Connecting the QRB1134/QRB1134 to the DC-02 DigiSpeed-XL™

The Fairchild QRB1133 and QRB1134 optical sensors are ideal for use as low-cost optical index sensor in CNC applications. They contain a basic emitter an detector pair that may be used with the DigiSpeed-XL™ due to the DigiSpeed's in-built sensor signal conditioning circuitry. The sensors have the following features;

- High sensitivity,
- Low Cost, and
- #26 AWG, 24" PVC wire termination

To connect the sensor to the DigiSpeed -XL™ , the 4 sensor wires are connected as;

1. **Ensure JP3 is removed.**
2. LED Anode (A) connected to DC supply.
3. LED Cathode (K) and the Transistor Emitter (E) connected to GND (0 VDC)
4. Transistor Collector (C) connected to the Index input

The sensor may be connected to either the 3.5mm stereo connector, J1, or to the three pin header J7 as shown in Illustration 1. Use the table below to identify the connector pin outs.

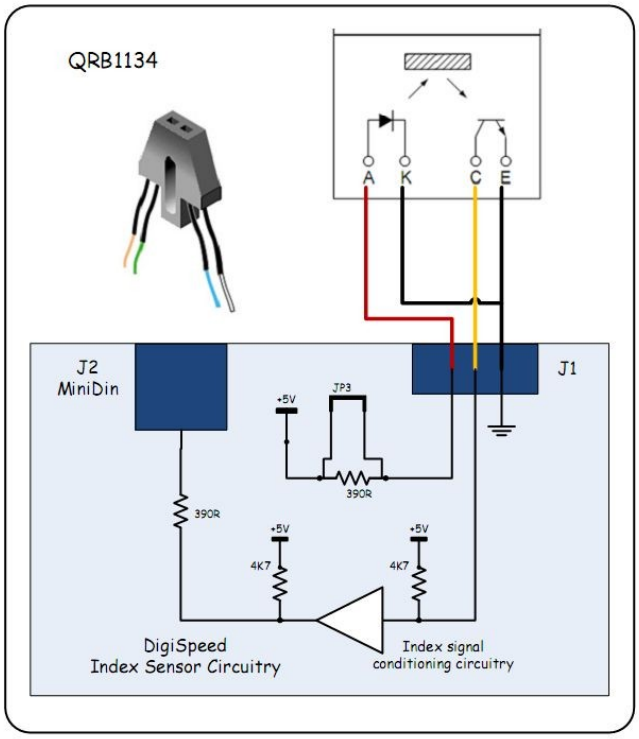

Illustration 1: Sensor Connection to DigiSpeed-XL™

J1	Signal	J7
Tip	Index input	J7-2
Middle	5 VDC	J7-3
Barrel	GND (0 VDC)	J7-1[1]

Table 1: Sensor Connector Pin out

Further information on this sensor may be found in the sensor's datasheet. The sensor may be purchased from Mouser Electronics ***http://www.mouser.com*** or other suppliers

Jumper JP3 depicted above shorts out a 390 ohm resistor that is between pin 1 and the 5 VDC supply. This jumper **must NOT be inserted** when using this sensor as it will destroy the sensor if inserted.

For more information consult the DigiSpeed-XL user manual.

1 Pin 1 of the connector has a square pad on the overlay. The remaining pins are numbered sequentially.

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