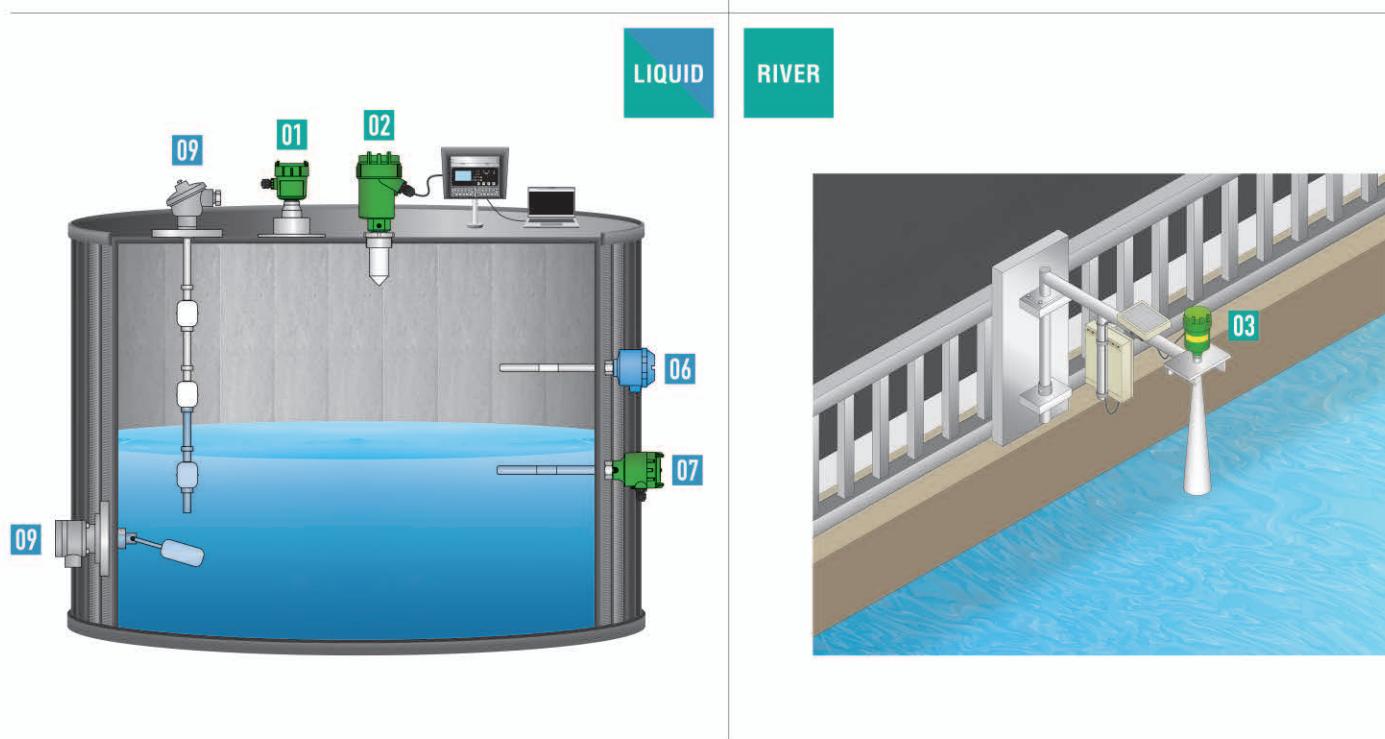
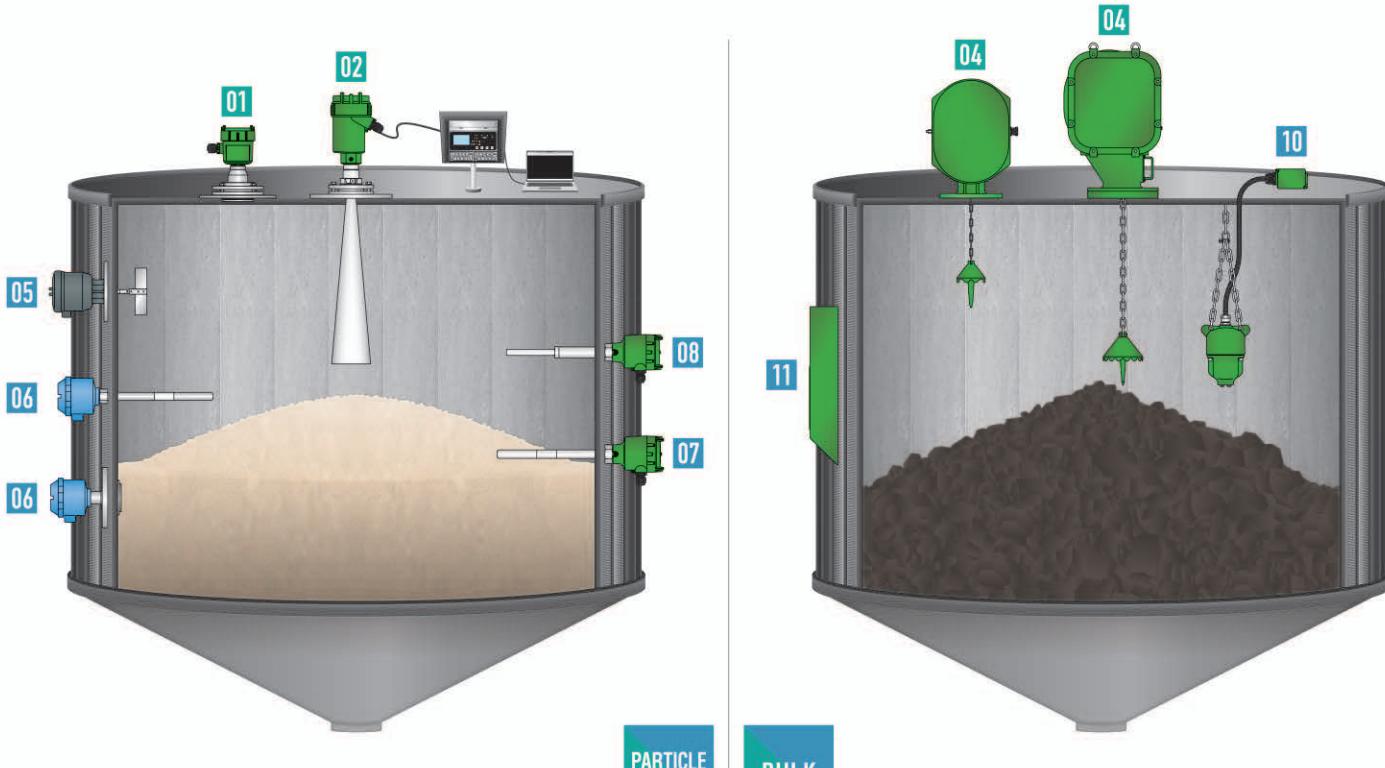


# CONTINUOUS LEVEL MEASUREMENT & POINT LEVEL DETECTION

## PRODUCT GUIDE



# CONTINUOUS LEVEL MEASUREMENT & POINT LEVEL DETECTION PRODUCT GUIDE



- 01** 80GHz Radar Level Transmitter
- 02** 26GHz Radar Level Transmitter
- 03** Radar Type River Water Level Transmitter
- 04** Sounding Level Transmitter
- 05** Rotary Paddle Level Switch
- 06** Capacitance Level Switch
- 07** Admittance Level Switch
- 08** Vibrating Level Switch
- 09** Float Switch
- 10** Full Detector
- 11** Chute Switch



01

# 80GHz Radar Level Transmitter

## MWLM-FM79 series

80GHz Radar Level Transmitter is a non-contact radar transmitter that can measure storage level in tank and silo in heavy duty environment such as dust, steam and high temperature. It is used for inventory management and control of tank or silo, and contributes to facility automation and labor saving.



LEVEL TRANSMITTER

### Easy adjustment with smartphone



Adjustment can be done by a smartphone or PC from a safe location via Bluetooth connection.

LINE UP



Swivelling flange type



Fixed flange type

### Angle/direction sensor system



With Angle/direction sensor system, it is easy to restore even if it is removed from the facility during inspection or renewal.

OPTION



Signal Conditioner  
Converter applicable for 2-wire transmission sensor, HART communication

### Notice of adhesion alarm and inspection date



If there is adhesion on the sensor part, it will be notified by the beating signal. The inspection date which is set in advance will be also notified.

### Preventing adhesion by 360° air purge mechanism



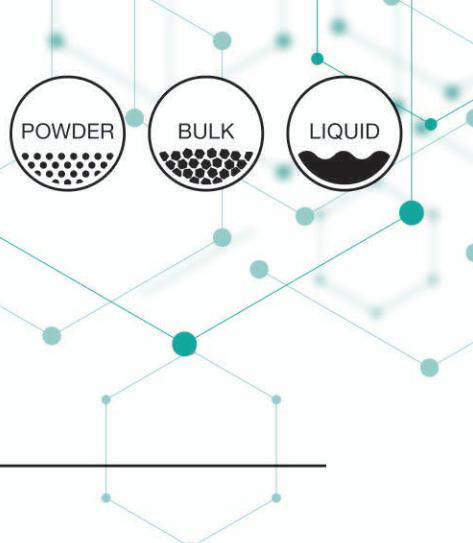
The purging air comes from the slits located at the side of the sensor. The mechanism prevents the materials from being built up on the sensor surface.

See each catalog for more information  
<https://www.matsushima-m-tech.com/english/product-information/>

## 02



# Radar Level Transmitter



## MWLM-PR26 series

Radar Level Transmitter can measure storage level in tank or silo in heavy duty environment such as dust, steam and high temperature. It is used for inventory management and control of tank or silo, and contributes to facility automation and labor saving.

### LINE UP



Corn antenna type



Horn antenna type



Intrinsic safety type



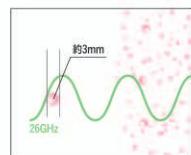
Cooling box type

### OPTION



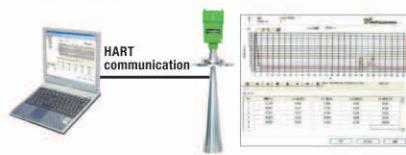
Signal Conditioner  
Converter applicable  
for 2-wire  
transmission sensor,  
HART communication

### Less influenced by dust and steam



Due to the characteristics of microwaves, it can stably measure the level even if there is dust or steam.

### Equipped with HART communication



2-wire transmission HART system enables remote adjustment with simple installation and wiring.

### Variety of lineup and customization suitable for the site



PTFE coating antenna

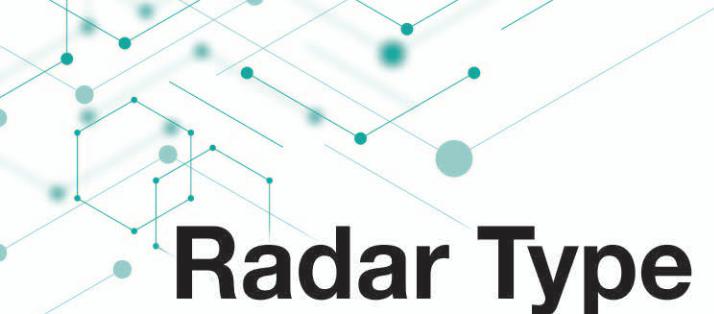
Due to Matsushima own development and manufacture, it can be customized as the special suitable model for each customer's request.

### Stable supply and reliable support

Since all parts are procured and manufactured in Japan, the lead time can be much shorter than overseas products.

Further, even in a trouble case, the prompt solution or advice can be provided by engineers.

See each catalog for more information  
<https://www.matsushima-m-tech.com/english/product-information/>



03

# Radar Type River Water Level Transmitter

## MWLM-PR26 series

Radar Type River Level Transmitter can continuously measure the water level of river, dam, sea, factory, agricultural water, regulating pond, sluice gate, water treatment, reservoirs, sand erosion control etc.



### Less influenced by climate



The measurement is not influenced by wind, rain, fog etc.

### LINE UP



Flange type



Thread type

### Adjustable with remote maintenance



Easy set up by PC software, which can be operated remotely.

### OPTION



Signal Conditioner

Converter applicable for 2-wire transmission sensor, HART communication

### Suitable customization for each site



It can be combined with solar panel, battery or wireless etc.

### Easy maintenance due to non-contact measurement

Even if muddy stream in rainstorm occurs, Radar Transmitter is not swept away due to non-contact measurement.  
Also, it is easy maintenance because there are no moving parts or consumables.

See each catalog for more information  
<https://www.matsushima-m-tech.com/english/product-information/>



## LINE UP



Sounding V



Sounding M's

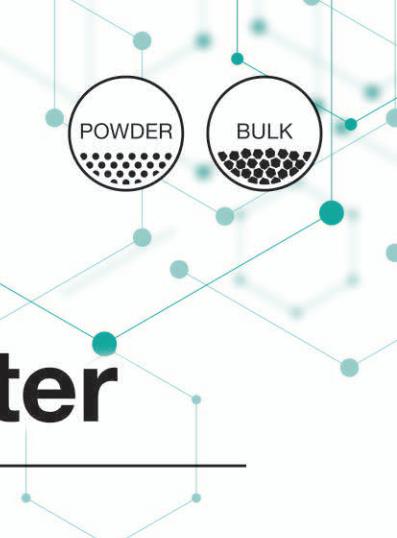


Sounding M's



Flameproof type

# Sounding Level Transmitter



## MDVC/MDMC series

Sounding Level Transmitter measures the material level by winding up and down the sensing weight, which is suspended at the tip. It is highly reliable because the sensing weight makes direct contact with the material surface.

There is a wide range of models to apply various applications including high temperature, high pressure, flameproof protection.

## Not influenced by dust or gas



Because the sensing weight has some weight, it is not influenced by the flying dust and gas generated in process.

## Durable wire rope



Because a wire rope is made from SUS304, it is strong and safe against breakage and corrosion.

## Applicable for various applications

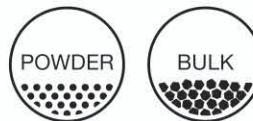
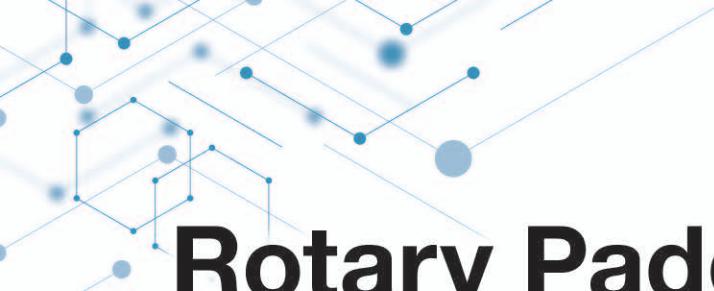


Sounding M's can be applied for unique applications including deposite (or solid) in liquid, high temperature, explosion proof application.

## Lightweight and compact

Sounding V is lightweight and compact. Storage levels can be easily checked by automatic operation with the built-in timer or by manual measurement command.

See each catalog for more information  
<https://www.matsushima-m-tech.com/english/product-information/>



05

# Rotary Paddle Type Level Switch

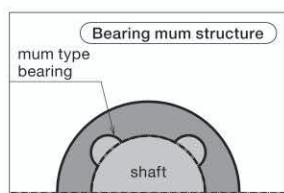
## ML/GL-S7 series

Rotary Paddle Type Level Switch detects the material level when a mechanically rotating paddle is covered and stopped with the materials to be measured.



POINT LEVEL DETECTION

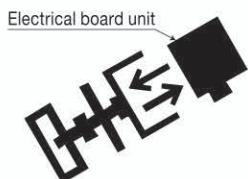
### Clogging prevention by double-layer seal and mum-shaped structure



Double seals and sintered alloy bearings with a mum-type structure prevents powder from entering the sensor.

Even in case of the seal leakage, the structure prevents clogging and avoid powder from entering the sensor.

### Easy maintenance with detachable electrical board unit



Since the eletrical board unit can be removed simply by screws, it is easy to replace with a spare unit and supports maintenance.

### Reduced physical impact with slip mechanism

It has a slip mechanism to reduce impact to paddle and shaft by the materials.

### LINE UP



Standard flange type



Heat-resistant protection tube type



Wire type



Flameproof protection tube type

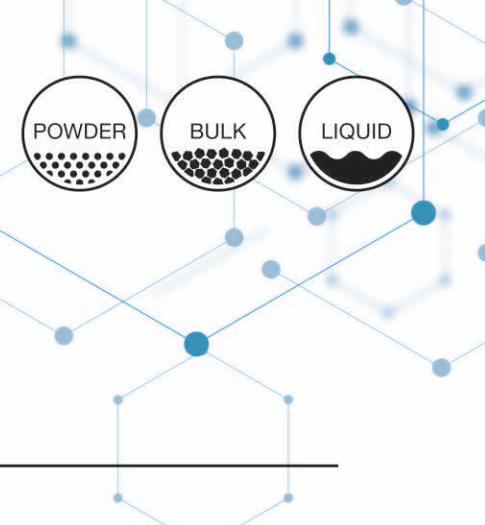


Flameproof heat-resistant type

See each catalog for more information  
<https://www.matsushima-m-tech.com/english/product-information/>



# Capacitance Level Switch



## YAL/YAE series

Capacitance Level Switch detects the materials by finding out changes of the capacitance between the electrode probe and the tank sidewall.

### LINE UP



Standard electrode type



Tubing electrode type



Load bearing type



Flattype



Separate amplifier

### Reliable detection in various applications including liquid and powder



It can be applied for various materials. A wide variety of models are line-up to apply various materials, applications, and required conditions.

### Adhesion canceller function



When the materials adheres on the electrode, It cancels the adhered materials to prevent false detection by capturing the electrical characteristics between the detection electrode and the ground electrode. It can make reliable detection for various materials including chocolate, ready-mixed concrete, and sludge.

### Fail-safe function in case of malfunction

In case of no power supply or malfunction, it always outputs signals for safety.

The same relay actuation as the object detection also detects any faults or power loss.

### Delay function against chattering condition

It prevents the sensor relay chattering caused by waves on the liquid surface.

See each catalog for more information  
<https://www.matsushima-m-tech.com/english/product-information/>



07

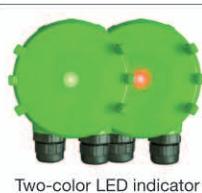


POINT LEVEL DETECTION

# Admittance Level Switch

## MAL series

Admittance level switch is a capacitive level switch which is highly resistant to adhesion and can be used for liquid, powder and slurry.



Two-color LED Indicator



Screw-up type terminal block



Housing rotating mechanism

Level condition	H Mode (Upper detection)		L Mode (Lower detection)	
	LED light	Contact	LED light	Contact
iquid	GREEN	3 4 5	RED	3 4 5
olid	RED	3 4 5	GREEN	3 4 5
Power OFF	CLEAR	3 4 5	CLEAR	3 4 5

## LINE UP



Standard rod type

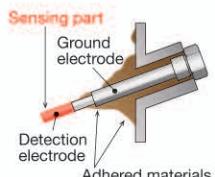


Wire electrode type

These five functions are designed for easy maintenance and easy usage.

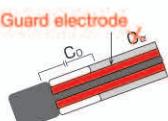
- 1.LED indicator with the cover closed
- 2.Screw-up type terminal block to prevent screws from falling off or being lost
- 3.Housing rotating mechanism for direction adjustment after installation
- 4.Detect operation selector switch
- 5.Free power supply

## Less influenced by adhesion



Since it detected only at the detection electrode, it is less influenced by the adhered materials on the ground electrode and the tank sidewall.

## No need to stock lots of spare models due to guard electrode technology



The guard electrode blocks the influence from probe length as well as adhered materials. Thus, only one electronic board type can cover all models regardless of the probe length.

See each catalog for more information  
<https://www.matsushima-m-tech.com/english/product-information/>

08



# Vibrating Level Switch



## MVL series

Vibrating level switch is a level switch suitable for detecting the materials with low specific gravity and low dielectric constant.

### LINE UP



Standard probe type

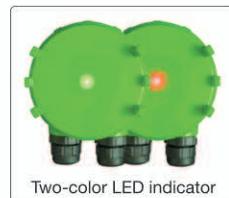


Cable type

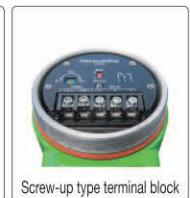


Extended pipe type

### Five functions to make easy to use at site



Two-color LED indicator



Screw-up type terminal block



Housing rotating mechanism

Measurement status	H-mode			L-mode		
	Operation LED	Switching status	Operation LED	Switching status	Operation LED	Switching status
	GREEN	3 4 5		RED	3 4 5	
	RED	3 4 5		GREEN	3 4 5	
	CLEAR	3 4 5		CLEAR	3 4 5	

These five functions are designed for easy maintenance and easy usage.

- 1.LED indicator with the cover closed
- 2.Screw-up type terminal block to prevent screws from falling off or being lost
- 3.Housing rotating mechanism for direction adjustment after installation
- 4.Detect operation selector switch
- 5.Free power supply

### Detectable for ultralight fine powder with 0.02g/cm<sup>3</sup> bulk density



The detectability of bulk density 0.02g/cm<sup>3</sup> is the best sensitivity in the level sensing industry.

### Not affected by electric characteristics

Since there is no influence of the electrical properties of the object, it is advantageous to detect low dielectric constant materials which cannot be detected by capacitance type.

Also, no biting problem by materials occurs due to no moving parts.

See each catalog for more information  
<https://www.matsushima-m-tech.com/english/product-information/>



09

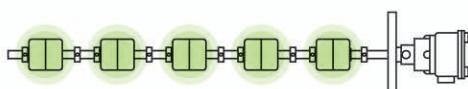
# Float Switch



POINT LEVEL DETECTION

## AL/LS/LSE series

This is the most common level switch for liquids, utilizing the buoyancy of a float. It can detect max. five contacts in a single unit.



Because of max. five detecting points by one unit, the affordable level switch systems can be installed easily.

## Max. five detecting points by one unit

LINE UP



Standard type



Flameproof type



Flameproof type



The flameproof type model can be applied for hazardous area application including automatic control of fuel delivery tanks.

## Power source is not required



It operates by a float with a built-in magnet, which is raised or lowered by the buoyancy of the liquid, and does not require a power source.

See each catalog for more information

<https://www.matsushima-m-tech.com/english/product-information/>

10



## Full Detector

### MFFC-20C

Full Detector is a level switch that is robust and not influenced by adhered materials.

It can be used to detect upper limit of storage silos, hoppers, and chutes for granular materials and bulk solid materials.

Not affected by electrical characteristics

Robust construction against adhesion and friction

Detectable for granular materials

11



## Chute Switch

### ELPP-22D

Chute Switch is a clogging detection switch at the transferring chute. It helps to avoid the overflow, production loss, air pollution, etc.

It is widely used in transporting conveyor chutes at coal fired power plants and steel plants.

No interfering part inside chutes

Intrinsic safe protection is available

No power supply required

See each catalog for more information  
<https://www.matsushima-m-tech.com/english/product-information/>

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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.

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