

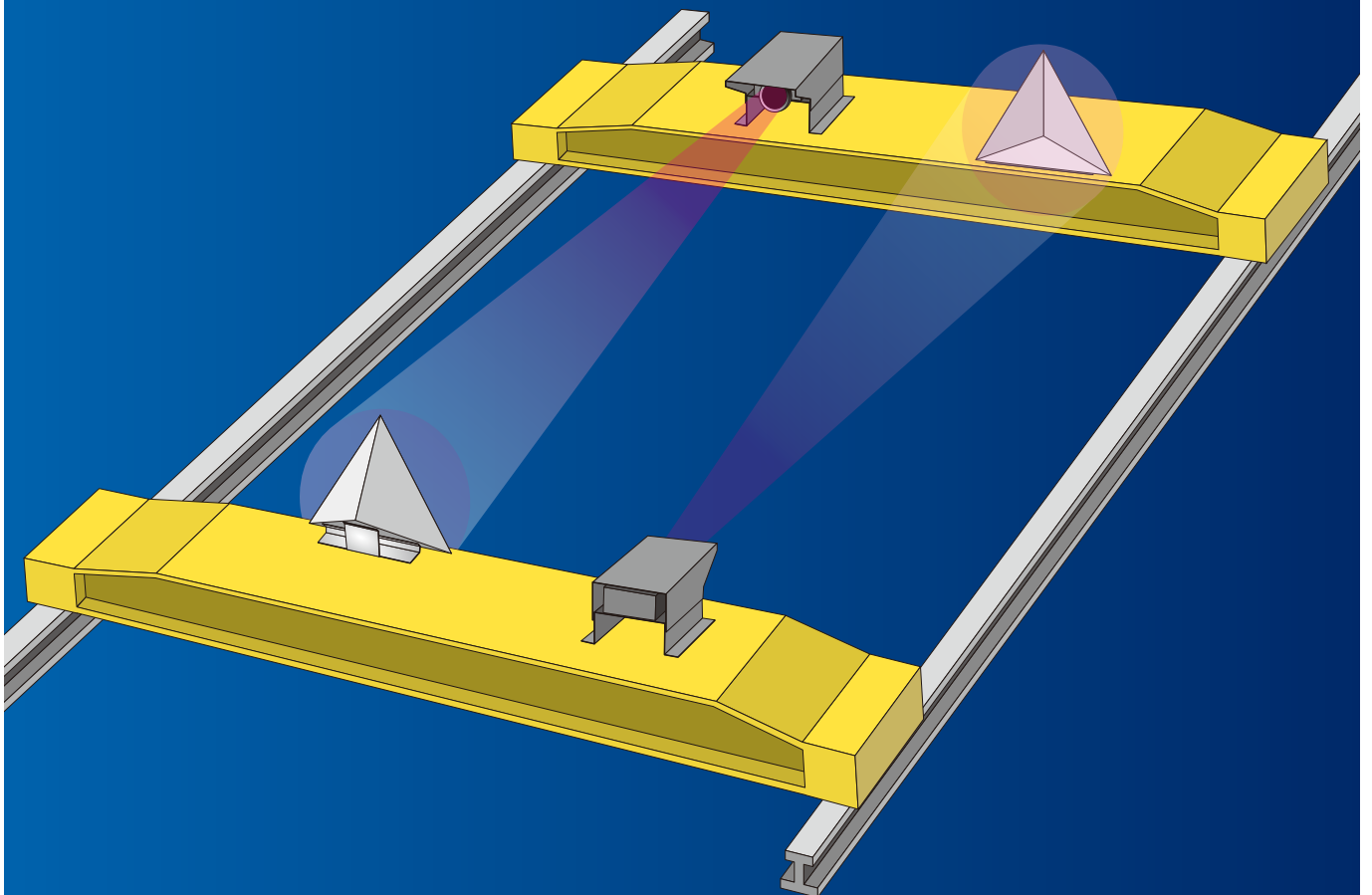


# Microwave Range Finder For Crane Crash Avoidance

**MWS-CAS-3** PAT.PEND.

## **MICRO-ROBO**

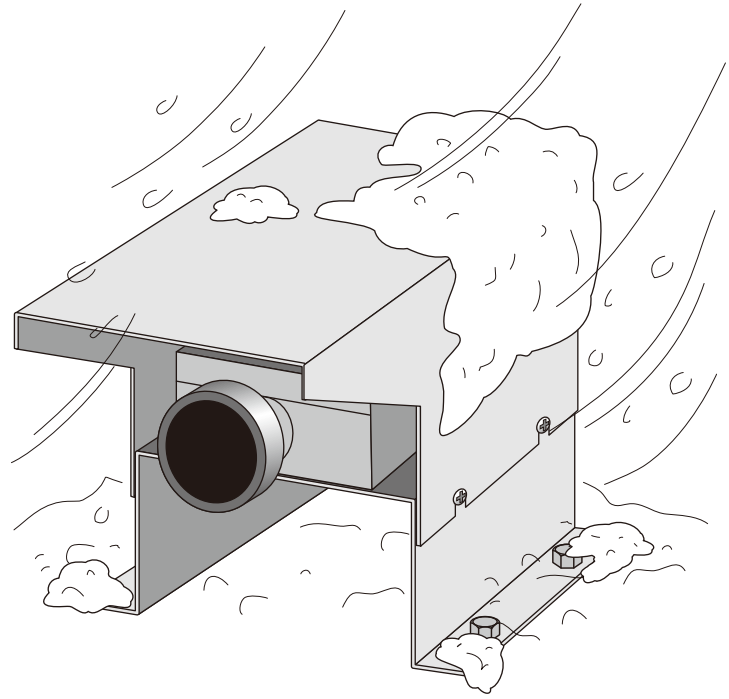
**TWO OUTPUTS FOR BOTH  
SLOWING AND STOPPING**



**WADECO CO.,LTD.**

## Microwave Range Finder For Crane Crash Avoidance **MICRO-ROBO**

The MWS-CAS-3 Micro-Robo is a microwave range finder specifically for use on overhead cranes as a crash avoidance sensor. The sensor and reflector are installed face-to-face on adjacent overhead cranes running on the same rails. When one crane enters the preset slowing or stopping distances, the sensor will output a signal for the crane to either slow down or stop.



**Reliable detection under  
all weather conditions.**

### Features

#### ■ Reflector type

Even if one crane's power supply is disconnected, the crash avoidance system for the other crane is still functional.

#### ■ Distance-measurement type, two outputs.

The distance adjustment is simple because the sensor measures distance and outputs a signal to either slow down or stop the crane.

#### ■ Analog output

The measured distance is output as an analog current.

#### ■ Unaffected by adverse environments

Microwaves are generally unaffected by environmental conditions, thus this sensor is unaffected by rain, wind, snow, frost, heavy dust, smoke or vapor.

#### ■ No beam slippage

Beam adjustment is easy because the beam is conical-shaped and there will be no errors caused by slipping of the beam.

#### ■ No set-to-set interference

This permits use of multiple Micro-Robos in close proximity to each other.

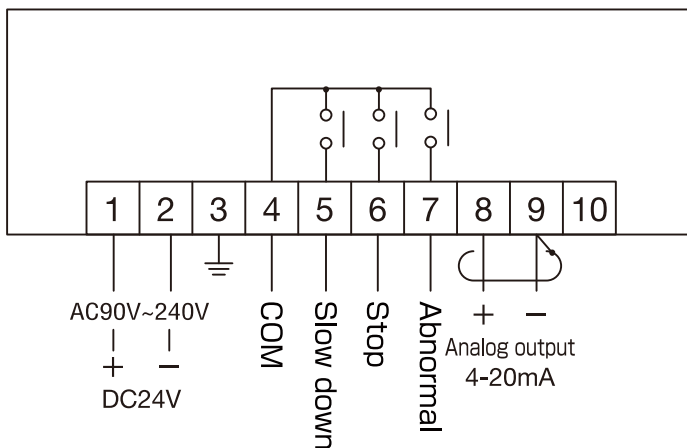
#### ■ Enclosure rating IP65 equivalent

#### ■ New economical type

## Specifications

Sensor type	MWS-CAS-3	MWS-CAS-3DC
Reflector type	CR-600	
Power supply	AC90V~240V, 50/60Hz	DC24V
Operating range	Select 20m, 30m, 40m or 50m	
Measurement accuracy	Approx. $\pm 0.5m$	
Frequency & transmission power	24GHz approx. Less than 10mW	
Slow down output	Relay contact AC250V, 3A, $\cos\phi=1$ , XX.Xm preset by rotary switch	
Stop output	Relay contact AC250V, $\cos\phi=1$ , XX.Xm preset by rotary switch	
Abnormal output	Relay contact AC250V, $\cos\phi=1$	
Analog output	Distance output : 4~20mA (0~50m) , Abnormal output : 3.5mA	
Delay time from power on to function	Approx. 5sec.	
Power consumption	10VA	
Noise immunity	Pulse noise from noise simulator $\pm 1.5KV$ (normal and common mode)	
Ambient operating temperature	$-10^{\circ}C \sim +55^{\circ}C$ ( $14^{\circ}F \sim 131^{\circ}F$ )	
Enclosure rating	IP65/NEMA4 equivalent	
Construction	Sensor: aluminum diecast (main body), SS400 (base and cover) Reflector: SS400	
Color	Grey	
Weight	Sensor: 9.7kg Reflector: 6.0kg	

## Wiring

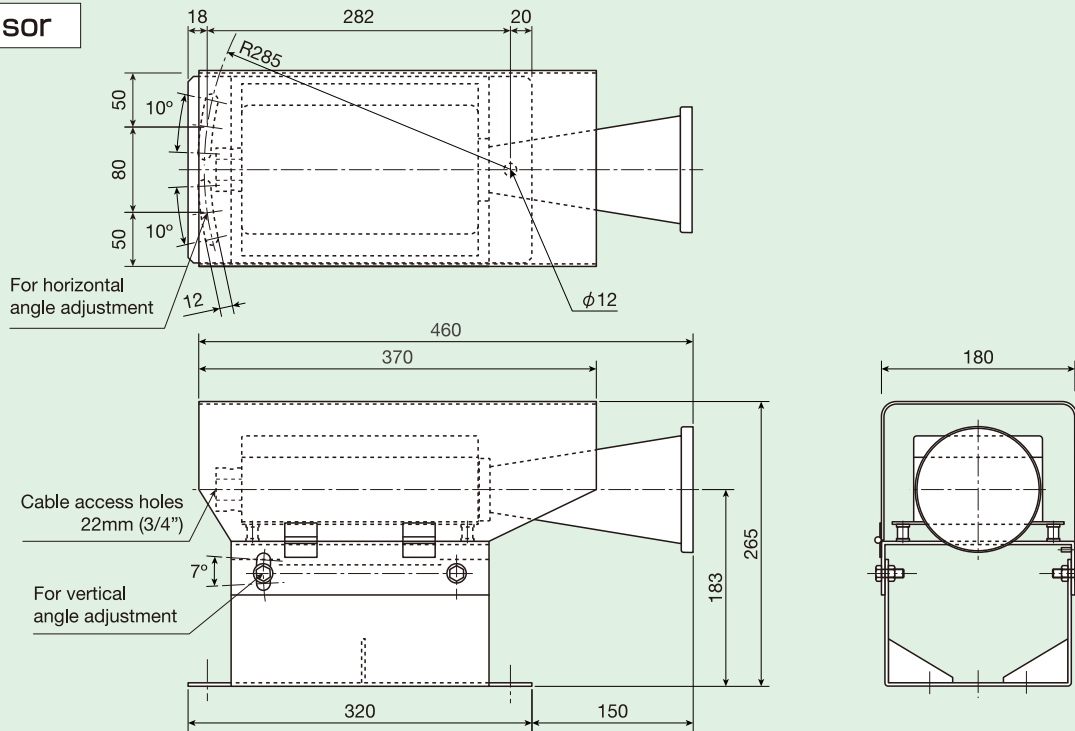


### Relay configuration

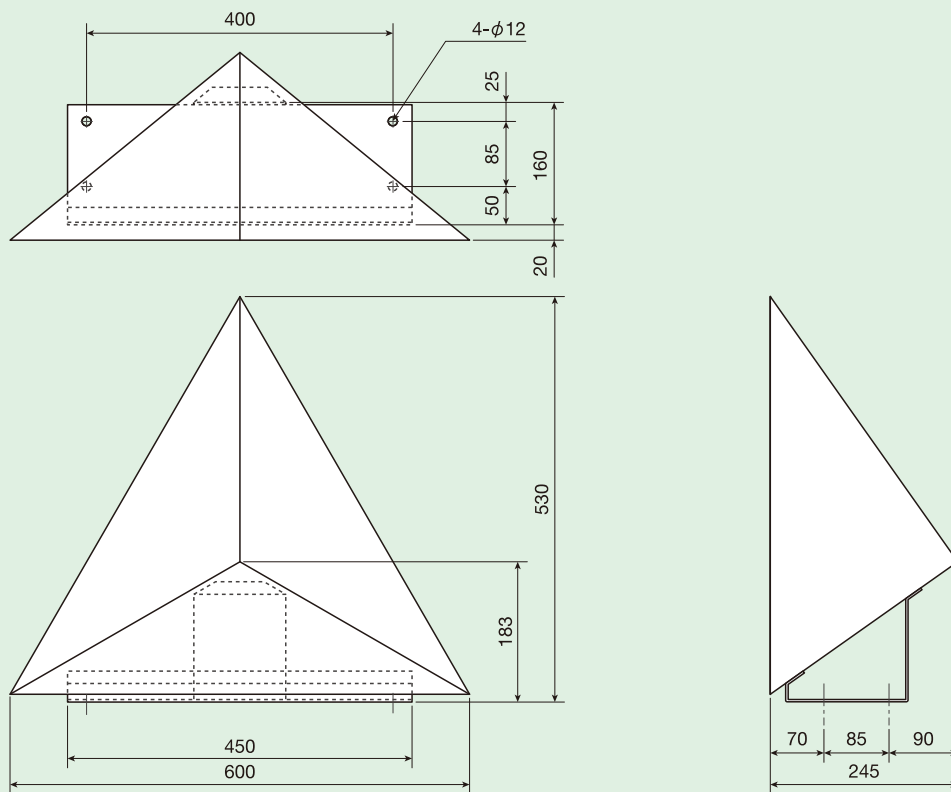
Purpose		Slow down	Stop	Abnormal
Terminal number		4-5	4-6	4-7
Unpowered state		Open	Open	Open
Powered State	Non-detecting state	Closed	Closed	Closed
	Detecting state	Open	Open	Open

# Dimensions

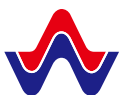
## Sensor



## Reflector



These specifications may be changed without notice.



**WADECO CO., LTD.**

HEAD OFFICE 1-9-27, Jokoji, Amagasaki-shi, Hyogo-ken 660-0811, Japan  
 TEL. +81-6-6482-3838 FAX. +81-6-6481-6321  
 TOKYO BRANCH 202 Shibuya-homes, 2-1, Udagawa-cho, Shibuya-ku, Tokyo  
 150-0042, Japan  
 TEL. +81-3-3770-5519 FAX. +81-3-3770-5520  
 URL : <http://www.wadeco.co.jp>