



# Certificate of Compliance

**Certificate:** 1812440

**Master Contract:** 220043

**Project:** 2471428

**Date Issued:** February 29, 2012

**Issued to:** A W Company

8809 Industrial Dr  
Franksville, WI 53126  
USA

Attention: Michael Pikula

*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.*



*Dorel Stefan*

Issued by: Dorel Stefan

## **PRODUCTS**

**CLASS 2258 02** - PROCESS CONTROL EQUIPMENT - For Hazardous Locations

**Class I, Division 1, Groups A, B, C and D; Class II, Division 1, Groups E, F and G; Class III; T6; Type 4X\*:**

RT-Ex15-Ex Digital Flow Monitor, Input Rating 200 mA @ 5-24 Vdc Class 2, Analog Loop Outputs 4-20 mA @ 12-24 Vdc Class 2, Limit Outputs 50 mA @ 5-24 Vdc Class 2, and Reset Input 5-24 Vdc Class 2. Maximum Working Pressure (M.W.P.) = 5,000 psi (34,474 kPa) or 15,000 psi (103,422 kPa) Ambient Temperature Range: -40°C to +60°C

### Conditions of Certification:

The RT-Ex15-Ex Digital Flow Monitors must be used with one of the following meter bodies while the meter bodies that shall be marked with one of the following model designations:

JVM-zzz-Ex (303 SS, M.W.P = 5,000 psi, Type 4) \*

JVS-zzz-Ex (316 SS, M.W.P = 5,000 psi, Type 4X)

JVHS-zzz-Ex (316 SS, M.W.P = 15,000 psi, Type 4X)



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Notes:

1. The RT-Ex15-Ex Flow Monitor must be installed with a JVM-Ex, JVS-Ex or JVHS-Ex flowmeter and installed in accordance to the RT-Ex15-Ex Flow Monitor Installation Manual.
2. “zzz” represents additional optional markings by the manufacture that can be any number of characters which represents information that shall not affect the certified product assembly and certification. The additional description is optional, e.g. JVM-20KG-Ex , JVS-15CG-Ex or JVHS-12KG-Ex as well as be empty, e.g. JVM-Ex, JVS-Ex or JVHS-Ex.
3. \* The RT-Ex15 Digital Flow Monitor certification does NOT include Type 4 or Type 4X when the optional “Swivel Union” is used. The Swivel Union is installed between the enclosure and adapter hub to allow the product to be positioned properly for installation.

**CLASS 2258 02** - PROCESS CONTROL EQUIPMENT - For Hazardous Locations

**CLASS 2258 82** - PROCESS CONTROL EQUIPMENT - For Hazardous Locations – to U.S. Requirements

**Class I, Division 1, Groups C and D; Class II, Division 1, Groups E, F and G; Class III; T6; Type 4X:**

**RT-30Ex** Gear and **TM-30Ex** Turbine(with or without HART communication) Digital Flow Monitor

Input Rating 200 mA @ 9-24 Vdc Class 2, Analog Loop Output 4-20 mA @ 9-24 Vdc Class 2,

Limit Outputs 40 mA @ 5-30 Vdc Class 2, and Reset Input 12-24 Vdc Class 2.

Ambient Temperature Range: -20°C to +60°C

Maximum Working Pressure (MWP) per drawing RT30990C. Sensor Hole Style 1 MWP is 34.4MPa (5kpsi) and Sensor Hole Style 2 MWP is 103.4MPa (15kpsi).

Part Number: aa-30Ex-bccd

aa = Meter type (RT or TM)

b = Enclosure style (S or D)

cc = Sensor version (00 or 01)

d = Communication protocol (Blank or H)



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**Master Contract:** 220043

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Conditions of Certification:

1. The RT/TM-30Ex Digital Flow Monitor remote version shall be used only with the remote sensor pickup model number HUB-40EX.

2. The RT/TM-30Ex Digital Flow Monitor and HUB-40EX shall be used with one of the following Type 4X meter bodies and the meter bodies shall be marked with one of the following model designations:

**JVM-zzz-Ex, JVS-zzz-Ex, JVHS-zzz-Ex, ZHM-zzz-Ex, HPM-zzz-Ex, HM-zzz-AC-Ex**

“zzz” represents additional optional markings by the manufacture that can be any number of characters which represents information that shall not affect the certified product assembly and certification. The additional description is optional, e.g. JVM-20KG-Ex , JVS-15CG-Ex, JVHS-12KG-Ex, ZHM-02/1-Ex, HPM-15-Ex or HM-009/TC-AC/S-Ex as well as be empty, e.g. JVM-Ex, JVS-Ex, JVHS-Ex, ZHM-Ex, HPM-Ex or HM-AC-Ex.

3. The RT/TM-30Ex Flow Monitor shall be installed in accordance to the RT/TM-30Ex Flow Monitor Installation Manual.

4. The HUB-40EX remote sensor pickup shall be installed in accordance to the HUB-40EX Installation Manual.

**APPLICABLE REQUIREMENTS**

CAN/CSA Std C22.2 No. 0-M91 (R2006)	General Requirements - Canadian Electrical Code, Part II
CSA Std C22.2 No. 142-M1987 (R2009)	Process Control Equipment
CSA Std C22.2 No. 94.1-07 – 1st Ed.	Safety Enclosures for Electrical Equipment, Non-Environmental Considerations
CSA Std C22.2 No. 94.2-07 – 1st Ed.	Safety Enclosures for Electrical Equipment, Environmental Considerations
CSA Std C22.2 No. 25-1966 (R2009)	Enclosures for Use in Class II, Groups E, F and G Hazardous Locations
CSA Std C22.2 No. 30-M1986 (R2007)	Explosion-Proof Enclosures for Use in Class I Hazardous Locations
UL 508 – 17th Ed. (Jan 28, 1999 including revisions thru April 15, 2010)	Industrial Control Equipment



**Certificate:** 1812440

**Master Contract:** 220043

**Project:** 2471428

**Date Issued:** February 29, 2012

UL 1203 – 4th Ed. (Sept 15, 2006 including revisions thru Oct 28, 2009)	Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous Locations
UL 50 – 12th Ed. (Sept 4, 2007)	Safety Enclosures for Electrical Equipment, Non-Environmental Considerations
UL 50E – 1st Ed. (Sept 4, 2007)	Safety Enclosures for Electrical Equipment, Environmental Considerations

**MARKINGS**

Markings for RT-Ex15-Ex are on a 0.5 mm (0.02 inch) thick aluminum certified label and process with silver text, red background per drawing RT15900. Label is fixed to the enclosure by stainless steel screws.

- CSA Monogram
- Company Name and/or File Number #220043
- Model number
- Serial Number
- Supply Electrical Rating: 24 VDC, 200 mA Max. Class 2
- Hazardous Location Designation
- Ambient Temperature Range: -40°C to +60°C
- Temperature Code: T6 (Optional)
- Maximum Working Pressure or MWP: 103.4 MPa (15kpsi) or 34.4MPa (5kpsi)
- Warning or Caution; “SEE INSTRUCTIONS & INSTALLATION MANUAL FOR ADDITIONAL ELECTRICAL RATINGS AND WARNINGS”
- Warning or Caution; “KEEP COVER TIGHT WHILE CIRCUITS ARE ALIVE” or equivalent.
- Warning or Caution; “For Class I, Group A, A EXPLOSIONPROOF SEAL SHALL BE INSTALLED WITHIN 450 mm (18 inches) OF THE ENCLOSURE” or equivalent.
- "The RT-Ex15-Ex Flow Monitor must be installed with a JVM-Ex, JVS-Ex or JVHS-Ex flowmeter and installed in accordance to the RT-Ex15-Ex Flow Monitor Installation Manual"
- Meter Bodies to be marked with associated model codes e.g. JVM-Ex, JVS-Ex or JVHS-Ex
- Meter Bodies to have MWP: 103.4 MPa (15kpsi) or 34.4MPa (5kpsi)



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Common markings for RT-30Ex (drawing RT15906), TM-30Ex (drawing RT15905) are on a 0.5 mm (0.02 inch) thick aluminum certified label and process with silver text, red background. Label is fixed to the enclosure by stainless steel screws.

- Manufacturer's name: "AW Co", or CSA Master Contract Number "220043", adjacent to the CSA Mark in lieu of manufacturer's name.
- Model number: As specified in the PRODUCTS section, above.
- Electrical ratings: As specified in the PRODUCTS section, above.
- Ambient temperature rating: As specified in the PRODUCTS section, above.
- Manufacturing date in MMY format, or serial number, traceable to month of manufacture.
- Enclosure ratings: As specified in the PRODUCTS section above.
- The cCSAus Mark, as shown on the Certificate of Compliance.
- Hazardous Location designation: As specified in the PRODUCTS section, above (may be abbreviated).
- Temperature code: As specified in the PRODUCTS section, above. (Optional if T6 or T5)
- Rated maximum working pressure (MWP) as specified in the PRODUCTS section, above. Optional marking if MWP is already provided on the meter body.
- The following words:
  - "Remove Power Before Servicing Unit" or "KEEP COVER TIGHT WHILE CIRCUITS ARE ALIVE".
  - "SEAL REQUIRED WITHIN 18 INCHES"
  - "The RT-30Ex Flow Monitor must be installed with a JVM-Ex, JVS-Ex, JVHS-Ex, ZHM-Ex, HPM-Ex or HM-AC-Ex flow meter and installed in accordance to Installation Manual" or "The TM-30Ex Flow Monitor must be installed with a JVM-Ex, JVS-Ex, JVHS-Ex, ZHM-Ex, HPM-Ex or HM-AC-Ex flow meter and installed in accordance to Installation Manual"
  - Warning or Caution; "SEE INSTRUCTIONS & INSTALLATION MANUAL FOR ADDITIONAL ELECTRICAL RATINGS AND WARNINGS"
  - "WARNING: DISCONNECT POWER TO THE HUB ADAPTER BEFORE LOOSENING OR ADJUSTING THE SWIVEL COLLAR" or equivalent
- Optional marking: "XP rated"

Markings for remote HUB-40EX (drawing HUBX400) are on a 0.5 mm (0.02 inch) thick aluminum certified label and process with silver text, red background. Label is fixed to the enclosure by stainless steel screws.

- Manufacturer's name: "AW Co", or CSA Master Contract Number "220043", adjacent to the CSA Mark in lieu of manufacturer's name.
- Model number
- Ambient temperature rating: -20°C to +60°C
- Manufacturing date in MMY format, or serial number, traceable to month of manufacture.
- Enclosure rating: Type 4X
- The cCSAus Mark, as shown on the Certificate of Compliance.
- Hazardous Location designation (may be abbreviated): CL I Div1 GR C,D; CL II GR E,F,G; CL III;
- Temperature code: T6 (Optional)
- Rated maximum working pressure (MWP) per drawing RT30990C. Sensor hole style 1 MWP is 34.4MPa (5kpsi) and Sensor hole style 2 MWP is 103.4MPa (15kpsi). Optional marking if MWP is already provided on the meter body.
- The following words:
  - "Remove Power Before Servicing Unit" or "KEEP COVER TIGHT WHILE CIRCUITS ARE ALIVE".



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**Master Contract:** 220043

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- "SEAL REQUIRED WITHIN 18 INCHES"
  - "The HUB-40EX shall be used with the RT-30Ex or TM-30Ex Flow Monitor and must be installed with a JVM-Ex, JVS-Ex, JVHS-Ex, ZHM-Ex, HPM-Ex or HM-AC-Ex flow meter and installed in accordance to Installation Manual"
  - Warning or Caution; "SEE INSTRUCTIONS & INSTALLATION MANUAL FOR ADDITIONAL ELECTRICAL RATINGS AND WARNINGS"
  - "WARNING: DISCONNECT POWER TO THE HUB ADAPTER BEFORE LOOSENING OR ADJUSTING THE SWIVEL COLLAR" or equivalent
  - Optional marking: "XP rated"

The following markings shall be on the meter bodies per drawing JVEX900A:

- Model number: JVM-Ex, JVS-Ex, JVHS-Ex, ZHM-Ex, HPM-Ex or HM-AC-Ex
- Rated maximum working pressure (MWP) per drawing RT30990C. Sensor hole style 1 MWP is 34.4MPa (5kpsi) and Sensor hole style 2 MWP is 103.4MPa (15kpsi).

An installation manual or data sheet(s) shall be supplied with each RT/TM-30Ex unit, containing the following minimum marking information:

- Manufacturers name and address
- Hazardous Area Installation Instructions
- Electrical ratings: "9-24 VDC, 200 mA Class 2".
- Specification for ambient temperature rating: "-20°C to 60°C".
- Inputs:
  - Reset Input: 12-24 VDC Class 2 (3.3Kohm impedance)
  - Sensor Ratings: Freq Input Range from 0.3 – 4500 Hz; Sensor Supply Voltage 12 VDC @ 50mA max; Magnetic Sensor Input is 15mVp-p min and 24Vpeak max; High Level Pulse Input is 2Vpeak min and 24Vpeak max.
- Outputs:
  - Three (3) Opto-Isolated Limit Outputs: 5-30 VDC, 40mA Class 2 (minimum load impedance required = 600 Ohm @ 24VDC)
  - Analog Output 4-20mA: 9-24 VDC Class 2 loop supply (maximum load impedance = 500 Ohm @ 24 VDC and 250 Ohm @ 12 VDC)
- Enclosure Certification: Type 4X
- Connections: Spring Terminal Strips; 3/4" NPT conduit entrance
- The following words, or suitable equivalent:
  - WARNING - Explosion Hazard. Do not connect or disconnect this equipment unless power has been removed or the area is known to be nonhazardous.
  - SEAL REQUIRED WITHIN 18 INCHES
  - Warning: Power must be removed from the unit before the Swivel Collar can be loosened or adjusted.

An installation manual or data sheet shall be supplied with each HUB-40EX unit, containing the following minimum marking information:

- Manufacturers name and address
- Hazardous Area Installation Instructions
- Specification for ambient temperature rating: "-20°C to 60°C".



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- Sensor Ratings: Supply Voltage 10-28 VDC; Supply Current of 8mA @ 12 VDC & 12mA @ 24 VDC; Freq Output of 0.5Hz min; Output Amplitude of  $V_{low} = 0\text{ V}$  &  $V_{high} = V_{supply} - 0.7\text{V}$ ; Duty Signal is 50%  $\pm 15\%$
- Enclosure Certification: Type 4X
- Connections: Terminal Block; 1/2" NPT (Female) conduit entrance
- The following words, or suitable equivalent:
  - WARNING - Explosion Hazard. Do not connect or disconnect this equipment unless power has been removed or the area is known to be nonhazardous.
  - SEAL REQUIRED WITHIN 18 INCHES
  - Warning: Power must be removed from the unit before the Swivel Collar can be loosened or adjusted.

*Note - Jurisdictions in Canada may require these markings to also be provided in French language. It is the responsibility of the manufacturer to provide bilingual marking, where applicable, in accordance with the requirements of the Provincial Regulatory Authorities. It is the responsibility of the manufacturer to determine this requirement and have bilingual wording added to the "Markings".*



## *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**

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<b>Project</b>	<b>Date</b>	<b>Description</b>
2471428	February 29, 2012	Update report 1812440 to include models RT-30Ex and HUB-40EX.
1812440	February 9, 2007	RT-Ex15-Ex for Class I, Division 1, Groups ABCD, Class II Groups EFG Class III, Hazardous Locations