

Sync Connect APIM & TCU Programming and Activating.

Read this document fully before starting any actions. It is your responsibility to follow the instructions as outlined below.

NOTES:

- This tutorial is written specifically for most 2015 thru 2018 US Ford and Lincoln models that utilize CGEA 1.3 vehicle architecture. It is possible to retrofit other year and models of Ford and Lincoln vehicles as long as the vehicle utilizes CGEA 1.2/1.3 vehicle architecture. (Note: With CGEA 1.2, the feature set will be reduced to location services and WIFI hotspot, if the TCU is so equipped.)
- The FordPass feature set will be affected by the APIM vs TCU firmware versions and asbuilt programming. The APIM firmware versions should be at the 3.2/3.3 APIM Navigation Unit Firmware (Production Release 2018) level at a minimum, Sync 3.4 is recommended. If you cannot program the APIM firmware, accessibility to certain features will not be available. The TCU firmware version should be programmed to the latest indicated below for feature compatibility.
- Flashing the BCM with updated firmware is not required.
- SYNC Connect modems have base part number 14G087 and 14G229. They are identical and interchangeable.
- Sync 3 Hot Spot Menu can only be added to newer Sync 3 APIM's due to a firmware incompatibility. (MY18.5+) The donor vehicle VIN will be required to activate the WIFI hotspot feature, if so desired. See the Ford Owner website for information about this feature.
- The instructions will work with Ford vehicles featuring Sync 2 / MFT. Sync 2 (AKA My Ford Touch) Sync Connect compatibility has been tested and proven, although will have limited features.
- Canadian vehicles will use 754-05-xx (754G5G1/754G5G2) rather than 754-06-xx (754G6G1/754G6G2) for US models for Block 5 data. Canadian TCU's will not work in the US, and vice versa.

Vehicle Module As Built Settings Required

Make the appropriate FORScan settings in the following modules.

APIM, Sync 3.2+:

Instruct the APIM there is a TCU.

7D0-02-02 xxxx *xxx xxxx, from 8 to 9.

Instruct the APIM that the TCU is hotspot capable, if so equipped.

7D0-02-03 *xxx, from 0 to 4.

APIM, Sync 2:

Instruct the APIM there is a TCU.

7D0-02-02 xxxx *xxx xxxx, from 0 to 1. (TCU Present)

Vehicles with Sync 2 / MFT can be used if the APIM firmware is at least EM5T-14D205-AD and the vehicle network supports CGEA 1.3.

BCM:

Vehicle must be equipped with and programmed for factory remote start.

Enable Remote Start:

726-22-02: xxx1 xxxx xxxx

Remote Start: 0=disabled, 1=enabled

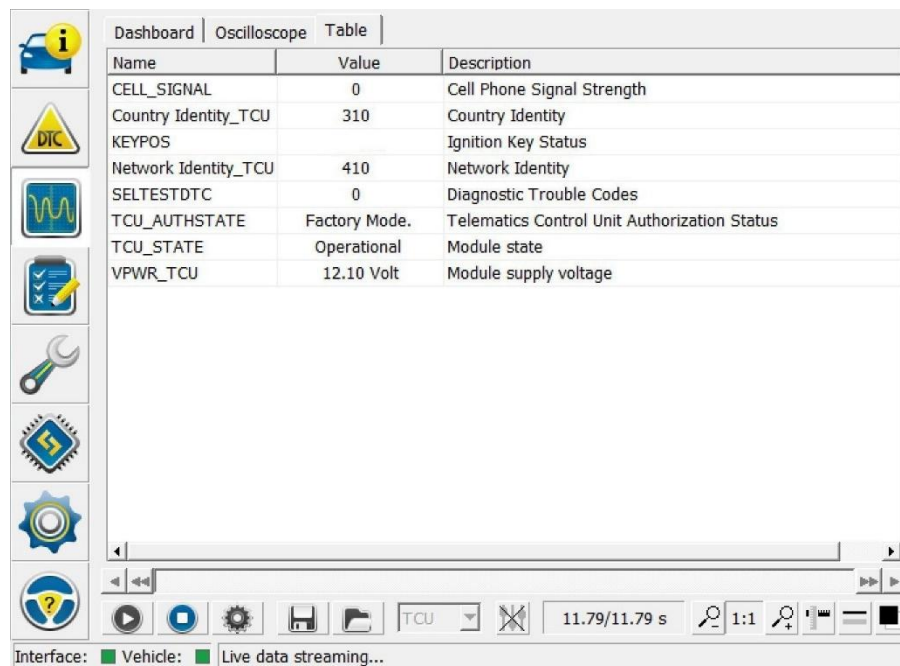
Authorize the TCU

Important:

Remove the vehicle from FordPass. Delete the app on the phone to clear the app cache. It is best to do this the day before you try the rest of this, as this action needs to process through the Ford system. You will install the app later in this process. It is recommended to perform a Master Reset on the APIM beforehand and re-pair your phone as necessary. In some cases, it may be necessary to manually remove the vehicle from the Ford Owner account, especially if the vehicle was not equipped with FordPass Connect from the factory.

NOTES:

- The following activation process must be done with the vehicle running. Disconnect the vehicle battery charger when the vehicle is running.
 - Setting up the TCU in FORScan for the authentication process requires your patience.
 - Disregard the ignition status and FORScan version in the pictures below.
1. In FORScan set up the TCU monitoring as shown in the images below.
 2. While monitoring the TCU PIDs in real time, there's a PID labeled 'TCU Authstate' which tells you the current authorization status of the module. To begin the process of activating or authorizing the TCU, change the value of 754-01-01 in FORScan to the value below:
754-01-01: B133 0000 0041 (This is for NA region.)
...wait a few minutes. Check that the TCU Auth state says, 'Factory Mode', then set it back to the original value. This changes the OCS state to 'Not Configured'.
(754-01-01 B132 0000 0040 if using the asbuilt data above.)
 3. While monitoring the Authorization Status PID, it will progress through several stages as shown in the images below. (Factory Mode, Unprovisioned Mode, Waiting for Authorization Mode).



Name	Value	Description
CELL_SIGNAL	0	Cell Phone Signal Strength
Country_Identity_TCU	310	Country Identity
KEYPOS		Ignition Key Status
Network_Identity_TCU	410	Network Identity
SELTESTDTC	0	Diagnostic Trouble Codes
TCU_AUTHSTATE	Factory Mode.	Telematics Control Unit Authorization Status
TCU_STATE	Operational	Module state
VPWR_TCU	12.10 Volt	Module supply voltage

Interface: ■ Vehicle: ■ Live data streaming...

The screenshot shows the FordPass app interface with the 'Table' view selected. The table displays the following data:

Name	Value	Description
CELL_SIGNAL	0	Cell Phone Signal Strength
Country_Identity_TCU	0	Country Identity
KEYPOS		Ignition Key Status
Network_Identity_TCU	0	Network Identity
SELTESTDTC	0	Diagnostic Trouble Codes
TCU_AUTHSTATE	Unprovisioned Mode	Telematics Control Unit Authorization Status
TCU_STATE	Operational	Module state
VPWR_TCU	12.10 Volt	Module supply voltage

The interface includes a sidebar with icons for Dashboard, DTC, Oscilloscope, and other functions. The bottom status bar shows 'Interface: Vehicle: Live data streaming...' and a timer at '4.99/4.99 s'.

The screenshot shows the FordPass app interface with the 'Table' view selected. The table displays the following data:

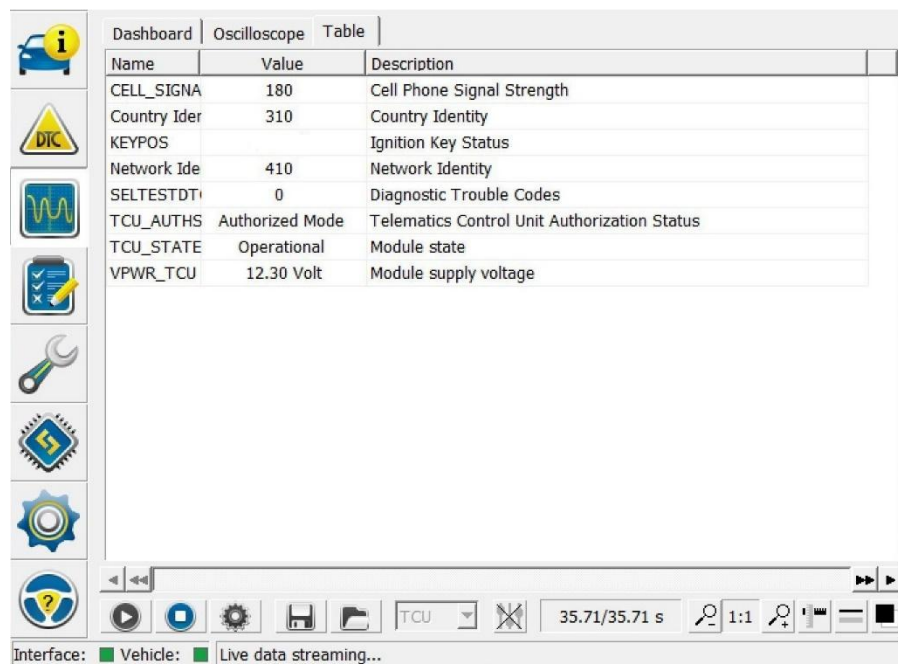
Name	Value	Description
CELL_SIGNA	181	Cell Phone Signal Strength
Country Ider	310	Country Identity
KEYPOS		Ignition Key Status
Network Ide	410	Network Identity
SELTESTDTI	0	Diagnostic Trouble Codes
TCU_AUTHS	Wait For Authorize	Telematics Control Unit Authorization Status
TCU_STATE	Operational	Module state
VPWR_TCU	12.10 Volt	Module supply voltage

The interface includes a sidebar with icons for Dashboard, DTC, Oscilloscope, and other functions. The bottom status bar shows 'Interface: Vehicle: Live data streaming...' and a timer at '184.36/184.36 s'.

- Once you are in the 'Waiting for Authorization' mode, install the FordPass app on your phone and add your vehicle. Once your vehicle is added successfully, **SIGN OUT OF THE APP** and quit the app on the phone to clear the app cache. Start the app again, log in, and check that your vehicle is present and that you can activate a vehicle.
- Activate the vehicle now. DO NOT try to authorize the vehicle multiple times, this will just mess things up. Wait for the email or message in FordPass that says your authorization is pending. If you get a 'Unable to

authorize' or 'Authorization not available' message, then the Ford servers have an issue and there is nothing you can do at this point. It usually takes a day for them to come back. (Weekends are the worst times for this.)

6. Once the message appears on the APIM to authorize, confirm you want to authorize. If the message takes more than about 5 minutes, turn off the vehicle and open and close the door to ensure that the APIM powers down. Restart the vehicle. Wait for the message... authorize the vehicle.
7. You should get an email or message in FordPass that the vehicle is now authorized. If you do not receive these emails then the process is failing on the FORD side, not the vehicle side. Sometimes the emails or message in FordPass will take several minutes. Once the vehicle authorizes, you will see the status in FORScan monitoring the TCU PID's.



Name	Value	Description
CELL_SIGNA	180	Cell Phone Signal Strength
Country Id	310	Country Identity
KEYPOS		Ignition Key Status
Network Ide	410	Network Identity
SELTESTDT	0	Diagnostic Trouble Codes
TCU_AUTHS	Authorized Mode	Telematics Control Unit Authorization Status
TCU_STATE	Operational	Module state
VPWR_TCU	12.30 Volt	Module supply voltage

Additional Information:

SSM 48279 - 2018-2019 Various Vehicles - Telematics Control Unit (TCU) - Vehicle Software Update Message - Service Tool Displays Factory Mode.

Some 2018-2019 Ford and Lincoln vehicles equipped with a telematics control unit (TCU) may exhibit a persistent message in the Ford Pass/Lincoln Way mobile app advising, "Your vehicles software is being updated. Vehicle controls will be unavailable for about 10 minutes while this update takes place." This may be due to the TCU still in factory mode. Using the appropriate Ford diagnostic scan tool, check the TCU_AUTHSTATE PID status showing "Factory Mode". To correct this condition, perform programmable module installation (PMI) on the telematics control unit (TCU). Once PMI is completed, ensure the TCU_AUTHSTATE PID in service tool no longer displays "Factory Mode". If the concern is still present, follow normal diagnostics in Workshop Manual (WSM) section 415-00. For claiming, use causal part 14G229.