



Fine Tooling

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FT7202 Product Manual

32CH PWM Sample, 32CH PWM Output, MAX 24V/30mA



History list

Version	Date	Content
1.0	2023/3/30	First release

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Products feature

- PWM synchronous acquisition and output module
- Signal bandwidth up to 500KHz
- Logic level up to 24V and drive current up to 30mA per channel
- 32 access PWM synchronous acquisition
- Support duty cycle, frequency, pulse width measurement
- 32 channel PWM output, according to the external level output high level, supports 5~24V voltage output
- The duty cycle of each channel can be separately configured by software, and the resolution is 20ns
- Support FTStudio, LabVIEW, Visual Studio and other languages for secondary development

Overview

Fidas PWM board is a series of Ethernet Fidas products through the backplane, and the motherboard 100M Ethernet communication, read input PWM frequency, duty cycle, output frequency, duty cycle adjustable square wave. The Fidas PWM board provides a 32-channel PWM input interface and a 32-channel PWM output interface. The PWM input interface supports 0~24V voltage input, and the PWM output interface can output 5V~24V high level and output low level as low as 0.025V according to the external 5V~24V voltage. 1500V DC power isolation 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

Input features

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

Number of PWM IN channels	32 channels
Place of reference	AGND_PWM_IN
Direction control	Not supported
Input voltage range	0~24V
Input high level	> 3V
Input low level	<0.8V
Maximum input frequency	1MHz@50%
Enter the duty cycle range	5% to 95%
Accuracy of measurement	frequency: 0.1% Duty cycle: 1%

Output feature

Number of PWM OUT channels	32 channels
Place of reference	AGND_PWM_OUT
Direction control	Not supported
The voltage range is set externally	5~24V
Output impedance (Ro)	3Ω
Output high level	≥PWM_VCC - (Io * Ro), Io is the actual driving current
Output low level	≤0.025V
Maximum output frequency	1MHz@50%
Output duty cycle range	5% to 95%
Accuracy of measurement	frequency: 0.1% Duty cycle: 1%
Maximum driving current	30mA/ channel

Interface Definition

PWM_IN2	100	50	PWM_IN1
PWM_IN4	99	49	PWM_IN3
PWM_IN6	98	48	PWM_IN5
PWM_IN8	97	47	PWM_IN7
PWM_AGND(IN1-32)	96	46	PWM_AGND(IN1-32)
PWM_IN10	95	45	PWM_IN9
PWM_IN12	94	44	PWM_IN11
PWM_IN14	93	43	PWM_IN13
PWM_IN16	92	42	PWM_IN15
PWM_AGND(IN1-32)	91	41	PWM_AGND(IN1-32)
PWM_IN18	90	40	PWM_IN17
PWM_IN20	89	39	PWM_IN19
PWM_IN22	88	38	PWM_IN21
PWM_IN24	87	37	PWM_IN23
PWM_AGND(IN1-32)	86	36	PWM_AGND(IN1-32)
PWM_IN26	85	35	PWM_IN25
PWM_IN28	84	34	PWM_IN27
PWM_IN30	83	33	PWM_IN29
PWM_IN32	82	32	PWM_IN31
PWM_AGND(IN1-32)	81	31	PWM_AGND(IN1-32)
NC	80	30	NC
PWM_VCC(OUT1-8)	79	29	PWM_VCC(OUT1-8)
PWM_OUT2	78	28	PWM_OUT1
PWM_OUT4	77	27	PWM_OUT3
PWM_OUT6	76	26	PWM_OUT5
PWM_OUT8	75	25	PWM_OUT7
PWM_AGND(OUT1-8)	74	24	PWM_AGND(OUT1-8)
NC	73	23	NC
PWM_VCC(OUT9-16)	72	22	PWM_VCC(OUT9-16)
PWM_OUT10	71	21	PWM_OUT9
PWM_OUT12	70	20	PWM_OUT11
PWM_OUT14	69	19	PWM_OUT13
PWM_OUT16	68	18	PWM_OUT15
PWM_AGND(OUT9-16)	67	17	PWM_AGND(OUT9-16)
NC	66	16	NC
PWM_VCC(OUT17-24)	65	15	PWM_VCC(OUT17-24)
PWM_OUT18	64	14	PWM_OUT17
PWM_OUT20	63	13	PWM_OUT19
PWM_OUT22	62	12	PWM_OUT21
PWM_OUT24	61	11	PWM_OUT23
PWM_AGND(OUT17-24)	60	10	PWM_AGND(OUT17-24)
NC	59	9	NC
NC	58	8	NC
PWM_VCC(OUT25-32)	57	7	PWM_VCC(OUT25-32)
PWM_OUT26	56	6	PWM_OUT25
PWM_OUT28	55	5	PWM_OUT27
PWM_OUT30	54	4	PWM_OUT29
PWM_OUT32	53	3	PWM_OUT31
PWM_AGND(OUT25-32)	52	2	PWM_AGND(OUT25-32)
NC	51	1	NC

PWM channel	pin	signal	Description
PWM_IN1~8	50	PWM_IN1	PWM_IN Input signal
	100	PWM_IN2	
	49	PWM_IN3	
	99	PWM_IN4	
	48	PWM_IN5	
	98	PWM_IN6	
	47	PWM_IN7	
	97	PWM_IN8	
	46	PWM_IN_AGND	PWM_IN1~32 Place of reference
	96	PWM_IN_AGND	
PWM_IN9~16	45	PWM_IN9	PWM_IN Input signal
	95	PWM_IN10	
	44	PWM_IN11	
	94	PWM_IN12	
	43	PWM_IN13	
	93	PWM_IN14	
	42	PWM_IN15	
	92	PWM_IN16	
	41	PWM_IN_AGND	PWM_IN1~32 Place of reference
91	PWM_IN_AGND		
PWM_IN17~24	40	PWM_IN17	PWM_IN Input signal
	90	PWM_IN18	
	39	PWM_IN19	
	89	PWM_IN20	
	38	PWM_IN21	
	88	PWM_IN22	
	37	PWM_IN23	
	87	PWM_IN24	
	36	PWM_IN_AGND	PWM_IN1~32 Place of reference
	86	PWM_IN_AGND	
PWM_IN25~32	35	PWM_IN25	PWM_IN Input signal
	85	PWM_IN26	
	34	PWM_IN27	
	84	PWM_IN28	
	33	PWM_IN29	
	83	PWM_IN30	
	32	PWM_IN31	
	82	PWM_IN32	
	31	PWM_IN_AGND	PWM_IN1~32 Place of reference
	81	PWM_IN_AGND	
PWM_OUT1~8	30、80	NC	—
	29、79	PWM_OUT_VCC	PWM_OUT1~8 External set voltage
	28	PWM_OUT1	PWM_OUT Output signal
	78	PWM_OUT2	
	27	PWM_OUT3	
	77	PWM_OUT4	

	26	PWM_OUT5	PWM_OUT1~8 Place of reference
	76	PWM_OUT6	
	25	PWM_OUT7	
	75	PWM_OUT8	
	24、74	PWM_OUT_AGND	
PWM_OUT9~16	23、73	NC	——
	22、72	PWM_OUT_VCC	PWM_OUT9~16 External set voltage
	21	PWM_OUT9	PWM_OUT Output signal
	71	PWM_OUT10	
	20	PWM_OUT11	
	70	PWM_OUT12	
	19	PWM_OUT13	
	69	PWM_OUT14	
	18	PWM_OUT15	
	68	PWM_OUT16	
	17、67	PWM_OUT_AGND	PWM_OUT9~16 Place of reference
PWM_OUT17~24	16、66	NC	——
	15、65	PWM_OUT_VCC	PWM_OUT17~24 External set voltage
	14	PWM_OUT17	PWM_OUT Output signal
	64	PWM_OUT18	
	13	PWM_OUT19	
	63	PWM_OUT20	
	12	PWM_OUT21	
	62	PWM_OUT22	
	11	PWM_OUT23	
	61	PWM_OUT24	
	10、60	PWM_OUT_AGND	PWM_OUT17~24 Place of reference
9、59、8、58	NC	——	
PWM_OUT25~32	7、57	PWM_OUT_VCC	PWM_OUT25~32 External set voltage
	6	PWM_OUT25	PWM_OUT Output signal
	56	PWM_OUT26	
	5	PWM_OUT27	
	55	PWM_OUT28	
	4	PWM_OUT29	
	54	PWM_OUT30	
	3	PWM_OUT31	
	53	PWM_OUT32	
	2、52	PWM_OUT_AGND	PWM_OUT25~32 Place of reference
1、51	NC	——	

Technical specification

Items	Description
PWM In channels	32 channels
PWM Out channels	32 channels
Power consumption	+12V: 630mA, +5V: 900mA
Connection terminal	SCSI100
Work environment ¹	Temperature: -40°C~85°C, relative humidity: 10%~90%RH
Storage environment	Temperature: -40°C~85°C, relative humidity: 5%~95%RH No condensation
Dimensions	Physical size (without connector) :

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 V3.5.8.3 or later.

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