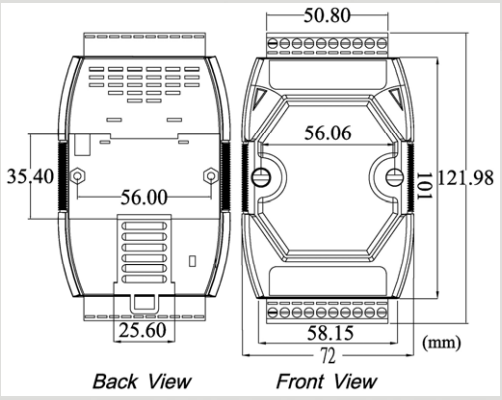
CAN Series Products

Two-channel CAN Bus Isolated Repeater

I-7531



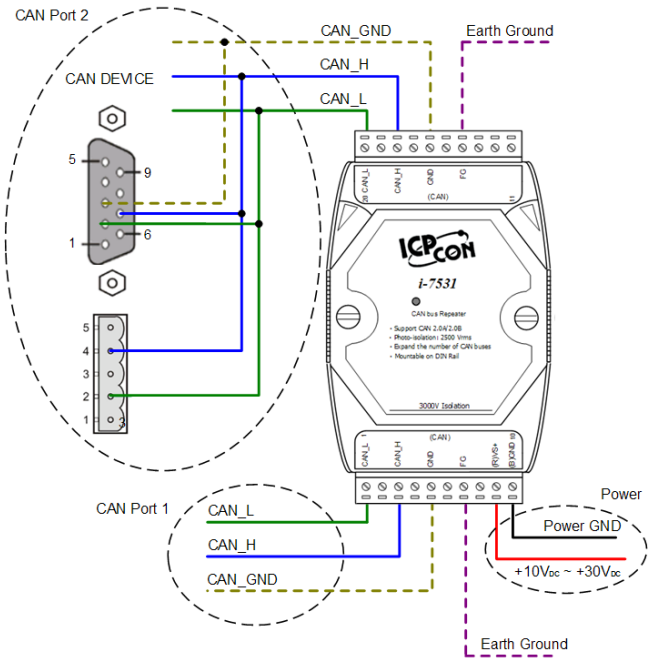
Dimensions

The I-7531 is a CAN repeater used to establish a physical coupling of two or more segments of a CAN bus system. Users can implement tree or star topologies as well as the long drop lines with I-7531. Users can also increase the maximum number of bus nodes by using I-7531. The I-7531 is an optically isolated CAN repeater which provides 2500Vrms of optical isolation. This feature help you to separate and protect critical segments of the system from the rest of the CAN network. And its galvanic protection isolates both CAN segments from each other as well as from the power supply.

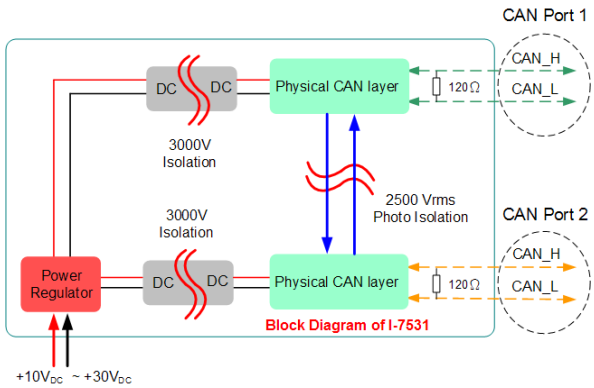
Features

- Compatible with CAN specification 2.0A and 2.0B
- Fully compatible with the ISO 11898-2 standard
- Maximum communication baud : 800 kbps
- 2500 Vrms photo-couple isolation on the CAN side
- 3 kV galvanic isolation among the power supply and 2 CAN ports
- Jumper for 120 Ω terminator resistor of CAN bus
- Two CAN channels
- Detect baud rate automatically
- up to 100 nodes on each CAN port
- Removable terminal block
- Mount easily on DIN-rail

Pin Assignments



Block Diagram



Hardware Specifications

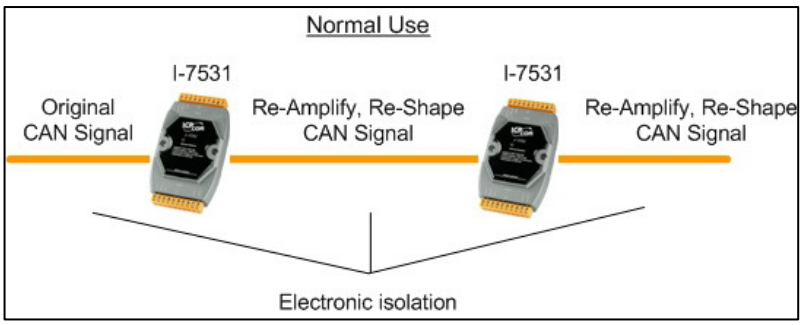
CAN Interface	
Transceiver	NXP 82C250
Channel number	2
Connector	3-pin screwed terminal block (CAN_GND, CAN_L, CAN_H)
Baud Rate (bps)	5 k ~ 800 k
Isolation	3000 V_{DC} for DC-to-DC, 2500 Vrms for photo-couple
Terminator Resistor	Jumper for 120 Ω terminator resistor
Specification	ISO-11898-2, CAN 2.0A and CAN 2.0B
Power	
Power supply	Unregulated +10 ~ +30 V_{DC}
Protection	Power reverse polarity protection, Over-voltage brown-out protection
Power Consumption	2 W
Mechanism	
Installation	DIN-Rail
Dimensions	72mm x 33mm x 122mm (W x L x H)
Environment	
Operating Temp.	-25 ~ 75 ℃
Storage Temp.	-40 ~ 80 ℃
Humidity	5 ~ 95% RH, non-condensing

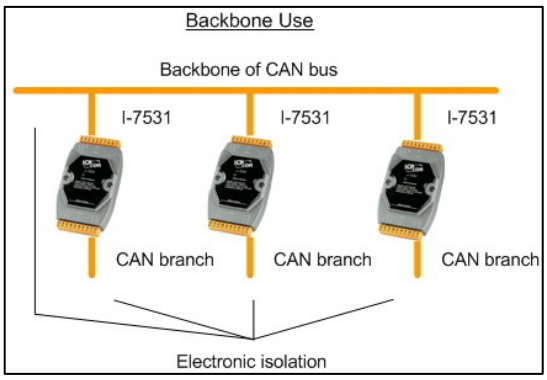
Baud Rate & Bus Length

When users add one I-7531 into a CAN network, the ideal total bus length will reduce 40 meters because of the propagation delay of I-7531. For example, if users use baud rate 500 kbps and one I-7531, the ideal total bus length will be 100-40x1=60 meters. Specially, in baud 1 Mbps, add one I-7531 will cause the ideal total bus length to be less than 4 meters.

Baud Rate [bit/sec]	Ideal Bus Length without I-7531 [m]
800 k	50
500 k	100
250 k	250
125 k	500
50 k	1000
20 k	2500
10 k	5000

Applications





Ordering Information

I-7531-G	Two-channel CAN Bus Isolated Repeater
I-7531-G CR	Two-channel CAN Bus Isolated Repeater (RoHS)