

Emizon TCD Diagnostic Tips for Engineers.

1. Check LED 201 is on, this indicates a valid IP path. LED 201 is located above the left-hand segment display.
2. Check LED 202 is on, this indicates a valid GPRS Path. LED 202 is located above the right-hand segment display. LED 301 which is situated to the right of the RJ45 socket indicates there is a physical connection from the Network.
3. LED 101 indicates voltage has been applied to the TCD. LED 101 is located just below the segment displays and is always on when voltage has been applied to the TCD.
4. If LED 201 (IP) is on, apply a Firmware update by pressing both buttons SW401 & SW402 for 10 Seconds. UF will be displayed. The TCD will reboot, both paths should be up within a few minutes (if both paths are available)
Firmware updates must be applied to the TCD on every maintenance visit.
A failed Firmware update is indicated by FE 52. Check the RJ45 Cable, reboot the router or any Network faults. Check if ports 18,000 - 18,049 TCP outbound are open with the Network manager on site. An IT survey form is also available from our website. Does the IT Department require our destination IP addresses? If so, ask the IT Manager to request this information from us at helpdesk@emizon.com as detailed in the Emizon IT Survey form.
5. Check the signal strength by tapping the left-hand button SW402 once. GS indicates the signal strength which should read between 12 Min – 31 Max. GA 05 / GR 05 indicates GSM SIM Registration. GA and GR reading must read 05 for a valid GPRS Path. When the left-hand button SW402 is tapped, this enters a diagnostic mode which will time out automatically after 2 Mins. Within the 2 minute time frame, the Modem is not operational. It is therefore advised to take a GPRS reading prior to calling the Emizon Helpdesk as we cannot undertake full diagnostics without an available path.
6. When fitting a High Gain Antenna, always disconnect the power from the TCD. When the High gain has been fitted, power up the TCD and wait for T1. Check the signal strength by tapping the left-hand button once, and read the diagnostics GS, GA and GR. If the Signal strength is below 12, the signal may be improved by relocating the HG Antenna. It is advised to fit the HG Antenna away from any conduit, Electrical cable or Power distribution board. Where the site has a metal clad roof it is advisable to fit the HG antenna externally and high as possible, utilising the 5M of cable.
7. LED 101 on the GPRS board will flash once every 3 seconds, LED 101 is located on the GPRS Daughter board, next to the SIM.
8. Pressing the right-hand button SW401 for 5 seconds sends a test signal on both paths (if both paths are in contact)
9. Panel Connection Guides can be found at http://online.emizon.com/supported_panels.php

Fault Codes & GPRS Diagnostic

Error and fault conditions are shown on the segment displays.

The display may show a number code to indicate the nature of the problem. The most common codes together with the potential reasons and solutions are shown on the table below.

Code Possible Reason and Solution

- E 0** Error Code 0: IP Path not connected. Check Ethernet cable from TCD to Router/ Network connection electrically OK.
- E 1** Error Code 1: TCD has No IP address
- E 2** GPRS Registration State not 1 or 5. If this persists, it indicates poor GPRS coverage or an antenna location problem.
- E 3** GPRS Connection not available. If this persists it indicates the TCD is unable to connect to the GPRS IP Network.
- E 6** No ARP Response. Cannot detect local gateway/router. Indicates no response from router. The TCD may be plugged into wrong network, router not online or has a different IP address.
- E 7** Cannot detect Emizon Service Platform. The internet connection is down or firewall is blocking internet access on the desired port range (Outbound Ports TCP 18000 – 18049 Inclusive)

Code Firmware Update Codes

- U A** UA Firmware Update Available. Apply a Firmware update by pressing both buttons for 10 Seconds or until **U F** is displayed.
- U F** UF Followed by a value of between 00 and 99 or displays hexadecimal characters indicates that the firmware update is in progress.
- F E** FE followed by a value indicates an error in firmware update process. Repeat process, if the result is the same check network connection.
- R R** rr TCD is in the process of rebooting, this will be followed by **B U, B C, T1, O 1**
- U C** Firmware Update Complete. followed by t1, 01 indicates the firmware update is complete and awaiting signalling both paths.

Codes for GPRS signal strength tap the left-hand button once (SW402)

- G S** Signal strength. 12 is the minimum, 31 is the Maximum. Recommended minimum signal is 12. A signal strength of 99 indicates no signal.
- G A** GPRS Registration state which must read **O 5**
- G R** GSM Registration state must read **O 5**
- G D** Grade type **L3, L4**
- A G** Age of GPRS reading (values in shown in seconds)
- O P** Operating mode **I G, G P, I P, G -, I -**