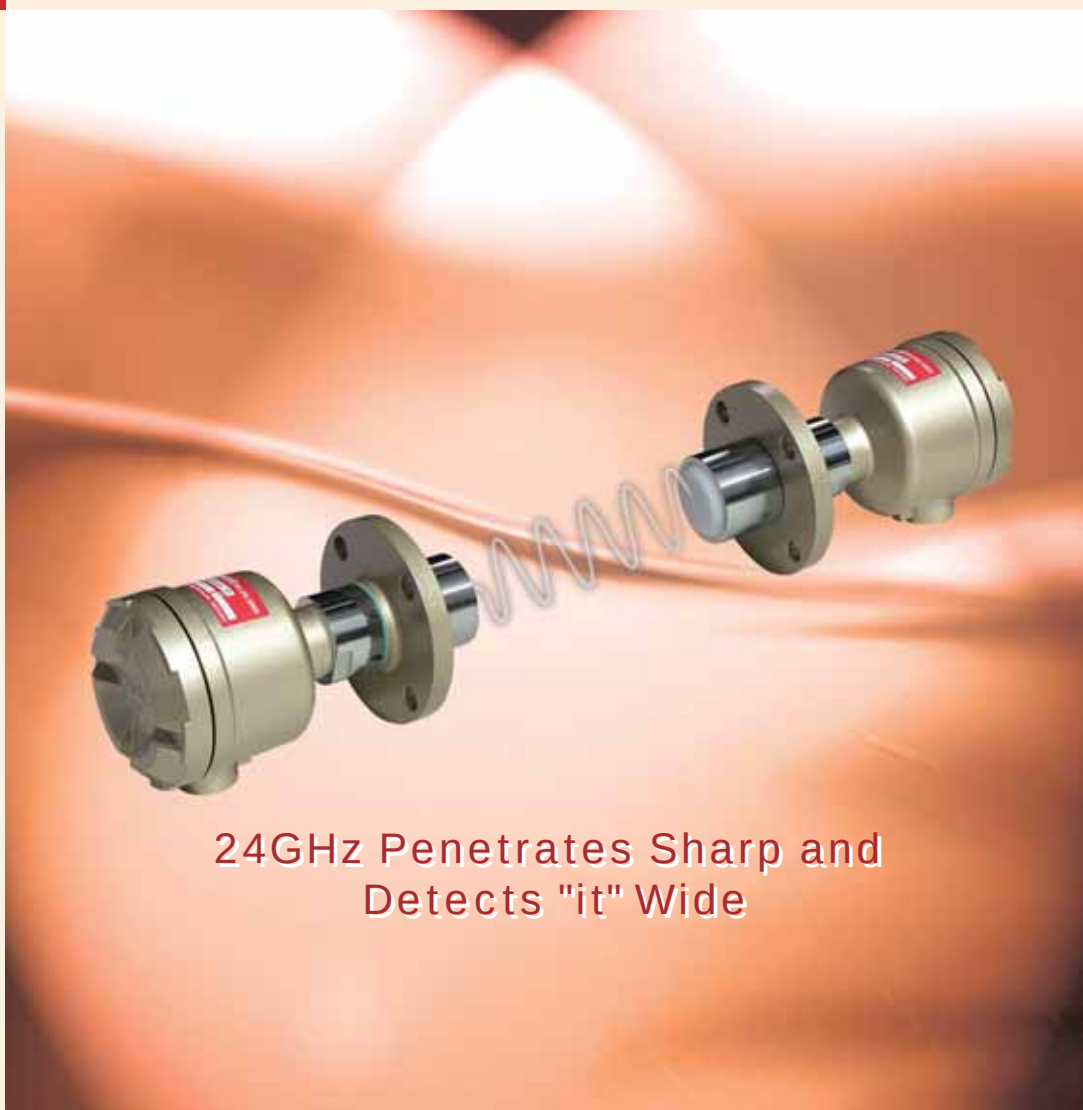


MICROWAVE TYPE LEVEL SWITCH

Model **MWS2-24TN/24RN**



24GHz Penetrates Sharp and
Detects "it" Wide

The attenuation of microwave detects levels of powder,
granules and blocks as well as pulverized materials.

MWS2-24TN/24RN

MICROWAVE TYPE LEVEL SWITCH

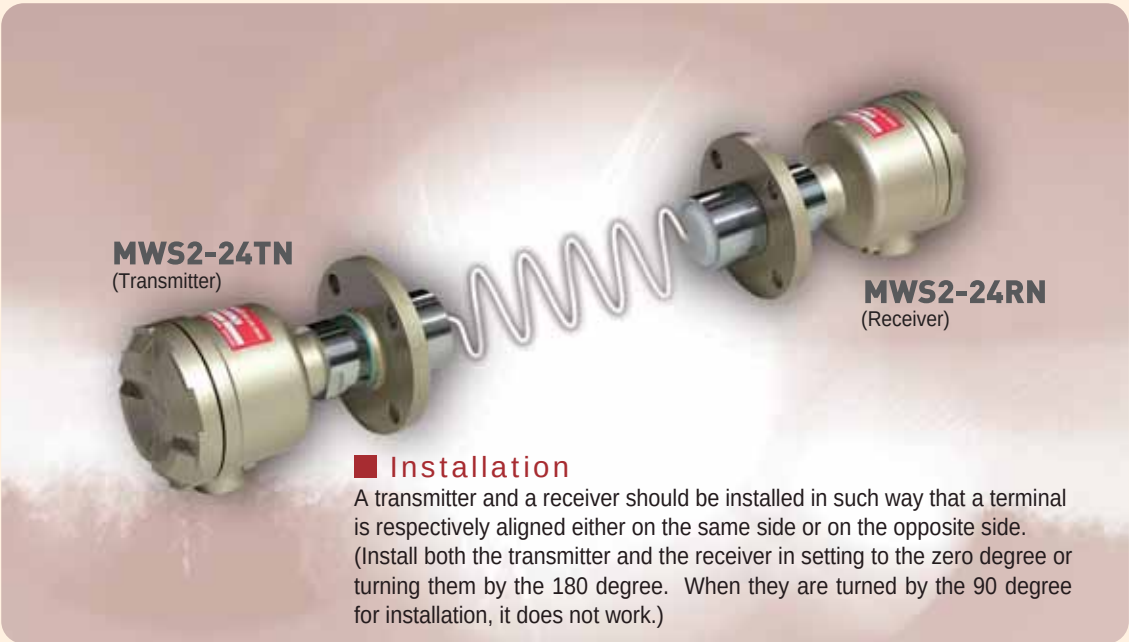
Reliable detection for wastes, coal, ballast, granules and others

24GHz Microwave — Compact, Light and Quality Level Switch

- It may hardly be affected by dirt, fouling, or scale adhesion on the sensing surface.
- A new type of transmitter and receiver of 24GHz being adopted, it is compact and light.
- Wiring and necessary adjustment are easier with a new design on P.C.B.
- It can accurately detect the paper garbage whose detection was impossible by any other detecting methods.

■ Principle of Operation

MWS2 Type Microwave Switch is a level switch consisting of a transmitter and a receiver, both of which are installed face to face each other. The transmitter (MWS2-24TN) transmits microwaves in 24GHz toward the receiver (MWS2-24RN), which, upon receipt of them, provides an output of the contact signals that the tank is empty. When there is an obstruction between the transmitter and the receiver, however, microwaves are reflected and absorbed, thus making the receiver unable to receive them and outputting the contact signals that the tank is full.



■ Installation

A transmitter and a receiver should be installed in such way that a terminal is respectively aligned either on the same side or on the opposite side. (Install both the transmitter and the receiver in setting to the zero degree or turning them by the 180 degree. When they are turned by the 90 degree for installation, it does not work.)

Specifications

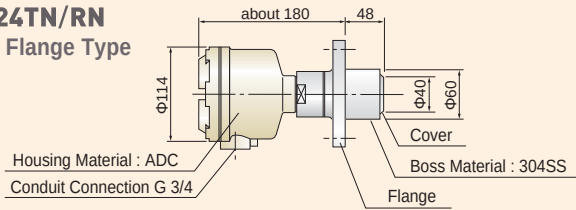
Type Designation: Transmitter = MWS2-24TN Receiver = MWS2-24RN		Output Contact: 1×SPDT, 250VAC 5A	
Power Supply: 105/210VAC ±10% 50/60Hz *Specification for 24V Power source (option)		Delay Function: ON Delay 0.1 to 10 seconds	
Frequency: 24GHz		Power Consumption: Transmitter 2VA, Receiver 5VA	
Operating Distance: Switching System by Range SW		Ambient Temperature: Body -20°C to +80°C (Built-in Structure) -20°C to +60°C (Remote model)	
		Amplifier -20°C to +60°C *No condensation or Freeze required	
		Enclosure Rating: IP-67	
		Color: Gold	
		Weight: Transmitter 1.80kg	
		Receiver 1.85kg	
		Flange: 5K 50A JIS (AC)	

Switch Position	Setting Detrct
1	15m
2	25m
3	35m

*It is set to [1] in shipment

Product Lineup

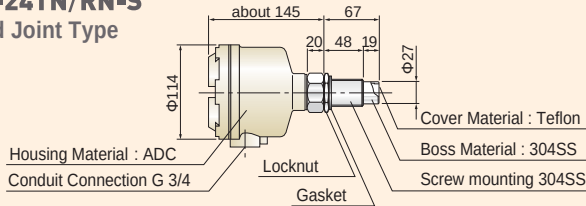
MWS2-24TN/RN Standard Flange Type



Temperature limit	max.60°C
Usage environment	Outdoor
Flange Size	JIS 5K50A/AC
Cover Material	PA
Setting distance	max.35m
Weight	Transmitter 1.8kg Receiver 1.85kg

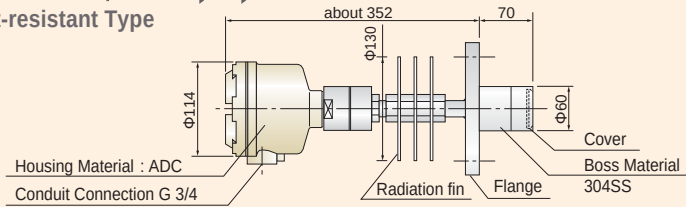
JIS 5K65A, AC/304SS Possible production

MWS2-24TN/RN-S Screwed Joint Type



Temperature limit	max.60°C
Usage environment	Outdoor
Flange Size	G1B(Screwed)/304SS
Cover Material	Teflon
Setting distance	max.1m
Weight	Transmitter 1.8kg Receiver 1.85kg

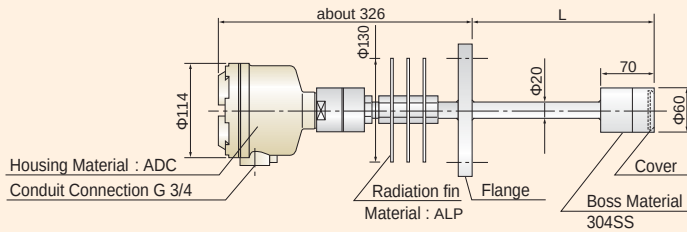
MWS2-24TN/RN-H2,H3,H3G Heat-resistant Type



MODEL	Temperature limit	Gasket Material
MWS2-24TN/RN-H2	max.120°C	Nonasbestos
MWS2-24TN/RN-H3	max.260°C	Nonasbestos
MWS2-24TN/RN-H3G	max.400°C	Graphite

Usage environment	Outdoor
Flange Size	JIS 5K65A/304SS
Cover Material	Ceramic
Setting distance	max.3m
Weight	Transmitter 4.9kg Receiver 4.95kg

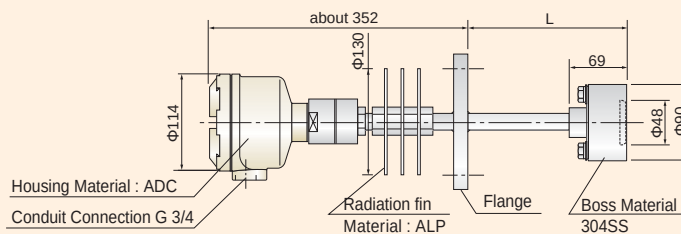
MWS2-24TN/RN-H2,H3,H3G Heat-resistant Waveguide Extension Type



MODEL	Temperature limit	Gasket Material
MWS2-24TN/RN-H2	max.120°C	Nonasbestos
MWS2-24TN/RN-H3	max.260°C	Nonasbestos
MWS2-24TN/RN-H3G	max.400°C	Graphite

Usage environment	Outdoor
Flange Size	JIS 5K65A/304SS
Cover Material	Ceramic
Setting distance	max.3m
Weight	Transmitter 5.2kg Receiver 5.25kg (L=150)

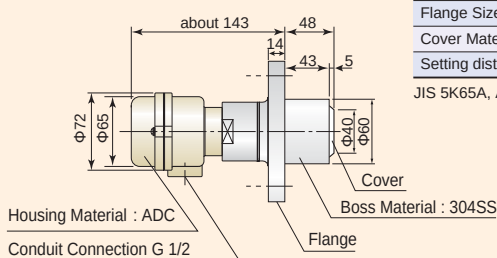
MWS2-24TN/RN-H4 Super Heat-resistant Waveguide Extension Type



MODEL	Temperature limit	Gasket Material
MWS2-24TN/RN-H4	max.900°C	Metal Solid

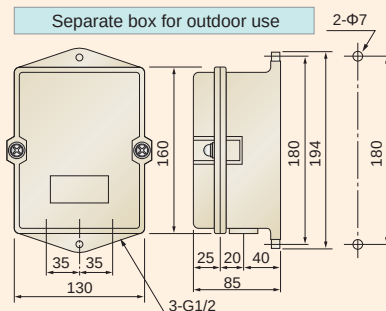
Usage environment	Outdoor
Flange Size	JIS5K100A/SUS304
Cover Material	Ceramic
Setting distance	max.3m
Weight	Transmitter 8.2kg Receiver 8.25kg (L=150)

MWS2-24TN/RN-R Probe of Remote Model



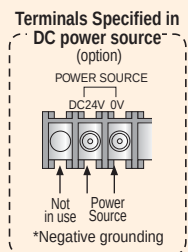
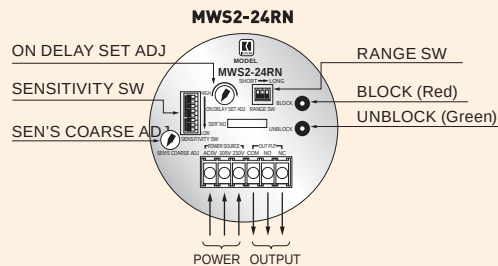
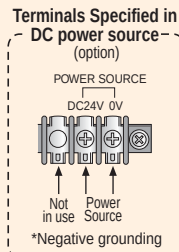
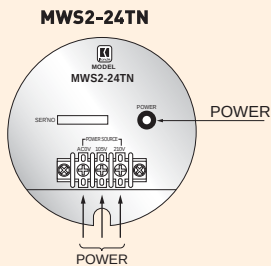
Temperature limit	max.80°C
Usage environment	Outdoor
Flange Size	JIS 5K50A/AC
Cover Material	PA
Setting distance	max.35m

JIS 5K65A, AC/304SS Possible production

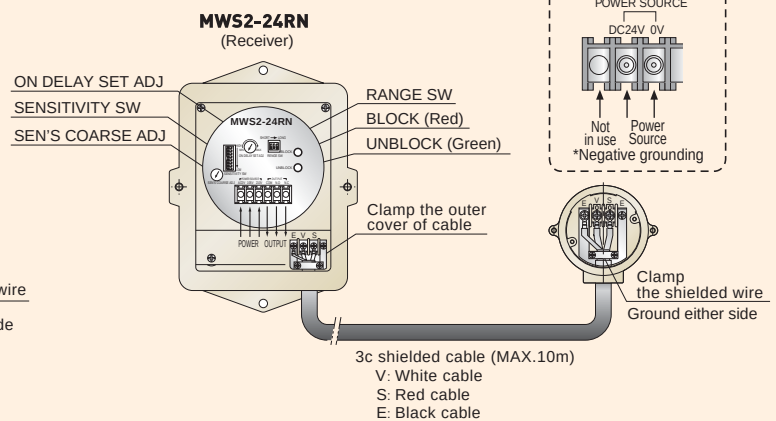
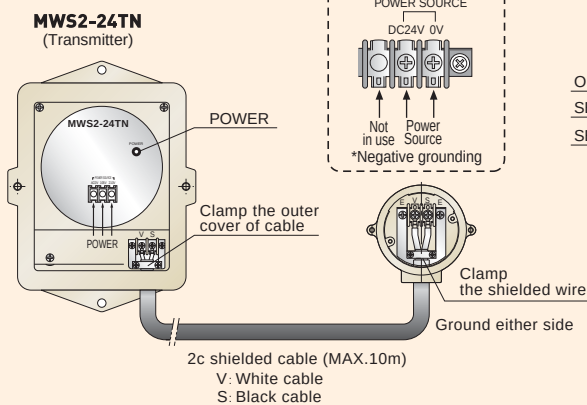


Wiring

Built-in-Model



Remote Model



Type Designation

MWS2-24TN/RN-□□□□□□

Contact	Blank : Standard F : Fail-safe
Sensitivity	Blank : Standard U : High Sensitivity
Vibration-proof	Blank : Standard M : Amplifier, molding resin
Heat resistance	Blank : Standard H1 : Heatproof nozzle (Max.120°C) H2 : Heat-release Fin (Max.120°C) H3 : Heat-release Fin (Max.260°C) H3G : Heat-release Fin (Max.400°C) H4 : Heat-release Fin (Max.900°C)
Mounting	Blank : Flange S : Screw
Instrument Structure	Blank : Built-in Structure R : Remote Model

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
- Tilt 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.

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