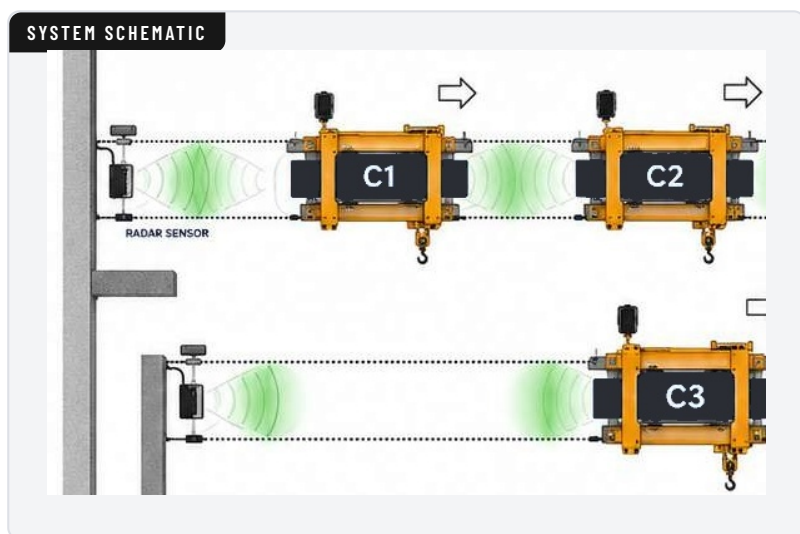


THREE-CRANE ANTI-COLLISION SAFETY

MULTI-LEVEL CRANE COLLISION AVOIDANCE SYSTEM

Intelligent anti-collision for overhead cranes operating at different heights in the same bay.



When several overhead cranes share a bay at different heights, preventing vertical and horizontal collisions is critical. The system tracks crane and hook positions in real time and automatically applies **Slow** or **Stop** interlocks the moment unsafe proximity is detected.

3

CRANES COORDINATED

5-10 m

APPROACH ZONE

24/7

REAL-TIME SENSING



VERTICAL PROTECTION

Prevents collisions between upper and lower cranes working over one another.



HORIZONTAL PROTECTION

Prevents collisions between cranes travelling at the same height on shared runways.



REAL-TIME TRACKING

Continuously tracks crane and hook positions across the bay.



AUTOMATIC INTERLOCKS

Applies slow and stop commands the instant safety limits are reached.



EDGE-POWERED

Runs on IntelliKran edge PLCs, industrial HMIs, radar and mesh wireless.



BUILT FOR THE FLOOR

Engineered for reliable operation in demanding industrial environments.

DETECTION

Real-time **sensing**

CONTROL RANGE

5-10 m **approach**

SAFETY LOGIC

Hook **upper-limit** aware

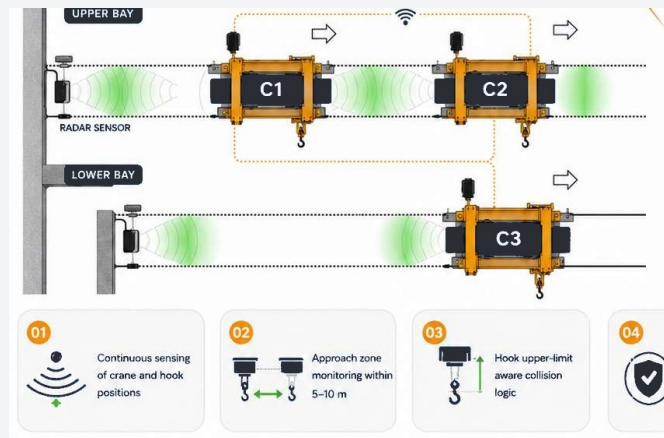
DEPLOYMENT

Upper / lower **bay**

HOW THE SYSTEM WORKS

Real-time monitoring, coordinated logic, and automatic interlocks.

OPERATING PRINCIPLE



01

Continuous sensing of crane and hook positions.

02

Approach-zone monitoring within 5-10 m.

03

Hook upper-limit aware collision logic.

04

Automatic slowdown / stop interlocks at unsafe proximity.

PROTECTION SCENARIOS

- ◆ **Horizontal collision avoidance** between cranes at the same height.
- ◆ **Vertical collision protection** between upper and lower cranes.
- ◆ **System faults clearly separated** from normal anti-collision actions.

SYSTEM COVERAGE

- Continuous position sensing of cranes on upper and lower bays.
- Real-time hook status integrated into collision logic.
- Coordinated slowdown and stop actions across approaching cranes.
- Safe movement supported in shared runway spaces.

SITE INSTALLATION



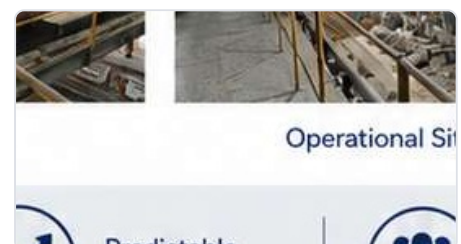
Control Panel

/ CONTROL PANEL



Upper Bay Installation

/ UPPER BAY INSTALLATION



Operational Site View

/ OPERATIONAL SITE VIEW

COMPONENTS & TECHNICAL HIGHLIGHTS

Core hardware, communication, and control intelligence behind the solution.

 Web-enabled edge PLC for 01 INTELLIKRAN MINI PLC Web-enabled edge PLC for real-time crane monitoring and control.	 Operator interface for system 02 INDUSTRIAL HMI Operator interface for system monitoring, configuration and diagnostics.	 High-precision radar for 03 RADAR SENSORS High-precision radar for accurate distance and position detection.	 ESP-Mesh wireless network 04 MESH WIRELESS ESP-Mesh network for reliable, real-time data exchange between nodes.
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INTELLIKRAN MINI PLC – TECHNICAL HIGHLIGHTS	
Input Voltage	12-24 Vdc (24 Vdc nominal)
Max Power Consumption	30 W
Communications	USB, RS-485, Ethernet, I ² C, Wi-Fi, BLE
I/O	2 Analog In, 7 Digital In, 4 Digital Out, 1 Relay Out
Operating Temperature	-20 °C to +70 °C
Dimensions	119.5 × 45 × 101 mm

WHY THIS SYSTEM

- ◆ **Compact, rugged** industrial design.
- ◆ **Flexible connectivity** for modern crane automation.
- ◆ **Fast integration** with PLC / SCADA ecosystems.
- ◆ **Built for demanding** industrial environments.

TYPICAL APPLICATIONS

 OVERHEAD & GANTRY CRANES	 MULTI-LEVEL ANTI-COLLISION	 LOAD & OPERATION SYNCHRONIZATION	 REAL-TIME LOCATION & DATA TRANSMISSION
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GET IN TOUCH

MAKE YOUR CRANES COLLISION-SAFE.

From site survey to installation and commissioning, Aggra Cranes delivers anti-collision and crane safety systems engineered for demanding Indian industrial environments.



**PROVEN CRANE
SAFETY EXPERTISE**



**END-TO-END
SOLUTIONS & SUPPORT**



**RESPONSIVE
AFTER-SALES SERVICE**

LET'S BUILD IT SAFER.

Talk to our team about anti-collision and crane safety solutions for your facility.

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