

KAD-300 Series

Protect Your Overhead Equipment

Crane to crane protection

Crane to wall protection

Monorail system collision avoidance

The Hokuyo KAD-300-U1 crane collision avoidance sensor is used to reduce the potential for collisions between overhead cranes, monorail systems, and fixed objects or obstructions located in the crane runway area. Built with a rugged metal housing, this device offers three separate outputs for distance settings up to 100 feet and is used to initiate slow-down and stop commands. In addition to the three outputs, the KAD-300-U1 is equipped with a trouble (FAULT) output that will energize in the event a failure occurs with the internal emitter and receiver components.

A typical application would have the sensor unit mounted on the crane bridge and a reflective target on the opposing end wall or crane. With limited hardware, the KAD-300-U1 allows for an ease of installation and maintenance. The flexibility of this device will allow you to configure it to variable frequency drives and stepped controls.

FEATURES:

- LED-based retro-reflective type sensor
- Sensing range up to 100 feet with reflective target
- 3 relay outputs for distance settings
- Fault output for internal monitoring
- Easy push-button set up



SPECIFICATIONS:

Type	Retro-reflective infrared sensor	
Model	<u>KAD-300-U1</u>	<u>KAD-300-K</u>
Power Source	100 - 240 VAC - 50/60 Hz	24VDC (19 - 30VDC)
Power Consumption	10VA or less when 100VAC 15VA or less when 200VAC	5W or less
Output	<p><i>Control Output</i> - 1C Relay (250 VAC 3A, 30VDC 3A) Out 1, 2, and 3 Relay not energized and LED lights up when reflector is within setting distance.</p> <p><i>Trouble Output</i> - 1C Relay (250VAC 3A, 30VDC 3A) - FAULT Relay not energized</p> <ol style="list-style-type: none"> 1. When light-emission amount decreases 2. When light-reception amount decreases 3. When Fault Occurs 	
Sensing Range	1 to 30 meters (100 feet)	
Detectable Object	2 ft. x 2 ft. Retro-reflective Target (diamond-grade reflective surface)	
Hysteresis	500mm (Approximately 20 inches)	
Operation Mode	LIGHT-ON Mode	
Indicators	<p>POWER - Lights up when power is ON (Green LED)</p> <p>OUTPUT 1, 2, 3 - Lights up when target is within setting distance (Orange LED)</p> <p>FAULT (Emitter) - Lights up when emitter strength decreases (Red LED)</p> <p>FAULT (Receiver) - Lights up when fault occurs (Red LED)</p> <p style="padding-left: 40px;">Flickers when light-reception decreases (Red LED)</p> <p>LEVEL - Lights up in relation to light-reception & optical alignment (5 Orange LEDs)</p>	
Response Time	50 milliseconds or less	
Delay at Power Up	Approximately 2 seconds	
Ambient Luminescence	Halogen and Mercury Light: 10,000 lux or less	
Operating Conditions	<p><i>Temperature:</i> -10 to +55 degrees C (14 degrees F to 130 degrees F)</p> <p><i>Relative Humidity:</i> 85% or less (Non-condensing or frozen)</p>	
Insulation Resistance	100Mohm or more (Between power and contact)	
Withstand Voltage	1,500 VAC - 1 min. (Between power and contact)	
Noise Resistance	<p>COM mode pulse width: 100nsec, Polarity: + and -, Phase: Phase A and B</p> <p>Pulse Cycle: Power cycle 0 to 360 degrees, Pulse Voltage: 1,500V or more</p> <p>(By high-frequency noise simulator)</p>	
Protective Structure	Metal Housing	
Vibration Resistance	<p>Frequency: 10 to 55 Hz, Double Amplitude: 1.5mm,</p> <p>each 2 hour in X, Y, and Z directions</p>	
Impact Resistance	490 m/s ² (50G), Each 10 times in X, Y and Z directions	
Case / Paint	SPCC / Munsell 5Y8/1	
Sensor Unit Weight	3 Kg (Approximately 7 lbs.)	
Connection	Terminal Strip	

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