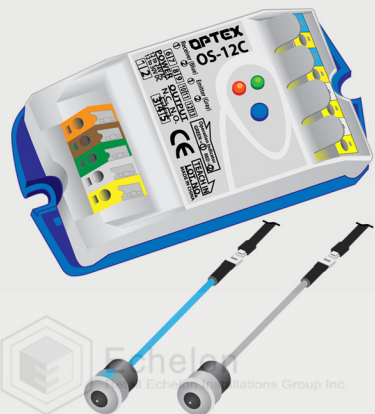


# *Instruction Guide – RTC 9000/OS12c*

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

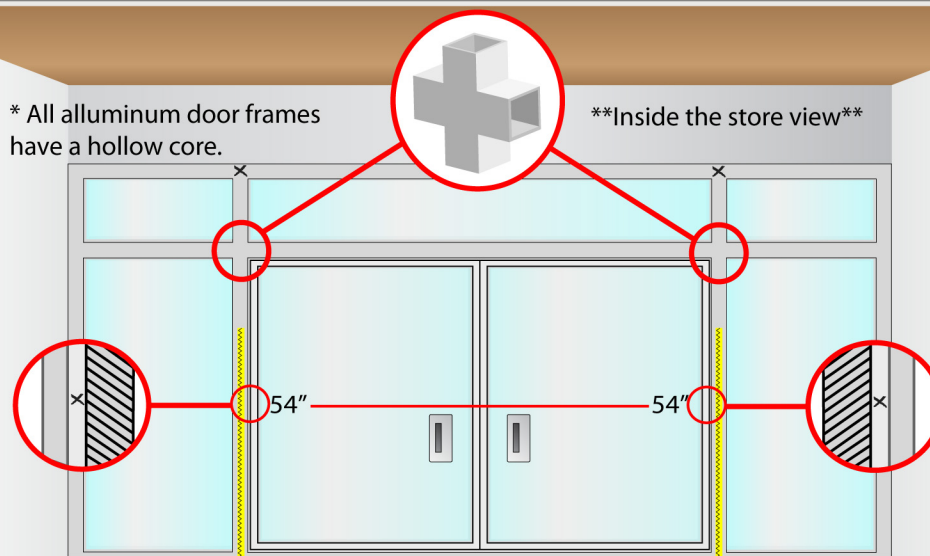


## Mounting and Wiring Guide

## 1. Measuring 54 Inch and Markings

\* All aluminum door frames have a hollow core.

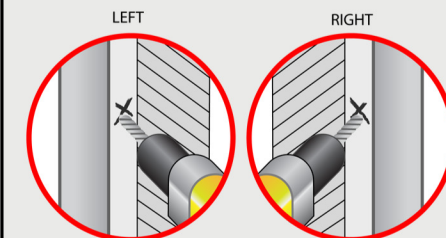
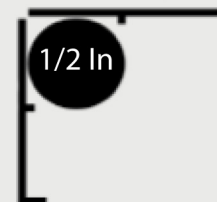
\*\*Inside the store view\*\*



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)

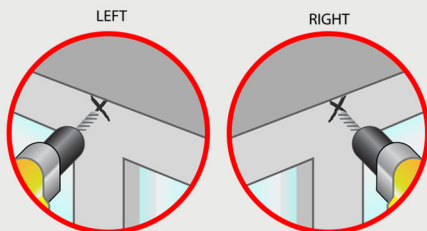
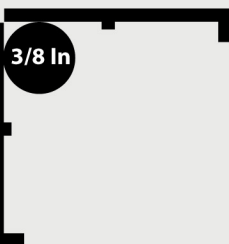
The size of the holes at the 54" mark of the door frame is 1/2 inch



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)

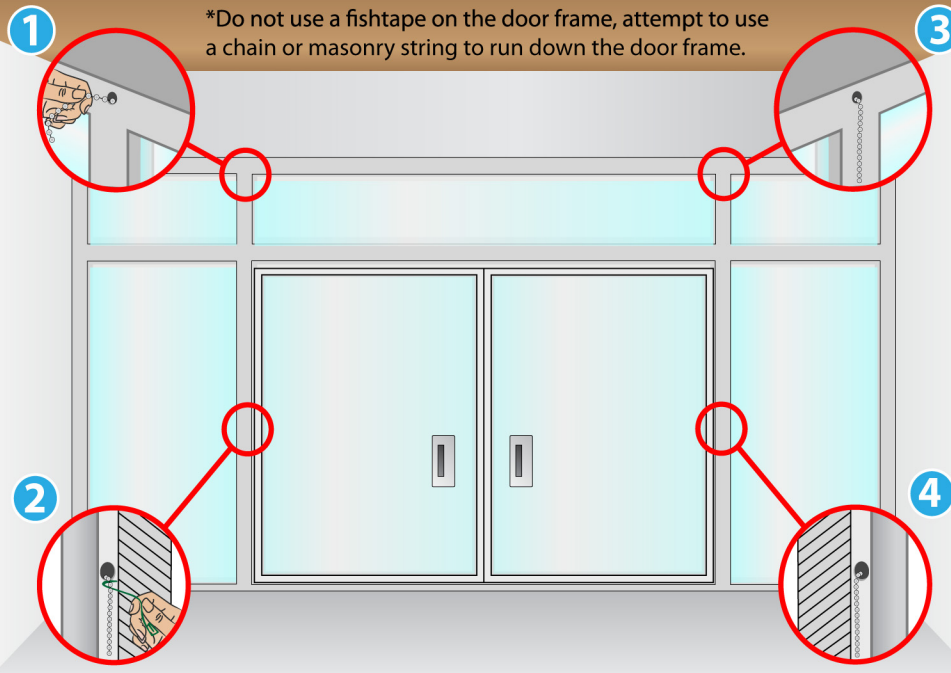
The size of the the holes at the top of the hollow door frame are smaller than half of an inch or 3/8 inch.



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

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



## 4B. Content

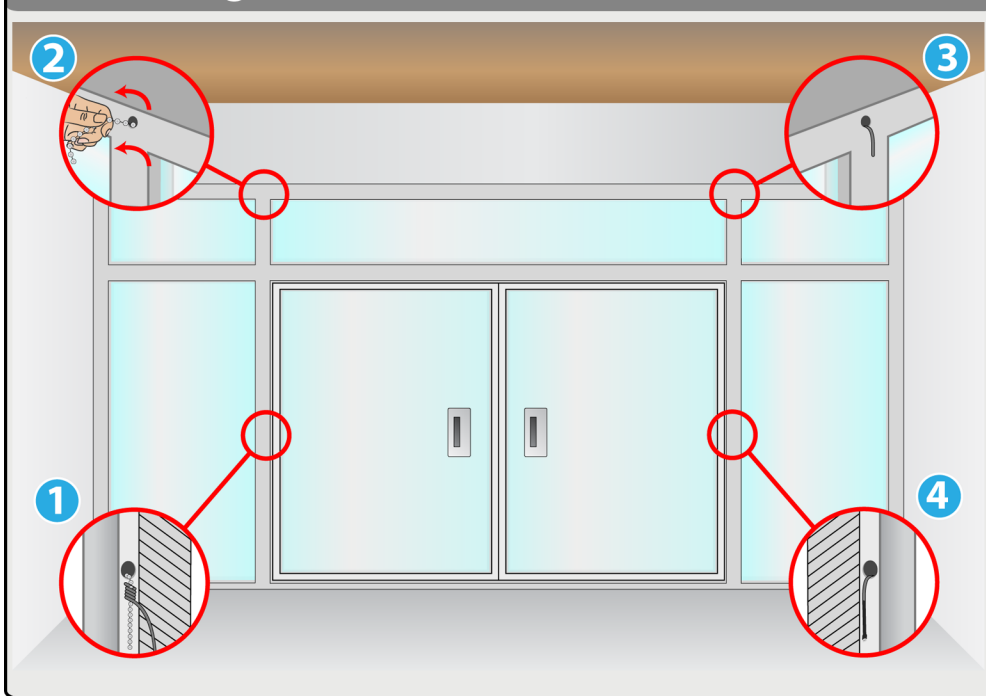
1. Insert a weighted masonry string (screw or bolt taped to the string) or chain inside the hole on top of the hollow door frame.

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



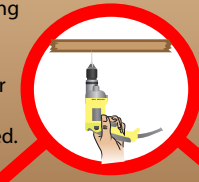
## 5B. Contents

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.

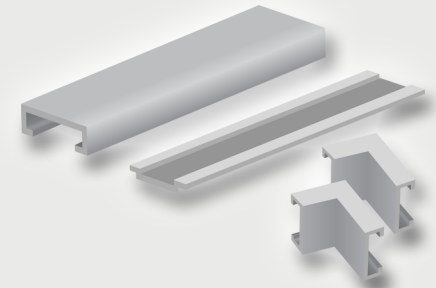
## 6. Drilling Passage Hole

On the ceiling drill the appropriate positions for the wires to be concealed.

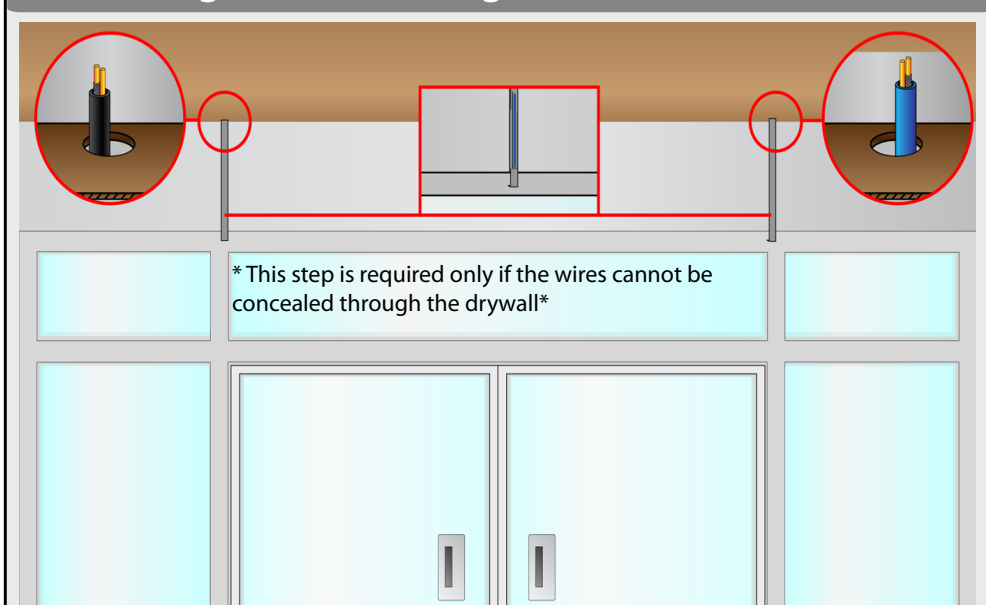


\*All wires must be concealed at the store front!

## 7. Electrical Conduits



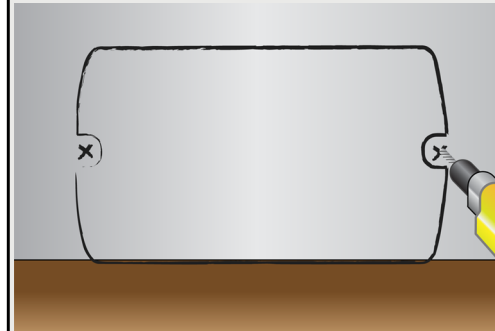
## 8. Running and Concealing The Wires



\* 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)

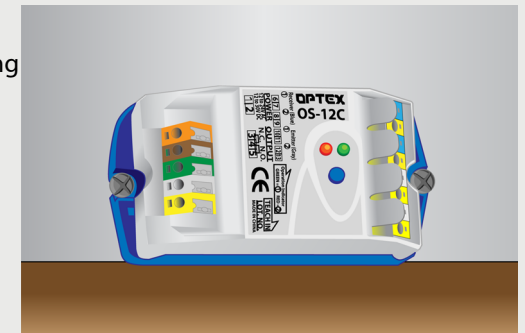
## 9. Mounting



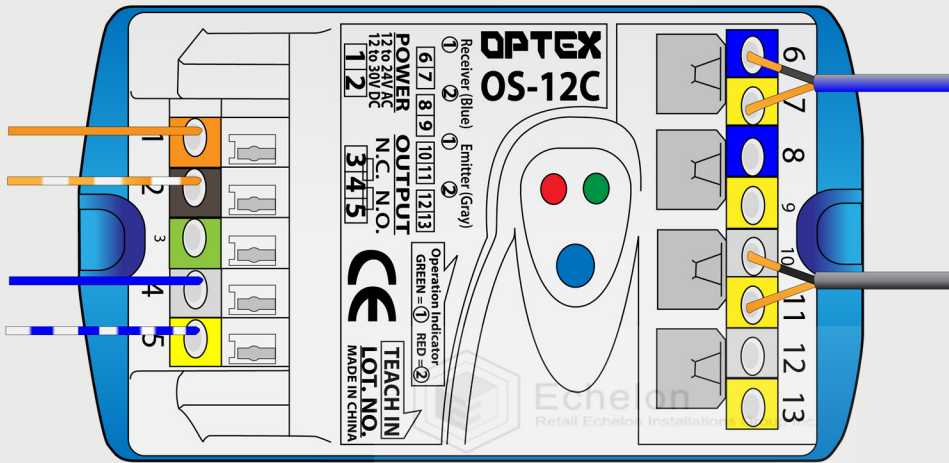
Above the ceiling use screws to mount the OS-12C Module to the wall or stud.

\*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 Wires 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.

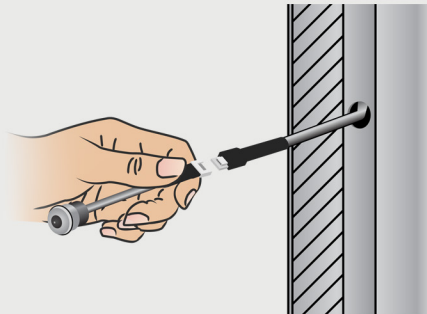
You will only need the Blue and Orange pair from the Cat5 cable to wire the module. Orange = Power, White/Orange = GND, Blue = Data GND, White/Blue = Data.

## 11B. Content

### Steps 1-8

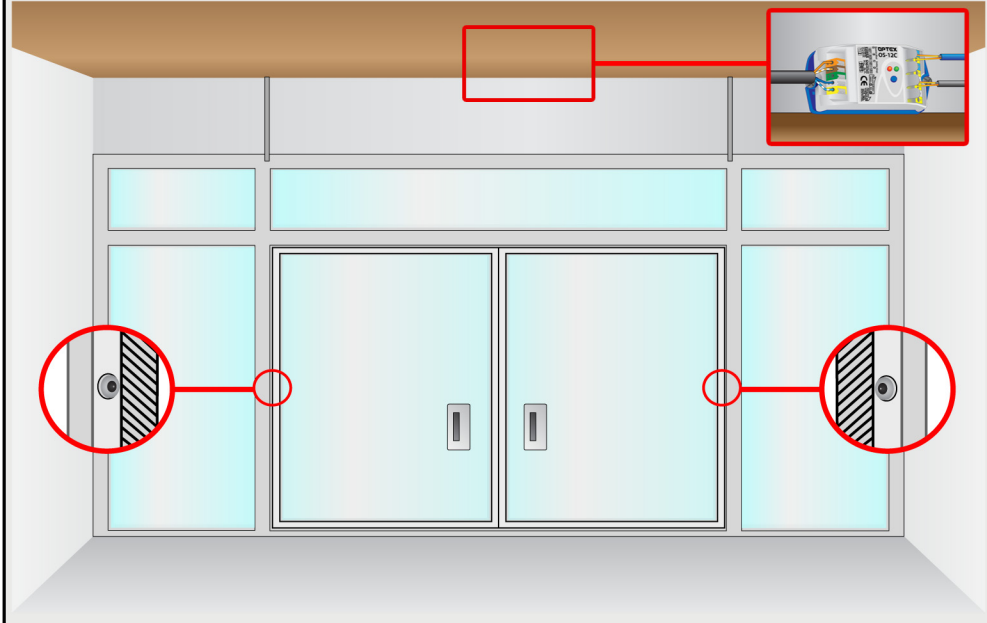
1. In PORT 6, connect the Insulated wire from the Blue Eye Wiring.
2. In PORT 7, connect the Bare wire from the Blue Eye Wiring.
3. In PORT 10, connect the Insulated wire from the Gray Eye Wiring.
4. In PORT 11, connect the Bare wire from the Gray Eye Wiring.
5. In PORT 1, connect the Orange wire from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

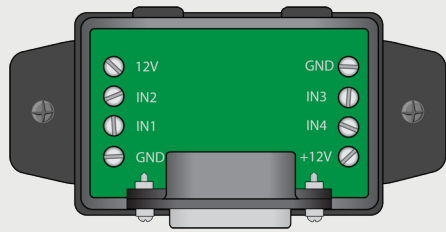
## 13. Finishing



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

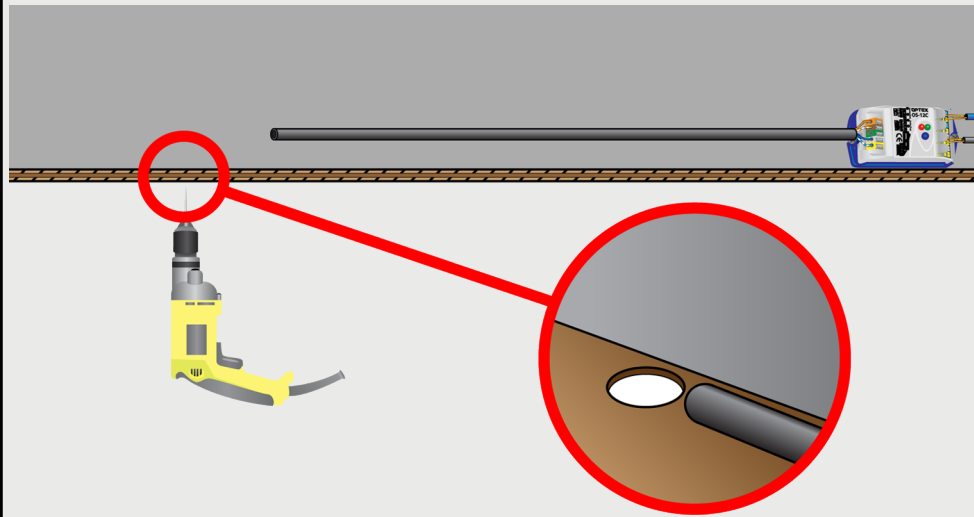


# PRODCO Junction Box (JBOX)



## Mounting and Installation Guide

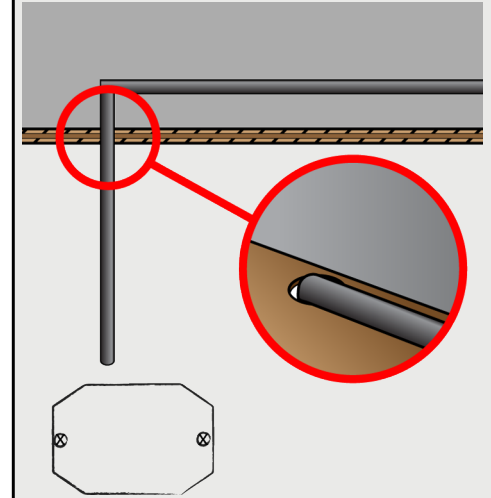
### 1. Determine Jbox Location



Confirm location of where JBox will be located with Tech Support, (usually near the network switch). Pass cable accordingly, along with other data cables or through conduit.

\* Note that cable and room distances may vary and be longer than in the illustration

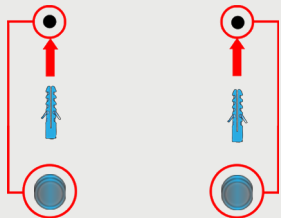
### 2. Drilling Mounting Holes



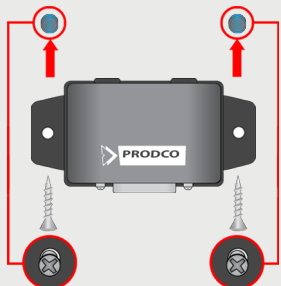
Determine where the jbox is to be mounted.

### 3. Mounting the JBOX

Insert the wall anchors.

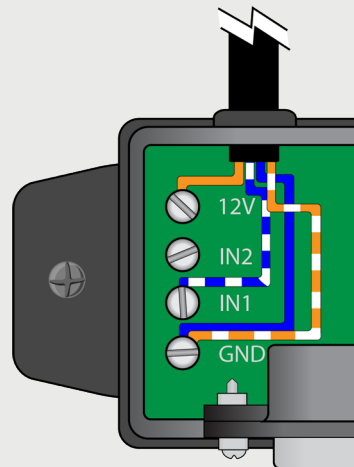


Insert the screws in the JBox's mounting holes, and mount the JBOX on the wall.



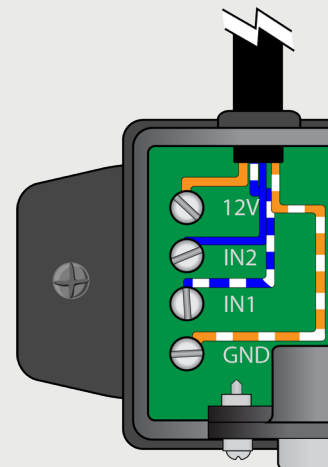
### 4. PRODCO JBOX Wiring Guide

\*Please call your Tech Support Representative for the setting number\*



#### Setting #1 & #3 Wiring

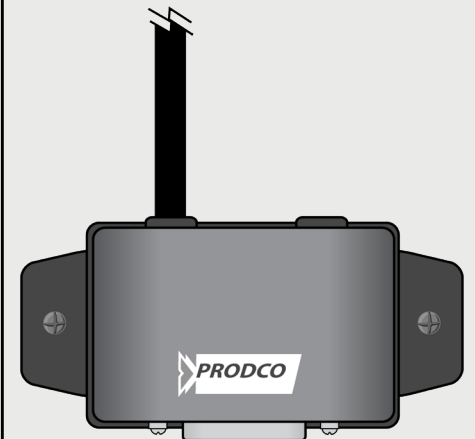
12V = Solid Orange  
IN2 = ----  
IN1 = White/Blue  
GND= Solid Blue + White/Orange (Twisted)



#### Setting #2 Wiring

12V = Solid Orange  
IN2 = Solid Blue  
IN1 = White/Blue  
GND= White/Orange

### 5. Finishing



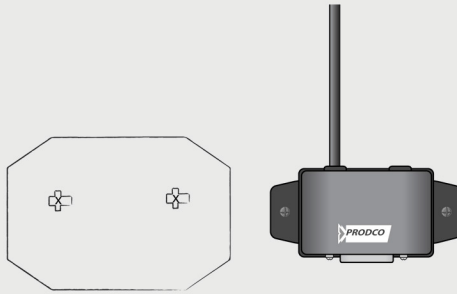
This illustration portrays a mounted and wired Jbox with cover.

# PRODCO RTC 9000



## Mounting and Installation Guide

### 1. Drilling Positions

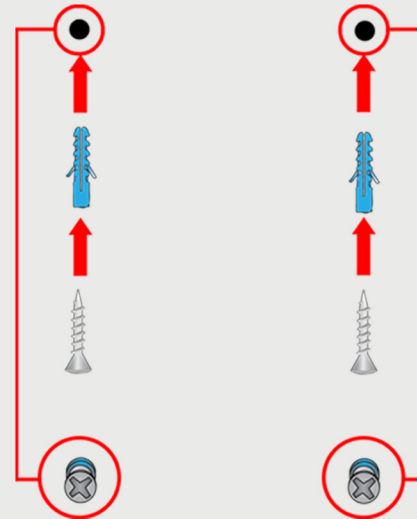


In the room where the JBox is located, mount and install the RTC9000 close to the Jbox.

(Should be located near network switch, please confirm with Tech support.)

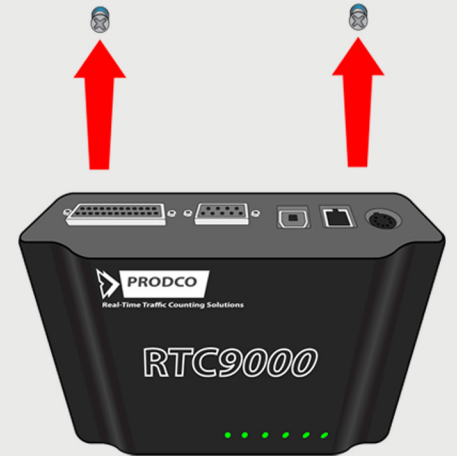
Drill the part marked with an X for mounting process.

### 2. Screws and Wall Anchors



Once the holes are drilled for RTC9000, insert the wall anchors and screw in the first and second holes.

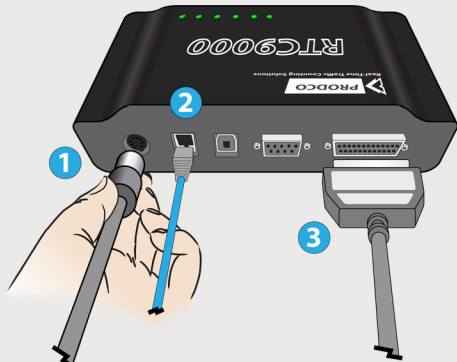
### 3. Mounting RTC9000



Mount the RTC 9000 on the wall with the use of the screws and wall anchors.

### 4. Cabling

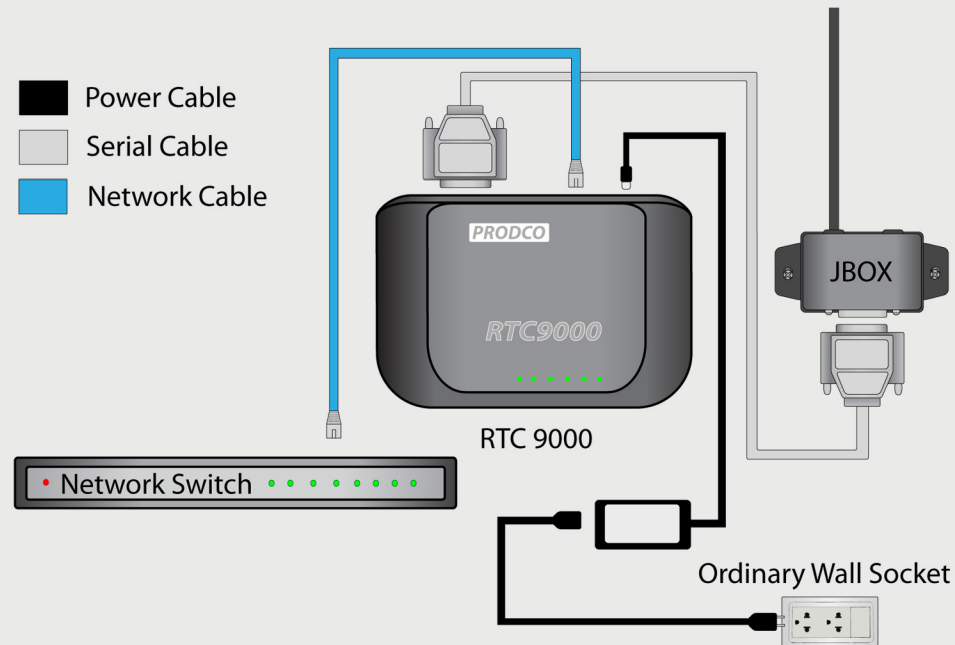
Plug all required cables in the corresponding ports.



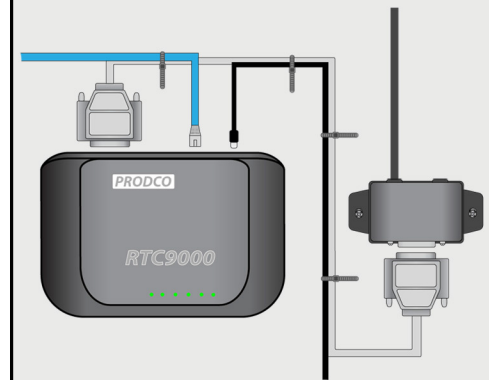
1. Plug the Power Cable into the power port.
2. Plug the Network Cable into the RJ45 port.
3. Plug the 25pin Serial cable into the Jbox port.

\*Console port is only used for programming\*

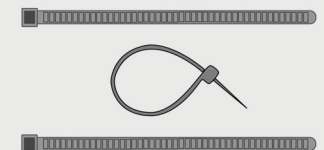
### 5. PRODCO RTC9000 Wiring Diagram



### 6. Finishing



Using zip ties, neatly tie all cables.



## RTC Manager Programming Guide

### Gaining Access To the 9000.

#### Using a Serial Connection

--To gain access through serial (console port),  
--Plug a USB to serial or a straight through serial cable into the Console port of the 9000  
--The other end will go into your USB port/ 9Pin serial port.  
--Once the cable is plugged in you should see the console light on the RTC turn green.  
--Once this is accomplished pull up RTCManager on your computer.  
At the top left click New → New Serial Device → Select the correct port → Click next.



#### Using a Network Connection

--To gain access via network cable, plug in a standard patch cable into the Ethernet port on the RTC to the Ethernet port on your laptop.  
--You should get a green Ethernet light.  
--You will need to know the IP address of the unit you are going to program.  
--Check the paperwork that had came in the box, or call your Tech Support specialist. Once you have the IP you will need to change the static IP of your computer, two numbers off the last set of digits.  
For example: Unit IP = 192.168.1.200  
Static IP = 192.168.1.198  
Gateway leave at 255.0.0.0  
--Once that is set, Apply the changes and close both the Internet Protocol window and the Local Area Connection Properties Window.  
--Open RTC Manager.  
--At the top left click New → New Network Device → Type in the IP address of the unit → Click next.

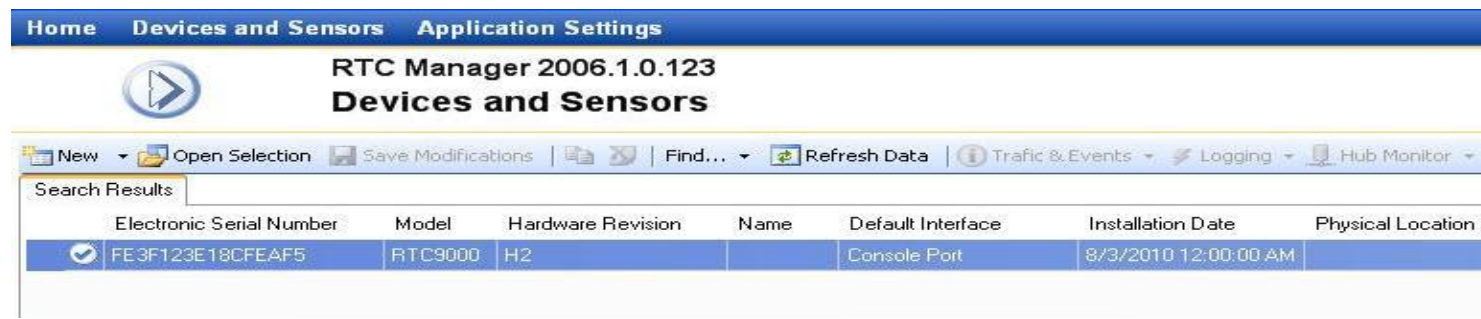


#### Trouble Shooting Techniques

**If you are unable to get the serial number to the RTC to show up under electronic serial number please try the following steps.**

- Restart the RTC, and RTC manager.
- Make sure Vcredist, Netframework, and Reportviewer are all installed.
- Make sure the Console (If serial) or the Ethernet light is lit.
- Double check your serial port, to ensure that it is plugged into the right port.
- Make sure your static IP and the IP of the unit is what it is designated to be.
- Make sure RTC manager and the patch is up to date
- Try restarting the laptop.
- Click Refresh Data at the Top.

The screen should disappear and a serial number will show up under electronic serial number with a check mark to the left. Write down the serial number as you will need this for your paperwork. Double click the serial number and proceed to the General Tab.



Electronic Serial Number	Model	Hardware Revision	Name	Default Interface	Installation Date	Physical Location
<input checked="" type="checkbox"/> FE3F123E18CFEAF5	RTC9000	H2		Console Port	8/3/2010 12:00:00 AM	

## RTC Manager Programming Guide

Home Devices and Sensors Application Settings

RTC Manager 2006.1.0.123  
Devices and Sensors

New Open Selection Save modifications Find... Refresh Data Traffic & Events

Search Results New RTC

General	Device Name	123
Firmware	Installation Date	<input checked="" type="checkbox"/> 10/18/2010
Heartbeat	Physical Location	Location inside the store
Network	Local Device Clock	
Console Port	Time Zone	(GMT-05:00) Eastern Time (US & Canada)
Expansion Port	Date / Time	2011-01-18 1:41 PM
SMTP	Device Information	
Sensors	Model	RTC9000
Monitors	Device Serial Number	FE3F123E18CFEAF5
	Hardware Revision	H2

- Now you should be in the general tab. Set the device name as the store number.
- Set the install date.
- Set the Time Zone **(If you are running Vista or 7 skip this part)**
- Set physical location. This is where the RTC is installed in the store.

For Example: Network Rack, Cash-wrap, Stock Room, Managers Office.

Home Devices and Sensors Application Settings

RTC Manager 2006.1.0.123  
Devices and Sensors

New Open Selection Save modifications Find... Refresh Data Traffic & Events

Search Results New RTC

General	MAC Address	00-50-C2-B5-30-24
Firmware	Ethernet Mode	Static
Heartbeat	IP Address	192.168.1.200
Network	Subnet Mask	255.255.255.0
Console Port	Default Gateway	192.168.1.1
Expansion Port	Port	1113
SMTP	<a href="#">Advanced Network Settings...</a>	
Sensors	<a href="#">Host Address Settings...</a>	
Monitors		

- Click the network tab
- Make sure the IP, Subnet and Gateway are set to the stores preferences. Remember port is always set to 1113.
- Please call your Tech Support to be sure that the IP, Subnet and Gateway are correct.
- Document the IP address as you will need this for your paperwork.

## RTC Manager Programming Guide

RTC Manager 2006.1.0.123  
Devices and Sensors

Search Results: New RTC

123  
Location inside the store

JBox Input	Name	Type	Status	Divide Ratio	Switch Type	Serial Number	Min Active Count	Count State Delay	Count Message	Block Unblock E...	Max Active Count	B
1	Name of Door	OS-1C	Enabled	50	Normally Open		.025 sec	Disabled		Disabled	15 minutes	
2	Left Door	OS-1C	Enabled	50	Normally Open		.025 sec	Disabled		Disabled	15 minutes	
3	Right Door	OS-1C	Enabled	50	Normally Open		.025 sec	Disabled		Disabled	15 minutes	
4	Ect...	OS-1C	Enabled	50	Normally Open		.025 sec	Disabled		Disabled	15 minutes	

General | Counts | Block/Unblock | Count Counter | Heartbeat

Name: Ect...

Serial Number:

Type: OS-1C

Status: Enabled

JBox Input: 4

Divide Ratio: 50

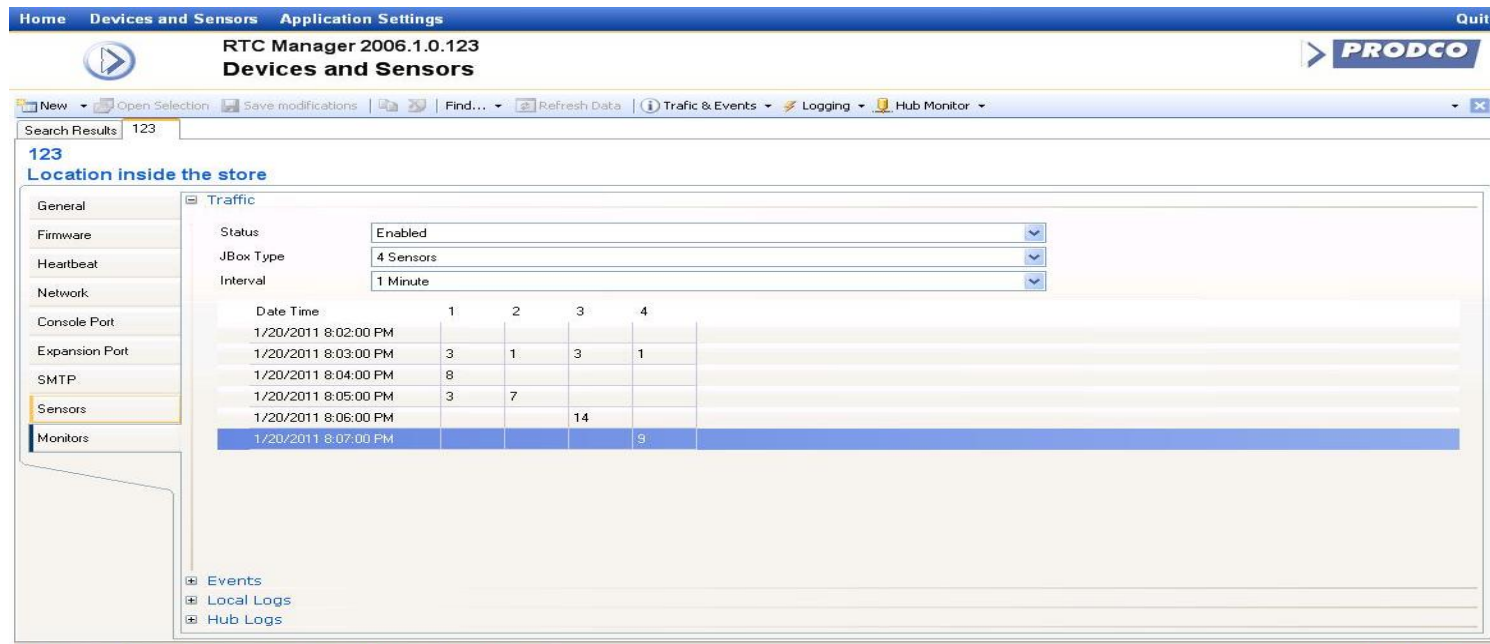
Switch Type: Normally Open

- Click the sensors tab.
- Click JBox input 1 at the top to highlight the whole row.
- Down at the bottom, set the name of the sensor, Example: Main Entrance, (Left Door, Right Door, Front Door, if multiple entrances.)
- If a thermal, input the serial number of the thermal.
- Select the type of sensor installed on that door. (If it is a thermal please designate weather it is counting In, In and Out or Outbound only.) If you are unsure please call your tech support specialist.
- Set Divide ratio to 50 or 100. This all depends on the type of set up. Thermals counting in and outbound on the same port will be 50, along with OS12C and TREX sensors. Thermals counting outbound only will be 100. Please call Tech support for further information.





## RTC Manager Programming Guide



- Click the monitors tab.
- Change the interval from Hourly to One Minute.
- Right Click an empty space and click save device settings.
- Click traffic and events at the top and click start
- Click logging and then click start
- Make sure events local logs and hub logs are all collapsed to the bottom left with a + sign to the left of them.
- After a minute goes by you should see a grid start to form under interval. Time will appear on the left going from top to bottom and ports will appear right under interval going from left to right.
- Run a few test counts
- Come back and check to see if counts came through for the minute (as shown above), if this is the case please document with a screen shot and close the RTC program and disconnect from the RTC
- If you are only running one sensor, you should only see counts coming through on port 1.

**--Call Tech Support to set up a communication test once you have completed this step**

### Trouble Shooting

If you are not getting counts or proper counts

- Ensure that the JBox is hooked in and you have a green JBox Light
- If counts are coming through the JBox light will turn amber if someone trips the sensor. If this is the case you might be dealing with a software issue
- Check all connections at the sensor to ensure all the circuits are solid for it to report to the JBox.
- Be sure programming is correct on the sensor.
- Proceed to sensor trouble shooting if more issues occur.

### **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 Troubleshooting guide**

#### **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.