

# KWS100 SERIES

## ULTRASONIC SLUDGE BLANKET LEVEL METER

Newly developed cleaning system and new algorithms assure a stable measurement



KWS100-S/M

KWS100-P

# KWS100 ULTRASONIC LEVEL METER FOR SUBMERGED SLUDGE

## Sophisticated instrument for measuring a sludge blanket level

KWS100 is a high precision device measuring the submersible sludge level with the most updated technology of ultrasonic measurement. The housing is waterproof rated IP68. The automatic cleaning system prevents the sensor surface from a buildup. The algorithm based on our long-term engineering experience can avoid noises caused by an agitator, a bridge, etc., resulting in complete measurement of the indistinct sludge blanket in a digestion tank, a thickener and others. And yet it excels in a good maintenance and a high reliability.

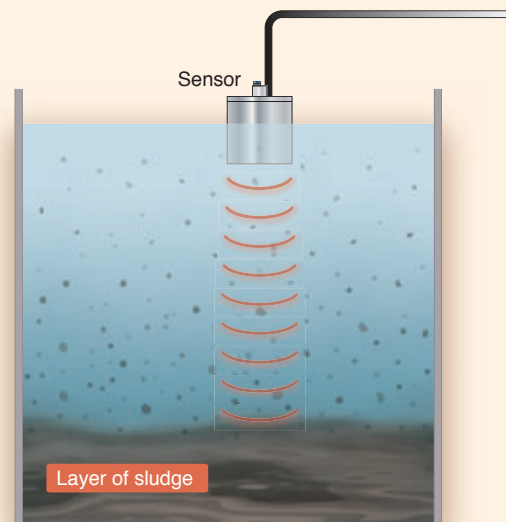


### ■ Features

- A continuous real time measurement controls your facility effectively to reduce running cost and labour charge.
- The automatic cleaning system helps with reducing hard maintenance works.
- A built-in logger stores data of 10.000 points.
- An economical system with 4 sensors available.
- Save wiring cost with an optional wireless system.

### ■ Application

- Waste water Treatment Facility (Primary & Secondary Purifier, Condensation/Sedimentation Equipment)
- Water Purifying Facility
- Power Plant (Desulfurization Equipment)
- Petro chemistry, Sludge Purification Tank



### ■ Merits of Sludge level meter

- A real time control **reduces the pumping cost** more than scheduled time control.
- **Optimizes the heating energy** with an appropriate control of the removal sludge level in the tank.
- The real time control in the primary treatment **reduces a load on downstream processes**.
- **Improves the treatment efficiency** with consistent and smooth operation of overall treatment facility.
- Optimizing operation to meet required treatment variation **makes the running cost lower**.

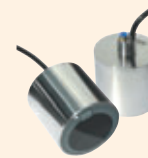
## Specification

### CONTROLLER

Model	KWS100-S	KWS100-M
Application	Single Type	Multiple Type
General Drawing		
Range	0.35~10m	
Resolution	1 cm	
Accuracy	+/-1% of measured range or 1 inch, whichever is greater	
Temperature	-10~60°C	
Quantity of Sensor	1	4 at the maximum
Data Storage	400 days max.	
Display	Value, Echo, Trend Level, Distance, Temper. mA, Time	
Output	4-20mA 250Ω maximum 3SPDT (5A 250VAC) RS232C (Standard) RS485	4-20mA 250Ω maximum 4 SPDT (5A 250VAC) RS232C (Standard) RS485
Power Source	100 – 240VAC 50/60Hz 20 – 30VDC Option	
Power Consumption	≤6W	
Material	Main body: FRP / Window: Polycarbonate	
Weight	3.0kg	3.2kg
IP Rating	IP67	
Certificate	CE	



**KWS100-S/M**



**S1-G**



**S1-H**

### SENSOR

Model	S1-G	S1-H
General Drawing		
Material	Main Body : 316SS Transmitting face: grey PVC+ epoxy	Main Body : 316SS Transmitting face: Teflon Terminal box: Alumi diecast
Cleaning	built-in nozzle	
Connection	3/4" NPT	can be arranged
Cable Length	10m (standard), 300m max.	
Temperature	-10~60°C	-10~100°C
Beam Angle	5°	
Frequency	160kHz	
Weight	3kg (including 10m cable)	4kg (including Terminal Box)
IP Rating	IP68	
Sensor ~ Terminal box Distance		350mm (standard) extensionable

### Option Products



#### Cleaning Unit

(with  $\phi 6$  air hose 10m)  
This can be used for preventing sludge stacking on the transmitters. Operating time of cleaning (air purge) and operating interval can be set up on the controller.



#### Swing bracket

This can be used to secure the instrument from skimmer passage in thickeners or clarifiers.

# KWS100-P

ULTRASONIC LEVEL METER  
FOR SUBMERGED SLUDGE

## PORTABLE TYPE

Controller is equipped with a rechargeable battery (a charger is attached), and Sensor can wear a float. Being of a handy model, it can easily measure the sludge interface level in various places.



### Features

- No need to carry cable
- No electric power supply is required because of the rechargeable battery loaded.
- Type of VTA: Visual Threshold Adjustment
- Type of ASF: Abnormal Signal Filter

### Application

- Waste water Treatment Facility (Primary & Secondary Purifier, Condensation/Sedimentation Equipment)
- Water Purifying Facility
- Power Plant (Desulfurization Equipment)
- Petro chemistry, Sludge Purification Tank

### Line of business

- Rotary Paddle Type Level Switch
- Vibration Type Level Switch
- Swing Type Level Switch
- Acoustic Level Switch
- Capacitance Type Level Switch
- Capacitive Proximity Sensor
- Capacitance Type Level Indicator
- Diaphragm Type Level Switch
- Tiit Switch
- Leak Type Level Switch
- Microwave Type Switch
- Sounding Bob Type Level Indicator
- Flow Switch
- Conductance Type Level Switch
- Float Switch
- Float Type Level Indicator
- Ultrasonic Type Level Indicator
- Equipments For Conveyor Lines
- Dust Monitor System
- Zirconia Oxygen Analyzer
- Laser Type Level Indicator
- RADAR Type Level Indicator
- On-line Sensors for Accurate Liquid Analysis
- Ultrasonic Flow meter

\*Please be sure to read USER'S GUIDE, Installation & Operation Instructions before using the instrument.

\*The specifications herein may be subject to change without advance notice.

## Specification

### CONTROLLER

Model	KWS100-P
Application	Portable Type
General Drawing	
Range	0.35 - 10m
Resolution	1cm
Accuracy	±0.5% or 2.5cm
Temperature	-10° C to +60° C
Data Storage	Depend on setting
Display	Value, Echo, Trend Level, Distance, Temper
Output	RS232c
Power	Rechargeable batter
Housing Material	Aluminum
Weight	1.5kg
Housing Rating	IP65
Certificate	CE

### SENSOR

Model	S1-P
General Drawing	
Material	Main Body: Clear PVC Transmitting face: Clear PVC
Cleaning	N/A
Connection	N/A
Cable Length	5m
Temperature	-10 ~ 60°C
Beam Angle	5°
Frequency	160kHz
Weight	700g (including 5m cable)
Housing Rating	IP68

All-round Manufacturer of Level Controllers for Powder, Granules and Liquid

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