TC mGuard 4G Internet Setup Guide

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Introduction

Objectives

This guide will show how to configure basic Internet connection for the TC mGuard RS2000 and TC mGuard RS4000.

Requirements

TC mGuard RS2000 4G LTE or TC mGuard RS4000 4G LTE, 4G LTE Antenna, Cellular Data Plan

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Disclaimer: Data plans

Phoenix Contact does not provide data plans. Please contact your local cellular provider to acquire a data plan and SIM card. The SIM card size is standard, or 2FF.


Disclaimer: Verizon users

The Verizon mGuards (PNs 1010461 and 1010462) are registered and certified as "M2M" devices with Verizon. For optimal experience, Verizon highly recommends using an M2M SIM card with these devices. M2M SIM cards and data plans can be purchased at https://thingspace.verizon.com/

# Mobile network and SIM setup for TC mGuard RS2000 and RS4000 4G

1. Navigate to Network >> Mobile Network
2. Click the mobile technology standard drop down menu and select GSM / UMTS / LTE
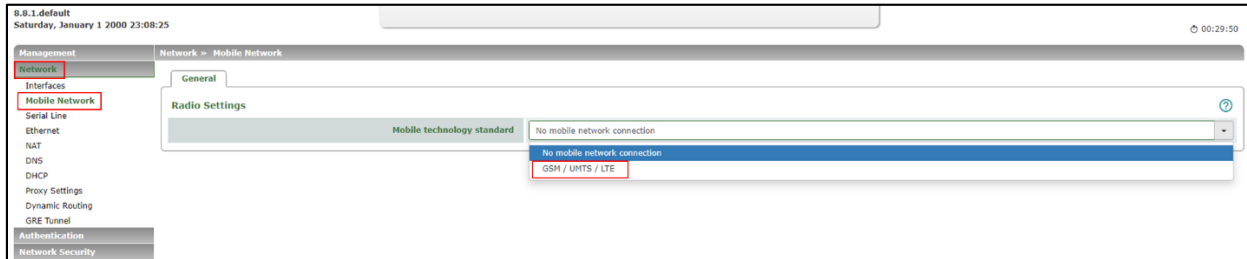
3. Navigate to the SIM Settings tab and check the activation Box
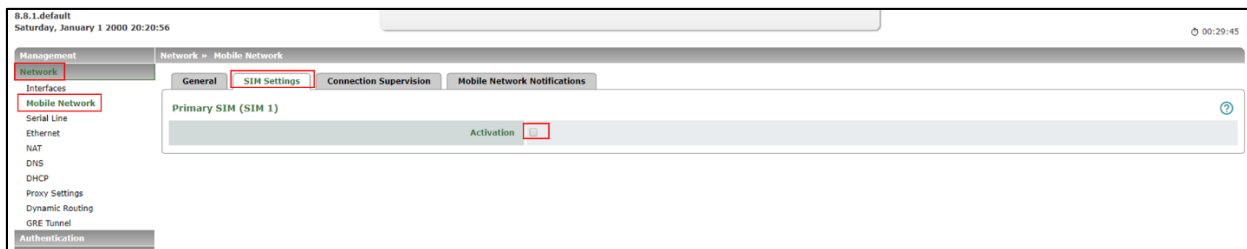
4. If you know the APN, you can check "Manual APN selection" and enter the APN in the box below.
   a. Note: The TC mGuard should find the common APNs of broadband (AT&T) and vzwinternet (Verizon) automatically. Custom APNs may need to be entered manually.
5. Click save in the top right-hand corner
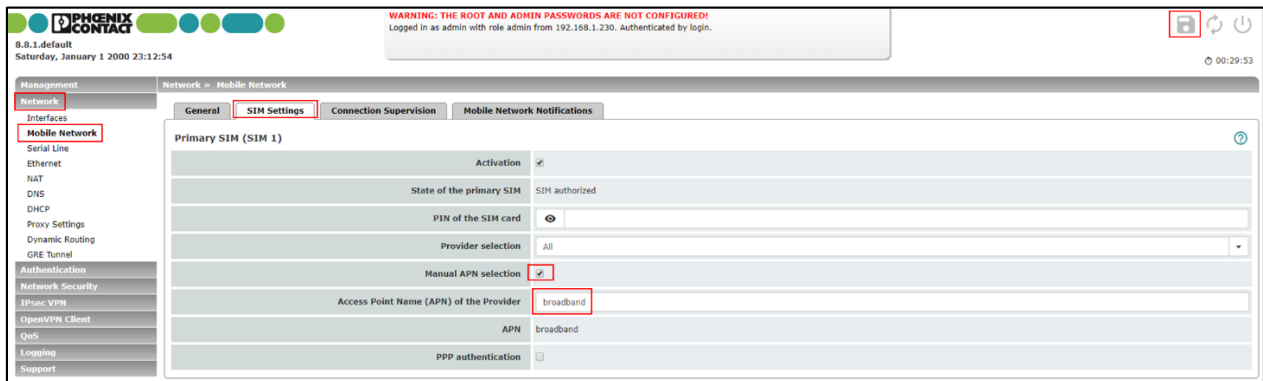
TC mGuard RS2000 4G Users:

- This completes the cellular configuration for the TCmGuard RS2000 4G. Proceed to the Verify Internet Connection section to verify the device connects to the network

TC mGuard RS4000 4G Users:

- Proceed to the primary and secondary interface section to continue setup

Primary and secondary interface setup for TC mGuard RS4000 4G

> **Disclaimer: Internet Connection Setup**
>
> The TC mGuard RS4000 4G can use cellular as the primary connection to the Internet or connect the WAN port to an upstream router for primary Internet connection with cellular as backup. Please choose the appropriate subsection depending on your network requirements.

Configuring cellular as the primary Internet connection

6. Navigate to Network >> Interfaces
7. Choose "Built-in mobile network modem" from the Router mode drop down menu
8. Click save in the upper right-hand corner and proceed to the last section: Verify Internet Connection
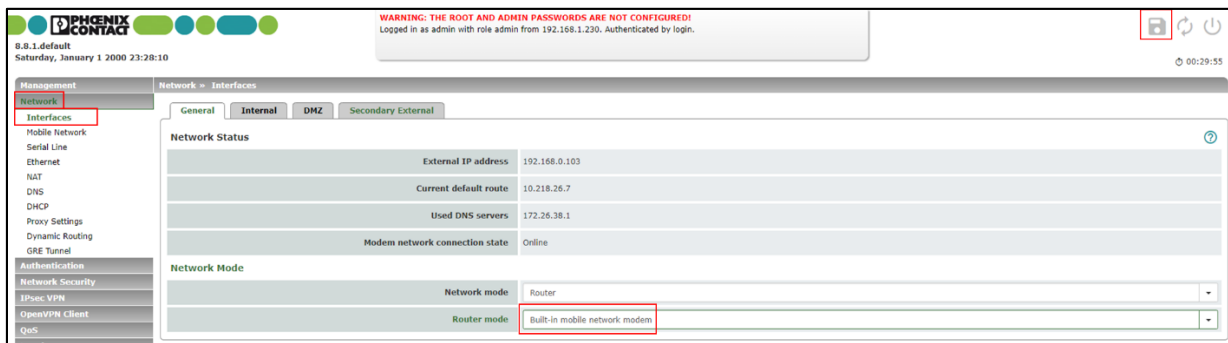

## Configuring the WAN port as primary Internet connection and cellular as secondary

9. Navigate to Network >> Interfaces
10. Under the general tab configure the WAN port as either static or DHCP under router mode.
    a. Choosing DHCP will configure the WAN port to receive an IP address and default gateway automatically
    b. Choosing static requires the user to configure the IP address settings of the WAN port manually. These settings can be found under the "External" tab on the Network >> Interfaces menu.

11. Navigate to the Secondary External menu and choose "Built-in mobile network modem" under the network mode drop down menu.
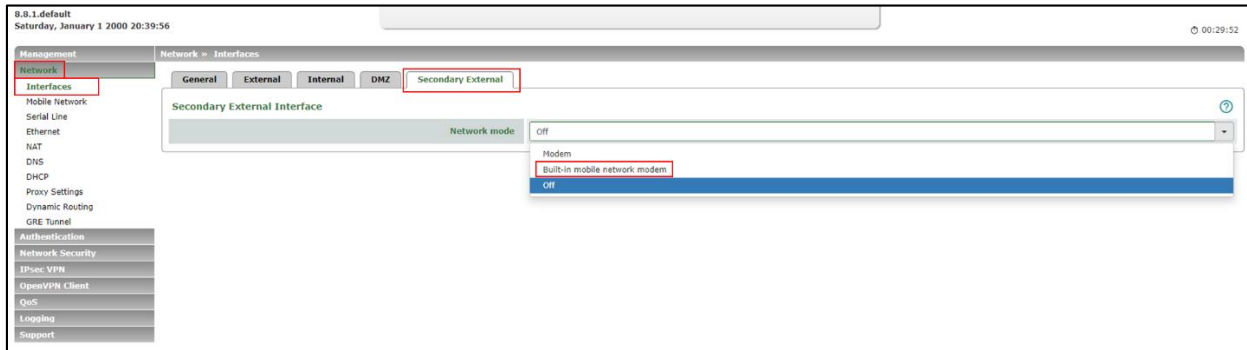
12. Set the operation mode to temporary so that the cellular interface is only active if the Internet connection via the WAN port fails
    a. Note: Operation mode permanent will disable the connection via the WAN port and use the cellular interface as the primary connection.
13. Configure secondary external interface probes. These probes are pings sent to a defined address through the WAN port to check the internet connection. If a defined number of probes fail, the TC mGuard RS4000 4G will turn on the cellular interface until the probes succeed again.
    a. For more information on the types of probes, click the question mark help icon in the upper right-hand corner.
14. Click save in the upper right-hand corner
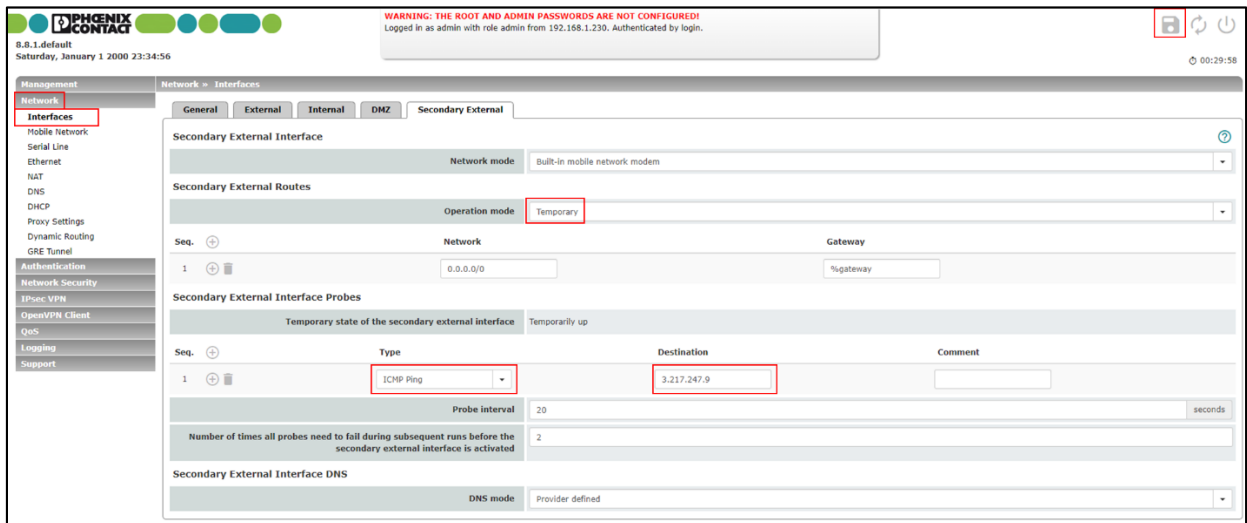
15. Proceed to the last section: Verify Internet Connection

Verify Internet connection

16. If cellular is used as the primary Internet connection, navigate to the general tab under the Network >> Mobile Network menu to verify the connection.

17. The connection is successful when the State of the mobile network interface and the Modem network connection state both say "Online".

Disclaimer: Signal Strength

A strong signal around -65 dBm is highly recommend for optimal connection. Issues may arise if the signal is < -85 dBm. Improve the signal by connecting two antennas and moving the antennas outside or near a window.

Disclaimer: Cellular connection time

An authentication process occurs the first time the mGuard connects to the cellular network to verify the device is certified, and the SIM card has a valid data plan. You will see verbiage such as "provider OTA registration" on the Mobile Network information screen during this process.

The authentication process can take up to 15 minutes depending on location and connection strength. To optimize the authentication process, connect two antennas to the device and place the antennas outside or near a window.

Conclusion

This concludes the TC mGuard 4G LTE Internet Setup guide

Version History:

2/6/2020

- V00: Original publication