

**S7302**  
**Zigbee digital IO Module**  
**User's Manual**



**SHJ**  
**Sales: Michael@shjelectronic.com**  
**Support: support@shjelectronic.com**

**S7302** zigbee digital input module has total 12 channels isolated wet contact or dry contact or open-collector input. Output use RS232 or ZIGBEE wireless. Zigbee can realize the point-to-point, point-to-multipoint, multipoint-to-multipoint data transmission, can form a star, peer to peer and mesh network structure. Can build huge Zigbee wireless network through setting modules address, signal channel and net ID. The S7302 can work in terminal mode or router mode through configure parameters. Both of Rs232 and Zigbee use the industry standard Modbus/RTU protocol.

**Highlights:**

- Isolated digital inputs can be configured as 32-bit counter input
- Input can be dry contact, wet contact, open-collector output
- Static ,lightning protection for each input
- The input channel number is configurable, can be set up from 1 channel through 12 channels, improve frequency for small count input
- A lot of spare FLASH can be used to store user's parameters
- RS232 or ZIGBEE for optional
- Zigbee wireless range can up to 2000 meters
- Can detect RS232 or ZIGBEE automatically, no need jumper
- You can tell us your requirement. We will update our firmware even after you received the modules, you can update your modules through RS232/ZIGBEE.

**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-----	12
Input range-----	+4V~+36V
Input protection-----	Static, lightning
Input signal-----	wet contact, dry contact, open-collector
Counter frequency-----	100Hz@ 12channels;1000Hz@ 1channel
Counter length-----	32-bit
Output BUS-----	RS232/ZIGBEE with Standard Modbus protocol
Output Protection-----	Lightning,static
Power input-----	9~24V(AC/DC)
Power consumption-----	<0.6W

Ambient temperature:

Operation----- -20~85°C(-13~185°F)

Storage----- -40~100°C(-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:

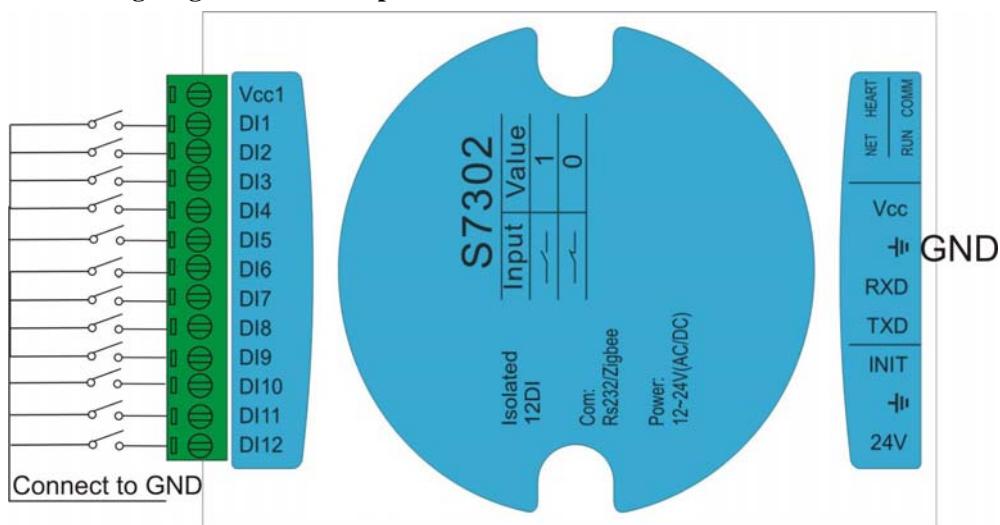


Figure 1 Dry contact input

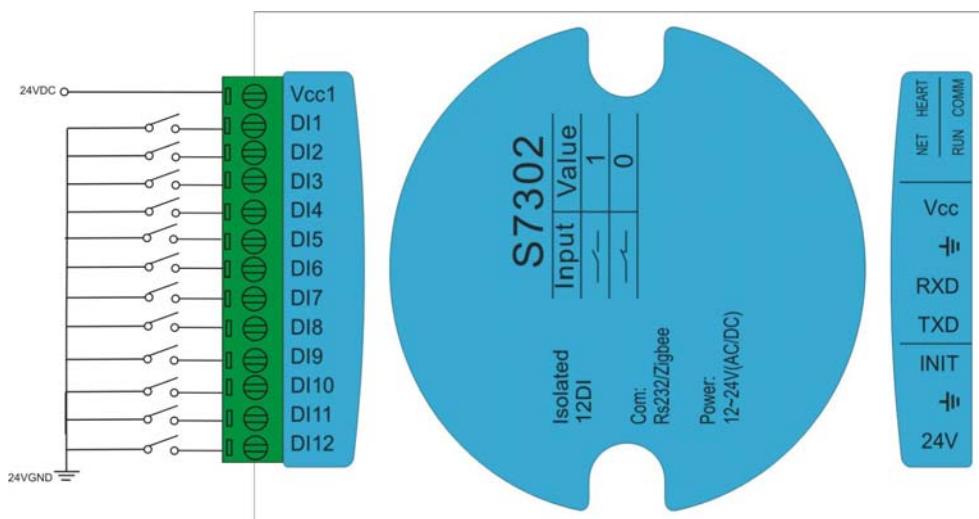


Figure 2 wet contact input

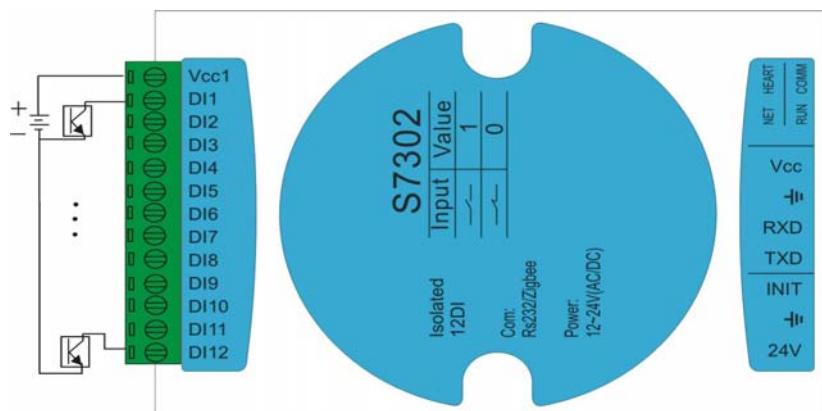


Figure3 open-collector input

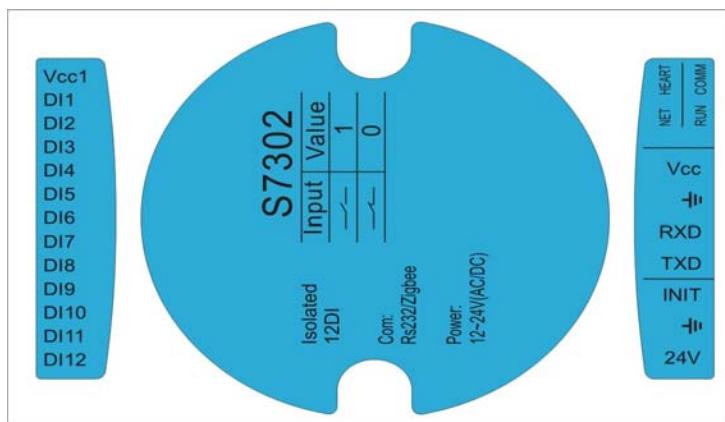


Figure 4 terminal definition

### 1、 Input wiring

Vcc1: Power source input for digital input 1 through 12

DI1-DI12: Digital input channel 1 through 12

### 3、 Power wiring

DC: 24V, positive end

GND, negative end

AC: 24V, hot line

GND, neutral line

### 4、 RS232 wiring, here is TTL level, we will provide RS232 to TTL cable

TXD: TXD of MCU, TTL

RXD: RXD of MCU, TTL

GND: System ground, **common ground for 8 digital input's dry contact mode**

VCC: 5V power supply for Rs232 cable, can provide 100mA current for user sensor.

### 5、 Reset parameter to default

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

- Address of device: 254

- Baudrate:19200

## ■ NOTE:INIT also can connect a 0-24VDC analog input

### 6、 LEDs indication

Heart: Flashing when the system is working

Comm: Flashing when serial port communication

NET: Will flash in Configuration mode, keep lighting when enter a wireless network successfully

RUN: Will flash in Configuration mode. Will flash when Zigbee module in working mode.

**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	7302	7302	Product model	R											
8	1	1	255	Hardware version	R											
9	2	12	576	Baudrate setting	R											
				<table border="1"> <thead> <tr> <th>Value</th><th>Baudrate</th></tr> </thead> <tbody> <tr><td>12</td><td>1200</td></tr> <tr><td>24</td><td>2400</td></tr> <tr><td>48</td><td>4800</td></tr> <tr><td>96</td><td>9600</td></tr> <tr><td>192*</td><td>19200</td></tr> <tr><td>384</td><td>38400</td></tr> <tr><td>576</td><td>57600</td></tr> </tbody> </table>		Value	Baudrate	12	1200	24	2400	48	4800	96	9600	192*
Value	Baudrate															
12	1200															
24	2400															
48	4800															
96	9600															
192*	19200															
384	38400															
576	57600															
For example: write 96 to register 9 to set the baudrate 9600.																
Reserved																
Status for digital input channel 1 through 12, 0 = contact active, 1 = contact inactive. Bit0 correspond to channel 1, bit1 correspond to channel 2 etc.																
High word for counter input 1	R/W															
Low word for counter input 1, value of counter = (101) *65536 + (102)	R/W															
High word for counter input 2	R/W															
Low word for counter input 2, value of counter = (103) *65536 + (104)	R/W															

Continue...

Address	Bytes	Value range		Description	Property
		Min	Max		
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 input10	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	1	1	100	Respond delay for serial communication, the units is ms and default is 10ms	R/W

126	2	1	30000	Filter time for counter input, the units is 10us and the default is 200us	R/W
127	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
128	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
129	1	0	1	Input status selection.0 = ON/OFF,1 = OFF/ON, default is ON/OFF	R/W
130	2	0	65535	Zigbee module address	R/W
131	1	0	255	Net ID, the default is 255	R/W
132	1	1	7	Net type, 01 = mesh network, 02 = star network, 07 = peer to peer network.. default is 02.	R/W
133	1	1	4	Module type, 01 = center module, 03 = router module, 04 = terminal module. The default is router module.	R/W
134	1	1	3	Transfer mode. 01 = broadcast, 02 = master-slave, 03 = peer to peer. Default is 02.	R/W
135	1	0	15	Signal channel, recommend is 4,9,14,15.	R/W
136	1	0	1	Send parameters to Zigbee module. 1 = send.	R/W
137	1	0	1	Get parameters from Zigbee module. 1 = get.	R/W
138	1	0	4095	Current analog input value. Connect analog input to INIT connector.	R/W
139	1	0	1	Analog range.0 = raw data, 1 = 0-24V engineering value, should divided by 100	R/W
140	1	0	100	Filter factor, default is 10	R/W
141	2	0	4095	In calibration mode, get raw ADC value when input is 0 volts, write the raw data to this register	R/W
142	2	0	4095	In calibration mode, get raw ADC data when input is full scale, write the raw data to this register	R/W
143	1	0	1	Enable/disable read analog input, to speed up pulse sample rate. 0 = disbable, 1 = enable. Default is disable.	R/W
144	1	50	254	Short INIT and GND when power ON,S7302 will send the current input status to slave device like S7303.This register use to set S7303 modbus ID.Need configure S7302 as master mode before use this feature.	R/W