

**Z Series** Digital Temperature Controller  
**Micro Controller PXG Series**



- **Auto manual operation with A/M key**
- **Universal process value input**
- **Motorized valve control**
  - Position feed back
  - Servo control
- **Smart ramp-soak**
  - Increasing from 8 steps to 16 steps
  - Guaranteed soak
- **Password function**
- **Alarm Flicker function**

**PXG**

## 200ms sampling cycle and $\pm 0.3\%$ FS

Model: PXG

### input Universal process value input

- Resistance bulb Pt100, Thermocouple (J,K,R,B,S,T,N,PL-II)
- DC voltage (1-5V,0-5V, 0-10V,2-10V,0-100mV)

### input Remote-SV input

DC voltage (1-5V,0-5V)



### input Control-output (5types)

- Relay contact
- SSR/SSC drive
- DC0-20mA/DC4-20mA
- Motor-operated valve manipulating
- DC0-5V/1-5V/0-10V/2-10V

### input Digital output (Max 5 points)

### input Position feedback input

100ohms to 2.5k ohms

### RS485 modbus communication function

communication speed: 19200bps

### input Digital input (Max 5 points)

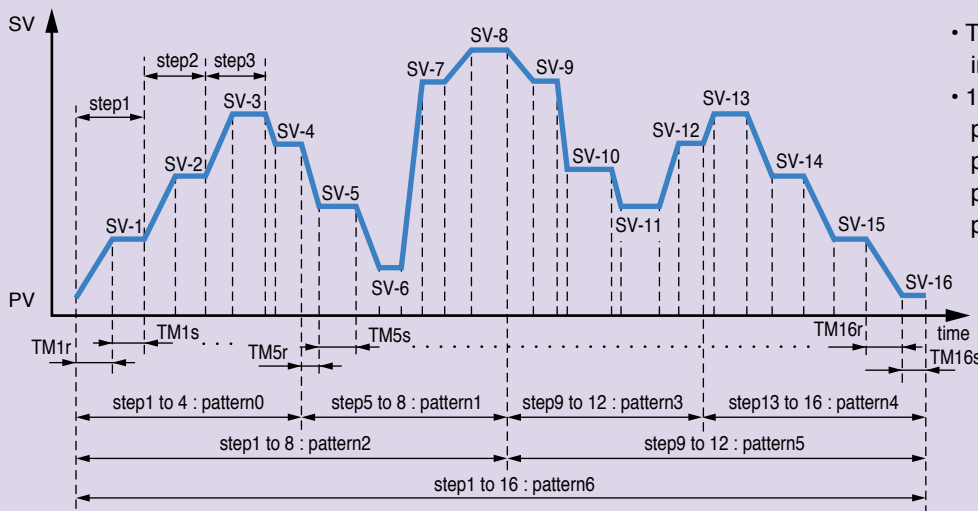
### PC loader interface and software through RS-232C Communication

### input Transmitter power supply (PXG9 only)

### input PID palette (for 8 combinations)

## Smart Ramp-soak

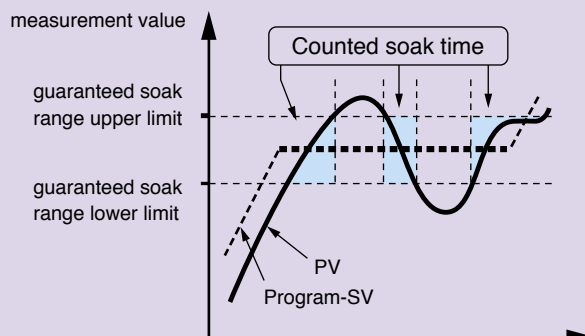
### 1 Increasing from 8 steps to 16 steps



- The number of steps has been increased from 8 to 16.
- 16 steps can be used in 7 patterns.  
 ptn0:step1 to 4, ptn1:step5 to 8,  
 ptn2:step1 to 8, ptn3:step9 to 12  
 ptn4:step13 to 16, ptn5:step9 to 16  
 ptn6:step1 to 16

### 2 Guaranteed soak

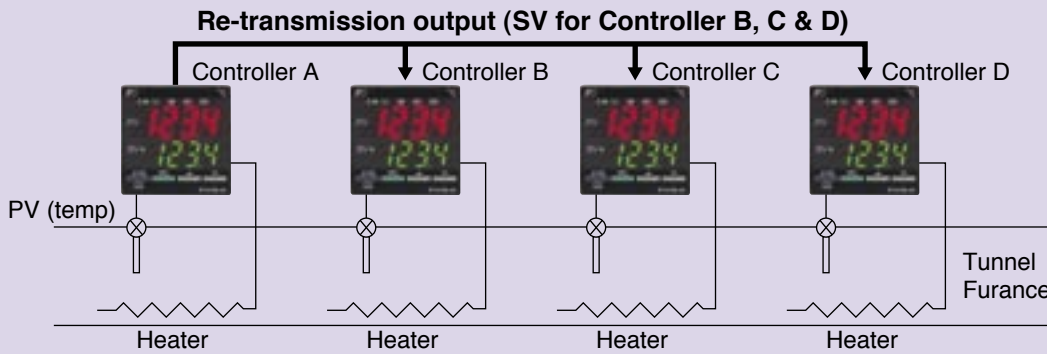
This function guaranteed the soak time. Only soak time within the specified range of temperature for SV is counted towards soak time.



# Application example

## 1 Re-Transmission Output

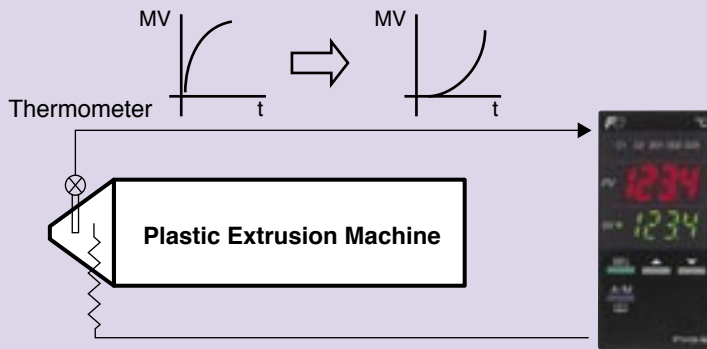
### Averaging Temperature in Furnace



The PV of Controller A shall be treated as SV for other controller B, C & D so that the temperature in tunnel furnace can be equalized.

## 2 Soft Start Function

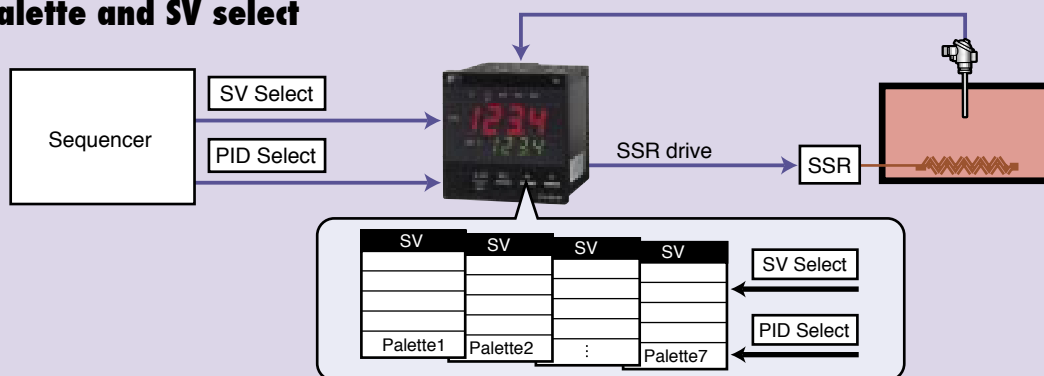
### Plastic Extrusion Machine



To protect nozzle material at turning on power of the machine, immediate heating the nozzle shall be with soft start function.

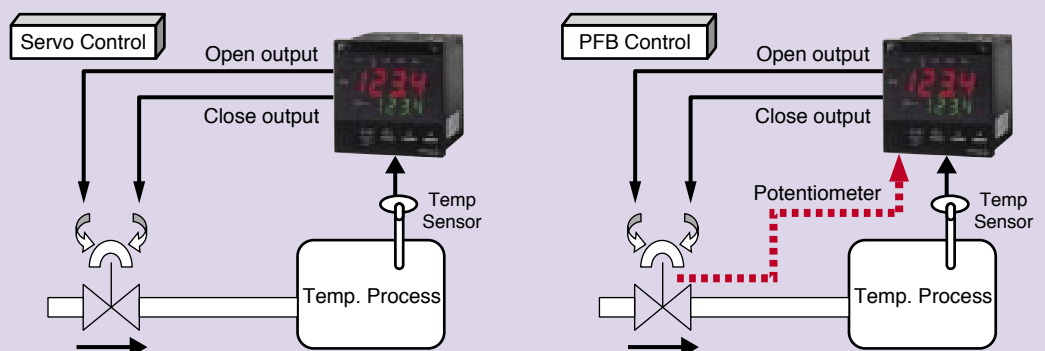
## 3 PID palette

### PID Palette and SV select



## 4 Servo control and PFB control

PXG is available for both Servo control and position feedback (PFB) control.  
ex. Combustion control.  
(Burner and Boiler)

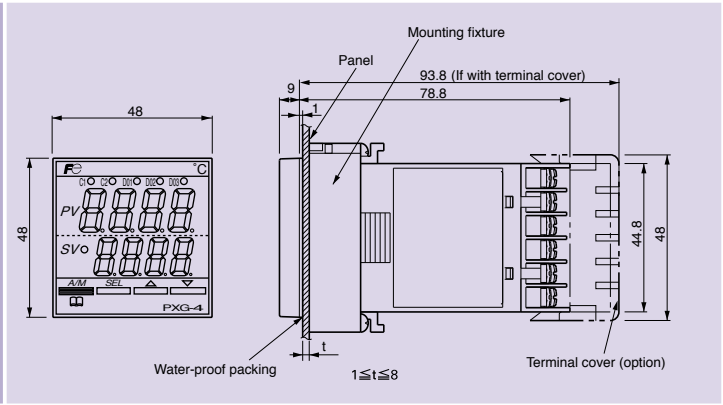
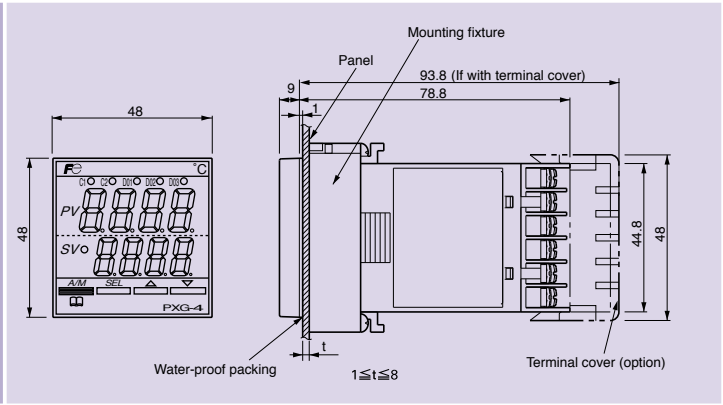
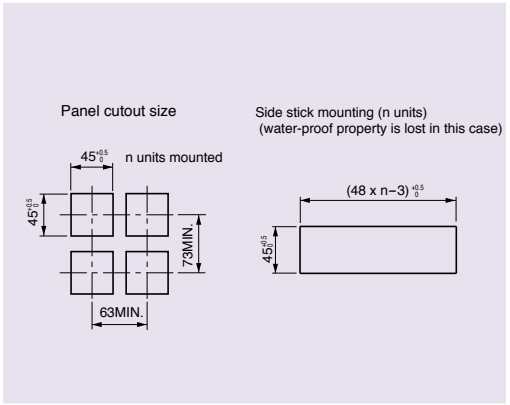
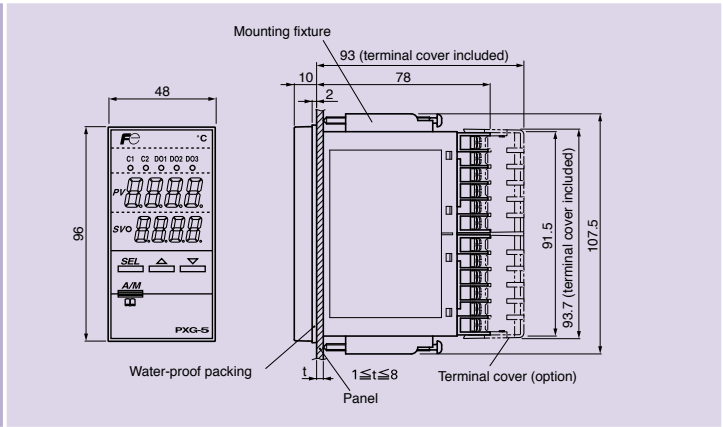
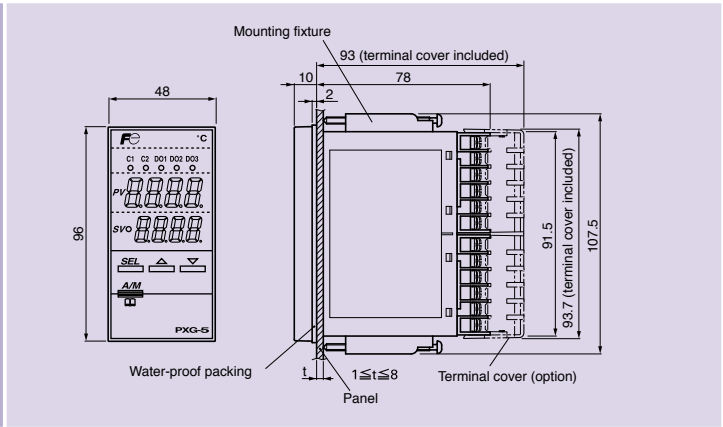
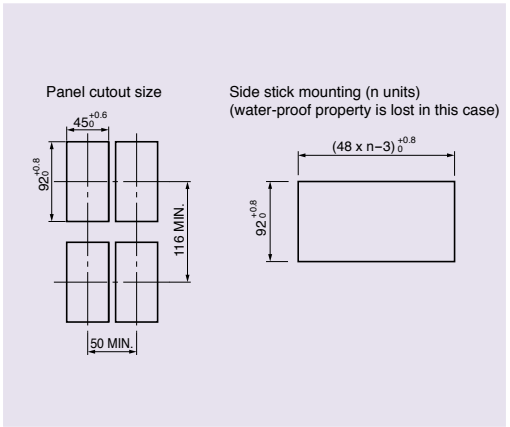
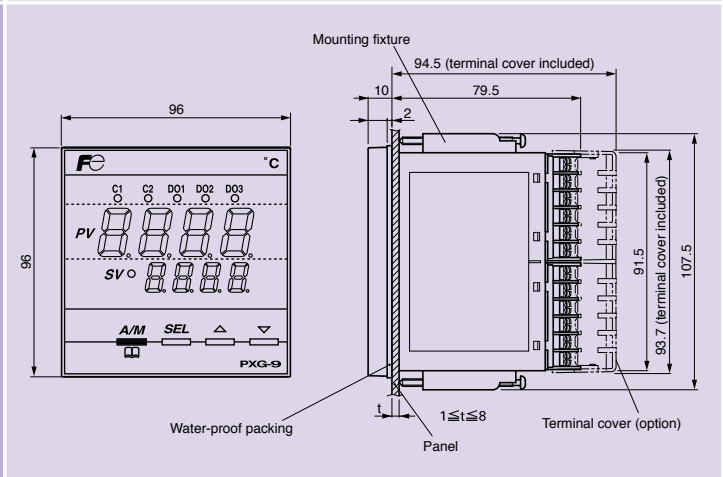
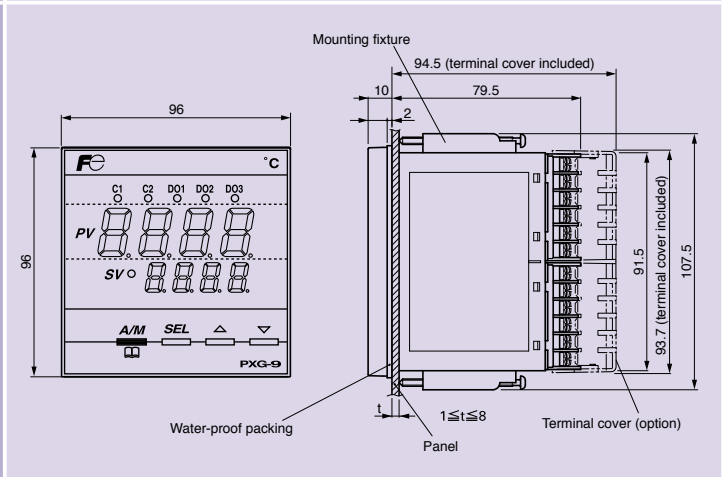
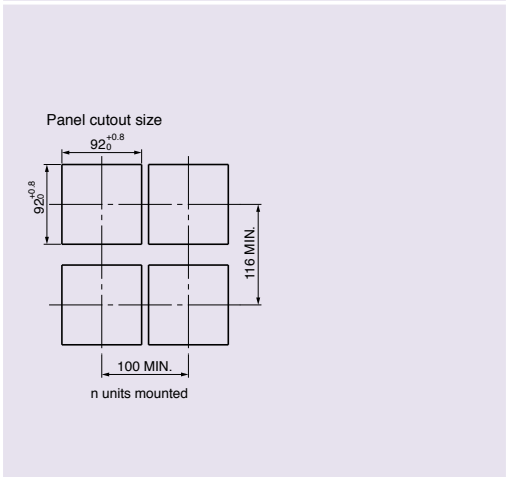




# Specifications

General	Size and Mass	48x48x78.8mm, 0.2kg 48x96x80mm, 0.3kg 96x96x81.5mm, 0.3kg
	Power supply	AC100(-15%) - 240V(+10%), 50/60Hz AC 24V(±10%), DC24V(±10%), 50/60Hz
	Power consumption	12VA or Less
	External terminal	Screw terminal (M3)
Input	Measuring value input	Sampling cycle : 200ms (300ms at position feedback control) Input type : Universal input, thermocouple, resistance bulb mV, voltage, current
	Digital input	Number of input : Up to 5 points (up to 3 points for motor-operated valve manipulating output)
Function	Control method	PID control with 8 palette Motor-operated valve control with/without position feedback
	Control mode	Auto/Manual/Remote
	Alarm output	Up to 5 points
	Memory back-up	by non-volatile memory
Indication	Accuracy	±0.3%FS
	PV indicator	LED 7 segments 4 digit (Red color)
	SV indicator	LED 7 segments 4 digit (Green color)
	Indication status	6 indicator lamps
output	Control output	Up to 2 points (heating and cooling control if 2 points) 1. Relay contact output Contact structure : 1 NO (SPST) contact Contact rating : AC220V/DC30V, 3A (Resistive load) AC220V/DC30V, 1A (Inductive load) 2. SSR/SSC drive output DC20V (DC18-24V)/Max current 20mA Load resistance : 850ohms MIN 3. DC0-20mA/DC4-20mA output Accuracy : ±5% FS Linearity : ±5% FS Load resistance : 600ohms MAX 4. Voltage output DC0-5V/DC1-5V/DC0-10V/DC2-10V 5. Motor-operated valve manipulating output Contact structure : 2 NO (SPST) contacts Contact rating : AC220V/DC30V, 1A Mechanical life : 20 million operations MIN Electrical life : 100,000 operations MIN Output interlock/Output interlock circuit : Provided Except for PXG4
	Re-transmission output	Current output : (DC0-20mA, DC4-20mA) Voltage output : (DC0-5V/DC1-5V/DC0-10V/DC2-10V) Output type : PV, SV, MV, DV, PFB
	Digital output	Number of outputs : Max.5 points Contact structure : 1 NO (SPST) contact/Open collector Contact rating : AC220V/DC30V, 1A/DC30V, 100mA
	Transmitter power supply For PXG9	DC24V(DC19.5-24V) Max current : 21.6mA, 400ohms
RS232C communication (Loader port interface)	Protocol	Modbus-RTU
	Speed	9600bps
RS485 communication(Optional)	Protocol	Modbus-RTU
	Speed	9600bps, 19200bps
Applied standards		UL, CE Mark

# Outline Diagram and Panel Cut (Unit:mm)

Model	Outline	Panel Cut
<p><b>PXG4</b></p> 		<p>Panel cutout size</p> <p>Side stick mounting (n units) (water-proof property is lost in this case)</p> 
<p><b>PXG5</b></p> 		<p>Panel cutout size</p> <p>Side stick mounting (n units) (water-proof property is lost in this case)</p> 
<p><b>PXG9</b></p> 		<p>Panel cutout size</p> <p>n units mounted</p> 

## ⚠ Precautions for use

To ensure temperature process safety in case of PXG's failure, fit a separate over-temperature protection unit to isolate the heating circuit. Uncontrollability due to such failure may cause major accident.

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