



Overview

**LC SOUND**



AZIENDA CON SISTEMA QUALITÀ  
CERTIFICATO DA DNV  
=UNI EN ISO 9001/2000=

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## General Description

The LCSound is an ultrasonic air sensor, available with 2", 3", 4" square flange. It continuously monitors the presence of air/gas in a delivery, and upon detection of gas the output relay is opened. The typical application uses



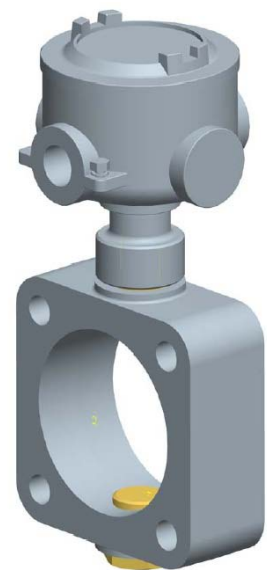
the output contact to control valve, pump or can be connected to a smart device (e.g. electronic flow controller). The technology guarantees accurate deliveries with no pressure drop, both in terminal and truck installations.

The LCSound utilizes ultrasonic energy to detect the presence or absence of air/gas: high frequency sound waves are easily transmitted in the presence of liquid media, but are attenuated when gas is present. The sensor uses an ultrasonic transceiver to transmit a high frequency pulse: the signal reaches the reflector placed on the other side of the flange and then comes back to the transceiver. The signal amplitude level is proportional to the presence of liquid: if air is detected, the output relay is opened. The algorithm of the electronic controller guarantees an accurate air detection in a maximum time of 50ms, and automatically compensates

the ageing of components, quality of the product, and flange size without periodic maintenance or field calibration.

## Features:

- Fast response time (50ms).
- Auto-calibration.
- No periodic maintenance needed.
- No moving parts.
- Low weight.
- Small dimensions give a neat to simple installation.
- Negligible pressure drop resulting in quick and economical deliveries.
- Eliminates the need for an "air-check" valve after the meter (in the meter version with n°2 LCSounds).
- Can react to emulsified air in the delivery (foam detect).
- Works with petroleum-based products.



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## Specifications

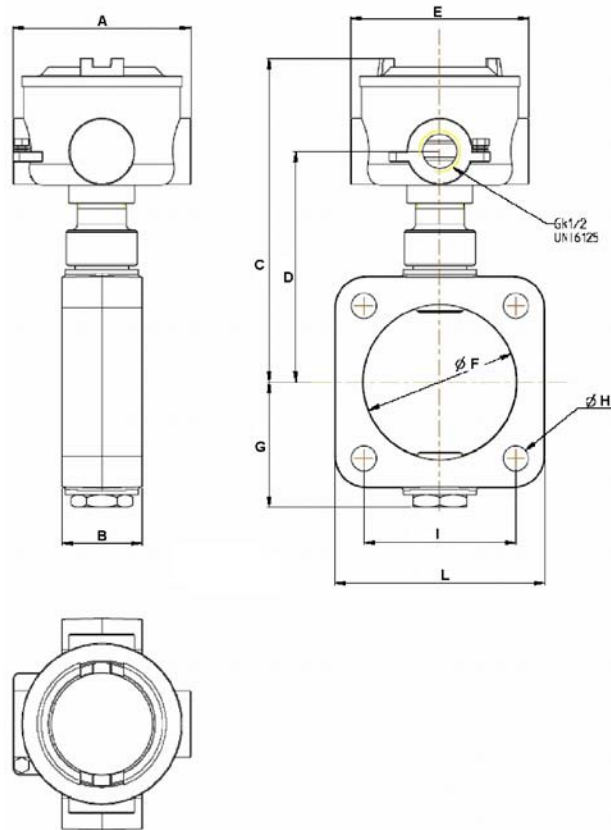
<b>Power Supply</b>	10~30 Vdc
<b>Power consumption</b>	< 1 W
<b>Degree of protection</b>	IP67
<b>ATEX certification</b>	EExd IIC T6
<b>Storage temperature</b>	-40°C to 85°C (-40°F to 185°F)
<b>Operating temperature</b>	-20°C to 60°C (-4°F to 140°F)
<b>Output</b>	1 output relay E.M. (max 250V, 2A)
<b>Intervention time</b>	50 ms
<b>Material</b>	Aluminum alloy
<b>Weight</b>	1 kg (2,20 lbs)

## Standards and certifications

LCSound was projected according to the following regulations:

- Electromagnetic compatibility EMC 89/336/CEE and successive laws.
- Explosive atmospheres ATEX 94/9/CE.
- Recommendations OIML (international organization for legal metrology) R117.

## Dimensions



Flange	Dimensions	A	B	C	D	E	F	G	H	I	L
2"	in	3,93	1,77	6,81	4,76	3,93	2,68	2,44	0,43	2,62	3,54
	mm	100,00	45,00	173,00	121,00	100,00	68,00	62,00	11,00	66,60	90,00
3"	in	3,93	1,77	7,12	5,07	3,93	3,38	2,75	0,55	3,36	4,64
	mm	100,00	45,00	181,00	129,00	100,00	86,00	70,00	14,00	85,30	118,00
4"	in	3,93	1,77	7,67	5,63	3,93	4,41	3,30	0,67	4,25	5,98
	mm	100,00	45,00	195,00	143,00	100,00	112,00	84,00	17,00	108,00	152,00



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