# UTF06

## Ultrasonic transducer for level measurement and control




- **UTF06 ultrasonic transducer for measuring ranges from 0.3 to 6m**
- **UTF transducers with measuring ranges up to 50m and reduced dead zone from 0.2m up to a maximum of 2m depending on the transducer used**
- **Connection with standard 3 x 1mm$^2$ shielded three-core cables up to 3000m**
- **No need for dedicated grounded metal conduits**
- **No coaxial cables required**
- **UTF transducers for safe zone or on request ATEX II 2GD execution for zone 2 or ATEX II 1GD execution for zone 0**
- **Transducers with radiating face made of PVDF (KYNAR) or PTFE with flange connections on request**

Terry Ferraris' UTF ultrasonic transducers are designed to meet the precision and reliability requirements needed for all solid and liquid level measurement and control processes. The decision to use a low voltage in the connections to the control electronic equipment and the non-frequency dependency allows for high performance and low installation costs as the connection is made via a three-core shielded cable. Since the connection to the electronics is not frequency-dependent, transducers can be replaced without having to recalibrate the electronics, and the transducer can be placed up to 3000m away from the electronics without compromising measurement reliability. The use of low voltage also enables intrinsic safety certification for use in flammable atmospheres. The UTF transducer is based on a ceramic PTZ element, compensated in temperature and is suitable for level measurement of solids and liquids with measuring ranges between 0.2 and 50m, and operates in environments with temperatures between -30/-40 and 90°C.
The standard cable length is 5m. UTF transducers can be installed using the 1", 1 ½ " or 2" Gas threaded connection or using a flange.
With the flange, the use of a gasket is recommended in order to prevent any vibrations in the system from causing interference. For applications where threaded or flanged connections cannot be used, it is recommended to use a safety chain to prevent the transducer cable from being damaged.
For applications in silos or tanks for solid materials, an orientation joint is available, which is used to orient the ultrasonic beam at the bottom of the tank or at the discharge point so that there is no interference with the loaded materials.
For liquid applications, a protective shield is available on request, enabling the transducer to function even if it is submerged.
For use on solids, the transducers have a protective soft foam membrane and use an orientation joint.

*Continuous product development may lead to changes in the data displayed.*



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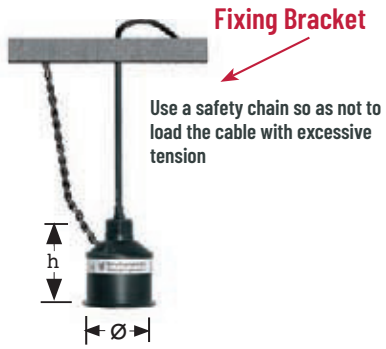
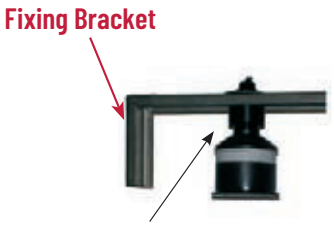
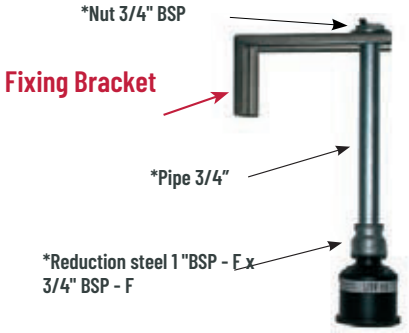
**The standard enclosure** is made of Valox 357. A series of UTF transducers 03, 06, 6S, 10, 15, 25, 40, 50 with the ultrasonic radiating part made of synthetic foam (not suitable for products with solvents and/or chemical aggressive media) or PVDF, or in flange design with PTFE face is available on request.
A sun shield and protection for submersible applications is available for model UTF03HR (high resolution).

**Installations in hazardous areas**
All ultrasonic transducers, upon request, can be Atex certified for use in hazardous areas and are divided into two groups: those certified Atexx1GD for use in zone 1 with safety barrier and those certified Atex 2GD EEx m II T6 suitable for use in zone 2 (without safety barrier). Since the enclosure is made of plastic, it is possible that electrostatic discharges may occur, so the EEx ia version must not be installed in places where electrostatic charges can accumulate. The EEx m version must be powered by a device offering short-circuit protection up to 4000A.




# Technical specifications

The UTF transducer range includes several models with measuring ranges up to 40 metres and can be supplied with threaded or flanged connections or in sanitary execution.
They can be Atex zone 2 or intrinsically safe Atex zone 1.

The radiating face can be PTFE, PVDF or foamed. UTF03 series transducers used for flow measurements can be supplied with a sun shield (on request).

## CONNECTION AND RADIATING SIDE

| TRANSDUCER | COUPLING | 1"Gas | 1"Gas | Flange | 1"Gas | 1"Gas | Thread. 1 1/2 | Thread. 2" | Thread. 1 1/2 | Thread. 2" |
|---|---|---|---|---|---|---|---|---|---|---|
| | Front | STD | PVDF | PTFE | Skimming | Submerg. | STD | STD | PVDF | PVDF |
| UTF06 | | • | • | • | • | • | • | | • | |
| dBXM06 | EEx m | • | • | • | • | • | • | | • | |
| dB06IS | EEx ia | • | • | • | • | • | • | | • | |

## DIN STANDARD FLANGE CONNECTION

| DN(mm) | De(mm) | Mezzaria (mm) | Sp (mm) | Holes (n./ø mm) |
|---|---|---|---|---|
| 80 | 200 | 160 | 19 | 8 / 18 |
| 100 | 220 | 180 | 19 | 8 / 18 |

## ANSI STANDARD FLANGE CONNECTION

| DN(mm) | De(mm) | Mezzaria (mm) | Sp (mm) | Holes (n./ø mm) |
|---|---|---|---|---|
| 3" | 200 | 152 | 19 | 4 / 18 |
| 4" | 220 | 190 | 19 | 8 / 18 |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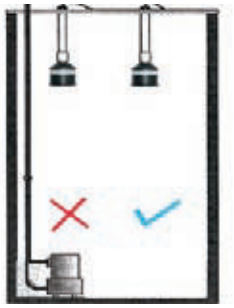
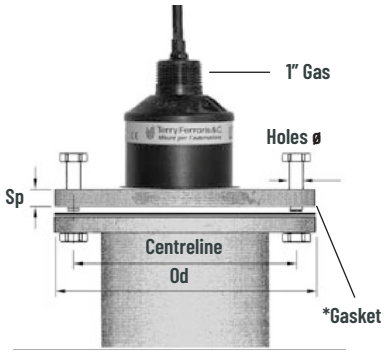
# Technical specifications and assembly

| TRANSDUCER | Approval | Dead zone | Measuring range | Frequency | Face Ø | Opening angle | Time field | Footprint |
|---|---|---|---|---|---|---|---|---|
| **UTF06** | CE (STD) | 300mm from cable end | 6m | 6m | 30mm | 10° a -3db | -40 a +90°C | 86x106mm |
| **dBXM06** | ATEX EEx m | 300mm from cable end | 6m | 6m | 30mm | 10° a -3db | -40 a +90°C | 86x106mm |
| **dB06IS** | ATEX EEx ia | 300mm from cable end | 6m | 6m | 30mm | 10° a -3db | -40 a +90°C | 86x106mm |

## Assembly and accessories on request

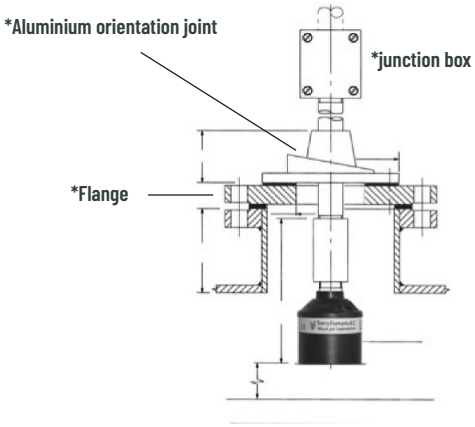


Never place the transducer over internal tank protrusions




UTF in flanged execution

## *Accessories available on request




Steel orientation joint



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