Instruction Manual

1. Marking

Ultrasonic Level Sensor LUC-M10, LUC-M20, LUC-M40
ATEX certificate: KEMA 05 ATEX 1111 X
ATEX marking: Ⓔx II 1/2D Ex ta/tb IIIC T104°C Da/Db Ⓔx II 2D Ex tb IIIC T95°C Db Ⓔx II 1/3D Ex ta/tc IIIC T104°C Da/Dc Ⓔx II 3D Ex tc IIIC T95°C Dc

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2. Device Versions

Device type	Basic specifications	Optional specifications
LUC-MXX	-XXXXX-IHX-XX	–

The X-marked letters of the type code are placeholders for versions of the device.

The following specifications reproduce an extract from the product structure and are used to assign.

Basic specifications

Option	Housing
A1	Aluminium housing F12, IP68, thread M20x1.5
A2	Aluminium housing T12, IP68, coated, with separate terminal compartment
A4	Aluminium housing T12, IP68, coated, with separate terminal compartment, overvoltage protection

Option	Electrical output
IH	2-wire, 4 mA to 20 mA HART

Option	Display and operation
B	without display and operating module
D	with display and operating module inclusive on-site operation, envelope curve display

Option	Approval
ES	ATEX II 1/2D Ex ta/tb IIIC T104°C Da/Db ATEX II 2D Ex tb IIIC T95°C Db
E2	ATEX II 1/3D Ex ta/tc IIIC T104°C Da/Dc ATEX II 3D Ex tc IIIC T95°C Dc

Optional specifications

No options specific to hazardous locations are available.

3. Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismounting lies with the plant operator.

The personnel must be appropriately trained and qualified in order to carry out mounting, installation, commissioning, operation, maintenance, and dismounting of the device. The trained and qualified personnel must have read and understood the instruction manual.

Prior to using the product make yourself familiar with it. Read the instruction manual carefully.

4. Reference to Further Documentation

Observe directives, standards, and national laws applicable to the intended use and the operating location.

The corresponding datasheets, manuals, declarations of conformity, EU-type examination certificates, certificates, control drawings, and temperature tables if applicable are an integral part of this document. You can find this information under www.pepperl-fuchs.com.

For specific device information such as the year of construction, scan the QR code on the device. As an alternative, enter the serial number in the serial number search at www.pepperl-fuchs.com/device-information.

5. Intended Use

The device is only approved for appropriate and intended use. Ignoring these instructions will void any warranty and absolve the manufacturer from any liability.

The device is an ultrasonic level sensor for continuous, non-contact level measurement.

Use the device only within the specified ambient and operating conditions.

Only use the device in media to which the process-contacting materials of the device are sufficiently resistant.

The EU-type examination certificate in accordance with ATEX Directive applies only to the use of apparatus under atmospheric conditions.

The device can be used in hazardous areas containing combustible dust.

Only use the device in fixed installations.

6. Improper Use

Protection of personnel and the plant is not ensured if the device is not used according to its intended use.

7. Mounting and Installation

Use appropriate protection measures in order to protect persons that have contact with hazardous or toxic substances.

Do not mount a damaged or polluted device.

Mount the device in a way that the device is protected against mechanical hazard.

If you expect dynamic loads, support the extension tube of the device.

Only use accessories specified by the manufacturer.

Include the device into the equipotential bonding.

Avoid inadmissibly high electrostatic charge plastic surfaces.

Avoid inadmissibly high electrostatic charge of insulated capacities or insulated metal parts.

The intrinsically safe circuit is grounded.

Equipotential bonding must be achieved along the intrinsically safe circuits.

Observe the grounding requirements for type of protection Ex i according to IEC/EN 60079-14.

Ensure that the device provides and maintains a degree of protection of at least IP66 according to IEC/EN 60079-0.

Requirements for Cable Glands

Only use cable glands with a temperature range appropriate to the application.

Ensure that the degree of protection is not violated by the cable glands.

Only use cable glands that are suitably certified for the application.

Only use stopping plugs that are suitably certified for the application.

When the cover is fitted, ensure that all fasteners are fully tightened.

- Tightening torque of the fasteners: ≥ 40 Nm

Use a strain relief device or alternatively install cables and cable glands in accordance with IEC/EN 60079-11.

Requirements for Cables and Connection Lines

Only use cables and connection lines with a temperature range appropriate to the application.

Protect the cables from tensile load and torsional stress.

Specific Conditions of Use

Refer to the temperature tables for the relationship between permitted ambient temperature, range of application and temperature class.

Avoid impact effect or friction during mounting.

8. Operation, Maintenance, Repair

Use appropriate protection measures in order to protect persons that have contact with hazardous or toxic substances.

Do not use a damaged or polluted device.

The device is maintenance-free.

Do not repair, modify, or manipulate the device.

If there is a defect, always replace the device with an original device.

Connection or disconnection of energized circuits is only permitted in the absence of a potentially explosive atmosphere.

Include the device into the equipotential bonding.

Avoid inadmissibly high electrostatic charge plastic surfaces.

Avoid inadmissibly high electrostatic charge of insulated capacities or insulated metal parts.

When energized, only open the housing in the absence of a potentially explosive atmosphere.

Remove the dust before opening the terminal compartment.

Before you close the housing, ensure that the seals are clean, undamaged, and correctly fitted.

Return

Take the following precautions before you return the device to Pepperl+Fuchs.

Remove all adhering residues from the device. These residues can be hazardous to health.

Fill in the form **Declaration of Contamination**. You can find this form on the product detail page at www.pepperl-fuchs.com.
Enclose the filled in **Declaration of Contamination** form with the device.
Pepperl+Fuchs can examine and repair a returned device, only if a completed form is included in the return.
If needed, include special handling instructions with the device.
Specify the following information:

- Chemical and physical characteristics of the product
- Description of the application
- Description of the error that occurred (specify error code if possible)
- Operating time of the device

9. Delivery, Transport, Disposal

Check the packaging and contents for damage.
Check if you have received every item and if the items received are the ones you ordered.
Store the device in a clean and dry environment. The permitted ambient conditions must be considered, see datasheet.
The device, built-in components, packaging, and any batteries contained within must be disposed in compliance with the applicable laws and guidelines of the respective country.