

**S3306**

**16 Channels Isolated Digital Input Module**

**User's Manual**



**SHJ**

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**S3306** has total 16 channels isolated 0 through 36 volts DC input, Each input channel also can work as 32-bit counter input, the maximum frequency is 200Hz for total 16 channels and 1000Hz for only one channel. Output BUS is RS485 with has surge protection, to reduce interference by serial port communication, the output isolated by high speed opto-couplers. The modules are slave devices that can be easily controlled via the RS485 serial interface using the industry standard Modbus protocol.

#### Highlights:

- Isolated digital inputs can be configured as counter input, total 32 bits,1000Hz
- 32-bit counter be stored into FLASH when power off
- Can measure frequency from 0 to 200Hz,the resolution is 0.1Hz
- Can accept reed and hall sensor output from water meter or other meters
- Static and lightning protection for each input
- The input channel number is configurable, can be set up from 1 channel through 16 channels, improve frequency for small count input
- Surge-protected and isolated Rs485 ensure reliability
- Standard ModBus protocol allows for up to 254 unique devices on one RS485 network
- You can tell us your requirement. we will update our firmware after you received the modules ,you can update your modules via ISP through RS485 BUS.

#### Application:

- ✓ Remote data acquisition
- ✓ Process monitoring
- ✓ Industrial process control
- ✓ Energy management
- ✓ Supervisory control
- ✓ Security systems
- ✓ Laboratory automation
- ✓ Building automation
- ✓ Product testing
- ✓ Direct digital control

#### Technical data:

Input channel number----- 16  
 Input range-----+0V~+36V  
 Input signal-----Voltage Input  
 Counter frequency-----100Hz@ 16channels;1000Hz@ 1channel  
 Counter length-----32-bit  
 Output BUS----- RS485 with Standard Modbus protocol  
 Output Protection-----Lightning,static  
 Power input-----9~24V(AC/DC)  
 Power consumption-----<0.6W

Ambient temperature:

Operation----- -20~85℃(-13~185°F)

Storage----- -40~100℃(-40~212°F)

Ambient humidity-----10%~90%RH

Material,enclosure-----Flame proof plastic

Enclosure rating-----IP31

Colour-----Ice Blue

Size-----100\*69\*25 mm

#### Wiring diagram and description:

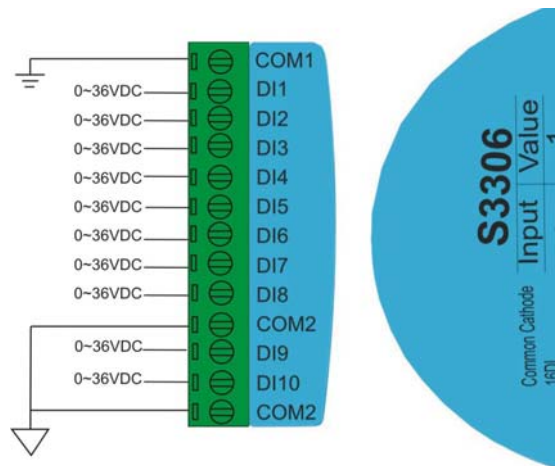


Figure 1 wet contact input

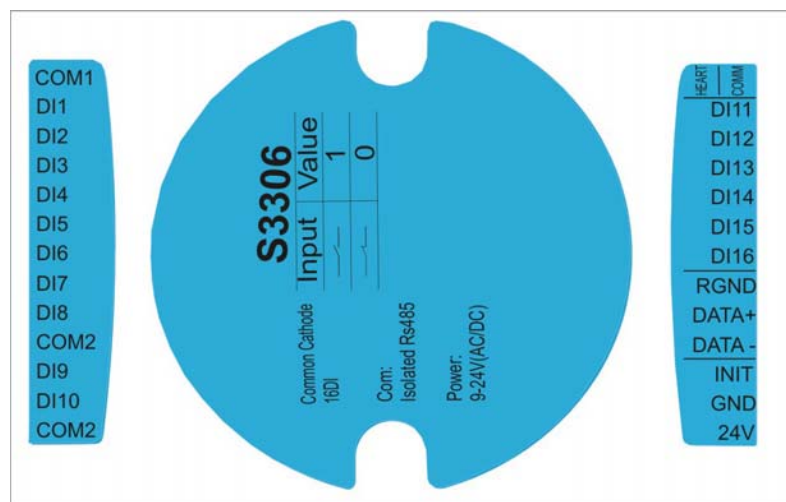


Figure 2 terminal definition

#### 1、Input wiring

Com1: Common ground input for digital input 1 through 8

DI1 ~ DI8: Digital input channel 1 through 8

Com2: Common ground input for digital input 9 through 16

DI9~DI16: Digital input channel 9 through 16

## 2、 Power wiring

DC: 24V, positive end

GND, negative end

AC: 24V, hot line

GND, neutral line

## 3、 RS485 wiring

DATA+: connect to A end of RS485

DATA-: connect to B end of RS485

RGND: connect to earth if necessary

## 4、 Reset parameter to default

Put the jumper at INIT and GND,the following parameters back to default.

■ Address of device: 254

■ Baudrate: 19200

■ Channel: enable all channels

■ Filtering: 200us for frequency input

## 5、 LEDs indication

Heart: Flashing when the system is working

Comm: Flashing when serial port communication is working

**Modbus register list:**      **Note: \* means default value**

Address	Bytes	Value range		Description	Property	
		Min	Max			
0-3	4	1	4294967295	Serial number,unique for each product	R	
4-5	2	100	65535	Firmware version number	R	
6	1	1	254	Device address	R/W	
7	2	3306	3306	Product model	R	
8	1	1	255	Hardware version	R	
9	2	12	1152	Baudrate setting		R
				Value	Buadrate	
				12	1200	
				24	2400	
				48	4800	
				96	9600	
				192*	19200	
				384	38400	
				576	57600	
				1152	115200	
For example:write 96 to register 9 to set the baudrate 9600.						

10-99	-	-	-	Reserved	-
100	2	0	65535	Status for digital input channel 1 through 16, 0 = high voltage input, 1 = low voltage input. Bit0 correspond to channel 1, bit1 correspond to channel 2 etc.	R
101	2	0	65535	High word for counter input 1	R/W
102	2	0	65535	Low word for counter input 1, value of counter = (101) * 65536 + (102)	R/W
103	2	0	65535	High word for counter input 2	R/W
104	2	0	65535	Low word for counter input 2, value of counter = (103) * 65536 + (104)	R/W
105	2	0	65535	High word for counter input 3	R/W
106	2	0	65535	Low word for counter input 3, value of counter = (105) * 65536 + (106)	R/W
107	2	0	65535	High word for counter input 4	R/W
108	2	0	65535	Low word for counter input 4, value of counter = (107) * 65536 + (108)	R/W
109	2	0	65535	High word for counter input 5	R/W
110	2	0	65535	Low word for counter input 5, value of counter = (109) * 65536 + (110)	R/W
111	2	0	65535	High word for counter input 6	R/W
112	2	0	65535	Low word for counter input 6, value of counter = (111) * 65536 + (112)	R/W
113	2	0	65535	High word for counter input 7	R/W
114	2	0	65535	Low word for counter input 7, value of counter = (113) * 65536 + (114)	R/W
115	2	0	65535	High word for counter input 8	R/W
116	2	0	65535	Low word for counter input 8, value of counter = (115) * 65536 + (116)	R/W
117	2	0	65535	High word for counter input 9	R/W
118	2	0	65535	Low word for counter input 9, value of counter = (117) * 65536 + (118)	R/W
119	2	0	65535	High word for counter input 10	R/W
120	2	0	65535	Low word for counter input 10, value of counter = (119) * 65536 + (120)	R/W
121	2	0	65535	High word for counter input 11	R/W

122	2	0	65535	Low word for counter input 11,value of counter = (121) *65536 + (122)	R/W
123	2	0	65535	High word for counter input 12	R/W
124	2	0	65535	Low word for counter input 12,value of counter = (123) *65536 + (124)	R/W
125	2	0	65535	High word for counter input 13	R/W
126	2	0	65535	Low word for counter input 13,value of counter = (125) *65536 + (126)	R/W
127	2	0	65535	High word for counter input 14	R/W
128	2	0	65535	Low word for counter input 14,value of counter = (127) *65536 + (128)	R/W
129	2	0	65535	High word for counter input 15	R/W
130	2	0	65535	Low word for counter input 15,value of counter = (129) *65536 + (130)	R/W
131	2	0	65535	High word for counter input 16	R/W
132	2	0	65535	Low word for counter input 16,value of counter = (131) *65536 + (132)	R/W
133	1	1	100	Respond delay for serial communication, the units is ms and default is 10ms	R/W
134	1	1	255	Filter time for counter input, the units is 10us and the default is 200us	R/W
135	1	0	255	Disable/enable input,0 = disable and 1 = enable.Bit0 correspond to input1, Bit1 correspond to input 2 and so on.	R/W
136	1	0	255	Disable/enable input,0 = disable and 1 = enable.Bit0 correspond to input9, Bit1 correspond to input 10 and so on.	R/W
137-152	2	0	1000	Frequency value for channel 1 to channel 16	R