


# CERTIFICATE OF CONFORMITY



1. **HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS**
2. **Certificate No:** FM17CA0163X
3. **Equipment:** Model MPXI Digital Load Cell with EM Force Compensation  
**(Type Reference and Name)**
4. **Name of Listing Company:** Mettler-Toledo GmbH
5. **Address of Listing Company:** Im Langacher 44  
Greifensee  
CH-8606  
Switzerland
6. The examination and test results are recorded in confidential report number:  
3062822 dated 22<sup>nd</sup> May 2018
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:  
CAN/CSA-C22.2 No. 61010-1:2004, CAN/CSA-C22.2 No. 60079-0:2015,  
CAN/CSA-C22.2 No. 60079-11:2014, CAN/CSA-C22.2 No. 60529:2016
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:**  
Intrinsically safe for use in Class I, II, III, Division 1, Groups A, B, C, D, E, F and G; Temperature Class T4 (Class I), T6 (Class II and III), Ta = -10°C to +40°C; Ex ib for Class I, Zone 1, Group IIC; Temperature Class T4 Ta = -10°C to +40°C; Ex ib for Zone 21, Group IIIC T50°C; Ta = -10°C to +40°C; Hazardous (Classified) Locations; IP66.

**Certificate issued by:**

  
\_\_\_\_\_  
J.E. Marquedant  
Manager, Electrical Systems

22 May 2018  
\_\_\_\_\_  
Date

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://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



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11. The marking of the equipment shall include:

IS / I / 1 / ABCD / T4  $-10^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$ ;  
IS / II, III / 1 / EFG / T6  $-10^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$ ;  
I / 1 / Ex ib / IIC / T4  $-10^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$ ;  
21 / Ex ib / IIC / T50 $^{\circ}\text{C} -10^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$ ;  
IP66.

12. **Description of Equipment:**

### **Functionality**

Model MPXI is a Digital Load Cell with electro-magnetic force compensation. The load cells are used for installation in various applications such as integration into machines or instruments like bench scales or floor scales. There are no serviceable parts inside.

### **Electrical**

The load cell is powered according to the following specifications:

U1 input (digital circuits):  $U_i = 8.7\text{V}$ ,  $I_i = 133\text{ mA}$ ,  $P_i = 1.16\text{W}$ ,  $L_i = 0$ ,  $C_i = 0.121\text{ uF}$ ;

U2 input (analog circuits):  $U_i = 12.6\text{V}$ ,  $I_i = 42\text{ mA}$ ,  $P_i = 0.53\text{W}$ ,  $L_i = 0$ ,  $C_i = 0.126\text{ uF}$ ;

TxD\_CL input (current loop communications):  $U_i = 10.5\text{V}$ ,  $I_i = 74\text{ mA}$ ,  $P_i = 0.78\text{W}$ ,  $L_i = 0$ ,  $C_i = 0$ ;

RxD\_CL input (current loop communications):  $U_i = 10.5\text{V}$ ,  $I_i = 74\text{ mA}$ ,  $P_i = 0.78\text{W}$ ,  $L_i = 0$ ,  $C_i = 0$ .

### **Mechanical**

The load cell is located inside of a 304 steel housing which is 252mm by 180.5mm by 87.4mm. The load cell is located inside the housing except for the portion where force is applied. The force is applied to a cylinder which protrudes through the width side of the housing and is 20mm long having a diameter of approximately 33mm. A rubber membrane covers the cylinder portion of the load cell and is critical to maintaining the Class II, III rating of the housing. The length side of the housing contains a six pin pluggable connector containing power and signals. The connector has a locking mechanism that requires a tool for release. There is a guard above the power connector to protect it from impacts. The housing cover has a tear-off head screw which cannot be opened neither by hand nor by a tool. A gasket adheres to the main body of the housing under the cover.

### **aMPXIbcd-efg. Digital load cell.**

a = Application: I (Industrial) or N (Neutral);

b = Weight capacity: 0000 to 9999;

c = Weight unit: K (kilograms) or G (grams);

d = Weight resolution: 0 to 9;

e = Quality grade: 2 to 9;

f = Direct/Hybrid Platform Application: D (Direct) or H (Hybrid);

g = Replacement Module: blank or SPARE.

13. **Specific Conditions of Use:**

Membrane around the force transmission shall be effectively protected against mechanical damage and direct sunlight or UV radiation.

14. **Test and Assessment Procedure and Conditions:**

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

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
22 <sup>nd</sup> May 2018	Original Issue.

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