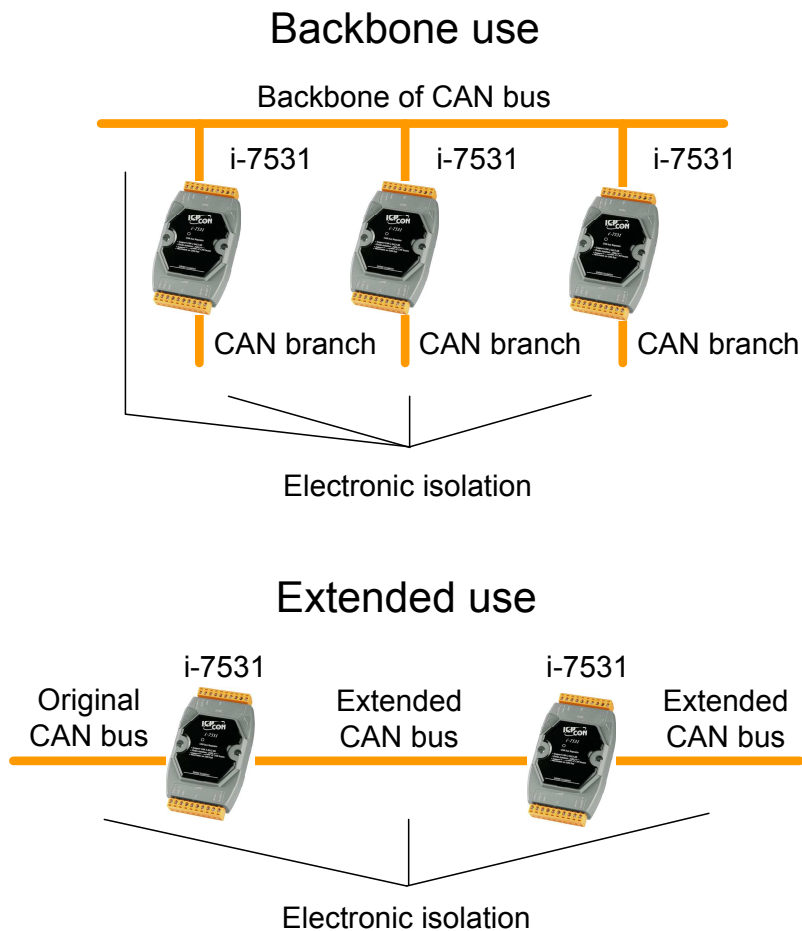# The i-7531 CAN Repeater

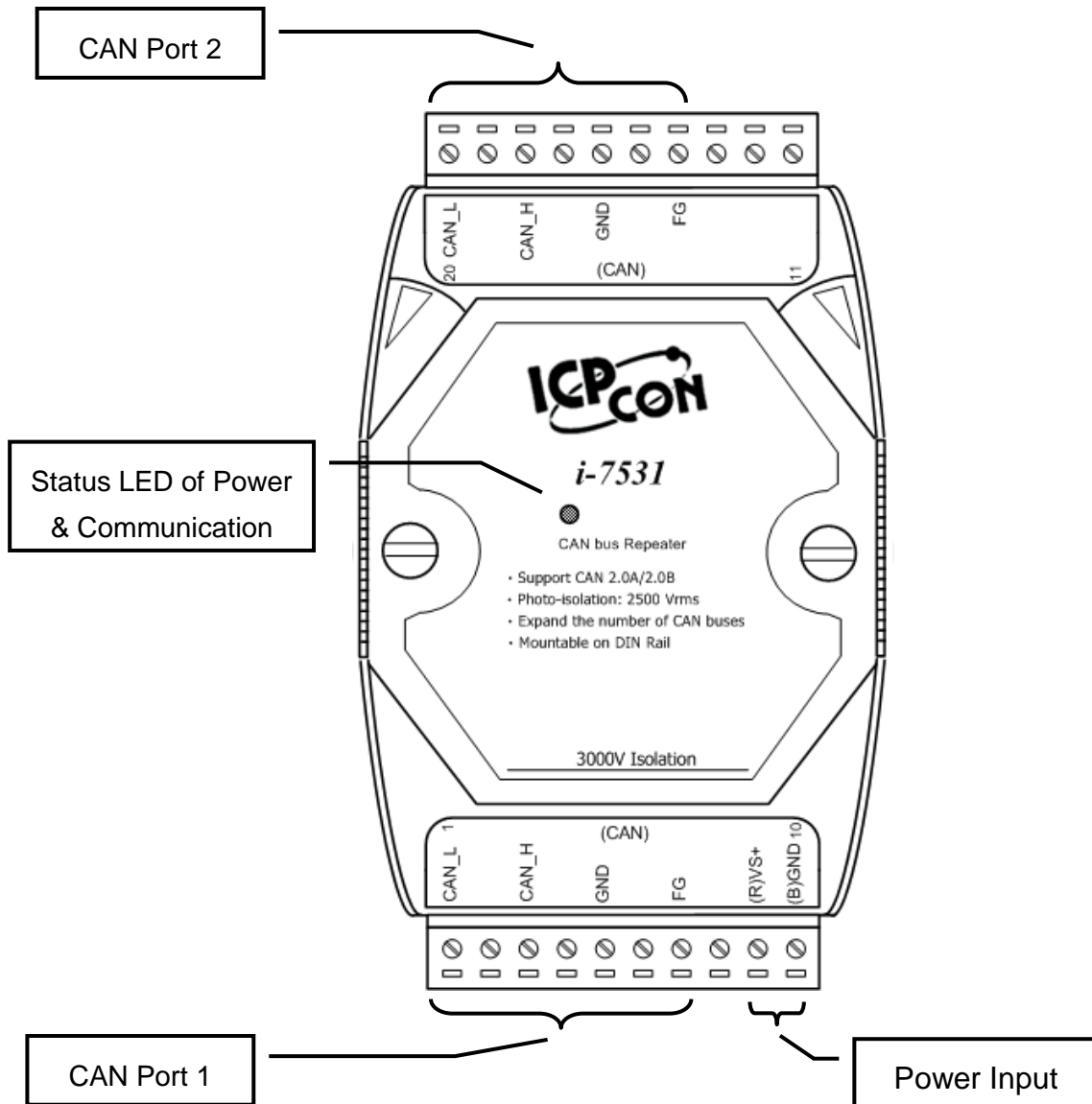## Quick Start User Guide

1. Introduction

This user guide describes how to implement the i-7531 module into users' applications in a quick and easy way. Therefore, it only provides the basic concepts. If users want to know more detail information about the i-7531, please refer to the user manual of i-7531 in the product CD or visit our website as follow:

http://www.icpdas.com/products/Remote_IO/can_bus/i-7531.htm

The purpose of this document is focused on helping users to quickly familiarize themselves with the i-7531 module. For example, users can apply the i-7531 module as follow figure:

Backbone use

Backbone of CAN bus

i-7531   i-7531   i-7531

CAN branch   CAN branch   CAN branch

Electronic isolation

Extended use

i-7531   i-7531

Original   Extended   Extended
CAN bus   CAN bus   CAN bus

Electronic isolation

2. Hardware Structure

When the i-7531 is turned on, the status LED will be display with red light. Moreover, when a message passes through i-7531, the status LED will be twinkle once with yellow light while the red light is still on.

Note: Twinkling rate correlates with baud rate of CAN bus. Users may see no twinkling when the twinkling period is too short because of the higher baud rate of CAN bus. Besides, the yellow LED could look like always on when bus loading is heavy.

3. Terminator Resistor Setting

According to the ISO 11898 specifications, the CAN bus network must be terminated by one terminal resistor (120Ω) on each end of CAN bus for proper operation.

The JP2 of i-7531 is used for adjusting terminal resistor on CAN Port 1, and the JP3 of i-7531 is used for adjusting terminal resistor on CAN Port 2.

Before setting terminal resistor of i-7531, user needs to open the cover of i-7531 first. Those locations of JP2 and JP3 are shown as following figure:
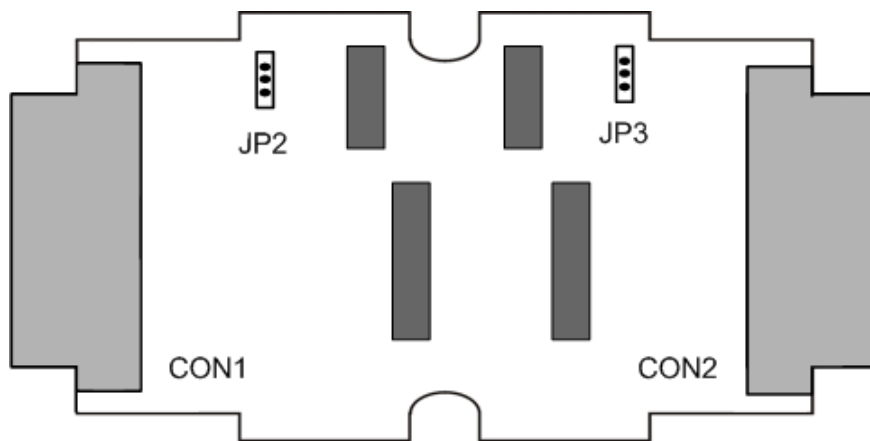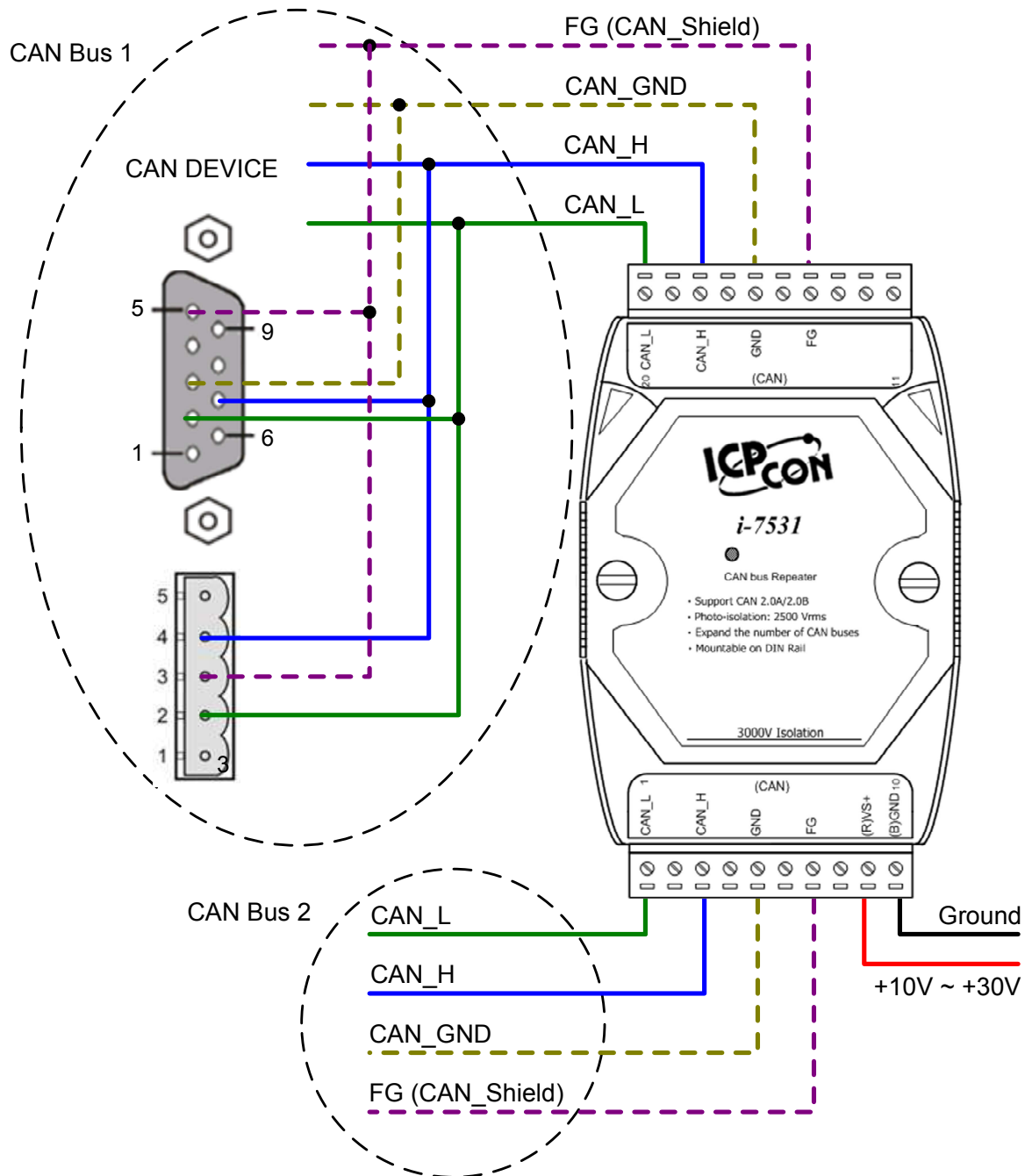

The following connection statuses present the condition if the terminal resistor is enabled (default) or disabled.

Disable
(Deactivate)

Enable
(Activate)
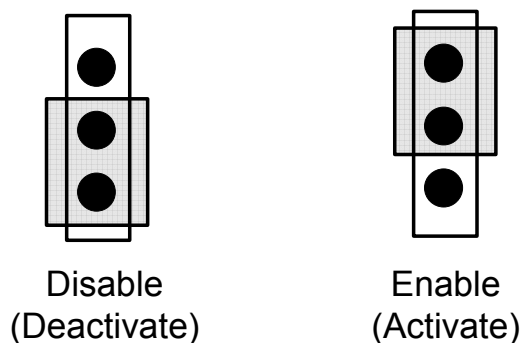
4. Configuration Installation

Step1: Modify JP2 and JP3 of i-7531 according to user's application.
Step2: Connect two different CAN buses using i-7531 as follow figure:

Note: Roughly speaking, wiring of CAN_GND and FG between CAN devices can improve the capability of anti-interference of CAN bus system in harsh environment, but this is not necessary.

For more Information about CAL_L, CAN_H, CAN_GND and FG (CAN_Shield), please refer to user manual of i-7531.