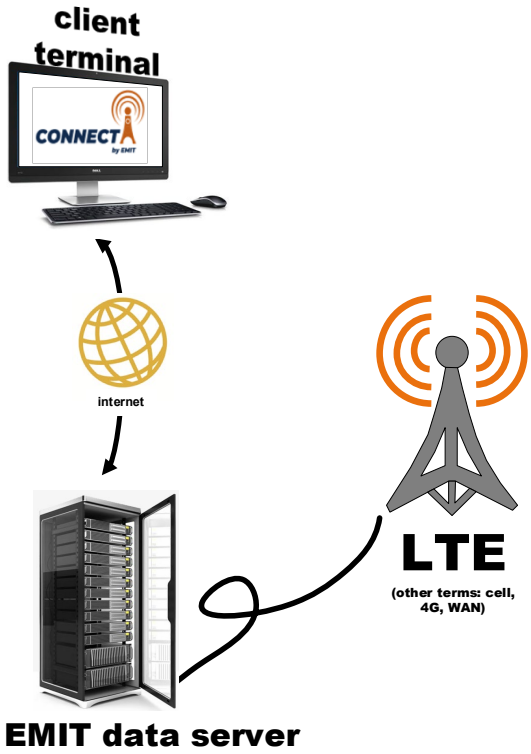
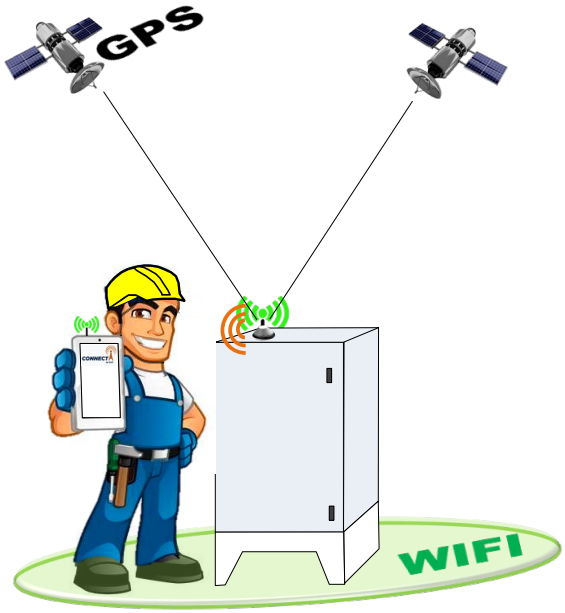




Telematics – Installation Guide for EIM panel-based systems

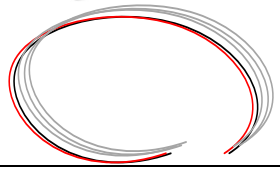
Installation, Operation, and Troubleshooting Manual

Table of Contents

EMIT items needed:

EMIT Part Number	Description
20017-0013	EMIT Data Relay Kit w/ mounting bracket, DIN Rail stop, and wire set

The 20017-0013 includes the following items:

	20410	EMIT Data Relay
	20374-0001	Multi-channel antenna: cell, WIFI, GPS
	20413-0002	Antenna Mounting Bracket
	20129-0090 and 20132	DIN Rail and DIN Rail Stop
	Precut and pre-labeled wires	

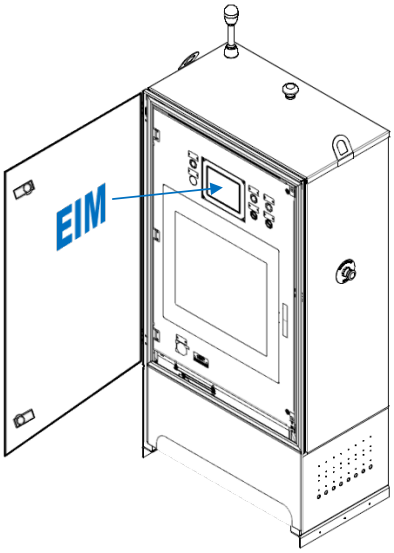
System Introduction

EMIT's Telematics solution provides remote access to gas compressor engine platforms to long-term monitor system performance and issue callouts for pre-configured events such as a system shutdown. Each field unit connects through a multi-carrier cell modem to a nearby mobile tower, to offload data, callouts, and receive configuration updates. The unit data are being collected every 15 minutes at an EMIT data server, which can be accessed via any internet terminal by users on a permission base. The system can be configured to send out SMS and email messages for callouts.

The field unit telematics hardware is not integrated into the EMIT Interface Module (20200 – **EIM**), and therefore needs the addition of an EMIT Data Relay (20410 – **EDR**) into the system.

EDR Based Telematics

All 14270-series EMIT control panels are outfitted with an EIM for touchscreen control and require the addition of an EDR module and a multi-channel LTE/GPS/WIFI antenna in order to bring the EMIT telematics feature to the panel. The EDR module snaps into a DIN-rail inside the panel and connects through MODBUS to the existing control system. Field personal can access and configure the EDR through a WIFI connection via their mobile phone or similar device. The telematics portion of the EDR is pre-activated and can be turned on remotely and immediately as previously mentioned for the DCT.



C1D2 Notice

To preserve the C1D2 module rating, the EDR module must be installed in a C1D2-suitable enclosure such as the 14270-series panels to protect the module from moisture, dust, and from being accessed in normal operation without using a tool. The enclosure should suitably protect the equipment from deterioration that would affect its suitability for Class I, Division 2 locations.

EDR Spec

This document serves as an installation guide only. To download the full EDR full technical specification log into the EMIT Forum.

Installation Steps

To upgrade the EIM based system with an EDR:

(1) The EDR needs 3 antenna connection. Install the multi-channel antenna either
   a. *preferred solution!* on top of the panel by drilling a 18mm hole through the panel and installing the antenna through the hole [see Figure 1 Option B], or
   b. *alternative solution:* on a nearby mounting pole using the mounting bracket [see Figure 1 Option A]. ***Important note***: the three coax cables of the antenna are not UV resistant and must be protected from permanent sunlight exposure to avoid material breakdown. For example, wire loom tubing can be added around the cables.

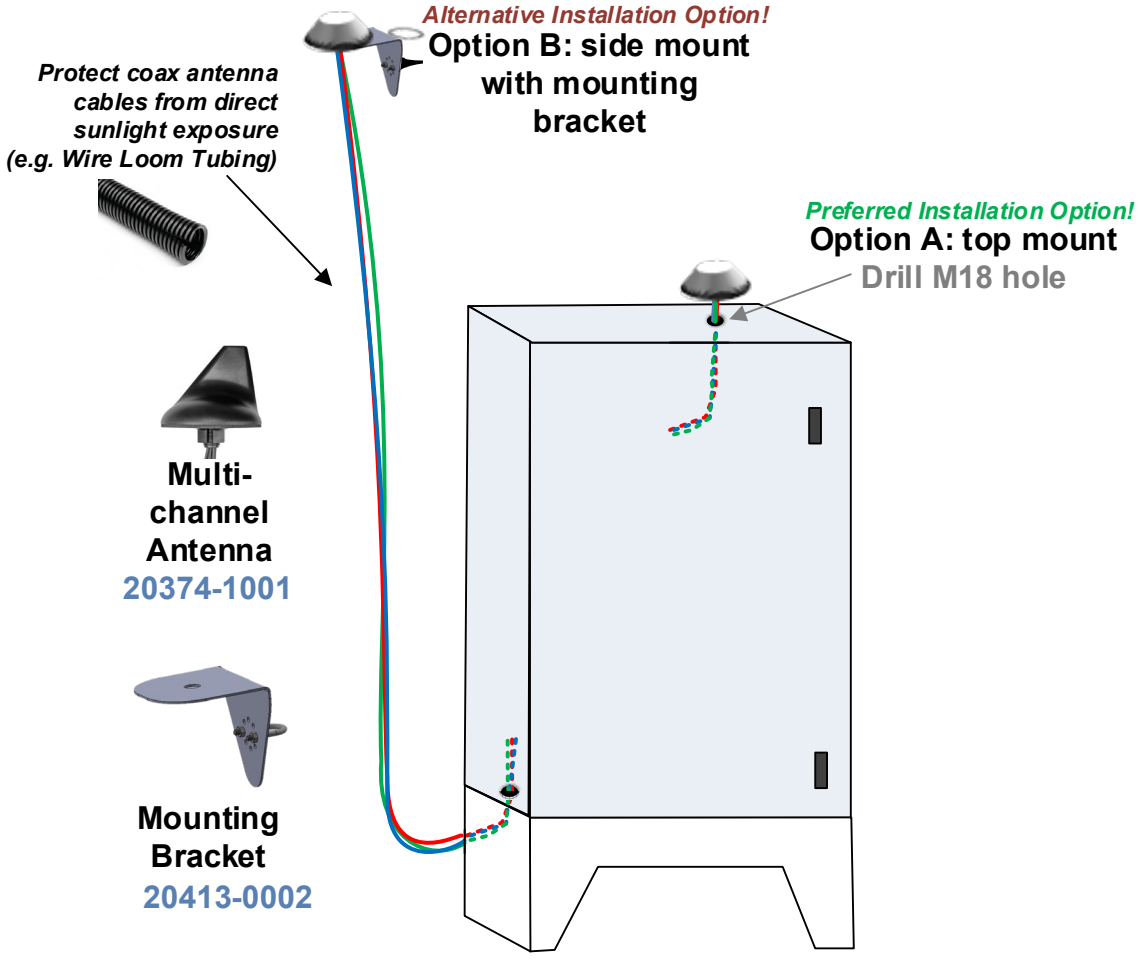


Figure 1: Multi-Channel Antenna mounted to panel

(2) Clip the EDR into an empty space on the DIN rail inside the control panel

(3) Make the following signal connections [Figure 2].

a. The EDR RS-485 Master ANNUNCIATOR port connects to the EIM MODBUS RTU port and turn the TERM switches on both ports on. If the MODBUS RTU terminals already have wires connected to some SCATA system, remove the wires and re-route them to the EDR RS-485 Slave port. Turn the EDR CAN TERM on.
b. If the EDT ECU CAN port has wires connected to it, add a connection to the EDR CAN port. Disable the CAN TERM on the EDT and turn the EDR's CAN TERM switch on
c. If the EDT CSL port has wires connected to it, add a connection to the EDR ECU J1708 port.
d. Connect antenna wires to the GPS, CELL (LTE), and WIFI ports accordingly.
e. Provide batter power (2A fuse), ground return, and a chassis ground connection to the EDR BATT port.

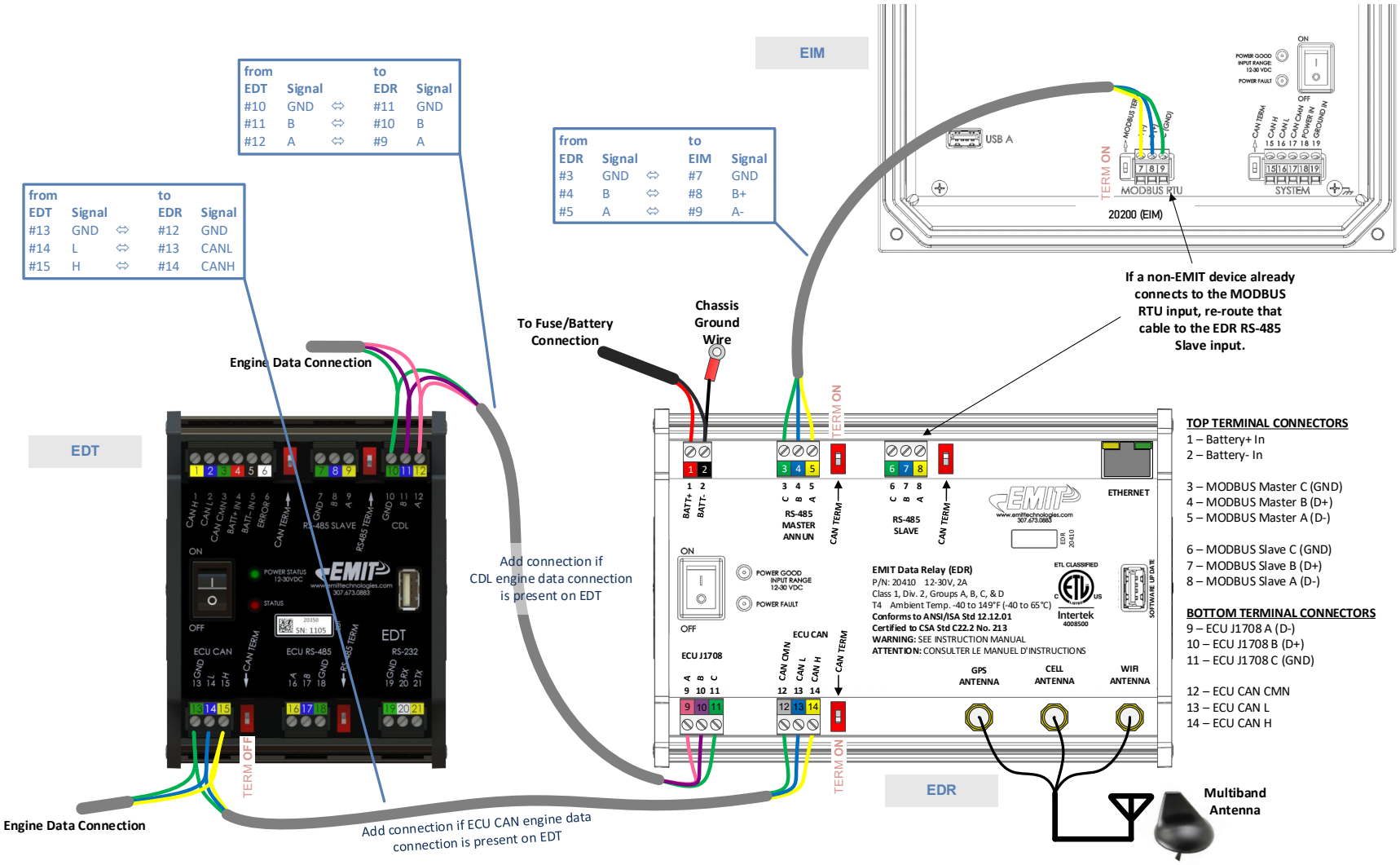


Figure 2: EDR connections in an EIM based system

For steps on how to configure the EDR look up the EDR full technical specification by logging into the EMIT Forum.

If the LTE signal strength is marginal, install a directional antenna as described in the Direct Antenna Installation Guide.

If a Verizon connection instead of a ATE / T-Mobile connection is needed, install an EDR preconfigured for Verizon service.

Further Information

For additional information or technical support, contact EMIT at 307-673-0883 or visit www.emittechnologies.com

Appendix: Panel Example 14267-0025 (CG137 A4)

An example of an EIM based CG-137 panel is the 14271-1040 panel, which is based on a 14267-0025 panel wiring. This panel type includes an ADEM-4 engine controller, and EMIT's Brain, and EDT modules.

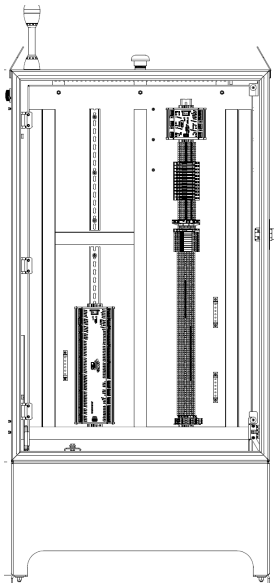


Figure 3: 14267-0025 panel before Telematics Conversion

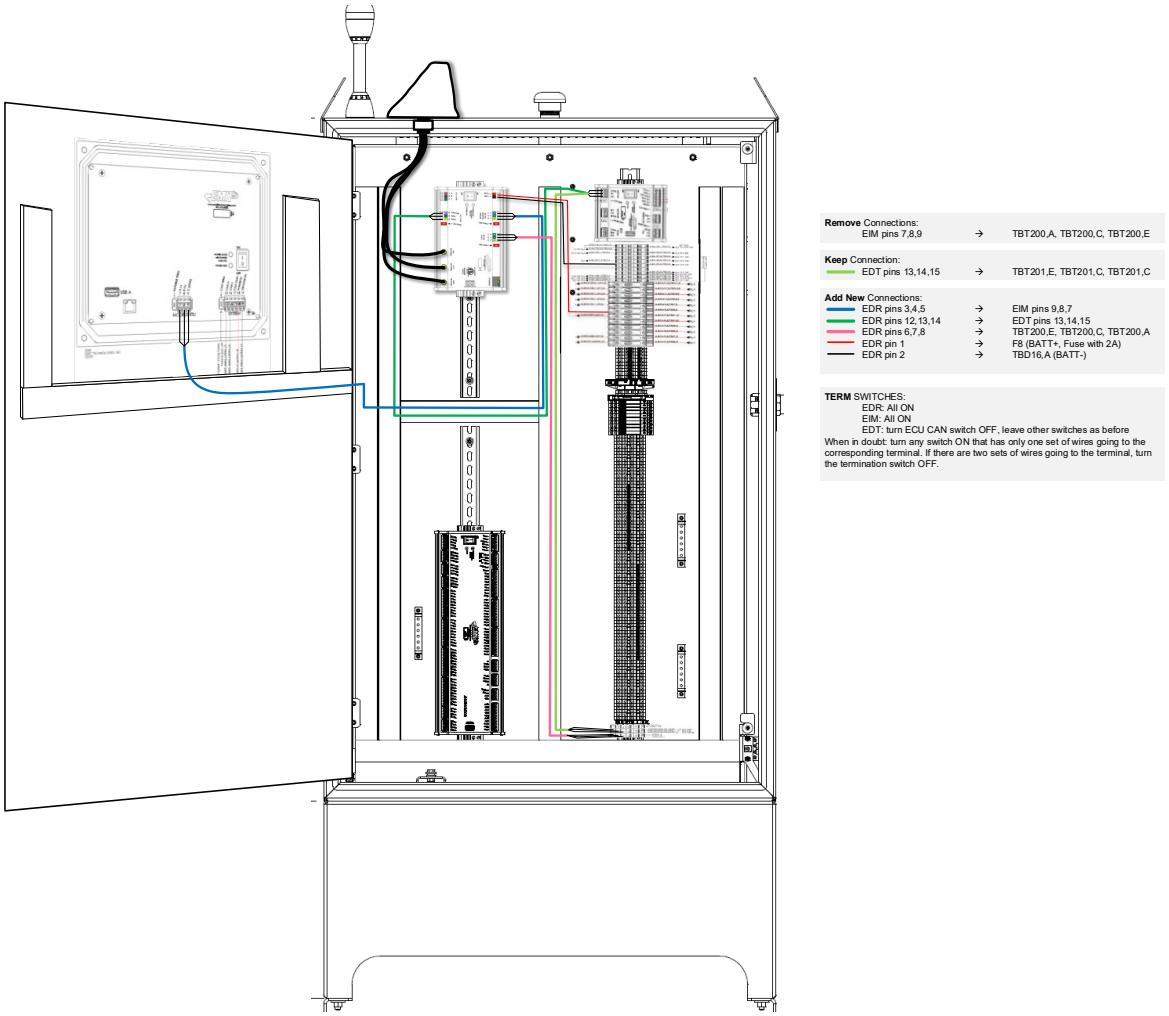


Figure 4: 14267-0025 panel after Telematics Conversion

Appendix: Panel Example 14267-0020 (CG137)

The 14267-0020 panel is an example of an EIM based CG-137 panel, which includes an ADEM-4 engine controller, and EMIT's AFRC, Brain, Brain+, and EDT modules.

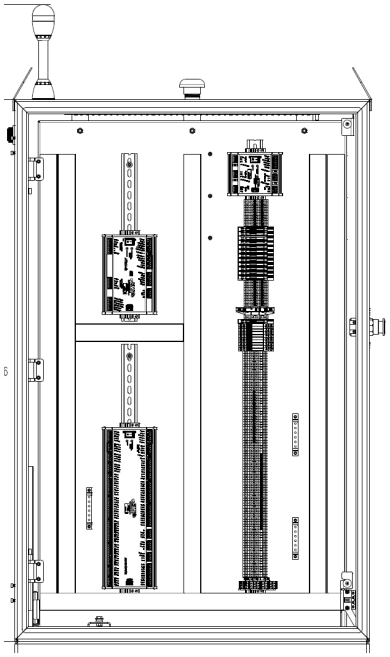


Figure 5: 14267-0020 panel before Telematics Conversion

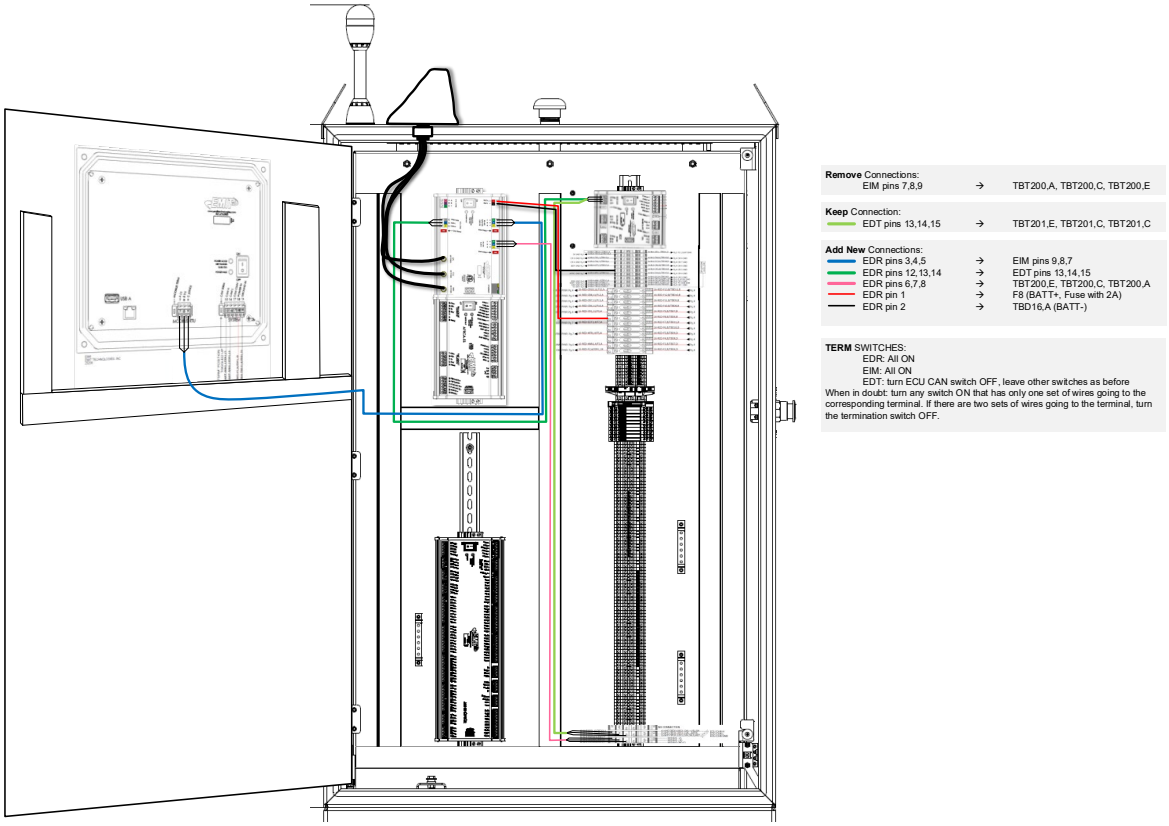


Figure 6: 14267-0020 panel after Telematics Conversion