

San Ace PWM Controller

Features

Reduces system power consumption and fan noise

For PWM fan speed control, a PWM control circuit needs to be newly designed and configured.

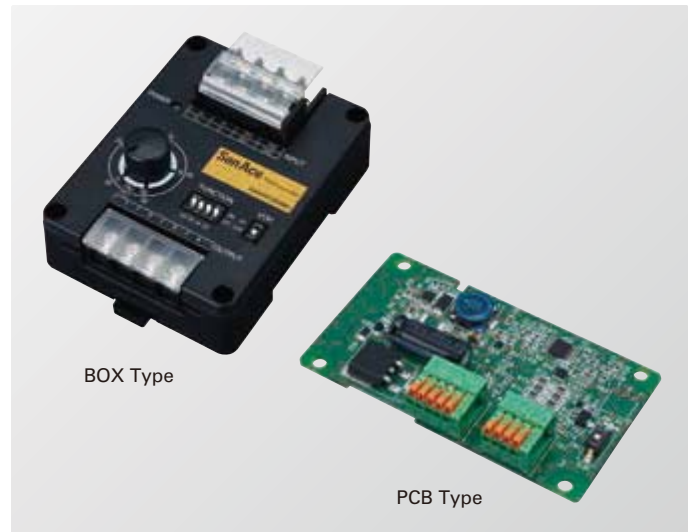
By using this product, however, PWM control function fans can be fully utilized without the need for preparing new circuits, contributing to reducing the system power consumption and the fan noise.

Can be common-powered by the fan power supply

The controller can be powered by the fan power supply of rated voltage 12, 24, and 48 VDC, and no separate supply is required.

Maximum of four fans connectable

Up to four fans with PWM control function can be connected and controlled.



Specifications

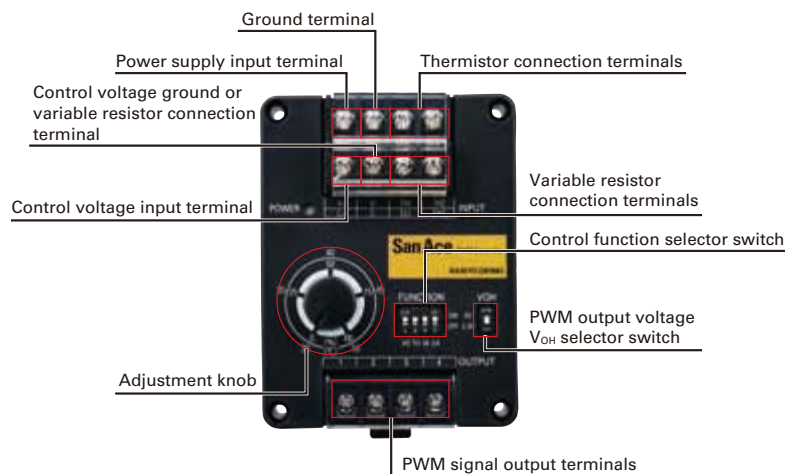
	BOX Type	PCB Type		
Model no.	9PC8666X-S001	9PC8045D-V001	9PC8045D-R001	9PC8045D-T001
Size [mm]	86 (H) × 66 (W) × 38 (D)	80 (H) × 45 (W) × 17 (D)		
Rated voltage [VDC]	12, 24, and 48			
Power consumption [W]	0.2*1			
Operating voltage range [VDC]	7 to 60			
Operating temperature [°C]	-20 to +70			
Output PWM signal	V _{OH} (high level voltage): 3.3 or 5 VDC (selectable), Frequency: 25 kHz			
No. of connectable fans	Up to 4 fans			
Control functions	Voltage control, Internal adjustment (variable resistor) control, External adjustment (variable resistor) control ³ , Thermistor control ^{2,3}	Voltage control	Variable resistor control ³	Thermistor control ³
Mounting method	DIN rail mounting or screw mounting		Screw mounting	
Mass [g]	110		27	
Material	Case: Plastics		PCB: FR-4	

*1: When output terminals are turned on *2: Control functions are mutually exclusive for BOX Type.

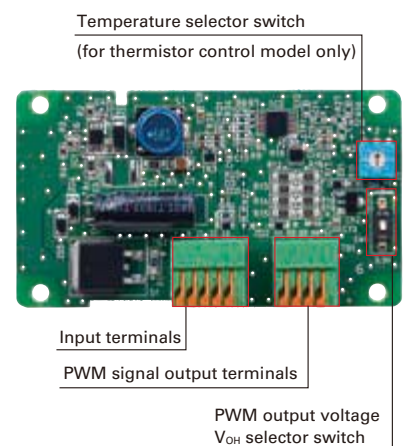
*3: Variable resistor and thermistor are not supplied with the controller and need to be prepared separately.

Front View (component names)

BOX Type

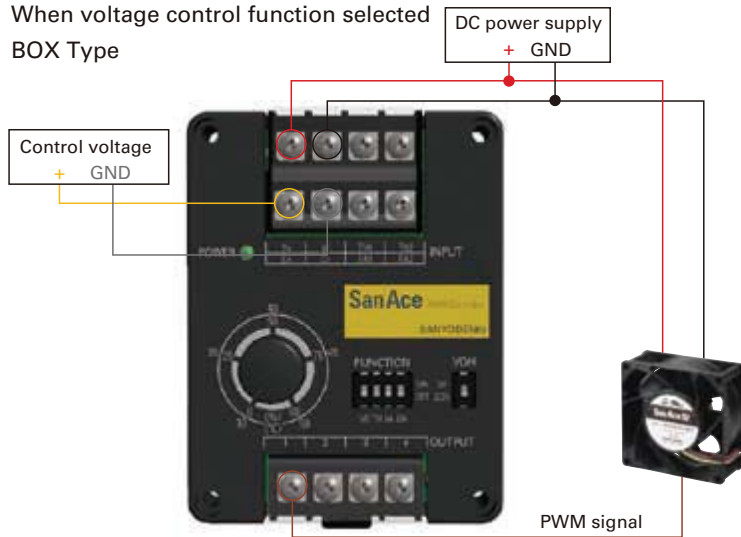


PCB Type



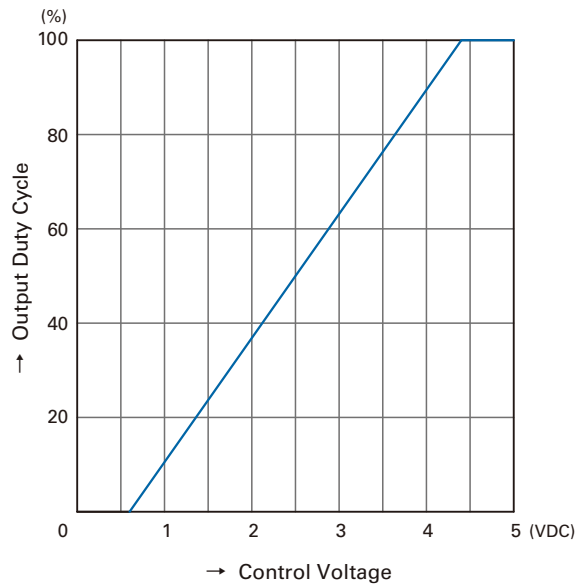
Connection Examples and PWM Signal Output Characteristics

- When voltage control function selected
BOX Type

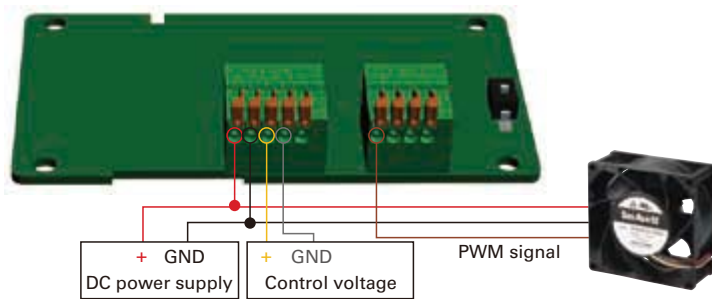


Control Voltage -
Output Duty Cycle Characteristics

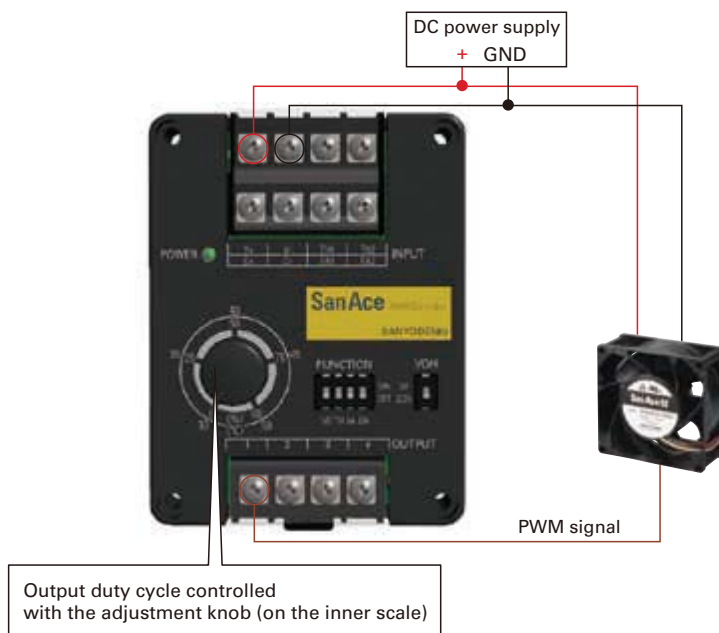
Output duty cycle controlled with input voltage of 0 to 5 VDC
*Please ensure that the input voltage does not exceed 5.5 VDC.



PCB Type (Model no.: 9PC8045D-V001)

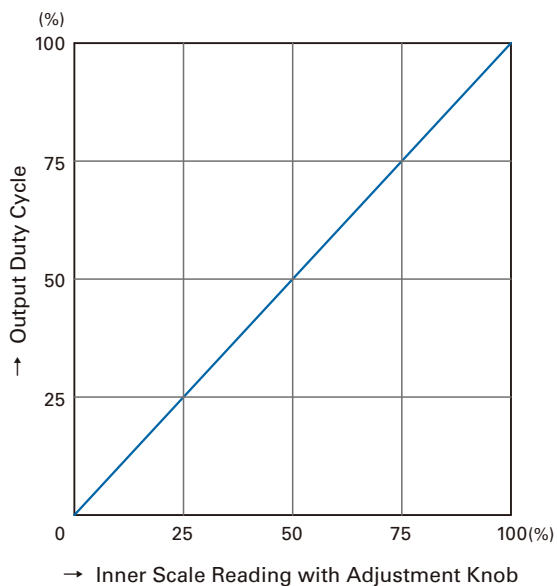


- When internal adjustment (variable resistor) control function selected
BOX Type



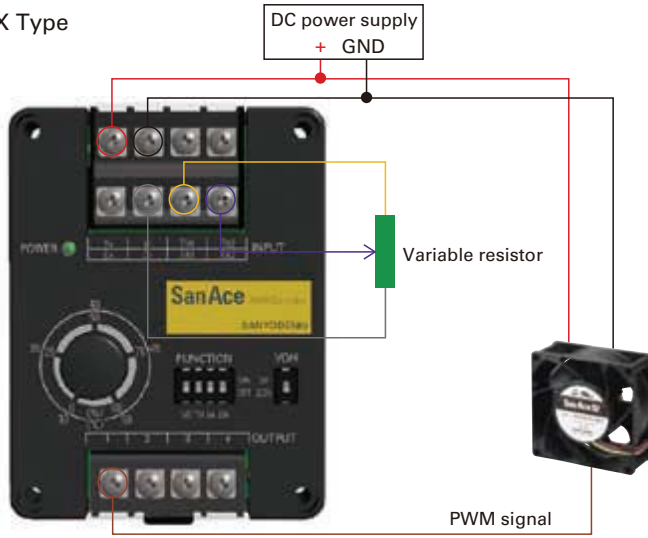
Inner Scale Reading -
Output Duty Cycle Characteristics

Output duty cycle controlled with the adjustment knob

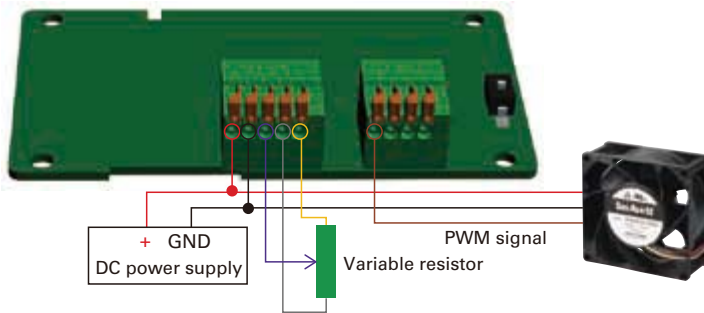


Connection Examples and PWM Signal Output Characteristics

- When external adjustment (variable resistor) control function selected
BOX Type

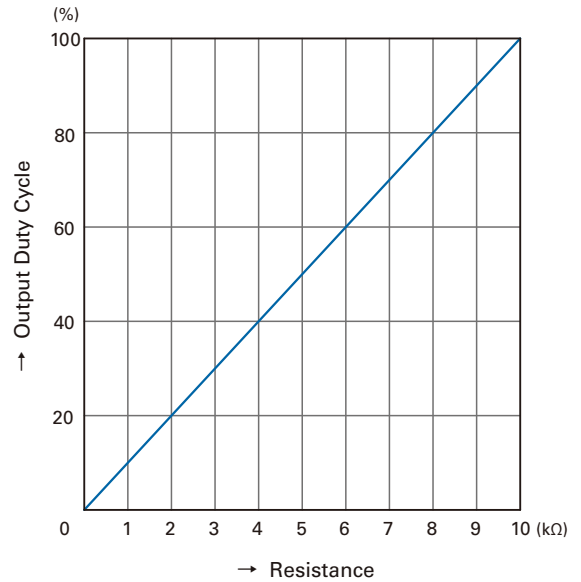


PCB Type (Model no.: 9PC8045D-R001)

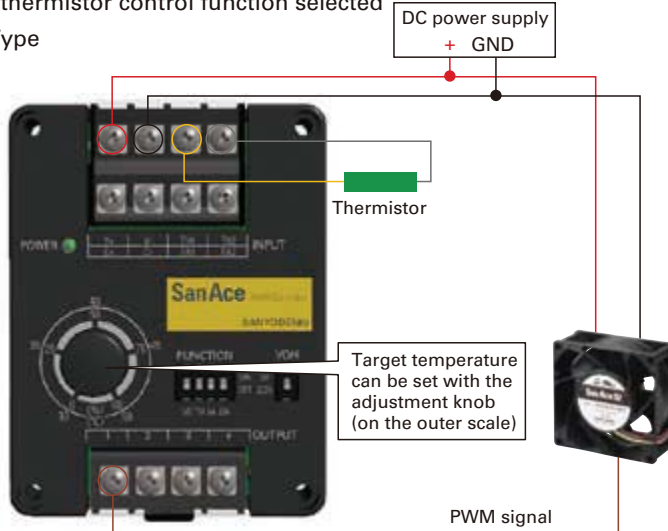


Resistance - Output Duty Cycle Characteristics

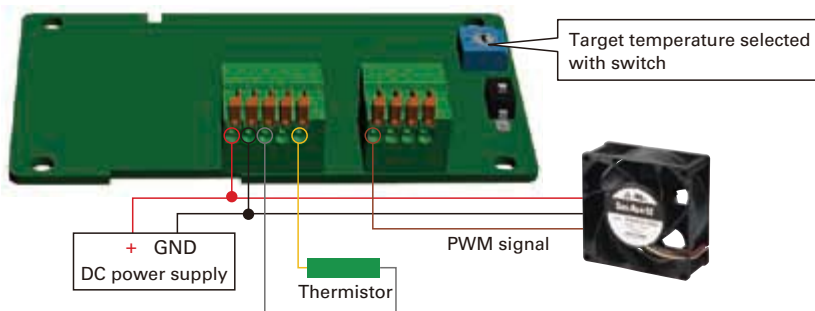
Output duty cycle controlled with variable resistor connected to terminals
Recommended total resistance: 10 kΩ
Resistance increment characteristics: B (linear curve fitting)



- When thermistor control function selected
BOX Type



PCB Type (Model no.: 9PC8045D-T001)



Controlling Conditions

T_{ST} : Temperature set with the adjustment knob (30 to 50 °C)
 T_{TH} : Temperature detected with thermistor

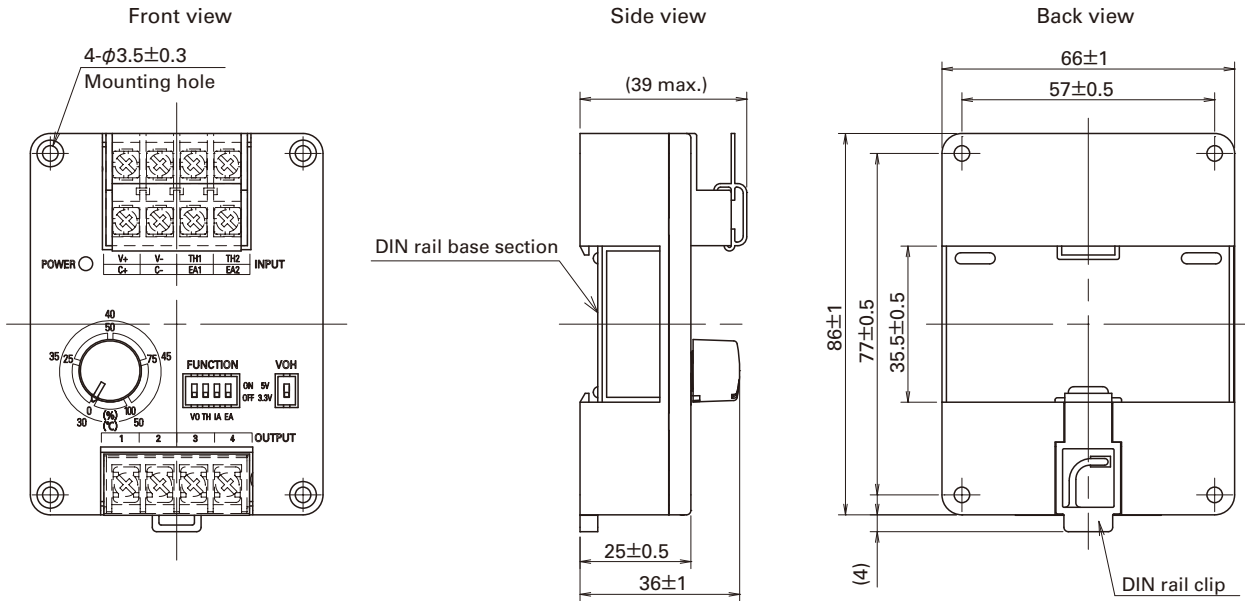
Recommended thermistor conditions
Type: NTC
 R_{25} (Resistance at 25 °C): 10 kΩ
B value: $B_{25/85} = 3435$ K

Temperature conditions	Duty cycle	Fan rotational speed (For reference)
$T_{ST} < T_{TH}$	Increases	Increases
$T_{ST} > T_{TH}$	Decreases	Decreases
$T_{ST} \approx T_{TH}$	Maintained	Maintained

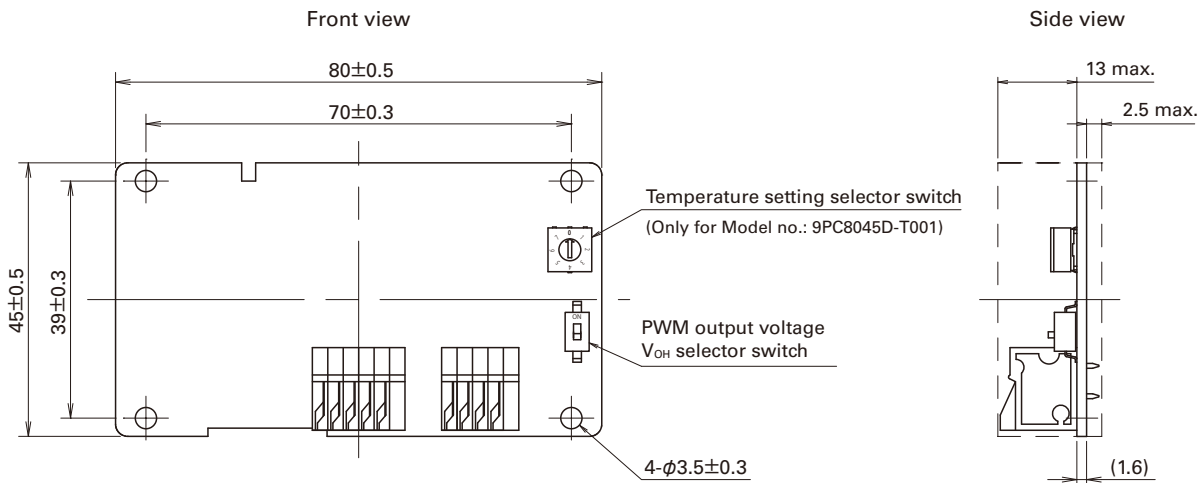
Recommended thermistor part number
Semitec : 103AT-11

Dimensions (unit: mm)

BOX Type



PCB Type



Precautions on use

●Before using the product, please read the included instructions manual carefully.

Notice

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SANYO DENKI CO.,LTD. 3-33-1 Minami-Otsuka, Toshima-ku, Tokyo, 170-8451, Japan TEL: +81 3 5927 1020 <http://www.sanyodenki.com>

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