



**SPEED-O-CONTROLS
PVT. LTD.**



CRANE CONTROL SOLUTIONS

Anti-Collision HUMAN SENSOR



DISCOVER OUR RANGE OF RADIO REMOTE CONTROLS SYSTEMS

INDEX

INFRARED BASED ANTI-COLLISION (WITH REFLECTOR)



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LASER BASED ANTI-COLLISION HUMAN SENSOR (WITHOUT REFLECTOR)

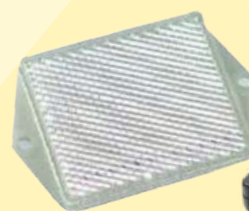


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Introduction

The **Anti-Collision System** is a safety device to avoid collision of two electric overhead traveling cranes on the same bay. The system works on the principle of retro-reflective infrared waves. The system comprises of an emitter cum receiver module and a reflector. The emitter continuously emits infrared waves in the direction of the reflector. The waves are reflected back to the receiver end of the system which activates an alarm signal and stops/reduce the speed of the crane. If two cranes are away from each other the reflected waves will not reach the sensor and the cranes operate normally.

The advanced digital anti-collision system incorporates **Micro-Controller Based Circuit for taking digital inputs for easy range setting and gives an accurate cut-off range to the device.** Two sets of anti-collision systems are required for collision avoidance between the two cranes.



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Technical Specification

Micro Controller Based Infrared Anti-Collision System	
Supply Voltage	(48 ~ 230) VAC
Sensing Range (adjustable)	Model - ACD-103 - (1 - 3) Meters Model - ACD-310 - (3 - 10) Meters
No. Of Output/Relay	Upto 2 Potential Free Relays Rated 5 Amps @ 230 VAC
Set Point Adjustment	Push Button & Led Display
Housing Material	Polycarbonate
Ingress Protection	IP-65 IS/IEC 60529 (2001)
Operating Temperature	Upto 70° C
Ambient Temperature	50° C
Terminal Block	Screw Terminal (16-20AWG)

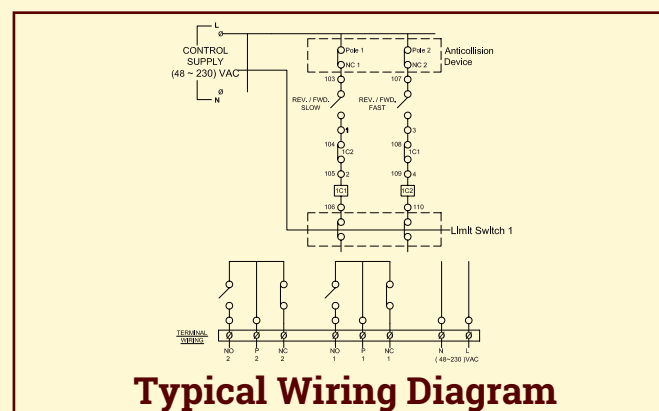
*Also available in Metallic Enclosure at extra cost

Installation Procedure:

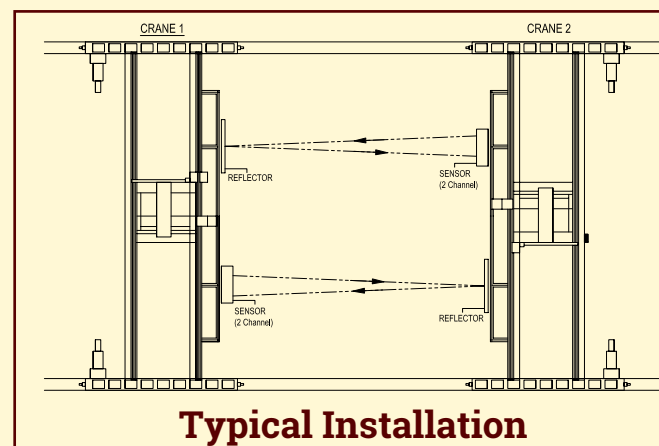
1. Mount the Transmitter/Emitter(Control Unit) on one crane as shown in installation scheme.
 2. Connect the power supply as per the connection diagram.
 3. Press the Laser switch and mark the point for reflector mounting. Mount the reflector on the second crane.
 4. Similarly follow the procedure to mount the control unit and reflector for the other crane.
 5. Connect the relay output as shown in the figure.
- The Anti-collision device works like an LT limit switch.

Range Adjustments Settings

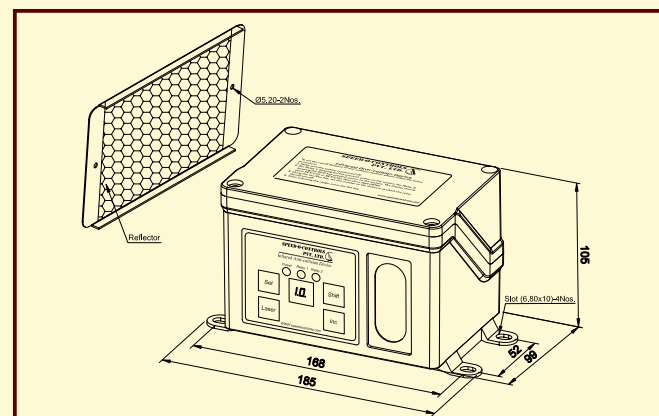
1. Make sure the system is powered off.
2. For Relay 1, keeping Inc key pressed, power on the system. For Relay 2, keeping the Shift key pressed, power on the system. The display should show SET/(r1) or SET/(r2), then show digit (d00).
3. Using the Inc. key, set the number to the distance at which the relay should cut-off.
4. After selecting the range, press the Set key.
5. Restart the system.



Typical Wiring Diagram



Typical Installation



Features

- **Laser Distance measuring** based anti-collision system
- **Micro-Controller Based Circuit** for taking digital inputs for easy range setting and gives an accurate cut-off range.
- 2 Relays for Slow/Stop.
- Works in Dusty environment
- No reflector required for range detection
- High Cutoff Accuracy
- Visible laser light for correct mounting
- Robust Design for Industrial Environment

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Technical Specification

Micro Controller Based Laser Anti-Collision System	
Supply Voltage	(48 ~ 230) VAC/24VDC
Sensing Range (adjustable)	Model - LACD-8 - (0.5 - 8) Meters Model - LACD-12 - (0.5 - 12) Meters
No. Of Output/Relay	Upto 2 Potential Free Relays Rated 5 Amps @ 230 VAC/24VDC
Set Point Adjustment	Push Button & Led Display
Housing Material	Polycarbonate
Ingress Protection	IP-65 IS/IEC 60529 (2001)
Operating Temperature	Upto 70° C
Ambient Temperature	50° C
Terminal Block	Screw Terminal (16-20AWG)

*Also available in Metallic Enclosure at extra cost

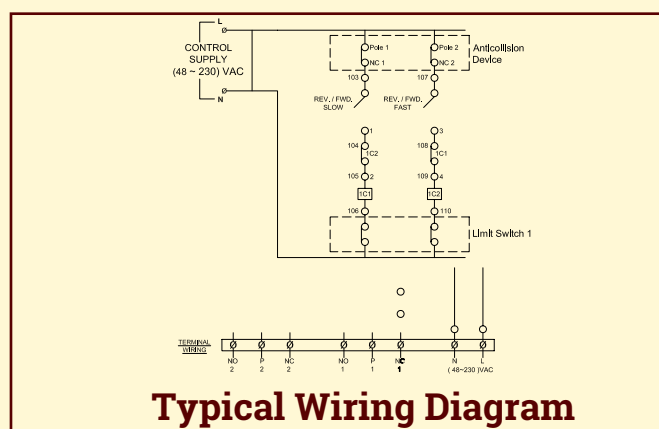
Installation Procedure

1. Mount the Transmitter/Emitter(Control Unit) on one crane as shown in installation scheme.
2. Connect the power supply as per the connection diagram.
3. Start the System and view the laser point at the other crane. The distance between the sensor and the crane should be shown on the screen.
4. Similarly follow the procedure to mount the control unit for the other crane.
5. Connect the relay output as shown in the figure.

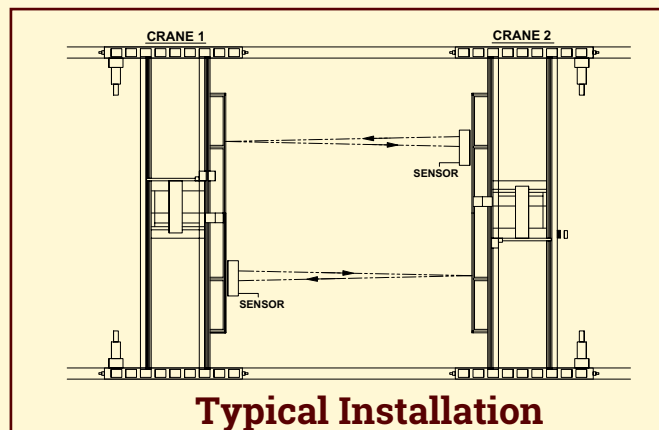
The Anti-collision device works like an LT limit switch.

Range Adjustment Settings

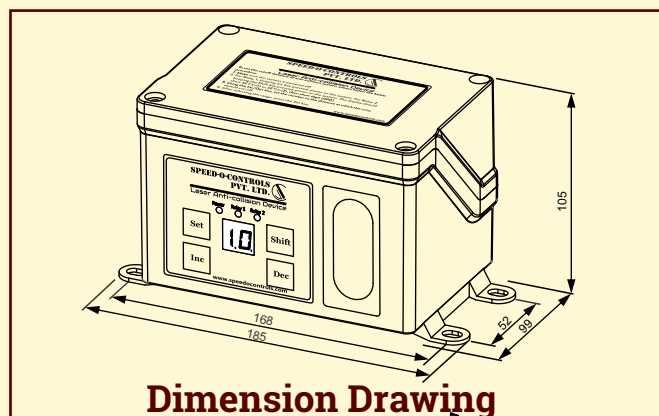
1. Power ON the system.
2. Press the INC. key 6 times.
3. The display shall first show R1 (Relay 1) followed by the cut off value.
4. Set the cut off value using INC./DEC. key.
5. Press the SHIFT key to validate R1.
6. The display shall show R2 (Relay 2) followed by the cut off value.
7. Set the cut off value using INC./DEC. key.
8. Press the SET key to validate R2.
9. Restart the system.



Typical Wiring Diagram



Typical Installation



Dimension Drawing

SPEED-O-CONTROLS PVT. LTD.

CRANE CONTROL SOLUTIONS

CRANE CONTROL GEAR



POWER DISTRIBUTION



RADIO REMOTE CONTROLS



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OTHER ELECTRONICS



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H. O. Unit -I : C-15/16, Nand Jyot,
Industrial Estate, Andheri-Kurla, Road,
Mumbai - 400072 ,
Tel : (022) 42469700-730,
E-mail : sales@socgroup.in

Visit us at :
www.speedocontrols.com
www.socremote.com
www.socjoystick.com

Unit - II: Plot No. 4912, G. I. D. C.,
Phase IV, Vatva,
Ahmedabad - 382445
Tel.: (079) 68169700/702/712,
E-mail : enquiry2@socgroup.in