OM-CP-RFC1000-EXT
Wireless Transciever

INSTRUCTION SHEET

MQS5066/1216

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OM-CP-RFC1000-EXT

Product Notes
The OM-CP-RFC1000-EXT is a high powered transciever designed to provide network connectivity between wireless data loggers and the base station computer. This design includes an external antenna, allowing flexibility with mounting positions in both orientation and proximity to metal walls.

The OM-CP-RFC1000-EXT may be used as a repeated or plugged directly into the PC.

Transmission Distance
The OM-CP-RFC1000-EXT transmits to other OM-CP-RFC1000-EXTs up to 4000 feet maximum typical outdoors/line of sight, 1000 feet maximum typical indoors/urban. The OM-CP-RFC1000-EXTs transmits to data loggers up to 2000 feet maximum typical outdoors/line of sight, 500 feet maximum typical indoors/urban. The OM-CP-RFC1000-EXT can connect to a maximum of 64 data loggers.

The OM-CP-RFC1000-EXT transmits on a frequency of 2.405GHz - 2.475 GHz.

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.

LEDs
The red LED indicates that the device has power. The green LED will blink when communicating with other devices.

Installing the Software
Insert the Software Flash Drive into a USB port on the PC. If the autorun does not appear, locate the drive on the computer and double click on **Autorun.exe**. Follow the prompts on the screen to install the **Omega Data Logger Software**.

Channel Programming for the OM-CP-RFC1000-EXT
The OM-CP-RFC1000-EXT transmits data on the 2.5GHz band, channel 11. Each Wireless Data Logger and OM-CP-RFC1000-EXT has a set of dip switches with which the channel may be programmed.

For proper communication, all data loggers or OM-CP-RFC1000-EXTs on the same network are required to use the same channel. If they are not on the same channel, the devices will not communicate with one another.

OM-CP-RFC1000-EXT: To program the channel on an RFC1000, first unplug the RFC1000-EXT. Use a Phillips head screwdriver to unscrew the enclosure. The dip switches are located on the front of the PCB circuit board. Change the dip switches to match the photo. Reconnect the RFC1000-EXT.

See examples on next page.

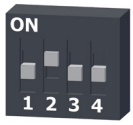
OM-CP-RFC1000-EXT

Channel 11

Channel 12

Channel 13

Channel 14

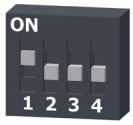


Channel 15

Channel 16

Channel 17

Channel 18

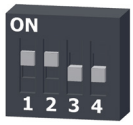


Channel 19

Channel 20

Channel 21

Channel 22



Channel 23

Channel 24

Channel 25

Channel 26
(not supported)

The default wireless channel for Omega wireless devices is channel 11. Different wireless channels may be used to create multiple networks in one area, or to avoid wireless interference from other devices. The images below show the orientations avaliable of the switches for each channel. Channel 26 (all switches in the up position) is not supported.

See examples to the left.

Deploying and Activating Devices

Step 1: Plug the OM-CP-RFC1000-EXT into the USB port on the base station computer.
(Additional OM-CP-RFC1000s can be used as repeaters to transmit over greater distances)

Step 2: If using multiple OM-CP-RFC1000-EXTs plug each one into a wall outlet in the desired locations.
(If transmitting over a distance 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.)
If not using multiple OM-CP-RFC1000-EXTs, go to step 3.

Step 3: Verify that the data loggers are in wireless transmission mode by confirming the wireless ON / OFF switch is in the '1' position on each data logger. *(See Channel Programming steps above)*

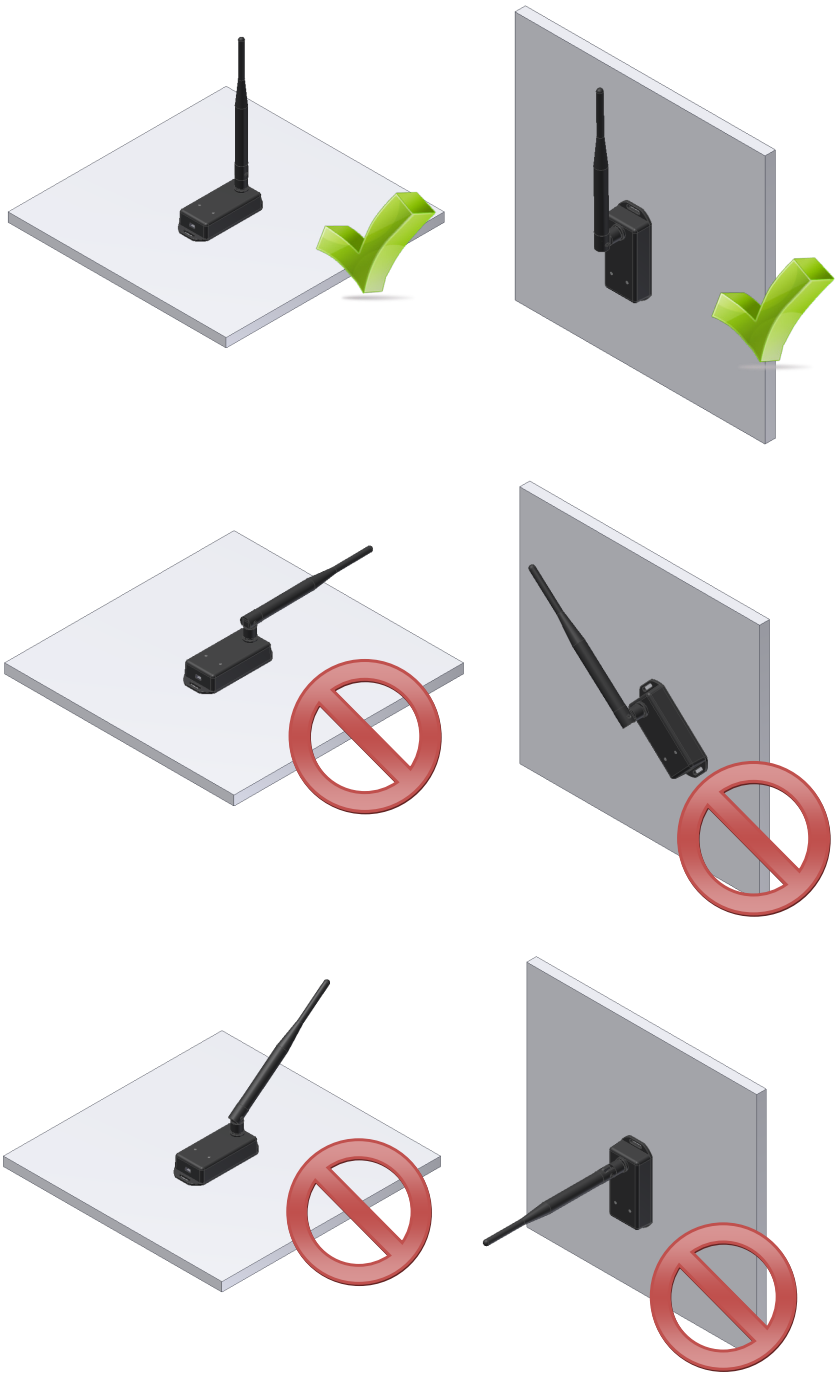
Step 4: On the PC, launch the Omega Data Logging software. All active data loggers will be listed in the software showing that the device(s) are recognized.

Step 5: To activate your data loggers, click on one to highlight, then right click to select the desired *Start* method. Do this for each logger in your list that you wish to activate.

OM-CP-RFC1000-EXT

Mounting Instructions

For best wireless performance, both the OM-CP-RFC1000-EXT and the Omega data loggers should be mounted in the same orientation. This usually means that the external antenna should be pointing straight up. The antenna can pivot to accommodate either a wall mount or a desk mount.



Description	OM-CP-RFC1000-EXT
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 Connected Data Loggers	64
LED Indicators	Red & Green
Frequency	2.405GHz - 2.475GHz
Ingress Protection	IP40
Interface Type	USB (to PC) / Wirelesss (to Data Logger)
Operating Environment	–20°C to +85°C (-4°F to 185°F), 0%RH to 95%RH (non-condensing)
Material	ABS Plastic (body), PVC Plastic (antenna)
Dimensions	Enclosure: 3.8” x 1.6” x 0.8” / Antenna: 7.2”
Approvals	FCC ID:OA3MRF24J40MC, IC#: 7693A-24J40MC

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.”

Description	OM-CP-RFC1000-IP69K
Interface Type	USB (to PC) / Wireless (to Data Logger)
Operating Environment	-20 to +85°C, 0 to 100%RH non-condensing
LED Indicators	Red: Indicates that the device has power Green: Will blink when communicating with the OM-CP-RFOT
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 antenna, normal to case: 3.4" x 2.9" x 8.8" With antenna, laid down: 9.2" x 2.9" x 2.6"
Weight	14.1oz (400g)
Compatible Data Loggers	OM-CP-RFOT, OM-CP-Therm-A-lert, OM-CP-RF2000A Series
Approvals	FCC ID: OA3MRF24J40MC, IC#: 7693A-24J40MC, ETSI 300 328 (EU R&TTE)
Transmission Distance (To other OM-CP-RFC1000-IP69K's)	4,000' max. outdoors - line of sight unobstructed 1,000' max. indoors - typical urban environment
Transmission Distance (To data loggers)	2,000' max. outdoors - line of sight unobstructed 500' max. indoors - typical urban
Maximum number of connected data loggers	64
Ingress Protection	IP69K

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"To satisfy FCC RF Exposure requirements for mobile and base station transmission devices, a separation distance of 20cm 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."

Description	OM-CP-RFC1000-EXT-EUR
Interface Type	USB (to PC), Wireless (to Data Logger)
Operating Environment	OM-CP-RFC1000-CE: -20 °C to +85 °C (-4 °F to +185 °F), 0 %RH to 95 %RH non-condensing Power Supply: 0 °C to +40 °C (+32 °F to +104 °F), 20 %RH to 85 %RH non-condensing
LED Indicators	Power: Red Data: Green
Enclosure Materials	Body: ABS Plastic Antenna: PVC Plastic
Transmission Distance to Data Logger	Unobstructed line-of-sight (outdoors): 2,000 feet max Typical urban environment (indoors): 500 feet max
Transmission Distance to RFC1000-CE	Unobstructed line-of-sight (outdoors): 2,500 feet max Typical urban environment (indoors): 700 feet max
Compatible Data Loggers	OM-CP-RFOT, Therm-A-lert and OM-CP-RF2000A Series
Maximum number of connected data loggers	64
Frequency	2.405 GHz - 2.475 GHz
Ingress Protection	IP40
Dimensions	Body: 3.8 in x 1.6 in x 0.8 in (96.52 mm x 40.64 mm x 20.32 mm) Antenna: 2.7 in (69 mm)
Weight	1.4 oz (40 g)
Approvals	FCC ID: OA3MRF24J40MC, IC#: 7693A-24J40MC, CE, ETSI 300 328 (EU R&TTE)

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.

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WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) 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.

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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.

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