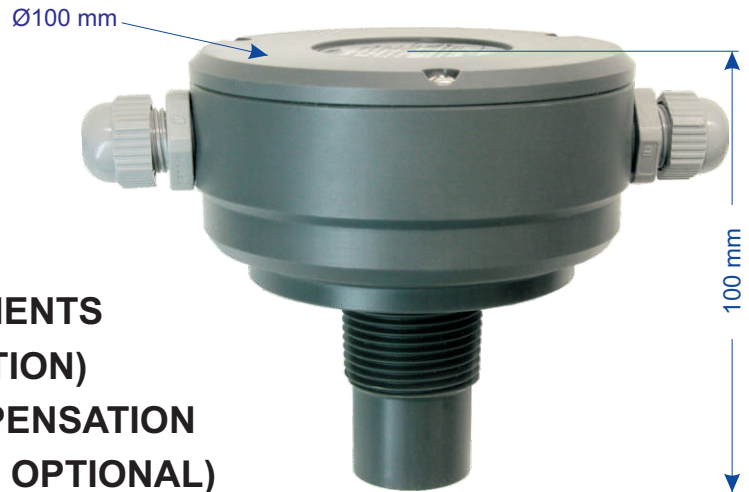


SERIES: LTU102



- **THREE WIRE OPERATION**
- **LEVEL / DISTANCE MEASUREMENTS**
- **RS485 COMMUNICATIONS (OPTION)**
- **BUILT-IN TEMPERATURE COMPENSATION**
- **5A ALARM RELAY (DPST TYPE, OPTIONAL)**
- **REMOTE DISPLAY WITH 2 CONTACTS (OPTION)**
- **4-20 mA OUTPUT - USER SELECTS THE DIRECTION**
- **DIAGNOSTICS & DATA LOGGING SOFTWARE (OPTION)**
- **PROGRAMMABLE OR PUSH-BUTTON CONFIGURATION**

DESCRIPTION

Ultrasonic level measurement is based on the principle of measuring the time required for the ultrasonic pulse and its reflected echo to make a complete return trip between the non-contacting transducer and the sensed material level. Then, the transceiver converts this signal electrically into distance/level and present it as an analogue and/or digital signal.

Indumart *LTU102 Series* Ultrasonic Level Transmitter is capable of monitoring short range non-contact ultrasonic level measurements of most liquids.

The *LTU102 Series* incorporates current output directly or inversely proportional to the span. Remote programming of and acquiring information, such as viewing of the primary measurement values, from the transmitter are performed by the configuration software, which runs under Windows®. Programmable system is usually recommended, which gives the opportunity to easily entering all configuration data, such as low and high level precisely without

actual simulation, and to declare the severity of the process to optimize level measurements. The optional RS485 with MODBUS® protocol may also be acquired for monitoring, data acquisition and remote programming of the transmitter.

The Automatic Temperature Compensation feature accounts for uniform temperature variances of the sound medium and results in the most accurate level measurement. Other features of the *LTU102 Series* which are available through the optional software include: (1) viewing of the measurement values on a computer via EXCEL® application; (2) diagnosing the system with individual error message; (3) parameters read out, which reports on the operating conditions of the system to facilitate installation and troubleshooting.

The optional remote display with 2 contacts (DIS300) may also be added to your level measurement system to indicate the process value on its 4-digit display and be used to trigger contacts at desirable material levels.

SPECIFICATIONS

Range In Liquids	0.1 ~ 1.8 m (0.4 ~ 6 ft)
Resolution	0.7 mm (0.03")
Frequency	148 kHz
Accuracy	0.1% of maximum range (in lab) 0.25% of max. range (in field)
Beam Angle	10...12 degrees at -3dB
Sensor & Case Mat.	Rugged PVC
Conduit Entry	½" NPT (PVC conduit only) Without conduit but with a 1.5 m of interconnection cable
Analogue Output	4-20 mA; Direct or reverse
Output Resolution	6.1 µA
Loss of Echo Hold	1 ~ 4 min., 22 mA or 2 mA output
Digital Output	RS485 (option) with configuration software
Relay Output (option)	5A @ 230 VAC (DPST)
Power	12...30 VDC, $R_{load} = (V_s - 6) / 24$ mA
Power Consumption	70 mA maximum
Process Mounting	1" NPT (std.), ½", ¾" with adapter
Process Temperature	-40...+60°C (-40...+140°F) standard
Pressure	-1 bar optional to 10 bar (150 psi) Please consult indumart for applications other than ambient pressure.
Ingress Protection	NEMA 4X (IP65)
Installation Category	Class II
Self Diagnostic	Fully self diagnostic system with individual error message (software)
Data Collection	To be exported to EXCEL (software)
DISPLAY (OPTION)	
Display	4-digit LCD, 14mm high
Display Range	-1999 to 9999
Decimal Position	User programmable
Loop Supply Voltage	3...36 VDC
Environ. Protection	IP65
Operating Condition	-10...+65°C; 0 to 95% RH
Case Material	ABS
Mounting	Wall, Probe; DIN rail (option)
Dimensions	80 x 80 x 60 mm (WxHxD)
Output Type	Transistor gate (open collector NPN)
Switching Current	100 mA maximum
Switching Voltage	40 VDC maximum
Adjustable Parameters	Setpoint, hysteresis direction and delay time

ORDER CODE

ULTRASONIC LEVEL TRANSMITTER FOR LIQUIDS

Model: LTU102 - [] [] [] [] - []

DIGITAL OUTPUT

Not Required

RS485

0
1

RELAY OUTPUT

Not Required

5A @ 230 VAC DPST Relay

0
1

PROCESS CONNECTION

1" NPT (std.)

¾" with adapter

½" with adapter

0
1
2

ELECTRICAL CONNECTION

½" NPT (std.)

1.5 m (5 ft) interconnection cable (no conduit)

0
1

DISPLAY (option)

Not Required

4-digit Display with 2 Contacts (Remote Mount)

Alarm Trip Amplifier (2 Relays)

Alarm Trip Amplifier (1 Relay)

0
1
2
3

ALSO AVAILABLE

Model	Range in Liquid	Resolution	Mounting
LTU315 (52 kHz)	0.3 ~ 15 m	5.7mm (0.23")	3" & 2" NPT
LTU309 (70 kHz)	0.25 ~ 9 m	3.4mm (0.13")	3" & 2" NPT
LTU306 (80 kHz)	0.2 ~ 6 m	2.2mm (0.088")	3" & 2" NPT
LTU305 (81 kHz)	0.2 ~ 5 m	1.8mm (0.07")	3" & 1½" NPT
LTU303 (148 kHz)	0.12 ~ 2.7 m	0.98mm (0.04")	3" & 1" NPT



For Solids
performs well in heavily dusty environment



Model	Range in Solid	Resolution	Mounting
15 (25 kHz)	0.4...15 m	10 mm (0.41")	6" NPT
10 (45 kHz)	0.3...10 m	6.8 mm (0.27")	3" NPT



INDUMART INC.

1-15 W. Pearce St., Richmond Hill, Ont. L4B 1H6, Canada
Phone: (905) 707-9998 Fax: (905) 707-8484 E-mail: Sales@Indumart.com