MANUAL

LAC-12

1 Table of contents

2 General

The LAC-12 is the next gen Collison avoidance system. Designed specifically for overhead cranes it has reflector less technology. Then paired with 2 120/240VAC relays, prewired pigtail it is and easy installation. With Wi-Fi built in the setting of set points is now done over Wi-Fi to get the technicians off the crane when setting the distances and making fine adjustments.

3 Overview

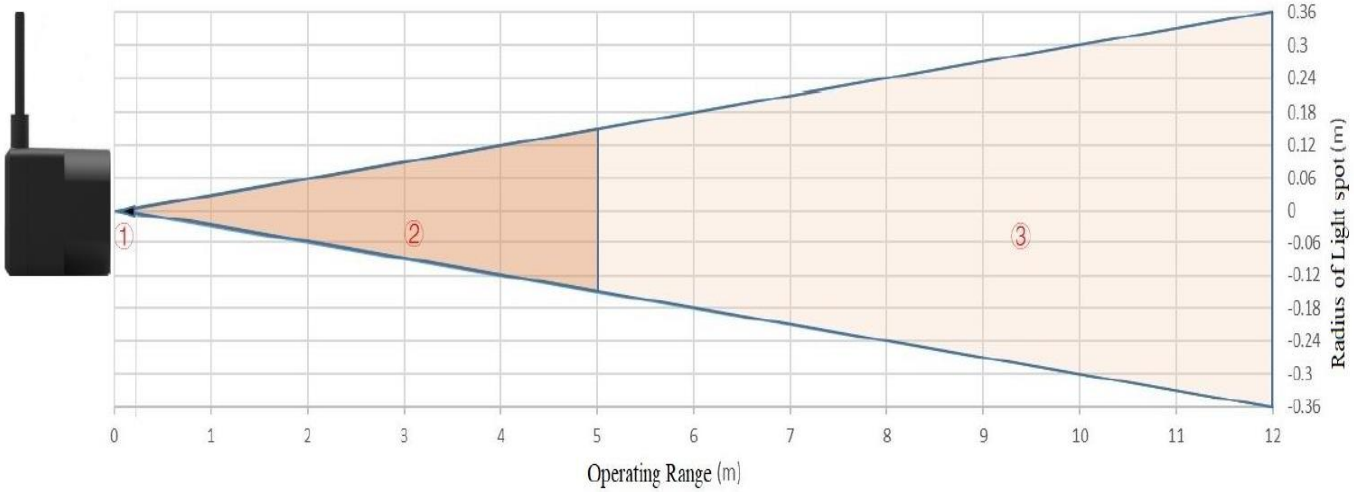
The LAC-12 is a collision avoidance product using 850nm (near infrared) wavelength LEDs and a eye with a 1mm photodetector and 3 deg beam angle for some misalignment.

Basic:

1. Processor
2. 1 120V input
3. 2 NO/NC relay outputs
4. 90-240VAC Power supply
5. Sensor

The LAC-12 has a 12 Meter (36ft) Range with 2 relay setpoints
The relay setpoints are adjustable via the LAC-12 Webapp and real time distance is available in the webapp as well as the relay status of each relay.

4 Description



① Represents the detection blind zone, 0-10cm, within which the output data is unreliable.

② Represents the operating range detecting black target with 10% reflectivity, 0.1-4m.

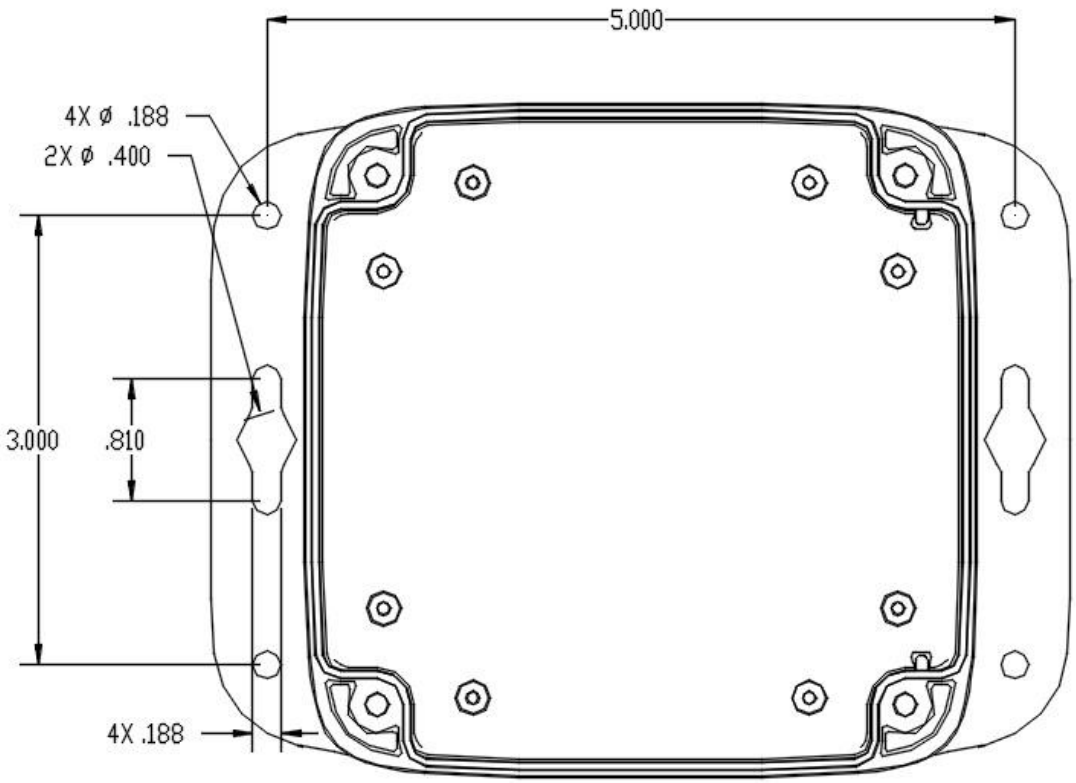
③ Represents the operating range detecting white target with 90% reflectivity, 0.1-12m.

5 Installation

Follow the instructions as described in this manual for the installation of this product.

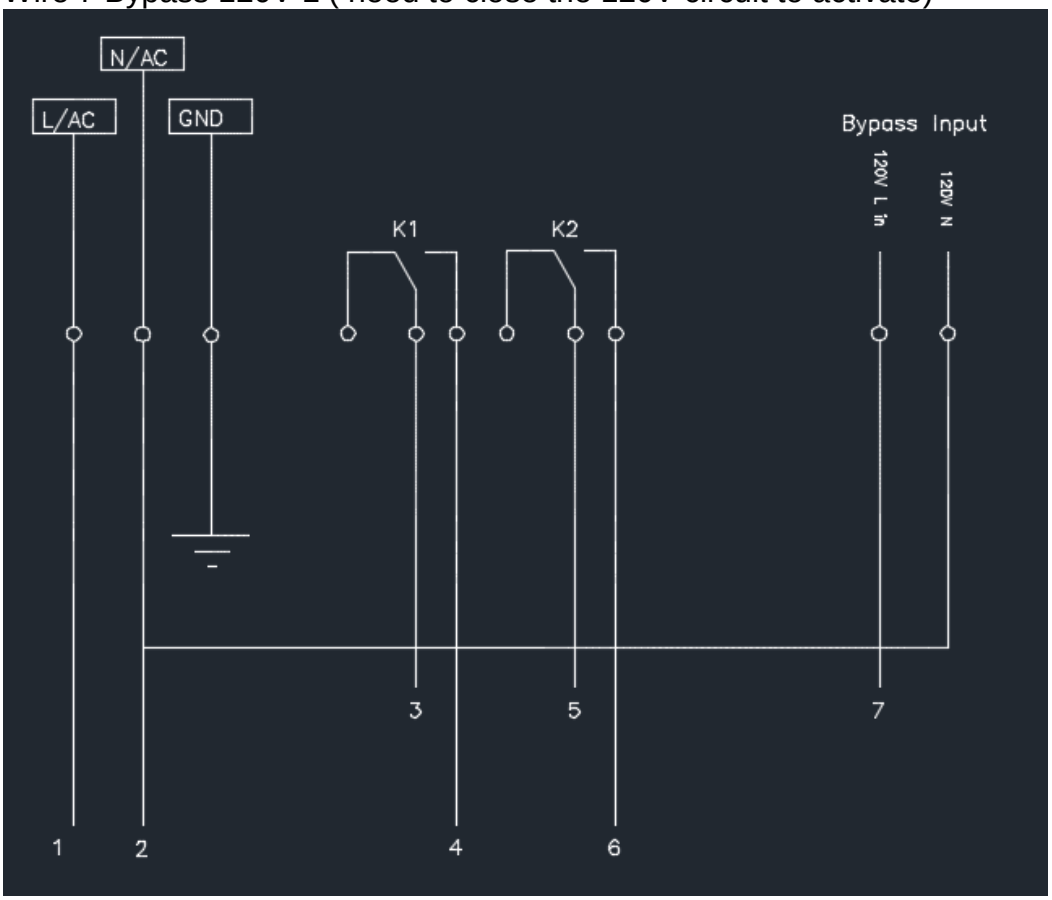
5.1 Dimensions

The following diagram shows the mounting dimensions for the **LAC-12**



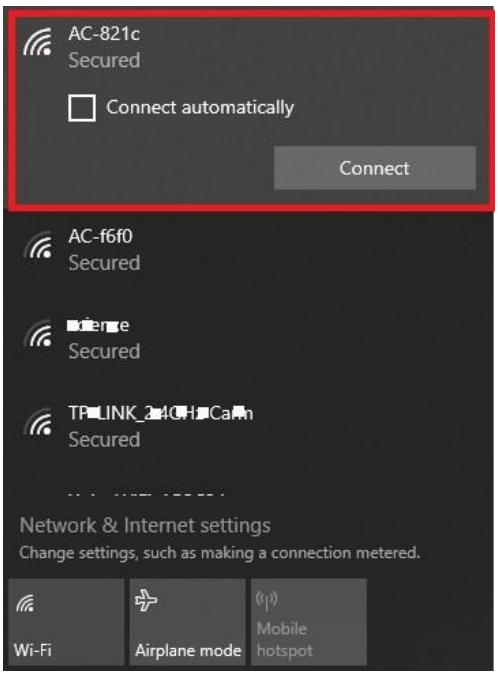
5.2 Instructions

- Turn off the power supply.
- Locate a suitable place to install the **LAC-12**, with clear line of site to the opposite crane you are trying to stop the collision. Align the LAC-12 so the sensor is facing a clear free surface to reflect the light back without obstructions. (like the girder of the 2nd crane.)
- Connect the input power wires LAC-12 pigtail**.**
- **Wire 1 L**
- **Wire 2 N**
- Connect the relay output cables to the corresponding connections on crane function you want to slow and stop.
- Wire 3 Motion voltage Common (Stop)
- Wire 4 Motion voltage output (Stop)
- Wire 5 Motion voltage Common (Slow)
- Wire 6 Motion voltage output (Slow)
- Wire 7 Bypass 120V L (need to close the 120V circuit to activate)



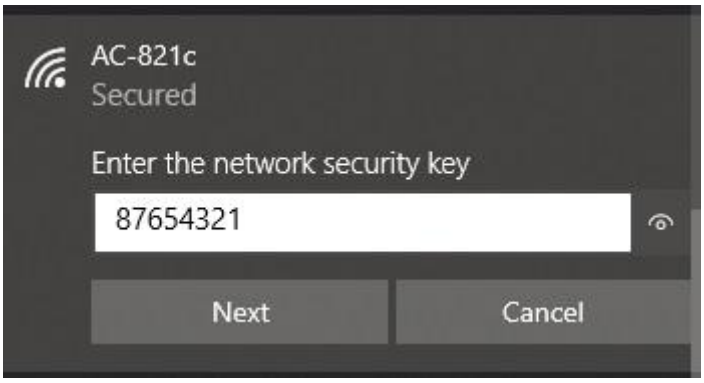
5.3 Wifi log in

Open your phone/tablet/PC and look for accessible wifi hotspots



Select AC - **** where the **** is the last 4 digits of the units mac address.

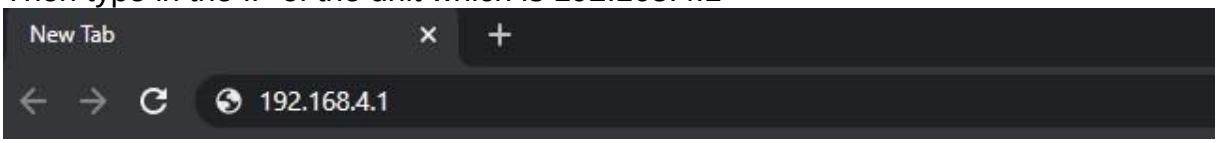
the Password is 87654321



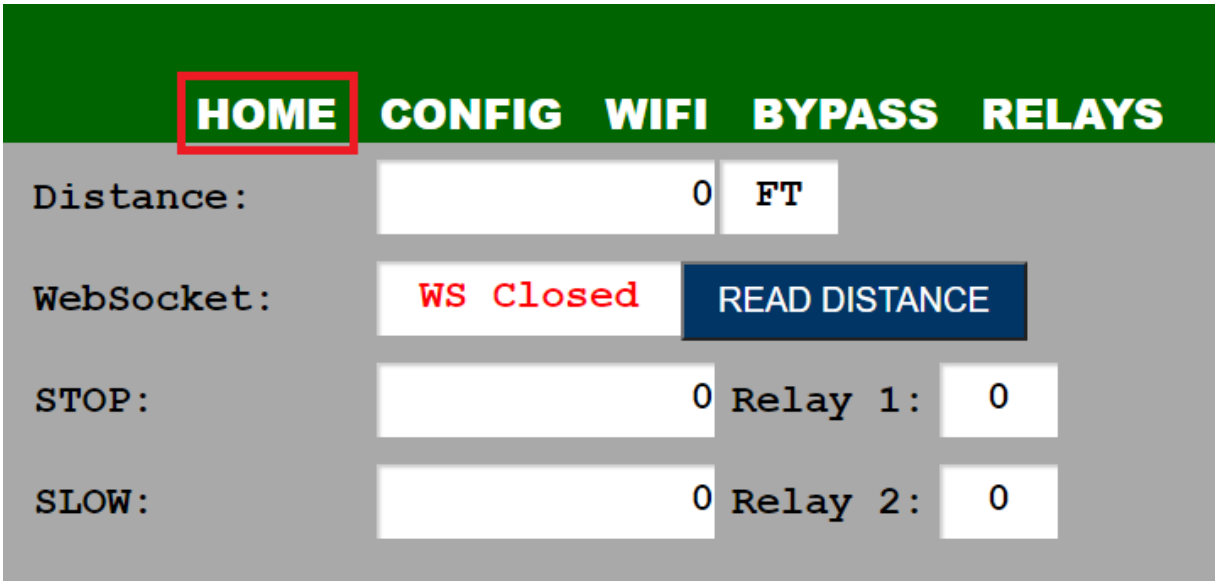
6 Webapp

Once you are connected to the LAC-12 hotspot you can then proceed to open your browser on your device. Chrome, Opera, Firefox …..

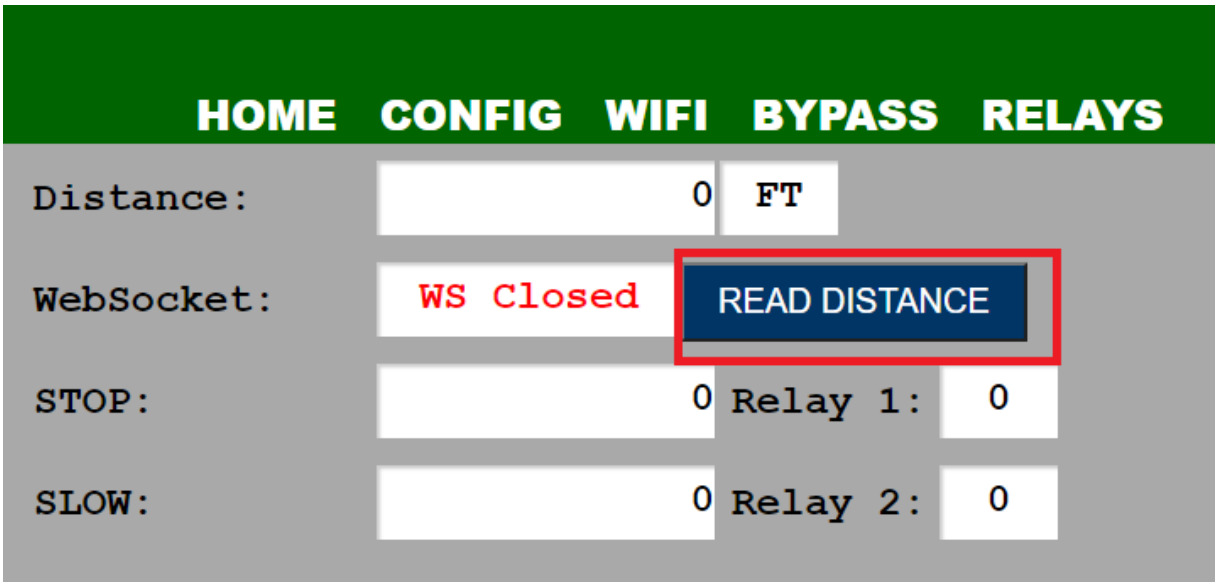
Then type in the IP of the unit which is 192.168.4.1



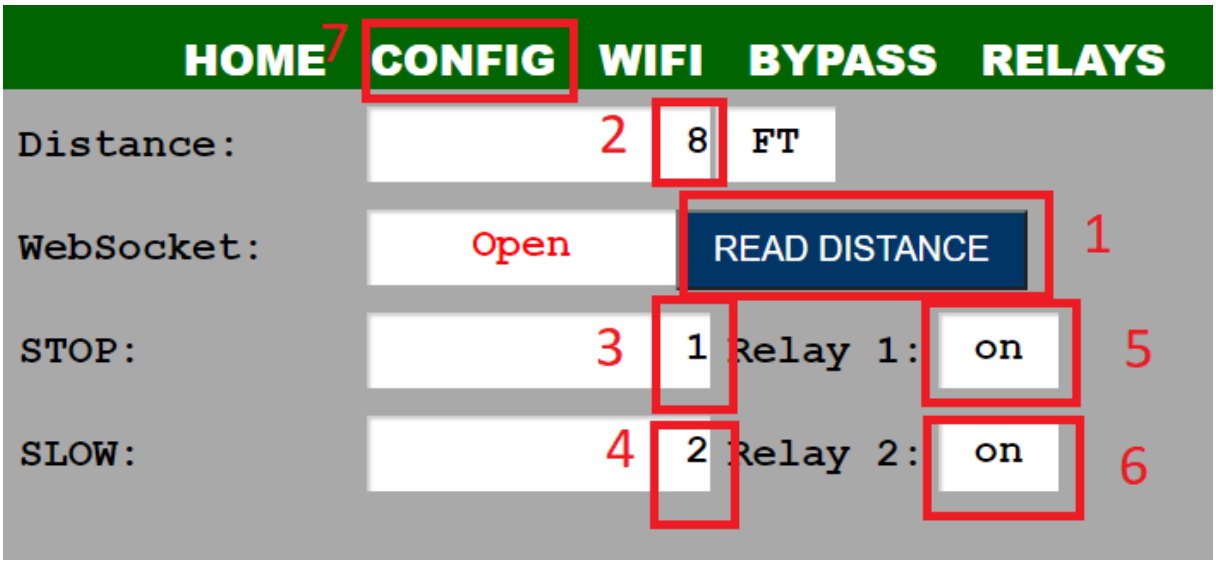
If you are connected properly the webapp should like and you should see the following.



You should now click the READ DISTANCE button.

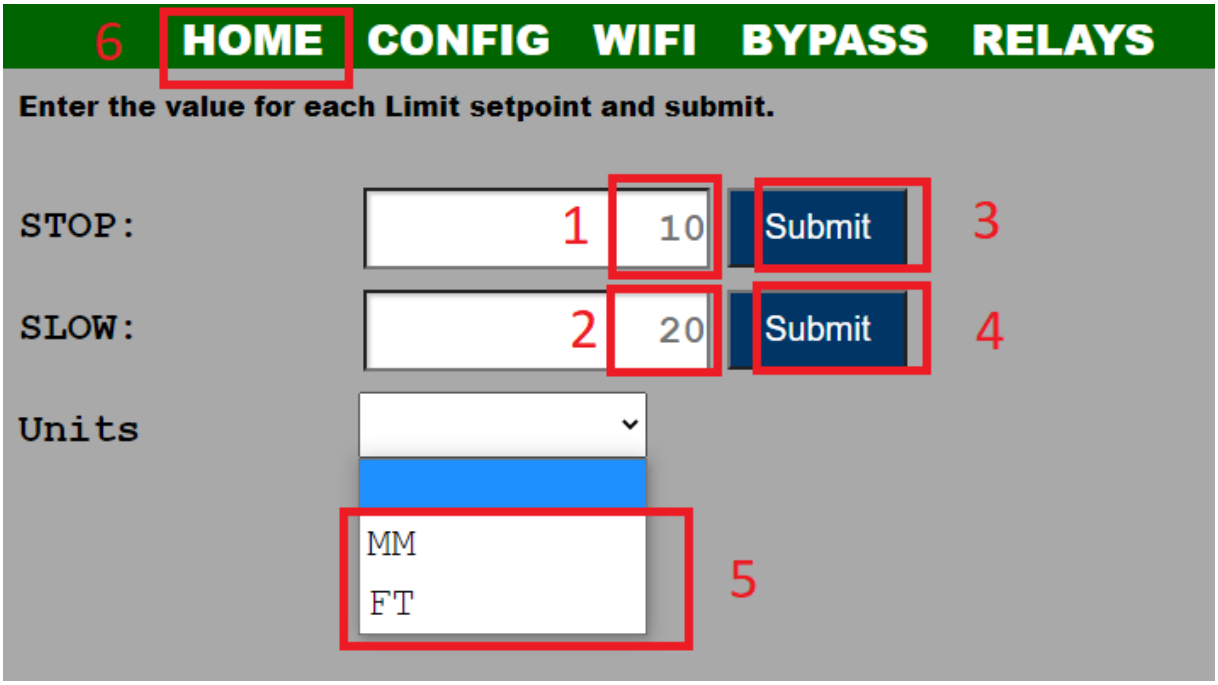


After hitting the button the live distance, Slow and stop set points should populate Items 3&4.



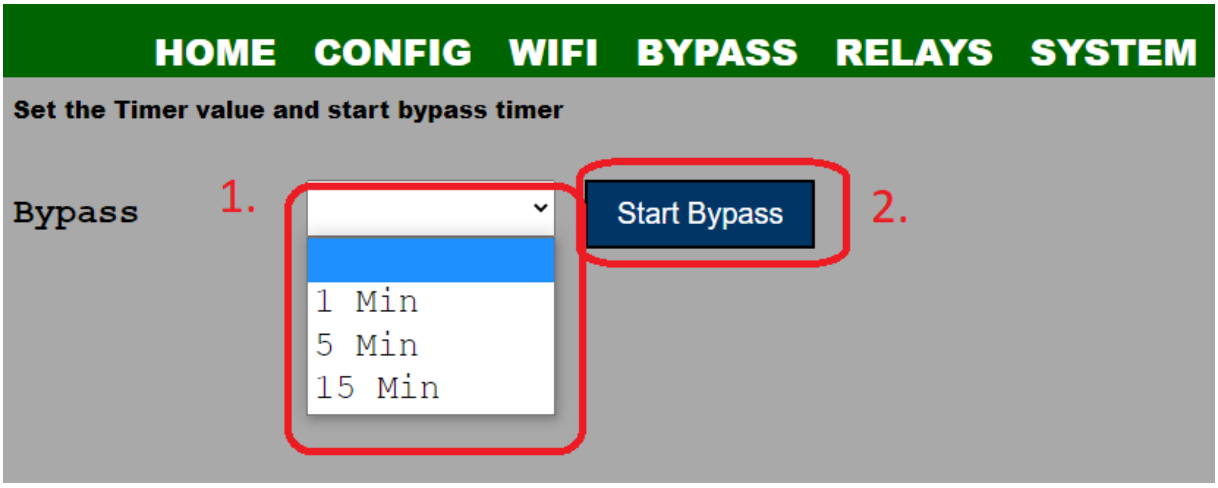
The relay status will also show if the relays are on or off. Items 5 & 6

To go to the relay config page you need to hit the Config button item 7.



This will bring you to a new page to set your slow down and stop setpoints.
Enter your stop setpoint in the units you want to work in. Item 1
Enter your slow setpoint in the units you wan to work in. Item 2
Hits the submit button to save the changes. Items 3&4
You can choose to work in FT or MM. Item 5

You can choose to bypass the system by clicking the bypass button



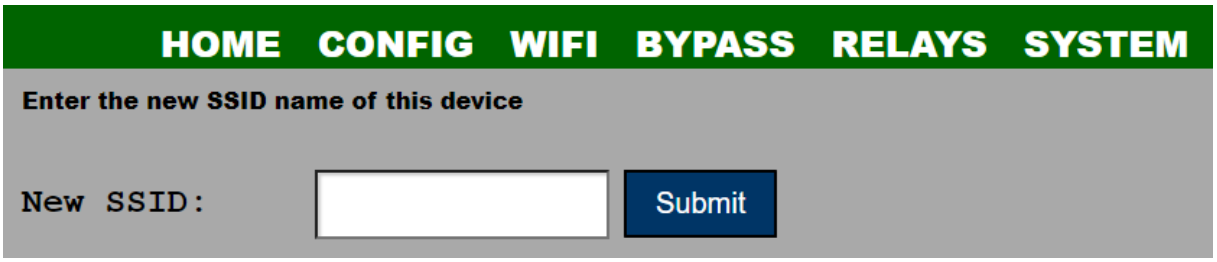
The Bypass button is not permeant due to safety reasons. You can choose 4 settings for bypass to help move the crane if it is stuck or if you haven't finished installing the system yet and need to move the crane.

Pressing Start Byass without choosing a time will default to 30 sec
Other options are
1 min
5 min
15 min.

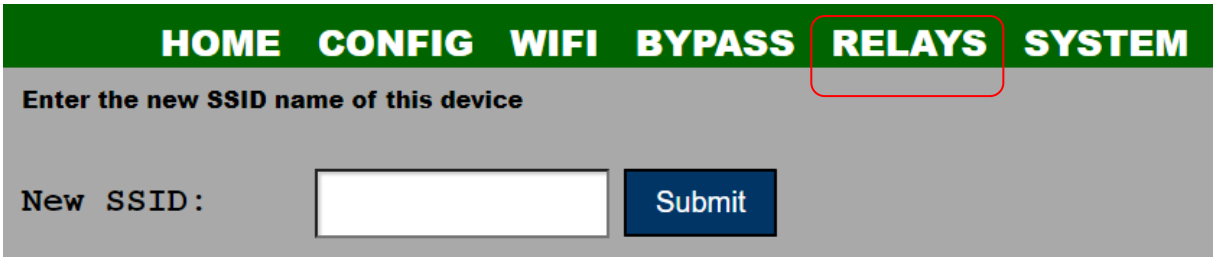
Once you press start bypass the relays will stay closed until the timer is up.

Setup SSID

The Default SSID of the unit is AC-**** where the 4 * are the last 4 digits of the mac address. If you have multiple units in the same facility it can be hard to keep track of the SSID you are logging into so you can change the name to match a crane number.



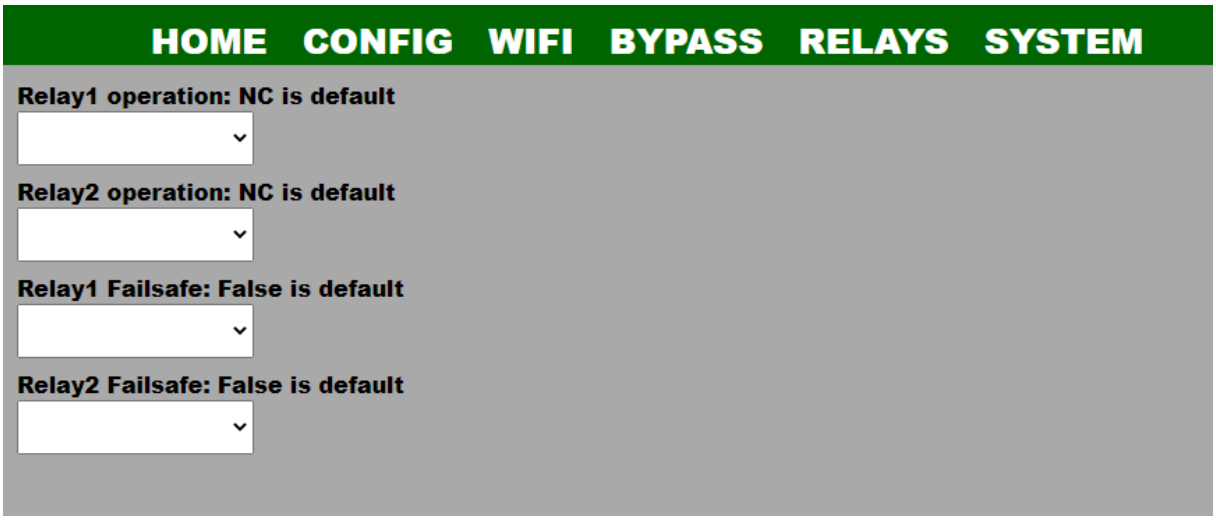
Enter the new name you want the SSID to be and hit send.
The password will stay the same.



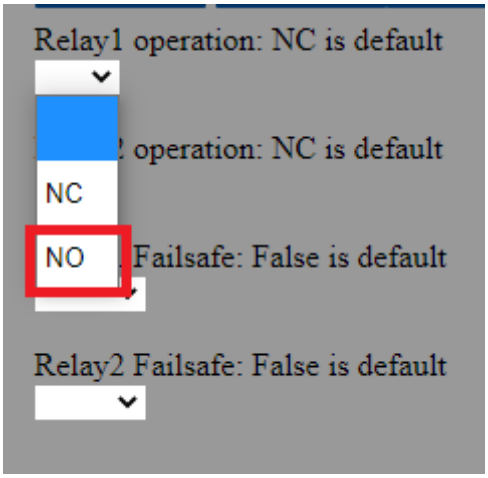
Relays Page

The System is setup with the relays turning on using normally open contacts.
So these contacts will close during normal operation.

Sometimes the crane cant except this wiring and it either needs to be rewired to the NC contacts or we have a way to switch the relay operation in the software without rewiring the outputs.



To Change the operation of the relay Pick the relay you want to swap the contact via the drop down menu and change it from NC to NO



Now the relay will not close on startup and will turn on when the setpoint has been reached.

DANGER

ELECTRIC SHOCK

- Be sure to remove ALL power from ALL devices before connecting or disconnecting inputs or outputs to any terminal or installing or removing any hardware.
- Be sure to connect the grounding wire to a proper ground.

Failure to follow this instruction will result in death, serious injury, or equipment damage.

WARNING

FAILURE OF OUTPUTS

- If outputs should fail, outputs may remain on or off. Where personnel and or equipment hazards exist, use appropriate safety interlocks.

Failure to follow this instruction can result in death, serious injury, or equipment damage.

7 Technical Specifications

7.1 General Data

- 0.1-12M Range
- Accuracy +- 1%
- FOV 3 deg
- LED sensor power consumption 85mW-550mW

7.2 Electrics/electronics

Function	Description
Digital inputs	• 1 optical isolated inputs • 120VAC input
Relay outputs	• 2 change-over relays • max 250Vac - 3A
Supply	• 90-230Vac ± 10% • optional 100-240Vac
Power consumption	• max 3W

7.3 Mechanical data

Function	Description
Dimensions	• 4.50 x 4.50 x 2.44 in / 114.30 x 114.30 x 61.98 mm
Mounting	• Thur hole
Weight	• 0.6 lbs
Housing	• PC/ABS

7.4 Ambient data

Function	Description
Temperature range	• operational : -10°C to +60°C • storage : -40°C to +85°C
Relative Humidity	• 10 to 95% (without condensation)
protection	• Nema 4X IP68

8

GT1 Systems Inc

sales@gt1systems.com

www.gt1systems.com