued: September 30, 2022

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.

The following markings shall appear on a 0.020 inch thick brushed Aluminum plate (Grade 3003-H14) with black text (silkscreen markings), finished with a bright lacquer and secured by drive screws.

- Manufacturer's name, "Badger Meter, Inc." or CSA Master Contract Number "171818", adjacent to the CSA Mark in lieu of Manufacturer's name.
- Model number: As specified in the PRODUCTS section, above.
- Maximum Ambient temperature rating: As specified in the PRODUCTS section, above (optional marking).
- Temperature code: As specified in the PRODUCTS section, above.
- Manufacturing date in MMY format, or serial number, traceable to month of manufacture.
- Enclosure designation: As specified in the PRODUCTS section, above.
- The CSA Mark, as shown on the Certificate of Conformity
- Hazardous Location designation: As specified in the PRODUCTS section, above (may be abbreviated).
- Method of Protection designation: "Ex ia".
- The words: "INTRINSICALLY SAFE/ SECURITE INTRINSEQUE"
- The words: "WARNING: Substitution of components may impair Intrinsic Safety." and "AVERTISSEMENT LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SCURITE INTRINSQUE";
- The words: "WARNING: To prevent ignition of a hazardous atmosphere, batteries must only be changed in a area known to be non-hazardous." and "AVERTISSEMENT: AFIN DE PREVENIR L'INFLAMMATION D'ATMOSPHERES DANGEREUSES, NE CHANGER LES BATTERIES QUE DANS DES EMBLEMENTS DESIGNES NON DANGEREUX" (or suitable equivalent).
- The words: "Connect Per drawing no. B290001" (may be abbreviated).
- 4-20mA Loop opto-isolated entity parameters are $V_{max} = 28Vdc$, $I_{max} = 26 mA$, $C_i = 0.5 \mu F$, $L_i = 0$.
- Pulse Output opto-isolated entity parameters are $V_{max} = 28Vdc$; $I_{max} = 100 mA$; $C_i = 0 \mu F$; $L_i = 0 mH$.
- Reset Input entity parameters are $V_{max} = 5 Vdc$, $I_{max} = 5 mA$, $C_i = 0 \mu F$, $L_i = 0 mH$.
- RS485 opto-isolated entity parameters are $V_{max} = 10 Vdc$, $I_{max} = 60 mA$, $C_i = 0 \mu F$, $L_i = 0 mH$.
- The words: "CAUTION: Use only L-205F (Xeno/Blancett), 3.6 V, Lithium Batteries, or TL-5930/F (Tadiran), 3.6 V, Lithium Batteries, Badger Meter part # B300028.

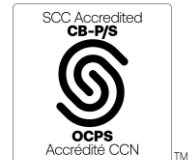


Certificate: 70022457
Project: 80138861

Master Contract: 171818
Date Issued: September 30, 2022

Notes:

Products certified under Class C225804, C225884 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca





Supplement to Certificate of Compliance

Certificate: 70022457

Master Contract: 171818

*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 |
|----------------|-------------|---|
| 80138861 | 2022-09-30 | Update Certificate 70022457 for non-conformance issues noted in FC# 258804, FIR dated June 13, 2022. |
| 80056535 | 2020-12-14 | Evaluation for update of CSA report 70022457 to include alternate enclosure gasket material. Quote includes gasket test and hosedown test. Note that primary enclosure evaluation is found in CSA report 1667574. |
| 80049928 | 2020-09-17 | Evaluation to update report 70022457 to include new alternate material version for the housing cover with Gasket (new drawing B280764). |
| 70214218 | 2019-02-07 | Evaluation to update report 70022457 to add new private label 'VP = Viper Production, LLC'. |
| 70200125 | 2018-10-09 | Update of report 70022457 to replace PCB file B290010 with B290030 with new LCD and regulator and to update Drawing B300028 Update to C22.2 No. 61010-1 and UL 61010-1 |
| 70178180 | 2018-05-11 | Update to report 70022457 includes revising Descriptive Documents and updating nomenclature. |
| 70162480 | 2017-12-07 | Update report 70022457 to revise controlled documents and include a new private label in the model code. |
| 70125165 | 2017-03-28 | Update Report 70022457 to include revised drawings as per the factory inspection report dated, Feb 20, 2017. The following drawings have been revised under this edition. Drawing B290010 has been revised from revision 3 to revision 4. The changes made to the drawing include updated component numbers due to part number redefinition or part obsolescence. This includes component items 4, 5, 8, 9, 20, 21, 40, and 46. These components are the same components with a redefined part number or identical value, and rating. Drawing B280609 has been revised from revision 2 to revision 3 to include an updated color. |



| | | |
|----------|------------|---|
| 70122937 | 2017-03-08 | Evaluation to update Report 70022457 to include: 1. Update user manual (DSY-UM-01378-EN) revision level from 02 (June 2016) to 03 (January 2017). The user manual update was made to reflect new firmware and update the menu structure flowcharts. 2. Update user manual (DSY-UM-01378-EN) revision level from 03 (January 2017) to 04 February 2017). The user manual update was made to reflect correction on page 48. |
| 70090753 | 2016-08-02 | Update Report 70022457 to include the updated user manual (DSY-UM-01378-EN) |
| 70070002 | 2016-03-18 | Update Report 70022457 to include alternate zener diode for D7 and D14. |
| 70065552 | 2016-02-26 | Evaluation to update Report 70022457 to include new revision of the manual and add private labels designation. |
| 70022457 | 2016-01-13 | Original assessment of Badger Meters model B2900 Series Flow Monitors for CSAC-us certification as I.S. for Class I, Div. 1, Groups C and D; Class II, Div. 1, Groups E, F, and G; Type 4X. |