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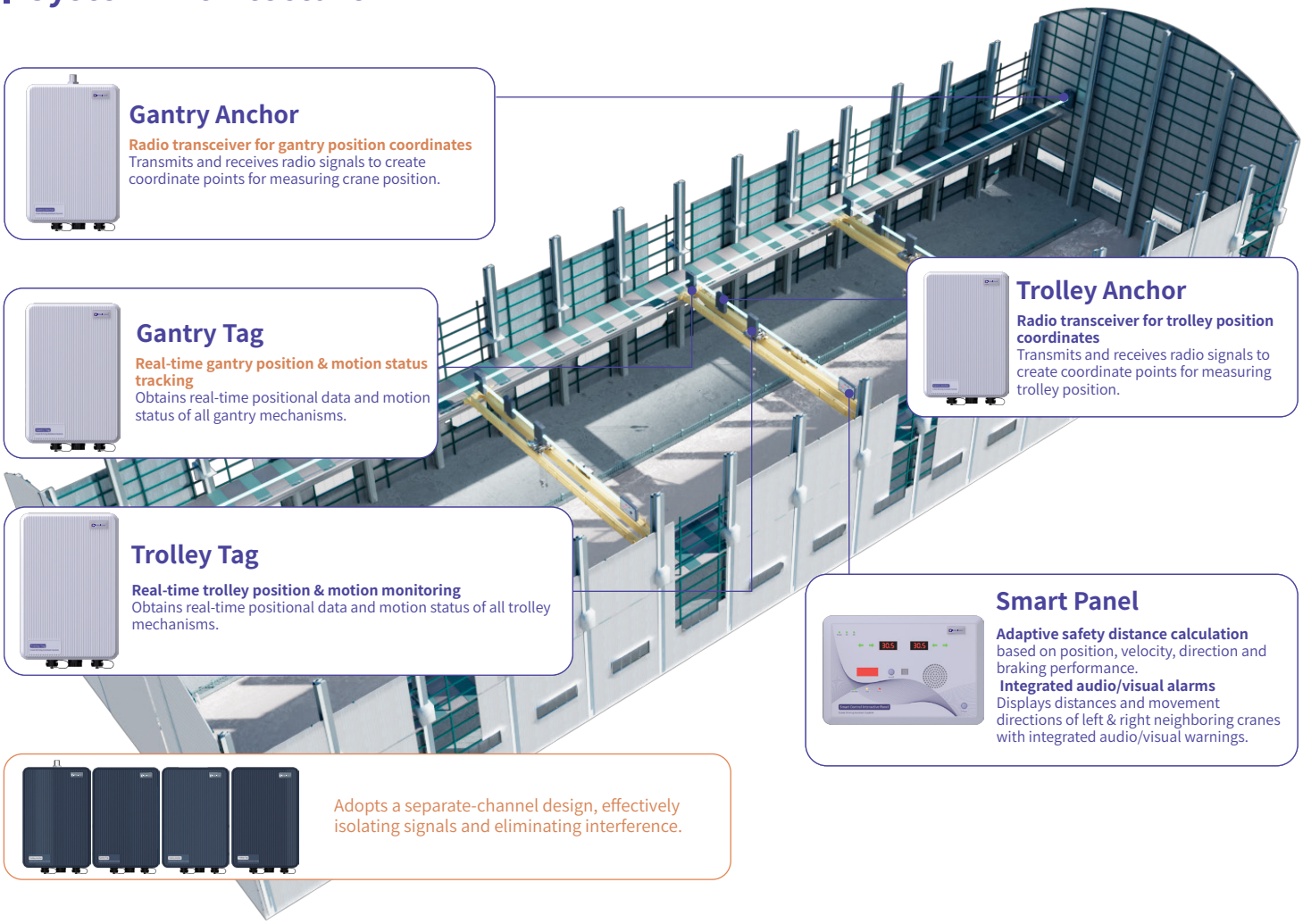
Crane Driving Assistant System

INTELLICRANE

DIRECTION | POSITION | SPEED & ACCELERATION

The system perceives direction, position, speed and acceleration in real time. By continuously analyzing the crane' s actual operating state, it automatically adjusts braking distance that secures both safety and productivity.

System Architecture



Gantry Anchor

Radio transceiver for gantry position coordinates
Transmits and receives radio signals to create coordinate points for measuring crane position.

Gantry Tag

Real-time gantry position & motion status tracking
Obtains real-time positional data and motion status of all gantry mechanisms.

Trolley Anchor

Radio transceiver for trolley position coordinates
Transmits and receives radio signals to create coordinate points for measuring trolley position.

Trolley Tag

Real-time trolley position & motion monitoring
Obtains real-time positional data and motion status of all trolley mechanisms.

Smart Panel

Adaptive safety distance calculation
based on position, velocity, direction and braking performance.
Integrated audio/visual alarms
Displays distances and movement directions of left & right neighboring cranes with integrated audio/visual warnings.

Adopts a separate-channel design, effectively isolating signals and eliminating interference.

Product Features

Industrial Durability

- -40°C to 65°C temperature resistance
- IP67 dustproof and waterproof
- Self-developed filtering algorithm ensures providing stable position data output

Easy installation and Maintenance

- Clamp-on installation
- No calibration/cleaning required
- Self-diagnostic ability

Low cost multifunctional

- No additional equipment is required for side wall anti-collision
- Auto-detects sway control on/off and adjusts braking distance
- Interoperable, outputs precise positioning data to smart systems

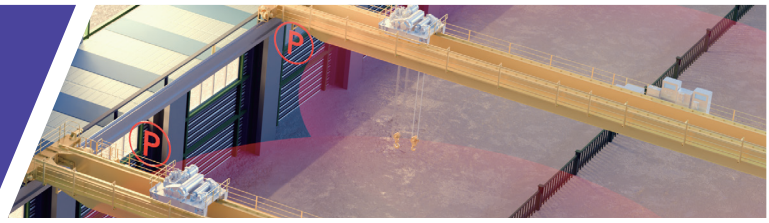
User-Friendly

- No alarms when cranes are moving away or stationary
- Auto-restarts within a set time after shutdown for close-range work
- Position logging during power loss with continuous anti-collision functionality

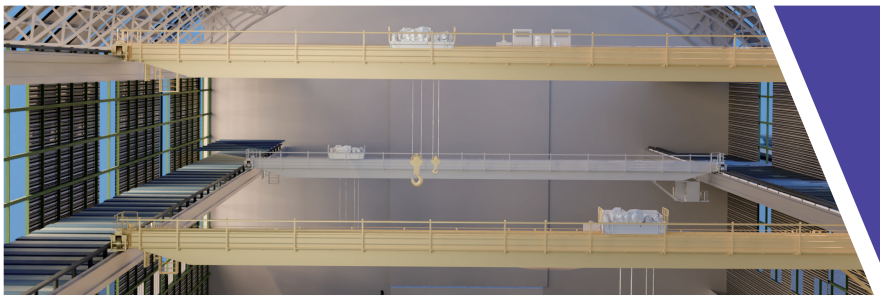
Application Scenarios

Same-span Anti-collision

Intelligent Anti-Collision System (CDAS-20) continuously detects the position, direction, and speed of each crane, alarms operators and brakes cranes to prevent collision.



More Extended Applications

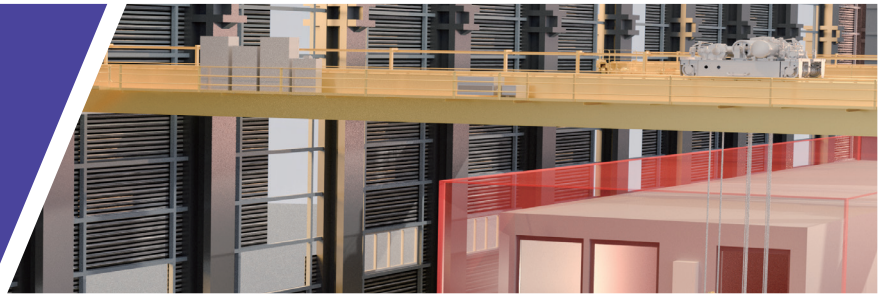


Multi-level Anti-collision

Intelligent Anti-Collision System monitors real-time positions of overhead cranes across multiple levels, while high-precision positioning technology to track hook and load heights. All position and height data is transmitted via a wireless bridge to the control box, where advanced algorithms analyze collision risks, and instantly issue alarms and brake cranes, ensuring precise 3D anti-collision.

Regional Safety Boundary (Area Anti-Collision)

Intelligent Anti-Collision System collects and outputs crane positions to the PLC, which enables flexible safety boundaries configuration via program or HMI. When a crane nears a boundary or another crane, the intelligent system outputs alarms to operators and braking signals to cranes.



Unmanned material handling in bulk warehouses

The key to achieving autonomous crane control is precise real-time position tracking. Intelligent Anti-Collision Control System provides position data with up to 10cm accuracy for both crane gantry and trolley, supporting Modbus TCP and UDP protocols. The system enables unmanned Bulk-material handling and anti-collision cranes, accelerating industrial digitalization.

Selection Guide

01 Rail Length

Capable for anti-collision cranes within 1000-meter rail.

02 Crane Quantity

Up to 6 overhead or gantry cranes on each rail

03 Applicable functions

Crane gantry anti-collision/positioning
Crane gantry & trolley anti-collision/positioning

For example, three cranes(1#, 2#, 3#) on the same span requires crane gantry & trolley anti-collision/positioning, 1 trolley on 1# crane, 2 trolleys on 2# crane, 4 trolleys on 3# crane, the selection is as following.

Crane #	Trolley quantity	Gantry Anchor	Gantry Tag	Smart Panel	Trolley Anchor	Trolley Tag
1#	1		1	1	1	1
2#	2	2	1	1	2	2
3#	4		1	1	4	4
Total	7	2	3	3	7	7

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Contact us INTELLICRANE TECHNOLOGY CO.,LTD

https://en.intellicrane.com/index

info@intellicrane.com

Room 1202, Building 7, Skyworth innovation Valley, Tangtou Community, Bao'an District, Shenzhen, Guangdong