

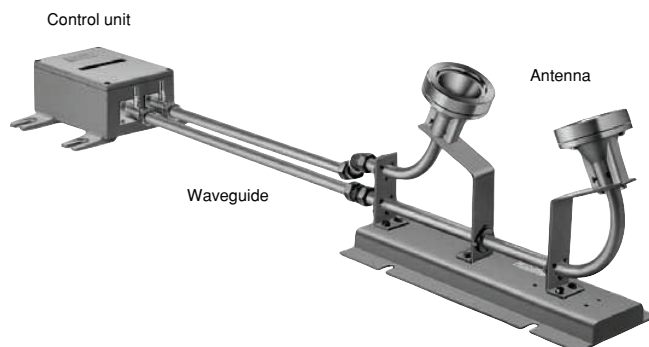
Waveguide Type Detector

MBX-301CA

Microwave type which isn't affected by vapor, disturbance light or smoke etc.

This is a microwave detector. It consists of an antenna as detecting part and control unit composed of oscillator, wave detector and amplifier, and these two components are coupled together by a wave guide. Since the antenna is free from any electronic part which may be affected by heat, it can be used in high temperature environment without being cooled by water.

- This device is suitable for using under bad environment because microwave isn't affected by vapor, disturbance light, smoke etc.
- This device is reflective type. It is possible to detect small pipe, too.
- This device provides monitor output that is monitoring oscillation of microwave.



Specifications

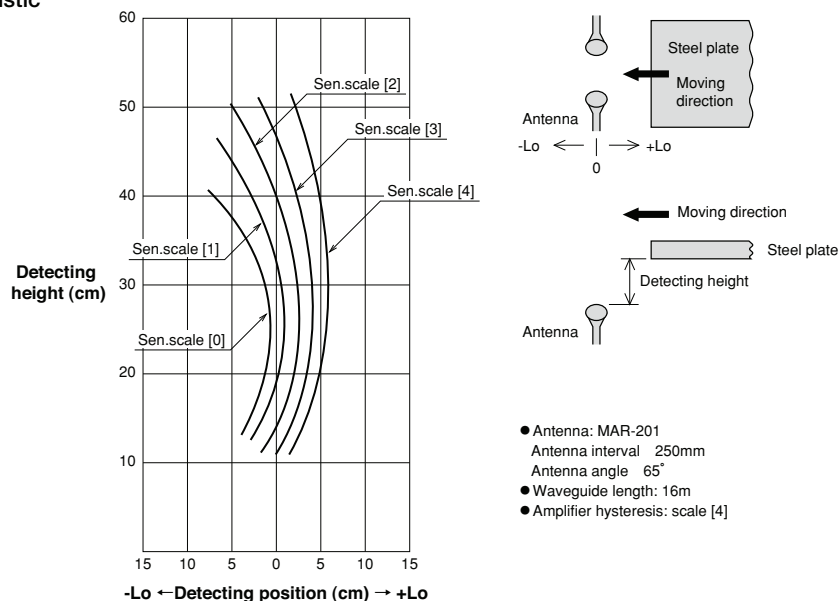
Type	Microwave type
Model No.	Control unit: MBX-301CA Antenna: MAR-201(without air purge), MAR-251(with air purge) Waveguide: MWG-20(Semi-seamless · 2m long), MWG-25(Seamless · 2m long) MFG-20(Flexible · 0.5m long) Joint: MSJ-20(Socket), MBJ-20(Elbow), MCJ-20(Elbow with 45°)
Power source	100 to 110VAC/200 to 220VAC (±10% 50/60Hz)
Current consumption	4.5VA or less
Detectable object	Steel plate with reflection surface, 50 x 50mm
Detectable distance	Approx. 300mm from antenna surface
Hysteresis	1mm to 30mm (Adjustable)
Microwave	10.525GHz ±15MHz
Oscillating output	10mW
Directional angle	25°
Air blowing of waveguide	Air quality: Industrial clean air, Air amount: 20 lit/min., Air pressure: 980kPa (In case of MAR-251)
Allowable waveguide length	25m or less (total of transmission/ reception)
Control output	1C relay (250VAC 3A, 30VDC 5A, $\cos \phi = 1$), Photo-coupler (75V 100mA)
Trouble output (FAULT)	1C relay (250VAC 3A, 30VDC 5A, $\cos \phi = 1$)
Response time	Contact output: 10msec, photo-coupler output: 3msec
Sensitivity adjuster	5dB-step, 5-step
Connection	M4 screw terminal, hub body with gland (Hole dia. $\phi 18$)
Indication lamps	Power lamp, operation lamp, alarm lamp, 5-step reception level lamp*2
Ambient temperature	Control unit: -10 to +60°C, Antenna/waveguide: -20 to +600°C
Ambient humidity	45 to 95%RH (not icing, not condensing)
Insulation resistance	20M Ω or more (between power/output contact and case)
Withstand voltage	AC1,500V, 1min. (between power/output contact and case)
Vibration resistance	Double amplitude 1.5mm, 10 to 55Hz, each 2 hour in X, Y and Z directions
Impact resistance	490m/s ² , each 3 times in X, Y and Z directions
Protective structure	IP64 (IEC Standard)
Case materials	Antenna: Bronze casting, Control unit: Aluminum die-casting
Weight	Control unit: Approx. 10kg, antenna: Approx. 11kg

*1. When oscillation of microwave is stopped by power failure or circuit trouble, this output is executed.

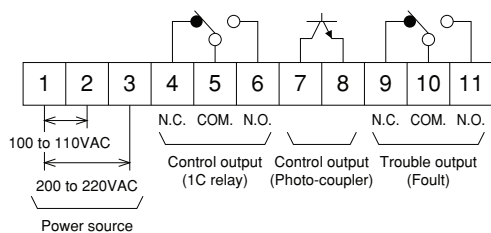
*2. Reception level is indicated with 5 steps.

Characteristic data (Typical example)

Detecting characteristic



Connection



Control output

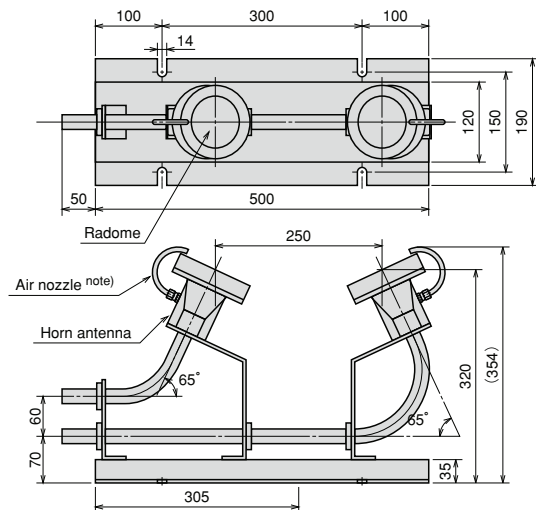
Terminal No.	4-5	5-6	7-8
Power-off state	CLOSE	OPEN	—
Power-on state	When detected	OPEN	CLOSE
	When non-detected	CLOSE	OPEN

Trouble output (FAULT)

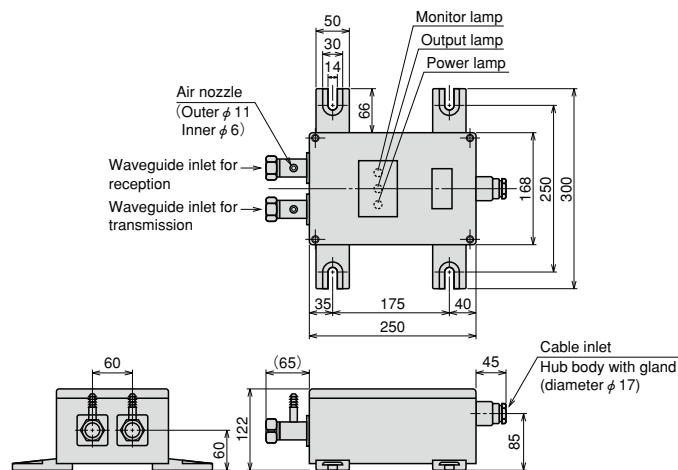
Terminal No.	9-10	10-11
Power-off state	CLOSE	OPEN
Power-on state	When normal	OPEN
	When troubled	CLOSE

External dimensions

Antenna (MAR-201/MAR-251)



Control unit



Note) Only MAR-251

