

# Ultrasonic Level Transmitter for continuous measurement of:

- level for liquids and solids
- flow rate for open channel

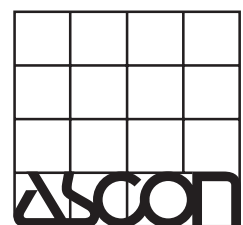
## TL-M0 line

- Compact housing
- Pre-programmed default setting
- Wide range of applications with range up to 12 m
- Calibration and maintenance free



E

ISO 9001 Certified



## Description

The ultrasonic level transmitter model TL-M0 is suitable for direct installation on tanks, vessels, reactors and open channels flow measurement. The specific algorithm inside TL-M0 enables full monitoring of signal amplification received from the sensor. It ensures an accurate and reliable reading even in the presence of gases or vapors. It also converts the amplification to an optimized level when the liquid surface

has waves and is turbulent (note). This algorithm has also proven to be especially effective for the measurement of powders and other solids. This module weakens the strong signals, and strengthens the weak signals for improvement of the signal to noise ratios. The TL-M0 is compensated for changes in temperature and it corrects the reading accordingly. It is particularly suitable for process installations where there

are rapid temperature fluctuations. The dynamic compensation ensures that the instrument maintains optimal accuracy at all the time. The innovative technology incorporated in the TL-M0 model provides a highly reliable signal at the maximum amplitude for attaining an extremely high level of accuracy, resolution, repeatability and linearity. By measuring energy loss as a function of speed of sound,

the TL-M0 can cope with even the most difficult environments.

## Models and ranges

Range	Application	Model
0.25... 5 m	level for liquids	TL-M0-L1
0.6... 12 m	level for liquids	TL-M0-L2
0.25... 5 m	level for solids	TL-M0-S1
0.6... 8.5 m	level for solids	TL-M0-S2
0.25... 5 m	open-channel / flow	TL-M0-O1
0.6... 12 m	level for liquids	TL-M0-O2

## Application and advantages (note)

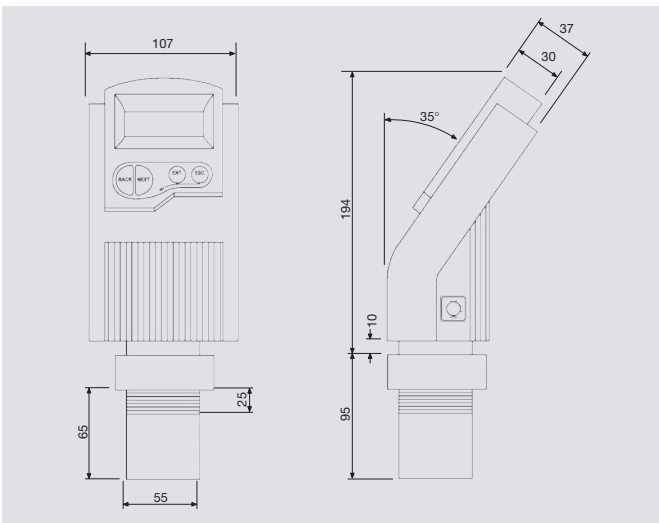
<b>Chemical processes</b>	Acids, bases, different chemical and reagents in buffer tanks; inventory storage tanks. Benefit from improved performance in the presence of foam, gases and water vapor.
<b>Silo, Tank, Storage</b>	Bulky powders, fertilizers, ores, solids and gravel. Benefit from improved long-range and reliable signals.
<b>Petrochemicals</b>	Most hydrocarbons. Benefit from improved performance in environments of volatile gas and CO <sub>2</sub> . Inventory tank gauging with accuracy down to 3 mm.
<b>Food and Beverage</b>	Beer, juice, slurries in blending and mixing tanks. Granes, powders, flour in silos and more. Benefit from improved accuracy and new implementations.
<b>Water and Waste Water</b>	Water storage towers. Accurate open channel flow measurements. Sludges and slurries in waste water plants. Pump stations. Benefit from low cost and high performance.
<b>Pharmaceuticals</b>	Fine powders, aseptic liquids, pastes. Benefit from a wide range of new applications.
<b>Pulp</b>	Liquors, bleaching agents. Benefit from superior performance, accuracy and reliability at an affordable price.
<b>Plastics</b>	Granules, powders, solvents. Benefit from new solutions for the plastic industry.

**Note:** Verify the application with our Customer Service.

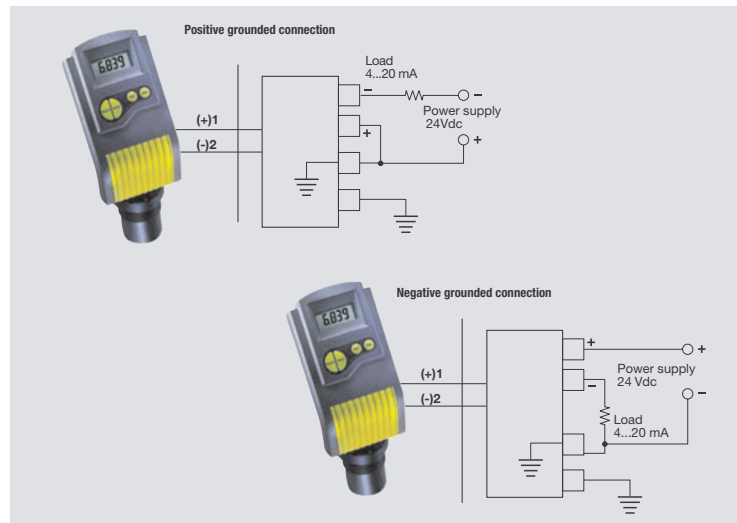
## Technical Data

Measurement accuracy	0.25% of measured range
Resolution	3 mm
Transducer frequency	25 kHz
Beam angle	5° @ 3 db
Power supply	12...28 VDC
Output Signal	4...20 mA, 2 wire
Load	Max. 750Ω, @ 28 V
Mounting option	2" BSP
Mechanical interface	Connector Pg7
Housing type	Mono block (ABS+UV)
Sensor housing	PP / PVDF
Sensor material	Coated Aluminium (ECTFE)
Operating temperature	-40...70°C
Ambient compensation	Integral
Enclosure rating	IP 65
Display	LCD, 4 digits - 7 segments
Certifications	CE - EMC; ATEX: EX ia IIC T4
Enclosure dimensions and weight	289x107x85 mm, Up to 1,5 kg

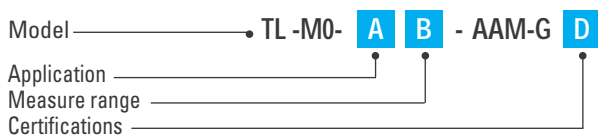
### Enclosure dimensions



### Electrical wirings



### Configuration



Application	<b>A</b>
Liquid	L
Solid	S
Open channel	0
Measure range	<b>B</b>
0.25...5 m	1
0.6...12 m (0.6...8.5 for solid)	2
Certifications	<b>C</b>
CE-EMC	C
EX: ATEX, Eex ia IIC T4	E

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