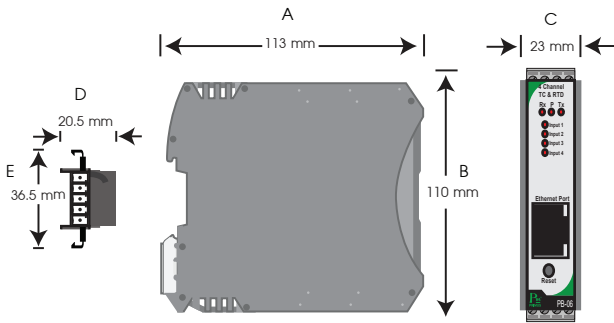




TECHNICAL SPECIFICATION

Power Supply		24 VAC/VDC ±15%
Power Consumption		2 VA
Display		LED
INPUT	Channel Input	4
	Input Type	Thermocouple Type K
		Thermocouple Type J
		Thermocouple Type R
		Thermocouple Type T
		Thermocouple Type N
		Thermocouple Type S
		Thermocouple Type E
		PT100
		Ohms (10-400 Ohms)
	Resolution	0.1 °C
	Accuracy	±0.25 % FSR @ 25 °C
Cold Junction	CJC Error	± 0.5 OC Typ. After 30 Minute Warm Up Time
Communication	Ethernet	10/100 Mbits/s Twisted Pair
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
Material		ABS-V0
Size		23 x 113 x 110 mm.
Weight		180 g.

DIMENSION

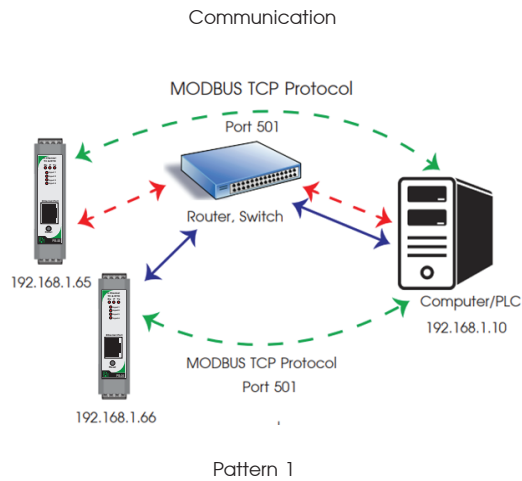


DESCRIPTION

- is device use with MODBUS TCP system
- 4 Thermocouple and PT100, Resolution 0.1 °C
- Setting via Web Browser
- LED show Input statuses.

OPERATION

PB-06 can receive 4 thermocouple or PT100 Input in one device Resolution 0.1 °C by Thermocouple can choose all 7 Type are Type K, J, R, T, N, S, E give high resolution to convert temperature value to system and send data to Master Device such as PC or PLC and send Data to Master Device such as PC or PLC for operating follow Function. PB-06 can program setting Ethernet IP by PC or PLC. User can configuration via Web Server.

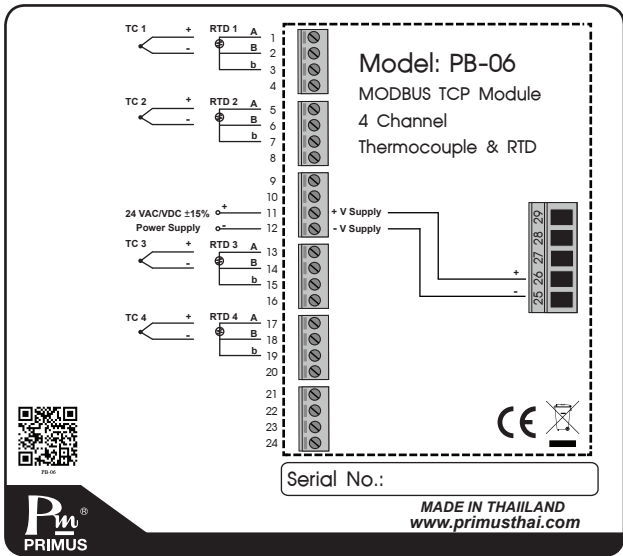


is communication in MODBUS TCP Protocol between Computer with MODBUS TCP I/O Module device. Computer can write or reading data MODBUS TCP I/O Module by use communication port is 501.

DISPLAY

	LED ON	Sensor ON
	LED OFF	Sensor OFF
	LED Flash	Over/Under Value

WIRING DIAGRAM



MODBUS TABLE

Address		Contents	Format	Word	Access	Default	Min	Max	Comment
Decimal	Hex								
0	0	PV Input 1	int	1	R	-	-	-	
1	1	PV Input 2	int	1	R	-	-	-	
2	2	PV Input 3	int	1	R	-	-	-	
3	3	PV Input 4	int	1	R	-	-	-	
4	4	CJTEMP	int	1	R	-	-	-	
5	5	Input Status	Unsigned int	1	R	-	-	-	
6	6	Input 1 Type	Unsigned int	1	R/W	0	0	8	
7	7	Input 2 Type	Unsigned int	1	R/W	0	0	8	
8	8	Input 3 Type	Unsigned int	1	R/W	0	0	8	
9	9	Input 4 Type	Unsigned int	1	R/W	0	0	8	
10	A	Unit Type	Unsigned int	1	R/W	0	0	1	0 = °C / 1 = °F
11	B	Cold junction Offset	Unsigned int	1	R/W	0	-1000	1000	
12	C	reserved	-	1	-	-	-	-	
13	D	reserved	-	1	-	-	-	-	
14	E	reserved	-	1	-	-	-	-	
15	F	reserved	-	1	-	-	-	-	
16	10	Software Version	Unsigned int	1	R	-	-	-	
17	11	Input 1 offset	Unsigned int	1	R/W	0	-1000	1000	
18	12	Input 2 offset	Unsigned int	1	R/W	0	-1000	1000	
19	13	Input 3 offset	Unsigned int	1	R/W	0	-1000	1000	
20	14	Input 4 offset	Unsigned int	1	R/W	0	-1000	1000	

Table Modbus register calculation

Input 1 offset = $\frac{\text{Input 1 offset Reg}}{10}$	Input 1 = $\frac{\text{Input 1Reg}}{10}$
Input 2 offset = $\frac{\text{Input 2 offset Reg}}{10}$	Input 2 = $\frac{\text{Input 2Reg}}{10}$
Input 3 offset = $\frac{\text{Input 3 offset Reg}}{10}$	Input 3 = $\frac{\text{Input 3Reg}}{10}$
Input 4 offset = $\frac{\text{Input 4 offset Reg}}{10}$	Input 4 = $\frac{\text{Input 4Reg}}{10}$
CJC Temp = $\frac{\text{CJC Temp Reg}}{10}$	
CJC Error Offset = $\frac{\text{CJC Error Offset Reg}}{10}$	

Table 1. Input Sensor and value range

Symbol	Input Type	Value Range (°C)	Value Range (°F)	DP
0	Thermocouple Type K	-200.0 - 1372.0	-328.0 - 2501.0	1
1	Thermocouple Type J	-200.0 - 1200.0	-328.0 - 2192.0	1
2	Thermocouple Type R	0.0 - 1768.0	-58.0 - 3214.0	1
3	Thermocouple Type T	-200.0 - 400.0	-328.0 - 752.0	1
4	Thermocouple Type N	0.0 - 1300.0	-328.0 - 2372.0	1
5	Thermocouple Type S	0.0 - 1768.0	-58.0 - 3214.0	1
6	Thermocouple Type E	-200.0 - 1000.0	-328.0 - 1832.0	1
7	PT100	-200.0 - 850.0	-328.0 - 1562.0	1
8	10-400 Ohms	10.0 - 400.0	10.0 - 400.0	1

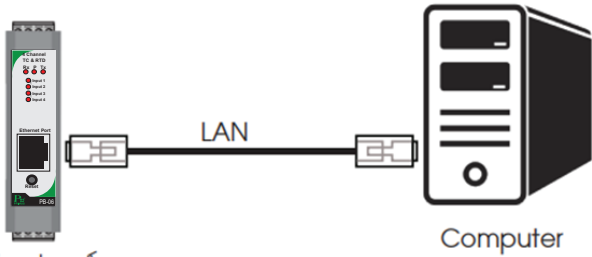
ORDERING CODE

PB - 06

SETTING

1. Computer Connecting

- 1.1 Plug LAN to device and computer.



ตัวอุปกรณ์

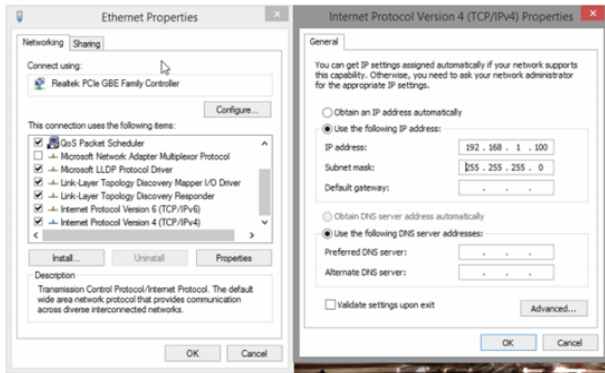
- 1.2 Device from factory IP Address is 192.168.1.10

User Name : admin

Password : 1234

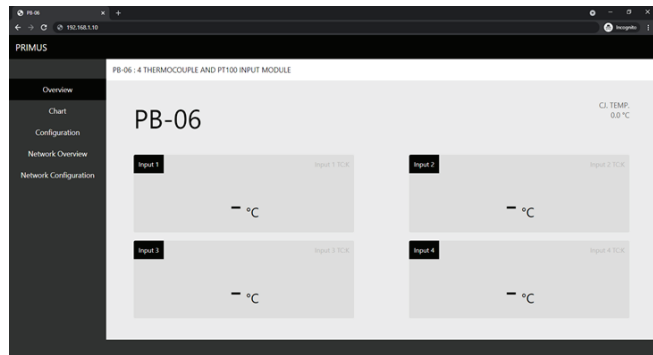
- 1.3 In case use does not know IP Address, User Name or Password to press Reset button and hold 4 second until LED is flashing will turn off.

2. Set IP Address of Computer is 192.168.1.100 follow example below.

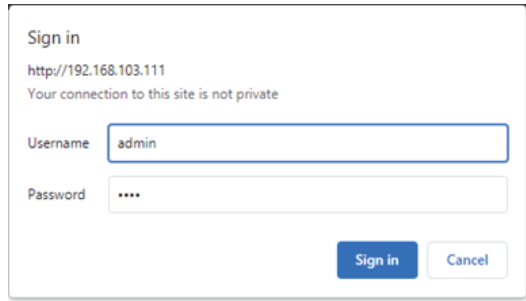


* Do not set IP Address to be 192.168.1.10 or same as device because it made IP Address error *

3. Open Web browser to URL : 192.168.1.10 will see overview page as picture.

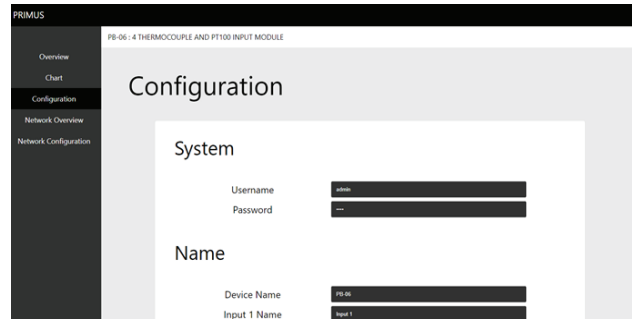


4. Choose Configuration menu. Device will ask Username and Password for log in to setting.



for default value from factory user name is "admin" password is "1234" which can change in later.

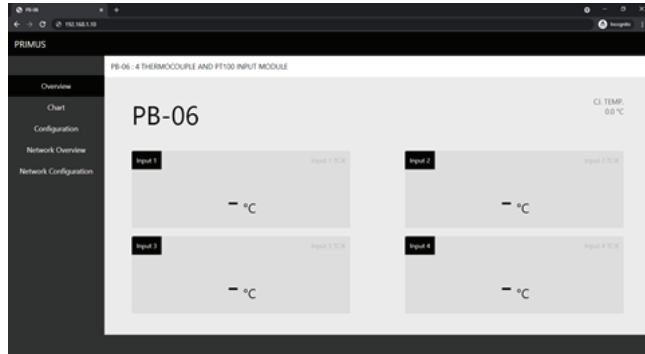
5. If log in success user will see Configuration as picture.



MENU

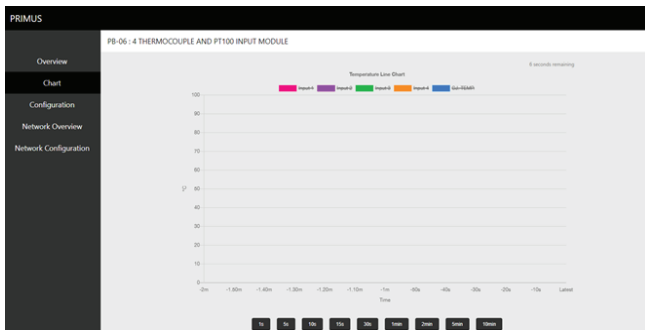
Device menu PB-06 will have 5 pages as follow

1. Overview



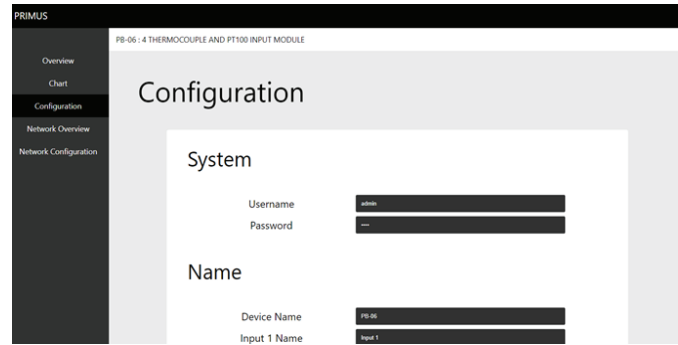
Page for display PV value in present of all 4 CH and Cold Junction value

2. Chart



Page for display value of all 4 CH and Cold Junction value in form of graph by can choose Simply time since 1s - 10 min.

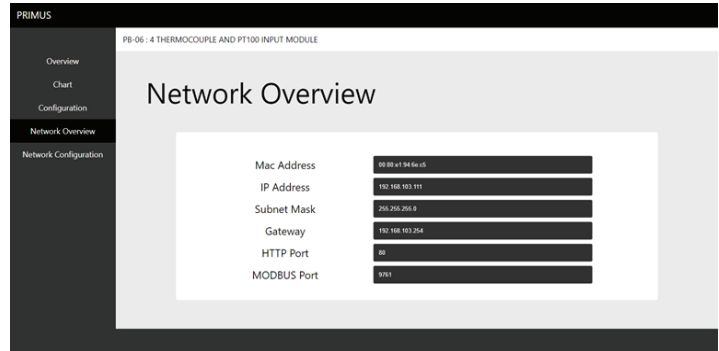
3. Configuration



Page for setting value in device PB-06 as these table

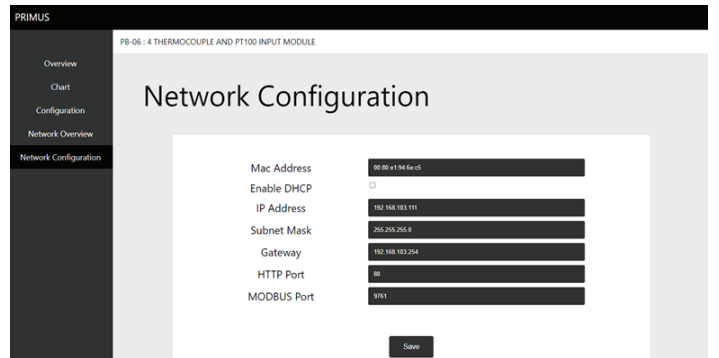
Parameter	Description	Defaults
Username	User name for log in to page Configuration maximum 10 Characters	admin
Password	Password for log in to page Configuration maximum 10 Characters	1234
Device Name	Device Name for device maximum 200 Characters	4 THERMOCOUPLE&PT100
Input 1 Name	Name Input 1 maximum 10 Characters	Input 1
Input 2 Name	Name Input 2 maximum 10 Characters	Input 2
Input 3 Name	Name Input 3 maximum 10 Characters	Input 3
Input 4 Name	Name Input 4 maximum 10 Characters	Input 4
Input 1 Type	Can choose Input Type K, J, R, T, N, S, E, PT100, Ohm	Thermocouple Type K
Input 2 Type	Can choose Input Type K, J, R, T, N, S, E, PT100, Ohm	Thermocouple Type K
Input 3 Type	Can choose Input Type K, J, R, T, N, S, E, PT100, Ohm	Thermocouple Type K
Input 4 Type	Can choose Input Type K, J, R, T, N, S, E, PT100, Ohm	Thermocouple Type K
Unit Type	Can choose Unit Type is °C or °F	Celsius °C
Cold Junction Offset	Can set since -100 to 100	0.0
Input 1 Offset	Can set since -100 to 100	0.0
Input 2 Offset	Can set since -100 to 100	0.0
Input 3 Offset	Can set since -100 to 100	0.0
Input 4 Offset	Can set since -100 to 100	0.0

4. Network Overview



Page to see Network data of PB-06

5. Network Configuration



Page for setting Network of device PB-06 like table as follow

Parameter	Description	Defaults
MAC Address	MAC Address value is specific value for each device has pattern HH:HH:HH:HH:HH:HH can not change value.	-
Enable DHCP	DHCP is selector for case that user needs to receive value from other device automatic. If it is enable module is set the value such as IP Address from Router or Switch	Disable
IP Address	IP Address of device	192.168.1.10
Subnet Mask	Subet Mask of device	255.255.255.0
Gateway	IP Address of Gateway device in normal is usually Router.	192.168.1.1
HTTP Port	can set 80 or 8,000-8,200	80
MODBUS Port	Port number of this device for protocol Modbus	501



PB-06

บริษัท ไพรมัส จำกัด

119 ซ.สีม่วงอนุสรณ์ ถ.สุทธิสารวินิจฉัย แขวงดินแดง

เขตดินแดง กรุงเทพฯ 10400

โทร 0-2693-7005, 0-2277-8027 แฟกซ์ 0-2277-3565

E-mail : sales@primusthai.com