RTC Manufacturing M2M Troubleshooting Guide

The purpose of this guide is to diagnose and resolve common errors and issues when using M2M systems from RTC Connect.

RTC strongly recommends completing this troubleshooting guide in order, documenting the process along the way. Potential solutions for each step are written in blue.

If your issue solution requires a call to RTC, please dial 800.782.8721 or e-mail M2MSupport@RTC-Traffic.com with the following information handy.

STEP ONE: INVENTORY CHECK

MODEM: □ 3G □ 4G  CLOCK: □ AP22 □ CPR2102
GUARDIAN: □ AC □ DC □ N/A  CABINET: □ AC □ DC

CHECK COMPONENT POWER:
□ MODEM POWER LED □ AP22 DISPLAY/CPR LED □ GUARDIAN LED
Check AP22 and/or Guardian LED fuses for power issues. Call RTC, about replacing.

MODEM SERIAL #: __________________________
(Located on black label on the front of modem (S/N))

MODEM IMSI #: __________________________
(Located in white section of the main modem sticker) last 6

MODEM IMEI #: __________________________
(Located on silver sticker on the back of the modem) last 6

TIME SWITCH ADDRESS: ______________________
(Press #22* on keypad for AP22 or view dip switch settings/lighting sequence on CPR2102)

CLOCK FIRMWARE VERSION: ______________________
(AP22 - press #99*; CPR2102 - remove faceplate & look at label on the CPU)
If clock firmware version is older than 3.90 build 2, a firmware upgrade is needed – Call RTC.

CHECK MODEM “CD” AND “LS” LEDS (if visible):
These LEDs should be ON for no longer then 90 seconds at a time. Please call RTC for instructions if the CD and/or LS light are steady ON for longer than 90 seconds. Some modem versions will not have LS LED.

STEP TWO: DIAGNOSTICS

1. ISSUE #39* COMMAND (AP22 ONLY)
□ IMSI # SHOWN □ IMEI # SHOWN □ CREG STATUS OK/ROAMING
- If the displayed message is “IMSI FAILED”, power off the modem. Then, unseat and reseat the SIM card by pressing in and out on the SIM card with a small flathead screwdriver. The SIM will pop out slightly, then back into place with a small clicking sound. Power the modem back on and repeat the #39* command.
- If the IMSI Failed and the IMEI Failed, the modem is not connecting to the clock. Please unplug the clock/modem, reconnect, and try the #39* command again. Refer to the installation guide to ensure proper connection.
- If the CREG status is something other than OK or ROAMING, please call RTC for troubleshooting options.
- Following these remedies, if the subsequent #39* command doesn’t display an IMSI #, IMEI #, and CREG OK/ROAMING, call RTC for assistance.

2. ISSUE #38* COMMAND (AP22 ONLY)

dB STRENGTH: __________
If the DB strength is in between -95 and -125, the cell strength is too weak. Contact RTC about external antenna options.

3. ISSUE #DA* COMMAND (CPR2102 - HOLD “MANUAL” for 10 SEC.)

Within ~15 seconds, the AP22 should establish a data connection and you should see a count-up on the display, followed by “COMMO IN PROGRESS.”
If the count-up goes higher than ~25, a connection is unlikely to happen. Try again. If failed again, call RTC about a failed #DA* command connection.

The Operating LED will start to flash rapidly. Then flash normal then flash rapidly. Normally this will happen a total of 3-5 cycles

4. ISSUE MANUAL ON/OFF COMMAND ON TIME SWITCH
(On AP22, press #1*1*; on CPR2101, press Manual Control Button.)

☐ RELAY STATUS CHANGE  ☐ FLASHER STATUS CHANGE
If the command fails to change the relay and/or flasher status, the issue is likely time switch relay or flasher related, not a modem issue.