

SensorsX SX-LUNB Series

Ultrasonic Level Transmitter

Integrated, remote-sensor, and explosion-protected configurations



WIDE MEASURING RANGE

Up to 30 m for liquids and 15 m for bulk solids

HIGH ACCURACY

0.2% accuracy, depending on configuration

MULTIPLE OUTPUT OPTIONS

4–20 mA, HART, or RS485/Modbus RTU

■ PRODUCT OVERVIEW

The SX-LUNB Series is designed for continuous, non-contact ultrasonic level measurement of liquids and bulk solids. The sensor determines level from the transit time of ultrasonic pulses reflected from the material surface. Integrated, remote-sensor, externally mounted, and explosion-protected configurations are available, with options for standard level and level-difference measurement.

■ KEY FEATURES

- Non-contact ultrasonic level measurement for liquids and bulk solids.
- Measuring ranges up to 30 m for liquids and 15 m for solids.
- Accuracy of 0.2% of actual range for integrated basic models.
- Blind zones from 0.20 to 0.80 m, depending on measuring range.
- 3°, 5°, and 8° ultrasonic beam-angle options, depending on model.
- 4–20 mA output with optional upper- and lower-limit relay control.
- HART and RS485/Modbus RTU communication options available.
- 24 V DC or 220 V AC power-supply options.
- IP68 protection for integrated basic models; IP66 for explosion-protected aluminum-housing configurations.
- Integrated and remote-sensor configurations available.
- LCD or LED display options, depending on model.
- Medium temperature up to 95 °C for integrated basic models.
- Automatic temperature compensation on explosion-protected models.
- Flange or bracket mounting options.

■ TYPICAL APPLICATIONS

LIQUID & BULK SOLIDS LEVEL

- Liquid level measurement
- Bulk solids / material level measurement
- Low-pressure vessel level measurement

SPECIAL MEASUREMENT

- Level-difference measurement
- Externally mounted level measurement

HAZARDOUS & REMOTE APPLICATIONS

- Explosion-protected installations
- Remote-sensor installations
- Separated sensor and electronics configurations

■ PRODUCT SERIES



Configuration	Description
Integrated basic type	SX-LUNB-FU integrated series; measuring ranges of 4, 6, 8, 12, 20, and 30 m depending on model.
Remote-sensor type	SX-LUNB-FUS series with a separate sensor and electronics; available in 3, 6, 10, 20, and 30 m measuring ranges.
Explosion-Protected Type — Aluminum Housing	Separate aluminum electronics housing and stainless-steel probe body; 4-20 mA plus upper/lower relay control.

■ INTEGRATED BASIC TYPE — 4 M AND 8 M

Parameter	SX-LUNB-FU4	SX-LUNB-FU8
Range	4.00 m liquid	8.00 m liquid; 3.00 m solid
Blind zone	0.20 m	0.30 m
Accuracy (in air)	0.2% of actual range	0.2% of actual range
Display resolution	1 mm	1 mm

Current output	4-20 mA	4-20 mA
Output resolution	0.03% of actual range	0.03% of actual range
Output load	0–600 Ω	0–600 Ω
Relay output	Upper/lower limit control, optional	Upper/lower limit control, optional
Relay rating	5 A, 250 VAC / 30 VDC	5 A, 250 VAC / 30 VDC
Parameter adjustment	Three touch-sensitive keys	Three touch-sensitive keys
Medium temperature	-45 to 95 °C	-45 to 95 °C
Pressure range	± 0.1 MPa	± 0.1 MPa
Beam angle	8° at 3 dB	8° at 3 dB
Measurement cycle	1 s	1 s
Housing / sensor	ABS / PVC	ABS / PVC
Ingress protection	IP68	IP68
Installation	Flange or bracket	Flange or bracket

Note: 24 V DC versions are available with LCD or LED display and operate from -45 to +75 °C. The 220 V AC version is supplied with an LCD display and operates from -25 to +60 °C.

■ INTEGRATED BASIC TYPE — 6 M AND 12 M

Parameter	SX-LUNB-FU6	SX-LUNB-FU12
Range	6.00 m liquid	12.00 m liquid; 6.00 m solid
Blind zone	0.22 m	0.30 m
Accuracy in air	0.2% of actual range	0.2% of actual range
Display resolution	1 mm	1 cm
Current output	4-20 mA	4-20 mA
Output resolution	0.03% of actual range	0.03% of actual range
Output load	0–600 Ω	0–600 Ω
Relay output	Upper/lower limit control, optional	Upper/lower limit control, optional
Relay rating	5 A, 250 VAC / 30 VDC	5 A, 250 VAC / 30 VDC
Parameter adjustment	Three touch-sensitive keys	Three touch-sensitive keys
Medium temperature	-45 to 95 °C	-45 to 95 °C
Pressure range	± 0.3 MPa	± 0.3 MPa
Beam angle	5° at 3 dB	8° at 3 dB
Measurement cycle	1 s	1 s
Housing / sensor	ABS / PVC	ABS / PVC

Ingress protection	IP68	IP68
Installation	Flange or bracket	Flange or bracket

Note: 24 V DC versions are available with LCD or LED display and operate from -45 to +75 °C. The 220 V AC version is supplied with an LCD display and operates from -25 to +60 °C.

■ INTEGRATED BASIC TYPE — 20 M AND 30 M

Parameter	SX-LUNB-FU20	SX-LUNB-FU30
Range	20.00 m liquid; 10.00 m solid	30.00 m liquid; 15.00 m solid
Blind zone	0.60 m	0.80 m
Accuracy in air	0.2% of actual range	0.2% of actual range
Display resolution	1 cm	1 cm
Current output	4-20 mA	4-20 mA
Output resolution	0.03% of actual range	0.03% of actual range
Output load	0–600 Ω	0–600 Ω
Relay output	Upper/lower limit control, optional	Upper/lower limit control, optional
Relay rating	5 A, 250 VAC / 30 VDC	5 A, 250 VAC / 30 VDC
Parameter adjustment	Three touch-sensitive keys	Three touch-sensitive keys
Medium temperature	-45 to 95 °C	-45 to 95 °C
Pressure range	±0.3 MPa	±0.3 MPa
Beam angle	3° at 3 dB	3° at 3 dB
Measurement cycle	1 s	1 s
Housing / sensor	ABS / PVC	ABS / PVC
Ingress protection	IP68	IP68
Installation	Flange or bracket	Flange or bracket

Note: 24 V DC versions are available with LCD or LED display and operate from -45 to +75 °C. The 220 V AC version is supplied with an LCD display and operates from -25 to +60 °C.

■ REMOTE-SENSOR TYPE



Model	Range	Blind zone	Supply
SX-LUNB-FUS3	3 m	0.25 m	24 VDC
SX-LUNB-FUS3	3 m	0.25 m	220 VAC
SX-LUNB-FUS6	6 m	0.30 m	24 VDC
SX-LUNB-FUS6	6 m	0.30 m	220 VAC
SX-LUNB-FUS10	10 m	0.40 m	24 VDC
SX-LUNB-FUS10	10 m	0.40 m	220 VAC
SX-LUNB-FUS20	20 m	0.60 m	24 VDC
SX-LUNB-FUS20	20 m	0.60 m	220 VAC
SX-LUNB-FUS30	30 m	0.80 m	24 VDC
SX-LUNB-FUS30	30 m	0.80 m	220 VAC

■ Explosion-Protected Type — Aluminum Housing

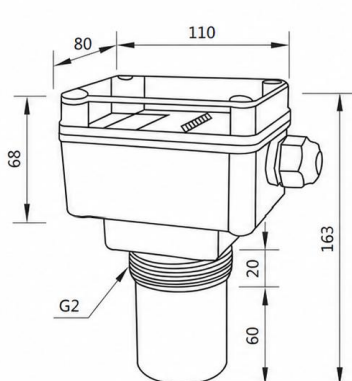


Parameter	Specification
Resolution	0.01 m
Accuracy	0.2% of full scale
Display	Four-digit LED

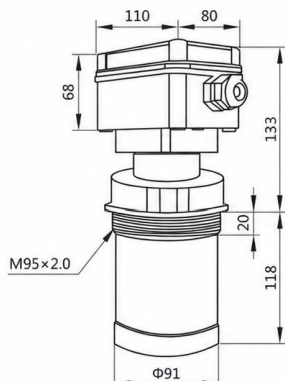
Current output	4-20 mA
Relay output / mode	Upper and lower limit control / normally open
Relay rating	10 A, 250 VAC / 30 VDC
Temperature range	-40 to 70 °C
Temperature compensation	Automatic over the full range
Pressure range	0.04 MPa standard; 0.5 MPa special
Housing / Probe Material	Aluminum alloy / Stainless steel
Sensor material	PVC
Ingress protection	IP66
Installation	Flange or bracket
Supply	AC or DC

Key features include intelligent signal processing, automatic power and gain control, overvoltage, overcurrent and lightning protection, a short blind zone, high sensitivity, corrosion-resistant construction, and suitability for low-pressure vessels.

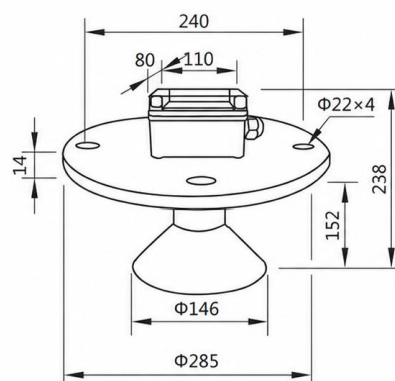
MECHANICAL REFERENCE DRAWINGS



SX-LUNB-FU4, SX-LUNB-FU8



SX-LUNB-FU6, SX-LUNB-FU12



SX-LUNB-FU20, SX-LUNB-FU30

Integrated basic-type — Dimensions in mm

Family	Dimensions and Connection Details
SX-LUNB-FU4 / SX-LUNB-FU8	Housing plan 110 × 80; housing height 68; body height 163; process connection G2; lower section 60; connection shoulder 20.
SX-LUNB-FU6 / SX-LUNB-FU12	Housing plan 110 × 80; housing height 68; upper body 133; process connection M95 × 2.0; lower section 118; probe diameter Ø91; connection shoulder 20.
SX-LUNB-FU20 / SX-LUNB-FU30	Top plate 240; housing plan 110 × 80; 4 × Ø22 holes; flange diameters Ø285

■ ORDERING INFORMATION

Complete model number example: **SX-LUNB.FU3DSL**

Application Type	
FU	Ultrasonic level transmitter for liquids and bulk solids
FUS	Remote-sensor ultrasonic level transmitter
FUG	Ultrasonic level-difference transmitter
FUW	Externally mounted ultrasonic level transmitter
Level Range	
1	4 m
2	8 m liquid / 3 m solid
3	6 m
4	12 m liquid / 6 m solid
5	20 m liquid / 10 m solid
6	30 m liquid / 15 m solid
7	3 m; remote-sensor selection
8	6 m; remote-sensor selection
9	10 m; remote-sensor selection
A	20 m; remote-sensor selection
B	30 m; remote-sensor selection
Power Supply	
D	24 VDC
A	220 VAC
Explosion Protection	
E	With explosion protection
S	Without explosion protection
Electrical Connection	
L	Aluminum-alloy junction box
S	Plastic junction box
Output	
F	4...20 mA
H	HART
S	RS485 / Modbus
Optional	
D	Customized information; specify in order remarks

Note: Multiple output options may be combined where supported.