

# Advanced Step Control Device with Two Universal Inputs With Two PIDs



## PC1000

### 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

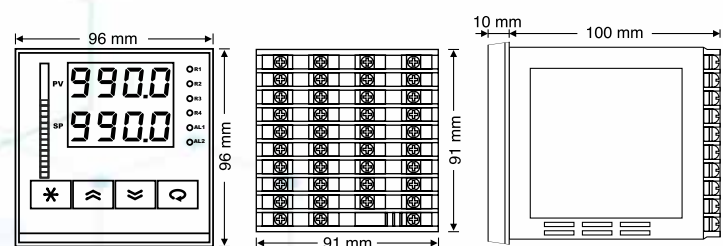
- 800 Step, 100 Program Step Control
- Possibility of Relay Positioning on Steps
- 7 Different Power-Cut Action
- Control By Auxiliary Analog Input Information Difference
- Proportional Valve Control With Position Feedback
- Proportional Valve Control Without Feedback(Floating Control)
- PID Heating/Cooling
- Auto-Tuning (Automatic settings of PID parameters)
- Automatic/Programmable/Manual Operating Modes
- Sensor Error Detection
- Remote Set Point
- 8 pcs Optional Set Point
- Ramp Function
- Retransmission (For Process and Set Value)
- 18 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

PC1000 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

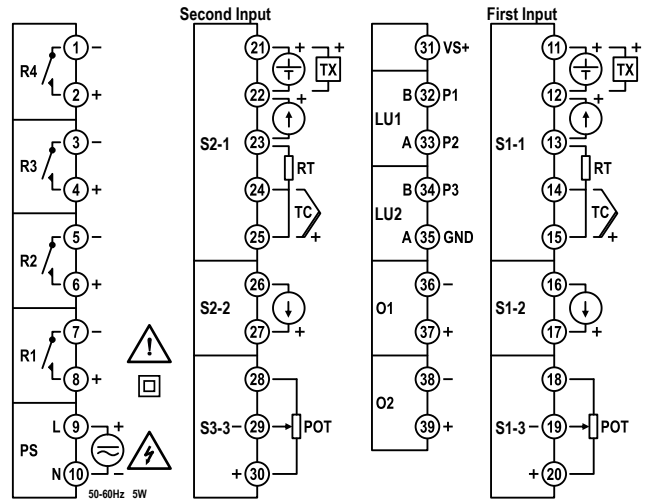


Panel Cutting Dimensions = 92 ± 0,5 mm x 92 ± 0,5 mm

## Technical Specifications

<b>Power Supply ( PS )</b>	100-240 Vac/dc +10%-15% 24 Vac/dc +10%-20%
<b>Power Consumption</b>	6W, 10VA
<b>Universal Sensor Input ( S1 )</b>	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 = 0-50mV, 0/2-10V
<b>Auxiliary Analog Input (S2)</b>	0/4-20mA
<b>Potentiometer Input (S3)</b>	100-1500Ω
<b>Transmitter Supply ( TX )</b>	24Vdc ( I <sub>sc</sub> = 30mA )
<b>Analog Input Impedance</b>	Thermocouple, mV = 10MΩ Current = 10Ω Voltage = 1MΩ
<b>Analog Output ( O1,O2 )</b>	Current = 0/4-20mA ( R <sub>L</sub> ≥500Ω ) Voltage = 0/2-10V ( R <sub>L</sub> ≥1MΩ )
<b>Relay Output ( R1,R2,R3,R4 )</b>	Contact = 250VAC 10A Logic Output = 24Vdc 20mA
<b>Contact Lifetime</b>	No Load = 10.000.000 Switching 250V, 10A Resistive Load = 1.000.000 Switching
<b>Memory</b>	100 Years, 100.000 Renewals
<b>Accuracy</b>	+/- 0,2%
<b>Sampling Time</b>	100 ms
<b>Environment Temperature</b>	Working = -10...+55°C Storage = -20...+65°C
<b>Protection Class</b>	Front Panel = IP54 Trunk = IP20
<b>Dimensions</b>	Width = 96 mm Height = 96 mm Depth = 110 mm
<b>Panel Cutting Dimensions</b>	92 +/- 0,5 mm x 92 +/- 0,5 mm
<b>Weight</b>	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

Module	Code
Power Supply : _____	PS
S1-1 Logic, Input or Communication Module : _____	LU1
S2-1 Logic, Input or Communication Module : _____	LU2
S1-1 Analog Output Module : _____	O1
S2-1 Analog Output Module : _____	O2
R1,R2 Output Modules : _____	R1-R2
R3,R4 Output Modules : _____	R3-R4

**Power Supply :**  
0 = 100-240Vac (Universal)  
1 = 24Vac/dc

**S1-1 Logic, Input or Communication Module :**  
0 = N/A  
1 = 2 Pcs 15V Logic Input  
3 = RS485 (MODBUS) Communication Module

**S2-1 Logic, Input or Communication Module :**  
0 = N/A  
1 = 2 Pcs 15V Logic Input  
3 = RS485 (MODBUS) Communication Module

**S1-1 Analog Output Module :**  
0 = N/A  
1 = 0/4-20mA Current Output  
2 = 0/2-10Vdc Voltage Output

**S2-1 Analog Output Module :**  
0 = N/A  
1 = 0/4-20mA Current Output  
2 = 0/2-10Vdc Voltage Output

**R1,R2 Output Modules :**  
0 = N/A  
1 = NO Contact  
2 = 24V Logic Output ( to drive SSR )

**R3,R4 Output Modules :**  
0 = N/A  
1 = NO Contact  
2 = 24V Logic Output ( to drive SSR )

**Note : Code here for S1 input.**

**Note : Code here for S2 input.**