Magnetek® Intelli-Protect® System FAQ

No-Fly Zone Technology
Frequently Asked Questions

Introduction

Protect personnel and valuable assets with Intelli-Protect® No-Fly Zone Systems. Magnetek® brand Intelli-Protect Systems allow you to designate locations where a crane is programmed to slow down or stop, using motion control products such as variable frequency drives, radio remote controls, limit switches, and sensors.

These versatile systems — ranging from simple to complex configurations — can be added to existing crane controls or introduced as new installations for a variety of industries, including automotive, steel, manufacturing, and pulp and paper.

Intelli-Protect and other automation solutions from Columbus McKinnon are designed to increase the safety, productivity, and uptime of your facility.

General Product Questions

1. **What is Intelli-Protect?**
   Intelli-Protect Systems are used to designate crane no-fly zones or areas where obstacles need to be avoided by setting up areas where normal crane operation is limited or entirely restricted.

2. **When should I use an Intelli-Protect System?**
   When there is a need to protect an area or asset below the crane. Examples could be a manufacturing floor office, storage racks, important equipment, or areas where personnel are working and the crane and load should not move overhead.

3. **When should Intelli-Protect Fixed Location Systems be implemented?**
   Fixed Location Systems are ideal for installations where only one area needs to be protected, and the user does not anticipate plant floor changes. These could also be used in areas where a laser can't get an accurate position reading, like in a dusty environment or when there is direct sunlight.

4. **When should Intelli-Protect Configurable Systems be implemented?**
   Configurable Systems are ideal for applications when one or more areas need to be protected and the potential exists for those areas to be re-positioned or reconfigured as the manufacturing space changes. Configurable systems are recommended for installations where future automation solutions, such as auto-dispatch or analytics and diagnostics, are likely to be added.

5. **How many areas can I protect?**
   - Fixed Location Systems protect a single no-fly zone with two, three, or four sides.
   - Configurable Systems can protect up to 31 no-fly zones.
   - There is an input on the Intelli-Protect System for machine height and hoist upper limit if there is a need to have a zone with a specific height requirement (fly-over zone).
     - **Example of a single machine down limit using Zone 1 only:** A robot arm may be operating at a certain height. When the robot arm is lowered, the input allows the crane to operate over the area to clear the robot.
     - **Example of hoist upper limit:** When using the upper limit from the hoist(s), the contact can provide a signal to this input that all hoists are high enough to clear the protected areas.

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6. **How do I configure the no-fly zones?**
    *   Windmill switches are installed on the bridge and trolley in Fixed Location Systems, so the switches are rotated as the crane moves into a specific area. Using a smartphone, tablet, or PC, users can get status information along with instructions for setup, diagnostics, and contact numbers for support.
    *   In Configurable Systems, users can connect to the controller using a smartphone, tablet, or PC to communicate. The user will connect to Intelli-Protect the same way you connect to a wireless access point or home Wi-Fi. Once a connection is established, users will see a webserver page that walks through the configuration.

7. **How do I change or remove a no-fly zone?**
    Connect to the controller via smartphone, tablet, or optional HMI to edit, enable, and disable zones.

8. **How do I know when I am in a no-fly zone?**
    Intelli-Protect comes standard with a status light stack and horn.

Light/Audible Indicator	Notification
Green	Normal Operation
Amber: Flashing	Warning: Initial barrier crossed, in slowdown zone
Amber: Solid	Warning: Second barrier crossed, in stop zone (Movement in certain directions stopped)
Red: Solid	Faulted: In protected zone, sensor fault, or comm fault
Red: Flashing	Intelli-Protect System Bypassed
Horn: Audible for 10 seconds	

9. **Can I bypass Intelli-Protect operation in order to work on a piece of equipment in that area?**
    Yes. Fixed and Configurable Intelli-Protect Systems come with an external bypass key switch that allows users to enable and disable the system as needed. In configurable systems, the zones are created electronically. Users can simply connect to the controller with their PED and turn off a zone if it is only specific to that one zone.

10. **How can I prevent someone from making changes to the setup**?
    *   Fixed Location Systems are hardwired into the controller and have key switches for turning the no-fly zones on or off along with the Wi-Fi connection.
    *   Configurable Systems are set up through a phone, tablet, or optional HMI. An external permissive key switch on the front of the control enclosure can turn off the Wi-Fi connection, preventing the ability to connect to another controller. The switch does not stop functionality, only the ability to make additional connections or changes.

11. **What drives/controls will Intelli-Protect Systems work with?**
    Fixed Location and Configurable Intelli-Protect Systems work ideally with Magnetek-brand IMPULSE®●G+/VG+ Series 4 and G+ Mini Variable Frequency Drives. Intelli-Protect can also operate with contactor control or competitor drives. Consult the factory for more details.