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## MODBUS RS-485 I/O MODULE 16 DIGITAL INPUT

### DESCRIPTION

- Device use with RS-485 MODBUS Protocol 16 inputs system.
- Input can receive NPN and PNP Open Collector, Contact, Isolated.
- 3 Mode for Counter are Disable, Count Up and Count Up+ Down.
- Operate via RS-485 MODBUS Protocol.
- LED show status for each Input.

### **OPERATION**

PH-02 has 16 Isolate Input inside device that can read and write data via RS-485 MODBUS PROTOCOL. Input can operate as Counter Function 32 bits to count input from reading.

#### **Digital Input operation**

Input of PH-01 can use with Proximity Switch, Photo Switch, Encoder,

Contact etc. in NPN and PNP type by Counter Function has 3 mode

 $\label{eq:model} \mbox{Mode 0}: \mbox{Operate as Digital Input read ON/OFF status only} and do not count.$ 

Mode 1 : Operate as Digital Input read ON/OFF and Function Counter Up of each Input that operate with it. Value from counting will be collected in 32 bit Register of Counter 1 to Counter 16 Register.

Mode 2 : Operate as Digital Input read ON/OFF status and

Function Counter Up/Down by in this mode will use 2 Input for counting are Input 1 for count up and Input 2 for count down. The value will be

collected in Counter 1 Register.

Input 3 for count up and Input 4 for count down. The value will be collected in Counter 2 Register.

Input 5 for count up and Input 6 for count down. The value will be collected in Counter 3 Register

Input 7 for count up and Input 8 for count down. The value will be collected in Counter 4 Register

Input 9 for count up and Input 10 for count down. The value will be collected in Counter 5 Register

Input 11 for count up and Input 12 for count down. The value will be collected in Counter 6 Register

Input 13 for count up and Input 14 for count down. The value will be collected in Counter 7 Register

Input 15 for count up and Input 16 for count down. The value will be collected in Counter 8 Register

#### Input filter work characteristic

 $0\,$  is Can read Input frequency from counting maximum 1KHz  $\,$ 

1 is Can read Input frequency from counting maximum 10KHz

if input frequency more than 10KHz device will cannot count. It is suitable for counting Input in switch type.

- NPN : Input count when it changes from +12V to +24V to be 0V(Active Low)

- PNP : Input count when it changes from 0V to be +12V to

+24V (Active High)

# SPECIFICATION

Power Supply		15-30 VDC
Power Consumption		2 VA
Display		LED
Input	Inputs Points	16
	Input Voltage Range	12-24 VDC
	Input Current	5 mA @12 VDC,
	Per Input	11 mA @ 24 VDC
	Isolation	1500 Vrms Between
		Field And Logic
Communication	Protocol	MODBUS RTU
	Baud Rate	2400, 4800, 9600,19200 , 38400, 57600
	Parity	None, Even, Odd
	Stop Bits	1, 2
	Data Bits	8
	Maximum Support Node	255
Ambient Operation	Temperature	-10 °C to 60 °C
	Humidity	<85% RH Non-Condensing
Ambient Storage	Temperature	-20 °C to 80 °C
	Humidity	<85% RH Non-Condensing
Protection Degree		IP20
Installation		DIN RAIL
Enclosure		ABS-V0
Size (mm.)		23 x 113 x 100
Weight		150 g.



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# **CIRCUIT DIAGRAM**



100 mm

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