

CERTIFICATE OF CONFORMITY



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

2. **Certificate No:** **FM18US0195X**

3. **Equipment:** Model 882 Weighing System comprising:
(Type Reference and Name) 882IS and 882IS Plus Digital Weight Indicators;
mb-EPS-100-240-X2 Dual Output Power Supply &
IS6V2 Battery Module.

4. **Name of Listing Company:** Rice Lake Weighing Systems

5. **Address of Listing Company:** 230 W Coleman St Rice Lake, WI 54868
United States

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

3062120 dated 25th February 2019

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 3610:2018, FM Class 3615:2018, FM Class 3810:2005,
ANSI/ISA 60079-0:2013, ANSI/UL 60079-11:2011, ANSI/UL 60079-18:2011, ANSI/ISA 61010-1:2015,
ANSI/IEC 60529:2004

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:

882IS, 882IS Plus. Digital Weight Indicator -
Intrinsically safe for Class I, II, III Division 1, Groups A, B, C, D, E, F and G; Class I, Zone 0 AEx ia IIC;
Zone 20 AEx ia IIIC hazardous (classified) locations, IP66, Ta = -10°C to 40°C

mb-EPS-100-240-X2. Power Supply -

Certificate issued by:

J.E. Marquedant
VP, Manager - Electrical Systems

25 February 2019

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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SCHEDULE



US Certificate Of Conformity No: FM18US0195X

Suitable for Class I, II, III Division 1, Groups A, B, C, D, E, F and G with intrinsically safe outputs for Class I, II, III Division 1, Groups A, B, C, D, E, F and G;
Class I, Zone 1 AEx mb [ia Ga] IIC Gb;
Zone 21 AEx mb [ia Da] IIIC Db hazardous (classified) locations, Ta = -10°C to 40°C

IS6V2. Battery Module -

Intrinsically safe for Class I, II, III Division 1, Groups A, B, C, D, E, F and G;
Class I, Zone 0 AEx ia IIC;
Zone 20 AEx ia IIIC hazardous (classified) locations, Ta = -10°C to 40°C

11. The marking of the equipment shall include:

882IS, 882IS Plus. Digital Weight Indicator -

INTRINSICALLY SAFE Class I, II, III Division 1, Groups A, B, C, D, E, F and G;
Class I, Zone 0 AEx ia IIC T4 Ga;
Zone 20 AEx ia IIIC T135°C Da Ta = -10°C to 40°C, IP66

mb-EPS-100-240-X2. Power Supply -

Suitable for Class I, II, III Division 1, Groups A, B, C, D, E, F and G T4 with intrinsically safe outputs for Class I, II, III Division 1, Groups A, B, C, D, E, F and G;
Class I, Zone 1 AEx mb [ia Ga] IIC Gb;
Zone 21 AEx mb [ia Da] IIIC T135°C Db, Ta = -10°C to 40°C

IS6V2. Battery Module -

Intrinsically safe for Class I, II, III Division 1, Groups A, B, C, D, E, F and G T4;
Class I, Zone 0 AEx ia IIC T4 Ga;
Zone 20 AEx ia IIIC T135°C Da Ta = -10°C to 40°C

12. **Description of Equipment:**

The Model 882 Weighing System comprises the 882IS or 882IS Plus Digital Weight Indicators;
The mb-EPS-100-240-X2 Power Supply & the IS6V2 Battery Module.

The 882IS and 882IS Plus Digital Weight Indicators are housed in an rectangular stainless steel enclosure with a ingress rating of IP66 and incorporating the CPU board and LCD display visible through a polymeric overlay. The 882IS Plus Digital Weight Indicator incorporates a numeric keypad, the 882IS has a display with no keypad. The indicators are powered by an external power supply and have input parameters $U_i = 7.9\text{ V}$, $I_i = 3.65\text{ A}$, $C_i = 37.68\text{ }\mu\text{F}$, $L_i = 0\text{ }\mu\text{H}$, $P_i = 1.25\text{ W}$. There are five intrinsically safe input / output circuits: J1 Load Cell; J2 Digital Input; J3A RS485; J1 Fiber Optic and J3 Power Input.

The mb-EPS-100-240-X2 Dual Output Power Supply is housed in a rectangular steel enclosure and has fully encapsulated electronics. The power supply is intended for use with the 882IS and 882IS Plus Digital Weight Indicators and has $U_{oc} = 7.875\text{ V}$, $I_o = 1.326\text{ A}$, $C_o = 8.8\text{ }\mu\text{F}$, $L_o = 20.2\text{ }\mu\text{H}$, $P_o = 2.6\text{ W}$ A per channel.

The IS6V2 Battery Module contains a 6V, 10AH sealed lead acid battery housed in a stainless steel enclosure. The supply provides one intrinsically safe output. The battery supply is intended for use with the 882IS and 882IS Plus Digital Weight Indicators and has $U_o = 7.05\text{ V}$, $I_o = 3.56\text{ A}$, $C_o = 14.6\text{ }\mu\text{F}$, $L_o = 20.2\text{ }\mu\text{H}$, $P_o = 6.0\text{ W}$.

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SCHEDULE



US Certificate Of Conformity No: FM18US0195X

882IS, 882IS Plus. Digital Weight Indicator

mb-EPS-100-240-X2. Power Supply.

IS6V2. Battery Module.

13. Specific Conditions of Use:

1. The mb-EPS-100-240-X2 is not for use in acidic atmospheres.
2. The surface of the LCD display of the 882IS /882IS Plus Weight Indicator is considered to constitute an electrostatic discharge hazard. Clean only with a damp cloth.
3. The IS6V2 Battery Module cable lockout device must be installed over the connection between the battery and the cable. Lockout device must be in place at all times in the hazardous area and can only be removed in a non-hazardous area. The lockout device must be re-installed prior to re-entering the hazardous area.
4. The IS6V2 Battery Module is for use only with the Model NP10-6 battery manufactured by ENERSYS.

14. Test and Assessment Procedure and Conditions:

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

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
25 th February 2019	Original Issue.

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

CERTIFICATE OF CONFORMITY



1. **HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS**

- 2. **Certificate No:** **FM18CA0092X**
- 3. **Equipment:** Model 882 Weighing System comprising:
(Type Reference and Name) 882IS and 882IS Plus Digital Weight Indicators;
mb-EPS-100-240-X2 Dual Output Power Supply &
IS6V2 Battery Module.
- 4. **Name of Listing Company:** Rice Lake Weighing Systems
- 5. **Address of Listing Company:** 230 W Coleman St Rice Lake, WI 54868
United States

6. The examination and test results are recorded in confidential report number:
3062120 dated 25th February 2019


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

CSA-C22.2 No. 25:R2017,
CSA-C22.2 No. 30:R2012, CSA-C22.2 No. 60529:R2005,
CAN/CSA-C22.2 No. 60079-0:2015, CAN/CSA-C22.2 No. 60079-11:2014, CAN/CSA-C22.2 No. 60079-18:2016, CAN/CSA-C22.2 No. 61010-1:2015

- 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:

882IS, 882IS Plus. Digital Weight Indicator -
Intrinsically safe for Class I, II, III Division 1, Groups A, B, C, D, E, F and G; Class I, Zone 0 AEx ia IIC;
Zone 20 AEx ia IIIC hazardous (classified) locations, IP66, Ta = -10°C to 40°C

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SCHEDULE



Canadian Certificate Of Conformity No: FM18CA0092X

mb-EPS-100-240-X2. Power Supply -

Suitable for Class I, II, III Division 1, Groups A, B, C, D, E, F and G with intrinsically safe outputs for Class I, II, III Division 1, Groups A, B, C, D, E, F and G;
Class I, Zone 1 AEx mb [ia Ga] IIC Gb;
Zone 21 AEx mb [ia Da] IIIC Db hazardous (classified) locations, Ta = -10°C to 40°C

IS6V2. Battery Module -

Intrinsically safe for Class I, II, III Division 1, Groups A, B, C, D, E, F and G;
Class I, Zone 0 AEx ia IIC;
Zone 20 AEx ia IIIC hazardous (classified) locations, Ta = -10°C to 40°C

11. The marking of the equipment shall include:

882IS, 882IS Plus. Digital Weight Indicator -

INTRINSICALLY SAFE Class I, II, III Division 1, Groups A, B, C, D, E, F and G;
Class I, Zone 0 Ex ia IIC T4 Ga;
Zone 20 AEx ia IIIC T135°C Da Ta = -10°C to 40°C, IP66

mb-EPS-100-240-X2. Power Supply -

Suitable for Class I, II, III Division 1, Groups A, B, C, D, E, F and G T4 with intrinsically safe outputs for Class I, II, III Division 1, Groups A, B, C, D, E, F and G;
Class I, Zone 1 Ex mb [ia Ga] IIC Gb;
Zone 21 AEx mb [ia Da] IIIC T135°C Db, Ta = -10°C to 40°C

IS6V2. Battery Module -

Intrinsically safe for Class I, II, III Division 1, Groups A, B, C, D, E, F and G T4;
Class I, Zone 0 Ex ia IIC T4 Ga;
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SCHEDULE



Canadian Certificate Of Conformity No: FM18CA0092X

882IS, 882IS Plus. Digital Weight Indicator

mb-EPS-100-240-X2. Power Supply.

IS6V2. Battery Module.

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4. The IS6V2 Battery Module is for use only with the Model NP10-6 battery manufactured by ENERSYS.

14. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals Canadian Certification Scheme.

15. Schedule Drawings

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16. Certificate History

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