

SONOLEV™ 3000 Level Transmitter



General



SONOLEV™ 3000 is an advanced micro processor based ultrasonic level meter with a newly developed intelligent and very precise measuring system utilizing the newest hardware and software technologies. SONOLEV™ 3000 provides simple and logical operation, using advanced technology resulting in a high quality product at a competitive price. SONOLEV™ 3000 is designed to measure water levels as well as other fluids and aggressive media, where the ultrasonic sensor is not in contact with the media.

Features

- Ultrasonic measuring system with measuring ranges from 4 in to 45 ft
- *Learning*-function allows the SONOLEV™ Level Transmitter to learn how the tank is arranged with piping, pumps and other items that might disturb the measurement. The system also ignores turbulence and electrical interference, so even a slow moving mixer can pass through the ultrasonic beam without any influence on the measurement.
- 2 output relays for level / system alarm or pump control with duty and standby cycles.
- 4 - 20 mA output with zero and span adjustment.
- Indication of the strength of the echo signal with a bargraph.
- Very narrow ultrasonic pulse signal gives great signal strength and minimum sensitivity to foam and sludge on the surface of the liquid.
- Easy to read LCD-display for both setup and indication. Actual level is indicated with both a bargraph and with digits in millimetres, centimetres, metres, feet and inches. The digital readout can be chosen as either relative level or absolute level.
- 10 - 30 V DC or 115 V AC supply.
- Intrinsically safe ultrasonic sensor (CENELEC Zone 2 - U.S. equivalent Class 1 div. 2).

Operation

SONOLEV™ 3000 needs no operation after initial setup. 9 function buttons behind the front panel are used to configure:

- Unit selection in either feet, inches metres, centimetres and millimetres.
- Adjustment of zero level of the measurement and selection of relative or absolute reference.
- Zero and span for the mA-output.
- Function for the two 2 output relays - off, level alarm, system alarm or pump control with alternation.
- Learning function, so the level meter recognizes how the wetwell is arranged with pumps, piping and other disturbing elements so the measurement will not be affected by false echos.



Control functions

SONOLEV™ is equipped with 2 output relays which can be configured for level or pump control, system alarm or level alarm. The relay function can be set to either NO

or NC function with an optional delay function. The relays can be used for start and stop of pumps with alternation.

Data Sheet

SONOLEV™ 3000 Level Transmitter

Application

SONOLEV™ 3000 is well suited for any ultrasonic level measurement. The level transmitter may also be used for measuring and control of levels in tanks with contaminated and/or aggressive media.

Typical applications is measurement and control in:

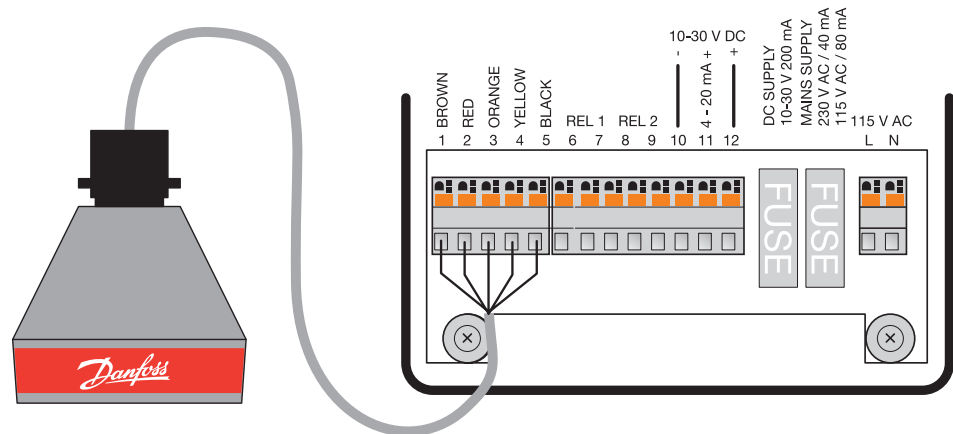
- stormflow tanks
- pump stations
- tanks in sewage treatment plants
- tanks in water plants
- tanks and vessels in process- and provisions industries

Specifications

SONOLEV™ 1100 Ultrasonic sensor	
Range:	45 ft
Frequency:	30 kHz
Spread:	3 °
Deadband:	14 „
Temperature:	- 5 to + 150 °F
Materials:	Polypropylene (grey) POM (black)
Cable:	Shielded, oil resistant PVC insulation, length 40 ft. (Max. 300 ft. with 192L0110 cable.)
Enclosure:	NEMA 6P, watertight, withstands max. 30 ft submersion.
CE-approvals:	EN 50081-1, EN 50082-1
Ex-approvals:	CENELEC, Zone 2 (EEx nA II T3)

SONOLEV™ 3000 Level Transmitter	
Range:	0 - 45 ft
Span:	From 0 - 4 in to 0 - 45 ft
Power supply:	115 V AC ± 10 % 10 - 30 V DC
Consumption:	Approx. 2 W
Temperature:	- 5 to + 150 °F
Input:	From ultrasonic sensor
Accuracy:	± 0.2 %
Outputs:	Analog: 4 - 20 mA, max. load 500 Ω. Digital: 2 x relays with programmable NO/NC function. Max. 50 V 1 A resistive load.
Indication:	LCD-display with 4 digits and symbols.
Operation:	Function keypad behind front panel.
Enclosure:	NEMA 4X
CE-approvals:	EN 50081-1, EN 50082-1

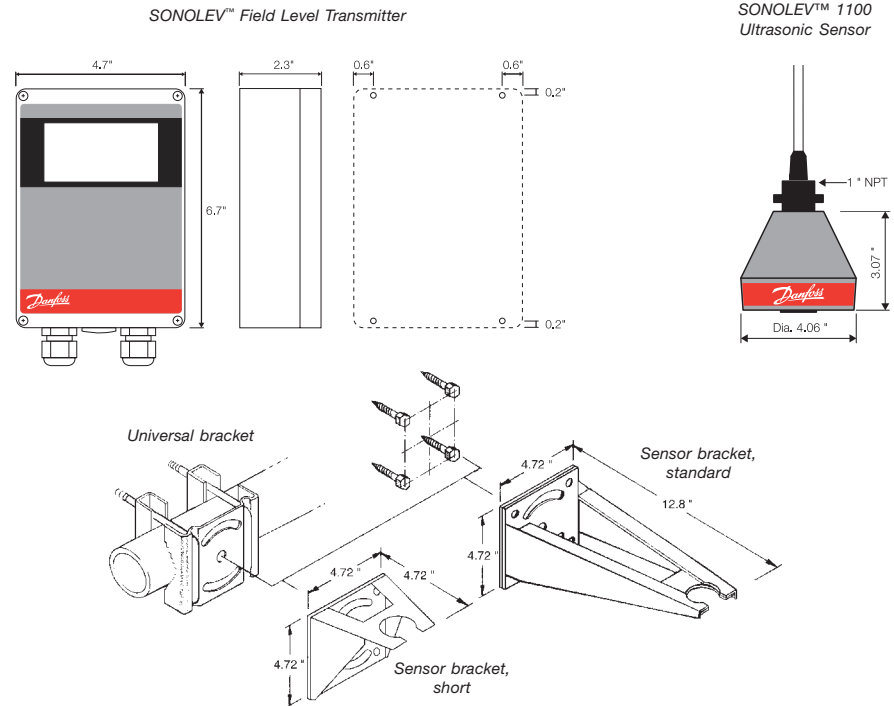
Electrical connections



SONOLEV™ 1100 Ultrasonic Sensor

SONOLEV™ 3000 Level Transmitter

Dimensions



Order numbers

SONOLEV™ 3000 Level Transmitter with Ultrasonic Sensor

Order no:	Description:
192L1214	SONOLEV™ 3000 Level Transmitter complete with SONOLEV™ 1100 Ultrasonic Sensor and 40 ft of cable, power supply 10 - 30 V DC or 115 V AC

Accessories

Order no:	Description:
192L0205	Universal bracket
192L0219	Short Sensor bracket for SONOLEV™ 1100 Ultrasonic Sensor
192L0220	Standard Sensor bracket for SONOLEV™ 1100 Ultrasonic Sensor
192L0590	Connection box for SONOLEV™ 1100 Ultrasonic Sensor cable
192L0110	Additional cable for SONOLEV™ 1100 Ultrasonic Sensor Can be extended to 300 ft, specify length
192L0570	SONOLEV™ 1100 Ultrasonic Sensor, 30 kHz, with 40 ft of cable

Order numbers, special

Please use build-up code below for ordering special SONOLEV™ systems

SONOLEV™ 3000 - CFXXX

Cable length in ft (40-999)

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Danfoss Water & Wastewater

8800 W. Bradley Road,
Milwaukee, WI 53224 - 9541

Phone: (414) 355 8800
Fax: (414) 355 6117

www.us.water.danfoss.com