Echotouch ™

Ultrasonic Level Transmitter

Description

The general purpose three-wire ultrasonic transmitter provides non-contact level measurement up to 40' or 12.2m with an internal relay that can be configured as a single-point alarm or latched on two points for automatic fill or empty control. The transmitter is ideally suited for challenging corrosive, slurry or waste liquids and is typically selected for large atmospheric bulk storage and waste sump applications. Media examples include sulfuric acid and resin. For applications with heavy agitation, surface foam or restricted measurement space, install the ultrasonic transmitter in a 2"-12" stand pipe. The stand pipe installation dampens agitation, separates surface foam and reduces the minimum required free space within the tank.
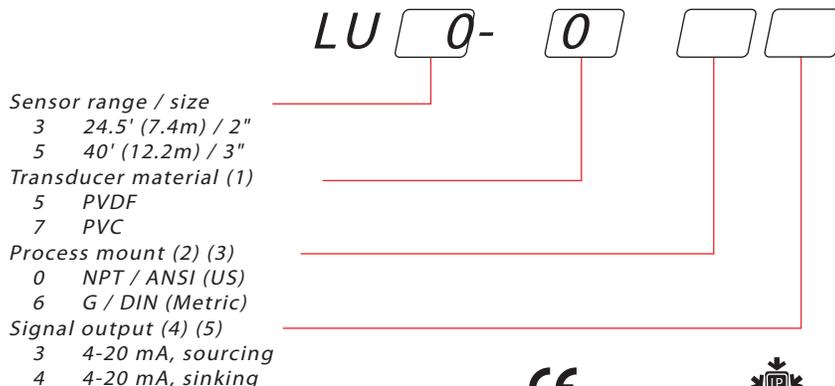
Features

- ✓ LED digital display indicates level in inches or centimeters
- ✓ Relay for alarm or automatic fill or empty control operation
- ✓ EasyCal simple push button calibration for all user set points
- ✓ PP NEMA 4X enclosure with rugged Kynar® transducer
- ✓ Fail-safe intelligence and relay logic for maximum process safety

Specifications

Range:	2" mount: 0.5' to 24.5' (15 cm to 7.4m) 3" mount: 1.5' to 40' (46 cm to 12.2m)
Accuracy:	± 0.25% of span in air
Resolution:	0.125" (3 mm)
Beam width:	8° conical
Dead band:	LU30: 0.5' (15 cm) LU50: 1.5' (50 cm)
Display type:	LED, 4-digit
Display units:	Inch or cm
Memory:	Non-volatile
Supply voltage:	14-36 VDC
Consumption:	200 mA max.
Current flow:	Source/sink
Signal output:	4-20 mA, three-wire
Signal invert:	4-20 or 20-4 mA
Calibration:	Digital, push button
Contact type:	(1) SPDT relay, latching
Contact rating:	250 VAC @ 10A
Contact logic:	Single point: alarm Two point: latching
Contact fail-safety:	Reverts to safe state during echo-loss
LED indication:	Relay status
Process temp.:	F: -40˚ to 140˚ C: -40˚ to 60˚

Temp. comp.:	Automatic
Electronics temp.:	F: -20˚ to 140˚ C: -4˚ to 60˚
Pressure:	30 psi (2 bar) @ 25˚ C., derated @ 1.667 psi (.113 bar) per ˚C. above 25˚ C.
Enclosure rating:	NEMA 4X (IP65)
Installed height:	LU30: 5.1" (13 cm) LU50: 10.6" (26.9" cm)
Encl. material:	PP, UL94VO
Trans. material:	2" mount: PVDF Kynar® 3" mount: Polyvinylchloride
Cable jacket mat.:	Vinyl
Cable type:	Pow./signal: 3-conductor Relay: 3-conductor
Cable length:	3' (91 cm)
Process mount:	2" NPT (2" G): 24.5' (7.4m) 3" ANSI/DIN 80 flange: 40' (12.2m)
Mount. gasket:	Viton® (2" G version only)
Conduit entrance:	Single, 1/2" NPT
Classification:	General purpose
CE compliance:	EN 50082-2 immunity EN 55011 emission EN 61010-1 safety

Echotouch Ordering

LU [0]- [0] [ ] [ ]

Sensor range / size
- 3   24.5' (7.4m) / 2"
- 5   40' (12.2m) / 3"

Transducer material (1)
- 5   PVDF
- 7   PVC

Process mount (2) (3)
- 0   NPT / ANSI (US)
- 6   G / DIN (Metric)

Signal output (4) (5)
- 3   4-20 mA, sourcing
- 4   4-20 mA, sinking

### Ordering Notes

1) The LU30 is offered with a PVDF transducer and the LU50 is offered with a PVC transducer.
2) The LU30 is offered with a 2" NPT or G thread mount and the LU50 is offered with a 3" ANSI or DIN 80 flange mount.
3) The straight G thread version seals with an included Viton® mounting gasket.
4) The sourcing transmitter provides internal excitation for use with sinking devices. The sinking transmitter requires external excitation for use with sourcing devices.
5) For three wire transmitter power, order the LC95-1001 (120 VAC) or LC96-1001 (240 VAC) power supply (24 VDC @ 0.6A).
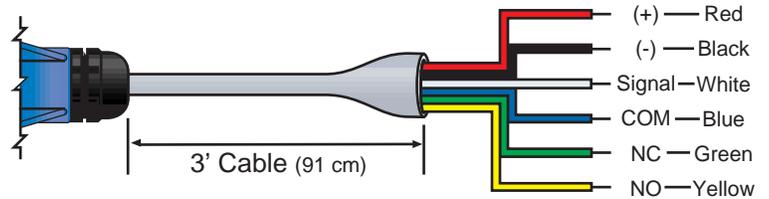
CE

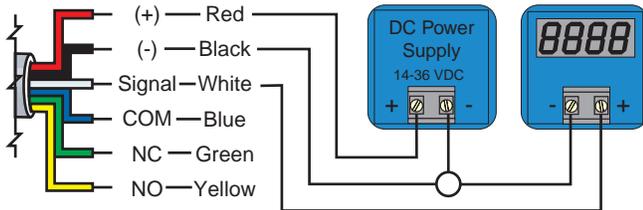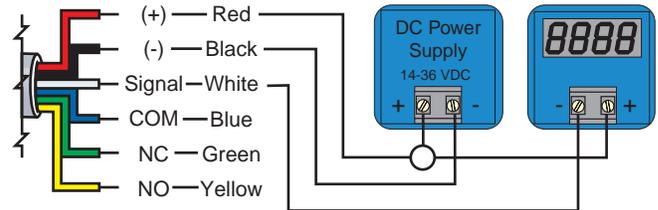# *Echotouch*™ *Ultrasonic Level Transmitter*

Sensor Dimensions

2" NPT (2" G)

2.8" (71 mm)

3.6" (92 mm)

1.3" (32 mm)

4.9" (124 mm)

6.3" (159 mm)
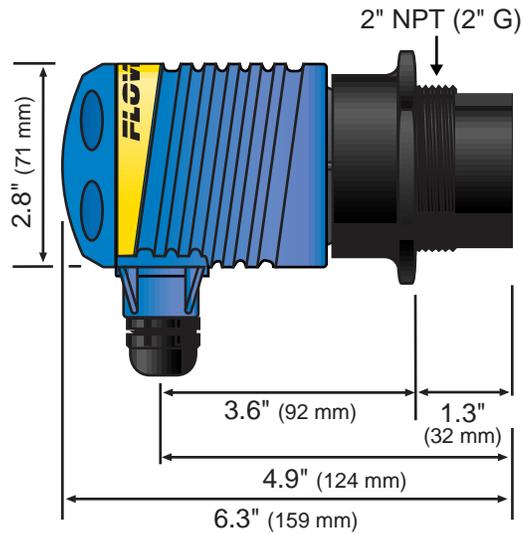
Specifications are subject to change without notice.

Cable Dimensions

3' Cable (91 cm)

(+) — Red
(-) — Black
Signal — White
COM — Blue
NC — Green
NO — Yellow

To Loop Indicator (Sourcing Output)

(+) — Red
(-) — Black
Signal — White
COM — Blue
NC — Green
NO — Yellow

DC Power Supply
14-36 VDC
+ -

8888
- +

To Loop Indicator (Sinking Output)

(+) — Red
(-) — Black
Signal — White
COM — Blue
NC — Green
NO — Yellow

DC Power Supply
14-36 VDC
+ -

8888
- +

To PLC (Sourcing Output)

(+) — Red
(-) — Black
Signal — White
COM — Blue
NC — Green
NO — Yellow

DC Power Supply
14-36 VDC
+ -

Typical PLC
6 5 4 3 2 1 0 A

To PLC (Sinking Output)

(+) — Red
(-) — Black
Signal — White
COM — Blue
NC — Green
NO — Yellow

DC Power Supply
14-36 VDC
+ -

Typical PLC
6 5 4 3 2 1 0 A
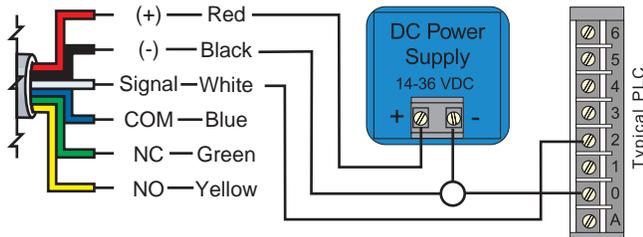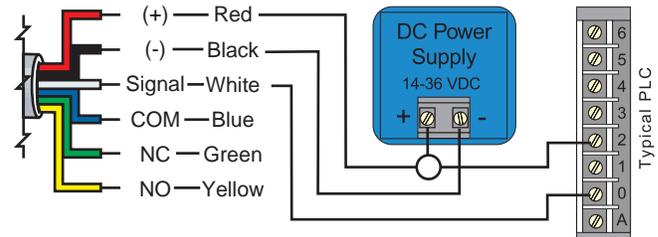
To LC52 Relay Controller

(+) — Red
(-) — Black
Signal — White
COM — Blue
NC — Green
NO — Yellow

P W R
LATCH ON OFF
RELAY 1 INVERT DELAY
RELAY 2 INVERT DELAY
FLOWLINE
OFF SET SPAN NC12A NC12B
EASY CAL UP DOWN OP SET
8888
0% INPUT 100%

See LC52-1001
Instruction Manual