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# DATASENSING UT1 ULTRASONIC SENSOR

UT1B/GW-0ESY
M30 PNP adjustable hysteresis NO+NC. 250-3500mm
conn. M12 plastic

- Long distance sensing range from 250mm to 8000mm
- Plastic or stainless steel housing models
- PNP, NPN, Voltage or current analogue and IO-Link output versions available
- IP67 protection
- M12 connector or embedded 2m cable

## PRODUCT DESCRIPTION

The **UT1 series of ultrasonic sensors** from Datasensing offers a robust and versatile range of M30 barrel sensors, designed for a wide variety of applications. These sensors are built to meet the needs of industries such as robotics, automotive, industrial automation, and healthcare, where precise object detection and distance measurement are critical. Available in both metal and plastic housings, the UT1 sensors provide flexibility in selecting the right material for different environments, from rugged industrial settings to more controlled environments.
The UT1 series provides multiple connectivity options, including both digital and analogue outputs, to suit a wide range of system integration requirements. With the choice of an M12 connection or an embedded 2-meter cable, these sensors ensure easy and flexible installation, making them a reliable solution for new installations or system upgrades. This flexibility, combined with the durability of the M30 barrel design, allows the UT1 sensors to perform reliably in both tight spaces and more open, expansive settings.
Utilizing ultrasonic technology, the UT1 sensors work by emitting high-frequency sound waves (typically above 20 kHz) and measuring the time it takes for the waves to reflect off an object. This principle of sound wave reflection enables accurate detection of objects and precise distance measurements, even in environments where traditional sensors may struggle due to dust, dirt, or vibrations. The UT1 sensors are designed to maintain consistent performance in challenging conditions, making them an ideal choice for demanding industrial applications.

**Technical features:**

- M30 Barrel Design: A robust M30 barrel sensor suitable for a wide variety of applications and easy integration into existing systems.
- Digital and Analog Outputs: Offers both digital and analogue output options for flexible integration into different control systems and automation processes.
- M12 Connector or Embedded 2m Cable: Provides installation flexibility with either an M12 connector for quick setup or an embedded 2-meter cable for direct wiring.
- Choice of Metal or Plastic Housing: Available in either durable metal or lightweight plastic housing, depending on the environmental requirements and application needs.
- Ultrasonic Technology: Utilizes high-frequency ultrasonic waves (above 20 kHz) for accurate distance measurement and object detection.
- Distance Measurement via Sound Wave Reflection: Operates by emitting ultrasonic waves and measuring the time it takes for the waves to reflect off an object
- Wide Measurement Range: Capable of detecting objects over a broad range of distances, making it suitable for diverse sensing tasks.
- Fast Response Time: Provides quick measurements
- Temperature Compensation: Ensures stable performance across a wide range of temperatures, maintaining accuracy even in fluctuating environmental conditions.
- High Protection Rating (IP67): Provides excellent protection against dust, dirt, and water
- Versatile Application Use: Suitable for applications in robotics, industrial automation, material handling, automotive systems, and healthcare.
- Flexible Mounting Options: The M30 barrel design allows for various mounting configurations

## TECHNICAL DATA

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|---|---|
| **Distance max** | 3500 mm |

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| **Distance min** | 250 mm |
| **Electrical connection** | M12 plug cable exit |
| **Housing** | M30 |
| **IP class** | IP67, NEMA Type 4X |
| **LED indication** | YES |
| **Material of body** | PBT, Stainless steel 316L |
| **Output** | 2xPNP |
| **Supply voltage dc max** | 30 V DC |
| **Supply voltage dc min** | 10 V DC |
| **Temperature operational max** | 70 °C |
| **Temperature operational min** | -20 °C |