

## nippon's PID

nippon introduces state of art, truly universal, powerful PID controller with inhouse design. The PID2020 series is developed with state of art microcontroller. The robust hardware and software makes the controller very useful in noisy industrial environment. The PID2020 finds applications in Industrial Ovens, Muffle Furnaces, B.O.D. Incubators, Humidity Chambers, Environmental Chambers, Sterlizers, Blood Bank Equipments, Constant Temperature Baths, Packaging, Plastic Moulding, Thyristors Heat Controllers, Motor Controllers, Controlled Melting, Valve Control...etc.



### SPECIFICATIONS

<b>Input</b>	: <b>ONE UNIVERSAL</b> Input Thermocouples : J,K,T,R,S RTD's : PT-100, PT-1000 DC mA : 0 – 20 mA, 4 – 20 mA (Maximum 12 Volts) DC mV : ± 50 mV, ± 100 mV, ± 200 mV, ± 250 mV DC Volts : ± 1V, ± 3.3V, ± 5V, ± 10V
<b>Range</b>	: Refer 'table below'

INPUT TYPE	SENSOR	RANGE	ACCURACY
R.T.D.	PT-100	-200 to 600°C	± 1°C
	PT-1000	0 to 500°C	± 1°C
THERMOCOUPLES	Chromel/Alumel (K)	0 to 1300°C	± 1°C
	Iron - Constantan (J)	0 to 750°C	± 1°C
	Copper-Constantan (T)	-200 to 350°C	± 1°C
	Pt / Rh (R or S)	0 to 1700°C	± 1°C
D.C. LINEAR INPUTS	4 to 20 mA / 0 to 20 mA	User Programmable	± Least count
	± 50 mV, ± 100 mV, ± 200 mV, ± 250 mV	User Programmable	± Least count
	± 1V, ± 3.3V, ± 5V, ± 10V	User Programmable	± Least count

<b>Ambient</b>	: Compensation automatic, ambient 0-60 °C
<b>Resolution</b>	: 1 or 0.1 or .01 or .001 programmable
<b>Display</b>	: Super bright in 4 + 4 format , with NO BLINK programming technique • Upper 4 digits 0.5" red colour • Lower 4 digits 0.39" green colour
<b>Ananciation L.E.D's</b>	: 7 L.E.D.'s , 3 mm , multi colour, 3 for O/P's, 1 each for A/M, Alarm, Profile, Soak Time
<b>Parameter Setting</b>	: By soft touch, Elegant, Sturdy membrane keys & User friendly menu driven software
<b>Password</b>	: Multilevel password protection, Protection to individual parameters
<b>Supply</b>	: 90-260 VAC , 50 Hz, SMPS design
<b>Enclosure</b>	: 72(H) x 72(W) x 110(D) in mm, Modular design, Panel cut out 68(H) x 68(W)
<b>Outputs</b>	: THREE, Programmable outputs with modular attachments • Relay module • SSR module • 4-20 mA module • Retransmission module
<b>Note</b>	: • Output modules are predefined • All three outputs can be assigned as relay or SSR or 4-20 mA, this means at a time either 3 relays or 3 SSR's or 3 4-20 mAs outputs also available

## SPECIFICATIONS

**Control Outputs Rating** : Relay SPST 230V / 3 Amp, 12 volts DC pulses for SSR, 4-20 mA (Load 450 ohms)

### CONTROLS

#### Control Action

- : PID / On-OFF / TP
- PID P = Proportional Band = 1.0 to 999.9 units adjustable
  - I = Integral = 0 to 3600 (0-1200) seconds adjustable
  - D = Derivative = 0 to 500 seconds adjustable
  - CT = Cycle Time = 0.5 to 100 seconds adjustable

#### Control Action Assign

- : • PID for O/P 1 and O/P 2 • ON-OFF for O/P 1, O/P 2, O/P 3 • T/P for O/P 1, O/P 2, O/P 3

#### Control Modes

: Heat / Cool / Heat-Cool

#### Overshoot Control

: Provided

#### Soak Timer

- Assigned for O/P 2 or O/P 3, Soak Timer programmable (HH-MM or MM-SEC)
- Set Point Start up or Power on start up

#### Manual Output

: Provided, 0 to 100%

### ALARMS

: Assigned for O/P2 and O/P3

Alarm Types : Low / High /Band /Deviation / End of Profile

Alarm Acknowledge : Latchable / Unlatchable

Alarm Inhibit : Available

### Retransmission

: 4-20 mA or 20-4 mA or 0-20 mA or 20-0 mA programmable, Non-isolated,

Retransmission assign for O/P 2 and O/P 3 Provided on request

### Communication

: RS485, 2-Wire, Half duplex

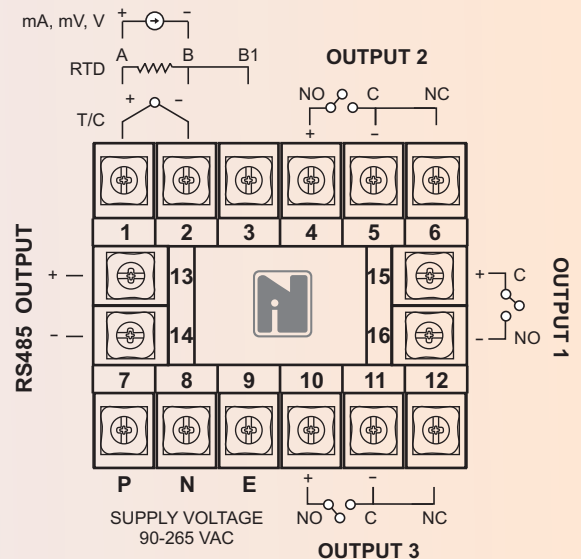
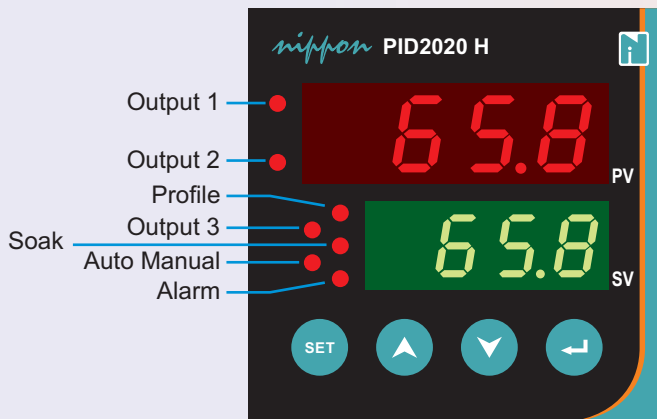
RS485 MODBUS on request, MODBUS RTU or ASCII

Baud Rate Programmable 1200/2400/4800/9600, contact factory for higher Baud Rates

### PROFILER

: 2 Profile Programmes / 8 Segments Each

- Each segment programmable for either RAMP or SOAK
- Profiler can be configured as : - RAMP/SOAK - RAMP/RAMP - SOAK/SOAK - SOAK/COOL
- Soak Time programmable in HH-MM, MM-SEC
- Overshoot control during profile
- Event on End of segment and / or End of profile



## nippon's SALES OFFICES

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**Control Modes** : Heat / Cool / Heat-Cool

**Overshoot Control** : Provided

**Soak Timer** : • Assigned for O/P 2 or O/P 3, Soak Timer programmable (HH-MM or MM-SEC)

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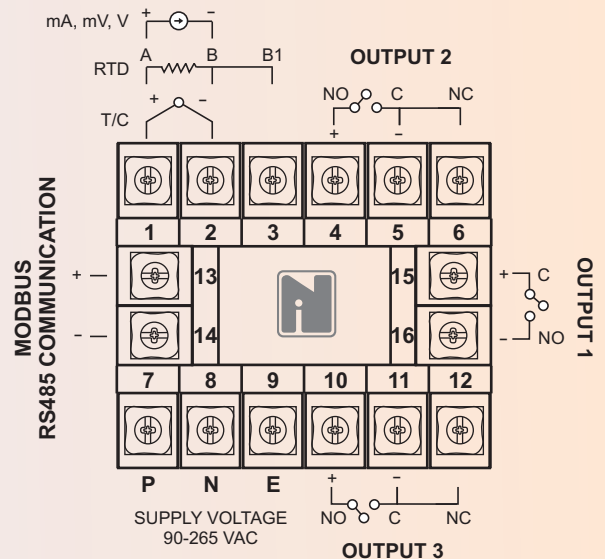
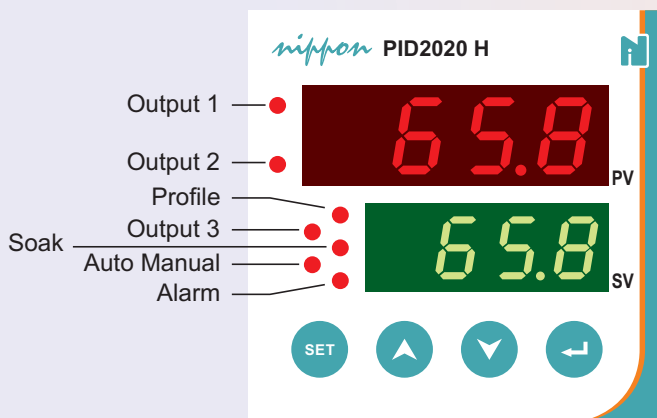
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