NetCommWireless

Quick Start **Guide**

4G M2M Router

NTC-140

NetCommWireless

Quick start guide

This quick start guide is designed to get you up and running quickly with your new NTC-140 router. More advanced set up instructions are provided in the user guide which can be opened by clicking on the Help tab on the web user interface, or can be downloaded from

https://www.netcommwireless.com/product/4g-m2m-router

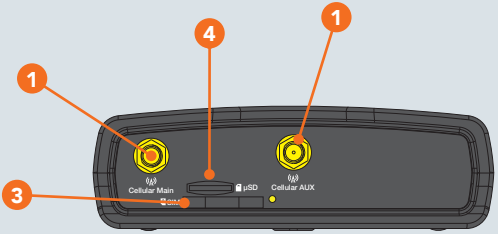
Package contents

All NTC-140 packages include:

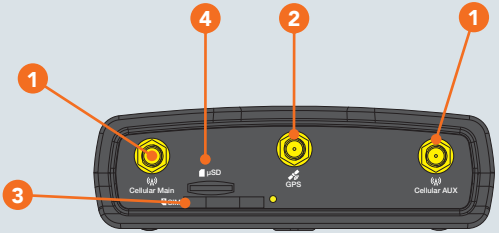
- 1 x NetComm NTC-140 router
- 2 x 3G/4G antennas
- 1 x 1.5m Black Ethernet cable
- 1 x DIN rail mounting bracket
- 1 x Quick start guide
- 1 x Power supply cable with fitted Molex connector

Device overview

NTC-140-01



NTC-140-02



ITEM		DESCRIPTION
1	3G/4G antenna connectors	SMA female connector for 3G/4G antennas.
2	GPS antenna connector	SMA female connector for GPS antenna.
3	SIM card slot	Insert SIM card here.
4	MicroSD card slot	Insert a MicroSD card here to provide additional storage (Optional).

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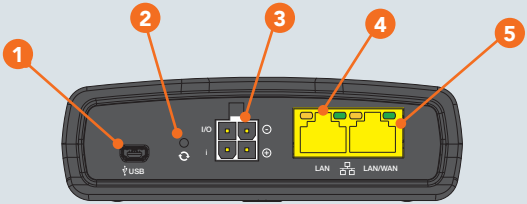
NTC-140-01 / NTC-140-02



ITEM		DESCRIPTION
1	Mini USB 2.0 OTG port	Provides connectivity for optional external storage or a USB Ethernet dongle. Supplies up to 0.5A to connected device.
2	Reset button	Press and hold for less than 5 seconds to reboot to normal mode. The LEDs are green and extinguish in sequence to indicate that the router will reboot normally if the button is released during this period. Press and hold for 5 to 15 seconds to reboot to recovery mode. The LEDs are amber and extinguish in sequence to indicate that the router will reboot to recovery mode if the button is released during this period. Press and hold for 15 to 20 seconds to reset the router to factory default settings. The LEDs are red and extinguish in sequence to indicate that the router will reset to factory default settings if the button is released during this period.
3	Molex Mini-Fit™ receptacle	Connect the provided power supply here. The Molex receptacle provides: • Ground (–) • Power (+) • I/O terminal • (i) ignition input detection terminal.
4	LAN port	LAN port for wired Ethernet clients.
5	LAN/WAN port	LAN or WAN port for wired Ethernet clients or to bridge another network connection.

Overview of LED indicators

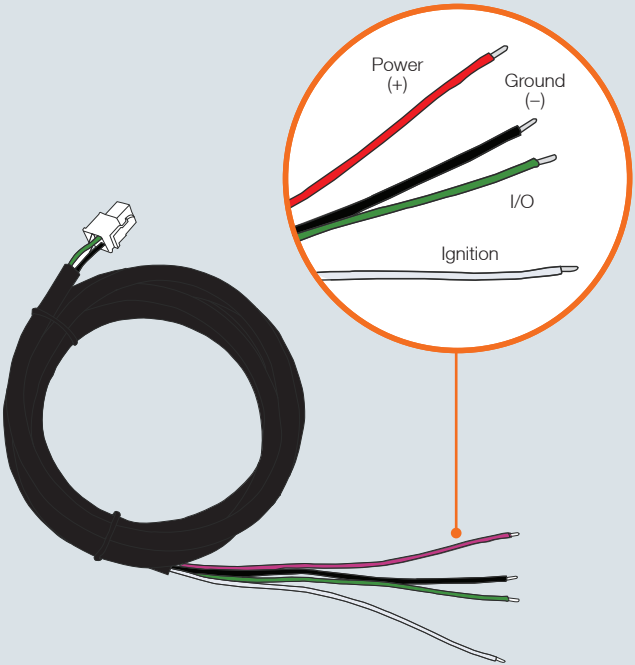
LED ICON	NAME	COLOR	STATE	DESCRIPTION
	Power		Off	Power off
			Double flash	Powering up
			On	Power on
			On	Power on in recovery mode
			Slow flashing	Hardware error, such as SIM not inserted.
	GPS[1]/ Customisable LED		Off	GPS function disabled
			Slow flashing	GPS function is enabled but no satellite detected
			On	Satellite detected, location acquired
	Network		Off	Radio Off
			On	Connected via WWAN
			Blinking[2]	Traffic via WWAN
			Slow flashing	Connecting PDP
			On	Registered on Network
			Slow flashing	Registering network
			Slow flashing	SIM PIN locked
			Fast flashing	SIM PUK locked
			On	Can't connect
	Signal strength		On	LTE signal
			On	WCDMA signal
			On	GSM signal

1 GPS is only available on the NTC-140-02

2 The term "blinking" means that the LED may pulse, with the intervals that the LED is on and off not being equal. The term "flashing" means that the LED turns on and off at equal intervals.

Power supply cable

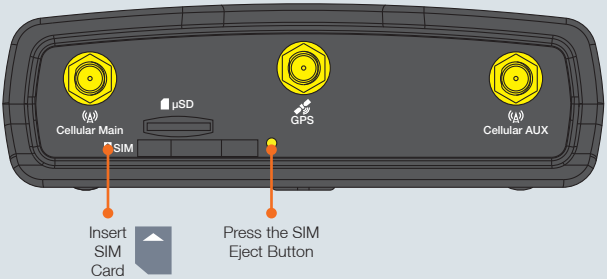
The included power supply cable has colour-coded breakout wires which can be terminated to provide power, ignition detection and input/output functionality. The picture below outlines the polarity and functions of the wires.



Installing your device

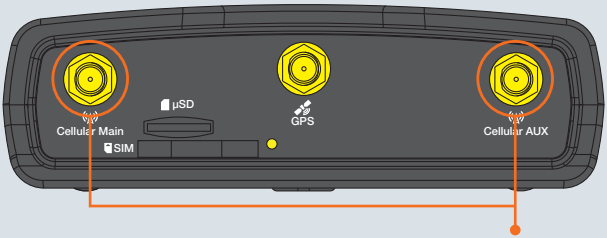
Step 1: Insert the SIM card

Using a paper clip, press the SIM Eject button to eject the SIM card tray. Place the SIM card in the tray and then insert the loaded tray into the SIM slot with the gold side facing up, as shown below.



Step 2: Attach the antennas

The NTC-140 router is shipped with caps on the LTE and GPS* antenna sockets. To attach the supplied antennas, first remove the antenna socket caps from the Main and Auxiliary antenna sockets by turning them in an anti-clockwise direction, then screw the antennas onto the sockets by turning them in a clockwise direction. Please refer to the Device overview section for the antenna socket layout. If you have purchased a GPS antenna, remove the socket cap from the GPS antenna socket and attach the antenna to the socket in the same manner.



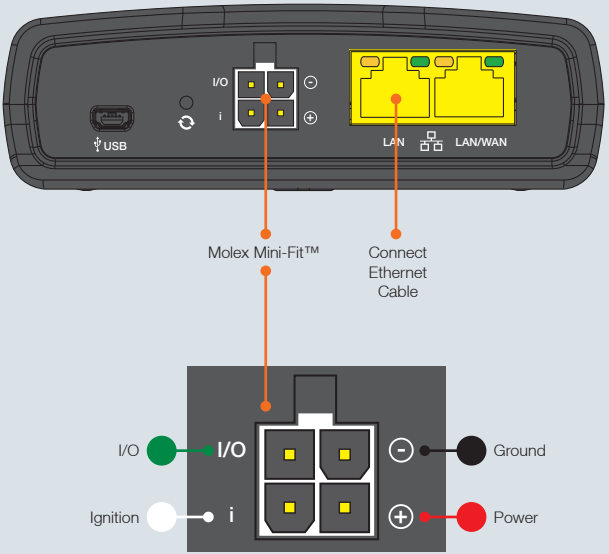
*GPS is only available on the NTC-140-02

Remove caps then screw antennas on

Step 3: Connect the power and Ethernet cables

Connect the included power supply cable to the Molex Mini-Fit™ receptacle and then connect the green and white breakout wires to the ignition and I/O connections as required. Connect the Power (red) and the Ground (black) wires to your power source. The power LED on the router lights up when a power source is connected.

Attach the supplied Black Ethernet cable to the LAN Ethernet port on your router and the other end to your computer.



Step 4: Access the router's web interface

In your web browser's address bar enter **http://192.168.1.1/** or **http://my.router/.** The login page is displayed.

There are two system management accounts (Root Manager and Admin) with different management capabilities.

Root Manager account

Grants full privileges such as firmware upgrades, device configuration, backup and restore, and reset to factory default settings. To access the Root Manager account, use these login details.

http://192.168.1.1 or http://my.router	
Username	root
Password	admin

Admin account

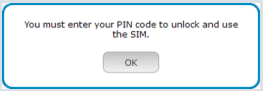
Allows updates to general settings. To access the Admin account, use these login details.

http://192.168.1.1 or http://my.router	
Username	admin
Password	admin

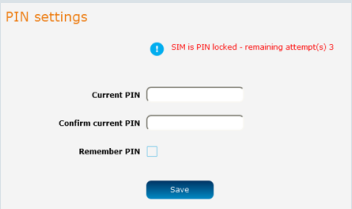
Enter the username and password for the admin or root manager account and click **Log in**. The Status page is displayed.

Step 5: Unlock the SIM card

If the inserted SIM card is PIN locked, a pop-up window is displayed informing you that you must unlock the SIM before use.



Click the **OK** button. The SIM Security page is displayed.



In the **Current PIN** field, enter the SIM PIN and then enter it again in the **Confirm current PIN** field. If you do not want to enter the PIN code each time the SIM is inserted, select the **Remember PIN** option. Click the **Save** button. After a moment, the router displays “Success! The SIM unlock was successful”.

Step 6: Connect to the Internet

If the SIM Status is OK, the NTC-140 router automatically attempts to connect to the Internet by detecting the correct APN and connection details.

If automatic configuration was unsuccessful, you must manually enter the connection details.

To manually configure the connection profile:

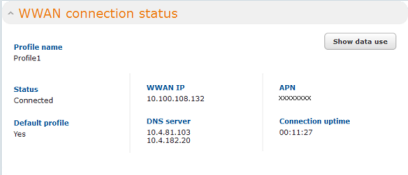
1. From the top menu bar, select the **Networking** option.
2. Next to Profile1, click the button. The Data connection profile settings screen is displayed.
3. Ensure that the **Automatic APN selection** toggle key is set to the OFF position.

4. In the APN field, enter the APN name that your carrier requires for mobile broadband connection. If required, enter the **Username** and **Password** in the Username and Password fields. Click the **Save** button.

The connection profile is now configured.

Verifying the connection status

Click on the **Status** menu item from the top menu bar. The Status page is displayed. The mobile broadband connection is established successfully if the **Status** field in the **WWAN connection status** section displays **Connected.**



Step 7: Mount the router

Mount your router in a suitable location using the options listed in the Mounting options section.

When selecting a location to mount the NTC-140 router, keep in mind that it features high performance antennas designed to provide optimum signal strength in a wide range of environments. You can check the signal strength by observing the colour and number of LEDs illuminated on the front of the device. For a precise reading of the signal strength, refer to the Status page on the web user interface. If you find the signal strength is weak, try moving the router to a different place, mounting it differently or changing the orientation of the antennas.

The signal strength LEDs update within a few seconds with a rolling average signal strength reading. When selecting a location for the router, please allow up to 20 seconds for the signal strength LEDs to update before repositioning.

Congratulations - your NTC-140 router is now ready to use!

Mounting your device

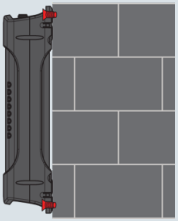
Depending on your individual setup, you may need certain components to mount your device correctly, such as additional fasteners and screwdrivers for specific wall or rail mounting.

Mounting options

The NetComm Wireless NTC-140 router can be installed quickly and easily in a variety of locations.

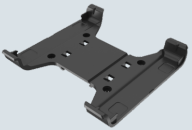
MOUNT TYPE	DESCRIPTION	BENEFITS
Wall mount	Flat against the wall	Slimline form factor, close to wall
Wall mount via DIN rail mounting bracket	DIN Rail mounting bracket is secured to the wall and the router is attached to the mounting bracket.	Easy to remove
DIN rail mount	DIN Rail mounting bracket is slid or snapped on to the DIN Rail and the router is attached to the mounting bracket.	Simplicity, easy to remove.
Pole mount via DIN rail mounting bracket	DIN Rail mounting bracket is secured to a pole or other fixed object using cable ties and the router is attached to the mounting bracket.	Easy to remove, flexibility of orientation, variety of objects to which the router may be mounted.
Desk mount	Stand on a desk	Simplicity, versatility

Wall mount

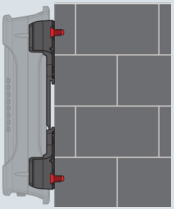


DIN Rail mounting bracket

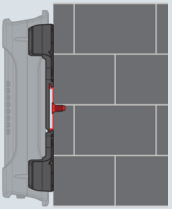
V Bend allows you to snap the DIN bracket onto the middle of a DIN rail rather than sliding it onto the end.



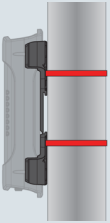
Wall Mounted via DIN Rail Bracket



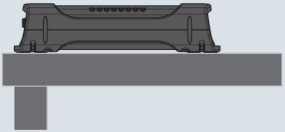
DIN Rail mount



Pole mount using DIN Rail bracket



Desk mount



Configuring multiple devices

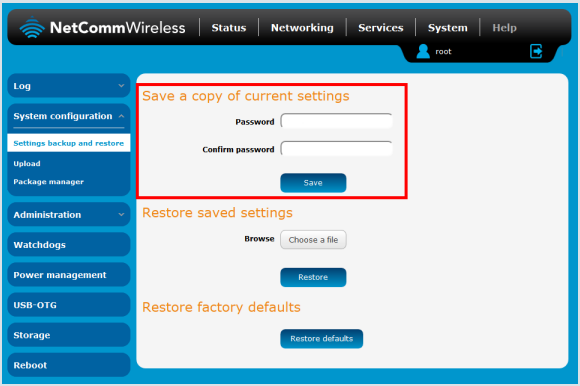
To apply your advanced configuration settings to more than one NTC-140 router, follow these simple steps.

Step 1

Back up your router's configuration

Log in to the web configuration interface, click on the **System** menu, select **System configuration** and click on **Settings backup and restore.**

If you want to password protect your backup configuration files, enter your password in the fields under **Save a copy of current settings** and click on **Save.** If you don't want to password protect your files, just click on **Save.** The router will then prompt you to select a location to save the settings file.



Step 2

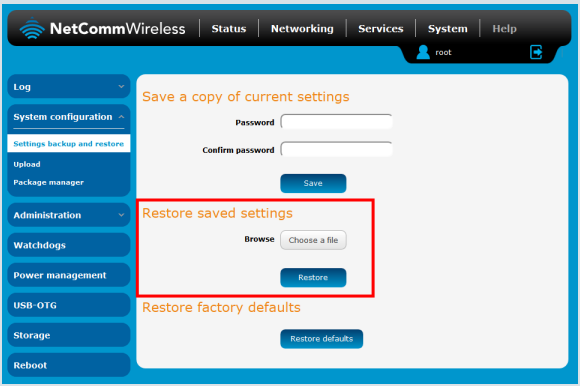
Restore your backup configuration

In the web configuration interface click on the **System** menu, select **System configuration** and click on **Settings backup and restore.**

From the **Restore saved settings** section, click on **Choose a file** and select the backup configuration file on your computer.

Click **Restore** to copy the settings to the new NTC-140 router. The router will apply these settings and inform you it will reboot - click on **OK.**

Tip: Don't change the file extension of the backup file as this may cause it to corrupt.



Regulatory information *NTC-140-01*

FCC regulations

Federal Communications Commission Notice (United States): Before a wireless device model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government-adopted requirement for safe exposure.

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.

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorientate or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure

Your device contains a transmitter and a receiver. When it is on, it receives and transmits RF energy. When you communicate with your device, the system handling your connection controls the power level at which your device transmits.

• This device meets the government's requirements for exposure to radio waves.

• This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

• This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. To ensure compliance with RF exposure guidelines the device must be used with a minimum of 24cm separation from the body. Failure to observe these instructions could result in your RF exposure exceeding the relevant guideline limits.

External antenna (transmitters equipped with detachable antennas)

Any external antenna used for this transmitter must be installed to provide a separation distance of at least 24cm from all persons and must not be co-located or operated in conjunction with any other antenna or transmitter. Please consult the health and safety guide of the chosen antenna for specific body separation guidelines as a greater distance of separation may be required for high-gain antennas.

Any external antenna gain must meet RF exposure and maximum radiated output power limits of the applicable rule section. The maximum antenna gain for this device as reported to the FCC is:

with ANT-0024

FREQUENCY (MHz)	GAIN (dBi)
704 - 798	1.6
824 - 960	1
1710 - 2170	3.7

with ANT-0050 (0.6m cable losses included)

FREQUENCY (MHz)	GAIN (dBi)
824 - 849	5.65
817 - 823	5.65
777 - 787	1.66
704 - 716	1.66
1710 - 1755	3.66
1850 - 1915	4.17

Company Contact Details

NetComm Wireless Limited, 1000 Sawgrass Corporate Parkway, Suite 500
Sunrise, Florida 33323, USA

Phone: +1 320 566 0316

IC regulations

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

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) this device may not cause interference, and

(1) l'appareil ne doit pas produire de brouillage, et

(2) this device must accept any interference, including interference that may cause undesired operation of the device.

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."

RF Exposure Information (MPE):

This device has been tested and meets applicable limits for Radio Frequency (RF) exposure. /

Cet appareil a été testé et répond aux limites applicables en matière d'exposition aux radiofréquences (RF).

This equipment should be installed and operated with minimum distance 24 cm between the radiator & your body. / Cet équipement doit être installé et utilisé avec une distance minimale de 24 cm entre le radiateur et votre corps.

External antenna - RSS-Gen 8.3 (transmitters equipped with detachable antennas)

This radio transmitter has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. /

Le présent émetteur radio a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne.

Antenna types not included in this list, having a gain greater than the maximum

gain indicated for that type, are strictly prohibited for use with this device. /

Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Antenna types / Type d'antennes:

Antenna gain in dBi / Gain d'antenne (en dBi):

with ANT-0024

FREQUENCY (MHz)	GAIN (dBi)
704 - 798	1.6
824 - 960	1
1710 - 2170	3.7

with ANT-0050 (0.6m cable losses included)

FREQUENCY (MHz)	GAIN (dBi)
824 - 849	5.65
817 - 823	5.65
777 - 787	1.66
704 - 716	1.66
1710 - 1755	3.66
1850 - 1915	4.17

NTC-140-02

CE regulation

RF Exposure Information (MPE)

This device meets the EU requirements and the International Commission on Non-Ionizing Radiation Protection (ICNIRP) on the limitation of exposure of the general public to electromagnetic fields by way of health protection. This equipment should

be installed and operated to ensure a minimum of 20 cm spacing to any person at all times."

Maximum RF Power

FUNCTIONS	MAX. AVERAGE OUTPUT POWER
GSM 900	32 dBm
DCS 1800	29.5 dBm
WCDMA I	23 dBm
WCDMA VIII	23 dBm
LTE 1	23 dBm
LTE 3	23 dBm
LTE 7	23 dBm
LTE 8	23 dBm
LTE 20	23 dBm

Waste Electrical and Electronic Equipment (WEEE)

This symbol means that according to local laws and regulations your product and/or its battery shall be disposed of separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities. Proper recycling of your product will protect human health and the environment.

NTC-140-02 Simplified EU DoC

Hereby, NetComm Wireless declares that the radio equipment type NTC-140-02 is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: http://www.netcommwireless.com/doc/NTC-140-02_CE_DoC.pdf

Product Warranty

For warranty information please visit
https://support.netcommwireless.com/warranty-info

Safety and product care

Please refer to the user guide for safety and product care information.

NetCommWireless

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