



Gen II Fiber Optic Bridge Quick Start Guide

Feb 2014

Purpose

This quick start guide will walk you through the steps to make the initial connections with your Gen II Fiber Optic (FO) Bridge.

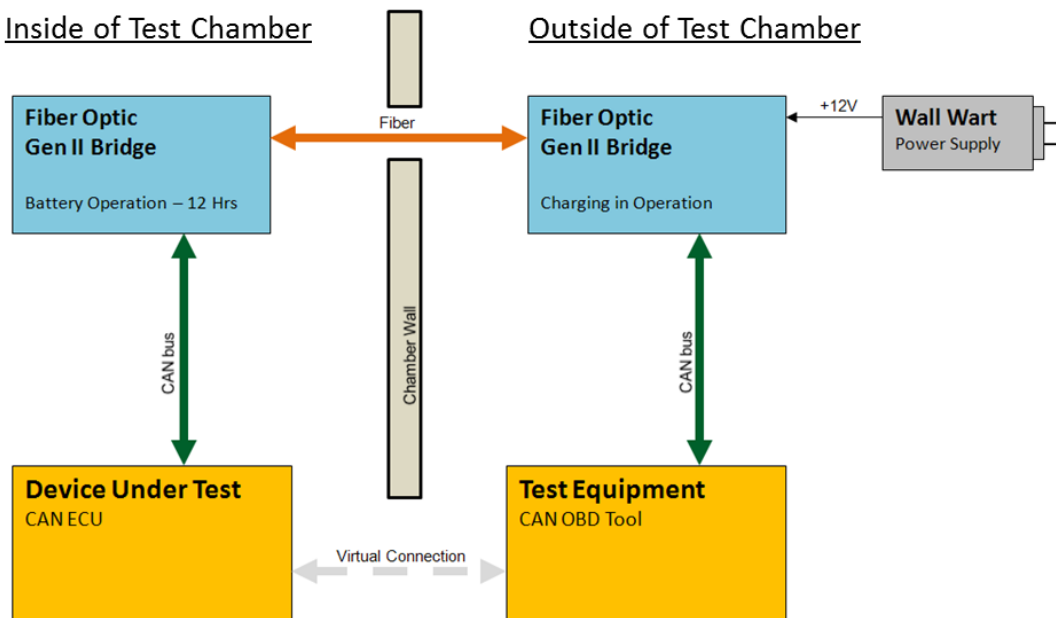
Battery Charge

The Gen II FO Bridge units are shipped with the batteries in a partially charged state. There will be enough charge to use each unit for a few hours before a recharge is necessary, however it is recommended that you fully charge both units before using. During the initial setup you can plug one unit in and begin the battery charge process.

First Steps

We recommend that you make your first connection and trial use of the Gen II FO Bridge outside of the EMC test chamber, so you have a chance to become familiar with the operation and can easily observe both units during the learning process.

The figure below shows a diagram of the setup.



The Gen II FO Bridge is supplied with a pair of Polymer Optical Fiber (POF) cables. First, connect the two FO Bridges together. Note the two SMA 905 fiber connectors found on each bridge unit. One is light grey and is labeled "Fiber Out". The other is dark grey and is labeled "Fiber In". Using the POF cable pair supplied with the Gen II FO Bridge, simply connect the Fiber OUT from one unit to the Fiber IN of the other. Connect both fiber cables this way.

Plug in the supplied wall mount power supply and connect it to the DC input jack of the Gen II FO Bridge which will be located inside of the chamber. This will charge the batteries of the unit that will need battery power first.

Connect the Vehicle Bus to each bridge

The Gen II Fiber Optic Bridge connects to the vehicle networks through a high density 15 pin socket connector (DE-15S). The vehicle bus should be connected to the DE-15S connector located on each bus unit.

The pin out can be found on the product labeling located on the unit, as well as at the end of this document and in the User Manual located on the supplied CD.

For CAN applications you will need only to connect CAN_H and CAN_L.

For SWCAN applications you will require the connection of the SWCAN bus and Ground signals and optionally Vehicle Battery.

If you are operating your bridge from internal batteries you will need to connect an external +12V battery to the Vehicle Battery pin on the DE-15S connector. If the provided wall wart powers the Fiber Optic Gen II Bridge you will not need to provide a connection to Vehicle Battery.

If you will be using the bus termination provided by the bridge you are done. If you prefer to wire your own termination, be sure to set the bridge for "no termination" and attach the appropriate termination components to your cables.

Set the Bridge Power Rotary Switch

There are three rotary switches located on the end cap of each bridge.

The **Power/Mode** switch is labeled OFF, CAN, SWCAN, and Option.

OFF – The unit is powered OFF and will not draw power from the internal battery supply. If the wall supply is attached the internal battery charger operates and charges the internal battery while the switch is set to OFF.

HSCAN – The unit is powered ON and will operate in the HSCAN mode. This

includes the familiar dual wire IOS11898 CAN as well as the newer CAN FD.

If the wall supply is attached the internal battery charger will operate. Normal operation can continue while batteries are charging.

SWCAN - The unit is powered ON and will operate in the SWCAN mode. If the wall supply is attached the internal battery charger will operate. Normal operation can continue while batteries are charging.

Option – Your Gen II Fiber Optic Bridge may have been built with an optional vehicle bus interface installed. If so, please consult the documentation for the particular option that you are using.

When the **Power/Mode** switch is set to the Option position the unit is powered ON and will operate using the optional vehicle bus interface. The unit will draw power from your battery even if you do not have an option card installed. If the wall supply is attached the internal battery charger will operate. Normal operation can continue while batteries are charging.

Set the HSCAN Termination Rotary Switch

The rotary switch has meaning only if you are using the HSCAN vehicle bus. The selectable bus termination choices that you may choose are:

None – There is no additional termination switched onto your bus.

120 Ohm – A 120 ohm termination resistor is switched onto your vehicle bus from within your Gen II Fiber Optic Bridge.

60 Ohm split – A 60 ohm split termination circuit is switched onto your vehicle bus from within your Fiber Optic Gen II Bridge. See the User Manual for details.

ISO 15765-4 – An ISO 15765-4 compatible termination network is switched onto your vehicle bus from within your Fiber Optic Gen II Bridge. See the User Manual for details.

Set the SWCAN Termination Rotary Switch

This rotary switch provides functional support only if you are using the SWCAN vehicle bus. The selectable SWCAN bus termination choices that you may choose are:

STD High Speed – Choose this setting if you are running 83.3 Khz or higher SWCAN.

The standard 6.49K Ohm load resistor is in the circuit.

There is no additional termination switched onto your bus. You should add any necessary additional termination to your vehicle bus.

STD low speed – Choose this setting if you are running 33.3 Khz SWCAN.

The standard 6.49K Ohm load resistor is in the circuit.

There is no additional termination switched onto your bus. You should add any necessary additional termination to your vehicle bus.

Tool High Speed – Choose this setting if you are running 83.3 Khz or higher SWCAN and require an additional 130 ohms to ground termination.

Tool Low Speed – Choose this setting if you are running 33.3 Khz SWCAN and require an additional 130 ohms to ground termination.

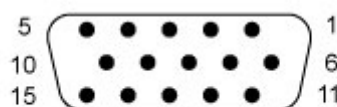
Start Communicating

You may now initialize your network devices and allow communication to proceed.

Vehicle Bus Connector Pinout

The following chart shows the pinout of the female DE-15S connector contained in the Gen II Fiber Optic Bridge. Do not connect anything to any of the input pins not listed in the table.

DE-15S Female	Signal	Comment
1	SWCAN	Single Wire CAN Bus signal
2	CAN Hi	HS CAN
4	CAN Lo	HS CAN
5	Vehicle Ground	Vehicle Power Ground
7	Optional Signal 1	See Option Card Documentation
11	Chassis	Metal Case
12	Optional Signal 2	See Option Card Documentation
15	Vehicle Power	Vehicle Battery



DE-15S (Female Socket Front View)