



# SAMWON ENG

**STABLE ENVIRONMENTS START HERE**  
Temperature Controllers | Humidity Controllers



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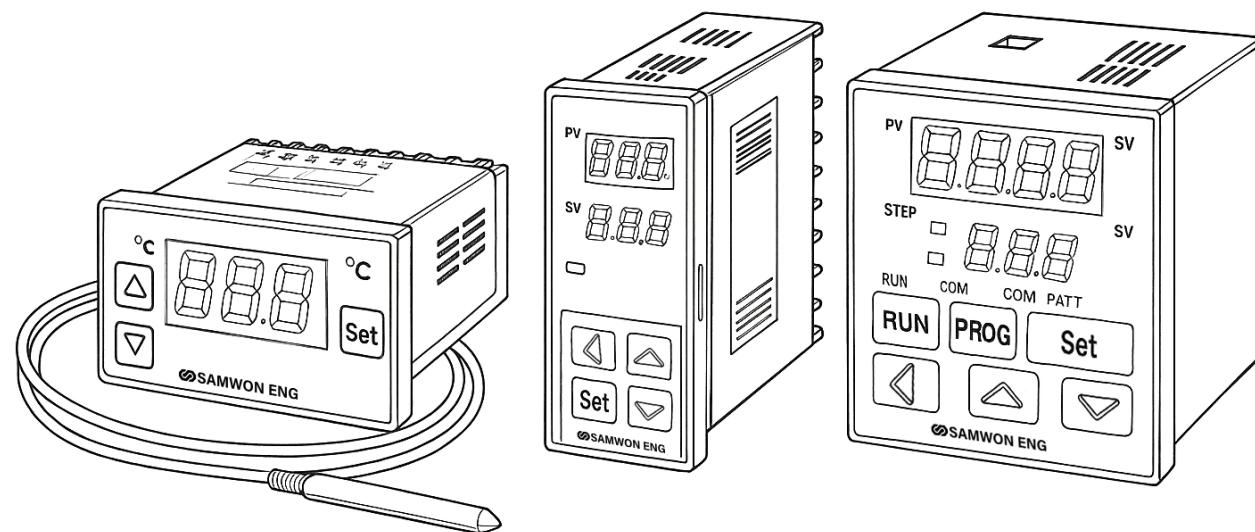
## About Samwon

**Samwon ENG**, a South Korean company founded in **1994**, has become one of the pioneers in sensor technology and industrial control systems. Over the decades, the company has continuously enhanced its product line, beginning its journey with the launch of the **SU** series and digital temperature controllers. Through collaborations with industry leaders such as **Samsung Electronics** and **LG Industrial Systems**, Samwon has expanded its presence across global markets including Iran, India, Australia, the United Arab Emirates, and Thailand. Samwon's commitment to quality and innovation has been recognized through multiple achievements, including **CE certification**, Q Mark quality certification, and the establishment of a dedicated technology research center.

By 2001, the company had upgraded its **SD** and **SU** series and introduced the **SM** series, which significantly improved product performance and efficiency.

In 2011, Samwon launched a specialized sensor division, automated its production lines, and supplied advanced temperature control systems for Samsung Electronics' semiconductor operations. These accomplishments solidified Samwon's reputation as a provider of advanced and reliable industrial solutions.

Today, Samwon ENG is recognized globally as a trusted partner, dedicated to addressing the evolving needs of industries with innovative technologies, precision, and excellence.





**SU105-Series**  
One Controller, Endless Applications





## Product Overview

The SU105-DAN temperature controller is one of Samwon's professional-grade products, designed for precise temperature monitoring and regulation in industrial and commercial environments. Utilizing an NTC sensor, it offers control over a wide temperature range. Its dual relay outputs enable advanced and accurate temperature adjustment.

## Applications

- Cold storage and industrial refrigerator temperature control
- Heating and cooling process control in factories
- HVAC and air conditioning systems
- Temperature control in greenhouses and mushroom cultivation halls
- Laboratory environments and medical equipment

## Technical Details

Specification	Description
Series	SU
Model	SU105-DAN
Device Type	Temperature Controller
Internal Sensor	Yes
Sensor Type	NTC Thermistor
Dimensions	W76 × H34 mm
Panel Cutout Size	W70 × H28 mm
Temperature Range	−40°C to +99°C
Ambient Temperature	0°C to +50°C
Ambient Humidity	Less than 85% RH
Outputs	2 Relay Outputs
Output 1	Relay (10A)
Output 2	Relay (5A)
Power Supply	100 to 240VAC
Power Consumption	Less than 5VA
Delay Timer	0 to 300 seconds
Control Modes	ON/OFF, PI



## Product Overview

The SU105-IPN temperature controller is part of Samwon's advanced controller series, designed for precise temperature monitoring and regulation in industrial and commercial environments. It supports IC sensors and accurately controls a temperature range from  $-50^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$ . Equipped with two relay outputs and various control functions, this device is an ideal choice for heating and cooling systems.

## Applications

- Temperature control of industrial equipment and production lines
- Monitoring and regulation of temperature in cold storage and food warehouses
- Advanced heating and cooling systems
- Temperature control in laboratory and medical environments
- Temperature regulation in industrial dryers and heating devices

## Technical Details

Specification	Description
Series	SU
Model	SU105-IPN
Device Type	Temperature Controller
Internal Sensor	Yes
Sensor Type	IC Sensor
Device Dimensions	W76 x H34 mm
Panel Cutout Size	W70 x H28 mm
Temperature Range	$-50^{\circ}\text{C}$ to $+150^{\circ}\text{C}$
Ambient Temperature	$0^{\circ}\text{C}$ to $+50^{\circ}\text{C}$
Ambient Humidity	Less than 85% RH
Outputs	2 Relay Outputs
Output 1	Relay (10A)
Output 2	Relay (5A)
Power Supply	100 to 240VAC
Power Consumption	Less than 5VA
Delay Timer	0 to 300 seconds
Control Modes	ON/OFF

# SU105-PRRN Temperature Controller



## Product Overview

The SU105-PRRN temperature controller is one of Samwon's professional-grade products, designed for precise temperature control in industrial and commercial environments. It supports PT100 sensors and is capable of accurately measuring temperatures from  $-200^{\circ}\text{C}$  to  $+300^{\circ}\text{C}$ . With two powerful relay outputs, this controller is an ideal solution for heating and cooling systems.

## Applications

- Industrial process temperature control
- Industrial heating and cooling systems
- Temperature control in food and pharmaceutical production lines
- Monitoring of industrial furnaces and thermal equipment
- Air conditioning and HVAC system control

## Technical Details

Specification	Description
Series	SU
Model	SU105-PRRN
Device Type	Temperature Controller
Device Dimensions	W76 × H34 mm
Panel Cutout Size	W70 × H28 mm
Internal Sensor	Not available
Input Type	PT100 Sensor
Temperature Range	$-200^{\circ}\text{C}$ to $+300^{\circ}\text{C}$
Output 1	Relay (10A)
Output 2	Relay (5A)
Power Supply	100 to 240VAC
Power Consumption	Less than 5VA
Control Method	ON/OFF



## Product Overview

The SU105-KRRN temperature controller is one of Samwon's most advanced products, designed for industrial and commercial applications. Supporting Type K thermocouple sensors, it offers precise measurement and control of both extremely high and low temperatures. Its two relay outputs enable accurate temperature management and regulation in heating and cooling systems.

## Applications

- Industrial furnaces and casting equipment
- Temperature control in steel and metal smelting industries
- Food industry and industrial baking equipment
- Heat control in industrial heating and cooling systems
- Air conditioning systems and ambient temperature control

## Technical Details

Specification	Description
Series	SU
Model	SU105-KRRN
Device Type	Temperature Controller
Device Dimensions	W76 × H34 mm
Panel Cutout Size	W70 × H28 mm
Internal Sensor	Not available
Input Type	Thermocouple Type K (CA)
Measurement Range	-200°C to +1370°C
Output 1	Relay (10A)
Output 2	Relay (5A)
Power Supply	100 to 240VAC
Power Consumption	Less than 5VA
Control Method	ON/OFF

# SU503-BN

## Humidity Controller



### Product Overview

The SU503-BN Humidity Controller by Samwon is a precise and professional device designed for accurate humidity measurement and control in industrial and commercial environments. Utilizing a high-precision capacitive sensor, this controller enables highly accurate humidity regulation. Its digital design and versatile features make it an ideal solution for industrial facilities, warehouses, greenhouses, and other humidity-sensitive environments.

### Applications

The SU503-BN is the perfect choice for industries, greenhouses, storage areas, and any environment where precise humidity control is essential. With digital adjustment capabilities, a powerful relay output, and sensor compensation functions, this device ensures high accuracy and reliability for all your humidity management needs.

- Greenhouses and Plant Growing Rooms – Precise humidity control for optimal plant growth
- Food Industry and Storage Warehouses – Preventing spoilage due to high humidity
- HVAC Systems – Controlling humidity in indoor and industrial spaces
- Cold Storage and Chemical Warehouses – Maintaining ideal storage conditions
- Server Rooms and Electronic Equipment Areas – Preventing corrosion and unwanted short circuits

### Technical Details

Specification	Description
Model	SU503-BN
Device Type	Humidity Controller
Device Dimensions	W76 × H34 mm
Panel Cutout Size	W70 × H28 mm
Internal Sensor	Yes
Input Type	HUM Sensor (Capacitive)
Measurement Range	0 to 100% RH
Display Accuracy	Humidity: $\pm 3\%$ RH $\pm 1$ digit
Power Supply	AC100–220V (50/60Hz) $\pm 10\%$
Power Consumption	Less than 5W
Control Output	Relay (10A at AC250V) switching life: over 300,000 cycles
Differential Setting (dIF)	0.1 to 25.0% RH
Control Method	ON/OFF (direct/reverse selectable)
Setting Method	Digital keys, with up/down adjustment button

## Overview: SU Series

Model	Type	Dimensions	Panel Size	Integrated Sensor	Input Type	Measuring Range	Output 1	Output 2	Power Supply	Control Method
SU105-DAN	Temperature Controller	W76 * H34	W70 * H28	YES	Thermistor Sensor	-40 ... +99.9 °C	Relay (10A)	Relay (5A)	100 ... 240 VAC	ON/OFF, PI
SU105-IPN					IC Sensor	-50 ... +150 °C				
SU105-KRRN				-	Thermocouple K(CA)	-200 ... +1370 °C				ON/OFF
SU105-PRRN					PT100	-200 ... +300 °C				
SU503-BN	Humidity Controller	W76 * H34	W70 * H28	YES	HUM Sensor	0 ... 100%	Relay (10A)	-		



## SD Series | SD-49M & SD-94M | PID Temperature Controller

Model	Dimensions	Panel Size	Input Type	Output 1	Output 2	Output 3	Measuring Range	Power Supply	Control Method
SD-49M-RRRN	W48 * H96	W45 * H92	<b>Current:</b> 4 ... 20 mA <b>Voltage:</b> 0 ... 10 VDC, 1 ... 5 VDC <b>RTD:</b> PT100Ω <b>Thermocouple:</b> K, J, R, S, B, E, T, C <b>Humidity Sensor</b>	Relay	Relay	Relay	It depends on Input Sensor type	100 ... 240 VAC	PID, ON/OFF
SD-49M-SARN				SSR	4-20 mA	Relay			
SD-94M-RRRN	W96 * H48	W92* H45	<b>Thermocouple:</b> K, J, R, S, B, E, T, C <b>Humidity Sensor</b>	Relay	Relay	Relay	It depends on Input Sensor type	100 ... 240 VAC	PID, ON/OFF
SD-94M-SARN				SSR	4-20 mA	Relay			

## Applications (SD Series)

**Plastics and Molding Industries:** Precise temperature control in plastic injection molding and forming.

**Processes Food and Pharmaceutical Industries:** Temperature regulation in industrial ovens, dryers, and production lines for food and pharmaceutical.

**Manufacturing HVAC and Air Conditioning Systems:** Accurate control of industrial heating and cooling.

**Systems Industrial Machinery:** Temperature management in production lines and various.

**Industrial equipment Laboratories and Research Centers:** High-precision temperature control for sensitive experiments and test environments



SD-49M



SD-94M

## SD Series | SD-48M, SD-72M & SD-96M | PID Temperature Controller

Model	Dimensions	Panel Size	Input Type	Output 1	Output 2	Output 3	Measuring Range	Power Supply	Control Method	
SD-48M-RRN	W48 * H48	W45 * H45	Current: 4 ... 20 mA Voltage: 0 ... 10 VDC, 1 ... 5 VDC RTD: PT100Ω Thermocouple: K, J, R, S, B, E, T, C Humidity Sensor	Relay	Relay	—	It depends on Input Sensor type	100 ... 240 VAC	PID, ON/OFF	
SD-48M-ARN				4-20 mA	Relay	—				
SD-48M-SRN				SSR	Relay	—				
SD-72M-RRRN		W72 * H72		Relay	Relay	Relay				
SD-72M-SARN				SSR	4-20 mA	Relay				
SD-96M-RRRN		W96 * H96		Relay	Relay	Relay				
SD-96M-SARN				SSR	4-20 mA	Relay				



SD-48M



SD-72M



SD-96M

## SM Series | SM-490N, SM-940N & SM-960N | PID Temperature Controller

Model	Dimensions	Panel Size	Input Type	Output 1	Output 2	Output 3	Output 4	Output 5	Measuring Range	Power Supply	Control Method
SM-490N	W48 * H96	W45 * H92	Current: 4 ... 20 mA Voltage: 0 ... 10 VDC, 1 ... 5 VDC RTD: PT100Ω Thermocouple: K, J, R, S, B, E, T, C Humidity Sensor	Relay	Relay - Alarm Output	Relay - Alarm Output	SSR	4-20mA / RE Transmission	It depends on Input Sensor type	100 ... 240 VAC	PID, ON/OFF
SM-940N	W96 * H48	W92* H45									
SM-960N	W96 * H96	W92* H92									

## Applications (SM Series)

**Petrochemical and Refinery Industries:** Thermal and cooling process control in critical operations

**Industrial Machinery:** Temperature regulation in production lines and testing equipment

**Food and Beverage Industry:** Monitoring and control of temperature in food and beverage processing and storage

**Heating and Cooling Systems:** Temperature control in furnaces, chillers, and boilers

**Automotive Industry:** Temperature regulation in painting systems and molding processes



SM-490N



SM-940N



SM-960N





| Complete Climate Control Solutions |