ATB-NFB Connecting Loki To Tesla User Guide

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User Guide

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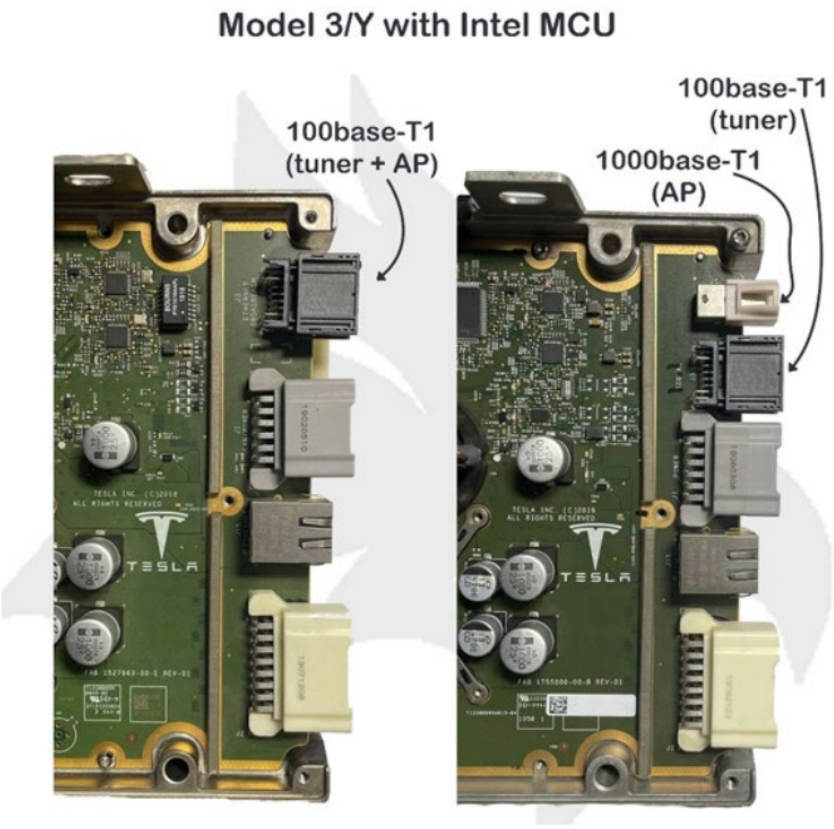
INTRODUCTION

Tesla module LOKI uses several interfaces of connection for diagnostics and work. Type and method of communication with the vehicle depend on: vehicle model, year of production, MCU type, vehicle software version and tasks to be performed.
LOKI module has several interfaces for connection to the vehicle:

1. **LAN** – interface used to work with MCU (work with updates, redeploy, activation of service modes, navigation setup, change of configuration). LC002-LS cable is used for Model X and Model S (exception – MCU2 configuration change by using a jumper, in this case the usual Ethernet-Ethernet cable is used).
   The Model 3 and Model Y uses an Ethernet-Ethernet cable (configuration change, Online functions).
2. **Base100-T1 (BroadR-Reach)** is a dual-wire analog of the LAN interface. It used to connect to MCU in Model 3 and Model Y (update, redeploy, service mode activation, navigation setup). LC004-L3 cable is used to connect to MCU with AP2.5/3.0 (without port 1000base-T1). LC007-LY cable is used in case of MCU with AP3.1 (with port 1000base-T1) (or it is possible to change LC004L3 interface 100t1 connected to the tuner pins).



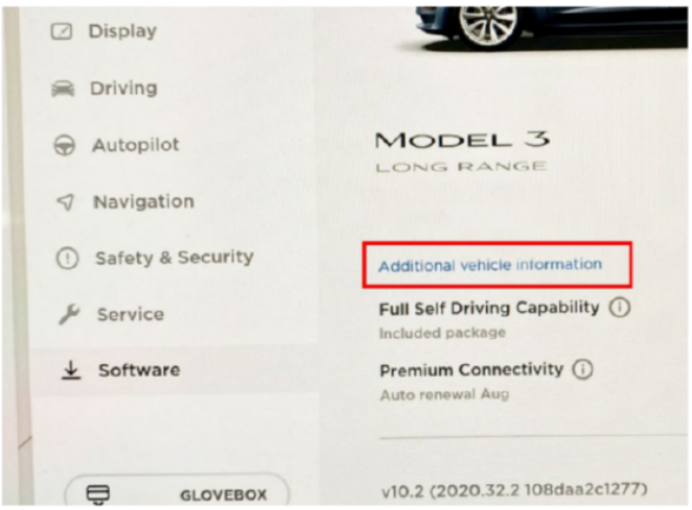
3. **CAN** – the interface used to work with all models of vehicles, allows you to interact with various units of the

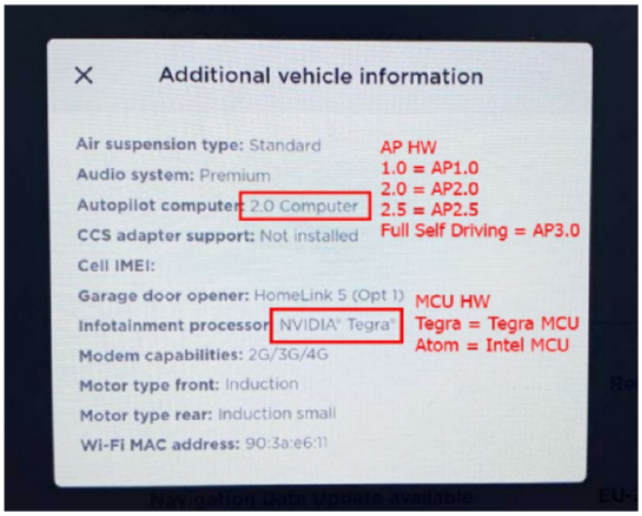
vehicle (battery, engines, suspension, chargers, etc.). Using the CAN bus connection, it is possible to analyze the live data of the vehicle, read alerts, perform calibrations, self-test ECUs, remove crash events and more.

For Model S and Model X use cable LC001-CS (Model S until 2016) or LC003-CX (Model S and Model X after 2016).

To connect to the Model 3 and Model Y, it is recommended to use the LC006-C3 cable, or to connect via pins to any of the convenient connectors with the necessary CAN bus.

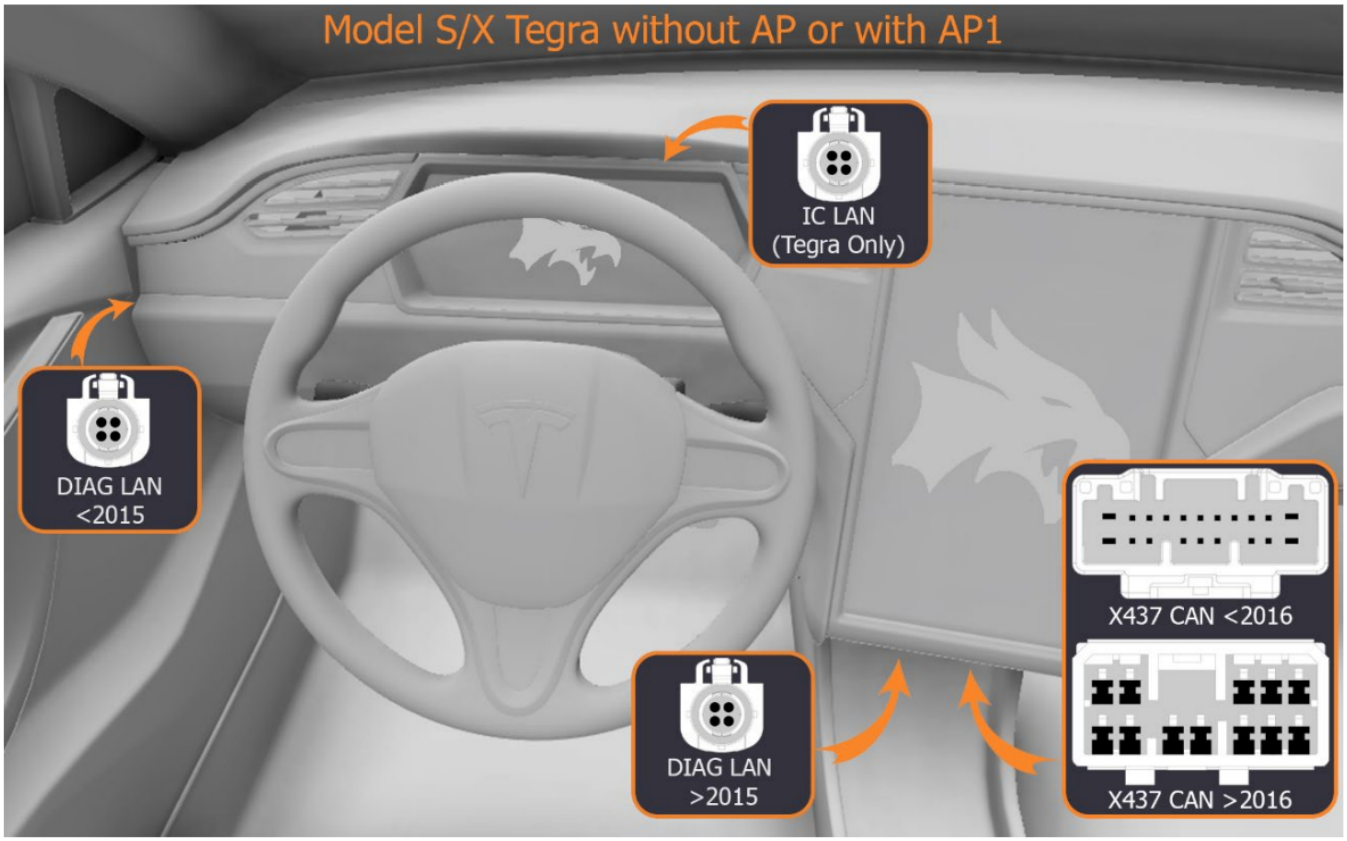
Determining the Type of MCU and AP





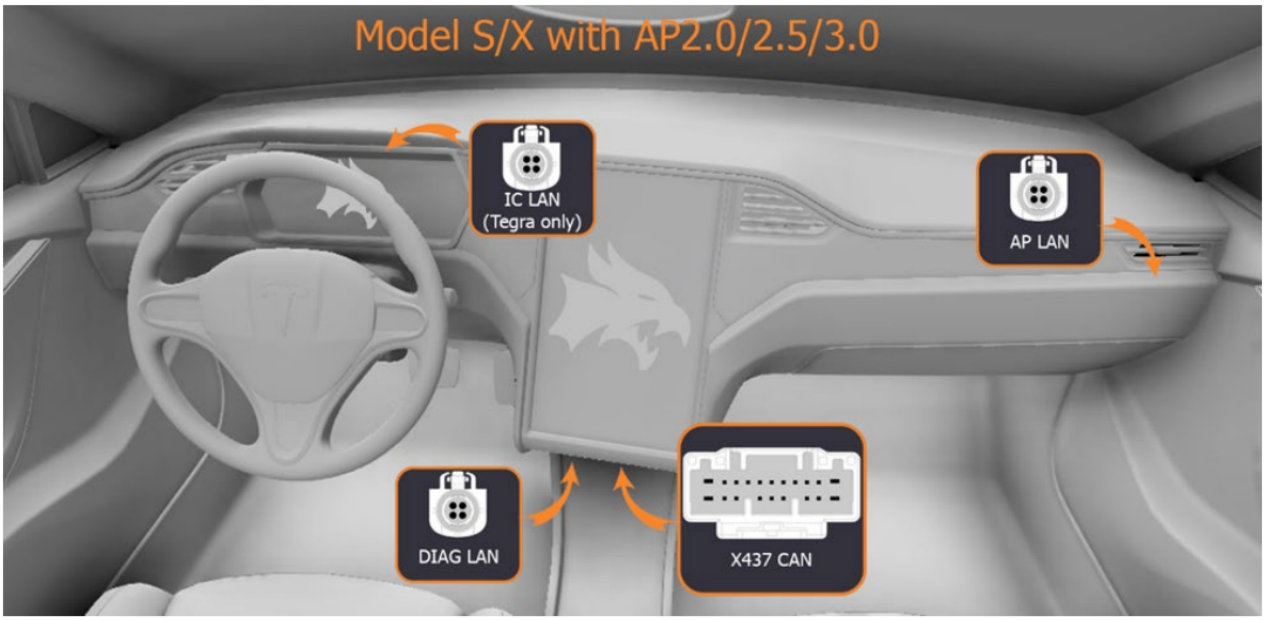
Model S (MCU Tegra) connection without AP or with AP1

CAN interface is connected under MCU using cable LC001-CS or LC003-CX (depending on the year of manufacture of the vehicle):
If Factory Mode is not active on the vehicle – LAN interface is connected to the IC port via the LC002-LS cable.
If Factory Mode is already active on the vehicle – DIAG port becomes active which is under the monitor or behind the left dashboard panel (depending on the year of production of the vehicle), in this case, LAN interface must be connected through this port.



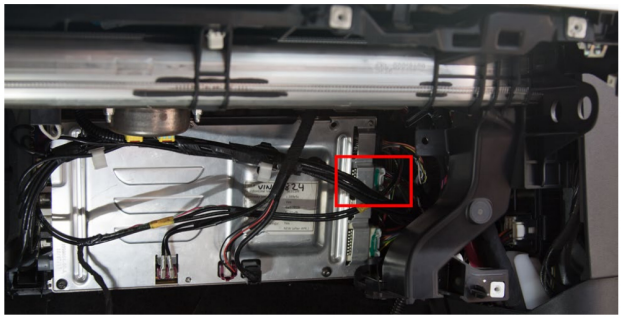
Connection to Model S (MCU Tegra/Intel) AP2.0/2.5/3.0

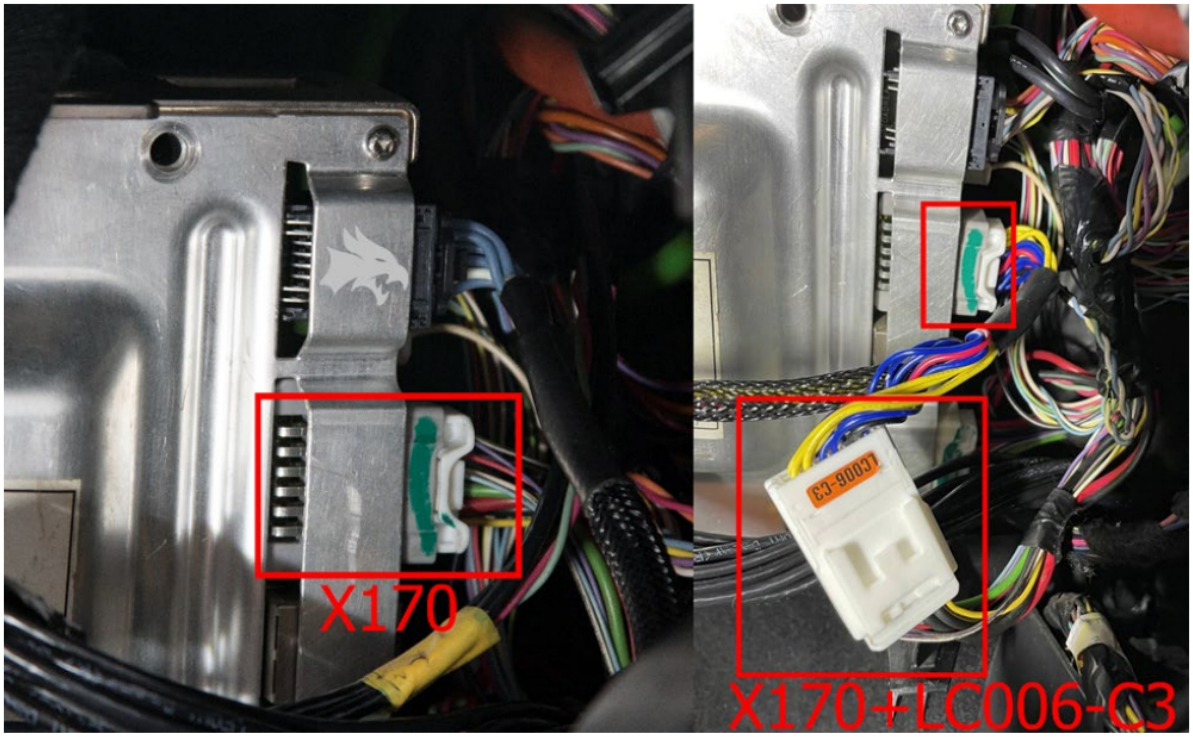
Additional LAN port of the AP block appears on vehicles with the autopilot unit version 2.0/2.5/3., which is more convenient to connect to than IC port. In the case of vehicles with MCU Tegra – after activation Factory Mode will become the active DIAG port.
On vehicles with Intel MCU after activation of Factory Mode DIAG port will not be unlocked and it should be used only when working with Online functions.



Connecting to Model 3/Y CAN bus

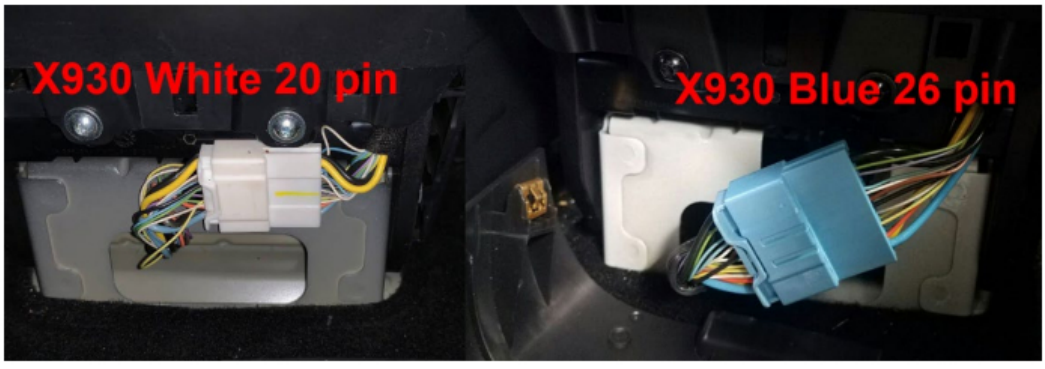
Model 3/Y Tesla did not provide additional diagnostic connectors to connect to CAN bus (they are available in vehicles after 2020, but they cannot be fully used).
Therefore, for a full connection to the required CAN busses, we recommend using the LC006-C3 cable to connect through the gap of the X170 connector.

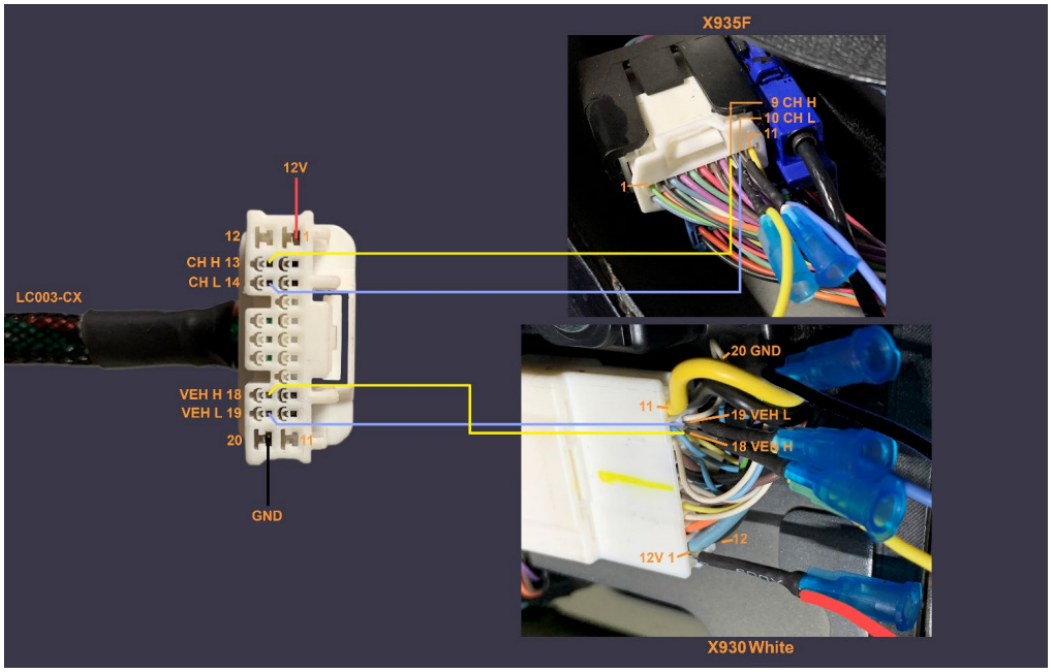


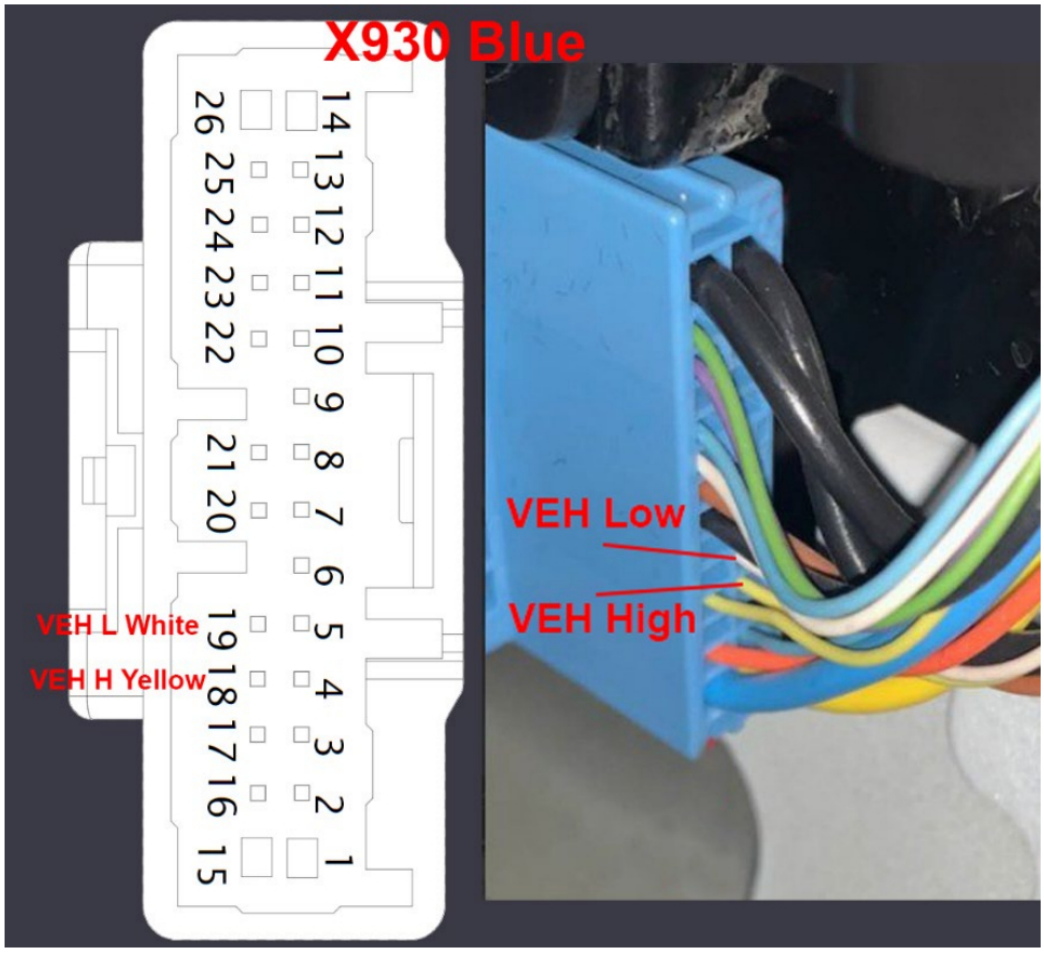


In the absence of a cable, CAN bus can be connected with LC003-CX cable and a set of pins.
CAN CH can be connected to the X935 connector, which is in the front door on the passenger side.

CAN VEH can be connected to the X930 connector located at the back of the center console.



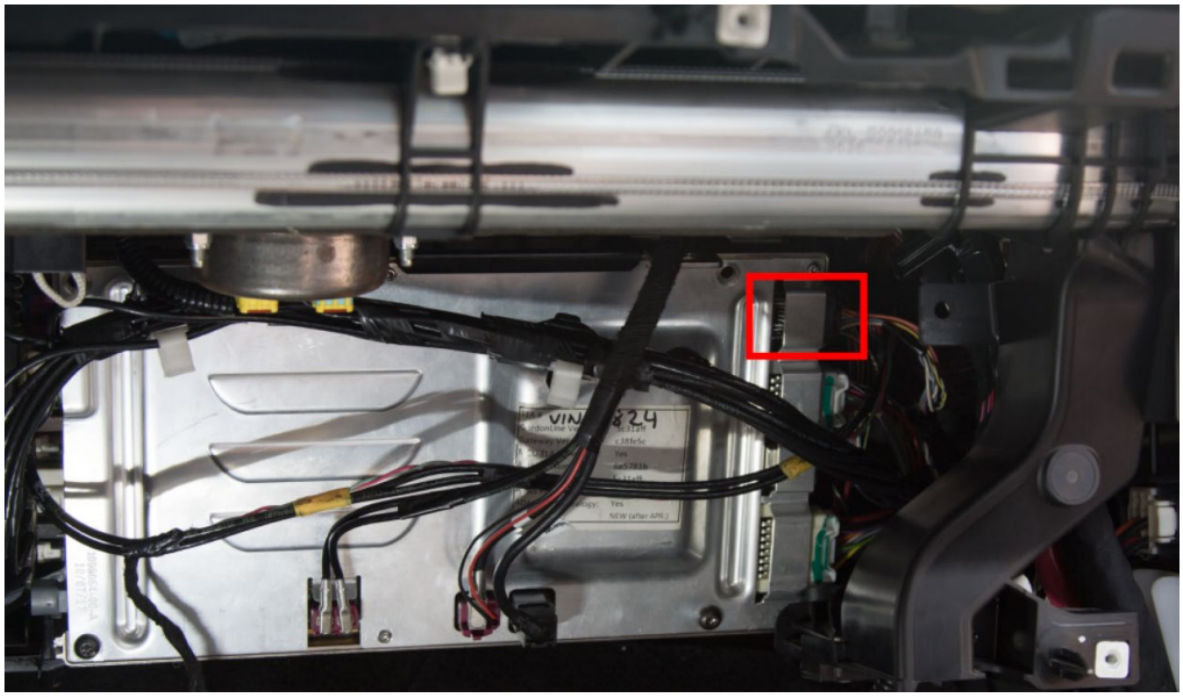


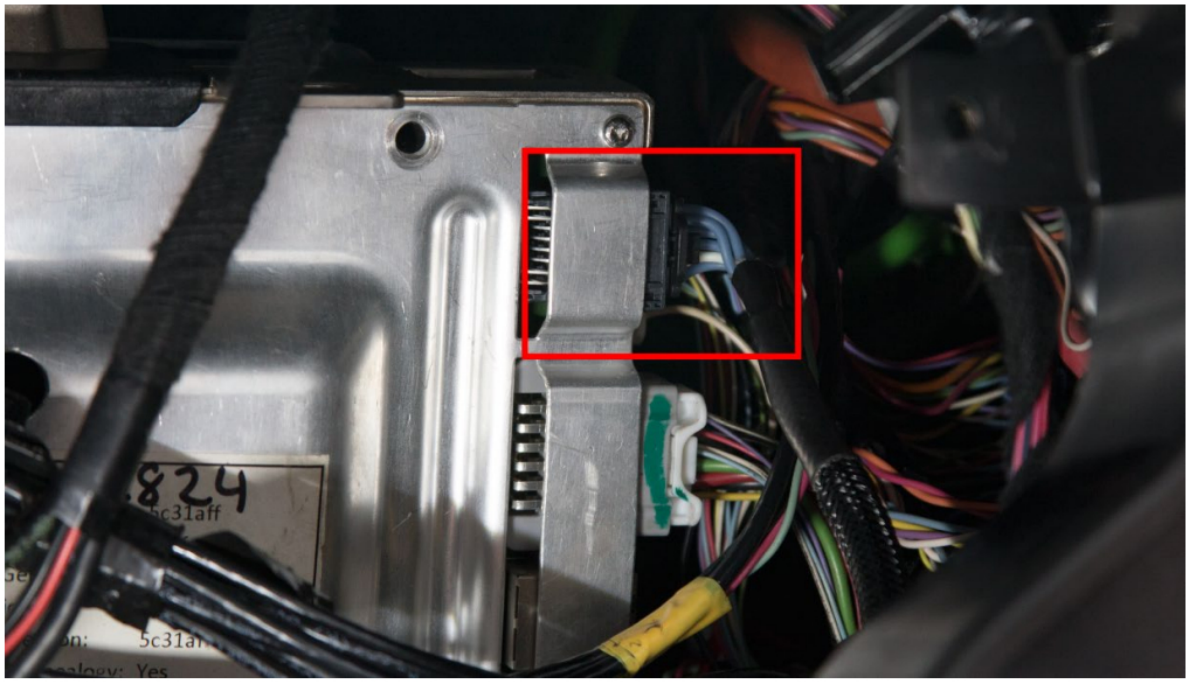


In order to provide power to the module in case of connection with needles, it is best to use the 12v output from the penthouse.

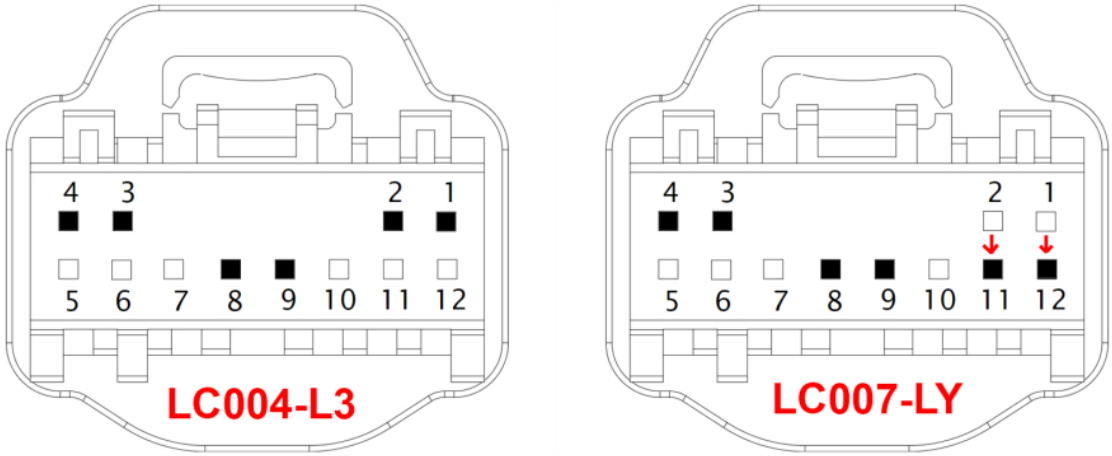
Connecting to Base100-T1 (BroadR-Reach) Model 3/Y

The cable LC004-L3 is used to connect to the MCU with AP2.5/3.0 (without port 1000base-T1), which connects to the MCU instead of the AP connector. USB cable connector is connected to any free USB vehicle port for module power.





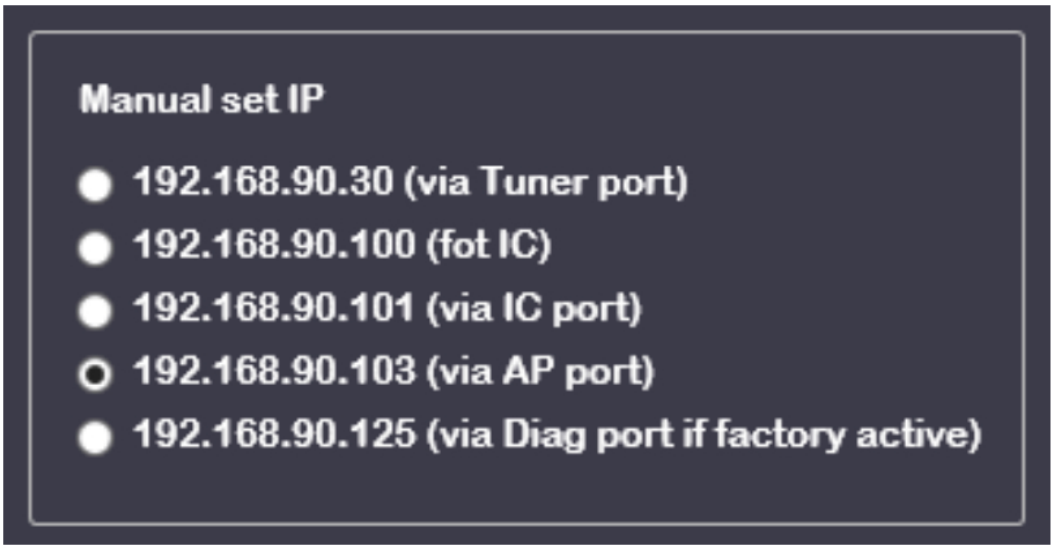
The cable LC007-LY is used in case of MCU with AP3.1 (with port 1000base-T1 (or you can change LC004-L3 so that the interface 100base-T1 connected to pins tuner).



IP address setting for LAN/Base100-T1 connection

In the case of the CAN bus, there are no restrictions from the vehicle, any device (including LOKI module) has the right to send and receive any data from any unit on CAN bus.
In the case of LAN/base100-T1 interface it is a little more complicated. Inside the MCU is an Ethernet switch that allows traffic only from familiar devices (IC, AP, Tuner) through their interfaces. Device identification is based on their IP address and the port to which they are connected.
Considering this device identification principle – when connecting the LOKI module to the vehicle, it is necessary to set the correct IP address depending on the port to which we connect.
The principle of choosing an IP address is as follows:

- 192.168.90.30 – if the module is connected instead of the tuner;
- 192.168.90.100 – not currently in use;
- 192.168.90.101 – if the module is connected instead of IC;
- 192.168.90.103 – if the module is connected instead of the AP;
- 192.168.90.125 – if the module is connected to the DIAG port (the port must be unlocked).



MSG Equipment

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Documents / Resources

	LOKI ATB-NFB Connecting Loki To Tesla [pdf] User Guide ATB-NFB Connecting Loki To Tesla, ATB-NFB, Connecting Loki To Tesla, Loki To Tesla, Tesla

References

- MSG Equipment - wyposażenie warsztatów TM MSG equipment. - msgequipment.pl