PH-05 / 8 ANALOG OUTPUT MODULE (0-20mA/0-10VDC)

CE

■ DESCRIPTION

- is the device that use with RS-485 MODBUS RTU PROTOCOL system.
- 8 Analog Output 0-20mA/0-10VDC, 16 bits.
- Operate via RS-485 MODBUS RTU PROTOCOL.
- LED show Output status.

■ OPERATION

PH-05 has 8 Analog Output can choose both 0-20mA and 0-10 Vdc in one device Resolution 16 Blts. High resolution which PH-05 will order by MODBUS Master Device such as PC or PLC to operate follow function as required and relate to Analog Input Module.

■ Device Address ID Setting

Address = X1 + X2 + X3 + X4 + X5 + X6 + X7 + X8

Device Address ID setting

Require Address to be 21 can do by choose switch follow picture below.

Address = 1 + 4 + 16 = 21
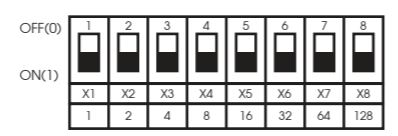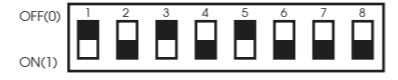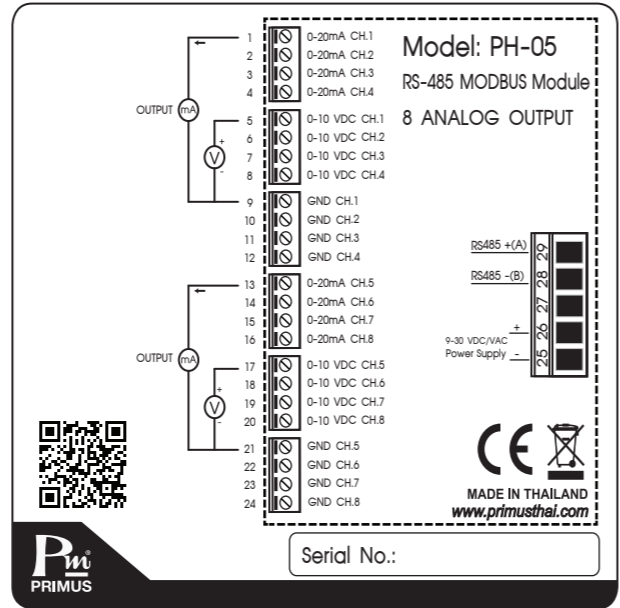
■ WIRING DIAGRAM

Serial No.:

■ TECHNICAL SPECIFICATION

Power Supply	9-30 VDC/VAC	
Power Sonsumption	2 VA	
Display	LED	
Output	Output Points	8	
	Output Type	0-20 mA	0-10 VDC
	Range	0-20 mA	0-10 VDC
	Resolution	1 uA	1 mV
	Accurancy	0.1% of Fullscale	
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	23 x 113 x 110 mm.	
Weight	150 g.	

■ DIMENSION

Data Registers

| Address	Register Name	Low Limit	High Limit	Access	Format	Comment
0	Analog Output 1	0	20,000/10,000	R/W	Int	
1	Analog Output 2	0	20,000/10,000	R/W	Int	
2	Analog Output 3	0	20,000/10,000	R/W	Int	
3	Analog Output 4	0	20,000/10,000	R/W	Int	20,000 Max of 0-20 mA
4	Analog Output 5	0	20,000/10,000	R/W	Int	10,000 Max of 0-10 VDC
5	Analog Output 6	0	20,000/10,000	R/W	Int	
6	Analog Output 7	0	20,000/10,000	R/W	Int	
7	Analog Output 8	0	20,000/10,000	R/W	Int	
8	Output 1 Type	0	1	R/W	Int	
9	Output 2 Type	0	1	R/W	Int	
10	Output 3 Type	0	1	R/W	Int	
11	Output 4 Type	0	1	R/W	Int	
12	Output 5 Type	0	1	R/W	Int	0 = 0-20 mA
13	Output 6 Type	0	1	R/W	Int	1 = 0-10 VDC
14	Output 7 Type	0	1	R/W	Int	
15	Output 8 Type	0	1	R/W	Int	
16	Baud Rate	2400	57600	R/W	Int	2400, 4800, 9600, 19200 38400, 57600
17	Parity	0	2	R/W	Int	0 = None 1 = Even 2 = Odd
18	Stop bits	1	2	R/W	Int	1 = 1 Stop bit 2 = 2 Stop bits
19	Delay Reply	0	255	R/W	Int	0 = Disable >0 = Enable.(x10 ms)
20	Sofware Version	n/a	n/a	R	Int	Sofware Version = 501

Reset Buad Rate, Parity, Stop bits

1. Set Dip Switch Address of PH-05 all device to OFF follow picture 1 after slide Dip Switch to OFF wait 4 second until LED all turn on continuously.

2. Start value after Reset is Buad Rate 9600, Parity None, Stop Bits 1

picture 1
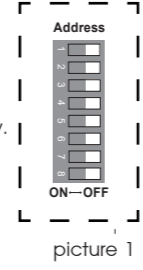
■ SERIAL COMMUNICATION

The PH-05 are Equipped With a RS-485 Series Communication Interface to Allow Connection to Computer or PLCs. MODBUS PROTOCOL is Provided as Standard Communication. The User Can Connect PH-05 as Network Up to 128 Meters.

Wiring Diagram

Computer or PLC
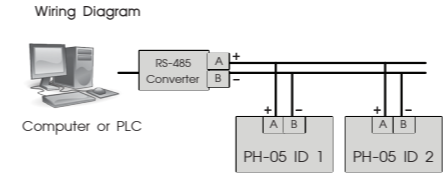
MODBUS PROTOCOL

This MODBUS PROTOCOL Has Been Implement In Accordance With MODBUS.ORG MODBUS Application PROTOCOL Specification V1.1 With The Following Conditions Applying. The Following Conditions Apply Baudrate Can Selected Refer 22. Speed Setting The Format Is MODBUS RTU Refer 22. Speed Setting The Format Is MODBUS RTU UART Data Can Selected Refer 23. Communication Setting Data Is Considered To Be Half Duplex Using 2 Wire.

Modbus Function code

Function code	Operation	Brodcast
0x03	Read Holding Registers	No
0x04	Read Multiple Registers	No
0x06	Preset Single Registers	Yes
0x10	Preset Multiple Registers	Yes

Modbus Exception code

Code	Name	Meaning
01	ILLEGAL FUNCTION	The function code received in the query is not an allowable action for the server (or slave).
02	ILLEGAL DATA ADDRESS	The data address received in the data field is not an allowable value for server (or slave).
03	ILLEGAL DATA VALUE	A value contained in the query data field is not an allowable value for server (or slave).

Example of a client request and server exception response

Request		Response	
Field Name	(Hex)	Field Name	(Hex)
Slave Address	01	Slave Address	01
Function	04	Function	84
Starting Address Hi	00	Exception Code	02
Starting Address Lo	00	CRC Hi	C2
Quantity of Input Reg. Hi	00	CRC Lo	C1
Quantity of Input Reg. Lo	1E	CRC Hi	70
CRC Hi	70		

■ ORDERING CODE

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