Is the the J2K100 compaible with Crusader engines?

626 Mark Oslund October 13, 2015 J2K100 0 16.56K

The J2K100 can connect to a Crusader diagnostic CANBUS port for J1939 operations. Crusader offers service manuals for several supported engines. Maretron suggests consulting with your engine technician or contacting crusader direct for suggested integration practices.

As an example this article will discuss the standard method to proceed with the integration of the 2007 year Crusader MPI 5.0, 5.7, 6.0, 8.1, HO, Classic 5.7L series engines to a Maretron J2K100. The MPI series engines have a engine control unit that supports J1939 connection for diagnostics and engine synchronization. The J1939 connection can be used to connect the J2K100 for data conversion. Please note: for a J1939 network connection to operate correctly with the J2K100, a J1939 network must be established.

J1939 networking app note linked here: https://www.maretron.com/support/AppNotes/ANJ2KB.pdf

Once you have determined that your engine has the J1939 protocol here is a list of standard Maretron parts for a successful J2K100 single engine integration:

1. J2K100

2. 1 x Terminating resistor (IT-CM-CF preferred) for the J2K100, J1939 port.

3. Field Make-able Connector (Provided with your J2K100)

4. Interconnection cable (use standard Maretron CG1 cut to desired length

5. Engine custom connection(manufacture specified connection) illustrated in Figure 1

MPI series engine by Crusader uses an off the shelf connection, there are several online retailers that sell the Deutch connections. The engine manufacturer Crusader offers an engine manual that suggests the use of an Deutch DT06-3S illustrated as an example in Figure 1.



Pin	Value
A	CAN/J1939 Hi
B	CAN/J1939 Lo
C	Ground V-

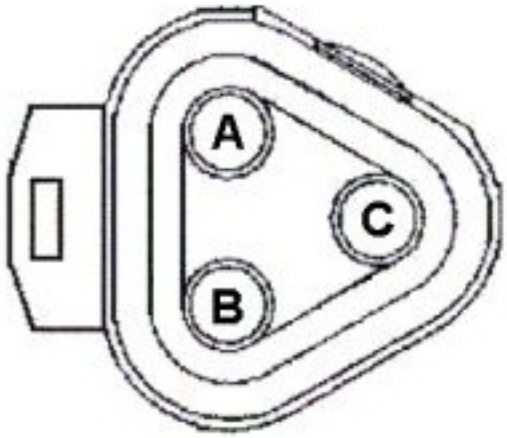


Figure 1

Please note: The proper mating connector to the engine's DT06-3s shown on figure 1 has been identified as part number of DT04-3P online. Use the proper mating connection to avoid mis-wiring your engines J1939 network. The proper connection should be used to construct your J2k100/J1939 connection to the Crusader MPI diagnostic data connection splicing, soldering connections to the factory harness may lead to issues like communication problems or worse loss of engine warranty from the manufacturer.

Located within the Owner's Manual of your Crusader engine you will find the following example of schematic illustrating the availability of CANBUS +/-. For the purpose of instruction in this article the proper mating connection for CANBUS +/- (J1939) has been emphasized in red and shown in Figure 2. At the present time of this article's publish date, a known termination resistor is embedded within the engines ECU to help properly terminate networks established with two separate engines or devices. Before making any connections to your engine, measure with an digital multi-meter set to ohms(Ω), measure across pins "A" and "B" of the engines Deutch DT-06 connector, look for a 120Ω resistor. If you see 120Ω, you will only require a single IT-CM-CF. If you do not see 120Ω no terminating resistor is present, use standard cable "CM-CG1-CF-5" to lengthen connection 5 meters for ideal mounting the J2K100 and connect the second IT-CM-CF close to the mating connection for the engine as illustrated in Figure 4.

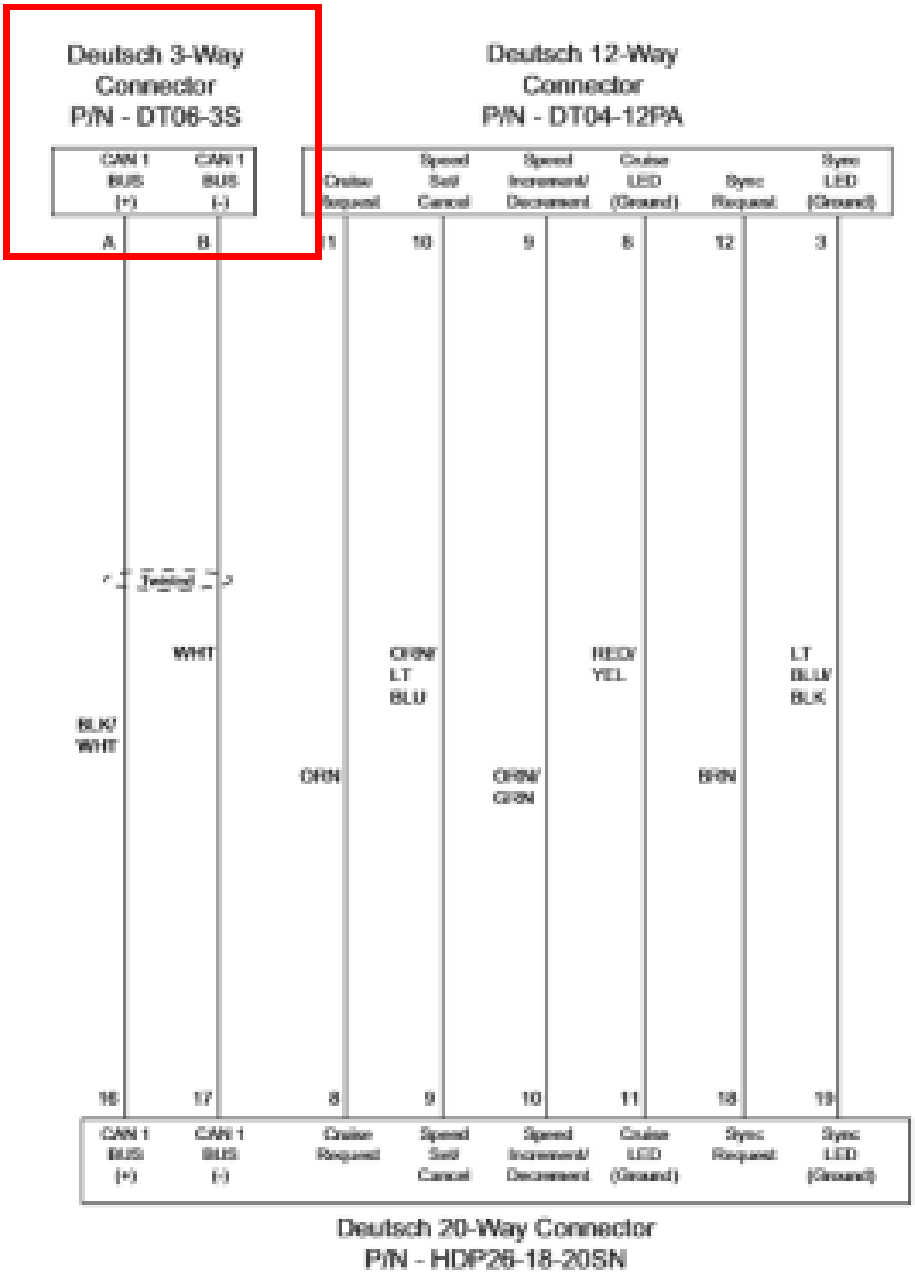


Figure 2

The engine monitoring basic single engine should look similar to Figure 3

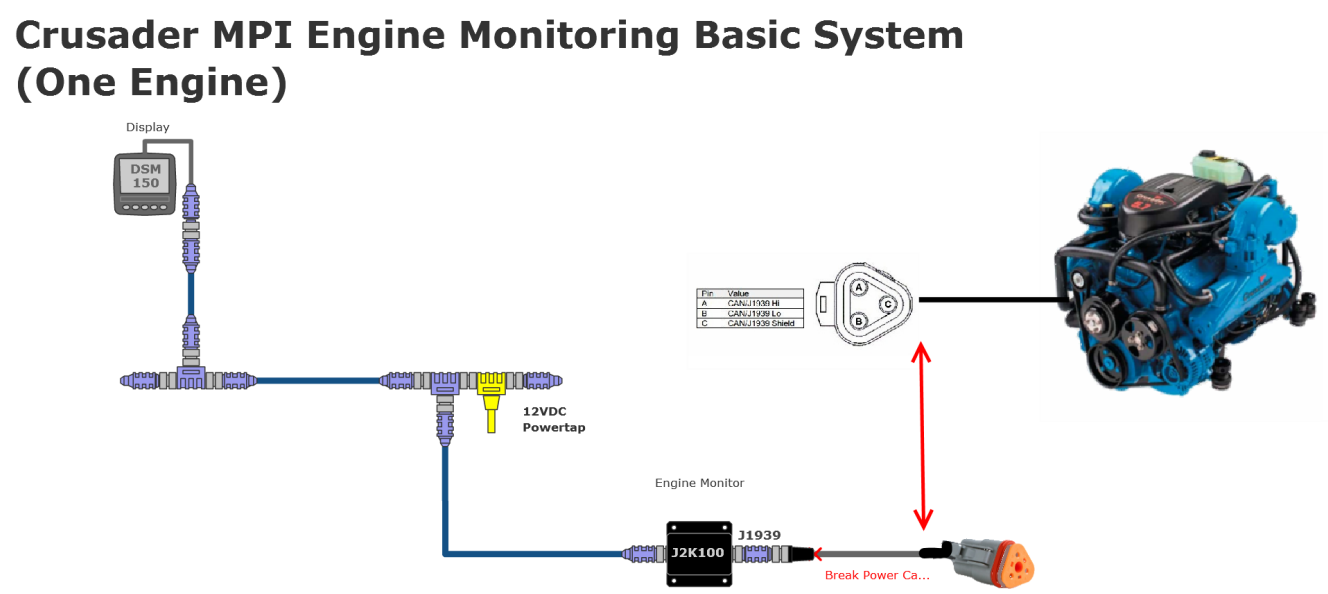


Figure 3

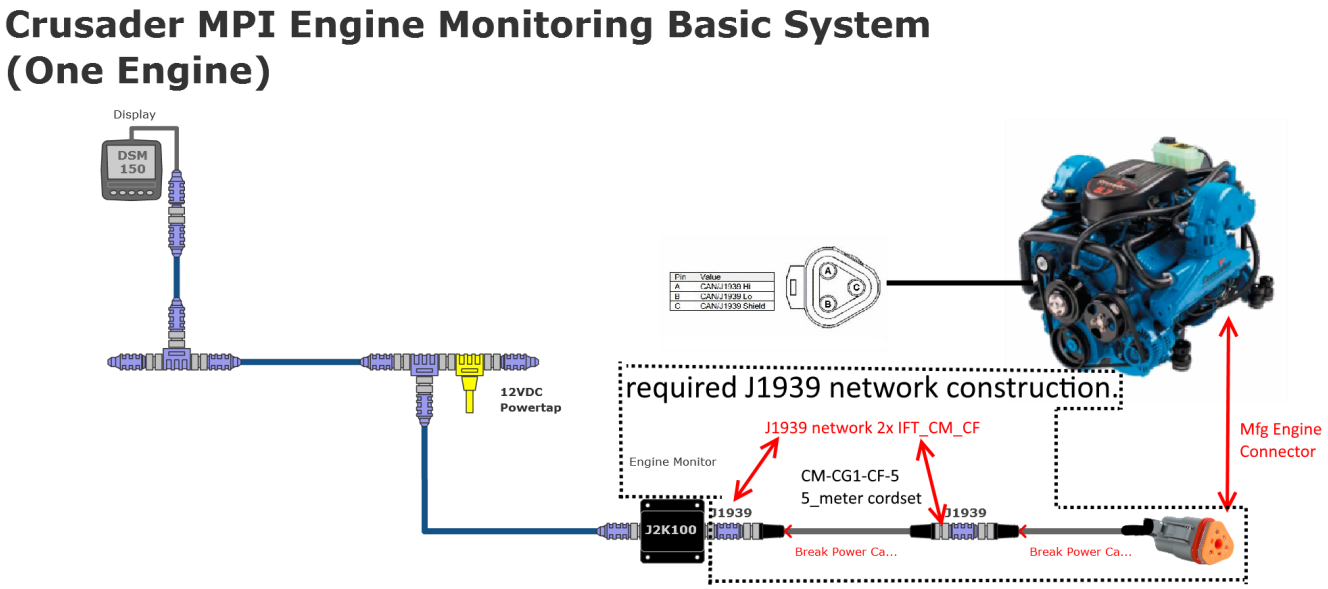


Figure 4

More info:

Visit http://www.crusaderengines.com to view your engines details.

Refer to the attachments section of this article to download N2KBuilder design files to make your own engine monitoring network.

Online URL: https://maretron.com/wp-content/phpkbv96/article.php?id=626