

The InterRanger DPS 300 is a microprocessor-based sludge blanket detection system for use in up to two water and/or wastewater primary and secondary clarifiers. It uses one or two Echomax® non-contacting XCT-12 transducers and advanced echo processing techniques to continuously monitor the sludge blanket at a level of reliability that can significantly improve process efficiency, maximize throughput and reduce sludge handling costs.

Communications via RS-232/RS-485 or bi-polar current loop, and isolated mA outputs, provide the capability for integration with centralized control systems.

For either round or rectangular clarifier tanks, the DPS 300 has an effective measurement range of 1 m to 30 m (3 ft. to 100 ft.). The self-cleaning transducer can be left in place for extended periods of time without requiring maintenance. The DPS 300 is a cost effective system for water and wastewater treatment plants where consistent sludge level monitoring data can directly improve effluent quality.



Product Features

- Dual frequency monitor for accurate detection
- Aluminum mounting bracket assembly available
- 4 programmable alarm/control relays
- Dolphin Plus and SmartLinX® compatible

Technical Specifications

Power

- 100/115/200/230 Vac ±15%, 50/60 Hz, 31 VA

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

Scan Points

- 2 points per DPS 300

Accuracy

- 1% of program range* or 2 cm (0.8"), whichever is greater

Resolution

- 1% of program range* or 2 cm (0.8"), whichever is greater

Memory

- EEPROM (non-volatile) no back-up battery required

Programming

- via removable programmer or optional Dolphin Plus

Display

- 51 x 127 mm (5 x 2") custom graphics, backlit LCD

Enclosure:

- polycarbonate Type 4X/NEMA 4X/IP65

Temperature Compensation

- -50 to 150°C (-58 to 302°F)
- compensation: integral transducer sensor, 2 TS-3 temperature sensors, max., programmable fixed temperature
- error: with compensation: 0.1% of range
- fixed temperature: 0.22%/°C deviation from programmed temperature

Transducers

- compatible models: Echomax® XCT-12

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 – 0.75 mm² (22 – 18 AWG)
- relay/power to be copper conductors per local requirements to meet 250V 5A contact rating

Outputs

Transducer drive

- 150 to 315 V peak

Relays

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

mA

- 2 outputs max., 0.1% resolution
- 0-20 or 4-20 mA, scalable
- 750 Ω max. load, isolated, 30 V rms

Weight

- 2.7 kg (6 lbs.)

Options

Temperature Sensor

- TS-3

Communications

- SmartLinX: protocol specific modules for interface with popular industrial communication systems
- Dolphin Plus: Milltronics Windows® - compatible interface and infrared ComVerter link
- BIC-II: DPS 300 bi-polar communication current loop to remote RS-232 or RS-422 port

Skimmer Guard

- two models – Type A (20 cm (8")) or B (40 cm (16"))
- temperature: -40 to 80°C (-40 to 176°F)
- construction: stainless steel hinged conduit with guard, and neoprene hinge boot
- articulation: ±90° off vertical
- weight: Type A – 1.4 kg (3 lbs.), Type B – 2.1 kg (5 lbs.)

Mounting Assembly

- railings, typically 50 mm (2") dia. pipe or less, 2 rails spaced 432 to 610 mm (17 to 24") apart on centre
- temperature: -40 to 80°C (-40 to 176°F)
- construction: epoxy coated aluminium, with stainless steel hardware
- weight: 6.5 kg (15 lbs.)

Approvals

- CE **, CSA _{NRTL}, FM (pending)

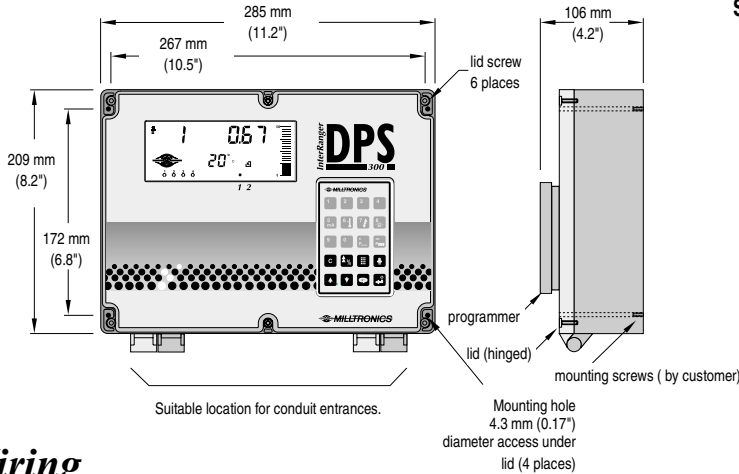
* Program range is defined as the empty distance to the face of the transducer (P006) plus any range extension (P801).

**EMC performance available upon request.

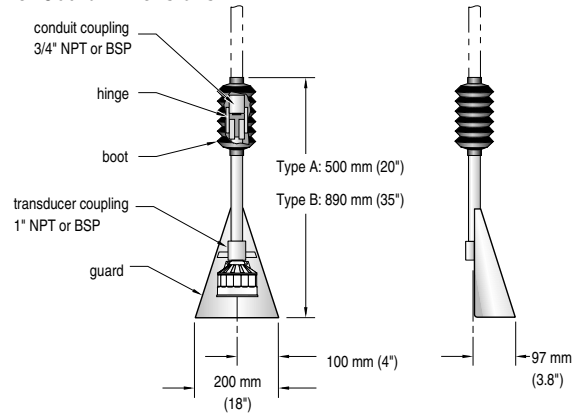
Specifications are subject to change without notice.

InterRanger DPS 300

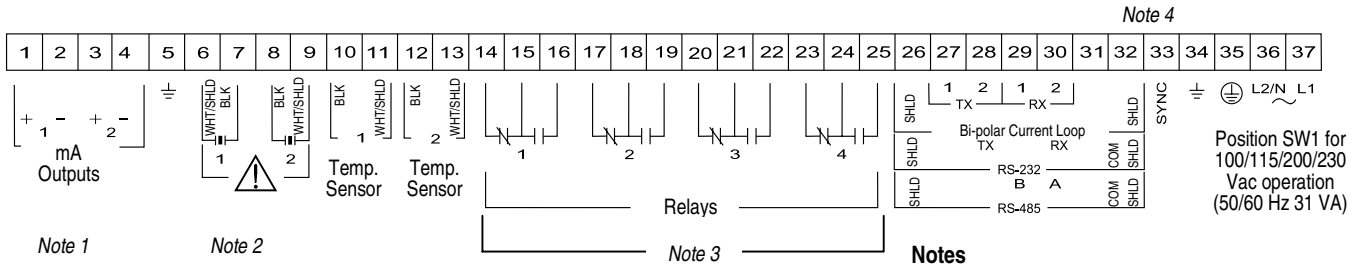
Dimensions



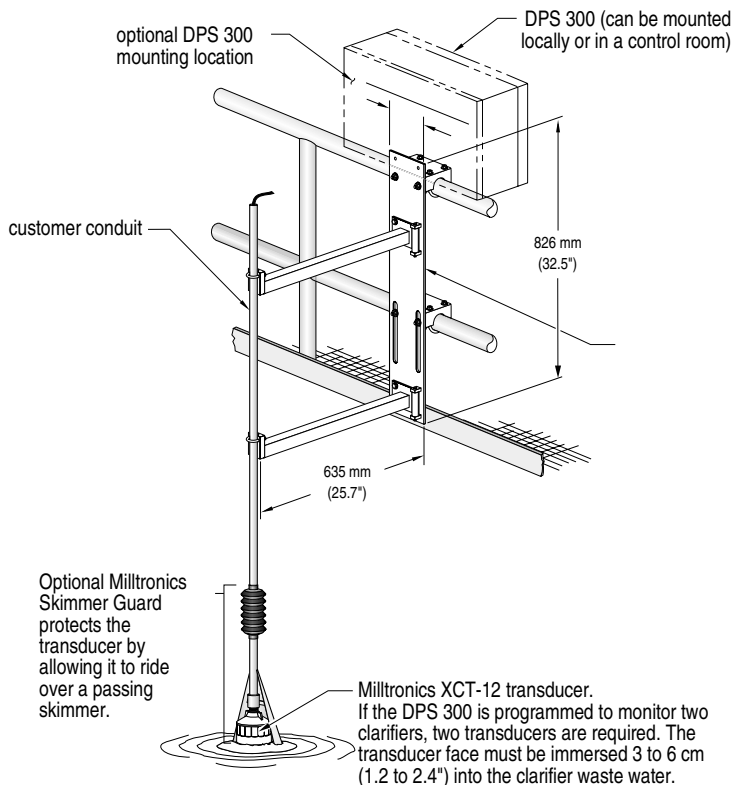
Skimmer Guard Dimensions



Wiring



System Configuration



Notes

1. Optically isolated, 750Ω max. load
2. 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.
3. Each relay has 1 set of form 'C' (SPDT) contacts, relay manufacture rated at 5A 250 Vac, non-inductive, when equal or lower rated limiting fuses are installed.
4. Required if mounted adjacent to other InterRanger DPS 300 units or other specified Milltronics devices. Interconnect all 'SYNC' terminals with a single 18 gauge (0.5mm²) wire.



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