

Advanced Control Device with Two Universal Inputs with Two PIDs



AC1000

Device Features

- 2 pcs 4 Digit Numeric Display
- 6 pcs LED Indicator
- 2 pcs Transmitter Supply Output (24VDC)
- 2 pcs Universal Sensor Input (TC, RT, mA, mV, V)
- 2 pcs Auxiliary Analog Input (0/4-20mA)
- 2 pcs Potentiometer Input
- 6 pcs Numerical Input (15VDC)
- 2 pcs Analog Output (0/4-20mA, 0/2-10V)
- 2 pcs RS485 Communication Unit
- 4 pcs Relay or Logic Output (24VDC)
- 100-240V AC/DC Universal or 24V AC/DC Supply
- Isolation between Input/Output Modules

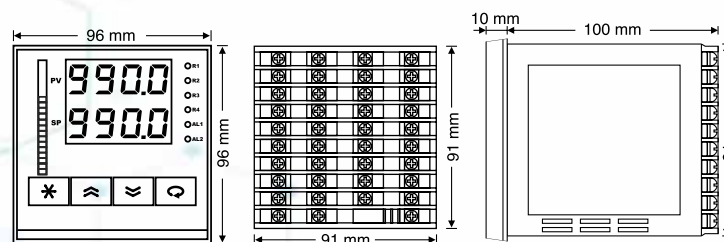
- Control by Auxiliary Input Information Difference
- Proportional Valve Control With Position Feedback
- Proportional Valve Control Without Feedback(Floating Control)
- PID Heating/Cooling
- Auto-Tuning (Automatic settings of PID parameters)
- Automatic/Manual Operating Modes
- Sensor Error Detection
- Remote Set Point
- 8 pcs Optional Set Point
- Ramp Function
- Retransmission (For Process and Set Value)
- 15 Different Relay Functions
- ON/OFF, P, PI, PD, PID Control
- Linear and Time Proportioning Control Output
- 100ms Sampling and Control Cycle
- Standard MODBUS RTU Communication Protocol
- Master-Slave and Cascade Control Applications
- Configuration via Computer

AC1000 devices are 96 x 96 mm in size. They are designed to measure the temperature, pressure, speed, level, humidity, current, voltage, resistance and other physical units, as well as the on / off and PID control of many process variables in industrial environments. They are completely modular and each module can be configured individually. It is used in Food, Plastic, Iron Steel, Chemistry, Metallurgy, Cement, Ceramic, Petro-Chemistry, Refineries, Glass and other industries. They are ergonomic devices whose compliance with international standards, reliability and ease of use have been ensured at the design stage.

Input Types

Sensor Type	Standard	Min.	Max.
Type-T (Cu-Const)	IEC60584	-200 °C	300 °C
Type-U (Cu-Const)	IEC60584	-200 °C	600 °C
Type-J (Fe-Const)	IEC60584	-200 °C	800 °C
Type-L (Fe-Const)	IEC60584	-200 °C	900 °C
Type-K (NiCr-Ni)	IEC60584	-200 °C	1200 °C
Type-E (Cr-Const)	IEC60584	-200 °C	1200 °C
Type-N (Nicrosil-Nisil)	IEC60584	0 °C	1200 °C
Type-S (Pt%10Rh-Pt)	IEC60584	0 °C	1500 °C
Type-R (Pt%13Rh-Pt)	IEC60584	0 °C	1600 °C
Type-B (Pt%18Rh-Pt)	IEC60584	0 °C	1800 °C
Pt-100	DIN 43760	-200 °C	850 °C
0 / 4-20 mA		0 mA	20 mA
0 / 2-10 VDC		0 VDC	10 VDC

Device Dimensions

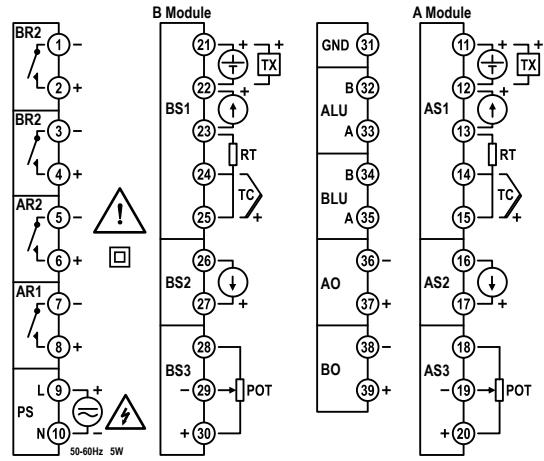


Panel Cutting Dimensions = 92 ± 0,5 mm x 92 ± 0,5 mm

Technical Specifications

Power Supply (PS)	100-240 Vac/dc + 10 %- 15 % 24 Vac/dc + 10 %- 20 %
Power Consumption	6W, 10VA
Universal Sensor Input (S1)	Thermocouple = B, E, J, K, L, N, R, S, T, U Two Wired Transmitter = 4-20mA Resistance Thermometer = Pt-100 Current = 0/4-20mA Voltage = 0/2-10V
Auxiliary Analog Input (S2)	0/4-20mA
Potentiometer Input (S3)	100-1500Ω
Transmitter Supply (TX)	24Vdc (I _{sc} = 30mA)
Analog Input Impedance	Thermocouple, mV = 10MΩ Current = 10Ω Voltage = 1MΩ
Analog Output (O1,O2)	Current = 0/4-20mA (RL≥500Ω) Voltage = 0/2-10V (RL≥1MΩ)
Relay Output (R1,R2,R3,R4)	Contact = 250VAC 10A Logic Output = 24Vdc 20mA
Contact Lifetime	No Load = 10.000.000 Switching 250V,10A Resistive Load = 1.000.000 Switching
Memory	100 Years, 100.000 Renewals
Accuracy	+/- 0,2%
Sampling Time	100 ms
Environment Temperature	Working = -10...+55°C Storage = -20...+65°C
Protection Class	Front Panel = IP54 Trunk = IP20
Dimensions	Width = 96 mm Height = 96 mm Depth = 110 mm
Panel Cutting Dimensions	92 +/- 0,5 mm x 92 +/- 0,5 mm
Weight	520 gr

Modular Structure and Connection Diagram



Module	Description
S1-1, S2-1	Shows first and second universal sensor inputs (Input types are selected from the configuration page).
S1-2, S2-2	0/4-20mA auxiliary analog input or analog output module.*
S1-3, S2-3	100-15000Ω potentiometer input (The function of this module can be selected over the device).
LU1-LU2	RS485 MODBUS RTU or Logic Input Module
O1, O2	Analog outputs (The content of this module is determined by the product code, function is selected from the configuration page).
R1, R2, R3, R4	Relay output modules (The content of this module is determined by the product code, function is selected from the configuration page).
PS	Supply voltage input (Supply voltage is determined by product code).

Product Code

AC1000 - / /

Power Supply : _____ PS

0 = 100-240Vac (Universal)
1 = 24Vac/dc

S1-1 Input, Logic or Communication Module : _____ LU1

0 = N/A
1 = 2 Pcs 15V Logic Input
3 = RS485 (MODBUS) Communication Module

S2-1 Input, Logic or Communication Module : _____ LU2

0 = N/A
1 = 2 Pcs 15V Logic Input
3 = RS485 (MODBUS) Communication Module

S1-1 Analog Output Module : _____ O1

0 = N/A
1 = 0/4-20mA Current Output
2 = 0/2-10Vdc Voltage Output

S2-1 Analog Output Module : _____ O2

0 = N/A
1 = 0/4-20mA Current Output
2 = 0/2-10Vdc Voltage Output

R1,R2 Output Modules : _____ R1-R2

0 = N/A
1 = NO Contact
2 = 24V Logic Output (to drive SSR)

R3,R4 Output Modules : _____ R3-R4

0 = N/A
1 = NO Contact
2 = 24V Logic Output (to drive SSR)

PS

LU1

LU2

O1

O2

R1-R2

R3-R4

Note : Code here for S1 input.

Note : Code here for S2 input.