


CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** FM17US0324X
3. **Equipment:** Model MPXI Digital Load Cell with EM Force
(Type Reference and Name) Compensation
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 22nd May 2018
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:
FM Class 3600:2011, FM Class 3610:2015, FM Class 3810:2017,
ANSI/ISA-60079-0:2013; ANSI/ISA-60079-11:2014, 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:**
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; AEx ib for Class I, Zone 1, Group IIC; Temperature Class T4 Ta = -10°C to +40°C; AEx 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

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

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

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 / AEx ib / IIC / T4 $-10^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$;
21 / AEx ib / IIIC / 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 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
22 nd May 2018	Original Issue.

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