

The MiniRanger Plus level monitor uses non-contacting ultrasonic technology to provide effective monitoring for a range up to 15 m (50 ft.) on liquids and 7.5 m (25 ft.) on solids.

It offers optional volume calculation for 8 standard vessel configurations or open channel flow with 11-point characterization. It comes with 2 relays and a true isolated 4-20 mA output.

MiniRanger Plus has built-in Sonic Intelligence® advanced echo-processing software for superior reliability.

It is economical and easy to use. The unit can be programmed using the keypad or through a laptop using Milltronics' Dolphin Plus software.

It is compatible with chemical-resistant Echomax® transducers and can be used in hostile environments at temperatures as high as 145°C (293°F).

MiniRanger Plus is also available in rack or panel mount versions.



Product Features

- Universal power supply
- Multi-field backlit LCD
- Two alarm/pump control relays
- High level switch operation
- Lead/lag pump operation
- Isolated mA output
- Sonic Intelligence®
- Dolphin Plus compatible
- Integral keypad
- Optional level to volume conversion
- Optional open channel monitoring (OCM)

Technical Specifications

Power

- 9-250 Vac, 40-70 Hz, 38 VA, 12W or 9-250 Vdc, 11W

Environmental

- location: indoor/outdoor
- altitude: 2000 m max.
- ambient temperature: -20 to 50°C (-5 to 122°F)
- relative humidity: suitable for outdoor (Type 4X/NEMA 4X/IP65 enclosure)
- installation category: II
- pollution degree: 4

Range

- solids applications: 7.5 m (25 ft.) (transducer dependent)
- liquid applications: 15 m (50 ft.) (transducer dependent)

Accuracy

- 0.25% of range or 6 mm (0.24"), whichever is greater

Resolution

- 0.1% of program range* or 2 mm (0.08"), whichever is greater

Memory

- program stored in non-volatile FLASH memory, for software upgrades via optional Dolphin interface
- parameters stored in non-volatile EEPROM

Display

- 38 x 100 mm (1.5 x 4") multi-field backlit LCD

Enclosure

- Type 4X/NEMA 4X/IP65

Outputs

Transducer Drive

- 43.5 kHz, 250 V peak pulses of 1 ms max. duration at max. repetition rate of 300 ms

Relays

- 2 alarm/pump control relays
- 1 form 'C' SPDT contact per relay, rated 5 A at 250 Vac non-inductive

mA

- optically isolated 0/4 to 20 mA
- max. loading: 750 Ω
- resolution: 0.1% of 20 mA

Transducer

- compatible models: ST-H and Echomax® models XPS-10/10F, XPS-15/15F, XCT-8, XCT-12, XRS-5, XKS-6

Cable

- co-axial to be RG62-A/U low capacitance
- signal to be 2-3 copper conductors, twisted, with foil shield, drain wire, 300V 0.5 to 0.75 mm² (22 to 18 AWG)
- relay/power to be copper conductors per local requirements to meet 250V 5A contact rating

Weight

- 1 kg (2.2 lbs.)

Options

Open Channel Monitoring

- for weirs and flumes, using a total of 11 point characterization

Volume Conversion

- automatic level to volume conversion for eight standard vessel configurations

Communications

- Dolphin Plus compatible via optional Milltronics ComVerter

Approvals

- CE**, FM, CSA NRTL/C

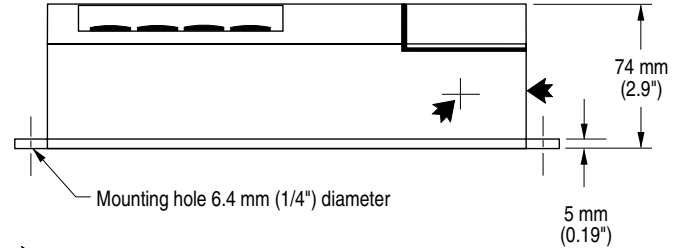
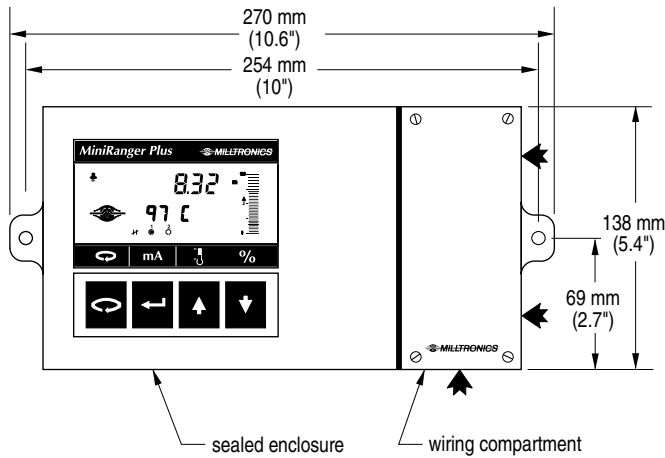
* Program range is defined as the empty distance to the face of the transducer plus any range extension.

**EMC performance available upon request.

Specifications are subject to change without notice.

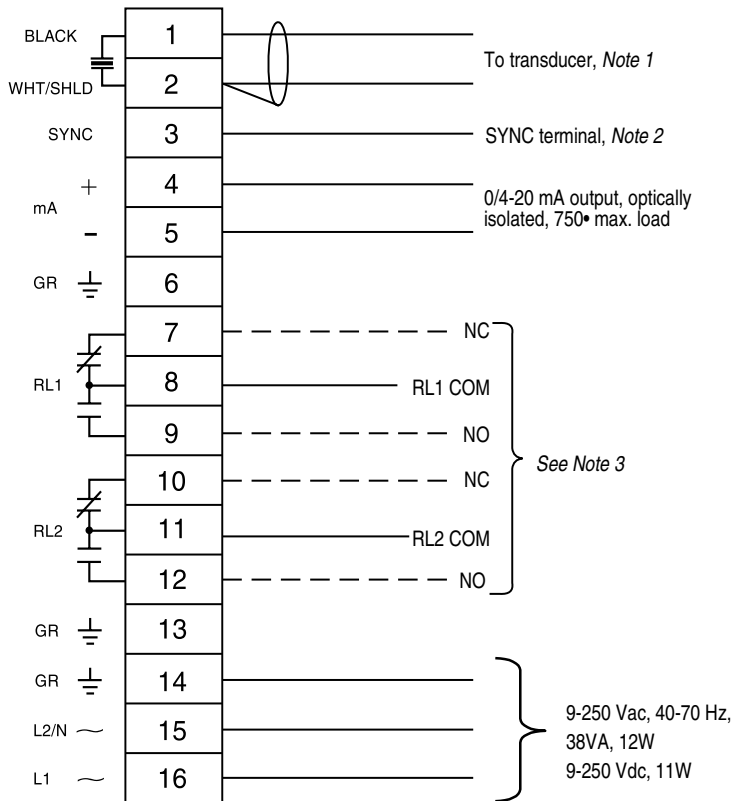
MiniRanger Plus – Wall Mount

Dimensions



➤ Conduit entry location. Recommend drilling the enclosure with a hole saw and using suitable cable glands to maintain ingress protection.

Wiring



Relays shown in de-energized position.

Notes:

1. Use RG-62 A/U coaxial (or equivalent) for extensions up to 365 m (1200 ft.). Run in grounded metal conduit, separate from other wiring.
2. Required only if mounted adjacent to other Milltronics equipment (with the exception of the MultiRanger Plus and HydroRanger). Interconnect all 'SYNC' terminals with a single 18 gauge (0.5 mm²) wire.
3. Each relay has 1 set of form 'C' (SPDT) contacts, relay rated at 5A 250 Vac, non-inductive, when equal or lower rated limiting fuses are installed. Relay de-energized when in alarm conditions and energized for pump control.



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