

Universal Process Controller

SDM 5600, 5700

Thank you very much for selecting Sanup temperature controller.
For your safety, please read the following before using.



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1. CAUTION FOR SAFETY



CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury and at other times or serious injury. It may also be used to alert against unsafe practice.



WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.



CAUTION

- Ensure the surrounding ambient operating temperature is 0~50℃.
 - ▶ **It may cause fire or wrong operation.**
- Ensure the power supply for the controller does not fluctuate. Main supply voltage fluctuation not exceed $\pm 10\%$ of the normal voltage.
 - ▶ **It may cause fire.**
- This controller shall not be used outdoors.
 - ▶ **It might shorten the life cycle or given an electric shock.**
- When wiring connection, #20AWG (0.5mm²) should be used and screw bolt on terminal block with 0.74N.m strength.
 - ▶ **It may result in malfunction or error.**
- Keep the controller away from high current and voltage circuits. The controller and connection wires (esp. compensation conductors and RTD lead wires) should be kept approximately 30cm away from high electric circuit to limit the possible affect of noise.
 - ▶ **It may cause display fluctuation or error.**
- Do not use a place where temperature fluctuate or icing occurs. It may cause fire, explosive or error.
- In cleaning the controller, do not use water or an oil-based detergent.
 - ▶ **It might cause an electric shock or fire that will result in damage to the product.**
- Do not inflow dust or dregs into inside of this controller.
 - ▶ **It may cause fire or trouble.**
- Installation Category II. Pollution Degree 2. Altitude over 0~2000m use.

Please keep these instructions and review before using this controller.

This instruction manual uses WARNING and CAUTION as signal words for safety.



WARNING

- In case of using this unit with machineries (warehouse, medical equipments, vehicle, train, airplane, nuclear power or safety devices etc.), it requires installing fail-safe device.
 - ▶ **It may result in serious damage, fire or human injury.**
- Use a rated voltage to prevent damage or trouble.
 - ▶ **It may result in fire.**
- Check the number of terminal when connect each line and signal input.
 - ▶ **It may cause fire or trouble.**
- Do not turn on the power until the wiring completed.
 - ▶ **It may cause electric shock.**
- Do not repair, wiring or checkup when electric power on.
 - ▶ **It may cause electric shock.**
- Installation the controller where there is no dust, corrosive or explosive gas, direct ray of the sun, mechanical vibration or shock present.
 - ▶ **It may cause fire or explosive.**
- This controller must be mounted panel.
 - ▶ **It may cause electric shock.**
- Do not repair beyond of authorized technician.
 - ▶ **It may cause trouble.**



2. SPECIFICATION

MODEL	SDM 5600	SDM 5700
POWER	100-240 V AC (±10%), 50-60Hz 5VA under	
INPUT	T.C : K, J, E, T, R, B, S, N, C RTD : KS Pt100Ω, JIS Pt 100Ω, DIN Pt 100Ω Vdc / mA dc : 1~5V DC, 4~20mA DC, 0~10 VDC	
ACCURACY	T.C : ±0.3% of FS or 1 digit (R, S, B Type except) RTD / VDC : ±0.2% of FS or 1 digit	
SCAN TIME	160 msec	
RET-OUT	4~20mA DC (R LOAD 600Ω)	
TX POWER	17V DC (Max 30mA)	
ALARM	AL1, AL2 : 250 V AC 3 A (R LOAD) 접점수명: 50,000회 이상	AL1, AL2, AL3, AL4 : 250 V AC 3 A (R LOAD)
SETTING	UP / DOWN SWITCH	
FUNCTION	- PEAK HOLD - RS485 INTERFACE - UNIVERSAL POWER	- TX POWER - RET-OUT 4~20mA - DECIMAL POINT
AMBIENCE	0°C ~ 50°C (35~85%RH)	



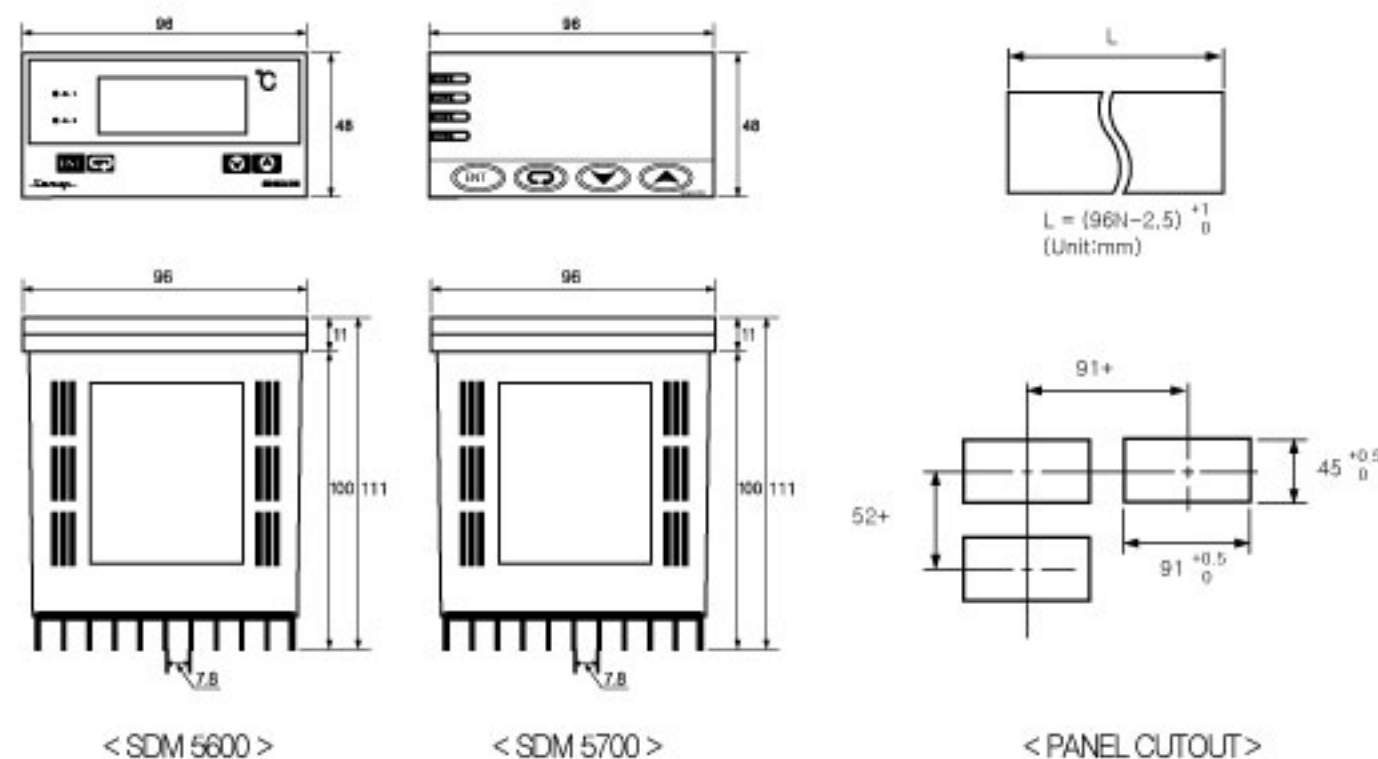
3. MODEL CODE

MODEL	CODE	FUNCTION
SDM 5600 SDM 5700	□	DN 96×48mm
OPTION	0	NONE
	1	RS485
	2	AL3, AL4 (Add 2 Point)
	3	RS485 + AL3, AL4

(Option 2, 3 are for only SDM5700)



4. PANEL CUTOUT

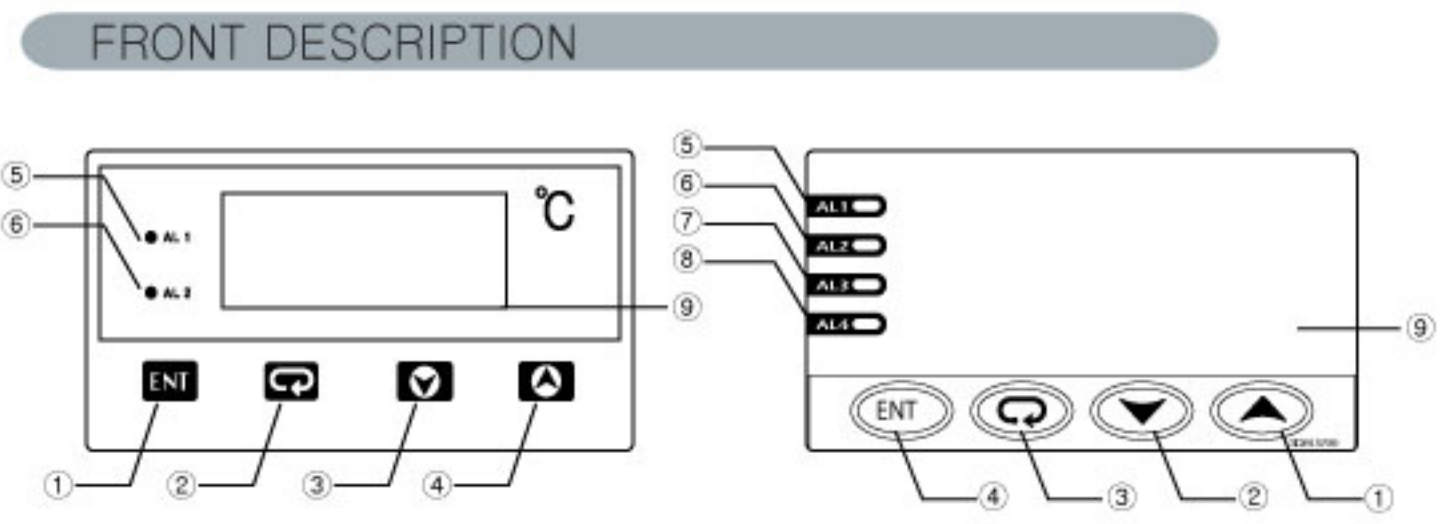


5. INSTALLATION

INSTALLATION PROCEDURE

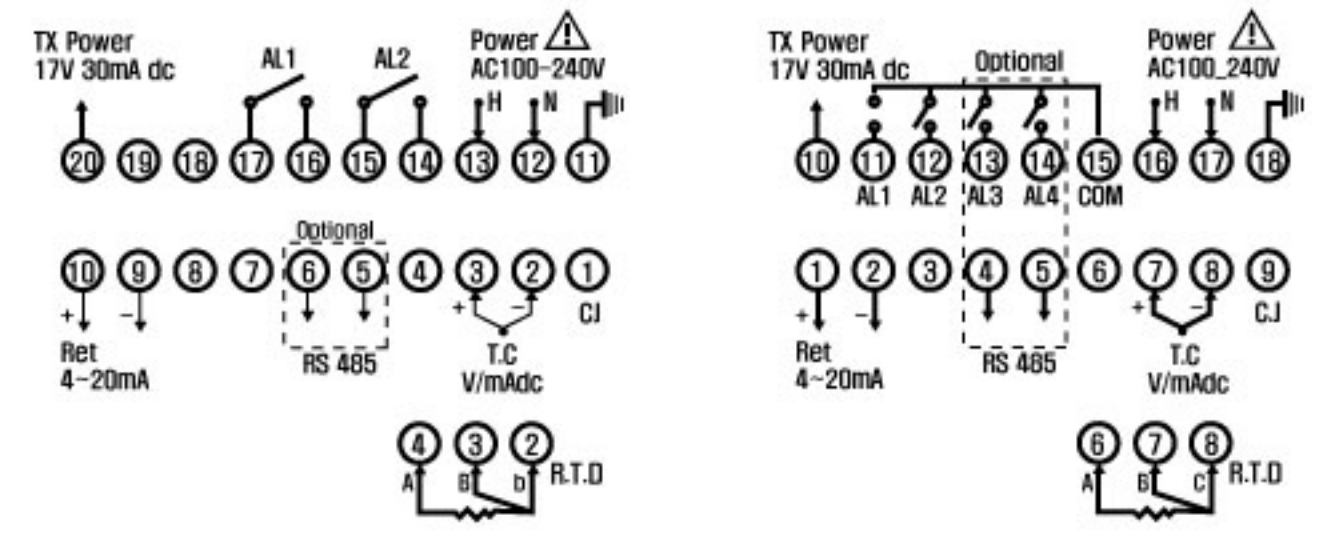
- (1) Make a rectangular hole panel cutout. When installing more than two controllers parallel to each other, keep distance between the panel cutout to allow room for the bezel of the controller.
- (2) Insert the controller into the panel cutout.
- (3) insert a mounting clip into both sides of the controller and tighten the screws. (about 14.7N.m)

6. FRONT DESCRIPTION



- ① ENTER
- ② PARAMETER
- ③ DOWN
- ④ UP
- ⑤ AL1 RAMP
- ⑥ AL2 RAMP
- ⑦ AL3 RAMP
- ⑧ AL4 RAMP
- ⑨ DISPLAY

7. WIRING



< SDM5600 >

< SDM5700 >

8. SET PARAMETERS

PARAMETER SETTING

1. Pressing the key when the process value is displayed allows various parameter to be seen in the process value display.
2. The indicated parameters can be changed by using the key and key. Holding down these keys for more than 2 sec. will change the very rapidly.
3. After changing the value of a parameter, the right decimal point blinks, indicating the parameter has not been accepted. By pressing this value is accepted and entered into EEPROM. When the value is accepted the decimal point disappears.
4. Once finished changing parameter values, pressing for more than 2 sec. returns the controller to normal operation mode and the process value will be displayed. Waiting 80 sec. without key pressing will return to normal operation mode.

PARAMETER TABLE

SIGN	PARAMETERS	FUNCTION	INITIAL
AL-1	Alarm 1 set	Alarm 1 set value	EU (0.0%)
AL-2	Alarm 2 set	Alarm 2 set value	
AL-3	Alarm 3 set	Alarm 3 set value	
AL-4	Alarm 4 set	Alarm 4 set value	
PASS	PASS	Password for parameter set. Set 5.	0
InPt	Input	Set input signal (see input table)	K-Type T.C
Unit	Unit	Set display unit (°C/°F)	°C
dP	Decimal point	Set decimal point when Vdc input	0
SC-H	Scale high	Set scale when use Vdc input -1999~9999, SC-H > SC-L	100
SC-L	Scale low		0
AL51	Alarm 1 mode	Set alarm 1 mode (see alarm table)	High alarm
HYS1	Alarm 1 hysteresis	Set alarm 1 dead band	1
AL52	Alarm 2 mode	Set alarm 2 mode (see alarm table)	Standby high
HYS2	Alarm 2 hysteresis	Set alarm 2 dead band	1
AL53	Alarm 3 mode	Set alarm 3 mode (see alarm table)	Low alarm
HYS3	Alarm 3 hysteresis	Set alarm 3 dead band	1
AL54	Alarm 4 mode	Set alarm 4 mode (see alarm table)	Standby low
HYS4	Alarm 4 hysteresis	Set alarm 4 dead band	1
E-H	Ret-out high scale	Set retransmission output scale high and low	1370°C
E-L	Ret-out low scale		-100°C
FILE	Filter	Input filter (0~60sec.)	0
InS	Insert	Processing value compansation EUS (-100.0~100.0%)	0
-	Processing value	Display processing value	-

•All alarm mode is independable.
•Peak hold display by ENT key.

INPUT TABLE

SIGN	INPUT	RANGE	
		°C	°F
P-tc	K-Type	-100~1370°C	-148~2498°F
J-tc	J-Type	-100~950°C	-148~1742°F
E-tc	E-Type	-100~750°C	-148~1382°F
n-tc	N-Type	-100~1300°C	-148~2372°F
C-tc	C-Type	0~2300°C	32~4172°F
t-tc	T-Type	-200~400°C	-328~752°F
P.ttc	K-Type	-100.0~400.0°C	-148~752°F
r-tc	R-Type	-0~1760°C	32~3200°F
S-tc	S-Type	-0~1760°C	32~3200°F
b-tc	B-Type	-0~1800°C	32~3272°F
JPt	JIS Pt100 RTD	-200~600°C	-328~1112°F
dPt	DIN Pt100 RTD	-200~600°C	-328~1112°F
JPt1	JIS Pt100 RTD	-200.0~600.0°C	-328~1112°F
dPt1	DIN Pt100 RTD	-200.0~600.0°C	-328~1112°F
1-5	1-5VDC		
0-5	0-5VDC		

ALARM MODE

MODE	Alarm 1	Alarm 2	REMARK
NONE	- - - -	- - - -	
HIGH	-H1-	-H1-	
STANDBY HIGH	-SH-	-SH-	
LOW	-L0-	-L0-	
STANDBY LOW	-SL-	-SL-	