

Detect the lower and upper limits for materials in silos and hoppers
Microwave Barrier Switch



Excellent performance even in demanding environments

Matsushima Microwave Barrier Switch detects when the materials have reached the upper and lower limits set in advance for each silo, hopper, and an other kind of container.

The microwave system enables non-contact measurement and easy maintenance. Because the switch is triggered when materials obstruct microwaves between the transmitter and the receiver, the selection of a mounting location for the switch has been easier.



Features

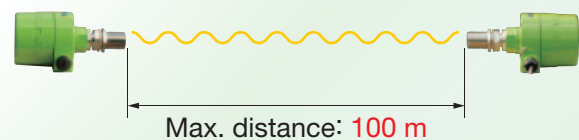
Can easily change sensitivity

The reception sensitivity can be easily adjusted, because the level of received microwaves is shown on the display of the receiver in real time.



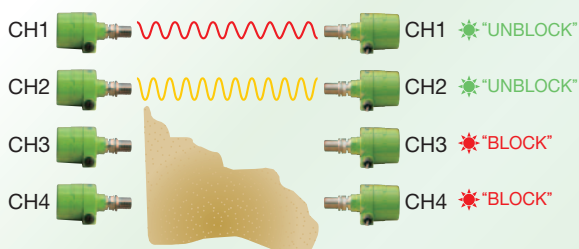
Maximum distance: 100 m

Microwaves can be transmitted within a maximum range of 100 m.



Can prevent interference

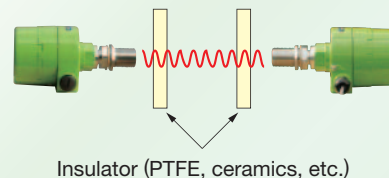
Four different frequencies are available, to prevent interference between nearby switches.



Can detect levels of material behind insulation

Microwaves can pass through walls made of insulators with low permittivity, such as plastics, glasses, dried bricks, woods, and ceramics.

Thanks to this characteristic of microwaves, the barrier switch can detect the presence or the non-presence of materials inside containers made of low-permittivity materials without making any contact with the actual materials inside.

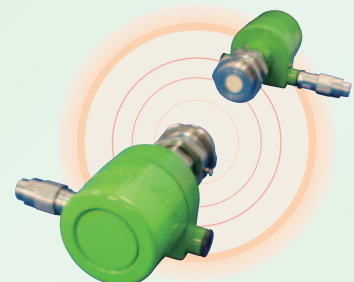


Can be used in hazardous areas

Explosion-proof barrier switch can be used in hazardous areas (Zone 1 and 2) for a wider range of applicatons.

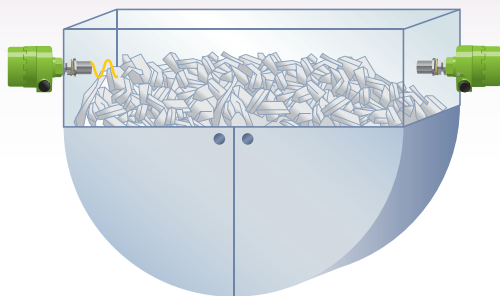
Explosion-proof enclosure: Ex d IIB T4

Industrial Health and Safety Act, Model Certification No: TC20101 for the transmitter and TC20102 for the receiver

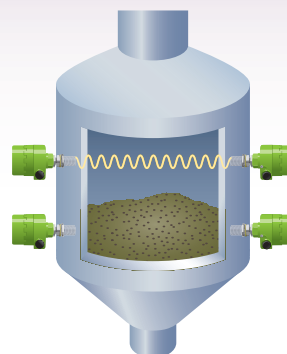


Application Examples

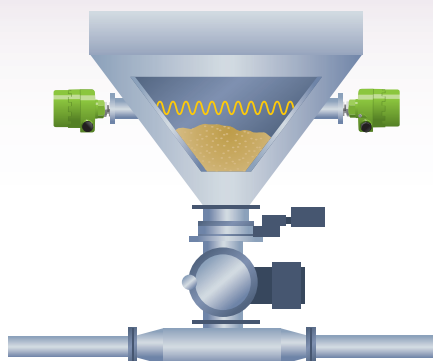
Detection of uneven level of scrap etc.



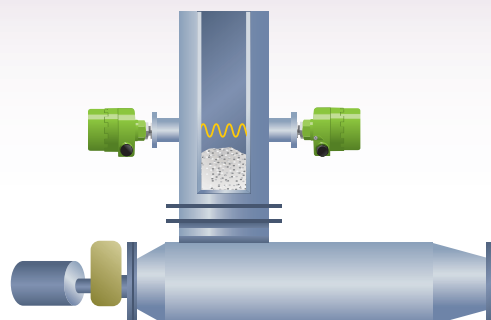
Detection through refractory



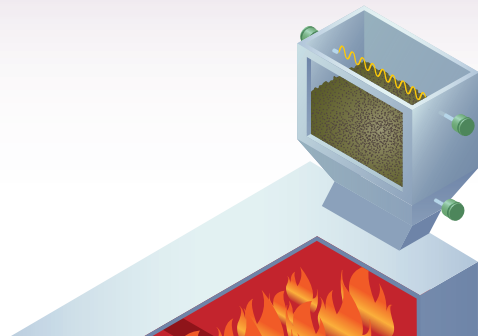
Detection of the lower limit in tanks



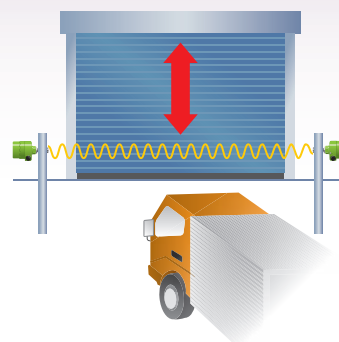
Detection of clogging in chutes



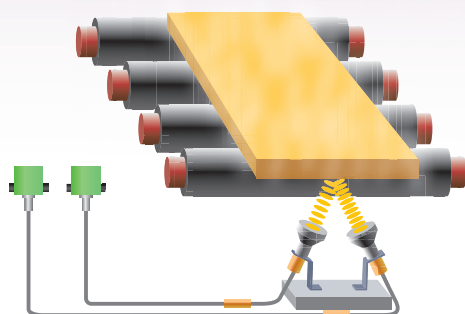
Detection of clogging in incinerators



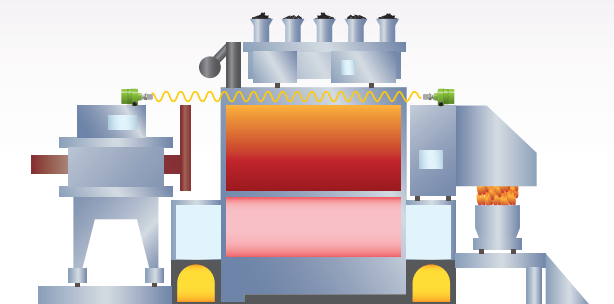
Automatic opening and closing of shutters



Detection of a slab



Positioning of coke pushers and of guided vehicles at coke ovens



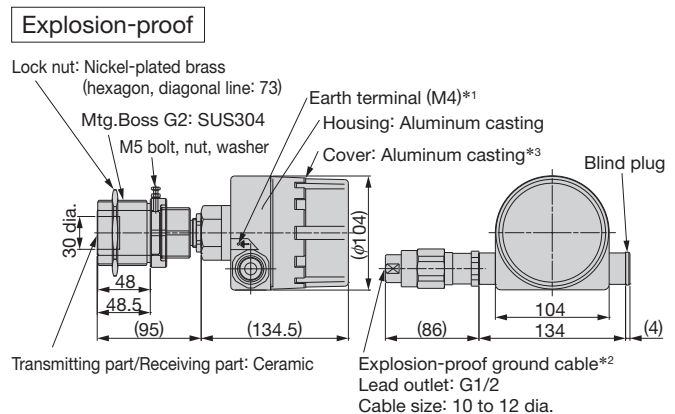
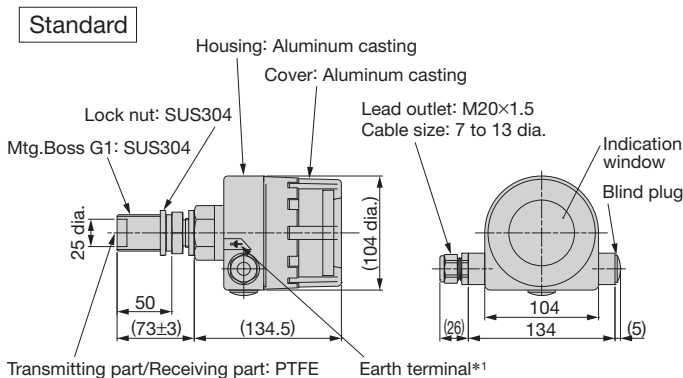
Note: All explosion-proof barrier switches are enclosed in sealed containers.

● Specifications

Model		Standard	Explosion-proof
Model number	Transmitter	MWBS-TR-02	MWBS-TR-02Exd
	Receiver	MWBS-RC-02	MWBS-RC-02Exd
Power supply		80 to 240 VAC 50/60 Hz*1	
Setting range		Max.100 m*2	
Frequency		24 GHz band	
Output signal		Contact output: Single pole and double throw (SPDT) Capacity: 250 VAC 3A or 30 VDC 6A Operation Detection: ON when blocked by accumulated materials	
On/Off Delay		0.1 to 10s (adjustable)	
Power consumption	Transmitter	Max.3.2 VA	
	Receiver	Max.4.3 VA	
Ambient temperature		-10 to +55°C	-10 to +40*4
Allowable pressure		±0.5 MPa	±1.0 MPa
Material	Housing	Aluminum casting	
	Boss	SUS304	
	Transmitting /Receiving part	PTFE	Ceramic
Mounting		Screw fitting: G1*3	Screw fitting: G2*3
Protection		IP65	Dust-proof and drip-proof
Coating color		Munsell 7.5GY6/10	
Mass		Approx. 1.8 kg	Approx. 3.3 kg
Transmission channels		Four channels	
Explosion-proof enclosure		-	Ex d IIB T4
Reception level display		10-digit LED	
Detection level display		Press the button on the panel to view the currently set detection level with the 10-digit LED.	
Lead Outlet		1-M20×1.5	1-G1/2

- *1 : Use the same power supply for the transmitter and the receiver.
 *2 : Distance differs depending on the environment where the barrier switch is used.
 *3 : With a lock nut and a packing seal.
 *4 : The temperature of the objects to be measured and that of the surrounding air must also be between -10°C and +40°C.

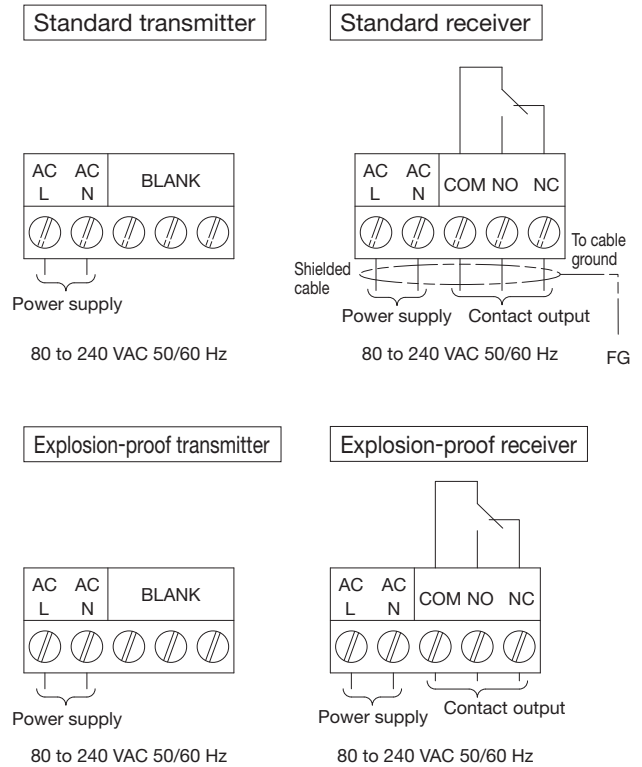
● Dimensions mm



- *1 : Be sure to connect earth terminal.
 *2 : The direction of the ground cable cannot be changed.
 *3 : For the explosion-proof barrier switches, do not remove the cover in a potentially explosive atmosphere while the power is on.

Specifications are subject to change without notice.
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● Connection diagram



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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