Magnetek® Intelli-Lift® System FAQ

Snag, Side Pull, and Off-Center Pick Prevention Technology
Frequently Asked Questions

Introduction

Swinging loads, whether caused by misalignment or snags, are not only dangerous for your employees but can damage equipment, resulting in costly repairs and downtime. To reduce these risks, loads should be centered under the hoist and free of obstacles. The Magnetek® brand Intelli-Lift® System can help. The Intelli-Lift System detects a load misalignment or snagged condition and alerts operators with a visible and audible warning before a dangerous situation occurs.

Using sensors and a status control enclosure, the system activates lights and an optional warning horn if a side pull or off-center pick is detected. From there, the misalignment or snag can be corrected manually or automatically by the Intelli-Lift System.

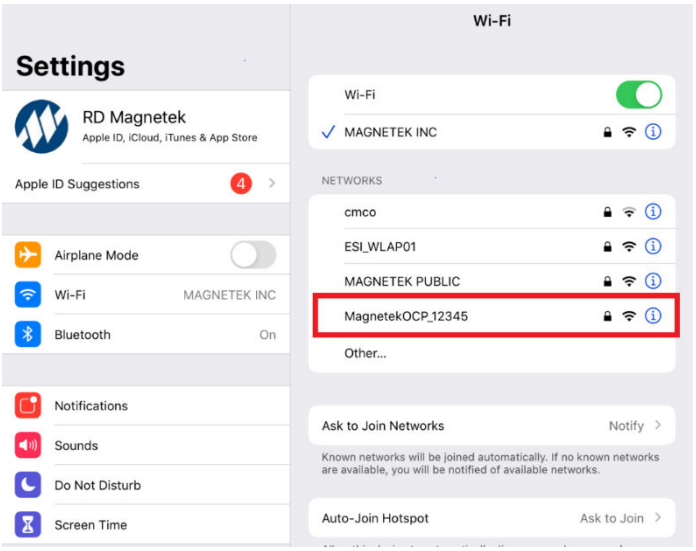
Intelli-Lift and our other automation solutions increase the safety, productivity, and uptime of your facility. Intelli-Lift is ideal for the automotive, aerospace, steel, and marine terminal industries.

General Product Questions

1. **How does Intelli-Lift work?**
   Intelli-Lift technology is designed to reduce the risk of an operator lifting a load that is not centered below the hoist, which would cause it to swing after leaving contact with the ground. This can potentially damage to nearby equipment or cause harm to an operator. To ensure alignment of the hook and the load below the hoist, a sensor installed on the rope determines the angle the load will be lifted. If the system determines the load will be lifted off center, the system will provide visual, and optional audible, indications to the operator to properly align the bridge, trolley, rope, hook, and load prior to hoisting.

   ***Warning*: This product is NOT intended for correction of loads where the center of gravity is not centered below the hoist and hook.**

2. **How do I access Intelli-Lift's user interface?**
   The user interface can be accessed using a smartphone, tablet, or PC. Access can be established using the wireless access point that comes with the product or through the RJ45 port on the front of the cabinet.



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3. **Is a tablet or HMI included for setup?**
   No. A display or HMI is not included with this product. This product is designed to allow the customer to choose how to access the setup through a smartphone or tablet of their choice. The customer can also use a PC to connect to the Intelli-Lift user interface.

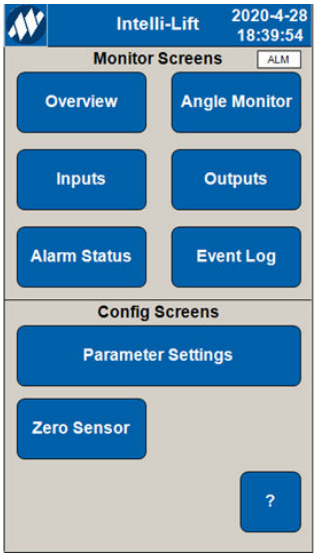
4. **How does it differentiate between a snagged condition or off-center lift?**
   The sensor has settings set at the factory that determine the angle and identify if the hook is off center during a lift or snagged condition. The user then has the ability to access parameters to adjust the sensitivity of the system to avoid nuisance alarms and faults.

5. **What are the installation requirements?**
   a. The crane hoist cannot have a live rope. The sensor needs a static point installed on the rope and needs to be installed on the dead end of the rope or the idler sheave.
   b. The system is designed for indoor or outdoor installation and is robust enough to handle the toughest industrial environments.
   c. Setup requires the installation of the status control light box, the control box, and the sensor. This will require mechanical and electrical expertise to install.

6. **Do I need PLC software?**
   No. The user interface is accessed just like a web page. First, connect to the wireless access point. Then, open a browser and connect to the web page. There is no need for the customer to deal with expensive software licenses or PLC software.

7. **What kind of security is provided with the system?**
   a. The system uses the same security used for wireless access at your home or office. Wi-Fi Protected Access (WPA2) is the security certification program developed by the Wi-Fi Alliance to secure wireless computer networks.
   b. The user can set up a custom name for the SSID and set a unique password.

8. **What can I access from the user interface?**
   The user interface gives you access to set up the sensor, parameters, and date and time, along with a log of faults, events, and maintenance items. Interface shown right.



9. **What types of cranes are compatible with Intelli-Lift?**
   Intelli-Lift can be used on a crane of any capacity. The sensor will fit on rope sizes from 1/8” to 1-7/8”.

10. **Does the height of the crane make a difference?**
    No. Intelli-Lift is currently only suitable for cranes with vertical reeving styles. The functionality is not dependent on the height of the crane.

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11. Can this be used outdoors on a scrap crane?

Yes. The enclosure, sensor, and lights have all been designed to work indoors or outdoors. See the chart below for operating specifications.

*Suitable for outdoor use and direct sunlight. For extreme temperatures, contact Columbus McKinnon.

SPECIFICATION	Control & Lightbox Enclosures
Operating Temperature	-10° to 50°C (14° to 122°F)
Storage Temperature	-20° to 70°C (-4°F to 158°F)
Vibration	10 to 20 Hz at 9.8 m/s2
Humidity	95% (non-condensing)
Environmental Classification	NEMA 4X / IP 56
Certification	UL508A Industrial Control Panel

12. What rope sizes will the sensor fit on?

See the table below for clamp sizes that are provided.

Mounting Plate	Cable Clamp Size	Height	Depth	Width	Weight	Cable Range
147-20124	1/8”	7.71”	2.1”	5”	2.5 lbs.	1/8” to 1/4” (4-6mm)
	7/8”	10.32”	3.9”	5”	6 lbs.	7/8” to 1” (22-26mm)
	1-1/8”	10.44”	4.7”	5”	8 lbs.	1-1/8” to 1-1/4” (28-32mm)
147-20123	5/16”	8.45”	2.8”	5”	3 lbs.	5/16” to 1/2” (8-12mm)
	9/16”	9.33”	3.6”	5”	5 lbs.	9/16” to 3/4” (14-20mm)
	1-3/8”	11.05”	5.6”	5”	12 lbs.	1-3/8” to 1-1/2” (34-40mm)

13. Will Intelli-Lift work with variable frequency drives (VFD)?

The Intelli-Lift system is designed to work with VFDs, contactors, or another control PLC. Designed for new and retrofit installations, the system uses contact closures to supply signals to the controls for the hoist, trolley, and bridge motions.

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14. **Who do I call for setup help and support?**
    Columbus McKinnon offers support through its aftermarket services team.
    To contact aftermarket support, call **1-866-MAG-SERV (1-866-624-7378).** On-site startup services can be provided as well. Inquire with customer service at the time of ordering to quote on-site start-up.

15. **How much do the control boxes weigh?**
    The status control lightbox and the control box weigh less than 25 lbs.

16. **What do the characters indicate in the catalog number when ordering?**
    Intelli-Lift is offered with both wired and wireless options designated with a "W" for wireless and "P" for PC wired connection in the part number. We offer these two options because Intelli-Lift is designed to work in new or retrofit installations, which may require wired or wireless connection. Also, certain industries and applications are sensitive to the transmission of information wirelessly and need to have wired connections.

    Ordering Options
    a. Auto or manual correction
    b. Detection-only version
    c. Wireless or PC programming port for setup and maintenance

INTELLI-LIFT™	
Catalog Numbers	**Description**
OCPP-AM-F-W	Intelli-Lift Correction with Festoon Control & Wireless Interface
OCPP-AM-F-P	Intelli-Lift Correction with Festoon Control & PC Interface
OCPP-DETECT-P	Intelli-Lift Detection with Visual Indication with PC Interface
OCPP-DETECT-W	Intelli-Lift Detection with Visual Indication with Wireless Interface

OCPP: Off-Center Pick Prevention
AM: Auto or Manual Correction
DETECT: Detection only; Does not inhibit hoist motion
F: Festoon or wired option for new or retrofit installations
W: Wireless user interface from the plant floor
P: PC connection for programming for those customers sensitive to wireless comms in the plant

17. **What are the Intelli-Lift System selection options?**
    a. **Auto or Manual:** Auto or manual control is determined at the time of setup. The product provides both capabilities.
        i. **Auto:** Prevents snag and side pull/off-center pick movements until crane has been automatically or manually centered. The operator holds down the buttons for "hoist up" and "autocorrect," and the system takes control of the crane motions to align the hoist, rope, and hook above the load.

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ii. **Manual:** Prevents snag and side pull/off-center pick movements until crane has been manually centered. The operator uses the lights on the Status Control Light Box to move the crane in the correct direction to align the hoist, rope, and hook above the load. This may require one or two attempts as the slack is taken up in the rope and other rigging.

iii. **Detect:** Prevents side pull/off-center pick movement until crane has been manually centered if utilizing hoist up stop output (detect model does not provide snag prevention).

1. Detection is a system that only uses the sensor and the Status Control Light Box to indicate the direction the operator needs to move the crane in order to position the hoist, rope, and hook above the load.
2. Detection does provide a hoist up stop output that can be used with the hoist controls.

Options to Access the User Interface

1. Wireless access using Wi-Fi technology (Fig.1)
2. Wired RJ45 port on the front of the enclosure for a PC (Fig.2)

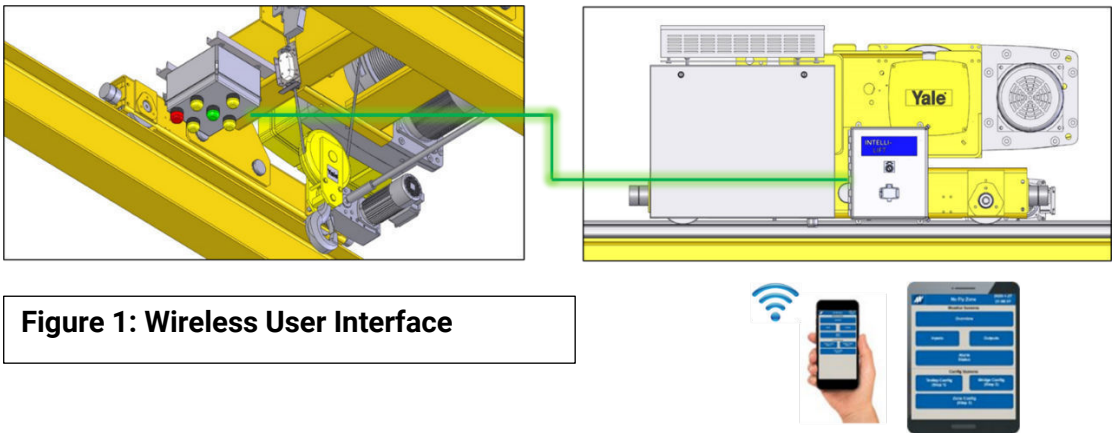

Figure 1: Wireless User Interface

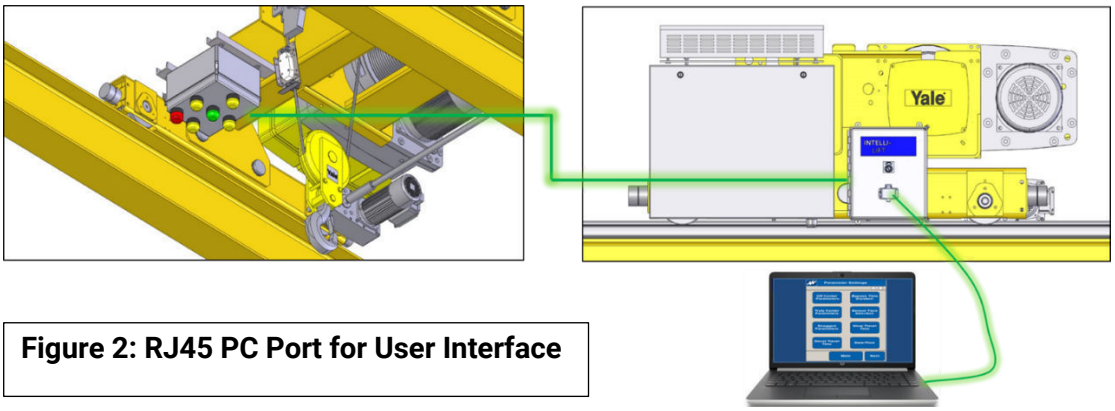

Figure 2: RJ45 PC Port for User Interface

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