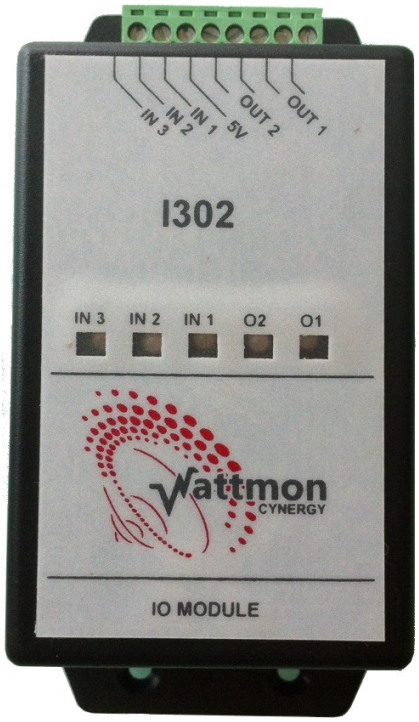
I302 Datasheet

DIGITAL I/O MODULE

FEATURES



- 3 Digital Inputs
- 2 Relay Ouputs
- 8A Per Relay
- LED Status Indication
- RS-485 MODBUS RTU Compatible

DESCRIPTION

The I3O2 module is ideal for controlling low power loads and collecting digital data from switches or float sensors. This module can power up to 8A at 250V AC through each relay output. It can be controlled by any Modbus-compliant server over RS-485. Both relays are latching type so the device consumes less than 30mA even with both relays activated.

CONNECTOR DETAILS

Pin	Name	Description
1,2	OUT1	Output of relay 1. This will open when the relay output is off and shorted when the output is on. LED O1 indicates the status.
3,4	OUT2	Output of relay 2. This will open when the relay output is off and

		shorted when the output is on. LED O2 indicates the status.
5	5V	5V output. This is the common for the digital inputs and should be mechanically connected to one of the input pins to turn it on. This pin is not isolated so make sure not to take care when handling it. Use a relay or mechanical switch with no electrical contact to other potential levels when using this.
6	IN1	Digital Input 1. Connect this to the 5V common to activate the input. LED IN1 will light up when input voltage is high. This pin is internally pulled down to ground.
7	IN2	Digital Input 2. Connect this to the 5V common to activate the input. LED IN2 will light up when input voltage is high. This pin is internally pulled down to ground.
8	IN3	Digital Input 3. Connect this to the 5V common to activate the input. IN3 indicates the status. This pin is internally pulled down

		to ground.

MODBUS INTERFACE

This module is Modbus RTU compatible. It requires a baud rate of 9600 bps, no parity, and 1 stop bit for correct operation. The default slave ID of this module is set to 1 but can be changed via a Modbus register.
The two RJ45 sockets are connected in parallel, and are used for providing power and interfacing with the RS-485 bus. Devices can be daisy chained together easily using this method. When used in conjuction with the Wattmon controller any standard Ethernet patch cable (straight through) can be used to connect with the Wattmon master. One connector has two LED indicators. One indicates that the module is powered, and the other blinks when a packet is send or received. The second LED will start blinking slowly if Modbus communication stops for over 30 seconds.
When using this device with a third party Modbus master, use the following table for proper connection.

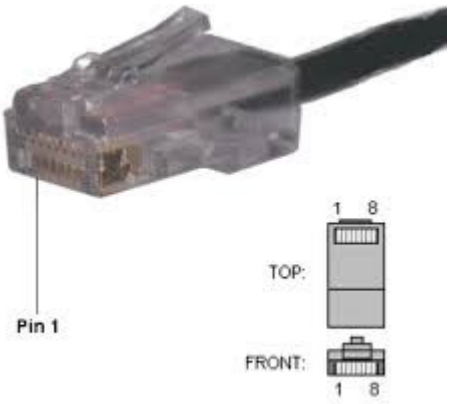


Figure 1: RJ-45 Pinouts

PIN	**Description**
1,2	GND
3	Not connected
4	A (-)
5	B (+)

6	Not connected
7,8	5V DC

MODBUS PROTOCOL

This device supports the following functions:

FUNCTION 1, READ COILS
FUNCTION 2, READ DISCRETE INPUTS
FUNCTION 5, WRITE SINGLE COIL
FUNCTION 15, WRITE MULTIPLE COILS
FUNCTION 17, REPORT SLAVE ID

MODBUS REGISTERS

Address	**Name**	**Description**
1000	DO_1	Relay 1 Output
1001	DO_2	Relay 2 Output
2000	DI_1	Input 1
2001	DI_2	Input 2
2002	DI_3	Input 3
10000	ADDR	Slave Address. This can be set using WRITE SINGLE REGISTER (Function 6) to set the slave address and is Write Only. To read the slave address, use the REPORT SLAVE ID function.