

SLUDGE SLEUTH™

SINGLE POINT SLUDGE LEVEL DETECTOR

THE MARKLAND ADVANTAGE:

Single point monitoring and automatic control of the depth of settled beds

- Beneficial wherever solids are separated from liquids

Optical sensor is ideal for diverse clarification equipment

- LED provides accurate readings, even in obstructed/constricted areas such as the inclined plates of lamella separators.

Maintain your preferred sludge blanket / supernatant interface level

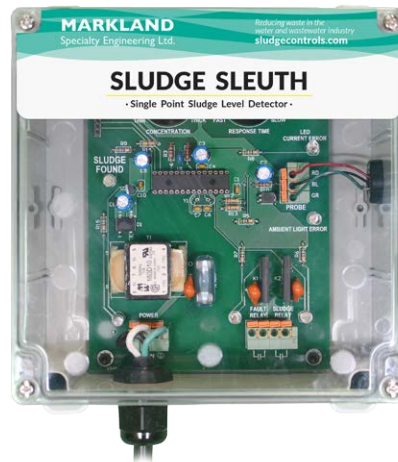
- Adjustable solids concentration set-point helps maintain optimum equipment performance and avoid process upsets such as septic sludge conditions, carryover, and solids wash-out

Optimize silt or sludge feed density for enhanced dewatering

- Maximize water removal. Avoid pumping large volumes of thin sludge. Help reduce energy and haulage costs. Improve outflow for re-use.

Accommodate changes in sludge density

- Easily adjust for thin or thick sludge and slurries, or light flocs, using the concentration control.



FEATURES

- Simple installation
- No moving parts
- Compact design
- Adjustable sludge concentration set-point control
- Adjustable response time or damping
- Relay indicates sludge detection and pumps or valves activated
- Advanced self-diagnostics
- Optional delay-off timer

DETECTION PERFECTION!



APPLICATIONS

Single point detection of settled bed levels in:

- Gravity settlers, including circular and rectangular clarifiers
 - Sedimentation basins
 - Inclined plate separators
 - Decanting tanks
 - DAF units (dissolved air flotation tanks)
 - SBRs (sequential batch reactors)
 - Batch processes
 - Sumps and pits
- and more!

The Sludge Sleuth™ detects diverse material:

- silt, sludge, biosolids in primary and secondary clarifiers
 - backwash sludge from sand/membrane filters
 - resin in water softener intake tanks
 - settled mud in tanks
 - fly-ash from scrubbers
 - grit in sumps and pits
- and more ...

TECH SPECS

| | |
|---------------------|---|
| Materials | Probe: PVC Mast: 1 inch PVC pipe Clamps: Stainless Steel and Polypropylene Cable: PVC jacketed Enclosure: Polycarbonate NEMA 4X (IP68) |
| Dimensions | Width 6.3" Height 6.3" Depth 3" |
| Cable Length | 33 feet (different cable lengths available) |
| Power | 110/220 VAC, 50/60 Hz, 5 watts |
| Output | LED indication SPST 1 Amp solid state relay for sludge indication SPST 1 Amp solid state relay for fault indication |

The Sludge Sleuth™ is available in two styles:

Model 612PM
Pipe Mount

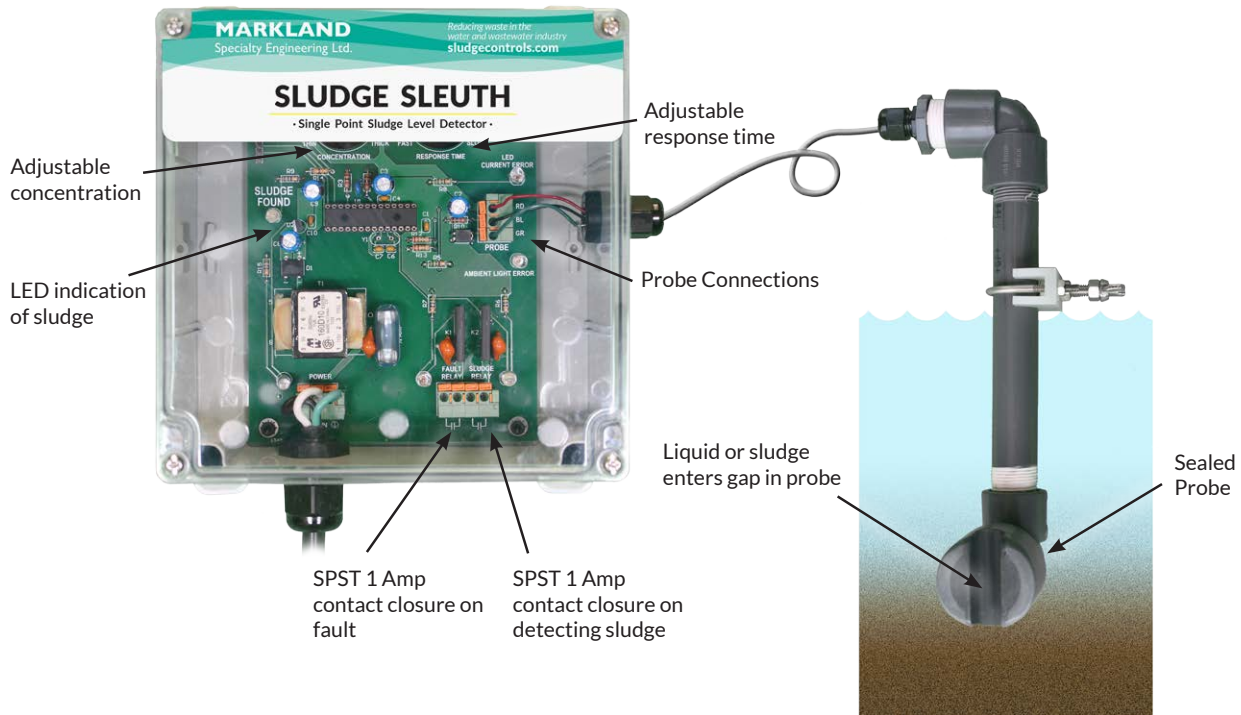


Model 612PM is ideal when a rigid mounting is preferred and the distance from mounting clamps to probe is less than 20 feet.

Model 612HP
Hanging Probe



Model 612HP facilitates simple removal for cleaning in deep installations



HOW IT WORKS

The optical probe of the Sludge Sleuth™ is located at the preferred sludge interface high-level point.

Every second, a LED transmits a pulse of infrared light across a gap in the probe. A phototransistor sensor on the other side of the gap receives the beam of light. If the gap contains air or clear liquid, the detector reads the suspended solids concentration as zero. When suspended solids are encountered in the gap, some beam energy is absorbed. The Sludge Sleuth™ monitors these changes in beam intensity. When it detects that suspended solids have reached a predetermined concentration, it illuminates a LED on its controller and activates a relay that can be used to send an alert to the operator and/or turn on the desludge pumps or valves.

A concentration control allows operators to make adjustments for thick or thin silt, sludge and slurries or light flocs.

An adjustable damping control enables operators to modify the response time setting, customizing the period in which the predetermined solids concentration set-point must be continuously present before the meter takes action.

The Sludge Sleuth™ probe is monitored by self-diagnostics, which turn on local and remote alarms in the unlikely event of a problem with its operation.

A NEMA 4X enclosure allows the detector to be installed anywhere except hazardous locations.

Markland also offers **Automatic Sludge Blanket Level Detectors** that track the liquid-solids interface level as it rises and falls. To learn more, visit sludgecontrols.com.

MARKLAND'S FAMILY OF PROCESS CONTROL INSTRUMENTATION

Markland Specialty Engineering has been designing and manufacturing ultrasonic and optical instrumentation that helps measure, monitor, and automate control in the water, wastewater and process industries since 1967. Orders are followed by quick delivery, and prompt product support is always available.

Sludge Gun® Portable Sludge Blanket Level Detector

Measure liquid-solids interface levels in clarifiers, septic tanks, ponds, and even murky lagoons. Facilitate monitoring for regulatory compliance and determining optimal times for pumping/dredging. Convenient thumbwheel adjusts the optical sensitivity. Compact and weatherproof.



Sludge Sleuth™ Single Point Sludge Level Detector

Single point monitoring & automatic control of settled bed depth in gravity settlers, decanting tanks, DAF units, SBRs, sumps, pits - even inclined plate clarifiers. Adjustable solids concentration set-point helps optimize equipment performance & reduce energy/haulage costs.



Suspended Solids Density Meter

Know real-time silt, sludge & slurry concentrations in clarifiers, tanks & pipes. Automate pumps to maintain preferred density. Help fine-tune dosing & thickener variables. Ultrasonic sensor needs no permits/ no approvals, measuring %S.S. even in thick concentrations. Readings are unaffected by color. Choose non-intrusive spool piece or throw-in probe.



Automatic Sludge Blanket Level Detector

Track liquid-solids interface levels in water, wastewater & process slurries, even in constricted areas. Program pumps to operate only when necessary. Help prevent process upsets. Maximize water removal. Optical sensitivity automatically adjusts for thick/thin concentrations.



Duckbill™ Automatic Composite Sampling System

Collect influent/effluent samples from sewers, lift stations, tanks, non-pressurized pipes, sumps, open channels. Explosion-proof sampler uses compressed air (no pumps, no vacuum system) to move samples, even up high lifts (80+ ft), over long runs (90+ ft), in freezing temperatures, from multiple sites simultaneously.



905-873-7791 • 1-855-873-7791 in North America
markland@sludgecontrols.com

305 Armstrong Ave. Unit 9, Georgetown, ON L7G 4X6

MARKLAND
Specialty Engineering Ltd.

Serving the water, wastewater and
process industries since 1967
www.sludgecontrols.com

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