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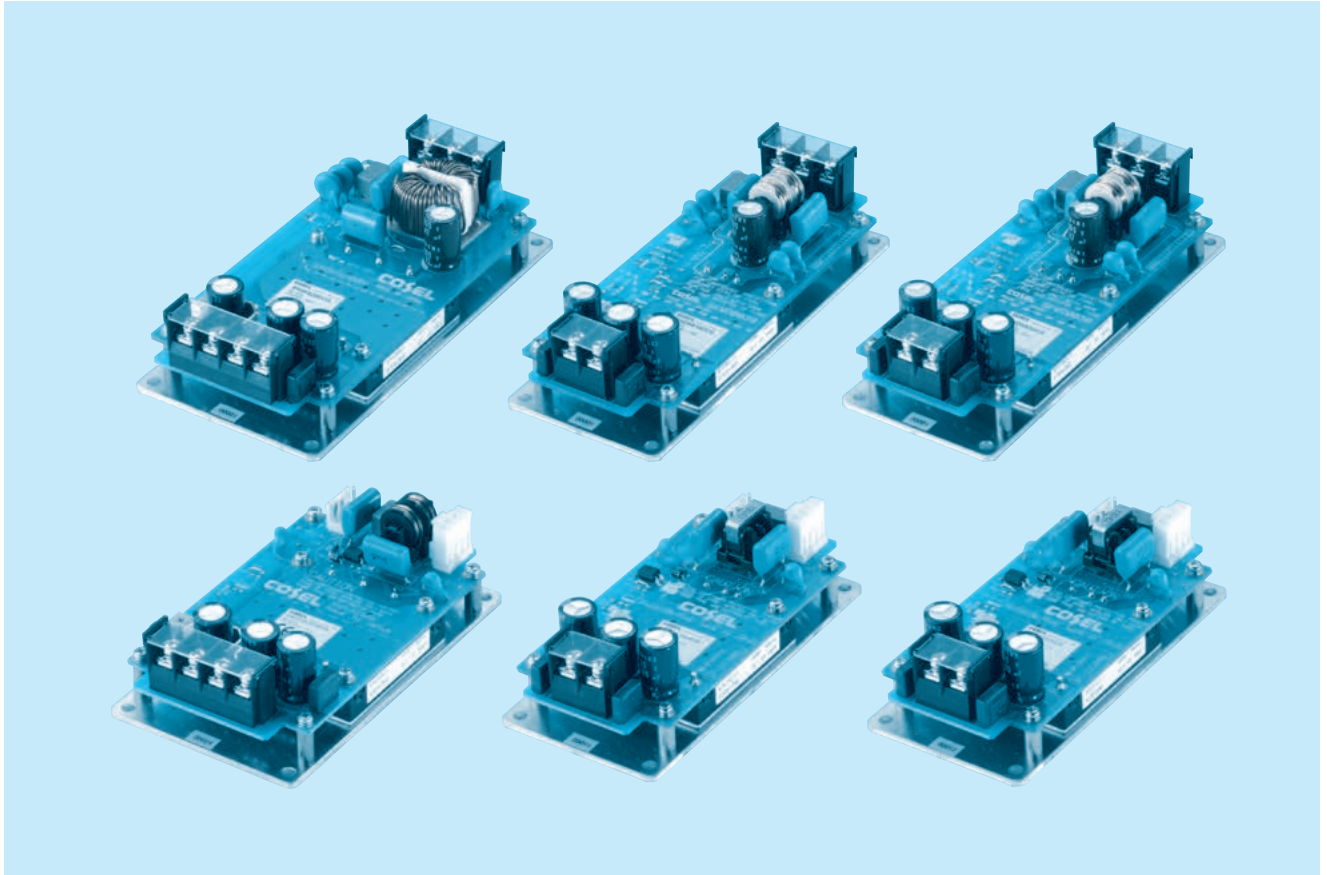
OCP



OVP

Remote  
ON/OFF

# SNDHS-series



## ■ Features

Compact DC-DC Converter, SNDHS series includes DHS series  
High efficiency  
Built-in overcurrent, overvoltage and thermal protection circuits  
Built-in remote ON/OFF (secondary is an optional)  
Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)  
AC-DC Converter can be constituted in combination with SNDPG series (only SNDHS50B/SNDHS100B/SNDHS250B)

## ■ 3-year warranty

## ■ CE marking

Low Voltage Directive  
RoHS Directive

## ■ UKCA marking

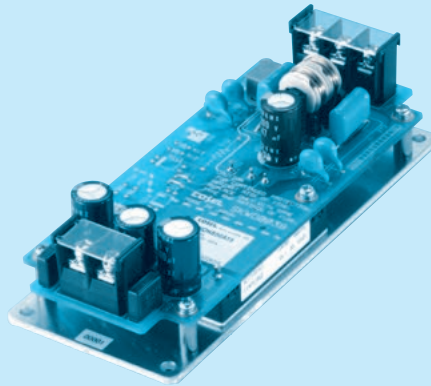
Electrical Equipment Safety Regulations  
RoHS Regulations

## ■ Safety agency approvals

UL60950-1, C-UL and EN62368-1

# SNDHS50A

SNDH S 50 A 05 -□



- ① Series name
- ② Single output
- ③ Output wattage
- ④ A : DC60-160V
- ⑤ Output voltage
- ⑥ Optional
- C : with Coating
- R : with Remote ON/OFF

Please refer to Instruction manual 7.

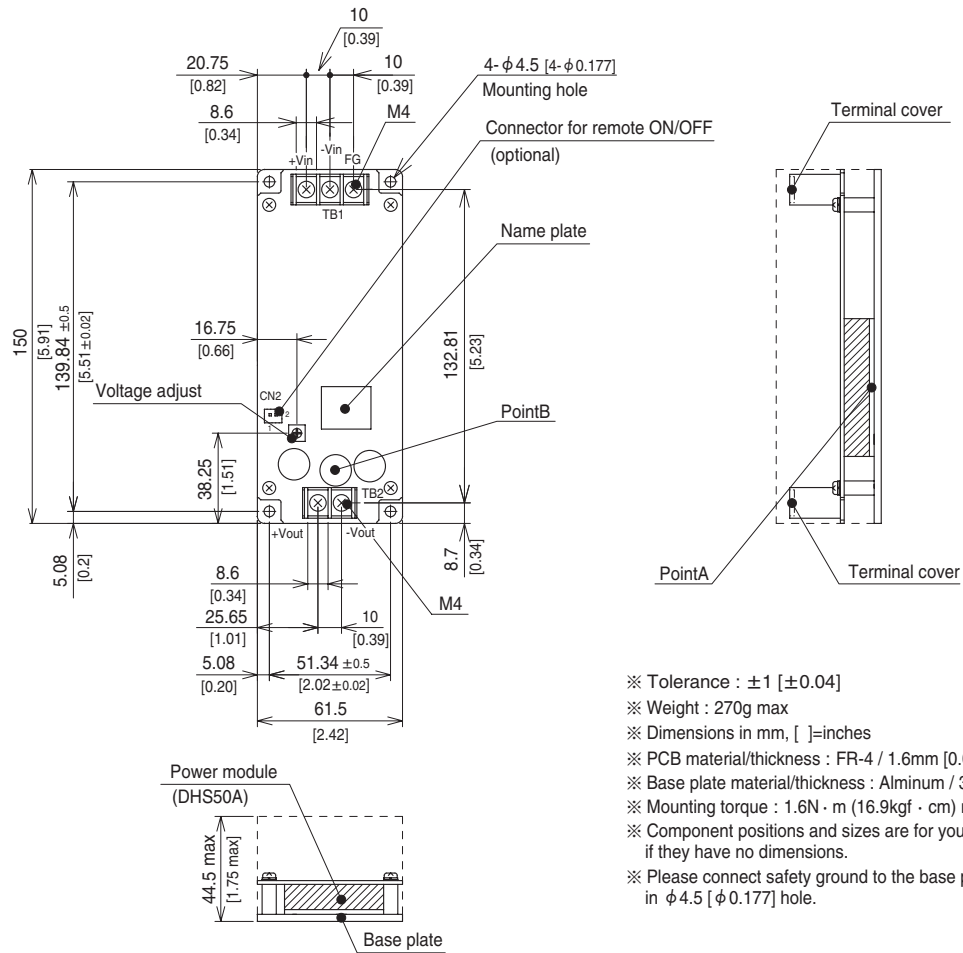
MODEL	SNDHS50A05	SNDHS50A12	SNDHS50A15	SNDHS50A24
MAX OUTPUT WATTAGE[W]	50.0	50.4	51.0	50.4
DC OUTPUT	5V 10A	12V 4.2A	15V 3.4A	24V 2.1A

## SPECIFICATIONS

	MODEL	SNDHS50A05	SNDHS50A12	SNDHS50A15	SNDHS50A24
INPUT	VOLTAGE[V]	DC60 - 160			
	CURRENT[A]	*1 0.55typ	0.55typ	0.55typ	0.55typ
	EFFICIENCY[%]	*1 83.0typ	85.0typ	85.0typ	85.0typ
OUTPUT	VOLTAGE[V]	5	12	15	24
	CURRENT[A]	10	4.2	3.4	2.1
	LINE REGULATION[mV]	10max	24max	30max	48max
	LOAD REGULATION[mV]	150max	100max	100max	100max
	RIPPLE[mVp-p]	0 to +95°C *2 80max	120max	120max	120max
		-20 to 0°C *2 120max	150max	150max	150max
		0 to 15% Load *2 160max	240max	240max	240max
	RIPPLE NOISE[mVp-p]	0 to +95°C *2 160max	200max	200max	200max
		-20 to 0°C *2 250max	280max	280max	280max
		0 to 15% Load *2 300max	300max	300max	300max
	TEMPERATURE REGULATION[mV]	0 to +50°C 50max	120max	150max	240max
		-20 to +95°C 100max	240max	300max	480max
PROTECTION CIRCUIT AND OTHERS	DRIFT[mV]	*3 20max	40max	60max	90max
	START-UP TIME[ms]	200max (DCIN 110V, Io=100%)			
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	*4 4.50 - 5.50	10.80 - 13.20	13.50 - 16.50	21.60 - 26.40
	OUTPUT VOLTAGE SETTING[V]	5.00 - 5.15	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96
	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically			
ISOLATION	OVERVOLTAGE PROTECTION[V]	6.30 - 7.60	13.90 - 17.55	17.25 - 21.75	27.60 - 34.80
	REMOTE SENSING	None			
	REMOTE ON/OFF (RC)	Optional (Required external power source)			
ENVIRONMENT	INPUT-OUTPUT, RC	*5 AC3,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15°C)			
	INPUT-FG	AC2,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15°C)			
	OUTPUT, RC-FG	*5 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)			
	OUTPUT-RC	*5 AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15°C)			
SAFETY	OPERATING TEMP., HUMID. AND ALTITUDE	*6 -20 to +95°C (Aluminum base plate of the power module), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max			
	STORAGE TEMP., HUMID. AND ALTITUDE	-20 to +95°C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max			
	VIBRATION	10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis			
	IMPACT	196.1m/s <sup>2</sup> (20G), 11ms, once each along X, Y and Z axis			
OTHERS	AGENCY APPROVALS	UL60950-1, C-UL, EN62368-1			
	CONDUCTED NOISE (at only DC input)	Complies with FCC-A, VCCI-A, CISPR22-A, EN55011-A, EN55022-A			
OTHERS	CASE SIZE/WEIGHT	61.5×44.5×150mm [2.42×1.75×5.91 inches] (W×H×D) / 270g max			
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)			

- \*1 At rated input(DC110V) and rated load.
- \*2 Ripple and ripple noise is measured by using measuring board with capacitor of 22 μF at 150mm [5.91 inches] from output terminal. Refer to the instruction manual 3.2.
- \*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
- \*4 Refer to the instruction manual 4.6.
- \*5 Applicable when remote control (optional) is added.
- \*6 Refer to the instruction manual 6.2.

## External view

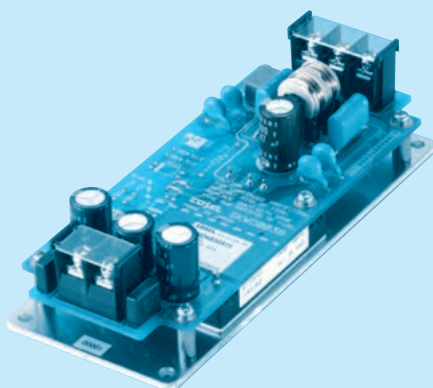


- ※ Tolerance :  $\pm 1$  [ $\pm 0.04$ ]
- ※ Weight : 270g max
- ※ Dimensions in mm, [ ]=inches
- ※ PCB material/thickness : FR-4 / 1.6mm [0.06]
- ※ Base plate material/thickness : Aluminum / 3.0mm[0.12]
- ※ Mounting torque : 1.6N · m (16.9kgf · cm) max
- ※ Component positions and sizes are for your reference if they have no dimensions.
- ※ Please connect safety ground to the base plate in  $\phi 4.5$  [ $\phi 0.177$ ] hole.

# SNDHS100A

**SNDH S 100 A 05** ☐

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output wattage
- ④ A : DC60-160V
- ⑤ Output voltage
- ⑥ Optional
- C : with Coating
- R : with Remote ON/OFF

Please refer to Instruction manual 7.

MODEL	SNDHS100A05	SNDHS100A12	SNDHS100A15	SNDHS100A24
MAX OUTPUT WATTAGE[W]	100.0	100.8	100.5	100.8
DC OUTPUT	5V 20A	12V 8.4A	15V 6.7A	24V 4.2A

## SPECIFICATIONS

	MODEL	SNDHS100A05	SNDHS100A12	SNDHS100A15	SNDHS100A24
INPUT	VOLTAGE[V]	DC60 - 160			
	CURRENT[A]	*1 1.1typ	1.1typ	1.1typ	1.1typ
	EFFICIENCY[%]	*1 84.0typ	87.0typ	87.0typ	87.0typ
OUTPUT	VOLTAGE[V]	5	12	15	24
	CURRENT[A]	20	8.4	6.7	4.2
	LINE REGULATION[mV]	10max	24max	30max	48max
	LOAD REGULATION[mV]	150max	100max	100max	100max
	RIPPLE[mVp-p]	0 to +95°C *2 80max	120max	120max	120max
		-20 to 0°C *2 120max	150max	150max	150max
		0 to 15% Load *2 160max	240max	240max	240max
	RIPPLE NOISE[mVp-p]	0 to +95°C *2 160max	200max	200max	200max
		-20 to 0°C *2 250max	280max	280max	280max
		0 to 15% Load *2 300max	300max	300max	300max
	TEMPERATURE REGULATION[mV]	0 to +50°C 50max	120max	150max	240max
		-20 to +95°C 100max	240max	300max	480max
PROTECTION CIRCUIT AND OTHERS	DRIFT[mV]	*3 20max	40max	60max	90max
	START-UP TIME[ms]	200max (DCIN 110V, Io=100%)			
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	*4 4.50 - 5.50	10.80 - 13.20	13.50 - 16.50	21.60 - 26.40
	OUTPUT VOLTAGE SETTING[V]	5.00 - 5.15	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96
	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically			
ISOLATION	OVERVOLTAGE PROTECTION[V]	6.30 - 7.60	13.90 - 17.55	17.25 - 21.75	27.60 - 34.80
	REMOTE SENSING	None			
	REMOTE ON/OFF (RC)	Optional (Required external power source)			
ENVIRONMENT	INPUT-OUTPUT, RC	*5 AC3,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15°C)			
	INPUT-FG	AC2,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15°C)			
	OUTPUT, RC-FG	*5 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)			
	OUTPUT-RC	*5 AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15°C)			
SAFETY	OPERATING TEMP., HUMID. AND ALTITUDE	*6 -20 to +95°C (Aluminum base plate of the power module), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max			
	STORAGE TEMP., HUMID. AND ALTITUDE	-20 to +95°C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max			
	VIBRATION	10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis			
	IMPACT	196.1m/s <sup>2</sup> (20G), 11ms, once each along X, Y and Z axis			
OTHERS	AGENCY APPROVALS	UL60950-1, C-UL, EN62368-1			
	CONDUCTED NOISE (at only DC input)	Complies with FCC-A, VCCI-A, CISPR22-A, EN55011-A, EN55022-A			
OTHERS	CASE SIZE/WEIGHT	61.5×44.5×150mm [2.42×1.75×5.91 inches] (W×H×D) / 270g max			
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)			

\*1 At rated input(DC110V) and rated load.

\*2 Ripple and ripple noise is measured by using measuring board with capacitor of 22 μF at 150mm [5.91 inches] from output terminal.  
Refer to the instruction manual 3.2.

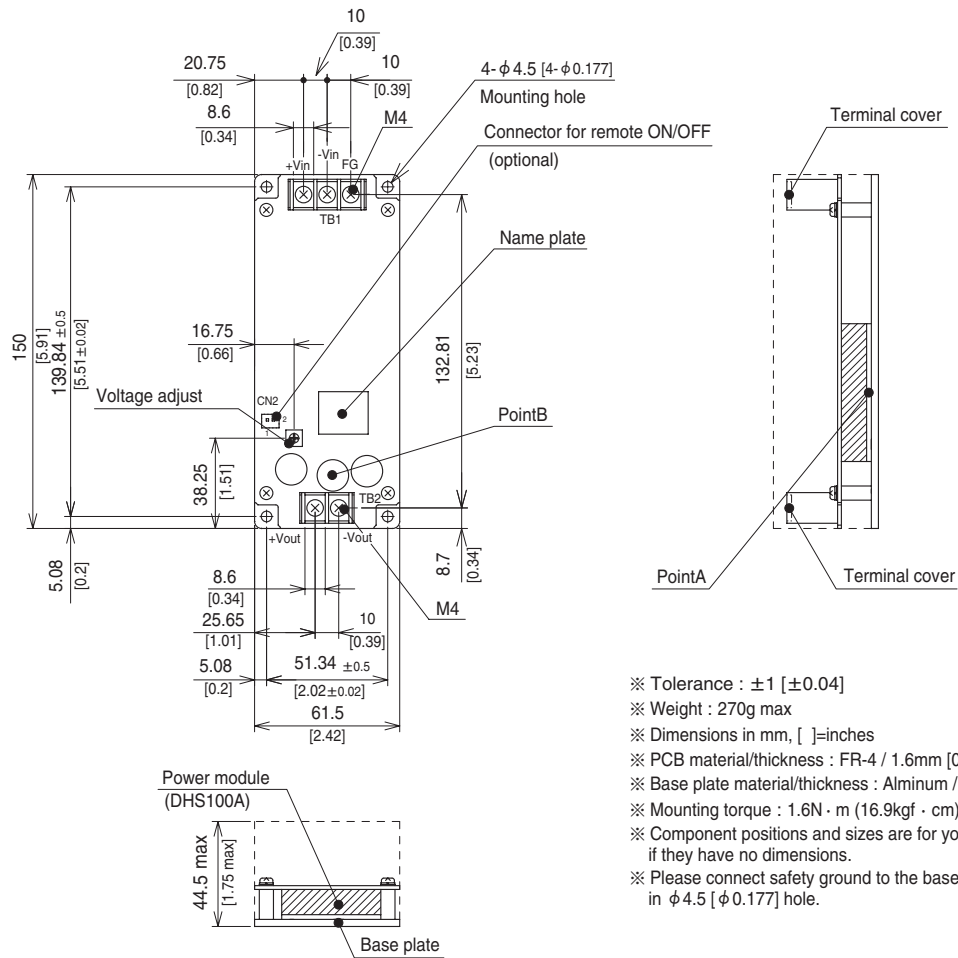
\*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

\*4 Refer to the instruction manual 4.6.

\*5 Applicable when remote control (optional) is added.

\*6 Refer to the instruction manual 6.2.

## External view



- ※ Tolerance :  $\pm 1$  [ $\pm 0.04$ ]
- ※ Weight : 270g max
- ※ Dimensions in mm, [ ]=inches
- ※ PCB material/thickness : FR-4 / 1.6mm [0.06]
- ※ Base plate material/thickness : Alminum / 3.0mm[0.12]
- ※ Mounting torque : 1.6N · m (16.9kgf · cm) max
- ※ Component positions and sizes are for your reference if they have no dimensions.
- ※ Please connect safety ground to the base plate in φ4.5 [φ0.177] hole.

# SNDHS200A

SNDH S 200 A 05 -□

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output wattage
- ④ A : DC60-160V
- ⑤ Output voltage
- ⑥ Optional
- C : with Coating
- R : with Remote ON/OFF

Please refer to Instruction manual 7.

MODEL	SNDHS200A05	SNDHS200A12	SNDHS200A15	SNDHS200A24
MAX OUTPUT WATTAGE[W]	200.0	200.4	201.0	201.6
DC OUTPUT	5V 40A	12V 16.7A	15V 13.4A	24V 8.4A

## SPECIFICATIONS

	MODEL	SNDHS200A05	SNDHS200A12	SNDHS200A15	SNDHS200A24
INPUT	VOLTAGE[V]	DC60 - 160			
	CURRENT[A]	2.1typ	2.1typ	2.1typ	2.1typ
	EFFICIENCY[%]	87.0typ	87.0typ	87.0typ	87.0typ
OUTPUT	VOLTAGE[V]	5	12	15	24
	CURRENT[A]	40	16.7	13.4	8.4
	LINE REGULATION[mV]	10max	24max	30max	48max
	LOAD REGULATION[mV]	150max	100max	100max	100max
	RIPPLE[mVp-p]	0 to +95°C *2	80max	120max	120max
		-20 to 0°C *2	120max	150max	150max
		0 to 15% Load *2	160max	240max	240max
	RIPPLE NOISE[mVp-p]	0 to +95°C *2	160max	200max	200max
		-20 to 0°C *2	250max	280max	280max
		0 to 15% Load *2	300max	300max	300max
	TEMPERATURE REGULATION[mV]	0 to +50°C	50max	120max	150max
		-20 to +95°C	100max	240max	480max
	DRIFT[mV]	20max	40max	60max	90max
	START-UP TIME[ms]	200max (DCIN 110V, Io=100%)			
PROTECTION CIRCUIT AND OTHERS	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	4.50 - 5.50	10.80 - 13.20	13.50 - 16.50	21.60 - 26.40
	OUTPUT VOLTAGE SETTING[V]	5.00 - 5.15	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96
	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically			
	OVERVOLTAGE PROTECTION[V]	6.30 - 7.60	13.90 - 16.35	17.25 - 20.25	27.60 - 32.40
	REMOTE SENSING	Provided			
ISOLATION	REMOTE ON/OFF (RC)	Optional (Required external power source)			
	INPUT-OUTPUT, RC	AC3,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15°C)			
	INPUT-FG	AC2,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15°C)			
	OUTPUT, RC-FG	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)			
ENVIRONMENT	OUTPUT-RC	AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15°C)			
	OPERATING TEMP., HUMID. AND ALTITUDE	-20 to +95°C (Aluminum base plate of the power module), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max			
	STORAGE TEMP., HUMID. AND ALTITUDE	-20 to +95°C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max			
	VIBRATION	10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis			
SAFETY	IMPACT	196.1m/s <sup>2</sup> (20G), 11ms, once each along X, Y and Z axis			
	AGENCY APPROVALS	UL60950-1, C-UL, EN62368-1			
OTHERS	CONDUCTED NOISE (at only DC input)	Complies with FCC-A, VCCI-A, CISPR22-A, EN55011-A, EN55022-A			
	CASE SIZE/WEIGHT	74.2×44.5×150mm [2.92×1.75×5.91 inches](W×H×D) / 390g max			
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)			

- \*1 At rated input(DC110V) and rated load.
- \*2 Ripple and ripple noise is measured by using measuring board with capacitor of 22 μF at 150mm [5.91 inches] from output terminal. Refer to the instruction manual 3.2.
- \*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.
- \*4 Refer to the instruction manual 4.6.
- \*5 Applicable when remote control (optional) is added.
- \*6 Refer to the instruction manual 6.2.

Technical drawing of the DHS200A power module, showing dimensions and labels for the top and side views.

**Top View Dimensions:**

- Overall width: 150 [5.91]
- Overall height: 139.84 ± 0.5 [5.51 ± 0.02]
- Top mounting hole spacing: 27 [1.06], 8.6 [0.34], 10 [0.39]
- Bottom mounting hole spacing: 8.6 [0.34], 22 [0.87], 10 [0.39], 5.08 [0.20]
- Internal width: 64.04 ± 0.5 [2.52 ± 0.02]
- Internal height: 30.3 [1.19]
- Bottom mounting hole spacing (inner): 8.6 [0.34], 22 [0.87], 10 [0.39], 5.08 [0.20]
- Bottom mounting hole spacing (outer): 74.2 [2.92]
- Bottom mounting hole spacing (inner): 8.6 [0.34], 22 [0.87], 10 [0.39], 5.08 [0.20]
- Bottom mounting hole spacing (outer): 74.2 [2.92]

**Labels and Features:**

- Connector for remote ON/OFF (optional)
- 4-φ4.5 [4-φ0.177] Mounting hole
- Name plate
- Point B
- Point A
- Terminal cover
- Power module (DHS200A)
- Base plate
- Voltage adjust
- Terminal cover
- Terminal cover

**Side View Dimensions:**

- Overall height: 133.9 [5.27]
- Bottom mounting hole spacing: 8.35 [0.33]
- Base plate thickness: 44.5 max [1.75 max]

**Notes:**

- ※ Tolerance : ±1 [±0.04]
- ※ Weight : 390g max
- ※ Dimensions in mm, [ ]=inches
- ※ PCB material/thickness : FR-4 / 1.6mm
- ※ Base plate material/thickness : Alminum
- ※ Mounting torque : 1.6N · m (16.9kgf · cm)
- ※ Component positions and sizes are for y if they have no dimensions.
- ※ Please connect safety ground to the bas in φ4.5 [φ0.177] hole.

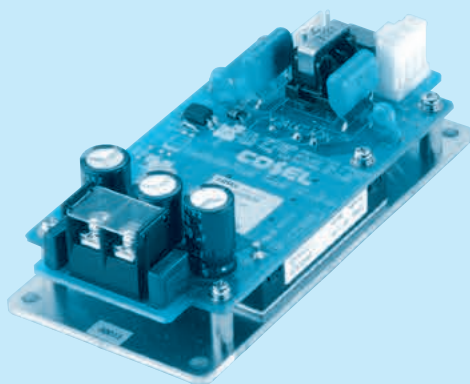
- ※ Tolerance :  $\pm 1$  [ $\pm 0.04$ ]
- ※ Weight : 390g max
- ※ Dimensions in mm, [ ]=inches
- ※ PCB material/thickness : FR-4 / 1.6mm [0.06]
- ※ Base plate material/thickness : Aluminum / 3.0mm[0.12]
- ※ Mounting torque : 1.6N · m (16.9kgf · cm) max
- ※ Component positions and sizes are for your reference if they have no dimensions.
- ※ Please connect safety ground to the base plate in  $\phi 4.5$  [ $\phi 0.177$ ] hole.



# SNDHS50B

SNDH S 50 B 05 -□

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output wattage
- ④ B : DC200-400V
- ⑤ Output voltage
- ⑥ Optional
- C : with Coating
- R : with a function not to need external power source

MODEL	SNDHS50B03	SNDHS50B05	SNDHS50B12	SNDHS50B15	SNDHS50B24	SNDHS50B28
MAX OUTPUT WATTAGE[W]	33.0	50.0	50.4	51.0	50.4	50.4
DC OUTPUT	3.3V 10A	5V 10A	12V 4.2A	15V 3.4A	24V 2.1A	28V 1.8A

## SPECIFICATIONS

	MODEL	SNDHS50B03	SNDHS50B05	SNDHS50B12	SNDHS50B15	SNDHS50B24	SNDHS50B28	
INPUT	VOLTAGE[V]	DC200 - 400 (Prepare another power supply to the RC1 terminal *5)						
	CURRENT[A] *1	0.15typ	0.22typ	0.22typ	0.22typ	0.22typ	0.22typ	
	EFFICIENCY[%] *1	76.0typ	79.0typ	82.0typ	82.0typ	82.0typ	82.0typ	
OUTPUT	VOLTAGE[V]	3.3	5	12	15	24	28	
	CURRENT[A]	10	10	4.2	3.4	2.1	1.8	
	LINE REGULATION[mV]	10max	10max	24max	30max	48max	56max	
	LOAD REGULATION[mV]	150max	150max	100max	100max	100max	100max	
	RIPPLE[mVp-p]	0 to +95℃ *2	80max	80max	120max	120max	120max	120max
		-20 to 0℃ *2	120max	120max	150max	150max	150max	150max
		0 to 15% Load *2	160max	160max	240max	240max	240max	240max
	RIPPLE NOISE[mVp-p]	0 to +95℃ *2	160max	160max	200max	200max	200max	200max
		-20 to 0℃ *2	250max	250max	280max	280max	280max	280max
		0 to 15% Load *2	300max	300max	300max	300max	300max	300max
	TEMPERATURE REGULATION[mV]	0 to +50℃	35max	50max	120max	150max	240max	280max
		-20 to +95℃	66max	100max	240max	300max	480max	560max
	DRIFT[mV] *3	16max	20max	40max	60max	90max	90max	
	START-UP TIME[ms]	200max (DCIN 280V, Io=100%)						
OUTPUT VOLTAGE ADJUSTMENT RANGE[V] *4	2.97 - 3.63	4.50 - 5.50	10.80 - 13.20	13.50 - 16.50	21.60 - 26.40	25.20 - 30.80		
OUTPUT VOLTAGE SETTING[V]	3.30 - 3.40	5.00 - 5.15	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	28.00 - 29.12		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically						
	OVERVOLTAGE PROTECTION[V]	4.20 - 5.70	6.30 - 7.60	13.90 - 17.55	17.25 - 21.75	27.60 - 34.80	32.20 - 40.60	
	REMOTE SENSING	None						
	REMOTE ON/OFF (RC1) *6	Provided (Logic H : ON, L :OFF) Required external power source						
ISOLATION	INPUT-OUTPUT, RC2 *8	AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)						
	INPUT-FG	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)						
	OUTPUT, RC2-FG *8	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃)						
	OUTPUT-RC2 *8	AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15℃)						
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE *7	-20 to +95℃ (Aluminum base plate of the power module), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max						
	STORAGE TEMP.,HUMID.AND ALTITUDE	-20 to +95℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max						
	VIBRATION	10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT	196.1m/s² (20G), 11ms, once each along X, Y and Z axis						
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL, EN62368-1						
OTHERS	CASE SIZE/WEIGHT	61.5×44.5×127mm [2.42×1.75×5.0 inches] (W×H×D) / 220g max						
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)						

\*1 At rated input(DC280V) and rated load.

\*2 Ripple and ripple noise is measured by using measuring board with capacitor of 22 μF at 150mm [5.91 inches] from output terminal.  
Refer to the instruction manual 3.2.

\*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

\*4 Refer to the instruction manual 4.6.

\*5 Refer to the instruction manual 2, 4.4

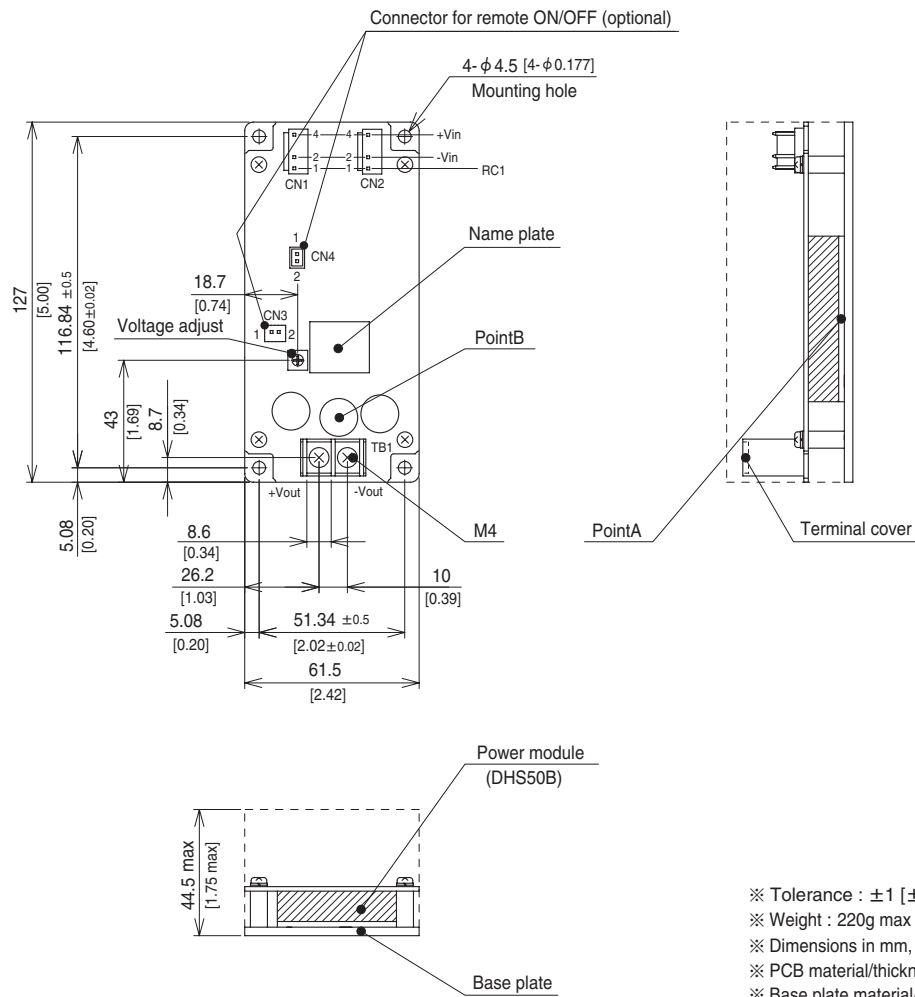
\*6 Refer to the instruction manual 4.4

\*7 Refer to the instruction manual 6.2

\*8 "RC2" is applicable to an option not to need external power source.



## External view

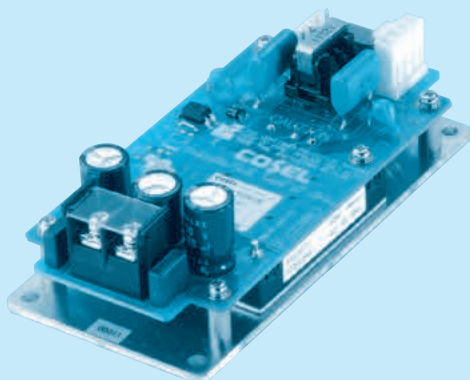


- ※ Tolerance :  $\pm 1$  [ $\pm 0.04$ ]
- ※ Weight : 220g max
- ※ Dimensions in mm, [ ]=inches
- ※ PCB material/thickness : FR-4 / 1.6mm [0.06]
- ※ Base plate material/thickness : Aluminum / 3.0mm[0.12]
- ※ Screw tightening torque : 1.6N · m (16.9kgf · cm) max
- ※ Component positions and sizes are for your reference if they have no dimensions.
- ※ Please connect safety ground to the base plate in  $\phi$  4.5 [ $\phi$  0.177] hole.

# SNDHS100B

SNDH S 100 B 05 -□

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output wattage
- ④ B : DC200-400V
- ⑤ Output voltage
- ⑥ Optional
- C : with Coating
- R : with a function not to need external power source

MODEL	SNDHS100B03	SNDHS100B05	SNDHS100B12	SNDHS100B15	SNDHS100B24	SNDHS100B28
MAX OUTPUT WATTAGE[W]	66.0	100.0	100.8	100.5	100.8	100.8
DC OUTPUT	3.3V 20A	5V 20A	12V 8.4A	15V 6.7A	24V 4.2A	28V 3.6A

## SPECIFICATIONS

	MODEL	SNDHS100B03	SNDHS100B05	SNDHS100B12	SNDHS100B15	SNDHS100B24	SNDHS100B28	
INPUT	VOLTAGE[V]	DC200 - 400 (Prepare another power supply to the RC1 terminal *5)						
	CURRENT[A] *1	0.30typ	0.44typ	0.42typ	0.42typ	0.42typ	0.42typ	
	EFFICIENCY[%] *1	78.0typ	81.0typ	84.0typ	85.0typ	85.0typ	85.0typ	
OUTPUT	VOLTAGE[V]	3.3	5	12	15	24	28	
	CURRENT[A]	20	20	8.4	6.7	4.2	3.6	
	LINE REGULATION[mV]	10max	10max	24max	30max	48max	56max	
	LOAD REGULATION[mV]	150max	150max	100max	100max	100max	100max	
	RIPPLE[mVp-p]	0 to +95℃ *2	80max	80max	120max	120max	120max	120max
		-20 to 0℃ *2	120max	120max	150max	150max	150max	150max
		0 to 15% Load *2	160max	160max	240max	240max	240max	240max
	RIPPLE NOISE[mVp-p]	0 to +95℃ *2	160max	160max	200max	200max	200max	200max
		-20 to 0℃ *2	250max	250max	280max	280max	280max	280max
		0 to 15% Load *2	300max	300max	300max	300max	300max	300max
	TEMPERATURE REGULATION[mV]	0 to +50℃	35max	50max	120max	150max	240max	280max
		-20 to +95℃	66max	100max	240max	300max	480max	560max
	DRIFT[mV] *3	16max	20max	40max	60max	90max	90max	
	START-UP TIME[ms]	200max (DCIN 280V, Io=100%)						
OUTPUT VOLTAGE ADJUSTMENT RANGE[V] *4	2.97 - 3.63	4.50 - 5.50	10.80 - 13.20	13.50 - 16.50	21.60 - 26.40	25.20 - 30.80		
OUTPUT VOLTAGE SETTING[V]	3.30 - 3.40	5.00 - 5.15	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	28.00 - 29.12		
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically						
	OVERVOLTAGE PROTECTION[V]	4.20 - 5.70	6.30 - 7.60	13.90 - 17.55	17.25 - 21.75	27.60 - 34.80	32.20 - 40.60	
	REMOTE SENSING	None						
	REMOTE ON/OFF (RC1) *6	Provided (Logic H : ON, L :OFF) Required external power source						
ISOLATION	INPUT-OUTPUT, RC2 *8	AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)						
	INPUT-FG	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15℃)						
	OUTPUT, RC2-FG *8	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃)						
	OUTPUT-RC2 *8	AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15℃)						
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE *7	-20 to +95℃ (Aluminum base plate of the power module), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max						
	STORAGE TEMP.,HUMID.AND ALTITUDE	-20 to +95℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max						
	VIBRATION	10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis						
	IMPACT	196.1m/s² (20G), 11ms, once each along X, Y and Z axis						
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL, EN62368-1						
OTHERS	CASE SIZE/WEIGHT	61.5×44.5×127mm [2.42×1.75×5.0 inches] (W×H×D) / 220g max						
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)						

\*1 At rated input(DC280V) and rated load.

\*2 Ripple and ripple noise is measured by using measuring board with capacitor of 22μF at 150mm [5.91 inches] from output terminal.  
Refer to the instruction manual 3.2.

\*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

\*4 Refer to the instruction manual 4.6.

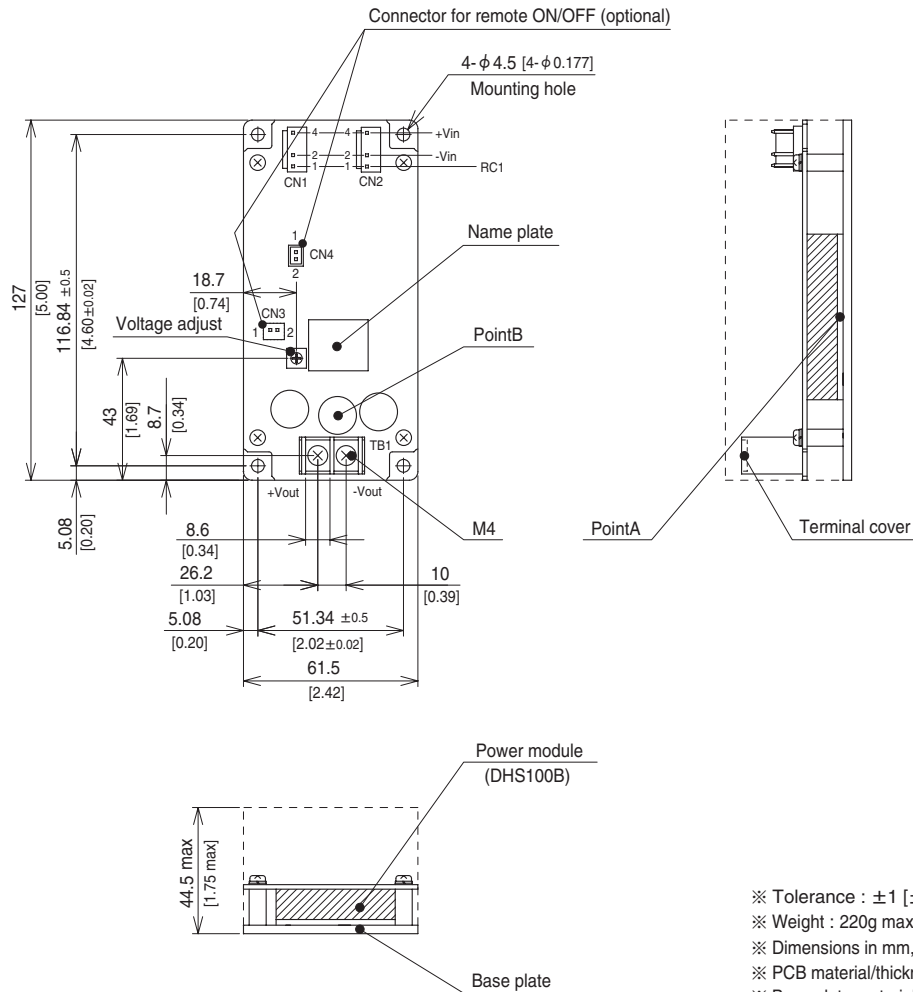
\*5 Refer to the instruction manual 2, 4.4

\*6 Refer to the instruction manual 4.4

\*7 Refer to the instruction manual 6.2

\*8 "RC2" is applicable to an option not to need external power source.

## External view

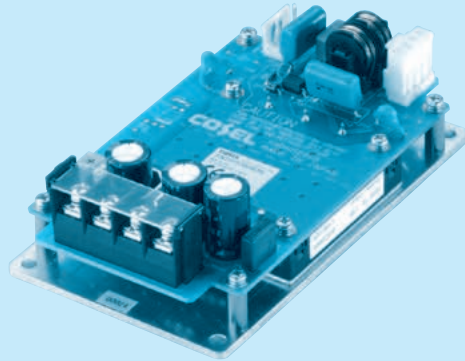


- ※ Tolerance :  $\pm 1$  [ $\pm 0.04$ ]
- ※ Weight : 220g max
- ※ Dimensions in mm, [ ]=inches
- ※ PCB material/thickness : FR-4 / 1.6mm [0.06]
- ※ Base plate material/thickness : Alminum / 3.0mm[0.12]
- ※ Screw tightening torque : 1.6N · m (16.9kgf · cm) max
- ※ Component positions and sizes are for your reference if they have no dimensions.
- ※ Please connect safety ground to the base plate in  $\phi 4.5$  [ $\phi 0.177$ ] hole.

# SNDHS250B

SNDH S 250 B 05 -□

① ② ③ ④ ⑤ ⑥



- ① Series name
- ② Single output
- ③ Output wattage
- ④ B : DC200-400V
- ⑤ Output voltage
- ⑥ Optional
- C : with Coating
- R : with a function not to need external power source

MODEL	SNDHS250B03	SNDHS250B05	SNDHS250B07	SNDHS250B12	SNDHS250B15	SNDHS250B24	SNDHS250B28	SNDHS250B48
MAX OUTPUT WATTAGE[W]	165.0	250.0	247.5	252.0	247.5	252.0	252.0	249.6
DC OUTPUT	3.3V 50A	5V 50A	7.5V 33A	12V 21A	15V 16.5A	24V 10.5A	28V 9.0A	48V 5.2A

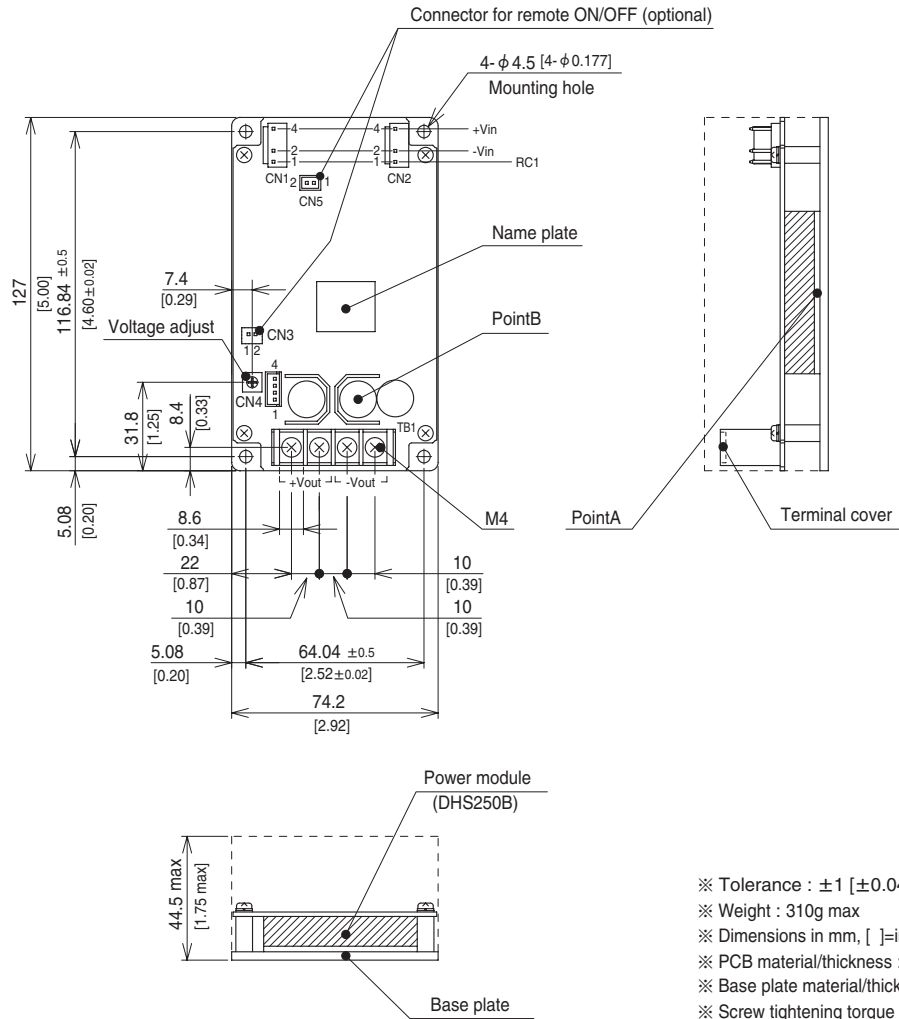
## SPECIFICATIONS

	MODEL	SNDHS250B03	SNDHS250B05	SNDHS250B07	SNDHS250B12	SNDHS250B15	SNDHS250B24	SNDHS250B28	SNDHS250B48	
INPUT	VOLTAGE[V]	DC200 - 400 (Prepare another power supply to the RC1 terminal *5)								
	CURRENT[A]	*1 0.67typ	1.0typ	1.0typ	1.0typ	1.0typ	1.0typ	1.0typ	1.0typ	
	EFFICIENCY[%]	*1 86.0typ	88.0typ	86.0typ	86.0typ	86.0typ	86.0typ	86.0typ	87.0typ	
OUTPUT	VOLTAGE[V]	3.3	5	7.5	12	15	24	28	48	
	CURRENT[A]	50	50	33	21	16.5	10.5	9.0	5.2	
	LINE REGULATION[mV]	10max	10max	20max	24max	30max	48max	56max	96max	
	LOAD REGULATION[mV]	150max	150max	150max	100max	100max	100max	100max	100max	
	RIPPLE[mVp-p]	0 to +95°C *2	80max	80max	100max	120max	120max	120max	120max	200max
		-20 to 0°C *2	120max	120max	130max	150max	150max	150max	150max	250max
		0 to 15% Load *2	160max	160max	200max	240max	240max	240max	240max	400max
	RIPPLE NOISE[mVp-p]	0 to +95°C *2	160max	160max	200max	200max	200max	200max	200max	250max
		-20 to 0°C *2	250max	250max	280max	280max	280max	280max	280max	400max
		0 to 15% Load *2	300max	300max	300max	300max	300max	300max	300max	500max
	TEMPERATURE REGULATION[mV]	0 to +50°C	35max	50max	70max	120max	150max	240max	280max	480max
		-20 to +95°C	66max	100max	140max	240max	300max	480max	560max	960max
	DRIFT[mV]	*3	16max	20max	30max	40max	60max	90max	90max	180max
	START-UP TIME[ms]		200max (DCIN 280V, Io=100%)							
	OUTPUT VOLTAGE ADJUSTMENT RANGE[V]	*4	2.97 - 3.63	4.50 - 5.50	6.75 - 8.25	10.80 - 13.20	13.50 - 16.50	21.60 - 26.40	25.20 - 30.80	43.20 - 52.80
OUTPUT VOLTAGE SETTING[V]		3.30 - 3.40	5.00 - 5.15	7.50 - 7.80	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96	28.00 - 29.12	48.00 - 49.92	
PROTECTION CIRCUIT AND OTHERS	OVERCURRENT PROTECTION	Works over 105% of rating and recovers automatically								
	OVERVOLTAGE PROTECTION[V]	4.20 - 4.85	6.30 - 7.30	8.70 - 10.20	13.90 - 16.35	17.25 - 20.25	27.60 - 32.40	32.20 - 37.80	55.20 - 64.80	
	REMOTE SENSING	Provided								
	REMOTE ON/OFF (RC1)	*6	Provided (Logic H : ON, L :OFF) Required external power source							
ISOLATION	INPUT-OUTPUT, RC2	*8	AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)							
	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (20±15°C)							
	OUTPUT, RC2-FG	*8	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)							
	OUTPUT-RC2	*8	AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15°C)							
ENVIRONMENT	OPERATING TEMP.,HUMID.AND ALTITUDE	*7	-20 to +95°C (Aluminum base plate of the power module), 20 - 95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) max							
	STORAGE TEMP.,HUMID.AND ALTITUDE		-20 to +95°C, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) max							
	VIBRATION		10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis							
	IMPACT		196.1m/s <sup>2</sup> (20G), 11ms, once each along X, Y and Z axis							
SAFETY	AGENCY APPROVALS	UL60950-1, C-UL, EN62368-1								
OTHERS	CASE SIZE/WEIGHT	74.2 X 44.5 X 127mm [2.92 X 1.75 X 5.0 inches](W X H X D) / 310g max								
	COOLING METHOD	Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)								

\*1 At rated input(DC280V) and rated load.  
 \*2 Ripple and ripple noise is measured by using measuring board with capacitor of 22μF at 150mm [5.91 inches] from output terminal.  
 Refer to the instruction manual 3.2.  
 \*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.  
 \*4 Refer to the instruction manual 4.6.  
 \*5 Refer to the instruction manual 2, 4.4.

\*6 Refer to the instruction manual 4.4  
 \*7 Refer to the instruction manual 6.2  
 \*8 "RC2" is applicable to an option not to need external power source.

## External view



- ※ Tolerance : ±1 [±0.04]
- ※ Weight : 310g max
- ※ Dimensions in mm, [ ]=inches
- ※ PCB material/thickness : FR-4 / 1.6mm [0.06]
- ※ Base plate material/thickness : Aluminum / 3.0mm[0.12]
- ※ Screw tightening torque : 1.6N·m (16.9kgf·cm) max
- ※ Component positions and sizes are for your reference if they have no dimensions.
- ※ Please connect safety ground to the base plate in φ4.5 [φ0.177] hole.

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