ANTICOLLISION DEVICE FOR CRANES

The anti collision system model ACD-201 is a safety device to avoid the collision of two electric overhead traveling cranes working on the same rails.

The system works on the principle of retro-reflective infrared waves. It consists of an emitter and sensor module and a special reflector. The emitter emits the infrared waves in the direction of the reflector. The reflector reflects these infrared waves back to the sensor. The sensor senses the presence of these reflected infrared waves and activates an alarm signal and stops/reduces the speed of the crane. Thus if the two cranes are away from each other then the reflected waves will not reach the sensor and the cranes operate normally. The sensing distance is adjustable between 3 to 10 meters. The anti collision system is specially designed for the crane application and is suitable for the continuous duty.

Each set consists of an Emitter/sensor module and a Reflector. For each pair of cranes two sets of anti collision systems are required.

The typical arrangement for the installation is shown in the adjacent figure.

MODEL : ACD-201

Specification

General

Supply voltage	:	110/220 V AC
Output contact rating	:	5A/10A at 110 V AC
Operating temperature	:	Upto 70 □
Sensitivity adjustment	:	15 % to 100%
Maximum sensing distance	:	10 meters.

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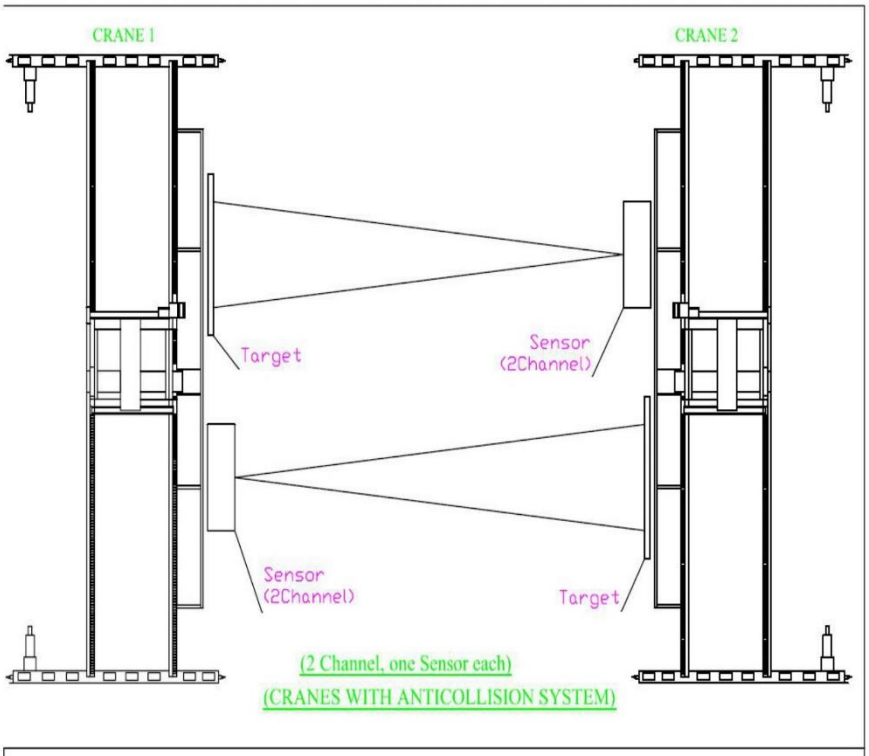
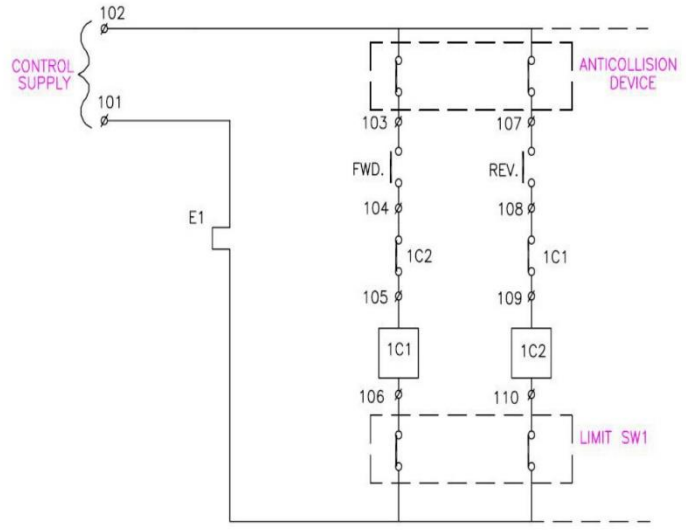


(2 Channel, one Sensor each)

(CRANES WITH ANTICOLLISION SYSTEM)



TYPICAL ARRANGEMENT FOR LT DRIVE WITH ANTICOLLISION DEVICE.

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SET CONSISTS OF

1. Control Unit – 1 No.
2. Prismatic Reflector – 1 No.

Connection Diagram.

1. P – Phase 220 V AC ⊛
2. P – Phase 110 V AC ⊛
3. N – Neutral
4. E – Earth
5. NC – Normally closed
6. C – Common
7. No – Normally open

OUTPUT RELAY CONTACT

INSTALLATION PROCEDURE

1. Mount the Transmitter/emitter unit (Control unit) on one crane as shown in the fig.
2. Connect power supply as shown in the connection diagram.
3. Press the laser switch and mark the place for the reflector. Mount the reflector on the second crane.
4. Similarly follow the procedure to mount the control unit and reflector for othe crane.
5. Connect the relay contact as shown in the fig. The anticollision device works like a LT limit switch.

Range Adjustment

1. When the two cranes are out of the range of the anticollision device the relay contact will be ON. LED will remain ON.
2. Keep the required distance between the two cranes at which the cranes will stop. Rotate the potentiometer to adjust the range.
3. Clockwise rotation of this pot increases the range whereas anticollision rotation decreases it.

NOTE:–
* – CONNECT THE PHASE 110/220 VAC CAREFULLY.

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