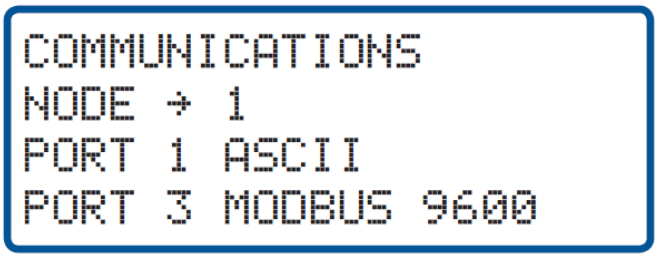
EDR Field Config – DE3000

Preceding Steps

1. The module should be installed in the panel and wired, see the EDR Installation guide for DE-3000. Note that the main Modbus connection goes from EDR “A” to DE-3000 Port 3 “B”, and EDR “B” to DE-3000 “A”.
2. The DE-3000 communication settings should be verified. This is under “EDIT SAFETY SHUTDOWNS” -> “MORE MENUS” -> “COMMUNICATIONS”.
    a. NODE should be “1”
    b. PORT 1 is not relevant
    c. PORT 3 should be “MODBUS 9600”



1. Check for existing config

Check the drawing number for the panel against any known configuration folders, and if it has already been made then those files can be used for this unit. In this case, note the file location and skip to step 6.

2. Getting Input Channel List

A DE-3000 will be programmed to have each input assigned to some channel numbered 01-60. This list of inputs needs to be collected / written down, either from the panel drawing or from the DE-3000 display. The list can be seen on the display by hitting VIEW CHAN then up and down to look at each channel.

Make a list of each configured channel number and name in a text file or another way.

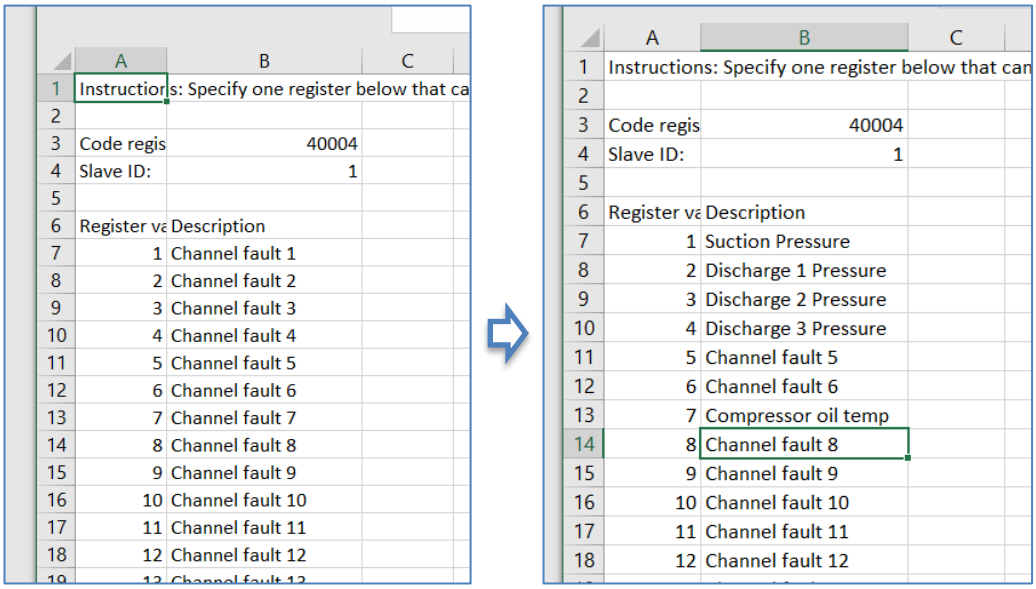
3. Copy default files

On a computer, make a copy of the three files for the blank DE-3000 configuration into a new folder for this unit.

4. Update Shutdown Code Table

Opening the new folder for the unit configs, open the EMIT_TEL_ShutdownCodes file.

Each register value refers to a channel. For each channel in the channel list, put its name in the appropriate row that matches the channel number. If a channel is not used, it can be left as “Channel Fault #” since it should not be relevant.



	A	B	C
1	Instructions: Specify one register below that ca		
2			
3	Code regis	40004	
4	Slave ID:	1	
5			
6	Register va	Description	
7	1	Channel fault 1	
8	2	Channel fault 2	
9	3	Channel fault 3	
10	4	Channel fault 4	
11	5	Channel fault 5	
12	6	Channel fault 6	
13	7	Channel fault 7	
14	8	Channel fault 8	
15	9	Channel fault 9	
16	10	Channel fault 10	
17	11	Channel fault 11	
18	12	Channel fault 12	

	A	B	C
1	Instructions: Specify one register below that can		
2			
3	Code regis	40004	
4	Slave ID:	1	
5			
6	Register va	Description	
7	1	Suction Pressure	
8	2	Discharge 1 Pressure	
9	3	Discharge 2 Pressure	
10	4	Discharge 3 Pressure	
11	5	Channel fault 5	
12	6	Channel fault 6	
13	7	Compressor oil temp	
14	8	Channel fault 8	
15	9	Channel fault 9	
16	10	Channel fault 10	
17	11	Channel fault 11	
18	12	Channel fault 12	

The above example shows editing channel 1 to be “Suction Pressure”, Channel 2 to be “Discharge 1 Pressure”, and so on.

Make sure to use “save” (not save as) so that the file stays a “csv” file.

5. Updating the Modbus Master Table

Open the copied table EMIT_TEL_ModbusMasterTable, and check for data tags on the first column that match sensor names in the channel list. For each sensor that can be collected, put the register [40089 + channel number] in the register column, and the target ID as “1”. The byte format can be changed to “1” but this is usually not relevant (though engine hours should be left alone as 0).

Example: If suction pressure is on channel 05, then for the suction pressure row put the register as 40089+5 = 40094.

For any unused / not present sensor, leave the register as “0”.

Data name	Target ID	Target Reg	Offset	Scale	Byte format
Engine_speed	1	40250	0	1	0
Battery_voltage	1	0	0	1	0
Manifold_left_psig	1	0	0	1	0
Manifold_right_psig	1	0	0	1	0
Engine_oil_pressure_psig	1	0	0	1	0
Engine_Oil_Temperature	1	0	0	1	0
Precatalyst_Temperature	1	40113	0	1	1
Postcatalyst_Temperature	1	40114	0	1	1
Engine_hours	1	40002	0	1	0
Suction_Pressure_psig	1	40090	0	1	1
Compressor_oil_pressure_psig	1	40095	0	1	1

Example with some registers filled in

6. Uploading the Config Files

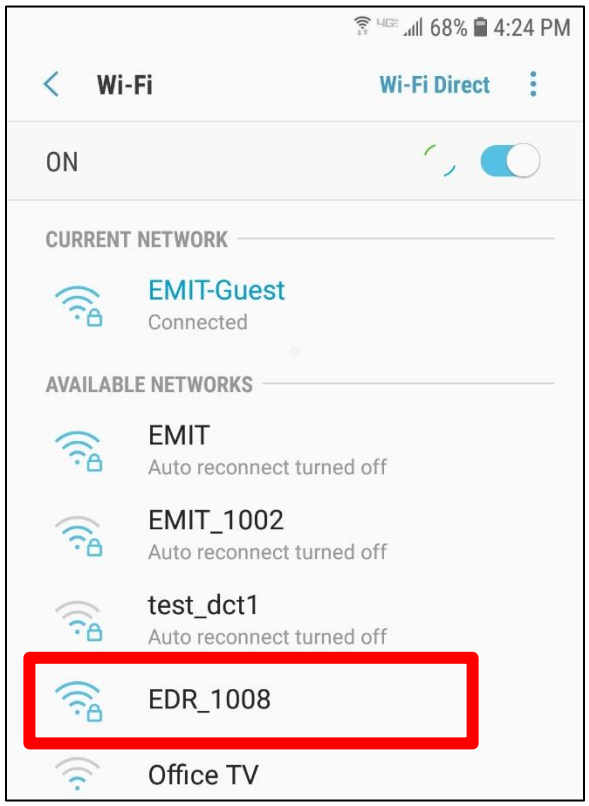
Once the two files are ready (the 3rd file EMIT_TEL_RunStatusTable does not need to be edited) connect your computer to the EDR wifi console using these steps.

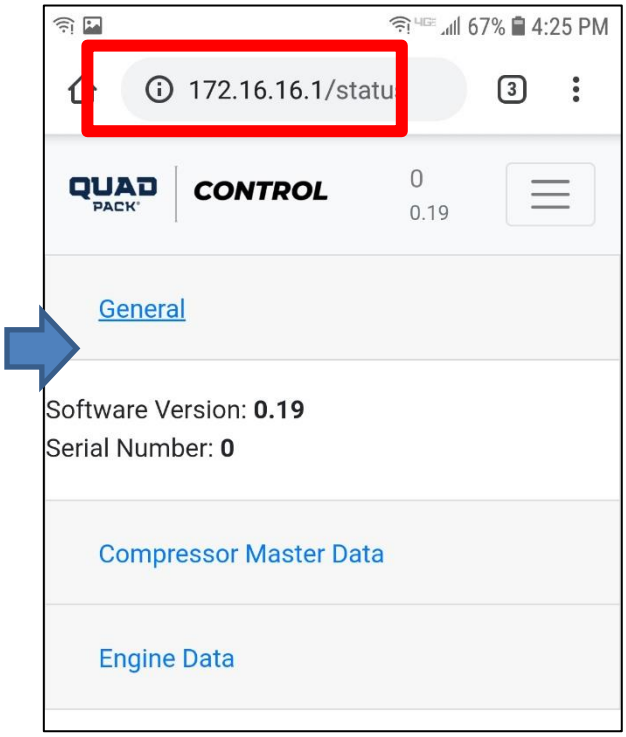
Connecting

Check your target device's Wi-Fi settings for a network called "EDR_xxxx", where xxxx is the serial number of the Data Relay. Connect to this network and enter the password 'emitemit'.

Note: There will be no internet access while you are connected to the network. It is recommended that you turn auto reconnect off.

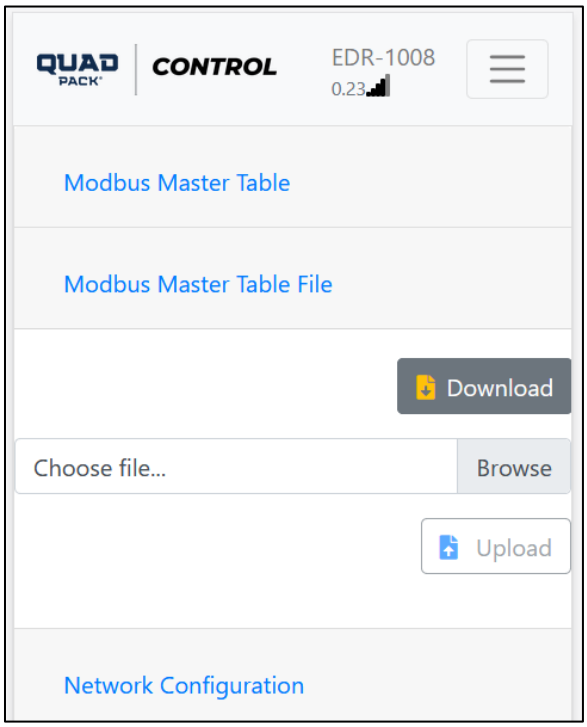
Once connected, open a web browser and type http://172.16.16.1/ . This will bring up the Data Relay console.





Uploading the Files

On the Modbus Master tab, go to the “Modbus Master Table File” dropdown, browse for the new master table file, and select “Upload”.



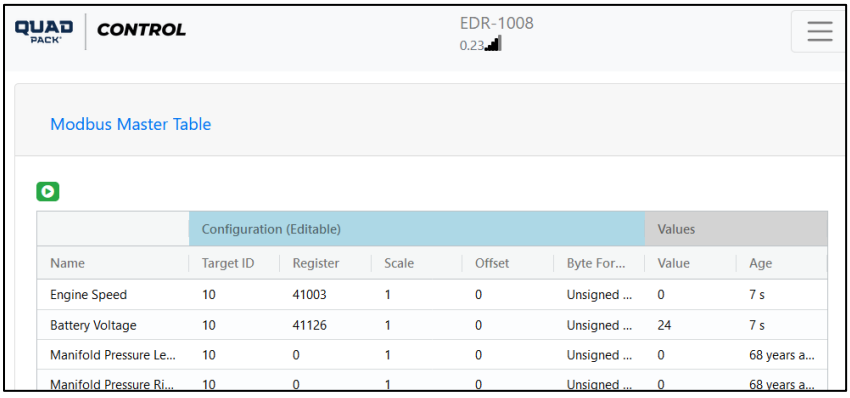
Choose file location

Under the network configuration dropdown set the baud rate to 9600 and make sure “Use Serial” is checked.

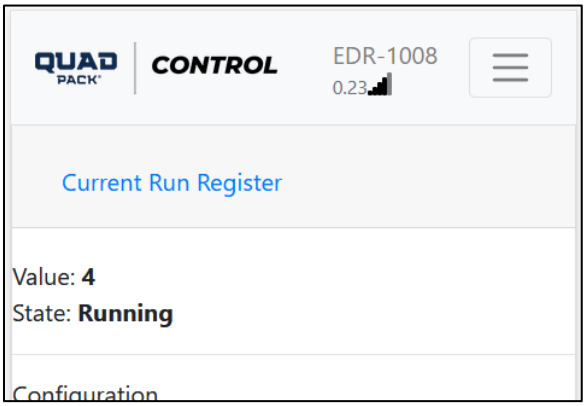
On the Alerts Tab, go to the “Table Configuration Files” dropdown and upload the fault code and run status table. (Note that the run status table is the same for all DE3000s so it didn’t have to be changed from the default file).

Checking the Config

On the Modbus Master tab, open the first dropdown “Modbus Master Table”. The rows that have a register entered should show some values.



On the Alerts tab, open the dropdown for “Current Run Register” and “Current Fault Register”. Both should show some valid state other than TIMEOUT.



If the values are not reading, it is likely because the Modbus A/B are swapped, the baud rate is not correct on the EDR or DE-3000, the DE-3000 node ID is not set to 1, or the Modbus is not connected to Port 3 on the DE-3000.