



# Fine Tooling

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## FT7201 Product Manual

8CH Digital Input, 32CH Digital Output, MAX 24V/50mA



# History list

Version	Date	Content
1.0	2023/3/30	First release

# Catalogue

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## Products Feature

- 8-channel digital input, support 3.3V~24V input
- 32-channel digital output, according to the external level output high level, support 5~24V voltage output
- Maximum digital output drive current 50mA
- Support FTStudio, LabVIEW, Visual Studio and other languages for secondary development

## Overview

FT7201 DIO module is a series of Ethernet Fidas products. Through the backplane, it communicates with the motherboard by 100M Ethernet to read the input IO level state and control the IO output high and low level. FT7201 provides an 8 DI interface and a 32 DO interface. DI interface supports 3.3V~24V voltage input, DO interface according to external 5V~24V voltage, output 5V~24V high level, output low level as low as 0.025V.

**System Support:** Windows XP/Win7/10    Linux

**Software compatible:** LabVIEW    Visual Studio    FT Studio

## Digital input characteristic

All the following measurements were taken at room temperature 25 ° C, unless otherwise noted.

Number of DI channels	8 channels
Place of reference	GND
Direction control	Not supported
Input voltage range	0~24V
Input high level	> 2.9V
Input low level	<0.99V

## Digital output characteristic

Number of DO channels	32 channels
Place of reference	GND
Direction control	Not supported
External supply voltage range (DO_VCC to DO_AGND)	5~24V
Output impedance (Ro)	3Ω
Output high level	$\geq DO\_VCC - (I_o * R_o)$ , $I_o$ is the actual driving current

Output low level	≤0.025V
Power-on default output state	Low power level
Maximum driving current	50mA/channel

## Interface Definition

NC	68	34	GND
NC	67	33	GND
NC	66	32	DI1
NC	65	31	DI2
NC	64	30	DI3
NC	63	29	DI4
NC	62	28	DI5
NC	61	27	DI6
NC	60	26	DI7
NC	59	25	DI8
GND	58	24	GND
GND	57	23	GND
DO_VCC(1~8)	56	22	DO_VCC(9~16)
DO_VCC(1~8)	55	21	DO_VCC(9~16)
DO1	54	20	DO9
DO2	53	19	DO10
DO3	52	18	DO11
DO4	51	17	DO12
DO5	50	16	DO13
DO6	49	15	DO14
DO7	48	14	DO15
DO8	47	13	DO16
GND	46	12	GND
GND	45	11	GND
DO_VCC(17~24)	44	10	DO_VCC(25~32)
DO_VCC(17~24)	43	9	DO_VCC(25~32)
DO17	42	8	DO25
DO18	41	7	DO26
DO19	40	6	DO27
DO20	39	5	DO28
DO21	38	4	DO29
DO22	37	3	DO30
DO23	36	2	DO31
DO24	35	1	DO32

DIO channel	Pin	Signal	Description
DI1~8	34	GND	Place of reference
	33	GND	
	32	DI1	DI Input digital signal
	31	DI2	
	30	DI3	
	29	DI4	
	28	DI5	
	27	DI6	
	26	DI7	
DO1~8	25	DI8	
	58	GND	Place of reference
	57	GND	
	56	DO_VCC	DO1~8 External set voltage
55	DO_VCC		

	54	DO1	DO Output digital signal
	53	DO2	
	52	DO3	
	51	DO4	
	50	DO5	
	49	DO6	
	48	DO7	
	47	DO8	
DO9~16	24	GND	Place of reference
	23	GND	DO9~16 External set voltage
	22	DO_VCC	
	21	DO_VCC	
	20	DO9	DO Output digital signal
	19	DO10	
	18	DO11	
	17	DO12	
	16	DO13	
	15	DO14	
	14	DO15	
	13	DO16	
DO17~24	46	GND	Place of reference
	45	GND	DO17~24 External set voltage
	44	DO_VCC	
	43	DO_VCC	
	42	DO17	DO Output digital signal
	41	DO18	
	40	DO19	
	39	DO20	
	38	DO21	
	37	DO22	
	36	DO23	
	35	DO24	
DO25~32	12	GND	Place of reference
	11	GND	DO25~32 External set voltage
	10	DO_VCC	
	9	DO_VCC	
	8	DO25	DO Output digital signal
	7	DO26	
	6	DO27	
	5	DO28	
	4	DO29	
	3	DO30	
	2	DO31	
	1	DO32	

## Technical specification

Items	Description
Number of DI channels	8 channels
Number of DO channels	32 channels
Power consumption	+12V: 320mA, +5V: 250mA
Connection terminal	SCSI68
Work Environment <sup>1</sup>	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℃, meet the test standards IEC 60068-2-1 and IEC 60068-2-2
  - b) Storage temperature: -20~70℃, 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

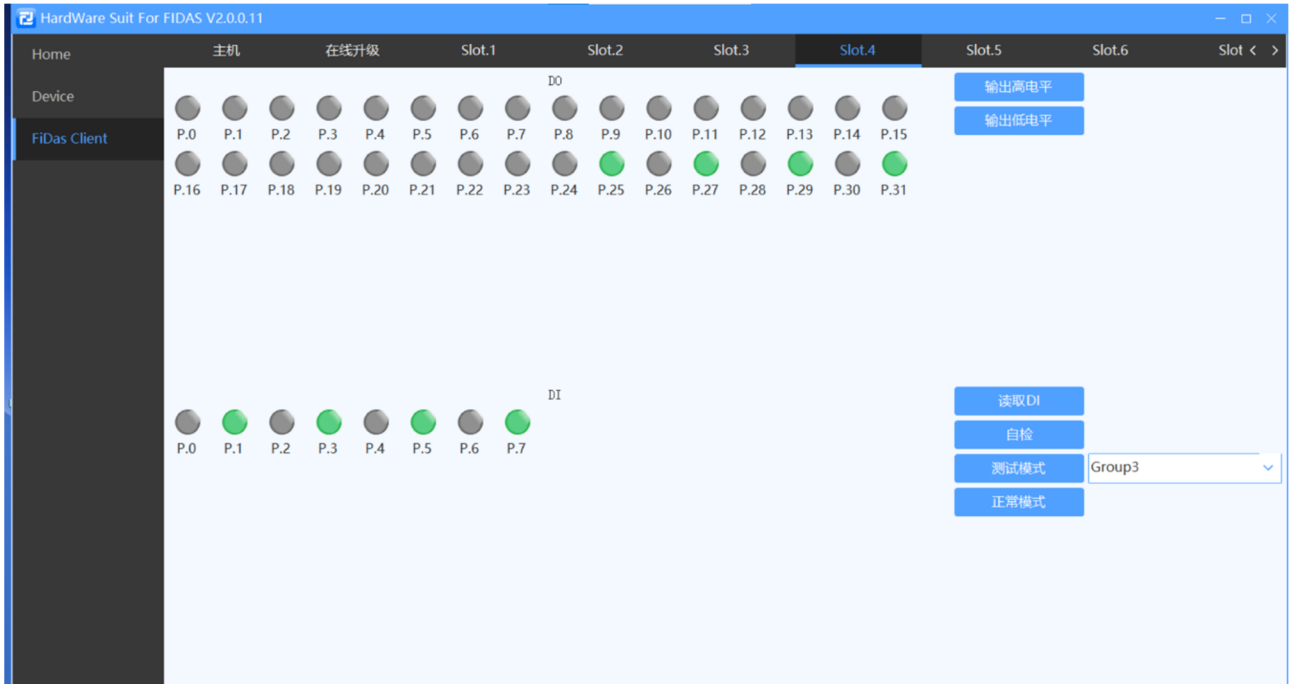
## Use of the free debugging tool HWSuit

The HWSuit tool can be downloaded from the official website of [www.finetooling.com](http://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.
- 8-channel is a group for testing and the 32-channel DO interface is divided into four groups (P.0-P.7, P.8-P.15, P.16-P.23, P.24-P.31); The 8-way DI interface is a group. Select the group and click Test Mode to test.
- When set to the Group3 group, P.25-P.31 of DO corresponds to P.0-P.7 of DI. When P.31 output of DO is high, P.7 input of DI is high. Green is high level and gray is low level.



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