

# Ultrasonic Level Meter

**MATSUSHIMA**  
MACHINERY LABORATORY Co., LTD.

For fine powders, solids and liquids

## *Ultrasonic Level Meter*

USLM series



# Improved Maintainability

The ultrasonic level meter incorporates the latest technology in a compact unit, and delivers high performance measuring. It ensures enough space to facilitate inspection and maintenance. Our latest model of ultrasonic level meter offers compact size, high performance, and outstanding operation capabilities, and is readily available as well as fully warranted.

## Non-contact Measurement

This ultrasonic level meter reflects ultrasonic waves off the stored materials and converts the time between wave transmission and echo reception into distance, so it can measure the level of stored materials without physical contact.

## High Accuracy

The ultrasonic level meter delivers highly accurate level measurement at a resolution of 1 mm.

## High Reliability

The ultrasonic level meter enables stable level measurement without the influence of specific dielectric constant, electrical conductivity of stored materials. In addition, reliable measurement is realized by means of original echo analysis technology, developed through our accumulated expertise.

## Wide Selection

The ultrasonic level meter can cover a range of up to 70 m. Any of five models can be selected to best suit the application.

## Maintenance Free

By installing the MVM adjustment software in a PC, the ultrasonic level meter can play the role of a high-end measuring instrument capable of parameter setting, confirmation of original waveforms and processed waveforms, confirmation of threshold levels and more. Multiple ultrasonic level meters can be monitored remotely by a single PC via RS485/USB communications.

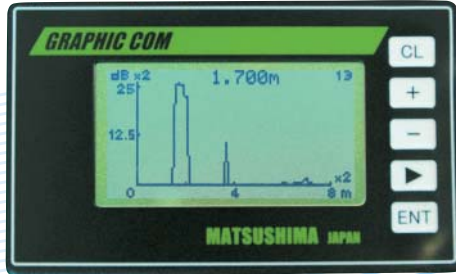


## Application Examples

- Silo for Cement Products
- Fly-ash Silo
- Bunker for Lime/Clay
- Clinker Silo
- Blending Silo
- Sintering Tank
- Coal Tank
- Coke Tank
- Chip Silo
- Sludge Hopper
- Dehydrated Cake Hopper
- Hydrated Lime Hopper
- PP Silo
- Waste Plastic Bunker
- Dust Bunker
- Plaster Silo
- Truck Receiving Hopper
- Slurry Tank
- Yeast Tank
- Waste Material Bunker
- Wastewater Treatment Equipment
- Detection of Discontinuity of Packages on a Conveyer
- Silo for Grains and Feedstuff
- Syrup Tank

## Easy Operation

Matsushima's ultrasonic level meter enables easy and accurate operations from on-site maintenance to complex system remote adjustment.



Waveform on the LCD adjustment unit GRAPHIC COM during monitoring (optional)



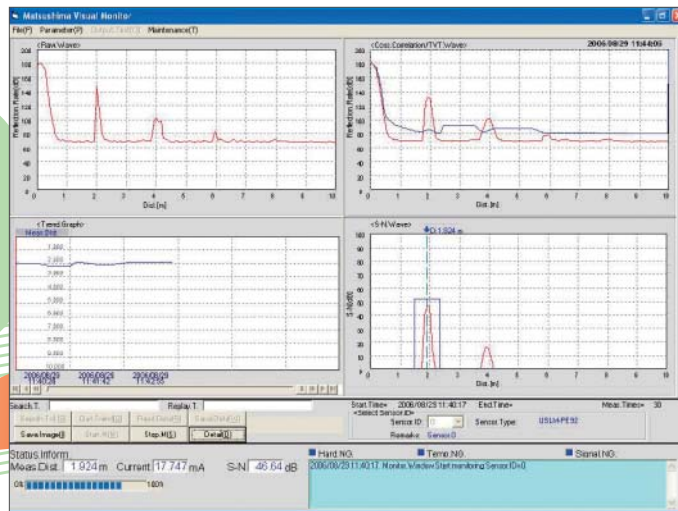
Appearance of GRAPHIC COM mounted to the main unit

## On-site Operation

The GRAPHIC COM LCD adjustment unit can be mounted to the main unit and can display waveforms during monitoring on an easy-to-view LCD.

## Remote Operation

Complex parameters settings can be directly made from a PC running the MVM adjustment software.



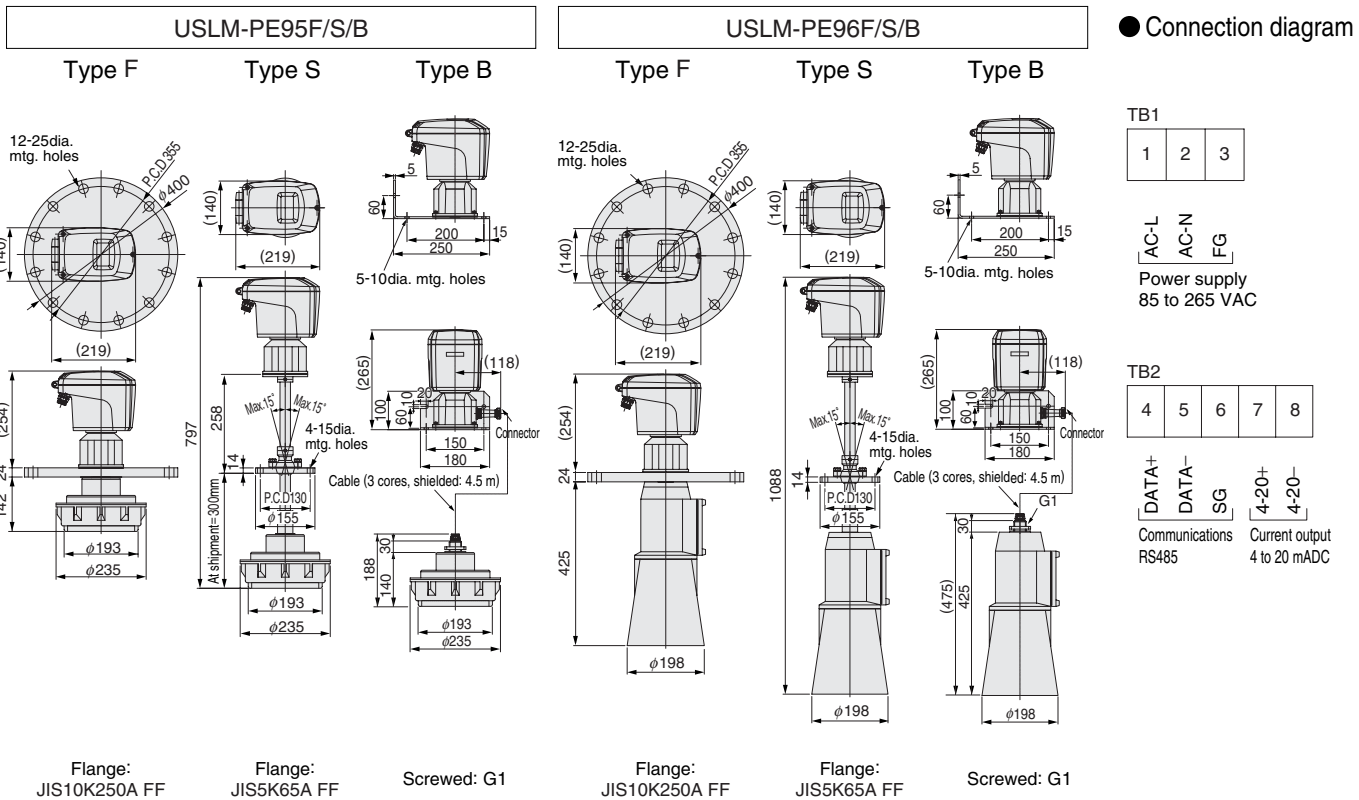
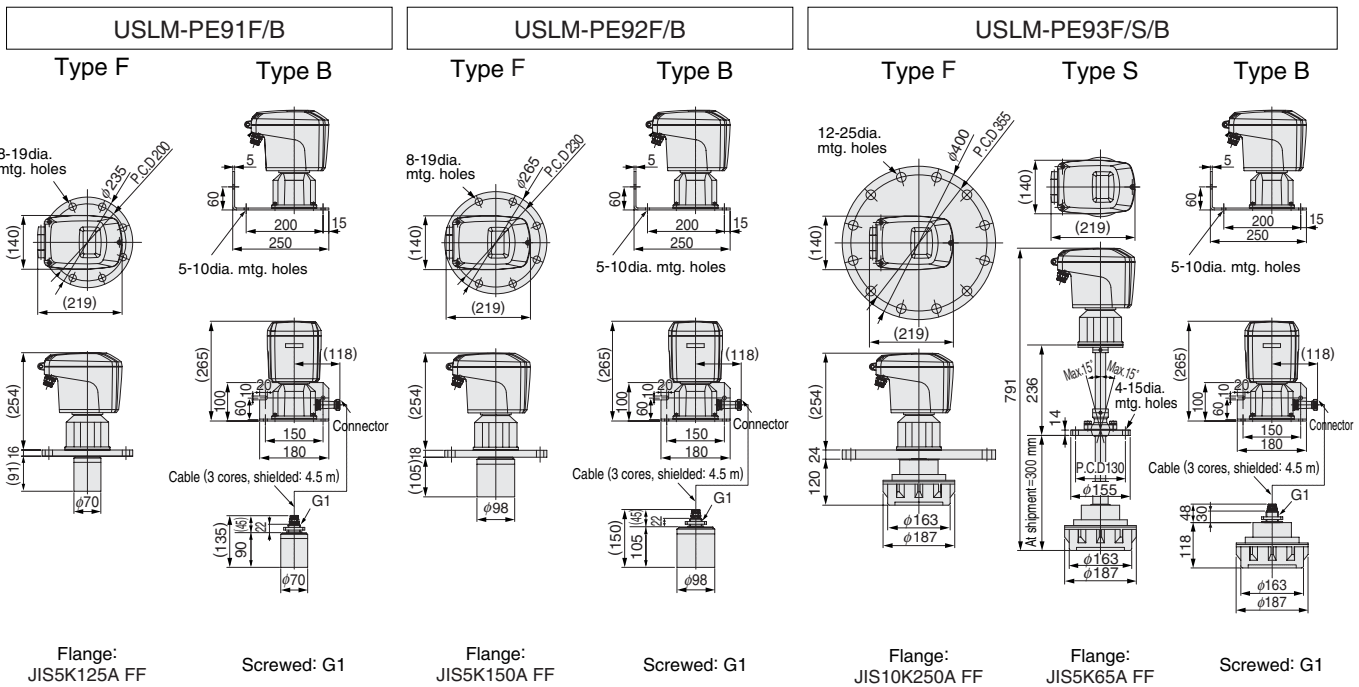
Real-time display of measurements

## Specifications

Model	USLM-PE91F/B	USLM-PE92F/B	USLM-PE93F/S/B	USLM-PE95F/S/B	USLM-PE96F/S/B		
Power supply	85 to 265 VAC 50/60 Hz						
Power consumption	Max. 9 VA						
Mounting	Integrated flange type (Type F)	JIS5K125A	JIS5K150A	JIS10K250A			
	Adjustable flange type (Type S)	—	—	JIS5K65A adjustable flange, adjustable angle: 15° in all directions			
	Separate type (Type B)	G1 screw fitting, with locknuts					
Minimum/Maximum measurement range	Integrated flange type (Type F)	Liquids	0.4 to 5 m	0.6 to 10 m	0.9 to 25 m	1.0 to 45 m	1.8 to 70 m
	Adjustable flange type (Type S)	Fine powders	—	0.6 to 5 m*	1.1 to 10 m	1.1 to 20 m	1.8 to 25 m
		Liquids	—	—	0.7 to 25 m	0.8 to 45 m	1.6 to 70 m
	Separate type (Type B)	Liquids	0.3 to 5 m	0.5 to 10 m	0.9 to 10 m	0.9 to 20 m	0.9 to 20 m
		Fine powders	—	0.5 to 5 m*	0.9 to 10 m	0.9 to 20 m	1.6 to 25 m
Transmission frequency	43 kHz	30 kHz	27 kHz	17 kHz	11 kHz		
Transmission cycle	240 ms			480 ms	540 ms		
Angle of radiation (−3dB)	11 deg		4 deg	5 deg	6 deg		
Resolution	1 mm						
Accuracy	±0.25% F.S.						
Output signal	4 to 20 mA DC×1, 600 Ω or below						
Ambient temperature	Housing	−20 to 60°C					
	Transmitter	−40 to 80°C	−40 to 95°C	−40 to 80°C	−40 to 150°C		
Allowable inner pressure (Max.)	0.4 MPa		0.3 MPa	0.15 MPa	0.3 MPa		
Material	Housing	ADC					
	Flange	Integrated flange: PE/Adjustable flange: SS400					
Enclosure	Housing	Protection rating: IP65					
	Transmitter	Protection rating: IP68					
Lead outlet	G1/2×2						
Approx. mass	Approx. 6 kg	Approx. 7 kg	Approx. 8 kg	Approx. 10.5 kg	Approx. 11 kg		
Accessories (optional)	·LCD adjustment unit (GRAPHIC COM)		·485 converter for host adjustment (USB-485I)				
	·Software for adjustment (MVM)						

\* : Measurement of solids

● Dimensions mm



Specifications are subject to change without notice.  
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**Caution**

- Read the instructions to ensure correct and suitable application of products.
- Contact our nearest sales office when using our products for any systems used in situations which may be life threatening.

Distributor



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