tM-7530A

Quick Start

June 2017, Version 1.0.0

Congratulations!

In order to cater for costing and size requirements, we provide a new tiny size RS-232/RS-485/RS-422 to CAN converter solution, the tM-7530A module. It can help users to implement the communication in RS-232, RS-485, RS-422 and CAN network. Due to its small size, it is easily to fit narrower environment. Although the tM-7530A module is produced for costing requirement, it still has isolations on the power side and CAN bus side. The tM-7530A module also has fine performance during communicating. The tM-7530A module is the same with tM-7530, it also provides the function such as listen only. User can use this function to listen CAN bus messages and error detection.



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What's In the Box!

In addition to this guide, the package includes the following items:



tM-7530A



Fieldbus CD



Quick Start



Screw Driver (1C016)

Technical Support

- **tM-7530A User Manual**

  CD:\fieldbus_cd\can\pac\converter\tM-7530A\manual\

  http://ftp.icpdas.com/pub/cd/fieldbus_cd/can/converter/tM-7530A/manual/

- **tM-7530A Website**

  http://www.icpdas.com/root/product/solutions/industrial_communication/fieldbus/can_bus/converter/tM-7530A.html

- **tM-7530A Utility**

  http://ftp.icpdas.com/pub/cd/fieldbus_cd/can/virtual_can/

- **ICP DAS Website**

  http://www.icpdas.com/

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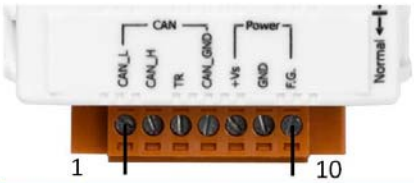
Hardware Introduction and Installation



The left graph is the surface of the tM-7530A module. It includes the four interface, RS-232, RS-485, RS-422 and CAN bus. The tM-7530A module has 2 LED indicators, such the Run LED and the Err LED. They are used to response module status immediately at all time.



Pin	UART Description
1	RS-485 D+
2	RS-485 D-
3	RS-422 TxD+
4	RS-422 TxD-
5	RS-422 RxD+
6	RS-422 RxD-
7	N/A
8	RS-232 RxD
9	RS-232 TxD
10	RS-232 GND



Pin	Power, CAN Bus Description
1	CAN Low (CAN_L)
2	CAN High (CAN_H)
3	Terminator Resistor Enabled Switch(TRES)
4	CAN Ground(CAN_GND)
5	+10 to +30 V_{DC} (+Vs)
6	Power Ground (GND)
7	Frame Ground (F.G.)

Table: LED Indicator

LED Indicator	Condition	Status
Run	Configuration Mode	Flashing Once Per Secord
	Run Mode	Turn on when no data needs to be sent
		Flash once when sending a CAN message
Err	FIFO overflow CAN Bus Off CAN Error Passive	Always turned on
	Some errors occurred	Flashing

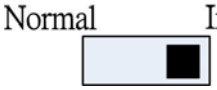
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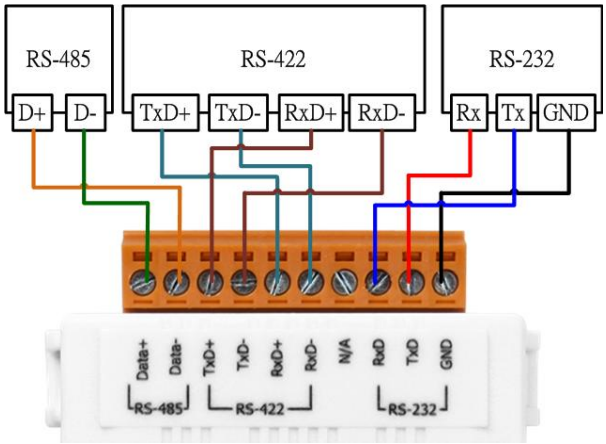
Configuration/Run Mode

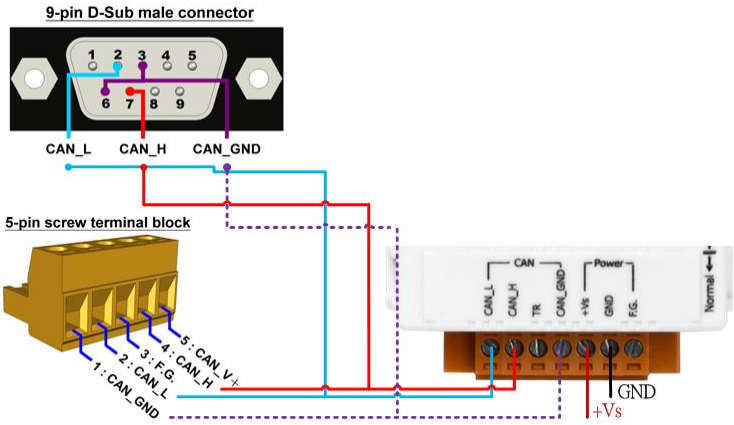
There is a dip-switch on the right hand side of tM-7530A. After switching and rebooting, the tM-7530A module will enter into Normal mode or Init mode.



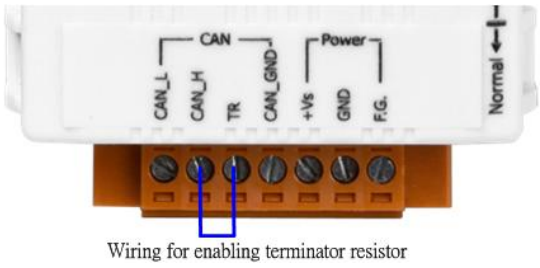
Mode	Dip-Switch Position
Normal	
Init	

The tM-7530 module wire connection





Terminal Resistor



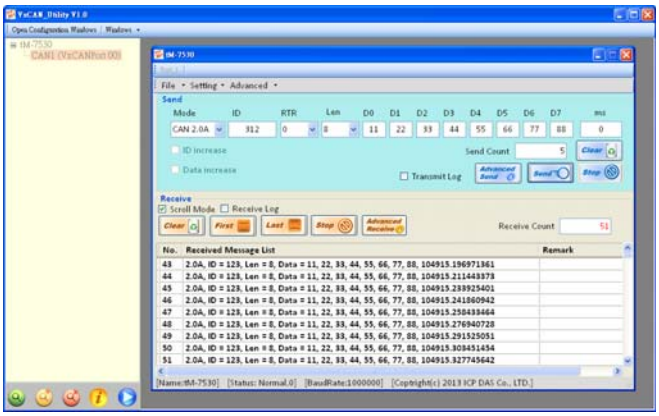
Wiring for enabling terminator resistor

There is a terminator resistor in the tM-7530A module. Therefore, if users would like to use terminator resistor, please wire the CAN_H pin and TR pin, such as left graph.

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Software Utility Introduction



The tM-7530A module uses VxCAN Utility to configure module and test. The VxCAN Utility is based on the Virtual CAN technology which is developed by the ICP DAS and used to integrate the CAN interfaces of the different CAN converters from the ICP DAS. All of the CAN interfaces found by the PC will be sequentially mapping to the virtual CAN ports by the Virtual CAN driver. Users just use the virtual CAN ports to develop their application, and don't need to know what kind of CAN converter they use.

Configure the tM-7530A module via VxCAN Utiliy

Step 1: The tM-7530A module is set on the Init Mode

Before powering on the CAN converters, users must set them to the Init mode. Users need to switch the Init/Normal DIP-Switch to Init position

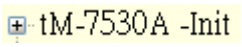


Step 2: Connect the available COM port of the PC to the tM-7530 module, and execute the VxCAN Utility.

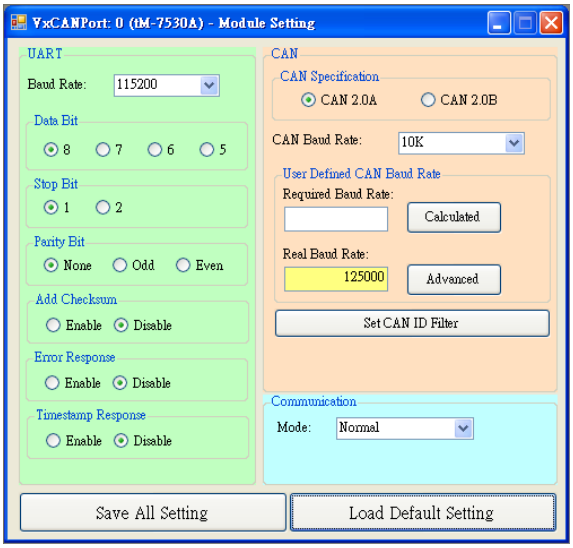
Step 3: Click the button  to search the tM-7530A module connected to the PC.

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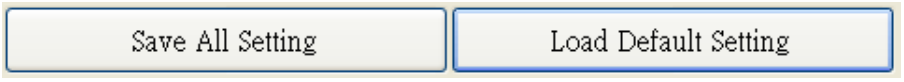
Step 4: After searching done, the tM-7530A module will be list in the left window of VxCAN Utility.



Step 5: Click the tM-7530A-Init in the list, the module configuration dialog is popped up.



The configuration is divided to three areas with different color. They are UART, Communication, and CAN configuration area. Each area can set different parameters of the tM-7530A module.



After finishing the configuration, users can click the button “Save All Setting” to save the configuration in to the EEPROM of the CAN converter. If users would like to recover the parameters to the factory default, click “Load Default Setting” button to recover all of the configuration parameters to be default value. Afterwards, users can use the button “Save All Settings” to save the default parameters in to the EEPROM of the CAN converter.

The default values of the parameters of the CAN converter are shown below.

RS-232, RS-485, RS-422:

RS-232 Baud rate	= 115200
Data Bit	= 8
Stop Bit	= 1
Parity	= None

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Add Checksum = No
Error Response = No
TimeStamp Response = No

CAN:

CAN Specification = 2.0A
CAN bus Baud rate = 125K
Acceptance Code = 000
Acceptance Mask = 000

Communication:

Mode: Normal

Test the tM-7530A module via VxCAN Utiliy

Step 1: The tM-7530A module on Normal Mode

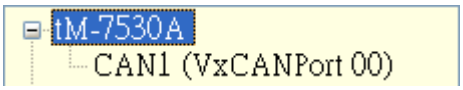
Set the Init/Normal DIP switch of the CAN converter to normal mode. When the CAN module runs on the normal mode, the run LED indicator will be turned on. If the CAN converter sends or receives the CAN messages, the run LED will be flashing once per message.



Step 2: Connect the COM port of PC to the CAN converter, and execute the VxCAN Utility

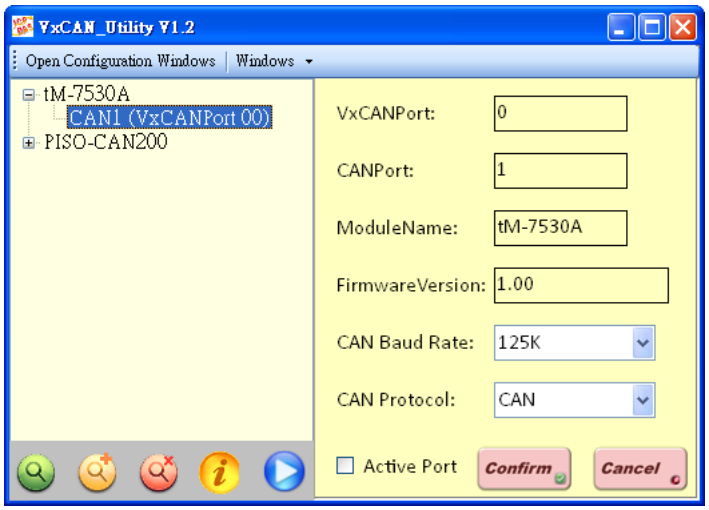
Step 3: Click the search button  to search all CAN converters connected to the PC.

Step 4: After searching done, the tM-7530A will be list in the left window of VxCAN Utility.



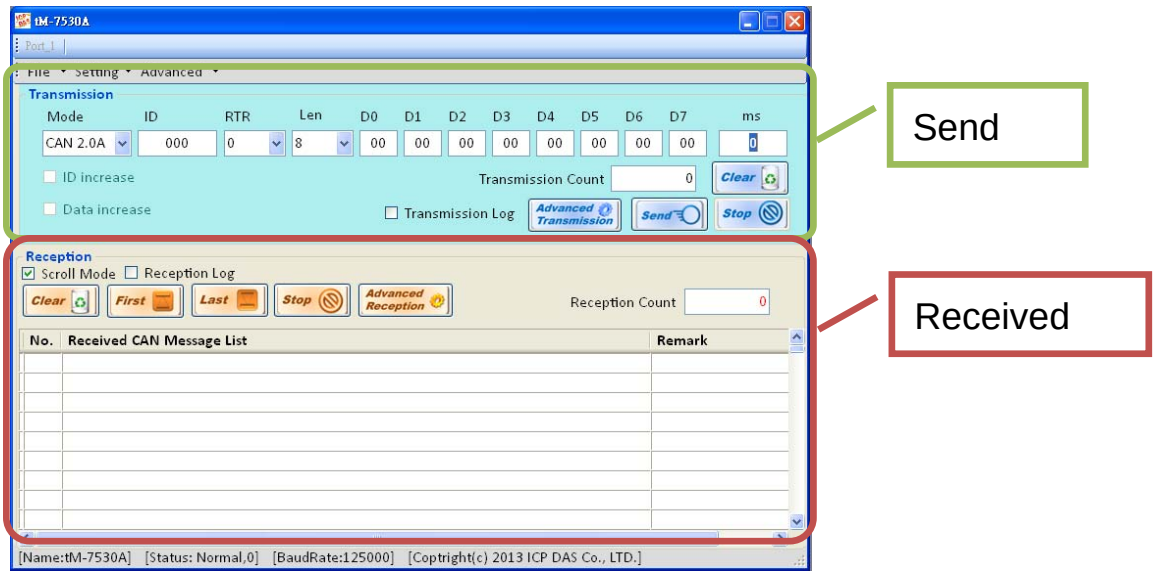
Step 5: Click the CAN port of the tM-7530A to set the CAN parameters of the tM-7530.

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Check the “Active Port” and Click “Confirm” button to enable the CAN port of the CAN converter. The parameters set here are not stored in the EEPROM. If users would like to configure the other parameters expect the CAN parameters, please use Configuration interface of the VxCAN Utility to do that.

Step 6: Click “Start” button  to open test interface.



The test interface is divided to two areas. One is for sending CAN messages, and the other is for reception. If users want to send CAN message, fill the data into the corresponding field, and click “Send” button. If the CAN converter gets any CAN messages, they will be shown in received area automatically. About the details for the VxCAN Utility operation please refer to the users’ manual of the VxCAN Utility in the following web site.

http://ftp.icpdas.com/pub/cd/fieldbus_cd/can/virtual_can/vxcan_utility/

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