

The EnviroRanger ERS 500 is a complete, cost-effective solution for monitoring and control in water distribution and wastewater collection systems.

It combines non-contacting ultrasonic technology, patented echo-processing techniques and proven application software to provide accurate level monitoring in liquids up to 15 m (50 ft.). It effectively monitors flow in flumes, weirs and open channels. Five relays control any combination of pumps, gates and alarms. Features include report by exception and data logging for trend analysis. It will log the time, date and volume of up to 20 occurrences of combined sewer overflows.

The base unit has 8 discrete inputs, 5 digital outputs, an analog input, a single ultrasonic level point, differential/average capability and an RS-232 port with Modbus RTU/ASCII protocol. Expand the system with more I/O, RAM for data logging, dual point or SmartLinx® communications modules as your needs grow.

It integrates seamlessly with SCADA or DCS systems or a PLC to provide remote monitoring of all parameters – pumped volume, pump run time, pump status, and more. The built-in telemetry interface (Modbus RTU/ASCII) allows remote monitoring in real time.

It's easy to install and configure, with fast start-up, reliable performance and low maintenance.



Product Features

- Monitoring and control in one package
- Built-in telemetry interface (Modbus RTU/ASCII)
- Patented pumped volume algorithm accuracy within 5%
- Logs pump run time and number of pump starts
- Expandable with auxiliary I/O, RAM for data logging, dual point and SmartLinx® communications
- Simple system configuration and diagnostics with Milltronics' Dolphin Plus Windows® based software
- ac or dc power; rack, panel or wall mount available

Technical Specifications

Power

- ac version: 100-230 Vac \pm 15%, 50 / 60 Hz, 36 VA, (17W)
- dc version: 12-30 Vdc, (20W)

Environmental

- location: indoor
- altitude: 2000 m max.
- ambient temperature: -20 to 50°C (-5 to 122°F)
- relative humidity: 80% for temperatures up to 50°C (122°F)
- installation category: II
- pollution degree: 2

Scan Points

- 1 or 2 points

Range

- 0.3 m (1 ft.) to 15 m (50 ft.) dependent on transducer

Accuracy

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

Resolution

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

Memory

- 1MB static RAM with battery backup
- 1MB flash EPROM

Programming

- primary: PC running Dolphin Plus software
- secondary: hand held programmer

Display

- 75 x 20 mm (3 X 0.8") multi field back lit LCD

Enclosure

- **Rack Mount:** DIN 3U/21HP, 4 rail plug in unit, suitable for standard 3U/84HP (19") sub rack
- **Panel Mount:** suitable for DIN 43700 72 x 144 standard panel cut-out on 110mm (4.33") centres

Temperature Compensation

- range: -50 to 150°C (-58 to 302°F)
- source: integral transducer sensor, TS-3 temperature sensor, programmable fixed temperature

Temperature Error

- sensor: 0.09% of range
- fixed: 0.17%/°C deviation from programmed value

Communication

- RS-232 running Milltronics Dolphin protocol
- RS-232 running Modbus RTU and ASCII
- Optional: SmartLinx compatible, RS-485

Transducers

- Compatible Transducers: Echomax® series and ST-H series

Cable

- signal to be 2-3 copper conductors, twisted, with foil shield, drain wire, 300V 0.5 to 0.75 mm² (22 to 18 AWG)

Weight

- 1.5 kg (3.3 lbs.)

Approvals

- CE, CSA NRTL/C, UL Listed

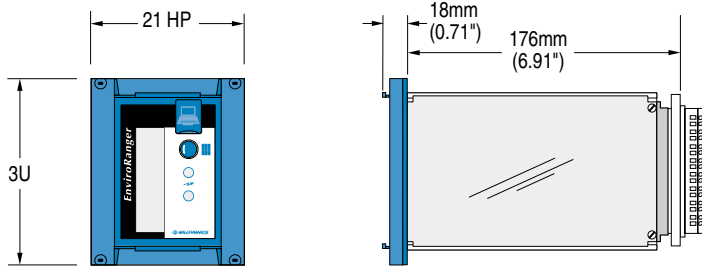
* program range is defined as the empty distance to the face of the transducer (P006) plus any range extension (P801)

Specifications are subject to change without notice.

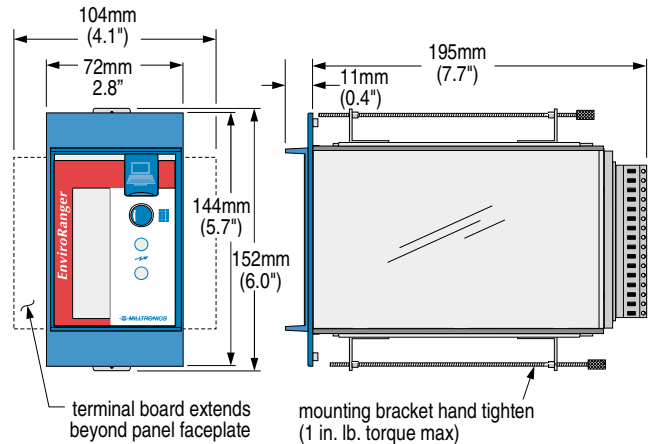
EnviroRanger ERS 500 – Rack and Panel Mount

Dimensions

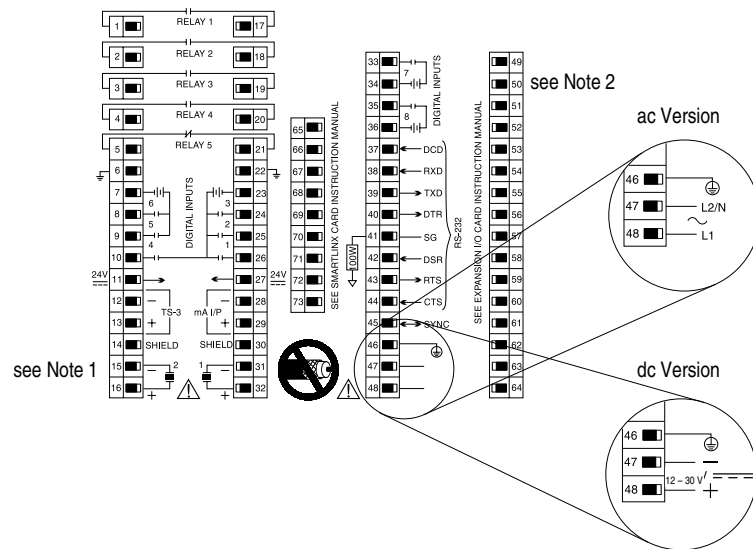
Rack Mount Unit



Panel Mount Unit



Wiring



see Note 1

see Note 2

Inputs

- mA (analog) (1)**
 - 0-20 or 4-20 mA, from alternate device, scaleable

- Discrete (8)**
 - 10-50 Vdc switching level
 - logical 0 = < 0.5 Vdc
 - logical 1 = 10 to 50 Vdc
 - 3 mA max. draw

- Frequency (2)**
 - 1-20,000 Hz

- Counter (2)**
 - 5 msec minimum pulse width

Outputs

- Transducer Drive**
 - 315 V peak

- Relays**
 - 4 control / 1 alarm relay
 - control: 4 form 'A', NO relays (number 1-4)
 - alarm: 1 form 'B', NC relay (number 5)
 - all relays rated 4 A at 250 Vac, non-inductive

Notes

- Transducer uses 2 wire twisted pair with shield only.
- Terminals 49 – 64 are for use with optional expansion I/O cards.



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