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OM-CP-RFOT
**Wireless Meat Temperature
Data Logger with External Probe**

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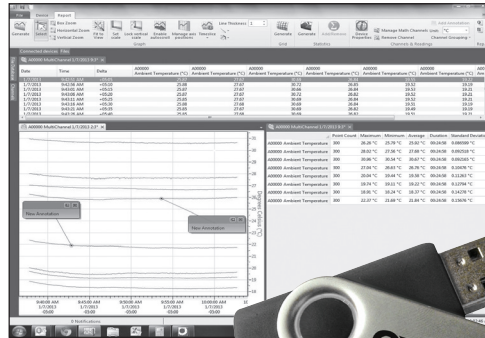
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A Complete Wireless Data Logging System

Data Logger



Omega 4 Software



Interface Device & USB Cable



OM-CP-RFOT Wireless Data Logger

OM-CP-RFC1000-EXT Wireless Transceiver



Power Adapter

(Included accessory with OM-CP-RFC1000-EXT)

USB Cable

(Included accessory with OM-CP-RFC1000-EXT)

Quick Start Steps

1. Install the Omega 4 Software and USB Drivers onto a Windows PC.
2. The OM-CP-RFC1000-EXT interface device comes with a USB cable. Plug one end of the cable into an available USB port on the PC and plug the opposite end of the cable into the communication port on the OM-CP-RFC1000-EXT.
3. To activate the wireless mode on the OM-CP-RFOT Data Logger, unscrew the end cap and gently separate the end from the body of the logger 2-3 inches. Flip the black switch located inside to the wireless position to 1 (0 indicates non-wireless mode, 1 indicates wireless mode). Screw the end cap back in place and ensure the fit is tightly sealed.
4. Launch the Omega 4 Software. All active Omega Data Loggers that are within range will automatically appear in the connected devices window. Each data logger in the list can be identified by serial number (imprinted on the exterior of the logger).
5. To claim a device, select the desired data logger in the list and click the **Claim** icon.
6. Select the start method, reading rate and any other parameters appropriate for the desired data logging application. Once configured, deploy the data logger.
7. To download data, select the device in the list, click the **Stop** icon, and then click the **Download** icon. A graph will automatically display the data.

OM-CP-RFOT Product User Guide

OM-CP-RFOT Product Overview

The Omega OM-CP-RFOT is a two-way wireless meat cooking and cooling data logger. The OM-CP-RFOT's rugged design, equipped with a flexible piercing probe allows it to be used in harsh environments. The OM-CP-RFOT is perfectly suited for use in smoke houses, ovens and other cooking processes up to 212°F (100°C) as well as refrigerators and freezers down to -4°F (-20°C). The OM-CP-RFOT is completely splash proof, and can withstand wash down cycles. The OM-CP-RFOT records and transmits internal product temperature readings back to a central PC for instant real-time monitoring, even when a smoke house or freezer door is closed.

The OM-CP-RFOT never needs to be connected to a computer as it has been designed for two-way wireless communication. Full communication can be performed directly from a central PC. In addition to wirelessly transmitting data, the OM-CP-RFOT also stores each reading to the internal memory of the data logger for backup. This backup data may be retrieved wirelessly at a later time if need be. The OM-CP-RFOT allows the user to also set-up real time wireless alarming within the software, so that the user is notified by email or text message if an alarm condition has been met or exceeded. The OM-CP-RFOT helps the user comply with HACCP requirements as well as USDA regulations.

OM-CP-RFOT Options & Accessories



OM-CP-RFOT-SMP
Features a 2.5" probe for smaller diameter products such as hot dogs and sausage.



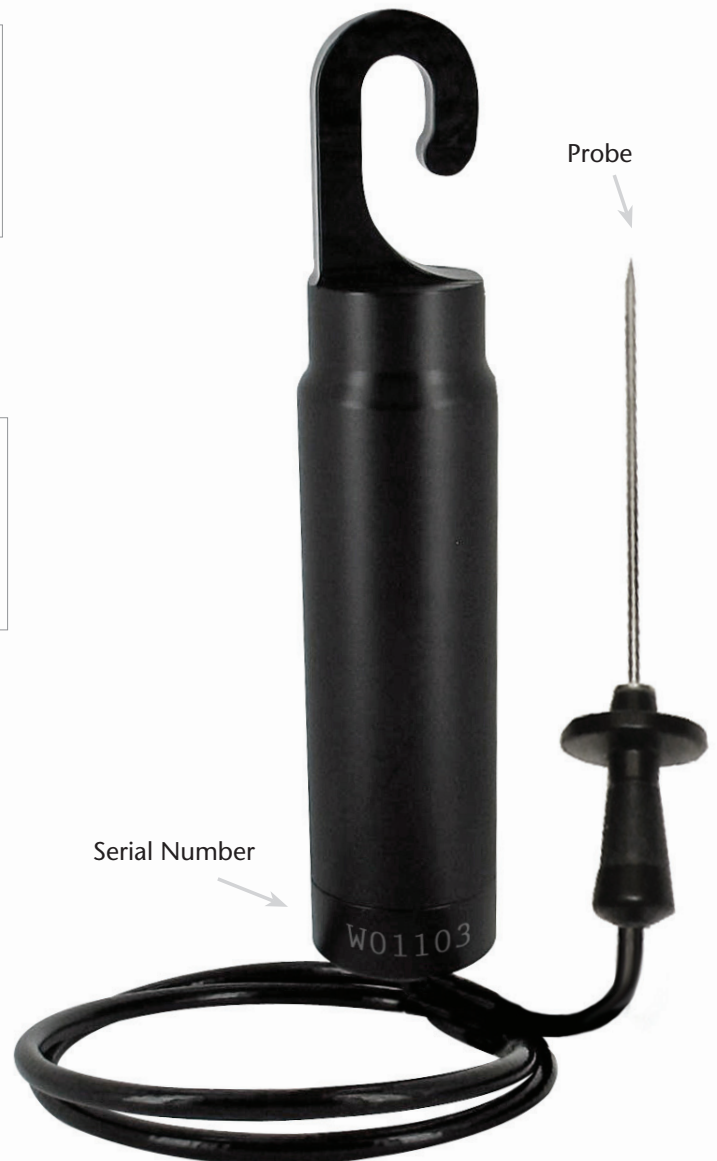
OM-CP-RFOT-HDA
Probe attachment designed for use with hot dogs, sausages and other small linked meat products.



OM-CP-RFOT-O-Ring
Replacement O-Rings for the OM-CP-RFOT.



OM-CP-BAT109
3.6V Lithium Battery.



OM-CP-RFOT Specifications

General Specifications

Reading Rate	One reading every two seconds to one every 24 hours
Memory	20,000 readings; software configurable memory wrap
Wrap Around	Yes
Start Modes	Immediate start & delayed start
Calibration	Digital calibration through software
Calibration Date	Automatically recorded within device
Battery Type	3.6V lithium battery included; user replaceable
Battery Life	2 years typical
Data Format	Date and time stamped °C, °F, K, °R
Time Accuracy	±1 minute / month (at 25°C)
Computer Interface	USB (interface cable required); 115,200 baud
Software	XP SP3/Vista/Windows 7/Windows 8
Operating Environment	-20°C to +100°C (-4°F to 212°F), 0%RH to 100%RH non-condensing
Dimensions	Body: 8" x 1.75" dia. (203mm x 44mm dia.) Hook ID: 0.5" (13mm) Probe: 4" x 0.1875" (101mm x 4.8mm dia.) Cable Length: 30" (762mm)
Weight	8.8oz (250g)
Material	Body: Tecaform®, food grade Cable Jacket: Polyurethane
Approvals	CE, US (FCC), CA (IC)

Temperature

Probe Temperature Range	-50°C to +200°C (-58°F to +392°F)
Resolution	0.01°C (0.018°F)
Probe Calibrated Accuracy	±0.1°C (14°F to 302°F/-10°C to +150°C) ±0.5°C (outside of that range)

Resistance

Nominal Range	0 to 500Ω
Resolution	0.001Ω
Calibrated Accuracy	±0.015Ω
Specified Accuracy Range	0 to 500Ω at 25°C

Wireless

RF Frequency	2.45GHz IEEE 802.15.4 ultra-low power MagneNET wireless transceiver with fully bi-directional communication
Band	ISM band 2.405-2.48 GHz
Maximum Output Power	+0dBm typical
Receiver Sensitivity	-95dBm typical
Range	2000' max. outdoors (line of sight unobstructed) 500' max. indoors (typical urban)

OM-CP-RFC1000-EXT Product Overview

Omega has designed the OM-CP-RFC1000-EXT, a high powered transceiver that has a substantially long transmission range, providing enhanced performance in occluded environments (ovens, refrigerators, etc.). The OM-CP-RFC1000-EXT also features an external antenna, allowing more flexibility with mounting positions in both orientation and proximity to metal walls. The device may be used as a repeater, or directly plugged into the Windows PC.

Operating Environment

The OM-CP-RFC1000-EXT is rated for use in an environment with temperatures from -20°C to 85°C and a humidity range of 0% to 95% RH non-condensing. The OM-CP-RFC1000-EXT is rated IP40 and is protected against solids that are greater than 1mm in size. This device is not water resistant.

Installation Locations

- Main PC
- Hallways
- Retail Coolers
- Warehouse & Storage areas

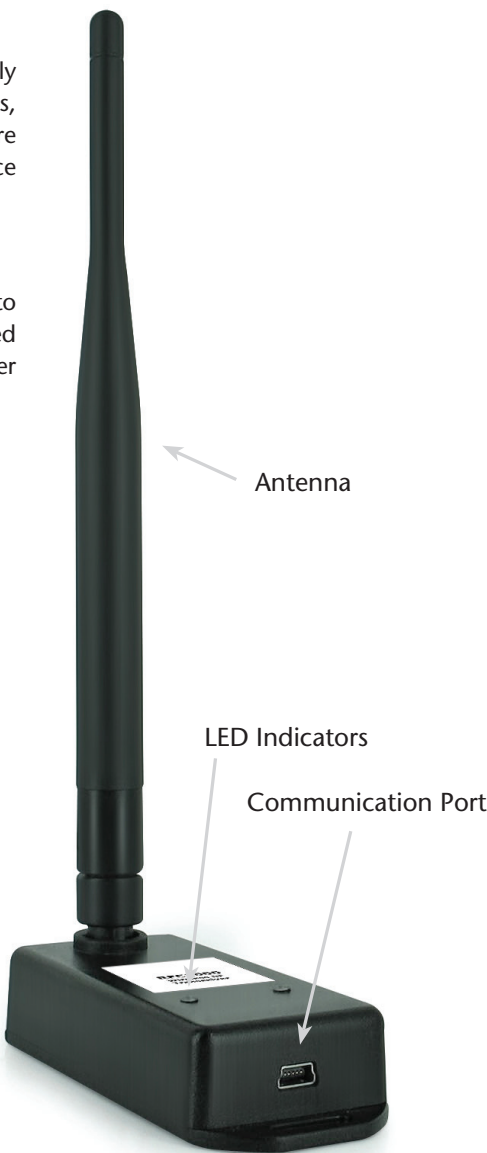
Compliance Information

- “This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.”
- “To satisfy FCC RF Exposure requirements for mobile and base station transmission devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operation at closer than this distance is not recommended. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.”
- “This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d’Industrie Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes: (1) l’appareil ne doit pas produire de brouillage, et (2) l’utilisateur de l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.”

• “Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d’Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d’un type et d’un gain maximal (ou inférieur) approuvé pour l’émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l’intention des autres utilisateurs, il faut choisir le type d’antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l’intensité nécessaire à l’établissement d’une communication satisfaisante.”



OM-CP-RFC1000-EXT Specifications

Interface Type	USB (to PC) / Wireless (to Data Logger)	Transmission Distance (To other OM-CP-RFC1000-EXTs)	4000' max. outdoor - line of sight unobstructed 1000' max. indoors - typical urban environment
Operating Environment	-20 to +85°C, 0 to 95%RH non-condensing	Transmission Distance (To data loggers)	2000' max. outdoor - line of sight unobstructed 500' max. indoors - typical urban
LED Indicators	Red: Indicates that the device has power Green: Will blink when communicating with the OM-CP-RFOT	Maximum number of connected data loggers (per OM-CP-RFC1000-EXT)	64
Enclosure Materials	ABS Plastic (body), PVC Plastic (antenna)	Frequency	2.405GHz - 2.475GHz
Approvals	FCC ID: OA3MRF24J40MC, IC#: 7693A-24J40MC	Ingress Protection	IP40
Enclosure Dimension	3.8" x 1.6" x 0.8" dia. (96mm x 40mm x 20mm)		
Antenna Dimension	7.2" (182mm)		
Weight	5.5oz (156g)		

OM-CP-RFC1000-EXT-IP69K Product Overview

For environments that require high pressure, high temperature washdown, Omega has designed the OM-CP-RFC1000-EXT-IP69K. This new waterproof transceiver can be installed directly in the wash down location, ensuring 100% communication throughout the entire process. Omega has gone through extensive testing to ensure that the new OM-CP-RFC1000-EXT-IP69K can withstand wash down cycles using caustic chemicals, making it ideal for harsh environments. This model includes a high powered transceiver with an IP69K ingress protection rating. The OM-CP-RFC1000-EXT-IP69K has a substantial transmit range, providing better performance in occluded environments such as ovens and refrigerators. This new The OM-CP-RFC1000-EXT-IP69K also includes an external antenna which is protected by a neoprene boot.

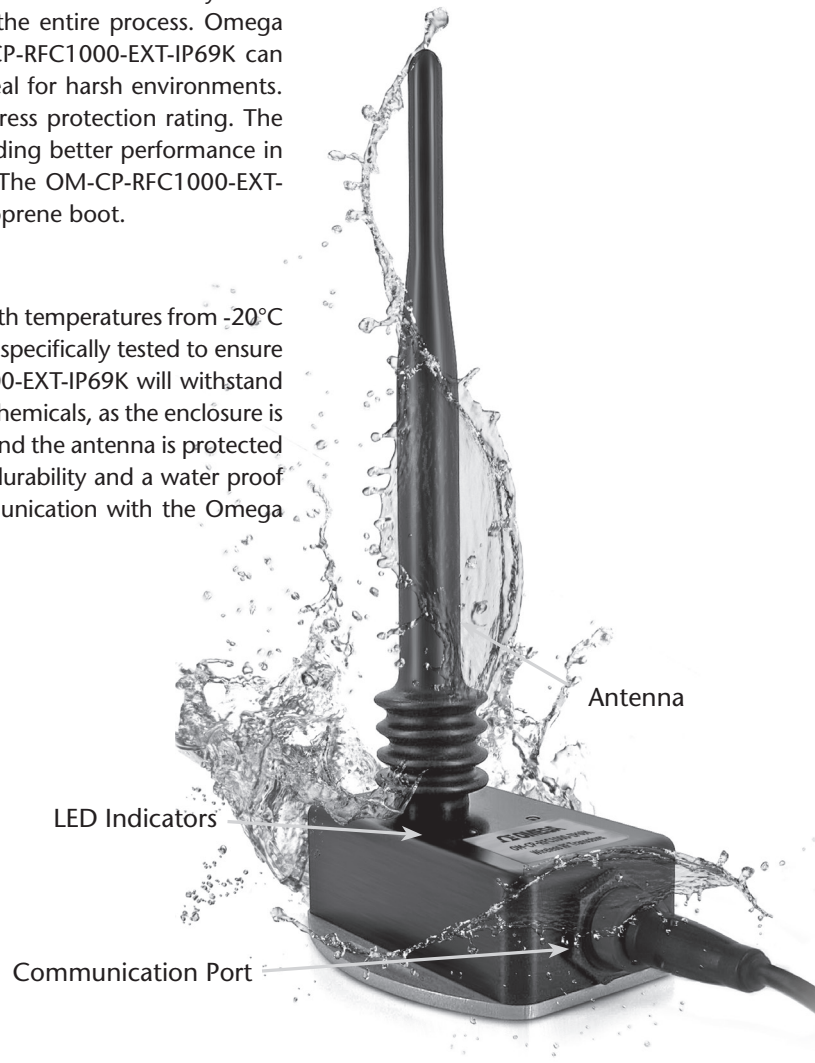
Operating Environment

The OM-CP-RFC1000-EXT-IP69K is rated for use in an environment with temperatures from -20°C to 85°C and a humidity range of 0 to 100% RH. The device has been specifically tested to ensure its ability to resist water ingress as well as dust. The OM-CP-RFC1000-EXT-IP69K will withstand high pressure and high temperature wash down cycles using caustic chemicals, as the enclosure is made of Acetal plastic. The cover is made of 300 series stainless steel and the antenna is protected by a Neoprene boot. This model is ideal for areas where additional durability and a water proof rating are required. The OM-CP-RFC1000-EXT-IP69K ensures communication with the Omega wireless loggers even in the harshest of applications.

Installation Locations

- Processing Areas
- Near Smokehouse Locations
- Wash Down Areas
- Near Freezer/Refrigerator Areas

The power supply of the OM-CP-RFC1000-EXT-IP69K is not rated as splash proof. Exposing the power supply to moisture will potentially damage the unit. Additional precautions should be taken by the user if the power supply will be exposed to a condensing environment.



OM-CP-RFC1000-EXT-IP69K Specifications

Interface Type	USB (to PC) / Wireless (to Data Logger)
Operating Environment	Enclosure: -20°C to 85°C (-4°F to +176°F)
Enclosure Materials	Enclosure Body: Acetal Plastic Cover: 300 Series Stainless Steel Antenna Boot: Neoprene
Dimensions	Enclosure 3.4" x 2.9" x 1.3" With antennae, normal to case: 3.4" x 2.9" x 8.8" With antennae, laid down: 9.2" x 2.9" x 2.6"
Approvals	FCC ID: OA3MRF24J40MC, IC#: 7693A-24J40MC
Weight	14.1oz (400g)
LED Indicators	Red: Indicates that the device has power Green: Will blink when communicating with the OM-CP-RFOT

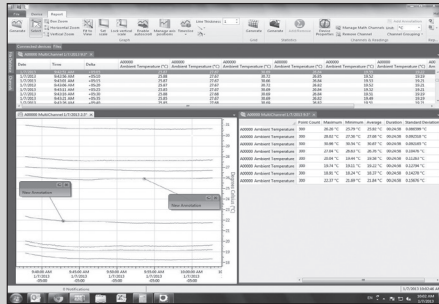
Transmission Distance (To other OM-CP-RFC1000-EXTs)	4000' max. outdoor - line of sight unobstructed 1000' max. indoors - typical urban environment
Transmission Distance (To data loggers)	2000' max. outdoor - line of sight unobstructed 500' max. indoors - typical urban
Maximum number of connected data loggers (per OM-CP-RFC1000-EXT)	64
Frequency	2.405GHz - 2.475GHz
Ingress Protection	IP69K

Installation Guide

Step 1: Installing the Omega 4 Software & USB Drivers

Omega 4 Software Specifications

Omega Data Logger software requires an IBM or compatible PC with the following:



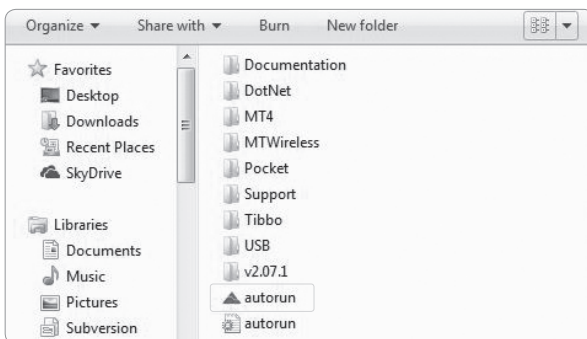
- PC-compatible Pentium(R)-class system
- Windows XP/Vista/Windows 7 (32 and 64 bit) and Windows 8
- Color SVGA monitor (800 x 600 resolution)
- 128MB (or more) RAM
- At least 30MB free hard disk space (for installation)
- USB Port (for installation media)
- Available 9 pin male serial (COM) port (for serial logger interface cable)
- Available USB port (for USB logger interface cable)



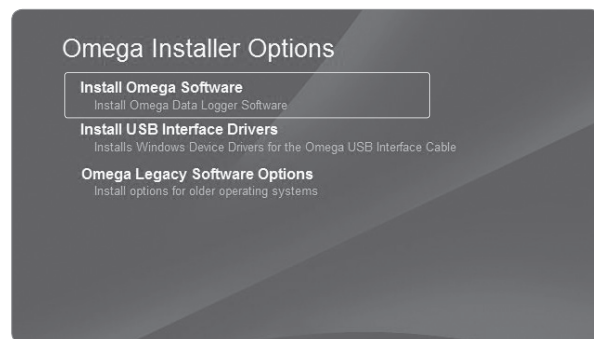
Installing the Omega 4 Software

Insert the Omega 4 Software Flash Drive into an open USB port on a Windows PC. If the autorun does not appear, locate the drive on the computer and double click on **Autorun.exe**. Follow the instructions provided in the Installation Wizard.

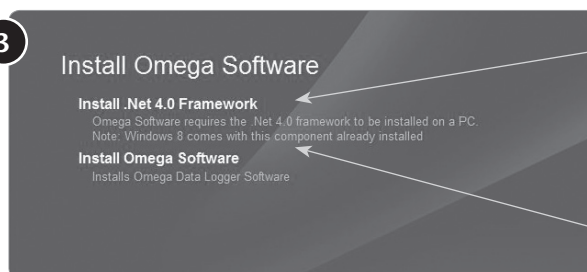
- 1 Locate the Autorun.exe file on the Omega 4 Software Flash Drive.



- 2 Select "Omega Software" in the Omega Installer Options window panel.



- 3 Install Omega Software




If the Windows PC doesn't already have .NET 4.0 Framework, installation may be required.

To see if the .NET 4.0 Framework is installed, go to the Windows **Control Panel** and select **Programs**. "Microsoft .NET Framework 4.0" would be listed as a Windows program.

Select "Install Omega Software" if .NET framework is installed on the Windows PC, or if installing on a Windows 8 machine.

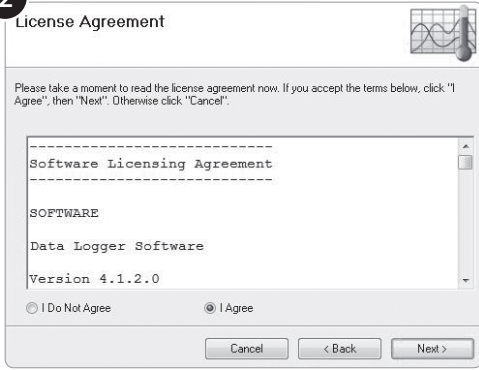
Omega 4 Setup Wizard

1 Welcome to the Setup Wizard



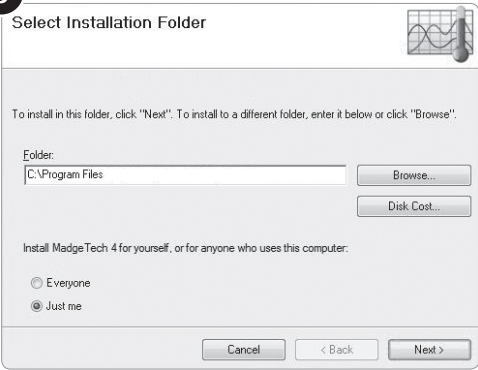
2 Select "I Agree" on the License Agreement Panel

Select "I Agree" on the License Agreement Panel

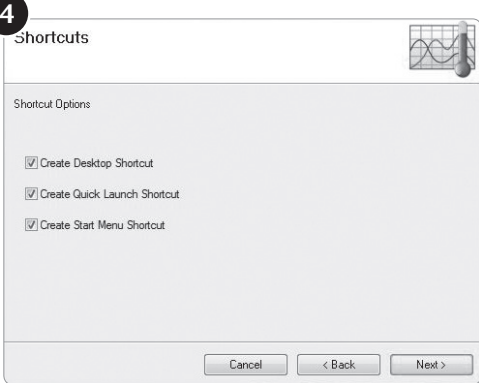


3 Select a destination to install the Omega 4 Software

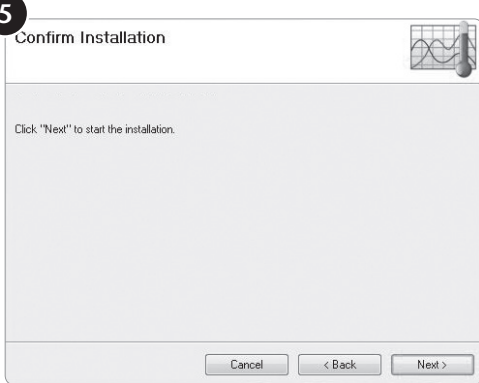
Select a destination to install the Omega 4 Software



4 Shortcuts



5 Confirm Installation

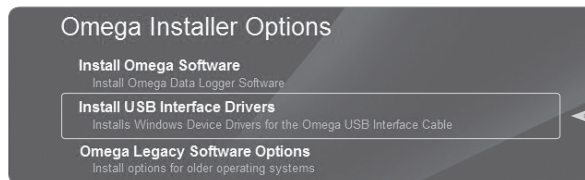


Once the installation is confirmed, the Omega Software will begin to load to the Windows PC.



Installing the USB Driver

With the USB Flash Drive inserted into the computer, locate the drive on the computer and double click on **Autorun.exe**. Install the **USB Interface Drivers** (under **Drivers and Third Party Tools**).



Select "Driver and Third Party Tools" in the Omega Installer Options window panel.

Once the installation of the software and driver is confirmed, the OM-CP-RFC1000-EXT can then be connected to the computer.

OM-CP-RFC1000-EXT Set-Up Step 2: Connecting the OM-CP-RFC1000-EXT



Installing the OM-CP-RFC1000-EXT

The OM-CP-RFC1000-EXT interface device comes with a USB cable.

1. Plug the USB end of the cable into an available USB port on the PC.
2. Plug the opposite end of the cable into the communication port on the OM-CP-RFC1000-EXT.



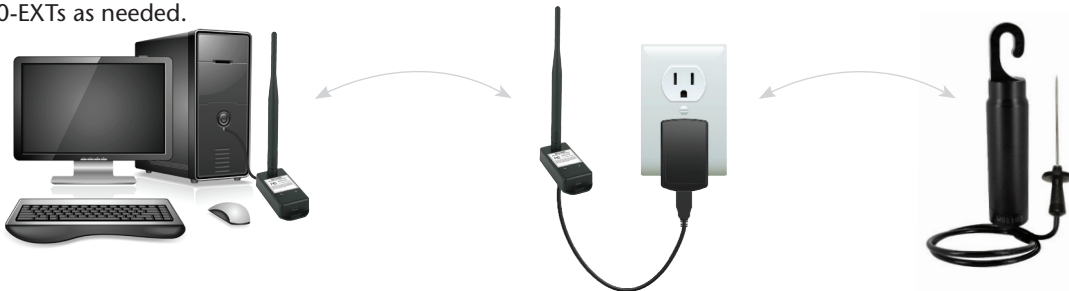
Use additional OM-CP-RFC1000-EXTs & OM-CP-RFC1000-EXT-IP69Ks as Repeaters

Additional OM-CP-RFC1000-EXTs can act as repeaters and may be plugged into wall outlets for greater distances.

1. Plug the OM-CP-RFC1000-EXT into the USB port on the base station computer.
2. Plug additional OM-CP-RFC1000-EXTs into wall outlets.

Note: The red LED will illuminate to signify the OM-CP-RFC1000-EXT has been connected correctly.

Determine the distance from the remote OM-CP-RFC1000-EXTs to the base module. If the distance is greater than 1000 feet indoors, or 4000 feet outdoors, or there are walls/obstacles/corners that need to be maneuvered around, set up additional OM-CP-RFC1000-EXTs as needed.



Installation Guide

Step 3: Wirelessly Connecting the OM-CP-RFOT to the OM-CP-RFC1000-EXT

To activate the wireless mode on the OM-CP-RFOT Data Logger, unscrew the end cap and gently separate the end from the body of the logger 2-3 inches.



Flip the black switch located inside to the wireless position to 1 (0 indicates non-wireless mode, 1 indicates wireless mode).



3. Screw the end cap back in place and ensure the fit is tightly sealed.

Using the Omega 4 Software

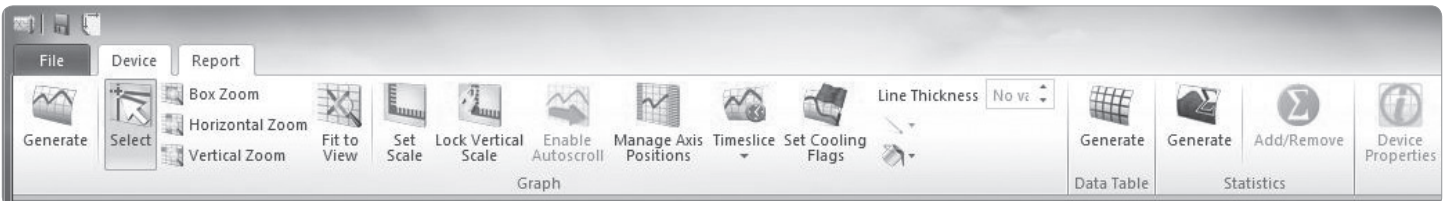
Software Icon Library

















Device Tab



- | | | |
|---|--|---|
|  Custom Start - Start the selected device(s) using custom settings |  Stop - Stop the selected device(s) |  Properties - View the properties and settings of the selected device |
|  Quick Start - Start the selected device(s) using the current settings |  Download - Download recorded data from the selected device(s) |  Engineering Units - Manage engineering units |
|  Real-Time Start - Start the selected device(s) in real-time mode |  Reset - Resets the selected device(s) |  Claim - Add the selected wireless device(s) to the network |
|  Batch Start - Automatically start devices of the same type as they're connected |  Manage Rules - Manage real time alarm rules |  Release - Remove the selected wireless device(s) from the network |
| | |  Locate - Find or identify a wireless device with an audible alarm |

Report Tab




- | | | |
|---|---|--|
|  Generate - Generates a graph based on the current report, or a blank graph if no report is open |  Set Scale - Set the scale of the graph |  Generate - Generate a new grid based on the current report, or a blank grid if no report is open |
|  Select - Change the cursor function to select data points |  Lock Vertical Scale - Lock the vertical scale of the graph |  Generate - Generate a new statistics view based on the current report, or a blank view if no report is open |
|  Box Zoom - Change the cursor function to zoom in on a selected area |  Enable Autoscroll - Allow the graph to automatically shift along the time axis as real-time data points are added. |  Add/Remove - Manage custom statistic information. |
|  Horizontal Zoom - Change the cursor function to zoom in on a selected length of time |  Manage Axis Positions - Change which side of the graph each axis is positioned |  Device Properties - View the properties of the selected channel's associated device |
|  Vertical Zoom - Change the cursor function to zoom in on a selected unit range |  Timeslice - Manage timeslice options | |
|  Fit to View - Zoom out to fit all data in view |  Set Cooling Flags - Set annotations for multiple temperature cooling points | |

OM-CP-RFOT Product User Guide

Device Operation and Settings

Launch the Omega 4 software. All active loggers will be listed in the connected devices section showing that the OM-CP-RFOTs have been recognized.

Connected devices					
Search 		Search by: No preference		<input type="checkbox"/> Only show claimed v	
Comm	ID	Type	Serial	Last Calibrated	Statu
MiWi	RFOT 2.4GHz	RFOT	W01103	3/6/2013	Stopp

Claim an OM-CP-RFOT




To claim an OM-CP-RFOT, find the device within the **Connected Devices** panel, Click to highlight, and then click the **claim** icon.

Starting the OM-CP-RFOT and Viewing Data in Real time

Once an OM-CP-RFOT is started in Real time, data transmitted to the software is automatically saved and stored in the software File Database. This data can be viewed as a report at any time and will automatically update as new readings are received.

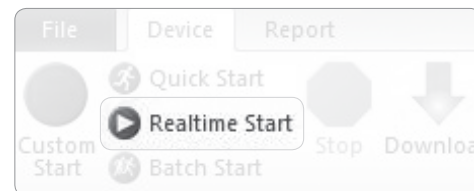
1. In the **Connected devices** panel, select a device to be started:

Connected devices			
Search 		Search by: No preference	
Comm	ID	Type	Serial
MiWi	RFOT 2.4GHz	RFOT	W01103

2. On the Device ribbon tab, in the Control group, click **Real time Start**.

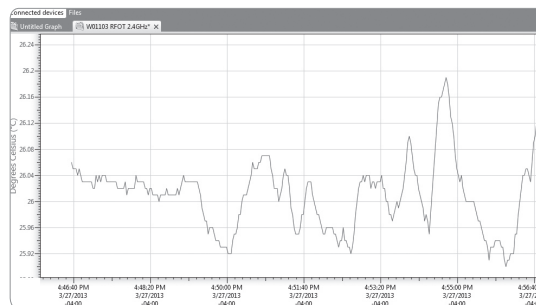
Note: Optional Start & Stop Methods

1. **Start Now:** The device will started immediately once the start button is clicked.
2. **Delay Start:** The device will be programmed, but will not start logging until a user specified time and date.
3. **Manual Stop:** The device will not stop logging until the Stop command has been selected in the software.
4. **Automatic Stop:** The device will be programmed to stop logging at a user specified time and date.



3. Click **Start**

4. A graph of the data will automatically appear on screen once the device begins logging.



What is the Difference Between a Dataset and a Report?

A **dataset** is the raw data that is downloaded from a device. This data cannot be altered.

A **report** is a visual representation of the data that can be changed as desired. Reports are created from datasets.

Viewing Data as Reports

Data can be interpreted in three different ways, as a Graph, Grid and/or Statistics view.

1. A graph report displays the data graphically.
2. A grid report displays the data in tabular format.
3. The statistics view provides statistics (i.e. minimum, maximum, average, etc.) for the dataset.

To generate a graph, grid, or statistic view from existing data, click on the "Datasets" folder in the 'File Database' panel.


The 'Datasets' panel will appear, select a dataset.

1. To generate a graph, in the 'Report' ribbon, 'Graph' tab control group, click the **Generate Graph** icon.
2. To generate a grid, in the 'Report' ribbon, 'Grid' tab control group, click the **Generate** icon.
3. To generate a statistics report, in the 'Report' ribbon, 'Statistics' tab control group, click the **Generate** icon.

Save a Report

Reports can be saved to either the internal file database within the software, or to a file stored on the user's PC. By default, new reports are saved to the Reports folder of the internal database in the File Database.

1. Click the tab or window containing the report to be saved.

2. Click the File Button, then click **Save**. 

To Save to the User's PC

1. Click the tab or window containing the report to be saved.
2. Click the file button, then click **Save to**.
3. Choose the location where the file will be saved.
4. Click **Save**.

Stopping an OM-CP-RFOT

In the Connected Devices list, select the device to be stopped.

On the **Device** tab, in the **Control** group, click **Stop**. 

Wirelessly Downloading from an OM-CP-RFOT

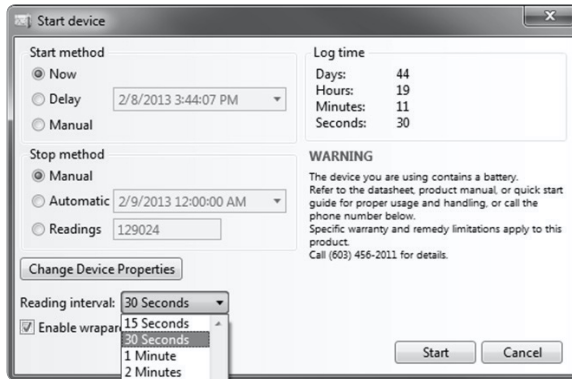
If the power were to go out or the user's PC were to crash, the OM-CP-RFOT will still record data to memory. Once the power is restored the below steps can be taken to obtain the data from the memory of the OM-CP-RFOT.

Downloaded data will remain stored on the device until the device is reset or started.

1. In the device tab in the **Control** ribbon click on the **Download** icon.
2. The data from the internal memory of the OM-CP-RFOT will download into the graph.

OM-CP-RFOT Product User Guide

Omega 4 Software Features



Reading Rate

The reading rate indicates how often the device will take a measurement and record it to memory. The log time box will change to signify how long the device will record for before the memory becomes full.



1. With the logger connected and identified within the software, click on **Custom Start**.



2. Within the **Start Device** dialog box, navigate to **Reading Interval** and select a reading rate for the device.

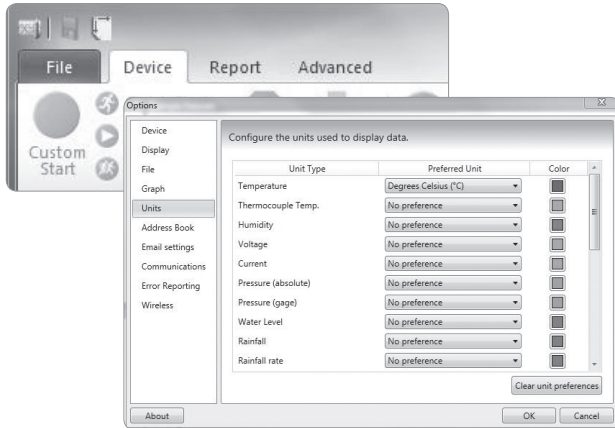
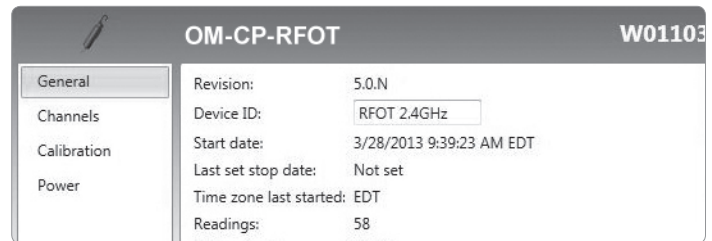
Device ID

With the logger connected and identified within the software, click on the **Device** tab then click the **Properties** icon.



The properties screen will display information about the device including the **Device ID**.

Up to a 6-character identification code may be programmed into the **Device ID** field.



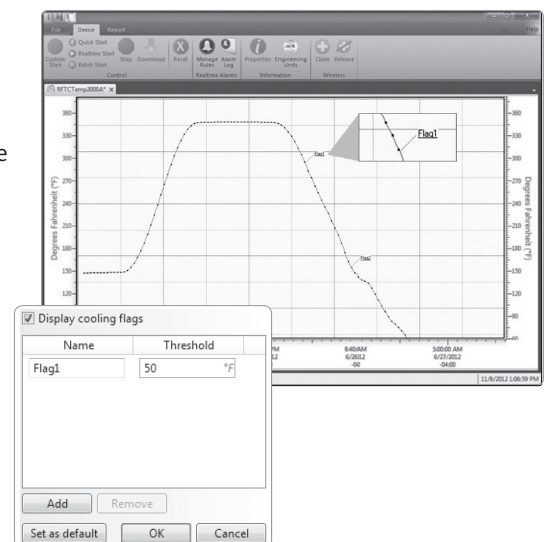
Changing Units of Measurement

1. To change the units of measurement within the software, click the **File** tab, and select the **Options** button at the bottom of the window.
2. Within the **Options** dialog box, select **Units** in the left hand navigation.
3. Select the desired unit of measure in the **Preferred Unit** dropdown box.

Cooling Flags

Omega's easy-to-use software features user-programmable critical control points called "Cooling Flags" to assist in compliance with USDA appendix B. The "Cooling Flags" are automatically annotated on the graph.

1. Once the OM-CP-RFOT data has been downloaded, click the report tab and select the **Set Cooling Flags** button within the **Graph** group.
2. The "Cooling Flags" window will appear. The **Display Cooling Flags** box should be checked.
3. The user can then add flags with temperature threshold. All flags must be in descending order by temperature.
4. Once the number of flags required have been added, click **Set as Default** then **Save**.
5. The "Cooling Flags" will then be shown automatically as an annotation on the downloaded graph.
6. If there is more than one graph, default "Cooling Flags" will be applied.



OM-CP-RFOT Real time Wireless Alarming

1. On the Device ribbon tab, in the **Real time Alarms** group, click **Manage Rules**.



2. Click **New**.

Rules are applied in the following order:

Name	Enabled	
		<div>New</div> <div>Edit</div>

1. Enter a name in the **Rule name** box.

Rule name:

2. Select whether notifications will occur when **All Conditions are met** or **Any condition is met**.

Perform actions when:

☐ All conditions are met
 ☒ Any condition is met

3. Select the conditions that need to be met before a notification will occur.

W00687 RFOT	Temperature	above	50	°F	for 1	hours	+	-
W00687 RFOT	Temperature	below	20	°F	for 3	hours	+	-

4. Select which notifications will occur (on screen, email, text message).

When conditions are met, do the following:

☐ Show on-screen notification

☐ Send email/text to

5. Select whether notifications will occur only once or on a regular basis.

How often should actions be performed?*

☒ Only when the alarm is first activated
 ☐ While conditions are still met, continue to perform actions every: minutes

6. If notifications are selected to be received by email or text message, click **Email settings** and make sure the correct information has been entered.

First name:

Last name:

Display name:

Email/Text address:

Phone:

OK Cancel

a. The user must obtain the **server address** and **port number**. This information can be obtained from the user's IT department.

b. A **From Email** must also be selected; this will tell the receiver who the email or SMS text message is from.

c. Security and authentication information may also need to be entered. This information can be obtained from the user's IT department.

d. Once all of the required information is entered, a test SMS text message or email can be sent by clicking on **Test Email Settings**.

Change email sender information.

SMTP settings

Server address:

Port:

From email:

Security and authentication

Security: ☒ Use SSL / TLS

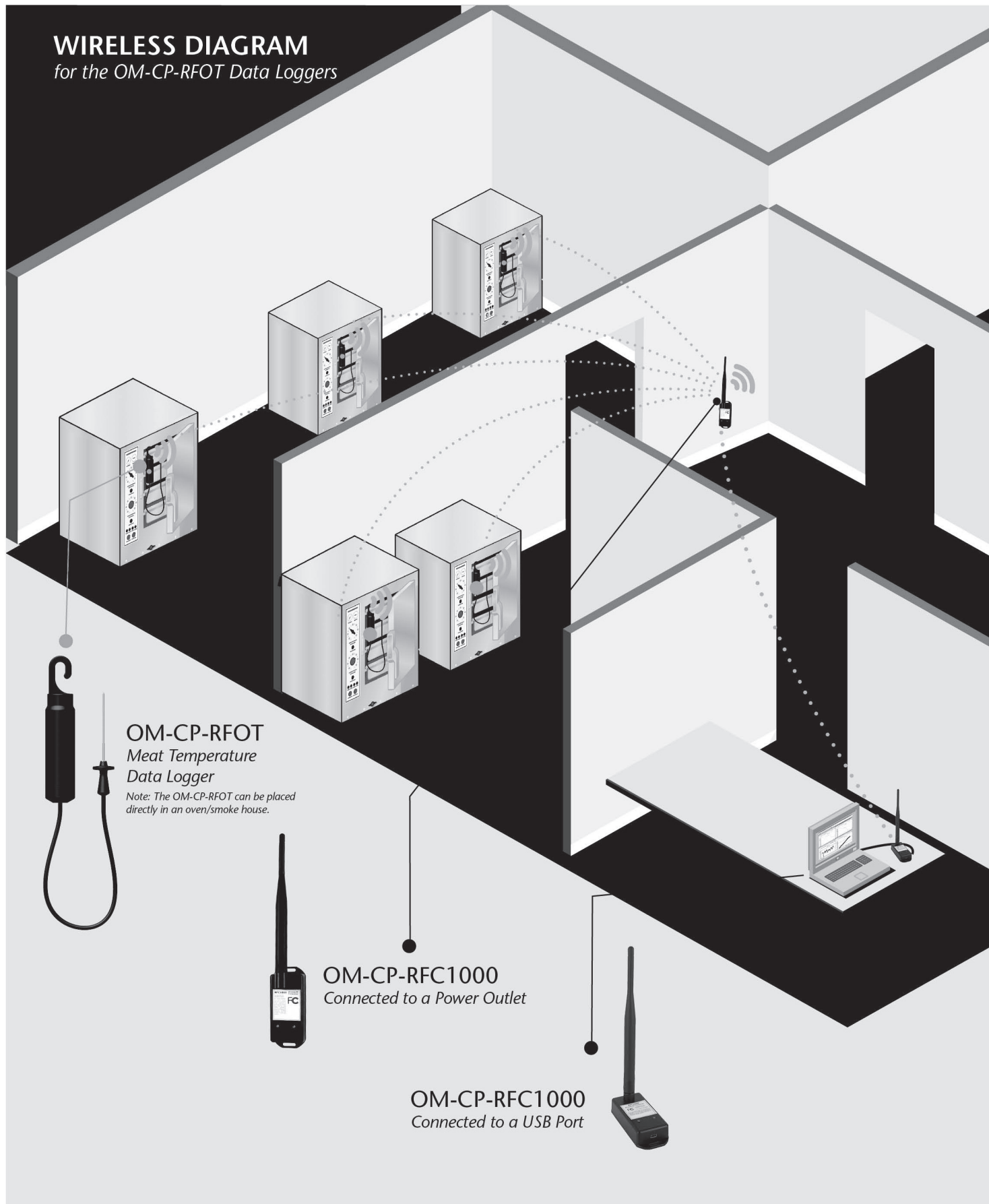
Username:

Password:

Test Email Settings

3. Click OK.

WIRELESS DIAGRAM *for the OM-CP-RFOT Data Loggers*



Wireless Network Information

Self Healing Network

There is very little programming required by the user when OM-CP-RFOTs and OM-CP-RFC1000-EXTs are installed. Once installed, if an OM-CP-RFOT were to lose communication with an OM-CP-RFC1000-EXT, the data logger will automatically “search” the network for another available OM-CP-RFC1000-EXT. If multiple OM-CP-RFC1000-EXTs are available, the OM-CP-RFOT will automatically select the OM-CP-RFC1000-EXT with the strongest signal.

Line-of-Sight & Transmission Distance

Typical transmission distance from an OM-CP-RFC1000-EXT to another OM-CP-RFC1000-EXT is as follows:

- 4,000 feet maximum outdoors – line-of-sight unobstructed
- 1,000 feet maximum indoors – line-of-sight unobstructed

Typical transmission distance from an OM-CP-RFC1000-EXT to an OM-CP-RFOT data logger is as follows:

- 2,000 feet maximum outdoors – Line-of-sight unobstructed
- 500 feet maximum indoors – Line-of-sight unobstructed

Obstacles

Any obstacles will decrease the line-of-sight from an OM-CP-RFC1000-EXT to another OM-CP-RFC1000-EXT as well as the line-of-sight from an OM-CP-RFC1000-EXT to an OM-CP-RFOT. Obstacles that interfere with or decrease the wireless signal could include but are not limited to smokehouse doors, freezer or refrigerator doors, building structures such as walls and metal beams and internal traffic such as forklifts and metal racks or carts. An additional number of OM-CP-RFC1000-EXTs can be placed near the obstacles to greatly help lengthen and strengthen the wireless signal.

Number of Data Loggers per OM-CP-RFC1000-EXT

Each OM-CP-RFC1000-EXT has the capability to communicate with 64 OM-CP-RFOT data loggers. If more than 64 data loggers will be installed within the network it is recommended that multiple OM-CP-RFC1000-EXTs also be utilized.

Deflection

When a wireless signal “hits” an object such as a metal wall, the wireless signal will not just stop but rather it could turn a corner, bend or slow down. When installing the OM-CP-RFC1000-EXTs obstacles and possible deflection should also be considered.

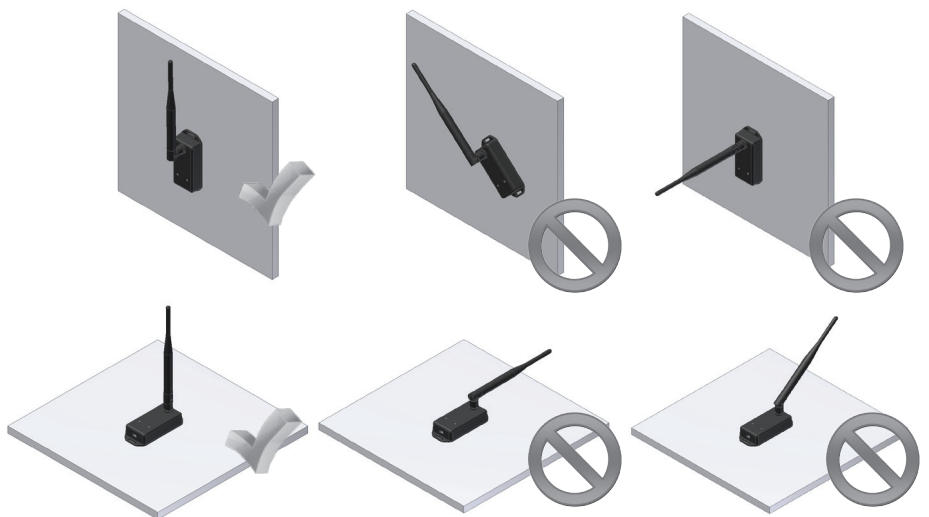
Mounting Instructions for the OM-CP-RFOT

For best performance, the OM-CP-RFOT should always be hung by the hook in an upright position. This will allow for the best path for the wireless signal.



Mounting Instructions for the OM-CP-RFC1000-EXT & OM-CP-RFC1000-EXT-IP69K

For best performance, both the OM-CP-RFOT and the OM-CP-RFC1000-EXT should be mounted in the same orientation. As it is recommended that the OM-CP-RFOT be mounted in an upright position, the OM-CP-RFC1000-EXT external antenna should be pointing straight up. The antenna on the OM-CP-RFC1000-EXT can also pivot to accommodate a wall mount or a desk mount. If the user has multiple OM-CP-RFC1000-EXTs, the antennas will perform best when they are all pointing in the same direction. The antennas on the OM-CP-RFC1000-EXTs should also be at least 1.5 inches away from any metal.



Channel Programming

The OM-CP-RFC1000-EXT transmits data on the 2.4GHz band and is programmed by default on channel 11. Each Omega Wireless Data Logger and OM-CP-RFC1000-EXT has a set of dip switches with which the channel may be programmed. Different wireless channels may be used to create multiple networks in one area, or to avoid wireless interference from other devices. Any Omega data logger or OM-CP-RFC1000-EXT that is on the same network is required to use the same channel. If all of the devices are not on the same channel, the devices will not communicate with one another.

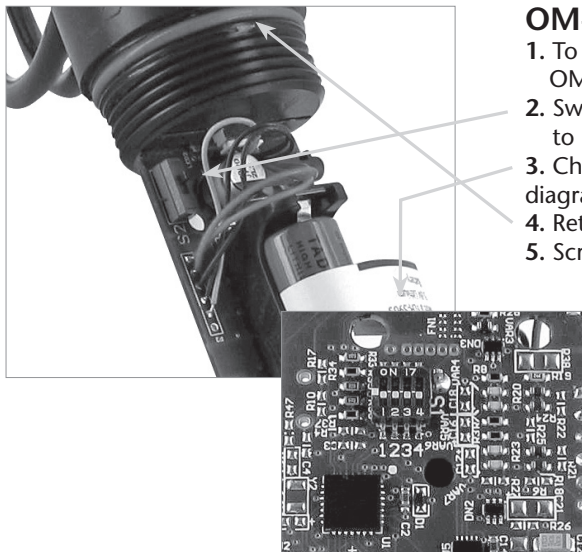
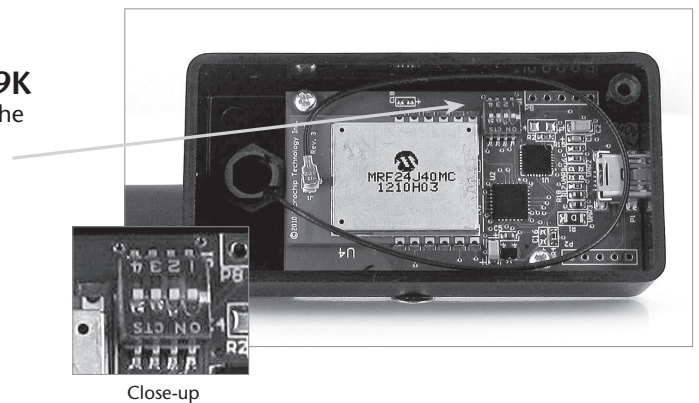
The images below show the orientations available of the switches for each channel. Channel 26 (all switches in the up position) is not supported.



Follow the instructions below to configure the channel settings of the Omega Data Logger.

OM-CP-RFC1000-EXT & OM-CP-RFC1000-EXT-IP69K

1. To program the channel on an OM-CP-RFC1000-EXT, first unplug the OM-CP-RFC1000-EXT.
2. Use a Phillips head screwdriver to unscrew the enclosure.
3. Find the dip switches located on the front of the PCB circuit board.
4. Change the dip switches to match the the desired channel using the diagram above.
5. Screw the enclosure back together and reconnect the OM-CP-RFC1000-EXT.



OM-CP-RFOT

1. To program the channel on an OM-CP-RFOT data logger, unscrew the body of the OM-CP-RFOT and remove the enclosure.
2. Switch the wireless ON / OFF switch (black switch, next to the probe cable connector) to '0'. The dip switches are located on the back of the PCB (opposite side of the battery).
3. Change the dip switches to match the channel of the OM-CP-RFC1000-EXT using the diagram above.
4. Return the wireless ON / OFF switch to '1'.
5. Screw the body of the logger back together making sure the O-Rings are not visible.

Product Maintenance

(Battery compartment shown with cover removed)

Battery Replacement

Materials needed: OM-CP-BAT109 Replacement Battery

Procedure:

1. Unscrew the end cap from the logger.
2. Grasp the circuit board firmly on either side of the battery holder with one hand and pull the battery out of the holder with the other.
3. Install the new battery as shown by the diagram on the bottom of the battery holder.
4. Screw the body of the logger back together making sure the O-Rings are not visible.

Battery Warning

DISCARD USED BATTERY PROMPTLY. KEEP OUT OF REACH OF CHILDREN. DO NOT DISPOSE OF IN FIRE, RECHARGE, PUT IN BACKWARDS, DISASSEMBLE, OR MIX WITH OTHER BATTERY TYPES. MAY EXPLODE, FLAME, OR LEAK AND CAUSE PERSONAL INJURY.

O-Ring

Part Number: OM-CP-RFOT-O-Ring

Procedure:

1. Unscrew the end cap from the OM-CP-RFOT to expose the O-Ring.
2. Use a small pointed tool (knife or pick) to pry the old O-Ring out of its groove.
3. Make sure that the O-Ring groove is free of any dirt or debris.
4. Partially screw the mating parts back together leaving the O-Ring groove exposed.
5. Apply a thin coat of silicone based lubricant to the O-Ring.
6. Stretch the O-Ring over the cap and into its groove. **WARNING:** Avoid stretching the O-Ring over the threads! Sharp threads can cut the new O-Ring!

Maintenance:

Omega data loggers come directly from the factory with high quality O-Rings that have been properly installed. As a user, there are only a few things that need to be remembered to maintain a functional O-Ring seal.

DO:

- Clean them frequently (use compressed air or a soft brush to avoid abrasion).
- Lubricate regularly (if it doesn't feel slippery, it needs to be lubricated). We recommend Parker® Super-O-Lube, but any silicone based O-Ring lubricant will work. This is most important on the seals that are frequently opened and closed for communication with the logger.
- Inspect the O-Ring regularly for signs of failure (see the reverse side of this pamphlet for details on what to look for)

DON'T:

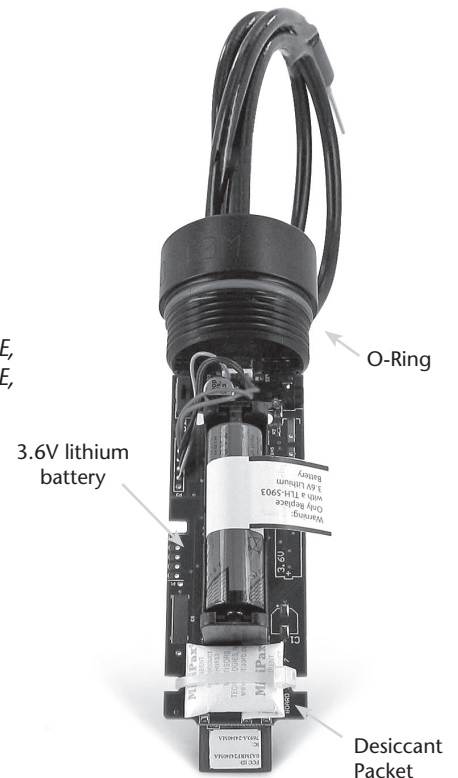
- Poke, jab, pry at the O-Ring with sharp or pointed objects.
- Expose the O-Rings to harsh chemicals (when in doubt, call Omega).
- Expose the seals to high pressure (all of Omega's submersible data loggers are rated to 60 PSIG).
- Expose the seal to high temperatures (see data logger Specification Sheet for operating temperature range).

Desiccant Packet

Located on the board of the OM-CP-RFOT is a desiccant packet. The desiccant packet should be left in the case as it is supplementary protection against any additional moisture.

Recalibration

Recalibration is recommended annually for all Omega data loggers. The Properties window in the Omega 4 software displays the date of the last calibration and the date that the device is next due for calibration. The Omega 4 Software can also be configured to send an on screen notification prior to the calibration due date for each device. By default this is set to seven days prior to calibration due date and can be changed by the user by going to the file tab in the Omega 4 software and clicking on **Options**. Select device and check **"Display popup notification when a device nears its next calibration date"**. The user can then select the number of days before calibration due date to notify.



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WARNING: These products are not designed for use in, and should not be used for, human applications.

**WARRANTY/DISCLAIMER**

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **61 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **five (5) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS / INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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