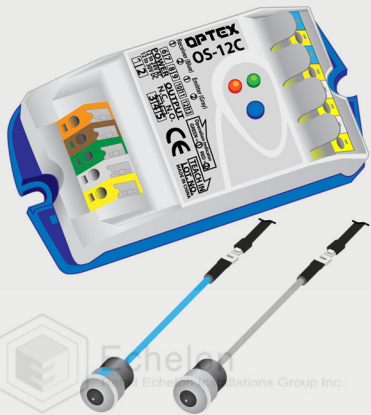# *Instruction Guide – RTC 402/OS12c*

Version 3.0

OPTEX OS-12C and SH-7MC / SH-10MC

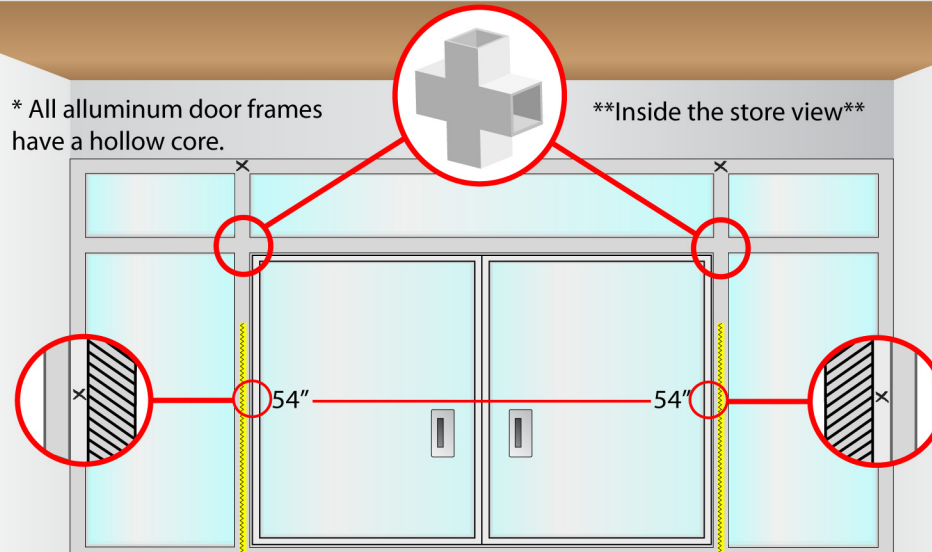**Mounting and Wiring Guide**

1. Measuring 54 Inch and Markings

* All alluminum door frames have a hollow core.

Inside the store view

54" 54"

Using a measuring tape, measure 54 inches from the floor up to the hollow door frame. The eyes can embed into the side of the door frame closest to the door. Ensure there are no obstructions that may prevent the eyes from seeing each other. There are silver right angle boxes that can be used in case installing directly into the door frame is not possible.

2. Drilling Holes (Set A)

The size of the holes at the 54" mark of the door frame is 1/2 inch

1/2 In

LEFT RIGHT
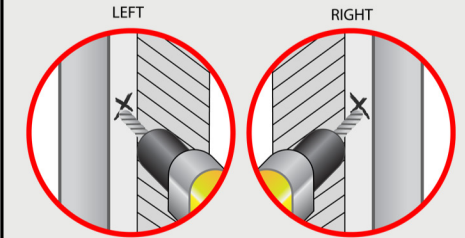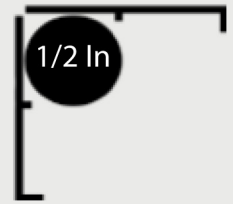
Holes will be drilled at the mark on the inside of the door frame facing each other. If any obstructions occur please use the silver boxes provided in the package

3. Drilling Holes (Set B)

The size of the the holes at the top of the hollow door frame are smaller than half of an inch or 3/8 inch.

3/8 In

LEFT RIGHT
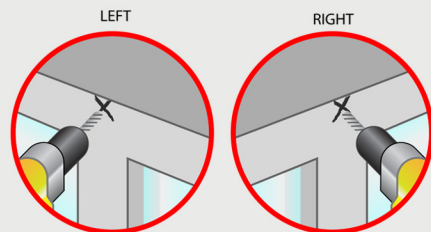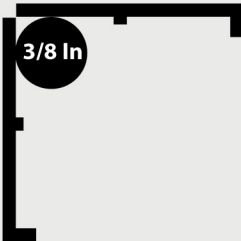
Only drill into the top of the door frame if the wires cannot be fished fully through the door frame. Most of the time you will be able fish the wire through the inside of the drywall.

4A. Running Down The Chain

① ③

*Do not use a fishtape on the door frame, attempt to use a chain or masonry string to run down the door frame.

② ④
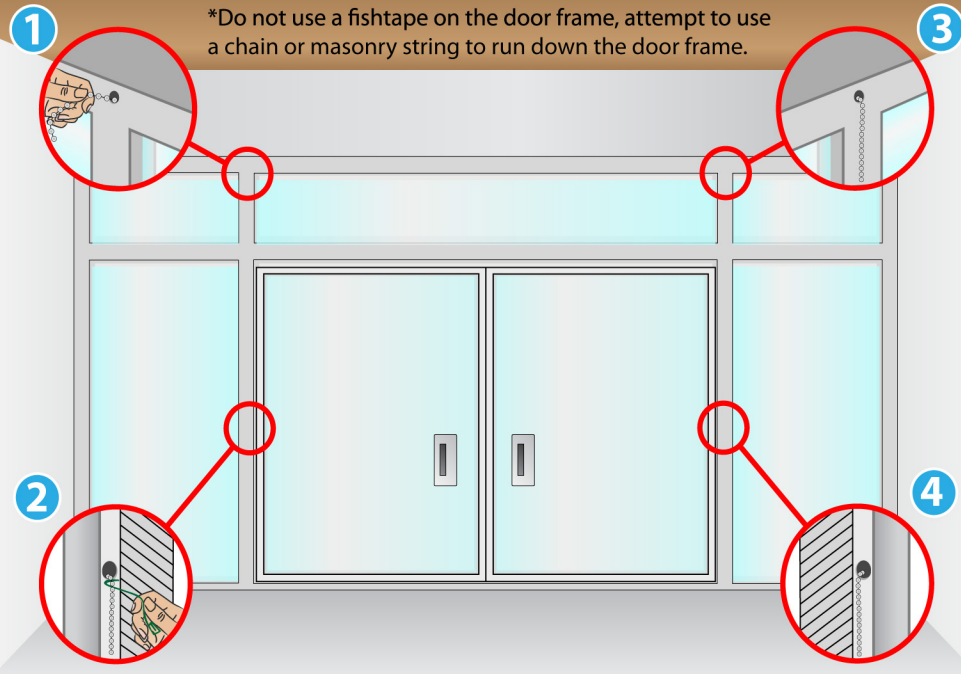
4B. Content

1. Insert a weighted masonry string (screw or bolt taped to the string) or chain inside the hole on top of the hollow door frame.

2. When the masonry string runs down to the hollow door frame, pull it out using any hooks or paper clip bent to shape.

3. Leave the masonry string hanging in preparation for the proceeding instructions.

* Repeat procedures for each side or set of holes on the hollow door frames.

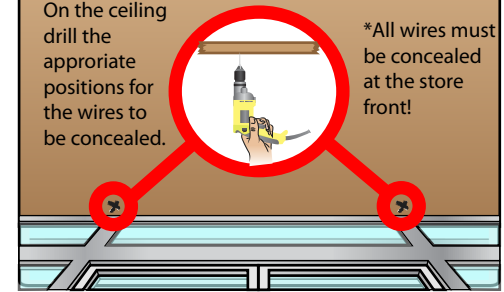## 5A. Running The Wires Inside the Hollow Door Frame
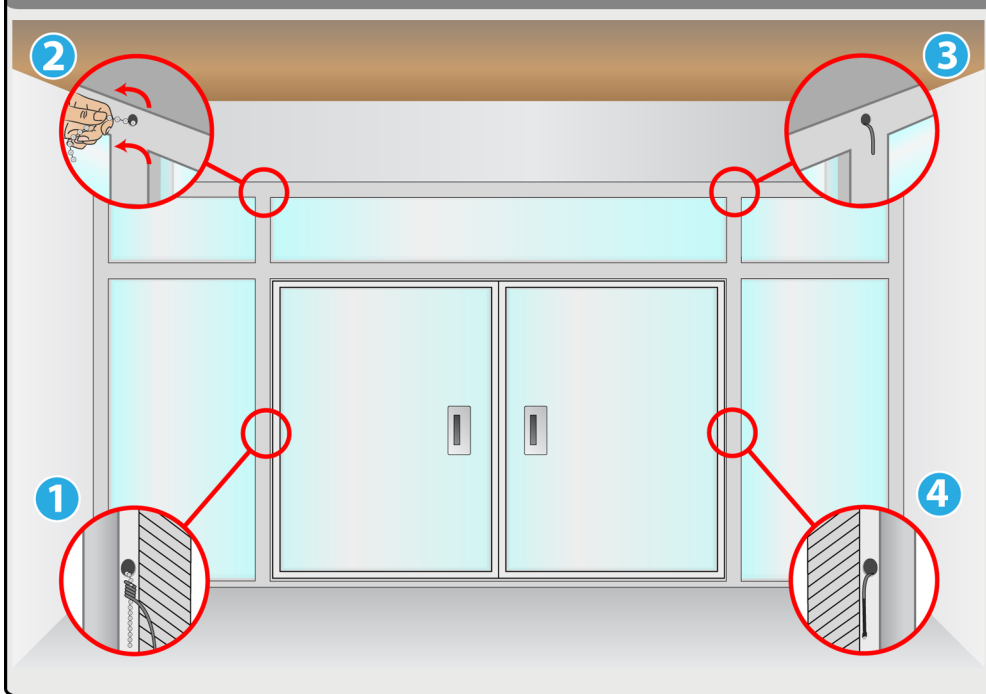
5B. Contents

1. Tape the chain and the Eye Sensors together. Make sure the end of the wire is attached to the chain/string.

2. With the cable tied to the chain, pull the chain out of the hollow door frame until the cable is exposed at the top.
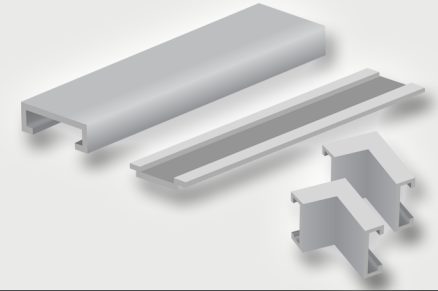
* Repeat procedures on both sides or set of holes on the hollow door frame.

6. Drilling Passage Hole
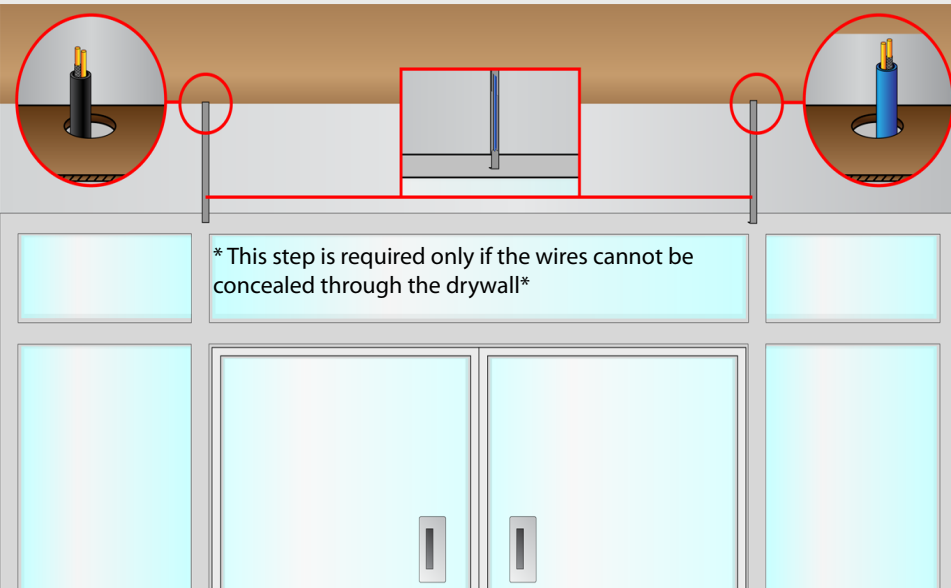
On the ceiling drill the approriate positions for the wires to be concealed.

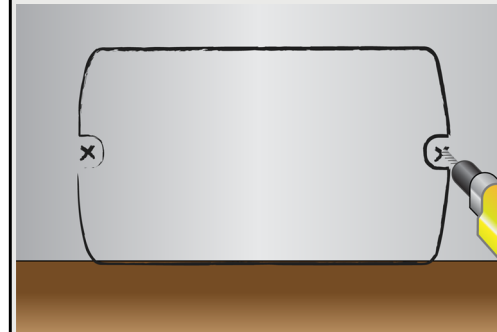*All wires must be concealed at the store front!

7. Electrical Conduits

8. Running and Concealing The Wires

* This step is required only if the wires cannot be concealed through the drywall*

Run the wires from the hollow door frame up to the passage hole located on the ceiling. Conceal the wires neatly with the use of Electrical Conduit. (See Box 7 for details)
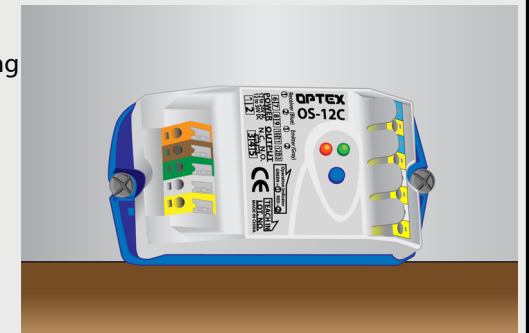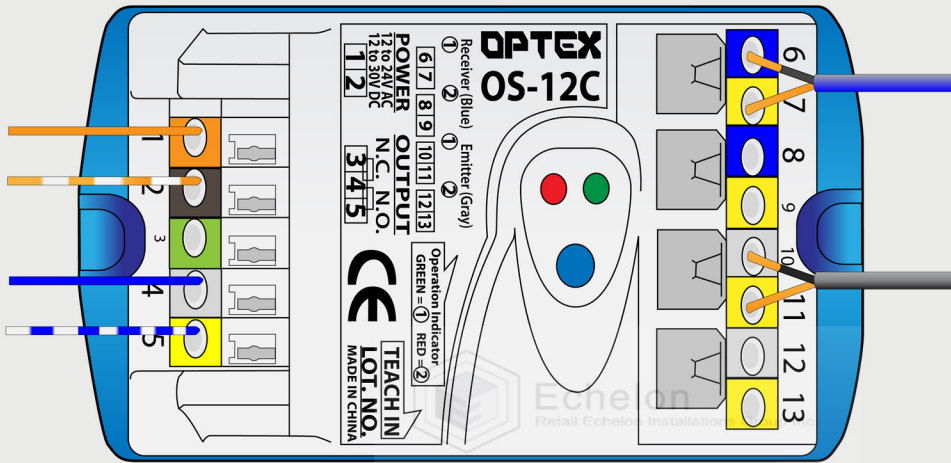
9. Mounting

Above the ceiling use screws to mount the OS-12C Module to the wall or stud.

Once cables are pulled inside the ceiling please ensure all cables are managed and neatly ziptied

Ensure you mount the OS12c module away from other electrical devices, lighting, ect.

10. OPTEX OS-12C Wiring Guide

CAT5 WIRING

- ■ ORANGE = 1
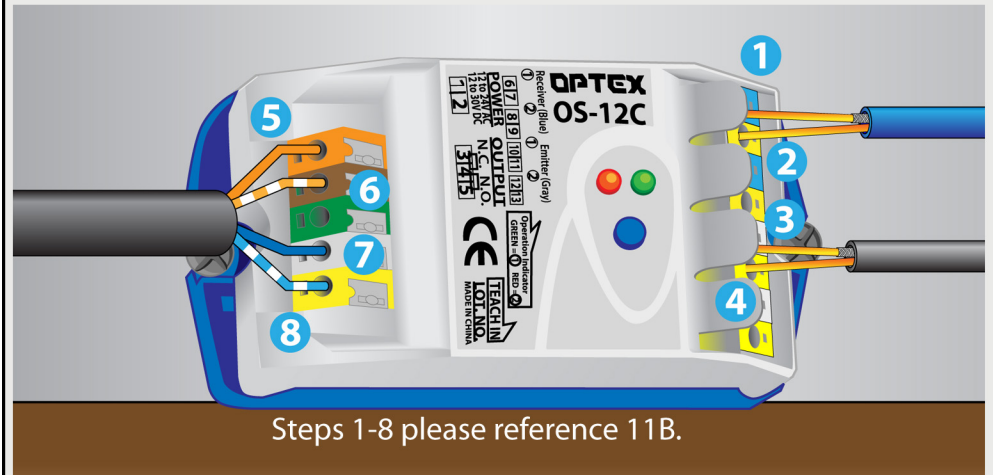- ■ WHITE / ORANGE = 2
- ■ BLUE = 4
- ■ WHITE / BLUE = 5

EYE WIRING

- ■ BLUE (RECEIVER) INSULATED = 6
  BLUE (RECEIVER) BARE = 7
- ■ GRAY (EMITTER) INSULATED = 10
  GRAY (EMITTER) BARE = 11

11A. Connecting the Wires

Above the ceiling, connect all wires to the OS-12C Module.

The Eye Wirings have 2 colors, which are BLUE (Receiver) and GRAY (Emitter).
Each wire contains 2 smaller wires inside. 1 is Insulated and 1 is Bare.


Steps 1-8 please reference 11B.

You will only need the Blue and Orange pair from the Cat5 cable to wire the module.
Orange = Power, White/Orange = GND, Blue = Data GND, White/Blue = Data.

11B. Content

Steps 1-8

1. In PORT 6, connect the Insulated wire from the Blue Eye Wiring.
2. In PORT 7, connect the Bare wire from the Blue Eye Wiring.
3. In PORT 10, connect the Insulated wire from the Gray Eye Wiring.
4. In PORT 11, connect the Bare wire from the Gray Eye Wiring.
5. In PORT 1, connect the Orange wire from the CAT5 Cable.
6. In PORT 2, connect the White/Orange wire from the CAT5 Cable.
7. In PORT 4, connect the Blue wire from the CAT5 Cable.
8. In PORT 5, connect the White/Blue wire from the CAT5 Cable.

12. Eye Wirings
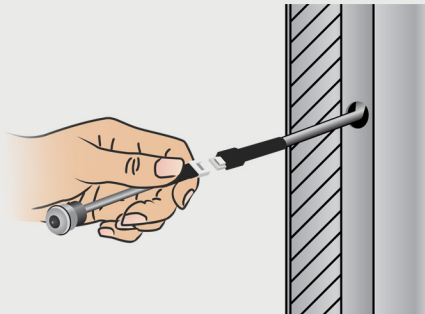
Connect the sensor wires/eye beams hanging at the 54 inch mark.
Repeat procedure on the next side for the other Eye Sensor.
Once both are connected, insert the eye sensor in the 1/2 inch hole.
Make sure sensors snap into place.
*Note that the shaded part is the part where the doors cover.

13. Finishing
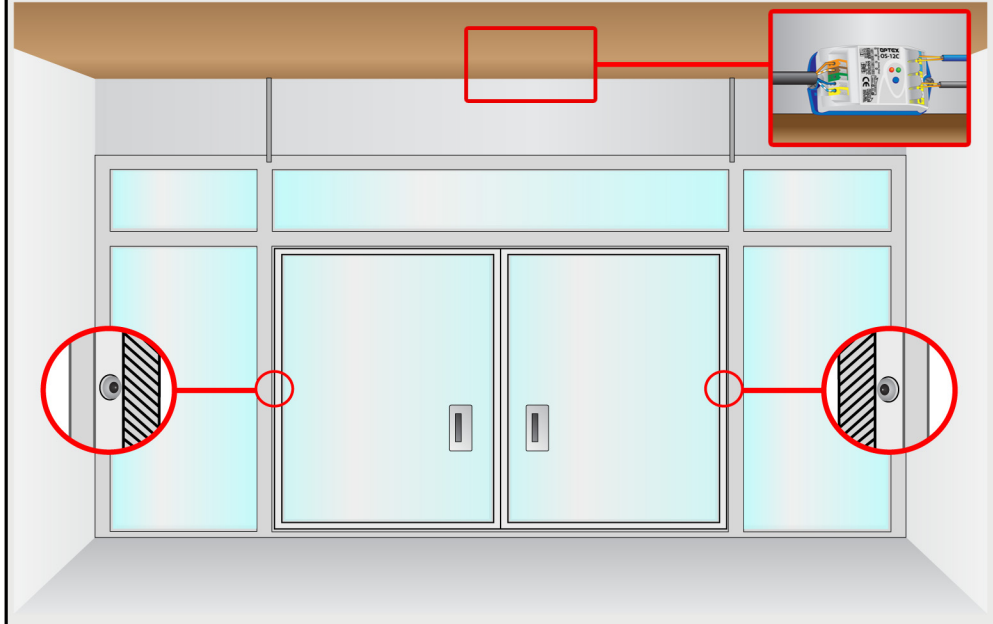
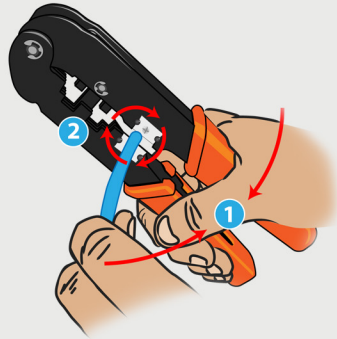This illustration shows a mounted and wired OS-12C and Eye Sensors.

Registered Jack 22 (RJ22)

Wiring and Crimping Guide
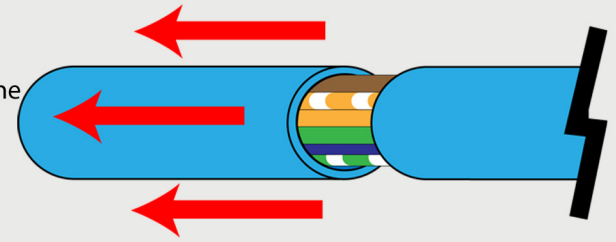
1. Cutting Wires

Using the Wire Cutter of the Crimper,
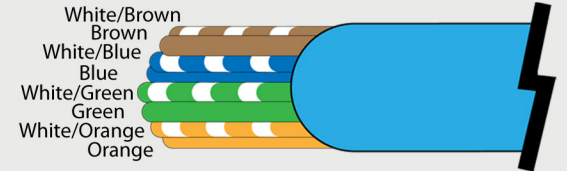1. Gently press both handle. Make sure not to cut the wires inside the cable.

2. Rotate the Crimping Tool to completely cut the outer covering of the cable.

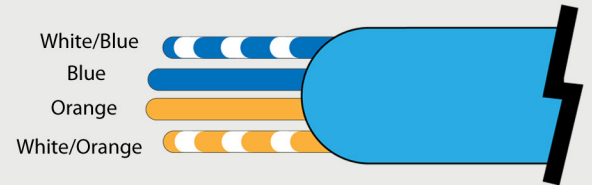## 2. Unshielded Twisted Pair (Cat5 Cable)

Remove the outer casing of the Cat5 cable to show the smaller wires inside.

It has 8 wires.
(See second illustration)

For the Sensor, we will only use 4 wires, so we will cut all unnecessary wires.
(See third illustration)

White/Brown
Brown
White/Blue
Blue
White/Green
Green
White/Orange
Orange

White/Blue
Blue
Orange
White/Orange

3. RJ22 Handset Plug

Registered Jack 22 or simply RJ22 is a standard telephonehandset plug for flat stranded 4 conductor phone cable.
** THIS IS NOT A RJ11!**
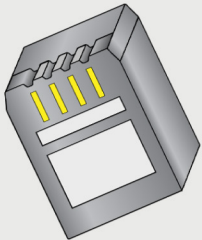
Insert the wires of the cable on the RJ22 Handset Plug. See RJ22 Wiring Guide for reference. Make sure no copper is exposed when crimping!

4. RJ22 Wiring Guide

Setting 1 & 3

1 2 3 4
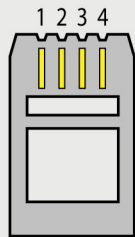
1. White Blue
2. Blue
3. Orange
4. White Orange

Setting 2

1 2 3 4   1 2 3 4
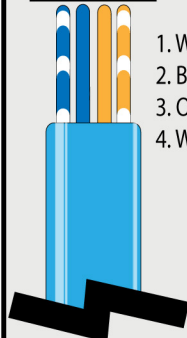
1   2
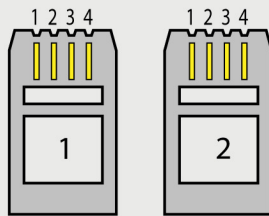
Crimp 1
1. White Blue
2.
3. Orange
4. White Orange

Crimp 2
1. Blue
2.
3.
4.
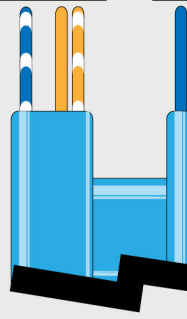
*Please call your REIG Tech Support Representative for the setting number

5. Crimping

With the Cat5 Cable and RJ22 Plug Handset ready, we can now crimp them using the Crimper.
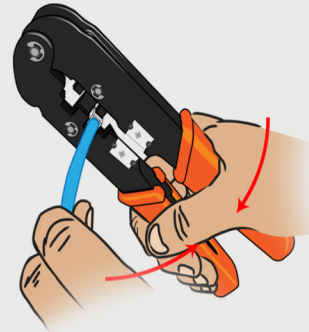
Insert the RJ22 Handset Plug to the RJ22 crimping slot and squeeze the crimper carefully and tightly.

6. Finishing

This illustration portrays a crimped Cat5 Cable with RJ22 Handset Plug.
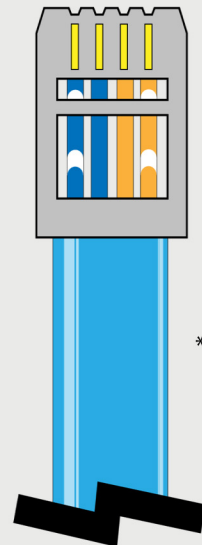
*Setting 1 *

PRODCO RTC 402

Mounting and Installation Guide

1. Drilling Position
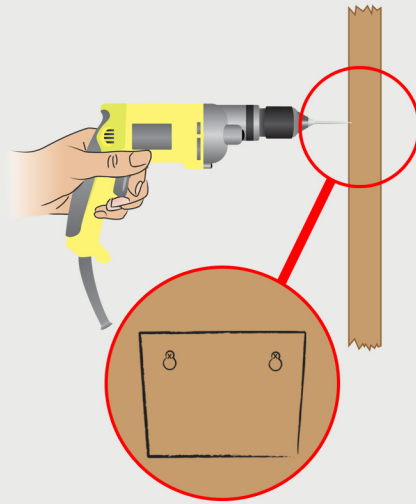
Using a drill, create 2 holes on the wall to mount the RTC402 to the wall securely

2. Screw and Wall Plugs

Output
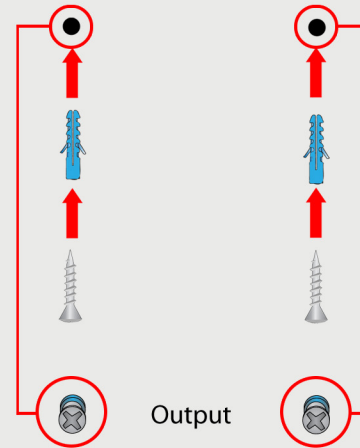
Once the holes are drilled, insert the wall anchors and screw in each hole.

3. RTC402 Mounting

Mount the RTC402 on the fixed screws

This illustration portrays that the RTC402 was mounted properly.

4. Cabling

Plug all the needed cables on the corresponding ports.
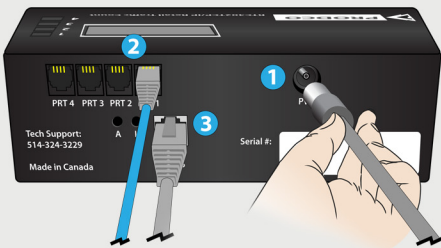
1. Plug the Power Cable on the power port.

2. Plug the Sensor Cable on the first RJ22 port (PRT1). PRT 2,3 and 4 will be used for extra sensors.
3. Plug the Network Cable on the RJ45 port.

5. PRODCO RTC 402 Wiring Diagram

To Sensor

Network Switch

RTC 402

■ Power Cable

☐ Network Cable (RJ45)

■ Sensor Cable (RJ22)

Ordinary Wall Socket
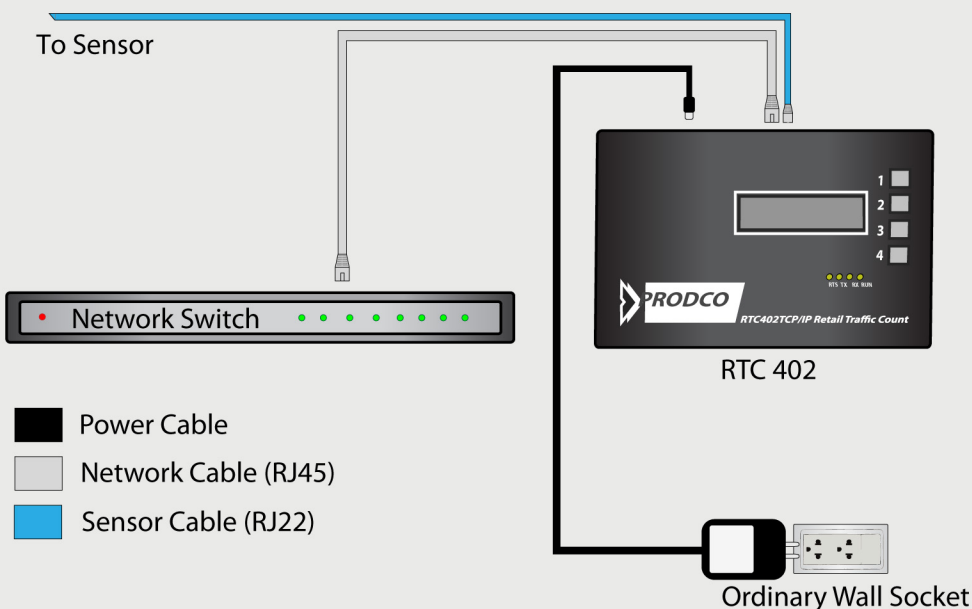
6. Finishing

Using zip ties, neatly tie all cables.

PRODCO RTC 402

Programming Guide

1. Button Function

Status: D   . . . .
01/Jan/12   1:23pm

RTS TX RX RUN

RTC402TCP/IP Retail Traffic Count

1. Scrolls Options Up

2. Scrolls Options Down

3. Navigates cursor when cursor is available in other screens, while shifting through options it also acts as an enter button.

4. Acts as a return button. While in a screen you can hit this button to return to the previous window. Hit 4 twice to return to the main screen. Once all changes are made within the screen you are viewing hitting 4 will save changes.

Date Format: = Day / Month / Year

RTC PASSWORD = 3314   (Whenever Prompted)

2. Changing Date & Time

Ensure the time and date is set properly before running test counts or checking counts.

To change the time, from the main screen hit 1 (2 times) until you see "Set Time"

Press 3 to confirm

Enter the password (See Step 1)

Press 3 to navigate the cursor to the designated value you wish to change, press 1 to go up in value, press 2 to go down in value.

Once changes are complete hit 4 (2 times) to confirm.

Make sure the RTC is set to local time

3. Checking Counts

01/Jan/12   1:P
SN#1   25

RTS TX RX RUN

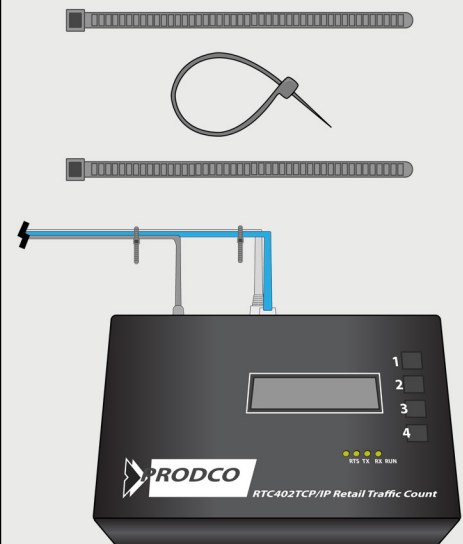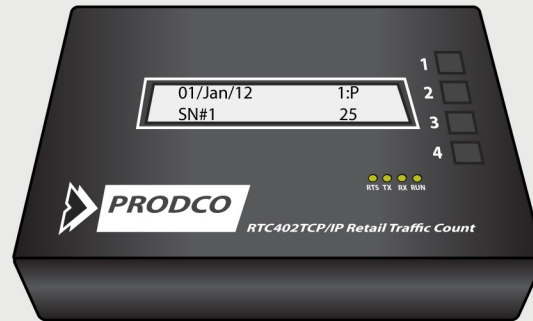RTC402TCP/IP Retail Traffic Count

To check counts press 1,3,3. This screen will show the current hour, date and will automatically be set on sensor #1 (SN#1) or, PRT1. Your current count will be on the bottom right.

You can navigate through date, hour and sensors by using 3 to navigate the cursor, once the cursor is on the desired value press 1 to scroll up and 2 to scroll down.

From this screen you will run test counts to ensure accuracy of the sensors. First you will access this screen and check the current count for all sensors. Before heading to the entrance press 4 to exit back to the main screen.

Run a few Inbound and Outbound counts through the door and return to the RTC to check the counts for accuracy. If the counts are to high or to low, double check the divide ratio (Step 4)

If problems persist, check all sensor settings and wiring.

4. Divide Ratio

To change the divide ratio, from the main screen hit 1 (7 times) until you see "Divide Ratio".

Hit 3 to confirm.

Enter the password (See Step 1)

Press 1 or 2 to change the value.
Press 3 to Navigate
Press 4 to Confirm

Divide ratio = /1111 if sensor setting is 2 & 3
Divide ratio = /2222 if sensor setting is 1

Note the first number in the divide ratio is acting as port one's divide ratio, the second number is acting as port two's divide ratio, ect.

Please check with your REIG Tech Support Rep to confirm the correct divide ratio

No Power to the OS12c Module

- OS12c sensors are AC and DC. The Ground and power may be reversed and would still work. By standard please ensure that the orange is plugged into port 1 and the orange/white is plugged into port 2 on the relay module.
- Ensure the power to the RTC is plugged in.
- Ensure that the Cat5 sensor cable is plugged into the RTC or the Jbox, and connected in the appropriate ports.
- For 402 units make sure the crimp is wired properly and that the pins are puncturing through the insulation and making contact with the copper wire.
- Make sure the RTC has the proper voltage running to it. The DC output read out on the power brick should be 12 – 13.5 volts 1 amp (1000mA).
- If a volt meter is not available try using different ports on the RTC. (RTC ports will go bad from time to time.)
- If the RTC is powered and wired correctly, check (with a voltage meter) to see if the Orange and Orange/White unplugged from the module is reading at least 12v. (The OS12c requires at least 12 volts to power on.)
- Ensure that the wires at the module are stripped down about a ¼ inch to make full contact with the conductors inside.
- Tone out the Cat5 line, make sure that it is indeed our designated line and that the line is not damaged. Ensure that it is reading all pairs.

OS12c Flashing Red and Green

- Power has been established to the module. When the lights flash red and green this means the eyes (Transmitter and Receiver) are not communicating with each other.
- First be sure that the eyes are looking directly at each other. They should be set 54 inches off the ground and lined up properly. If they are more than ¾ of an inch off they might not be seeing each other properly.
- Ensure that the eyes are wired into the module properly. The Blue insulated goes to port 6 and the blue bare wire goes to port 7. The Grey insulated goes into port 10 and the grey bare goes into port 11.
- The conductors of the eye wires must be stripped of its shielding by at least a ¼ inch to make full contact with the conductors inside. (Place the wires in by pushing the white tabs down and inserting the wires, then let the white tab go and it should clench the wires). Tug on the wires to make sure they will not come loose.
- Ensure that the eyes at the 5 inch junction are still connected. (There is a white pin that connects the eyes to the 25 foot cable).
- Check to be sure nothing is obstructing the sensors, such as banners, displays, doorframes, ect.
- Check for any damages in the wire.
- Press the blue button the module to reset the module and regain connectivity. If there is still no solid green light investigate the above steps further.

Solid Green Light on the Module but no Counts on the RTC.

- If the green light is solid and it turns off every time the beam is blocked, we have established power, and response from the eyes. This does not necessarily mean it is sending counts to the RTC.
- The only thing left in error is the data lines. (Typically blue and blue/white if it is wired to standard). Check all connections to be sure they are solid and are not slipping from the module or the crimp/J-box.
- The data lines will send a little less than volt through if they are connected to the crimp/J-box properly.
- Check another port on the RTC or J-box.
- Recrimp the sensor line at the cable.
- Reseat the Blue and Blue/White pair on both ends.
- Check for any damages to the pair.
- Tone the cable to ensure that the pair is linking from front to back.
- Check for any splices that may be causing an issue.