PN-ANet   AI TO ETHERNET Converter

■ DESCRIPTION

PN – ANET is an I/O controller product with Ethernet Port on its data communication and makes data acquisition easier through Modbus/RTU or Modbus/TCP Protocols.。

PN - ANET was designed for voltage and current measurement。 And uses the derivatives ASIX microprocessor for implementing the whole framework。 A / D value is 16-bit effective resolution。 it equips 8 channels of single-ended analog input and two digital outputs in a set。
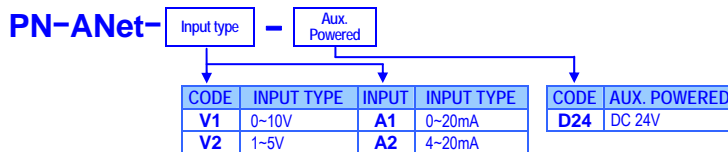
■ FEATURE

- Supports TCP/IP, UDP, DHCP, HTTP, Modbus/TCP, and 10Base-T Ethernet standard
- Supports Based interface for fast configuration without special software, also command mode for parameters setting by application software。
- Supports Modbus/TCP for easy integration with HMI/SCADA or OPC server。
- 8 single ended input channels with 16bits A/D converter with optical isolation。
- Four models for Voltage: ±150mV、±500mV、0~5V、±10V/，or Current: 0~20mA、4~20mA。
- Each analog channel, you can set a separate rangefor various applications

■ APPLICATIONS

- It is easy to convert AI and DO control to Ethernet in IA, Factory Automation, Security or any other low data rate data transmission by using it as the intermediate converter。
- Data collection
- Environmental monitors
- Remote Sensors and Various Meters
- Data loggers
- Access control terminals

■ ORDERING INFORMATION

PN−ANet− [Input type] **−** [Aux. Powered]

CODE	INPUT TYPE	INPUT	INPUT TYPE
V1	0~10V	A1	0~20mA
V2	1~5V	A2	4~20mA

CODE	AUX. POWERED
D24	DC 24V

■ TECHNICAL SPECIFICATION

CPU: ASIX MCU
Network interface: 10M/100M BASE-T, RJ-45 connector
Protocol: TCP/ IP，UDP，DHCP Client， HTTP， Modbus/TCP
Automatic reset: Built-in Watchdog Timer automatic reset
LED indication: POWER: Red round high-brightness LED
Link: Red round high-brightness LED
Full: Red round high-brightness LED

Analogue Input
8 channels differential input available
Input ranges: Voltage and Current range changeable
Voltage: ±150mV、±500mV、0~5V、±10V
Current: 0~20mA / 4~20mA
Input impedance: 0-10V:20MΩ/4~20mA:120Ω
Resolution: 16 bits ADC
Accuracy: ± 0.1% or even lower
Isolation voltage: 2500 Vrms
Temp. coefficient: 100ppm/℃
Sampling time: 10 samples / sec.
Fault and overvoltage withstand voltage to ± 35V
C.M.R.R : 92 db min @50/60 Hz

Digital output
2-channel output
Type: Open collect voltage:≤50V, Maximum load current:500mA
Output isolation: 2500 Vrms
Configuration settings: By PN-Series TCP DAQ Utility Settings
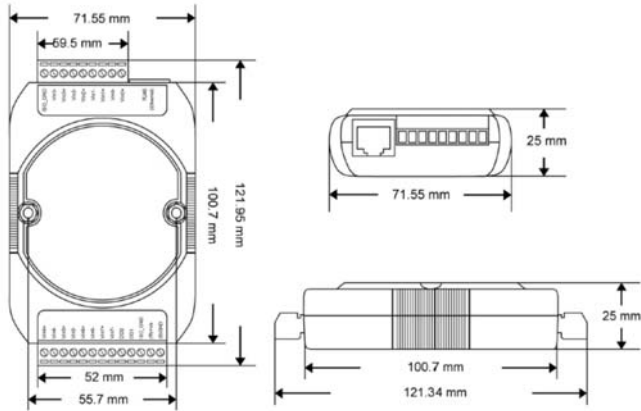**Security:** Can set the system password and login password

Power
Power Supply: DC 10~30 V
Power consumption: 3.0W

Electrical
Isolation: Isolated between AI, DO and Ethernet (RJ45)
Dielectric Strength: 2500 伏, 1 minute; between Serial ports / RJ45 / Power
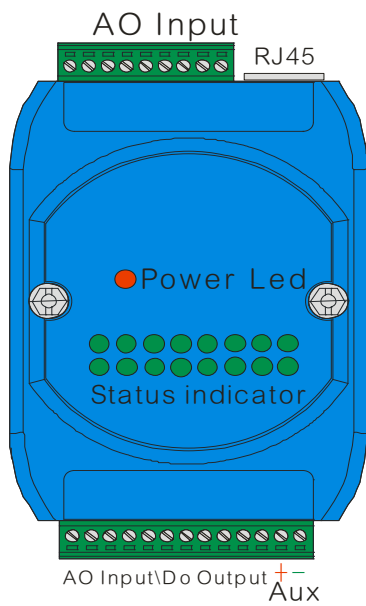**Insulation resistance:** ≥100MΩat 2500Vrms，Between Serial ports / RJ45 / Power。

Environmental
Operating temp.: 0~60 ℃(32~140℉)
Operating humidity: 5~95 %RH, non-condensing
Storage temp.: -25~85 ℃(-13~185℉)

Mechanical
Case Material: ABS fire-protection (UL 94V-0)
Mounting: Rail mounting
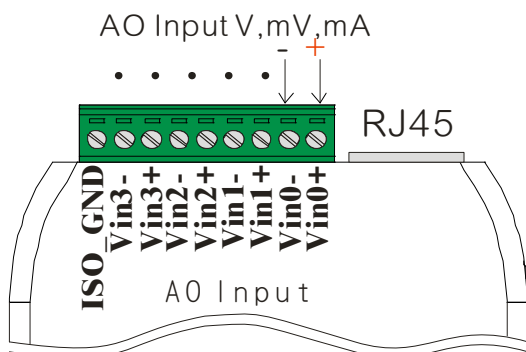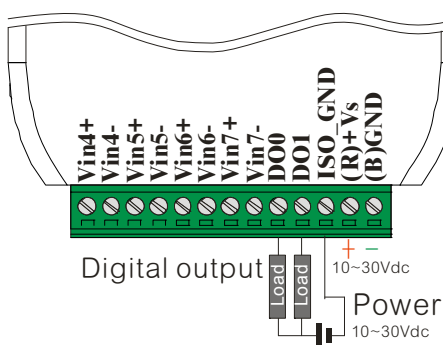**Terminal block:** Plastic NYLON 66 (UL 94V-0)
Weight: 150g

■ DIMENSIONS

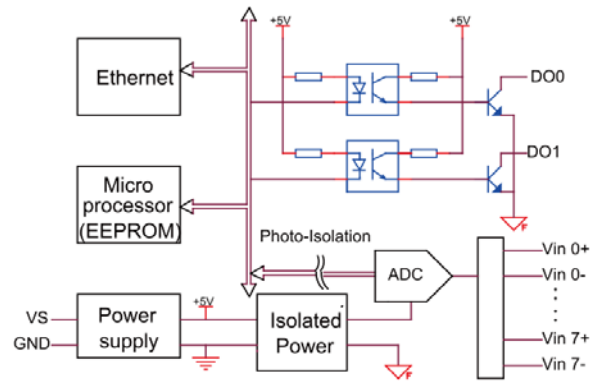71.55 mm
69.5 mm
121.95 mm
100.7 mm
52 mm
55.7 mm
25 mm
71.55 mm
25 mm
100.7 mm
121.34 mm

■ FRONT PANEL & CONNECTION

AO Input

RJ45

●Power Led

Status indicator

AO Input\Do Output + −
Aux

Analog signal (AO) Input

AO Input V,mV,mA

− +

RJ45

ISO_GND
Vin3-
Vin3+
Vin2-
Vin2+
Vin1-
Vin1+
Vin0-
Vin0+

A0 Input

Digital signal output

Vin4+
Vin4-
Vin5+
Vin5-
Vin6+
Vin6-
Vin7+
Vin7-
DO0
DO1
ISO_GND
(R)+Vs
(B)GND

Digital output
Load Load
+ −
Power
10~30Vdc

10~30Vdc

■ Equivalent circuit

+5V   +5V
Ethernet   DO0
Micro
processor   DO1
(EEPROM)
Photo-Isolation
Vin 0+
Vin 0-
ADC
VS   Power   +5V   Isolated
GND supply   Power   Vin 7+
Vin 7-

■ Rail clip

65mm   8mm
125mm   100mm
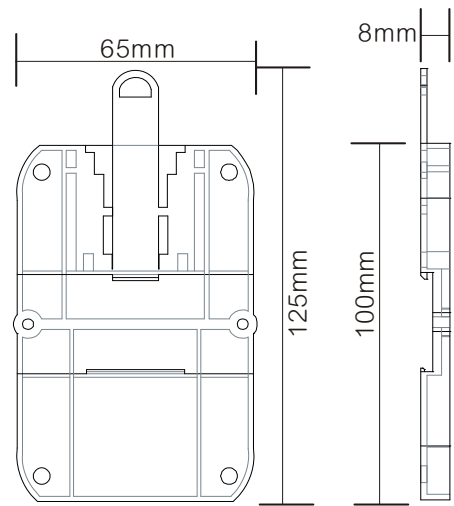
■ Example

Analog signal input
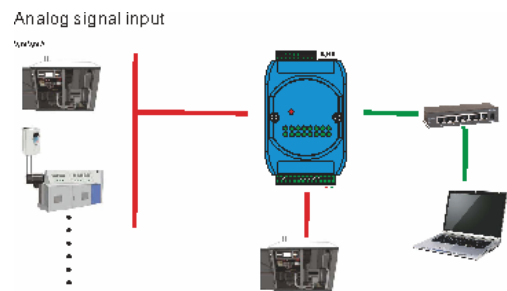
Analog signal Input switch

RJ-45
JP9 3 2 1   mA
1 2 3   1 2 3
JP4   JP8 3 2 1
1 2 3   1 2 3
JP3   JP7 3 2 1   mV;V
1 2 3
JP2   JP6 3 2 1
1 2 3
JP1
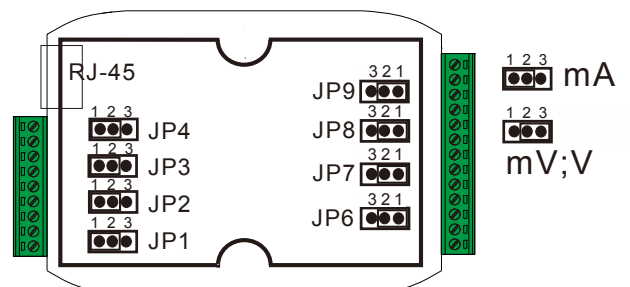
Internal pin can be configured for voltage or current signal input, current input: 1,2 feet short. 2,3 feet short circuit when the voltage input。

■ I/O MODBUS communication position

X=40000 Comply with the directive function 03、06、16 ;

X=30000 Comply with the directive function 04

Address	Channel	Explain	Read(R)/Write(W)
X+0001	0	Current value	R
X+0002	1	Current value	R
X+0003	2	Current value	R
X+0004	3	Current value	R
X+0005	4	Current value	R
X+0006	5	Current value	R
X+0007	6	Current value	R
X+0008	7	Current value	R
X+0009	8	Average value ch0~ch7	R
X+0010	-	Retain (no use)	R
X+0011	0	Maximum	R
X+0012	1	Maximum	R
X+0013	2	Maximum	R
X+0014	3	Maximum	R
X+0015	4	Maximum	R
X+0016	5	Maximum	R
X+0017	6	Maximum	R
X+0018	7	Maximum	R
X+0019~X+0020		Retain (no use)	
X+0021	0	Minimum	R
X+0022	1	Minimum	R
X+0023	2	Minimum	R
X+0024	3	Minimum	R
X+0025	4	Minimum	R
X+0026	5	Minimum	R
X+0027	6	Minimum	R
X+0028	7	Minimum	R
X+0029 ~X+0030		Retain (no use)	

X=00000 Comply with the directive function 01、05

；　X=10000　Comply with the directive function 02

Address	Channel	Explain	Read(R)/Write(W)
X+0017	0	Digital output value	R/W
X+0018	1	Digital output value	R/W
X+0101	0	Reversion maximum	R/W
X+0102	1	Reversion maximum	R/W
X+0103	2	Reversion maximum	R/W
X+0104	3	Reversion maximum	R/W
X+0105	4	Reversion maximum	R/W
X+0106	5	Reversion maximum	R/W
X+0107	6	Reversion maximum	R/W
X+0108	7	Reversion maximum	R/W
X+0109~X+0110	8	Retain (no use)	
X+0111	0	Reversion minimum	R/W
X+0112	1	Reversion minimum	R/W
X+0113	2	Reversion minimum	R/W
X+0114	3	Reversion minimum	R/W
X+0115	4	Reversion minimum	R/W
X+0116	5	Reversion minimum	R/W
X+0117	6	Reversion minimum	R/W
X+0118	7	Reversion minimum	R/W
X+0119~X+0130	--	Retain (no use)	
X+0131	0	High Alarm Flag	R
X+0132	1	High Alarm Flag	R
X+0133	2	High Alarm Flag	R
X+0134	3	High Alarm Flag	R
X+0135	4	High Alarm Flag	R
X+0136	5	High Alarm Flag	R
X+0137	6	High Alarm Flag	R
X+0138	7	High Alarm Flag	R
X+0139~X+0140	--	Retain (no use)	
X+0141	0	Low Alarm Flag	R
X+0142	1	Low Alarm Flag	R
X+0143	2	Low Alarm Flag	R
X+0144	3	Low Alarm Flag	R
X+0145	4	Low Alarm Flag	R
X+0146	5	Low Alarm Flag	R
X+0147	6	Low Alarm Flag	R
X+0148	7	Low Alarm Flag	R