Fine Tooling
广州市方瞳科技有限责任公司

Web: www.finetooling.com
Tel: 0086-20-82108945

FT6501 Product Manual

3CH CAN FD, 3KV Isolation Voltage , 5Mbps

History list

Version	Date	Content
1.0	2023/3/30	First release

Catalogue

Products Feature 1
Overview 1
Electrical parameters 1
Interface Definition 2
Technical specification 3
Use of the free debugging tool HWSuit 3
Steps to Use 3

Products Feature

- Conforms to CAN-FD ISO11898-2 standard, compatible with CAN 2.0A/B standard
- Number of channels: 3 channels isolated CAN-FD interface
- Complies with standards such as CANopen, DeviceNet, NMEA2000, ISO11783, CAN Kingdom, CANaerospace
- Compatible with high-speed CAN and CAN-FD
- CAN interface electrical isolation 3000VDC
- CAN communication baud rate between 40Kbps~1Mbps arbitrary programmable
- CAN-FD baud rate is arbitrarily programmable between 1Mbps and 5Mbps
- Built-in 120 OHM terminal resistor, access and disconnect can be controlled by software
- Support FTStudio, LabVIEW, Visual Studio and other languages for secondary development

Overview

Fidas CAN Transceiver board is a series of Ethernet Fidas products. Through the backplane, it communicates with the motherboard through 100M Ethernet, converts CAN data into Ethernet data, and sends it to the PC for packet analysis. The Fidas CAN Transceiver board provides three completely independent isolated CAN-FD channels, conforms to the CAN-FD ISO11898-2 standard, is compatible with the CAN 2.0A/B standard, and supports transmission rates up to 5Mbps, making the application more flexible. The 3000V DC electrically isolated CAN-FD transceiver module is used to enhance the system's reliability in harsh environments.

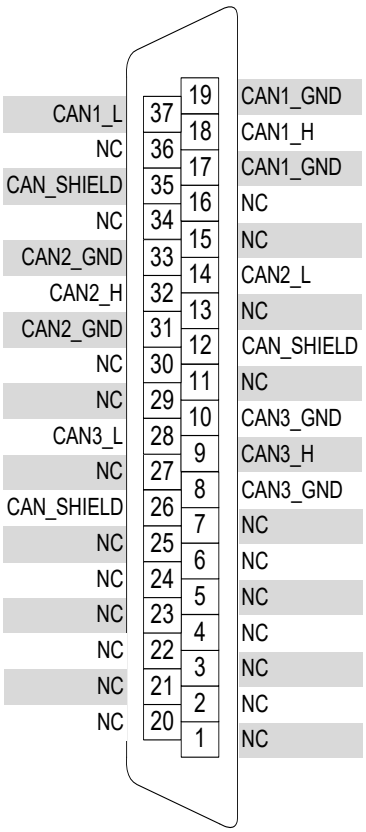
System Support：Windows XP/Win7/10　Linux

Software compatible：LabVIEW　Visual Studio　FT Studio

Electrical parameters

parameter	Test condition	Minimum value	Typical value	Maximum value	unit
Bus pins withstand voltage	CANH、CAHL	-58	--	58	V
Resistance at end	Enable terminal resistance	--	120	--	Ω
Isolation withstand pressure	The leakage current is less than 1mA	--	3000	--	VDC

Interface Definition



CAN channel	Pin	Signal	Description
CAN1	37	CAN_L	CAN_L signal line
	18	CAN_H	CAN_H signal line
	17	CAN_GND	CAN be isolated
	19	CAN _GND	CAN be isolated
	35	CAN _SHIELD	Shield wire
	36	NC	——
CAN2	14	CAN_L	CAN_L signal line
	32	CAN_H	CAN_H signal line
	31	CAN_GND	CAN be isolated
	33	CAN _GND	CAN be isolated
	12	CAN _SHIELD	Shield wire
	30	NC	——
CAN3	28	CAN_L	CAN_L signal line
	9	CAN_H	CAN_H signal line
	8	CAN_GND	CAN be isolated
	10	CAN _GND	CAN be isolated
	26	CAN _SHIELD	Shield wire
	7	NC	——

Technical specification

Items	Description
Number of CAN channels	3 channels
Power consumption	+12V：490mA，+5V：165mA
Voltage of isolation	3000VDC
Output terminal terminal	DB37 Connector
CAN baud rate	40Kbps~1Mbps（CAN），1Mbps~5Mbps（CAN-FD）
Work environment [1]	temperature：-40℃~85℃，Relative humidity：10%~90%RH
Storage environment	temperature：-40℃~85℃，Relative humidity：5%~95%RH No condensation

Note 1: With respect to environmental adaptability

1) Ambient temperature:
   a) Operating temperature: 0~55°C, meet the test standards IEC 60068-2-1 and IEC 60068-2-2
   b) Storage temperature: -20~70°C, meet the test standards IEC 60068-2-1 and IEC 60068-2-2
2) Environmental humidity:
   a) Working humidity: 10~90%, meet the test standards IEC 60068-2-1 and IEC 60068-2-2
   b) Working humidity: 5~95%, meet the test standards IEC 60068-2-1 and IEC 60068-2-2
3) Suitable for indoor applications only

Use of the free debugging tool HWSuit

The HWSuit tool can be downloaded from the official website of www.finetooling.com

HWSuit version： Please download HWSuit V3.5.8.0 or later.

Steps to Use

- After connecting the Fidas host device, open the corresponding slot according to the expansion card position sequence number.
- CH1, CH2, CH3: three completely independent isolated CAN-FD channels; If three channels are used for receiving and transmitting communication, the configuration parameters of the three channels should be consistent. CAN and CANFD should be initialized after configuration. One channel is used as the transmitter and the remaining two channels are used as the receiver.
- The arbitration domain baud rate index and the data domain baud rate index have a default sample point of 0.8.

  CANFD baud rate calculation formula: 20/ (Prescaler*(1+(TS1+1)+(TS2+1))), where 20 is CANFD clock 20MHz

  CANFD sampling point calculation formula: (1+(TS1+1))/(1+(TS1+1)+(TS2+1))
- Hardware filtering defaults to the standard ID, index range: 0-39; Extend the ID, index range: 0-19.

Purchase Contacts：

Tel：0086-20-82108945-8015
E-mail：Marketing@finetooling.com
Web： www.finetooling.com
广州市方瞳科技有限责任公司 | Finetooling Technology (Guangzhou) Co.,Ltd.
广东省广州市黄埔区春分路 88 号 3 栋 Building 3, No. 88, Chunfen Road, Huangpu District, Guangzhou City, Guangdong Province