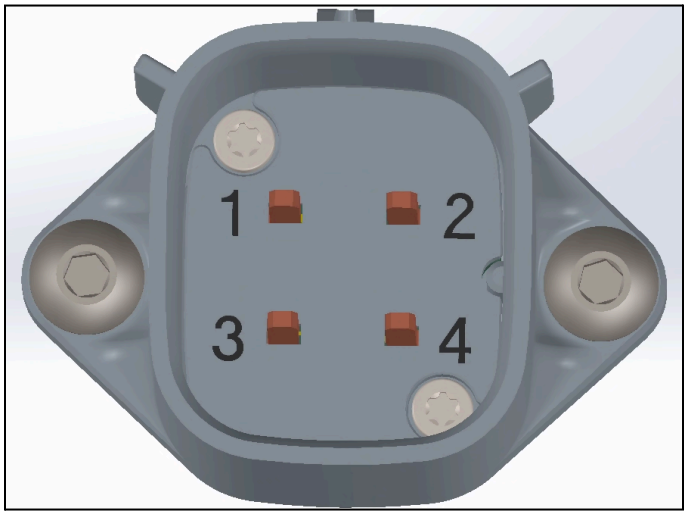
Box Contents

- 4 IR-TuCAN Sensors
- 4 MX150 Connector Pigtails (Molex Part Number: 0194180018)
- 1 CAN to USB Dongle

Sensor Pinout



Pin 1: CAN Low
Pin 2: 12V
Pin 3: CAN High
Pin 4: GND

CAN Bus Requirements

The following excerpts are taken from Texas Instrument's SLLA270 Application Report titled “Controller Area Network Physical Layer Requirements”. When using CAN devices it is important to wire the BUS while following TI’s specifications. Not following the TI standard can result in reduced frame rates, dropped frames, or interference with other devices on the CAN network. A proper automotive CAN bus should have no problem operating at 1Mbps but please confirm the baud rate if you are installing the sensors into an existing CAN bus. 120 Ohm Terminating Resistors should be placed at the ends of the CAN bus. As a quick check, when measuring the resistance between CAN High and CAN Low lines you should read 60ohms +/1%. Non-terminated branches should be avoided if possible. If non terminated branches are required they should be kept as short as possible. TI’s specifications state non-terminated branches should be no longer than 300mm (12 Inches).

4.5.1 Standard Termination

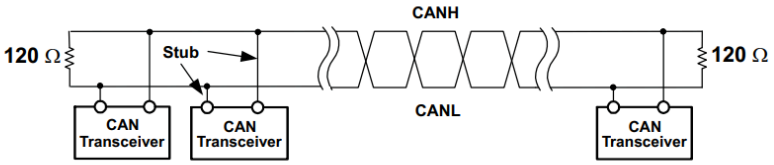


Figure 8. Standard Termination

Table 1. Suggested Cable Length vs Signaling Rate

Bus Length (m)	Signaling Rate (Mbps)
40	1
100	0.5
200	0.25
500	0.10
1000	0.05

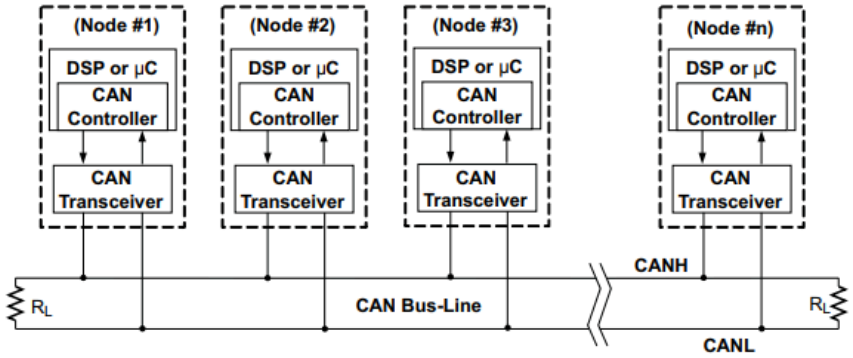


Figure 6. Details of a Typical CAN Node

The High-Speed ISO 11898 Standard specifications are given for a maximum signaling rate of 1 Mbps with a bus length of 40 m and a maximum of 30 nodes. It also recommends a maximum un-terminated stub length of 0.3 m. The cable is specified to be a shielded or unshielded twisted-pair with a 120-Ω characteristic impedance (Z_O). The Standard defines a single line of twisted-pair cable with the network topology as shown in Figure 6. It is terminated at both ends with 120-Ω resistors, which match the characteristic impedance of the line to prevent signal reflections. According to ISO 11898, placing R_L on a node should be avoided since the bus lines lose termination if the node is disconnected from the bus.

GUI Tutorial

Data Format