

InFit 76X Series

Important Notes



METTLER TOLEDO

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1 Notes on operating instructions

These operating instructions contain all the information needed for safe and proper use of the housing.

The operating instructions are intended for personnel entrusted with the operation and maintenance of sensors and housings. It is assumed that these persons are familiar with the equipment in which the sensors and housings are installed.

Warning notices and symbols

This instruction manual identifies safety instructions and additional information by means of the following symbols:



Danger! Warning of a dangerous situation that can lead to extensive material damage, to death or grave bodily injury.



Caution! Warning of a possible dangerous situation that can lead to light bodily harm and/or material damage.



Attention: Information referring to technical requirements. Non-adherence can lead to malfunctions, uneconomic working and possibly also to loss of productivity.

2 Intended use

The insertion housings InFit™ 76Xe are intended solely for measurement tasks in conjunction with the specified METTLER TOLEDO electrodes/sensors, namely pH and redox (ORP) combination electrodes as well as oxygen, CO₂, conductivity or turbidity sensors. Use the housings only for this purpose.



Housings with the Ex or FM symbol (see left) on the type plate have received approval for operation in potentially explosive/hazardous areas. Any use of these housings, which differs from or exceeds the scope of use described in this instruction manual, will be regarded as inappropriate and incompatible with the intended purpose. The manufacturer/supplier accepts no responsibility whatsoever for any damage resulting from such improper use. The risk is borne entirely by the user/operator.

Other prerequisites for appropriate use include:

- Compliance with the instructions, notes and requirements set out in this instruction manual.
- Correct maintenance of the housings.
- Acceptance of responsibility for regular inspection, maintenance and functional testing of all associated components, also including compliance with local operational and plant safety regulations.
- Operation in compliance with prevailing regulations concerning the environmental and operating conditions as well as with the admissible mounting positions.
- Compliance with all information and warnings given in the documentation relating to the products used in conjunction with the housings.
- Correct equipment operation in conformance with the prescribed environmental and operational conditions, and admissible installation positions.
- Consultation with METTLER TOLEDO Process Analytics in the event of any uncertainties.



Danger! The housing must be operated only with the specified electrodes/sensors. The absence or the installation of an inappropriate electrode/sensor may adversely affect the resistance to pressure and temperature, the chemical resistance and the protection against explosion. Consequently, there can be leakage from the housing and/or risk of explosion that may endanger persons and the environment.

3 **Safety instructions**

- The plant operator must be fully aware of the potential risks and hazards attached to operation of the particular process or plant. The operator is responsible for correct training of the workforce, for signs and markings indicating sources of possible danger, and for the selection of appropriate, state-of-the-art instrumentation.
- It is essential that personnel involved in the commissioning, operation or maintenance of these housings or of any of the associated equipment (e.g. sensors, transmitters, etc.) be properly trained in the process itself, as well as in the use and handling of the associated equipment. This includes having read and understood this instruction manual.
- The safety of personnel as well as of the plant itself is ultimately the responsibility of the plant operator. This applies in particular in the case of plants operating in hazardous zones.
- The housings and associated components have no effect on the process itself and cannot influence it in the sense of any form of control system.
- Maintenance and service intervals and schedules depend on the application conditions, composition of the sample media, plant equipment and significance of the safety control features of the measuring system. Processes vary considerably, so that schedules, where such are specified, can only be regarded as tentative and must in any case be individually established and verified by the plant operator.
- Where specific safeguards such as locks, labels, or redundant measuring systems are necessary, these must be provided by the plant operator.
- A defective housing must neither be installed nor put into service.
- Only maintenance work described in these operating instructions may be performed on the housings.
- When changing faulty components, use only original spare parts obtainable from your METTLER TOLEDO supplier (see spare parts list, in the instruction manual).
- No modifications to the housings and the accessories are allowed. The manufacturer accepts no responsibility for damage caused by unauthorized modifications. The risk is borne entirely by the user.
- Care must be taken during installation to avoid impacts or friction that could create an ignition source.
- Tampering and replacement with non-factory components may adversely affect the safe use of the system.
- Insertion or withdrawal of removable electrical connectors or modules is to be accomplished only when the area is known to be free of flammable vapors.
- **WARNING** – INTRINSICALLY SAFE APPARATUS CAN BE A SOURCE OF IGNITION IF INTERNAL SPACINGS ARE SHORTED OR CONNECTIONS OPENED.
- **WARNING** – DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT.
- **WARNING** – SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.
- **WARNING** – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY OF THE EQUIPMENT
- **WARNING** – FOR CONNECTION ONLY TO NON-FLAMMABLE PROCESSES.

4 Environmental protection



Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.

5 Use in Ex zones



Attention! For an installation in Ex zones please read the guidelines following hereafter:



Ex classification ATEX/IECEX/UKEX:

⊕ II 1/2G Ex h IIC T6 ... T3 Ga/Gb

⊕ II 1/2D Ex h IIIC T69 °C ... T141 °C Da/Db

Number of the test certificate:

SEV 13 ATEX 0161X

Number of IECEX Certificate:

IECEX SEV 19.0014X

Number of UKEX Certificate:

CML 22 UKEX 6413X

Ex classification FM approved:



IS CI I, II, III, Div 1

Gp A B C D E F G/T6

Tamb. = 0 °C to +60 °C

– 53 800 002; Entity

Project ID: 3021227

FM certificate number: FM16US0034X

FM18CA0021X

6 Ex classification ATEX/IECEX/UKEX

6.1 Introduction

According to RL 2014/34/EU (ATEX 114) ¹⁾ Appendix I, InFit 76X/*1/*2/*3/*4/*5/*6*7*8 housings are devices group II, category 1/2G and according to RL 99/92/EG (ATEX 137)²⁾ may be used in zones 0/1 or 0/2 and gas group IIC that are potentially explosive due to combustible substances in the temperatures classes T3 to T6.

For use/installation, the requirements of EN 60079-14 must be observed.

According to RL 2014/34/EU (ATEX 114) ¹⁾ Appendix I, InFit 76X/*1/*2/*3/*4/*5/*6*7*8 housings are devices group III, category 1/2D and according to RL 99/92/EG (ATEX 137)²⁾ may also be used in zones 20/21 resp. 20/22 that contain combustible dusts.

For use/installation, the requirements of EN 60079-14 must be observed.

6.2 Special conditions

1. The housings with pneumatic actuation position of the sensors with electrical feedback signal may be operated in hazardous areas Zone 1 and Zone 2 or Zone 21 and Zone 22 with separately certified intrinsically safe inductive proximity switches e.g. Pepperl + Fuchs types NCB2 ***¹⁾ – if the gas groups and temperature classes coincide with the used flammable substances and the special conditions of the Certificates are observed.
2. The maximum permissible ambient or process temperatures for Zone 0 (flammable gases or flammable liquids) shall be taken according to the following table:

Temperature class	Max. environment resp. media temperature
T6	68 °C
T5	80 °C
T4	108 °C
T3	140 °C

The maximum permissible ambient or process temperatures must not exceed the aforementioned values and they will be found in this instruction manual "Section 8".

3. The maximum permissible surface temperature for Zone 20 (combustible dust) shall be taken accordingly to the following table:

Temperature class	Max. environment resp. media temperature
T 69 °C	68 °C
T 81 °C	80 °C
T 109 °C	108 °C
T 141 °C	140 °C

The maximum permissible ambient or process temperatures must not exceed the aforementioned values and they will be found in this instruction manual "Section 8".

4. The metallic body of the housing type InFit 76X/*1/*2/*3/*4/*5/*6/*7/*8 has to be connected conductively to the equipotential system of the plant.
5. The housings type InFit 76X/*1/*2/*3/*4/*5/*6/*7/*8 are included in the periodic pressure testing of the system, where appropriate.
6. **WARNING** – POTENTIAL ELECTROSTATIC CHARGING HAZARD – by installation, use and maintenance work, see instruction manual
7. The housings made of titanium must be installed adequately protected against impact and friction sparks.

¹⁾ For UK statutory Requirements SI 2016 No. 1107

²⁾ For UK regulations 7 and 11 of the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR).

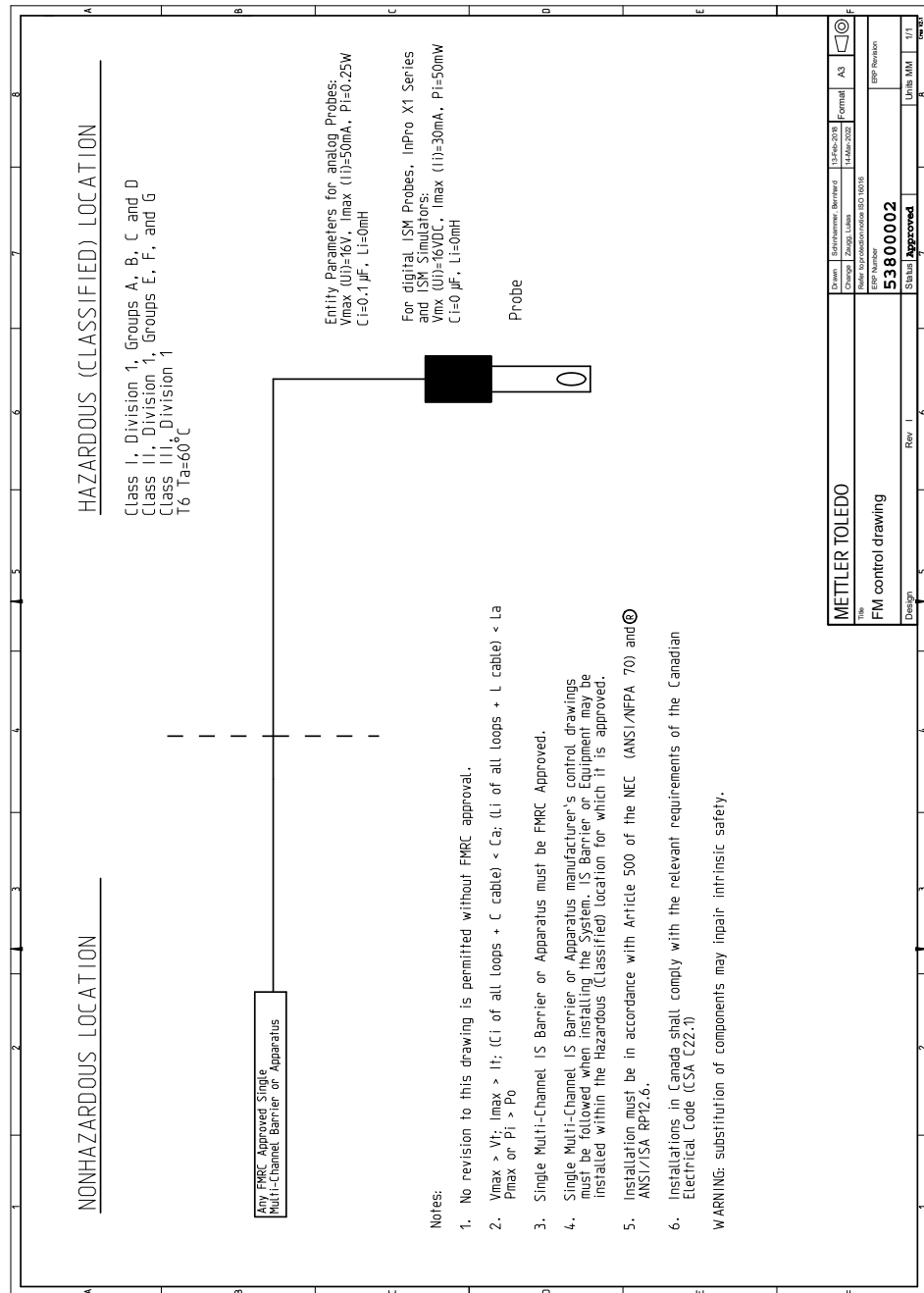
7 Ex classification FM approved



IS CI I, II, III, Div 1
 Gp A B C D E F G/T6
 Tamb. = 0°C to +60°C

7.1 Introduction

The following FM control drawing and the standards listed in section "Applied Standards" of the instruction manual must be observed, where applicable:



7.2 Special conditions

See section 6.2.

7.3 Applied standards

United States Standards

Title	Number	Issue Date
Approval Standard for Electrical Equipment for Use in Hazardous (Classified) Locations – General Requirements	FM Class 3600	2022
Approval Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II & III, Division 1, Hazardous (Classified) Locations	FM Class 3610	2021
Approval Standard for Electrical Equipment for Measurement, Control and Laboratory Use	FM Class 3810	2021
Explosive Atmospheres – Part 0: Equipment – General Requirements	ANSI/UL 60079-0:2020	2020
Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety “i”	ANSI/UL 60079-11:2018	2018
Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements	ANSI/UL 61010-1:2018	2018

Canadian Standards

Title	Number	Issue Date
Explosive Atmospheres – Part 0: Equipment – General Requirements	CAN/CSA-C22.2 No. 60079-0	2019
Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety “i”	CAN/CSA-C22.2 No. 60079-11	R2018
Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements	CAN/CSA-C22.2 No. 61010-1	R2017

8 Hygienic Instruction

For the operation according EHEDG, please follow the instructions:

1. Introduction

The use of components with the EHEDG logo provides proof that the configuration was tested. The certificate always refers to a combination of sensor and process fitting.

2. Mounting

All parts of the measuring point must be certified according to EHEDG.

3. Installation position

The sensor has to be mounted that self-drainage of the sensor resp. housing is possible. If the sensor is mounted in a different position, the user must ensure the self-drainage of the sensor through suitable measures.

4. Socket

The height of the socket (h) can be at most twice as large as the difference between the sensor diameter (d) and the pipe inner diameter (D).

The following formula is applicable:

$$h \leq (D-d).$$

h Permissible socket height (sealing surface to tube inner diameter)

D Socket inner diameter

d Sensor diameter

For addresses of METTLER TOLEDO
Market Organizations please go to:
www.mt.com/contacts

www.mt.com/pro

For more information



Management System
certified according to
ISO 9001/ISO 14001



METTLER TOLEDO Group
Process Analytics
Local contact: www.mt.com/contacts

Subject to technical changes
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