

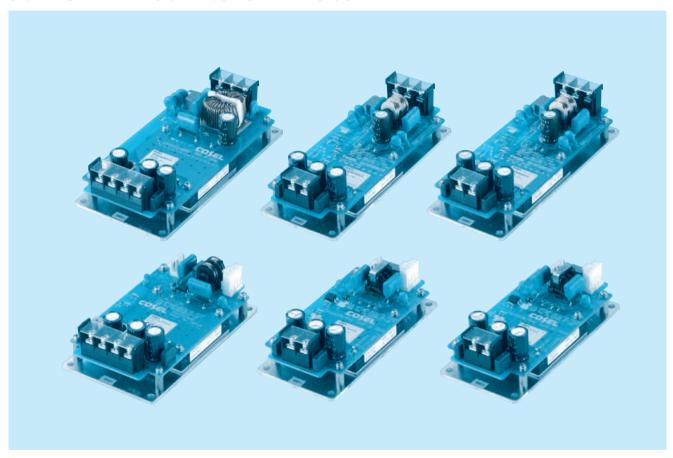








SNDHS-series



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)

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

■ 3-year warranty

Ordering information

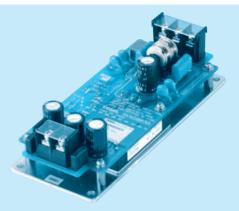
SNDHS50A

SNDH S

50 A 05



eco



 Series name
 Single output
 Output wattage (4) A : DC60-160V ⑤Output voltage

®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

NOLTAGE[V]		MODEL		SNDHS50A05	SNDHS50A12	SNDHS50A15	SNDHS50A24			
		VOLTAGE[V]		DC60 - 160						
VOLTAGE[V] 5 12 15 24	INPUT	CURRENT[A]	*1	0.55typ	0.55typ	0.55typ	0.55typ			
CURRENT[A] 10		EFFICIENCY[%]	*1	83.0typ	85.0typ	85.0typ	85.0typ			
LINE REGULATION[mV] 10max		VOLTAGE[V]		5	12	15	24			
COAD REGULATION[m] 150max 100max 100max 100max 120max 120max		CURRENT[A]		10	4.2	3.4	2.1			
PRIPLE[mVp-p]		LINE REGULATION[I	mV]	10max	24max	30max	48max			
PROPERTION PROTECTION CIRCUIT AND OTHERS PROTECTION VID. PROTECTION CIRCUIT AND OTHERS PROTECTION VID. PROTECTION CIRCUIT AND OTHERS PROTECTION VID. PROTECTION VID. PROTECTION VID. PROTECTION VID. PROTECTION CIRCUIT AND OTHERS PROTECTION VID. PROTECTION V		LOAD REGULATION[mV]		150max	100max	100max	100max			
			0 to +95℃ *2	80max	120max	120max	120max			
OUTPUT NOTE(INV)P) 016-60			-20 to 0°C *2	120max	150max	150max	150max			
RIPPLE NOISE[mVp-p 40 to 0.2 250 max 280 max 280 max 280 max 300 max 480 max 240 max 300 max 480 max 400 max 400 max 60 max 90 max 400 max 60 max 90 ma			0 to 15% Load *2	160max	240max	240max	240max			
RIPPLE NOISE[mVp-p]	OUTPUT		0 to +95℃ *2	160max	200max	200max	200max			
TEMPERATURE REGULATION[mi] Dits 50°C 50max 120max 150max 240max 300max 480max 480max 480max 490max 490ma	0011-01	RIPPLE NOISE[mVp-p]	-20 to 0°C *2	250max	280max	280max	280max			
TEMPERATURE REGULATION(m) 2010-495°C 100max 240max 300max 480max 480max 40max 60max 90max 30max 480max 5TART-UP TIME[ms] 200max (DCIN 110V, lo=100%) 21.60 - 26.40 21.60 - 26.40 21.60 - 26.40 21.60 - 26.40 21.60 - 26.40 24.00 - 24.96 24.00 - 24			0 to 15% Load *2	300max	300max	300max	300max			
DRIFT[mV]	-	TEMPEDATURE DECILI ATION[m//]	0 to +50°C	50max	120max	150max	240max			
START-UP TIME[ms] 200max (DCIN 110V, Io=100%)		TEMPERATURE REGULATION[IIV]	-20 to +95℃	100max	240max	300max	480max			
OUTPUT VOLTAGE ADJUSTMENT RANGE[V] *4 4.50 - 5.50 10.80 - 13.20 13.50 - 16.50 21.60 - 26.40		DRIFT[mV] *3		20max	40max	60max	90max			
OUTPUT VOLTAGE SETTING[V] 5.00 - 5.15 12.00 - 12.48 15.00 - 15.60 24.00 - 24.96		START-UP TIME[ms]		200max (DCIN 110V, lo=10	0%)					
OVERCURRENT PROTECTION Works over 105% of rating and recovers automatically		OUTPUT VOLTAGE ADJUSTMENT RANGE[V] *4		4.50 - 5.50	10.80 - 13.20	13.50 - 16.50	21.60 - 26.40			
OVERVOLTAGE PROTECTION CIRCUIT AND OTHERS OVERVOLTAGE PROTECTION CIRCUIT AND OTHERS		OUTPUT VOLTAGE SETTING[V]		5.00 - 5.15	12.00 - 12.48	15.00 - 15.60	24.00 - 24.96			
CIRCUIT AND OTHERS VERNOTE SENSING None REMOTE SENSING None 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) OUTPUT-RC \$ AC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15°C) OPERATING EMP,HUMIDAND ALTITUDE * C20 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,HUMIDAND ALTITUDE -20 to +95°C, 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 MPACT 196.1m/s² (20G), 11ms, once each along X, Y and Z axis SAFETY CASE SIZE/WEIGHT CONDUCTED NOISE (at only DC input) Comples with FCC-A, VCCI-A, CISPR22-A, EN55011-A, EN55022-A CASE SIZE/WEIGHT 61.5 × 44.5 × 150mm [2.42 × 1.75 × 5.91 inches] (W×H×D) / 270g max		OVERCURRENT PROT	ECTION	Works over 105% of rating and recovers automatically						
REMOTE SENSINGNoneREMOTE ON/OFF (RC)Optional (Required external power source)INPUT-OUTPUT, RC**sAC3,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15℃)INPUT-FGAC2,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15℃)OUTPUT, RC-FG*sAC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15℃)OUTPUT-RC*sAC100V 1minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15℃)OPERATING TEMP, HUMID.AND ALTITUDE*e-20 to +95℃ (Aluminum base plate of the power module), 20 -95%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000 feet) maxSTORAGE TEMP, HUMID.AND ALTITUDE*e-20 to +95℃, 20 - 95%RH (Non condensing), 9,000m (30,000 feet) maxVIBRATION10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axisIMPACT196.1m/s² (20G), 11ms, once each along X, Y and Z axisSAFETYAGENCY APPROVALSUL60950-1, C-UL, EN62368-1CONDUCTED NOISE (at only DC input)Complies with FCC-A, VCCI-A, CISPR22-A, EN55011-A, EN55022-ACASE SIZE/WEIGHT61.5 × 44.5 × 150mm [2.42 × 1.75 × 5.91 inches] (W×H×D) / 270g max		OVERVOLTAGE PROTEC	CTION[V]	6.30 - 7.60	13.90 - 17.55	17.25 - 21.75	27.60 - 34.80			
INPUT-OUTPUT, RC \$5 AC3,000V 1minute, Cutoff current = 15mA, DC500V 50MΩ min (20±15°C)		REMOTE SENSING		None						
INPUT-FG		REMOTE ON/OFF (R	C)	Optional (Required external	power source)					
OUTPUT, RC-FG \$5 AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)		INPUT-OUTPUT, RC	*5	AC3,000V 1minute, Cutoff c	urrent = 15mA, DC500V 50N	IΩ min (20±15℃)				
OUTPUT, RC-FG *5 AC500V 1 minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C) OUTPUT-RC *5 AC100V 1 minute, Cutoff current = 25mA, DC100V 10MΩ min (20±15°C) DENVIRONMENT STORAGE 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/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 CONDUCTED NOISE (at only DC input) Complies with FCC-A, VCCI-A, CISPR22-A, EN55011-A, EN55022-A CASE SIZE/WEIGHT 61.5 × 44.5 × 150mm [2.42 × 1.75 × 5.91 inches] (W×H×D) / 270g max	ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 15mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)						
PENVIRONMENT 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/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis IMPACT 196.1m/s² (2OG), 11ms, once each along X, Y and Z axis 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 CASE SIZE/WEIGHT 61.5 × 44.5 × 150mm [2.42 × 1.75 × 5.91 inches] (W×H×D) / 270g max	IOOLATION	OUTPUT, RC-FG	*5	AC500V 1minute, Cutoff cur	rent = 100mA, DC500V 50M	IΩ min (20±15℃)				
## STORAGE TEMP.,HUMID.AND ALTITUDE		OUTPUT-RC	*5	AC100V 1minute, Cutoff cur	rent = 25mA, DC100V 10MS	2 min (20±15℃)				
VIBRATION 10 - 55Hz, 19.6m/s² (2G), 3minutes period, 60minutes each along X, Y and Z axis IMPACT 196.1m/s² (2OG), 11ms, once each along X, Y and Z axis SAFETY 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		· · · · · · · · · · · · · · · · · · ·		-20 to +95°C (Aluminum base plate	of the power module), 20 - 95%RH (I	Non condensing) (Refer to DERATING	G CURVE), 3,000m (10,000 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 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	ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +95°C, 20 - 95%RH (I	Non condensing), 9,000m (3	0,000 feet) max				
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 CASE SIZE/WEIGHT 61.5×44.5×150mm [2.42×1.75×5.91 inches] (W×H×D) / 270g max	LIVIIIONIIILIVI	VIBRATION		10 - 55Hz, 19.6m/s² (2G), 3r	minutes period, 60minutes ea	ach along X, Y and Z axis				
CONDUCTED NOISE (at only DC input) Complies with FCC-A, VCCI-A, CISPR22-A, EN55011-A, EN55022-A CASE SIZE/WEIGHT 61.5×44.5×150mm [2.42×1.75×5.91 inches] (W×H×D) / 270g max		IMPACT		196.1m/s² (20G), 11ms, onc	e each along X, Y and Z axis	3				
CONDUCTED NOISE (at only DC input) Complies with FCC-A, VCCI-A, CISPR22-A, EN55011-A, EN55022-A	SAFFTV	AGENCY APPROVA	LS	UL60950-1, C-UL, EN62368	3-1					
OTHERS		CONDUCTED NOISE (at only	DC input)	Complies with FCC-A, VCC	I-A, CISPR22-A, EN55011-A	, EN55022-A				
COOLING METHOD Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink)	OTHERS	CASE SIZE/WEIGHT		61.5×44.5×150mm [2.42×	(1.75×5.91 inches] (W×H>	CD) / 270g max				
		COOLING METHOD		Conduction cooling (e.g. hea	at radiation from the aluminu	m base plate to the attached	heat sink)			

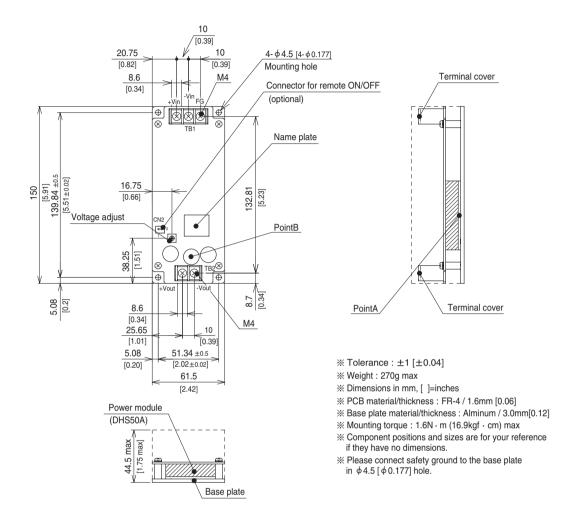
 $Ripple \ and \ ripple \ noise \ is \ measured \ by \ using \ measuring \ board \ with \ capacitor \ of \ 22 \ \mu \ F \ at \ 150 mm \ [5.91 \ inches] \ from \ output \ terminal.$ Refer to the instruction manual 3.2.

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.

Refer to the instruction manual 4.6.

Applicable when remote control (optional) is added. Refer to the instruction manual 6.2.





SNDHS100A

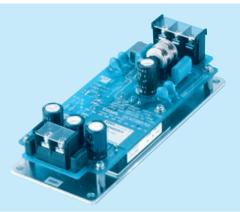
100 A 6 SNDH S

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eco



 Series name
 Single output
 Output wattage (4) A : DC60-160V ⑤Output voltage ®Optional
 C: with Coating
 R: with Remote ON/OFF

Please refer to Instruction manual 7.

0110110101

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	

	MODEL		SNDHS100A05	SNDHS100A12	SNDHS100A15	SNDHS100A24			
	VOLTAGE[V]		DC60 - 160						
INPUT	CURRENT[A]	*1	1.1typ	1.1typ	1.1typ	1.1typ			
	EFFICIENCY[%]	*1	84.0typ	87.0typ	87.0typ	87.0typ			
	VOLTAGE[V]		5	12	15	24			
	CURRENT[A]		20	8.4	6.7	4.2			
	LINE REGULATION[I	mV]	10max	24max	30max	48max			
	LOAD REGULATION	[mV]	150max	100max	100max	100max			
		0 to +95°C *2	80max	120max	120max	120max			
	RIPPLE[mVp-p]	-20 to 0°C *2	120max	150max	150max	150max			
		0 to 15% Load *2	160max	240max	240max	240max			
OUTPUT		0 to +95℃ *2	160max	200max	200max	200max			
OUTFUT	RIPPLE NOISE[mVp-p]	-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			
	TEMPERATURE REGULATION[IIIV]	-20 to +95℃	100max	240max	300max	480max			
	DRIFT[mV] *3		20max	40max	60max	90max			
	START-UP TIME[ms]		200max (DCIN 110V, lo=10	0%)					
	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 PROT	ECTION	Works over 105% of rating and recovers automatically						
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC	CTION[V]	6.30 - 7.60	13.90 - 17.55	17.25 - 21.75	27.60 - 34.80			
OTHERS	REMOTE SENSING		None						
	REMOTE ON/OFF (R	C)	Optional (Required external	power source)					
	INPUT-OUTPUT, RC	*5	AC3,000V 1minute, Cutoff c	urrent = 15mA, DC500V 50N	IΩ min (20±15℃)				
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 15mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)						
ioo_Aiioii	OUTPUT, RC-FG	*5	AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)						
	OUTPUT-RC	*5	AC100V 1minute, Cutoff cur	rent = 25mA, DC100V 10M9	2 min (20±15℃)				
	OPERATING TEMP.,HUMID.AND A	LTITUDE *6	-20 to +95°C (Aluminum base plate	of the power module), 20 - 95%RH (I	Non condensing) (Refer to DERATING	G CURVE), 3,000m (10,000 feet) max			
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +95°C, 20 - 95%RH (I	Non condensing), 9,000m (3	0,000 feet) max				
	VIBRATION		, ,,,	minutes period, 60minutes e					
	IMPACT			e each along X, Y and Z axis	8				
SAFETY	AGENCY APPROVA		UL60950-1, C-UL, EN62368						
	CONDUCTED NOISE (at only		<u> </u>	I-A, CISPR22-A, EN55011-A					
OTHERS	CASE SIZE/WEIGHT		•	<1.75×5.91 inches] (W×H>	, 0				
	COOLING METHOD		Conduction cooling (e.g. hea	at radiation from the aluminu	m base plate to the attached	heat sink)			

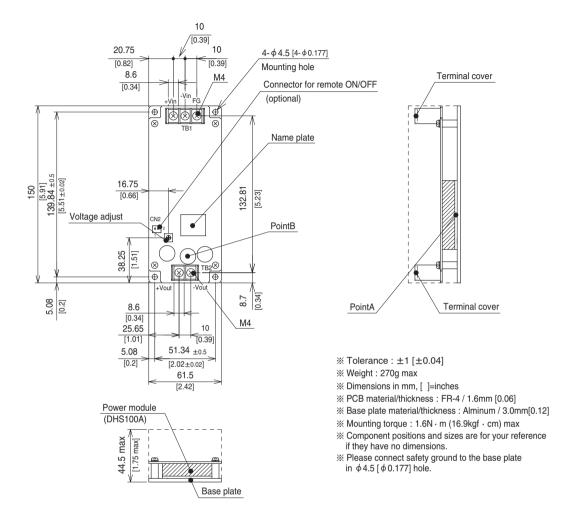
Ripple and ripple noise is measured by using measuring board with capacitor of 22 µF at 150mm [5.91 inches] from output terminal. Refer to the instruction manual 3.2.

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.

Refer to the instruction manual 4.6.

Applicable when remote control (optional) is added. Refer to the instruction manual 6.2.





SNDHS200A

SNDH S

200 A









Series name
 Single output
 Output wattage

(4) A : DC60-160V

⑤Output voltage

®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			
	VOLTAGE[V]		DC60 - 160						
INPUT	CURRENT[A]	*1	2.1typ	2.1typ	2.1typ	2.1typ			
	EFFICIENCY[%]	*1	87.0typ	87.0typ	87.0typ	87.0typ			
	VOLTAGE[V]		5	12	15	24			
	CURRENT[A]		40	16.7	13.4	8.4			
	LINE REGULATION[1	mV]	10max	24max	30max	48max			
	LOAD REGULATION[mV]		150max	100max	100max	100max			
		0 to +95℃ *2	80max	120max	120max	120max			
	RIPPLE[mVp-p]	-20 to 0°C *2	120max	150max	150max	150max			
		0 to 15% Load *2	160max	240max	240max	240max			
OUTPUT		0 to +95℃ *2	160max	200max	200max	200max			
0011-01	RIPPLE NOISE[mVp-p]	-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			
	TEMPERATURE REGULATION[IIIV]	-20 to +95℃	100max	240max	300max	480max			
	DRIFT[mV] *3		20max	40max	60max	90max			
	START-UP TIME[ms]		200max (DCIN 110V, lo=10	0%)	_				
	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 PROT	ECTION	Works over 105% of rating and recovers automatically						
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC	CTION[V]	6.30 - 7.60	13.90 - 16.35	17.25 - 20.25	27.60 - 32.40			
OTHERS	REMOTE SENSING		Provided						
	REMOTE ON/OFF (R	C)	Optional (Required external	power source)					
	INPUT-OUTPUT, RC	*5	AC3,000V 1minute, Cutoff c	urrent = 15mA, DC500V 50N	IΩ min (20±15℃)				
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 15mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)						
IOOLATION	OUTPUT, RC-FG	*5	AC500V 1minute, Cutoff cur	rent = 100mA, DC500V 50M	Ω min (20±15°C)				
	OUTPUT-RC	*5	AC100V 1minute, Cutoff cur	rent = 25mA, DC100V 10M9	2 min (20±15℃)				
	OPERATING TEMP.,HUMID.AND A	LTITUDE *6	-20 to +95°C (Aluminum base plate	of the power module), 20 - 95%RH (I	Non condensing) (Refer to DERATING	G CURVE), 3,000m (10,000 feet) max			
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +95°C, 20 - 95%RH (I	Non condensing), 9,000m (3	0,000 feet) max				
LITTINOTUMEIT	VIBRATION		, , , , , , , , , , , , , , , , , , , ,	minutes period, 60minutes ea	<u> </u>				
	IMPACT		196.1m/s² (20G), 11ms, onc	e each along X, Y and Z axis	S				
SAFETY	AGENCY APPROVA	LS	UL60950-1, C-UL, EN62368	3-1					
JAI 211	CONDUCTED NOISE (at only	DC input)	<u> </u>	I-A, CISPR22-A, EN55011-A	<u></u>				
OTHERS	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. hea	at radiation from the aluminu	m base plate to the attached	heat sink)			

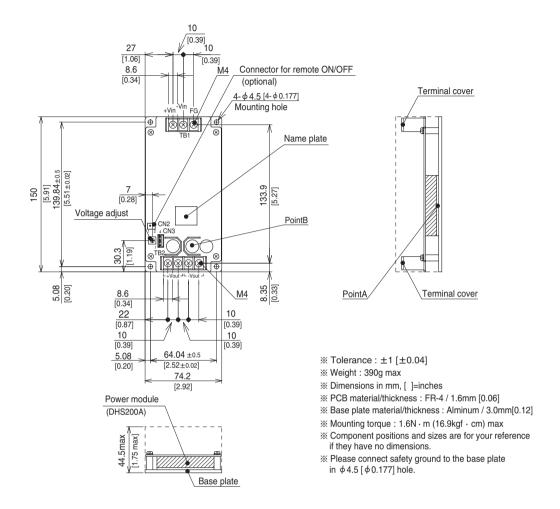
At rated input(DC110V) and rated load.

Ripple and inple noise is measured by using measuring board with capacitor of 22 µ F at 150mm [5.91 inches] from output terminal. Refer to the instruction manual 3.2.

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.

Refer to the instruction manual 4.6. Applicable when remote control (optional) is added. Refer to the instruction manual 6.2.

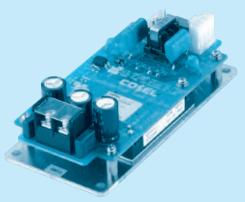




SNDHS50B

50 B s SNDH S





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

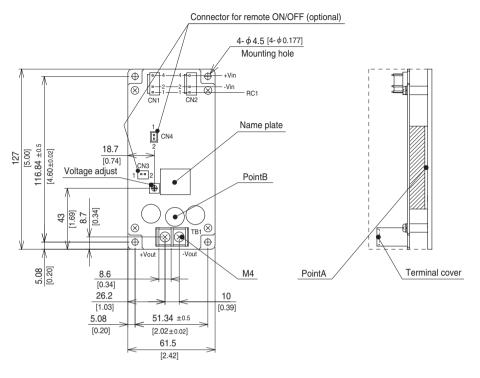
MODEL	SNDHS50B03	SNDHS50B05	SNDHS50B12	SNDHS50B15	SNDHS50B24	SNDHS50B28
MAX OUTPUT WATTAGE[W]	33.0	50.0	50.4	51.0	50.4	50.4
DC OUTPUT	3.3V 10A	5V 10A	12V 4.2A	15V 3.4A	24V 2.1A	28V 1.8A

	MODEL		SNDHS50B03	SNDHS50B05	SNDHS50B12	SNDHS50B15	SNDHS50B24	SNDHS50B28			
	VOLTAGE[V]		DC200 - 400 (Pre	oare another power	supply to the RC1	terminal *5)					
INPUT	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			
	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			
		0 to +95℃ *2	80max	80max	120max	120max	120max	120max			
	RIPPLE[mVp-p]	-20 to 0°C *2	120max	120max	150max	150max	150max	150max			
		0 to 15% Load *2	160max	160max	240max	240max	240max	240max			
OUTPUT		0 to +95℃ *2	160max	160max	200max	200max	200max	200max			
RIF	RIPPLE NOISE[mVp-p]	-20 to 0°C *2	250max	250max	280max	280max	280max	280max			
		0 to 15% Load *2	300max	300max	300max	300max	300max	300max			
	TEMPERATURE REGULATION[mV]	0 to +50°C	35max	50max	120max	150max	240max	280max			
	TEMPERATURE REGULATION[IIV]	-20 to +95℃	66max	100max	240max	300max	480max	560max			
	DRIFT[mV] *3		16max	20max	40max	60max	90max	90max			
	START-UP TIME[ms]		200max (DCIN 28	0V, 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 SET	TING[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			
	OVERCURRENT PROT	ECTION	Works over 105% of rating and recovers automatically								
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC	CTION[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			
OTHERS	REMOTE SENSING		None								
	REMOTE ON/OFF (R	C1) *6	Provided (Logic H	: ON, L :OFF) Req	uired external powe	r source					
	INPUT-OUTPUT, RC2	*8	AC3,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)								
ISOLATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)								
ISOLATION	OUTPUT, RC2-FG	*8	AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)								
	OUTPUT-RC2	*8	AC100V 1minute,	Cutoff current = 25	mA, DC100V 10M	2 min (20±15℃)					
	OPERATING TEMP.,HUMID.AND A	LTITUDE *7	-20 to +95°C (Aluminun	n base plate of the power	r module), 20 - 95%RH (I	Non condensing) (Refer	to DERATING CURVE),	3,000m (10,000 feet) max			
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +95°C, 20 -	95%RH (Non cond	ensing), 9,000m (30	0,000 feet) max					
LIAN ILIONNIEN I	VIBRATION		10 - 55Hz, 19.6m/	s² (2G), 3minutes p	eriod, 60minutes ea	ach along X, Y and	Z axis				
	IMPACT		196.1m/s² (20G),	11ms, once each al	ong X, Y and Z axis	;					
SAFETY	AGENCY APPROVA	LS	UL60950-1, C-UL	EN62368-1							
OTHERS	CASE SIZE/WEIGHT		61.5×44.5×127n	nm [2.42×1.75×5.	0 inches] (WXHX	D) / 220g max					
	COOLING METHOD		Conduction coolin	g (e.g. heat radiatio	n from the aluminu	m base plate to the	attached heat sink)			

- At rated input(DC280V) and rated load.
- Ripple and ripple noise is measured by using measuring board with capacitor of 22 μ F at 150mm [5.91 inches] from output terminal. Refer to the instruction manual 3.2.
- 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. Refer to the instruction manual 4.6.
- Refer to the instruction manual 2, 4.4

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



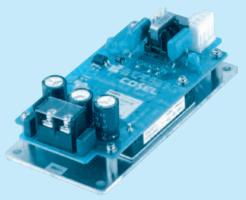


- Power module (DHS50B) 44.5 max [1.75 max] Base plate
- ** Tolerance : ±1 [±0.04]
- % Weight : 220g max
- ※ Dimensions in mm, []=inches
- * PCB material/thickness : FR-4 / 1.6mm [0.06]
- Base plate material/thickness: Alminum / 3.0mm[0.12]
- % Screw tightening torque : 1.6N · m (16.9kgf · cm) max
- * Component positions and sizes are for your reference if they have no dimensions.
- % Please connect safety ground to the base plate in ϕ 4.5 [ϕ 0.177] hole.

SNDHS100B

100





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

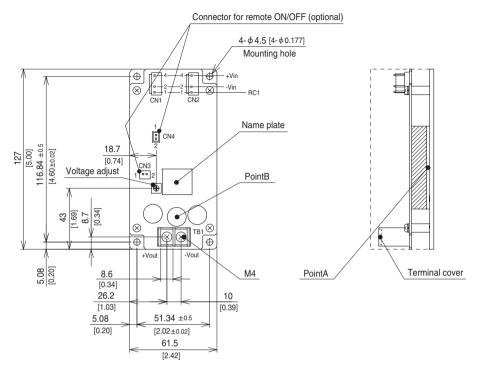
MODEL	SNDHS100B03	SNDHS100B05	SNDHS100B12	SNDHS100B15	SNDHS100B24	SNDHS100B28
MAX OUTPUT WATTAGE[W]	66.0	100.0	100.8	100.5	100.8	100.8
DC OUTPUT	3.3V 20A	5V 20A	12V 8.4A	15V 6.7A	24V 4.2A	28V 3.6A

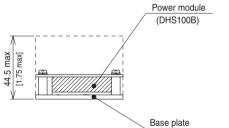
	MODEL		SNDHS100B03	SNDHS100B05	SNDHS100B12	SNDHS100B15	SNDHS100B24	SNDHS100B28		
	VOLTAGE[V]		DC200 - 400 (Pre	pare another power	supply to the RC1	terminal *5)				
INPUT	CURRENT[A]	*1	0.30typ	0.44typ	0.42typ	0.42typ	0.42typ	0.42typ		
	EFFICIENCY[%]	*1	78.0typ	81.0typ	84.0typ	85.0typ	85.0typ	85.0typ		
	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		
		0 to +95℃ *2	80max	80max	120max	120max	120max	120max		
	RIPPLE[mVp-p]	-20 to 0°C *2	120max	120max	150max	150max	150max	150max		
		0 to 15% Load *2	160max	160max	240max	240max	240max	240max		
OUTPUT		0 to +95℃ *2	160max	160max	200max	200max	200max	200max		
OUTPUT	RIPPLE NOISE[mVp-p]	-20 to 0°C *2	250max	250max	280max	280max	280max	280max		
		0 to 15% Load *2	300max	300max	300max	300max	300max	300max		
	TEMPEDATURE REQUIRATIONS	0 to +50°C	35max	50max	120max	150max	240max	280max		
	TEMPERATURE REGULATION[mV]	-20 to +95℃	66max	100max	240max	300max	480max	560max		
	DRIFT[mV]	*3	16max	20max	40max	60max	90max	90max		
<u> </u>	START-UP TIME[ms]		200max (DCIN 28	0V, 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 SET	TING[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		
	OVERCURRENT PROT	ECTION	Works over 105% of rating and recovers automatically							
PROTECTION	OVERVOLTAGE PROTEC	CTION[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		
CIRCUIT AND OTHERS	REMOTE SENSING		None							
•	REMOTE ON/OFF (R	C1) *6	Provided (Logic H : ON, L :OFF) Required external power source							
	INPUT-OUTPUT, RC2	2 *8	AC3,000V 1minut	e, Cutoff current = 1	0mA, DC500V 50N	/IΩ min (20±15℃)				
ICOL ATION	INPUT-FG		AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)							
ISOLATION	OUTPUT, RC2-FG	*8	AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)							
	OUTPUT-RC2	*8	AC100V 1minute,	Cutoff current = 25	mA, DC100V 10M	2 min (20±15℃)				
	OPERATING TEMP.,HUMID.AND A	LTITUDE *7	-20 to +95°C (Aluminur	n base plate of the power	module), 20 - 95%RH (I	Non condensing) (Refer t	to DERATING CURVE),	3,000m (10,000 feet) ma		
ENVIDONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +95°C, 20 -	95%RH (Non cond	ensing), 9,000m (30	0,000 feet) max				
ENVIRONMENT	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 APPROVA	LS	UL60950-1, C-UL	, EN62368-1						
OTUEDO	CASE SIZE/WEIGHT		61.5×44.5×127r	nm [2.42×1.75×5.	0 inches] (WXHX	D) / 220g max				
OTHERS	COOLING METHOD		Conduction coolin	g (e.g. heat radiatio	n from the aluminu	m base plate to the	attached heat sink)		
	Linnut/DC200\/\ and rated la			<u> </u>	*C Defer to the instr					

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

- Refer to the instruction manual 4.4
- Refer to the instruction manual 6.2 "RC2" is applicable to an option not to need external power source.







- % Tolerance : ±1 [±0.04]
- ※ Weight : 220g max
- ※ Dimensions in mm, []=inches
- $\ensuremath{\,\times\,}$ 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

250 SNDH S





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

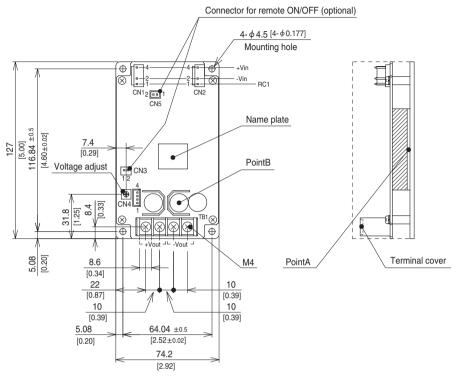
MODEL	SNDHS250B03	SNDHS250B05	SNDHS250B07	SNDHS250B12	SNDHS250B15	SNDHS250B24	SNDHS250B28	SNDHS250B48
MAX OUTPUT WATTAGE[W]	165.0	250.0	247.5	252.0	247.5	252.0	252.0	249.6
DC OUTPUT	3.3V 50A	5V 50A	7.5V 33A	12V 21A	15V 16.5A	24V 10.5A	28V 9.0A	48V 5.2A

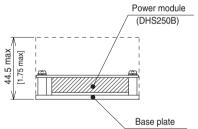
	MODEL		SNDHS250B03	SNDHS250B05	SNDHS250B07	SNDHS250B12	SNDHS250B15	SNDHS250B24	SNDHS250B28	SNDHS250B48	
	VOLTAGE[V]		DC200 - 400	(Prepare anoth	ner power supp	ly to the RC1 t	terminal *5)				
INPUT	CURRENT[A]	*1	0.67typ	1.0typ	1.0typ	1.0typ	1.0typ	1.0typ	1.0typ	1.0typ	
	EFFICIENCY[%]	*1	86.0typ	88.0typ	86.0typ	86.0typ	86.0typ	86.0typ	86.0typ	87.0typ	
	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[I	mV]	10max	10max	20max	24max	30max	48max	56max	96max	
	LOAD REGULATION	[mV]	150max	150max	150max	100max	100max	100max	100max	100max	
		0 to +95℃ *2	80max	80max	100max	120max	120max	120max	120max	200max	
	RIPPLE[mVp-p]	-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	
OUTPUT		0 to +95℃ *2	160max	160max	200max	200max	200max	200max	200max	250max	
001101	RIPPLE NOISE[mVp-p]	-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	
	TEMP ENAIGHE REGULATION[IIV]	-20 to +95℃	66max	100max	140max	240max	300max	480max	560max	960max	
	DRIFT[mV] *3		16max	20max	30max	40max	60max	90max	90max	180max	
	START-UP TIME[ms]		200max (DCI	N 280V, Io=10	0%)						
	OUTPUT VOLTAGE ADJUSTMENT R	ANGE[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 SET	TING[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	
	OVERCURRENT PROT	ECTION	Works over 105% of rating and recovers automatically								
PROTECTION CIRCUIT AND	OVERVOLTAGE PROTEC	CTION[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	
OTHERS	REMOTE SENSING		Provided								
	REMOTE ON/OFF (R	C1) *6	Provided (Logic H : ON, L :OFF) Required external power source								
	INPUT-OUTPUT, RC2	*8	AC3,000V 1m	ninute, Cutoff c	urrent = 10mA	, DC500V 50M	Ω min (20±15	5℃)			
ISOLATION	INPUT-FG		AC2,000V 1m	AC2,000V 1minute, Cutoff current = 10mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)							
IOOLATION	OUTPUT, RC2-FG	*8	AC500V 1mir	AC500V 1minute, Cutoff current = 100mA, DC500V 50M Ω min (20±15 $^{\circ}$ C)							
	OUTPUT-RC2	*8	AC100V 1mir	ute, Cutoff cur	rent = 25mA, [C100V 10MΩ	min (20±15℃	C)			
	OPERATING TEMP.,HUMID.AND A	LTITUDE *7	-20 to +95°C (Alu	minum base plate	of the power modu	le), 20 - 95%RH (N	lon condensing) (F	lefer to DERATING	CURVE), 3,000m	(10,000 feet) max	
ENVIRONMENT	STORAGE TEMP., HUMID. AND	ALTITUDE	-20 to +95℃,	20 - 95%RH (I	Non condensin	g), 9,000m (30	,000 feet) max				
LIVIIIONIIILIVI	VIBRATION		10 - 55Hz, 19	.6m/s² (2G), 3r	minutes period	, 60minutes ea	ch along X, Y a	and Z axis			
	IMPACT		196.1m/s² (20	G), 11ms, onc	e each along >	(, Y and Z axis					
SAFETY	AGENCY APPROVA	LS	UL60950-1, C	C-UL, EN62368	3-1						
OTHERS	CASE SIZE/WEIGHT		74.2×44.5×	127mm [2.92 ×	< 1.75 × 5.0 inc	nes](W×H×D) / 310g max				
	COOLING METHOD		Conduction c	ooling (e.g. hea	at radiation from	n the aluminun	n base plate to	the attached h	neat sink)		

- At rated input(DC280V) and rated load.
- Ripple and ripple noise is measured by using measuring board with capacitor of 22 µ F at 150mm [5.91 inches] from output terminal.
- Refer to the instruction manual 3.2. 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. Refer to the instruction manual 4.6.
- Refer to the instruction manual 2, 4.4

- Refer to the instruction manual 4.4
- Refer to the instruction manual 6.2 "RC2" is applicable to an option not to need external power source.







- % Tolerance : ±1 [±0.04]
- % Weight : 310g 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.