

# SLUDGEWIZARD PRO

## INTERFACE LEVEL MONITORING SYSTEM



# iSOLV

Process Instrumentation

analytical

bulk flow

distance

flow

**LEVEL**

pressure

temperature

industrial  
communication

**FLOTECH**  
Process Automation & Instrumentation

# SLUDGEWIZARD PRO INTERFACE LEVEL MONITORING SYSTEM



SLUDGEWIZARD PRO is proven effective in monitoring and control of the Interface/Sludge blanket level, continuous level measurement of wide range areas of application specifically on Sewage & Wastewater, and Industrial applications. It provides a continuous level indication and 4 – 20 mA output of interface height from the tank floor along with relays for alarm or control use and self-cleaning system function. The transmitter also has a dual point level sensing in liquids and/or air transducers.

The self-cleaning system function results in continuous, reliable interface/sludge level measurement. Manual checking of sludge levels can be eliminated, freeing operators' time for other tasks.

## Key Features

- Continuous single or dual channel level control choice
- Self-cleaning transducer removes need for regular inspection
- SBR tank applications can be monitored
- Easy set up, via drop down menu on large clear display
- Reliable monitoring down to 0.5% density
- Two independent transducer channels with the option of combining Sludge Interface Transducers and/or Ultrasonic Level Transducers
- 'Hot Key' Functions with easy menu driven programming

## Benefits

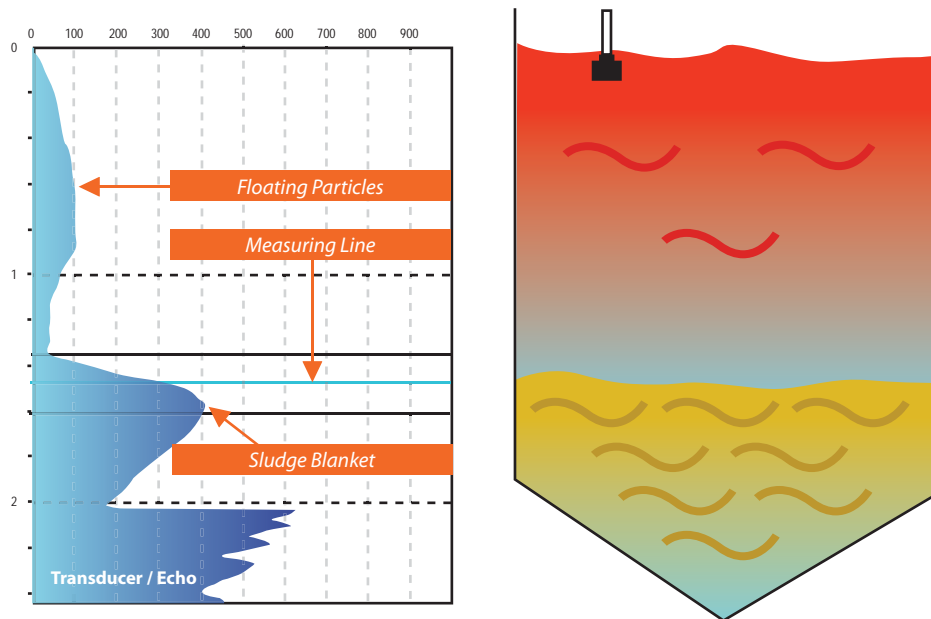
- Reduces maintenance costs.
- Easy installation and set-up.
- Fully automated system with reliable interface/blanket level monitoring.
- The self-cleaning system function prevents incorrect values caused by transducer clogging.
- Ability to actuate pumps automatically with the alarm or pump control function.



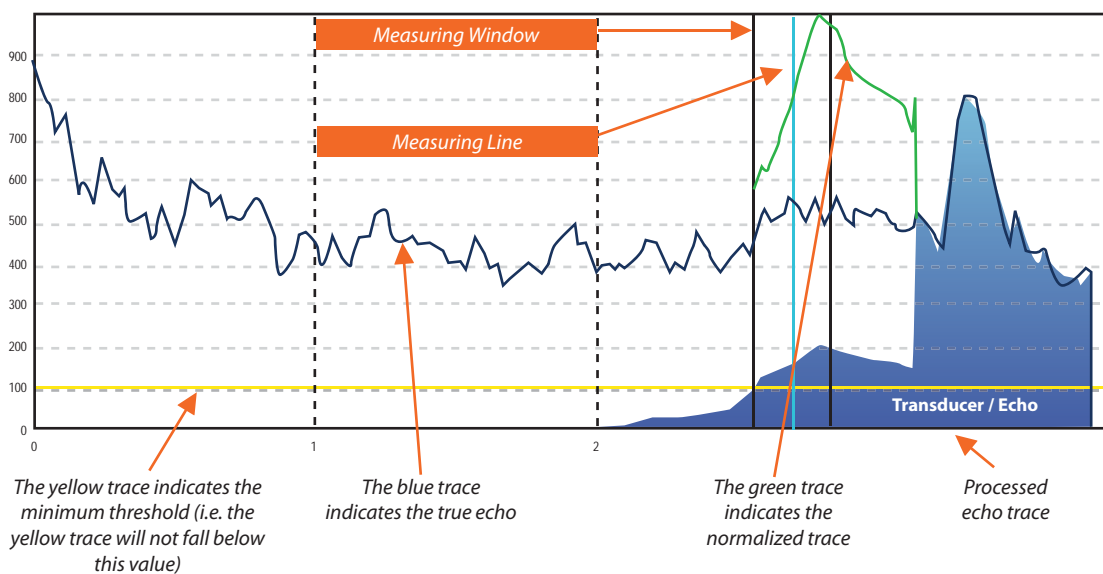
*Set-up and Installation*

## Principle of Operation

The SLUDGEWIZARD PRO's unique sonar transducer is immersed in the liquid, emitting a high powered acoustic pulse which is reflected from the interface density selected. The pulse reflects from the interface of the denser material back to the transducer face. The reflected signal is processed using the echo processing algorithms to identify the sludge interface level by a specially developed digital echo processing techniques found to this unit. This echo is analyzed by the controller unit providing a depth reading and an analog output proportional to the height of the interface above the tank bottom



## Echo Trace Components





## Applications

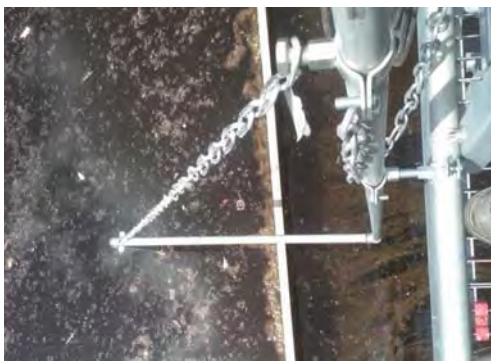
- Sumps, Lagoons, Settling Ponds
- Primary and Secondary Settling Tanks
- Clarifiers
- Stationary and Travelling Bridge Applications
- Gravity Thickeners
- Reactor Clarifiers
- DAF Thickeners
- Sequencing Batch Reactor Tanks
- Industrial Process Thickeners



*Secondary Clarifier*



*Sequencing Batch Reactor (SBR) Tanks*



*Final Settling Tank*

## Specifications

### Transmitter

Accuracy:	±0.25% of measured range or 30 mm (whichever is greater)
Resolution:	±0.25% of measured range or 10 mm (whichever is greater)
Operating Temperature:	-20 °C to 50 °C
Display:	192 x 128 Pixel Illuminated Multi-functional Backlit Graphical Display Robust user Interface Keypad
Outputs:	Analog Output - 2 x (4-20mA or 0-20 mA) Isolated Output @ 0.1% resolution Relay Output - 6 form "C" x SPDT rated @ 5A @ 240 Vac Fully programmable and adjustable diagnostics Serial Output – Half Duplex RS232
Communications (Optional):	RS485, Modbus RTU/ASCII, Profibus DP V0 or V1
Maximum Range:	500 m line of site
Housing Material:	Polycarbonate
Enclosure Protection:	IP65
Weight:	1 kg. (2.2 lbs.)
Power Supply:	UNIVERSAL (100 - 240Vac 50/60 Hz) ; 22 – 28 Vdc
Cable Entry:	10 cable entry knock outs - 5 x M20 and 1 x M16 underside, 4 x PG11 at rear

### Transducer

Measurement Range:	0.30 – 10 m maximum
Operating Frequency:	700 KHz transducer
Operating Temperature:	-20 °C to 70 °C
Housing Material:	Black Valox 357
Wiper Material:	Stainless Steel 316 blade and shaft (Consult FLOTECH for availability of other material)
Enclosure Protection:	IP68
Process Connection:	1" BSP Thread
Cable:	2 twisted pair 0.5 mm <sup>2</sup> with overall screen
Approvals:	2004/108/EC EMC approval; 2006/95/EC low voltage directive

### Other Information

Transducer/Transmitter Separation:	200 m
Recommended Insertion Length:	200 mm
Optional:	Use flex-arm assembly when a surface skimmer is present

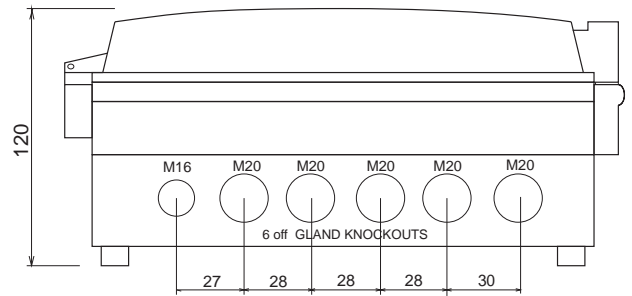
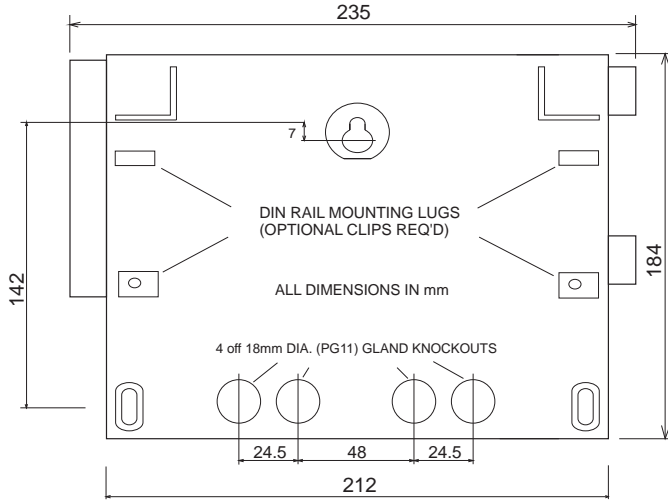
### Programming

On-board programming:	By integral keypad
PC programming:	Via RS232 RJ11 port
Programming security:	Via password (user selectable and adjustable)
Programmed data integrity:	Non-volatile memory

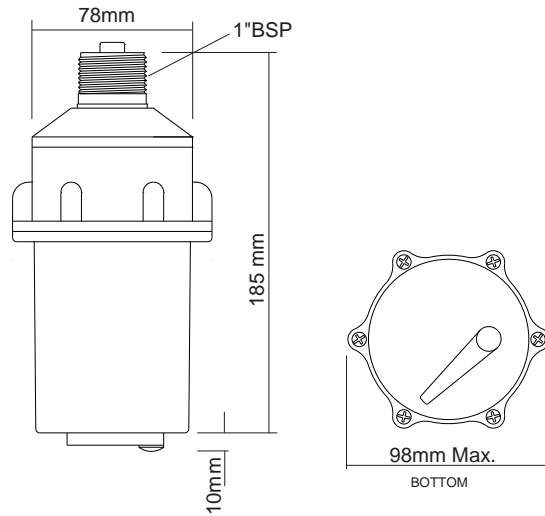
*Note: Specifications are subject to change without prior notice.*

## Dimensions (In mm)

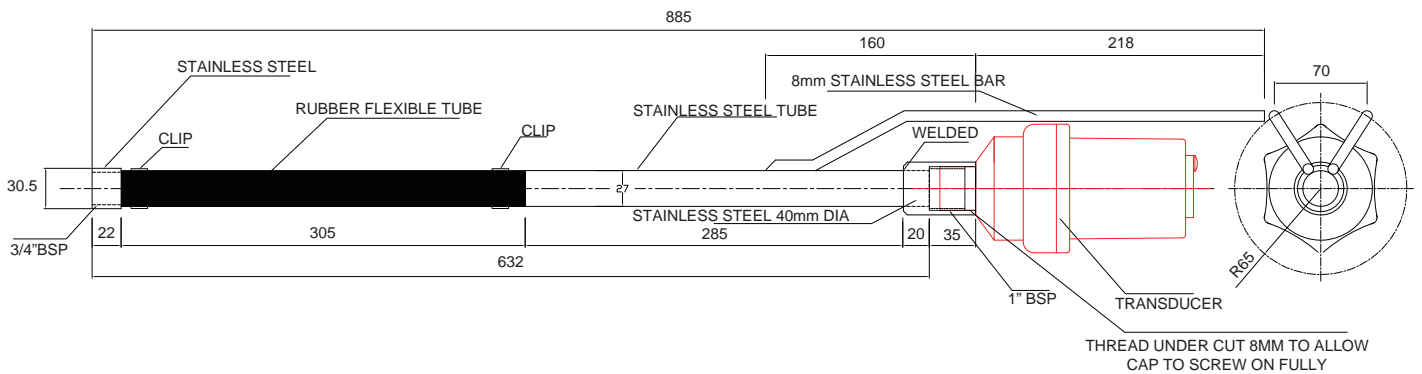
### Transmitter



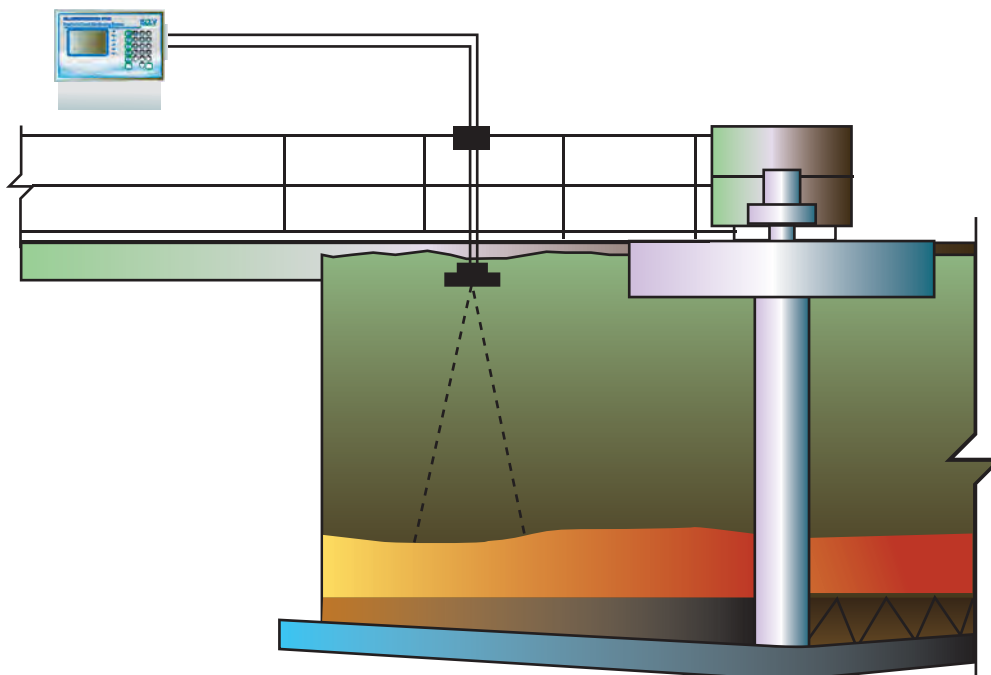
### Transducer



### Flex-arm Assembly



## Basic Installation Guidelines

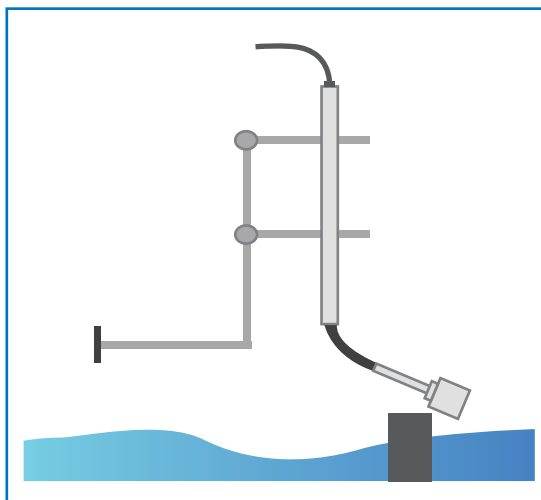


### Transmitter:

- Install near the area of application
- Can be separated to transducer up to 200 meters away
- Can be located central to multiple transducers
- Recommended to have secondary enclosure to avoid direct exposure to sunlight and protection against rain (IP65 protection class)

### Transducer:

- Submerged to water 150 – 200 mm (200 mm recommended)
- Keep away from “FIXED” obstructions below
- Avoid areas of excessive bubbles, turbulence, suspended solids, scum at surface
- Can be installed above rotating machinery without affecting the accuracy
- Use flex-arm assembly when a surface skimmer is present



*Flex-arm Assembly*

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