

Telematics – Installation Guide for DE3000 panel-based systems

Installation, Operation, and Troubleshooting Manual

EMIT items needed:

EMIT Part Number	Description
20017-0020	EMIT Data Relay Kit w/ mounting bracket, DIN Rail stop, and wire set for DE3000

The 20017-0020 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 with ferrules

## Installation Steps

Mount the EMIT Data Relay (20410 – EDR) inside the DE3000 enclosure utilizing the spare DIN rail if needed.

Attach the multi-channel antenna to the outside of the enclosure and connect the 3 antenna cables to the EDR input for cell, wifi, and GPS accordingly.

Connect the EDR RS-485 master port to RS-485 PORT 3 (pins B3, A3) on terminal module 1 (see Figure 1). Connect ECU CAN and ECU J1708 to the ADEM panel insert.<sup>1</sup> Provide 24V DC power and GND from the DE3000 panel terminals 102/103 to the EDR battery input. Verify the DE3000 MODBUS communication settings are correct.<sup>2</sup>

The following 11 pre-labeled wires are provided for each unit to make connection between the EDR and the DE3000 electronics:

### **RS-485 connection from EDR Master ANNUN terminal to DE3000 Port 3 RS-485**

EDR1,3/DE3000,S3 (from EDR pin #3 (Common) to DE3000 pin S3 (SHLD))

EDR1,4/DE3000,A3 (from EDR pin #4 (RS485 B) to DE3000 pin A3)

EDR1,5/DE3000,B3 (from EDR pin #5 (RS485 A) to DE3000 pin B3)

### **ADEM 4 or ADEM 3 CAN connection:<sup>3</sup>**

16-WHT-EDR1,12/ADEM,COMMON (from EDR pin #12 to ADEM 4 or ADEM 4 GND)

16-WHT-EDR1,13/ADEM,CAN- (from EDR pin #13 to A4 or A3 pin CAN-)

16-WHT-EDR1,14/ADEM,CAN+ (from EDR pin #14 to A4 or A3 pin CAN+)

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<sup>1</sup> The ADEM connection is option. The EDR pulls most system information from the DE-3000 annunciator. However, the following information are only available from the ADEM connection: Battery Voltage, Engine Jacket Water Temp, Engine timing, Engine Pct load;

<sup>2</sup> Most frequently the DE-3000 is already configured for the 9600bps baud rate and the EDR will connect to the DE-3000 without any adjustment. If however the data fields remain empty when the EDR is connected to the DE-3000, check if the baud rates for both devices are identical. The EDR is set to 9600 baud by default. On the DE-3000 verify that the communication settings are correct by navigating to menu EDIT SAFETY SHUTDOWN - MORE MENUS - COMMUNICATIONS. The setting for Node should be 1 and port 3 should show MODBUS 9600.

<sup>3</sup> For an ADEM 4, run a cable from the “ECU CAN” port to the “CAN H/L/SHLD” of the ADEM control panel. Typically, the CANH is Yellow and the CANL is Green in the CAT panel. The terminal block number of the ADEM CAN wires vary by engine- see the engine schematic if unsure. Typically, an EMIT wire bundle for the panel will include wires that go from the appropriate terminal block that connects to ECU CAN to the ADEM CAN terminal block.

### ADEM 3 CDL connection: <sup>4</sup>

- 16-WHT-EDR1,9/A3,CDL+ (from EDR pin #9 to ADEM3 pin CDL+)
- 16-WHT-EDR1,10/A3,CDL- (from EDR pin #10 to ADEM3 pin CDL-)
- 16-WHT-EDR1,11/A3,COMMON (from EDR pin #11 to ADEM3 pin GND)

### Power Supply

- 16-RED-EDR1,1/+24V,102 (from EDR pin #1 to DE3000 24V battery terminal 102)
- 16-BLK-EDR1,2/GND,103 (from EDR pin #2 to DE3000 GND terminal 103)

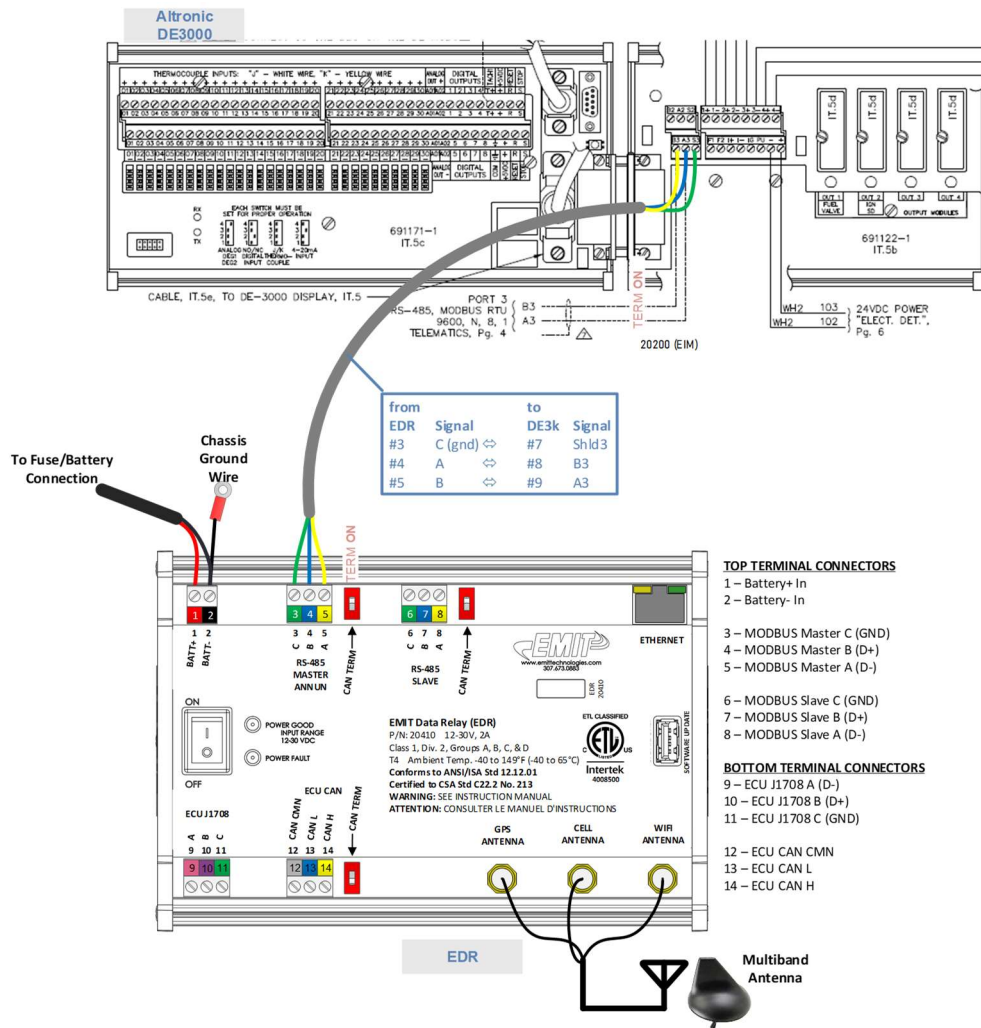


Figure 1: Power and RS-485 connection

<sup>4</sup> For an ADEM 3, there will be two connections required. Run the first connection from the “ECU CAN” port to the “CAN H/L/SHLD” of the ADEM control panel. Typically, the CANH is Yellow and the CANL is Green in the CAT panel. Run the second cable from the “ECU J1708” port to the “CDL+/-” connections in the ADEM panel. (Note: “A” connection on the EDR is CDL+ on the ADEM, and the “B” connection is CDL-). Typically, CDL+ is pink and CDL- is purple in the CAT panel. The terminal block numbers in the CAT panel for the CAN and CDL wires vary by engine- see the engine schematic if unsure.