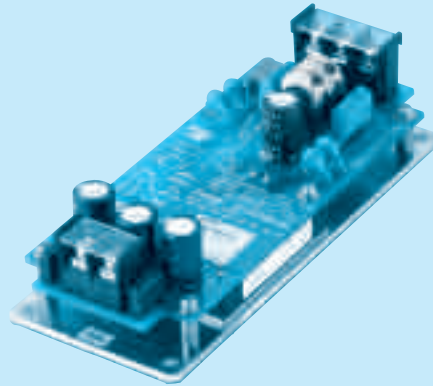


# SNDHS50A

① **SNDH** ② **S** ③ **50** ④ **A** ⑤ **05** 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.

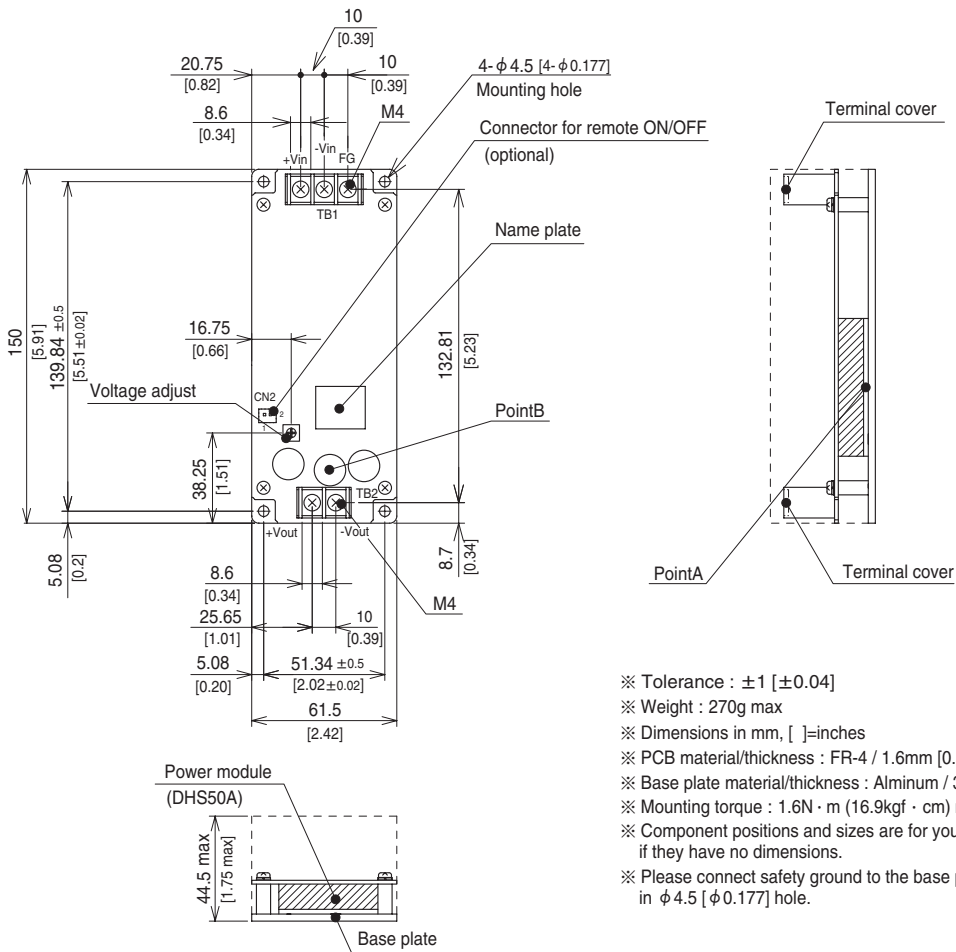
| MODEL                 | SNDHS50A05 | SNDHS50A12 | SNDHS50A15 | SNDHS50A24 |
|-----------------------|------------|------------|------------|------------|
| MAX OUTPUT WATTAGE[W] | 50.0       | 50.4       | 51.0       | 50.4       |
| DC OUTPUT             | 5V 10A     | 12V 4.2A   | 15V 3.4A   | 24V 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 |
|                                    | 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 |        |
| PROTECTION CIRCUIT AND OTHERS      | OVERCURRENT PROTECTION               | Works over 105% of rating and recovers automatically  |   |               |               |        |
|                                    | 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)   |   |               |               |        |
| ISOLATION                          | 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)  |               |               |        |
| ENVIRONMENT                        | 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  |               |               |        |
| SAFETY                             | AGENCY APPROVALS                     | UL60950-1, C-UL, EN60950-1  |   |               |               |        |
|                                    | 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(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 Applicable when remote control (optional) is added.  
 \*6 Refer to the instruction manual 6.2.

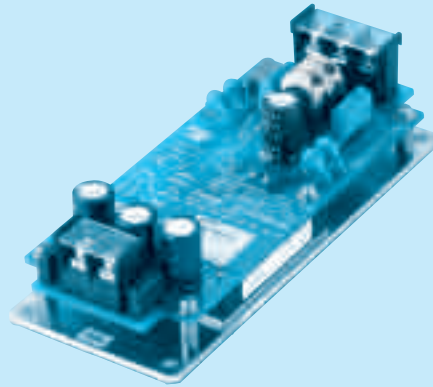
External view



- ※ 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 : Aluminu / 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

① **SNDH** ② **S** ③ **100** ④ **A** ⑤ **05** 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.

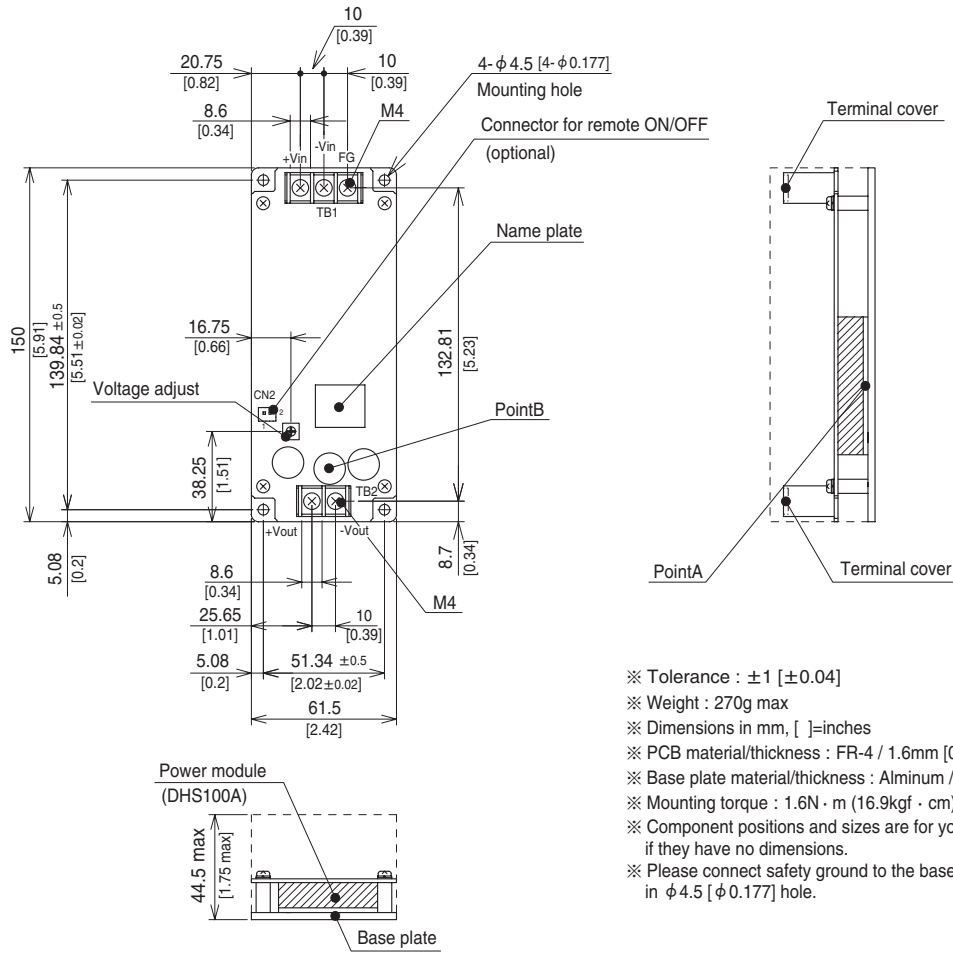
| MODEL                 | SNDHS100A05 | SNDHS100A12 | SNDHS100A15 | SNDHS100A24 |
|-----------------------|-------------|-------------|-------------|-------------|
| MAX OUTPUT WATTAGE[W] | 100.0       | 100.8       | 100.5       | 100.8       |
| DC OUTPUT             | 5V 20A      | 12V 8.4A    | 15V 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 |
|                                    | 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 |        |
| PROTECTION CIRCUIT AND OTHERS      | OVERCURRENT PROTECTION               | Works over 105% of rating and recovers automatically  |   |               |               |        |
|                                    | 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)   |   |               |               |        |
| ISOLATION                          | 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)  |               |               |        |
| ENVIRONMENT                        | 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  |               |               |        |
| SAFETY                             | AGENCY APPROVALS                     | UL60950-1, C-UL, EN60950-1  |   |               |               |        |
|                                    | 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(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 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  $\phi$  4.5 [ $\phi$  0.177] hole.

# SNDHS200A

① **SNDH** ② **S** ③ **200** ④ **A** ⑤ **05** 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.

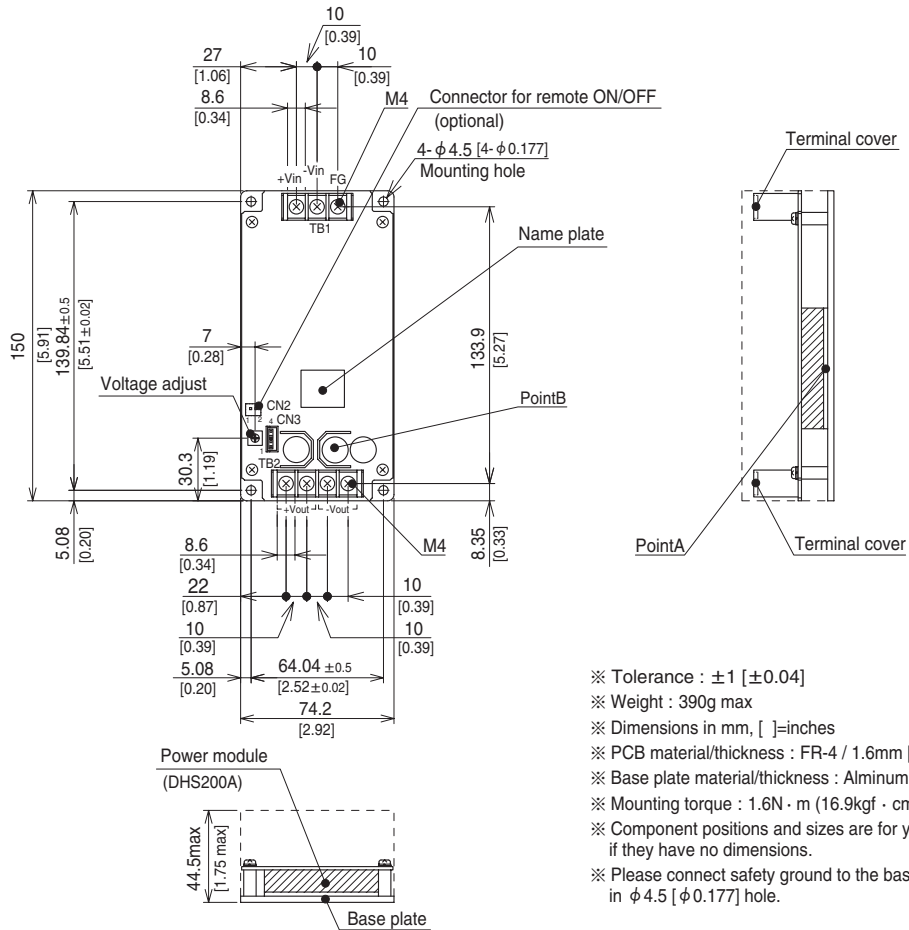
| MODEL                 | SNDHS200A05 | SNDHS200A12 | SNDHS200A15 | SNDHS200A24 |
|-----------------------|-------------|-------------|-------------|-------------|
| MAX OUTPUT WATTAGE[W] | 200.0       | 200.4       | 201.0       | 201.6       |
| DC OUTPUT             | 5V 40A      | 12V 16.7A   | 15V 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        | 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 |
|                                    | 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 |        |
| PROTECTION CIRCUIT AND OTHERS      | 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  |   |               |               |        |
| REMOTE ON/OFF (RC)                 | Optional (Required external power source) |   |   |               |               |        |
| ISOLATION                          | 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)  |               |               |        |
| ENVIRONMENT                        | 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  |               |               |        |
| SAFETY                             | AGENCY APPROVALS                          | UL60950-1, C-UL, EN60950-1  |   |               |               |        |
|                                    | CONDUCTED NOISE (at only DC input)        | Complies with FCC-A, VCCI-A, CISPR22-A, EN55011-A, EN55022-A                                    |   |               |               |        |
| OTHERS                             | CASE SIZE/WEIGHT                          | 74.2 X 44.5 X 150mm [2.92 X 1.75 X 5.91 inches] (W X H X D) / 390g max                          |   |               |               |        |
|                                    | COOLING METHOD                            | Conduction cooling (e.g. heat radiation from the aluminum base plate to the attached heat sink) |   |               |               |        |

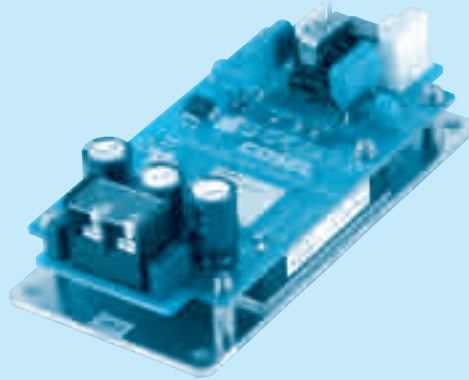
\*1 At rated input(DC280V) and rated load.  
 \*2 Ripple and ripple noise is measured by using measuring board with capacitor of 22 μF at 150mm [5.91 inches] from output terminal. Refer to the instruction manual 3.2.  
 \*3 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.  
 \*4 Refer to the instruction manual 4.6.  
 \*5 Applicable when remote control (optional) is added.  
 \*6 Refer to the instruction manual 6.2.

## External view



# SNDHS50B

① **SNDH** ② **S** ③ **50** ④ **B** ⑤ **05** ⑥ **-□**



- ① Series name
- ② Single output
- ③ Output wattage
- ④ B : DC200-400V
- ⑤ Output voltage
- ⑥ Optional
- C : with Coating
- R : with Unnecessary external power source

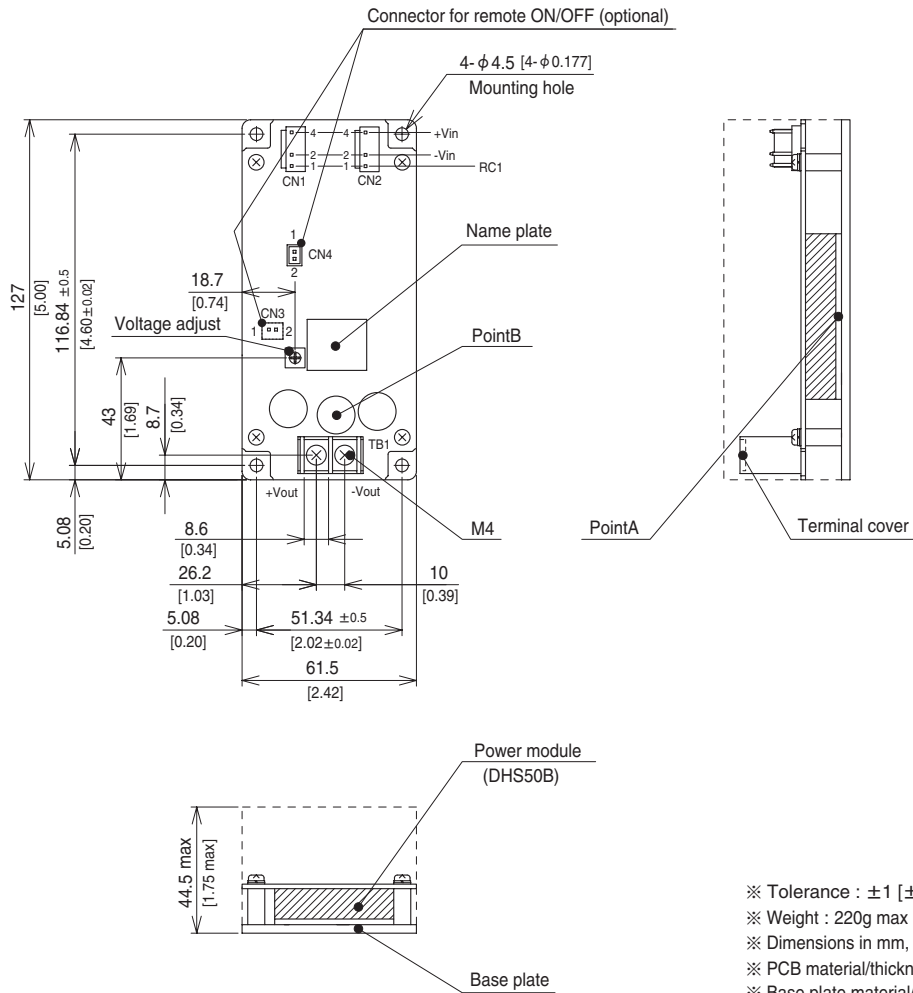
| MODEL                 | SNDHS50B03 | SNDHS50B05 | SNDHS50B12 | SNDHS50B15 | SNDHS50B24 | SNDHS50B28 |
|-----------------------|------------|------------|------------|------------|------------|------------|
| MAX OUTPUT WATTAGE[W] | 33.0       | 50.0       | 50.4       | 51.0       | 50.4       | 50.4       |
| 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 *)                                |   |               |               |               |               |        |
|                                    | 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°C *2   | 80max   | 80max         | 120max        | 120max        | 120max        | 120max |
|                                    |                                    | -20 to 0°C *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°C *2   | 160max  | 160max        | 200max        | 200max        | 200max        | 200max |
|                                    |                                    | -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 |
|                                    |                                    | -20 to +95°C  | 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, RC                   | *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, RC-FG                      | *8  | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)   |               |               |               |               |        |
|                                    | OUTPUT-RC                          | *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, EN60950-1  |   |               |               |               |               |        |
| 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 Applicable when unnecessary external power source (option) is added. The specifications are applied to RC2 only.

## External view



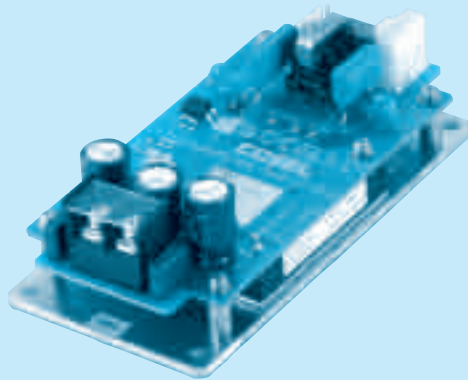
- ※ Tolerance : ±1 [±0.04]
- ※ Weight : 220g max
- ※ Dimensions in mm, [ ]=inches
- ※ PCB material/thickness : FR-4 / 1.6mm [0.06]
- ※ Base plate material/thickness : Alminum / 3.0mm[0.12]
- ※ Screw tightening torque : 1.6N · m (16.9kgf · cm) max
- ※ Component positions and sizes are for your reference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



# SNDHS100B

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 Unnecessary external power source

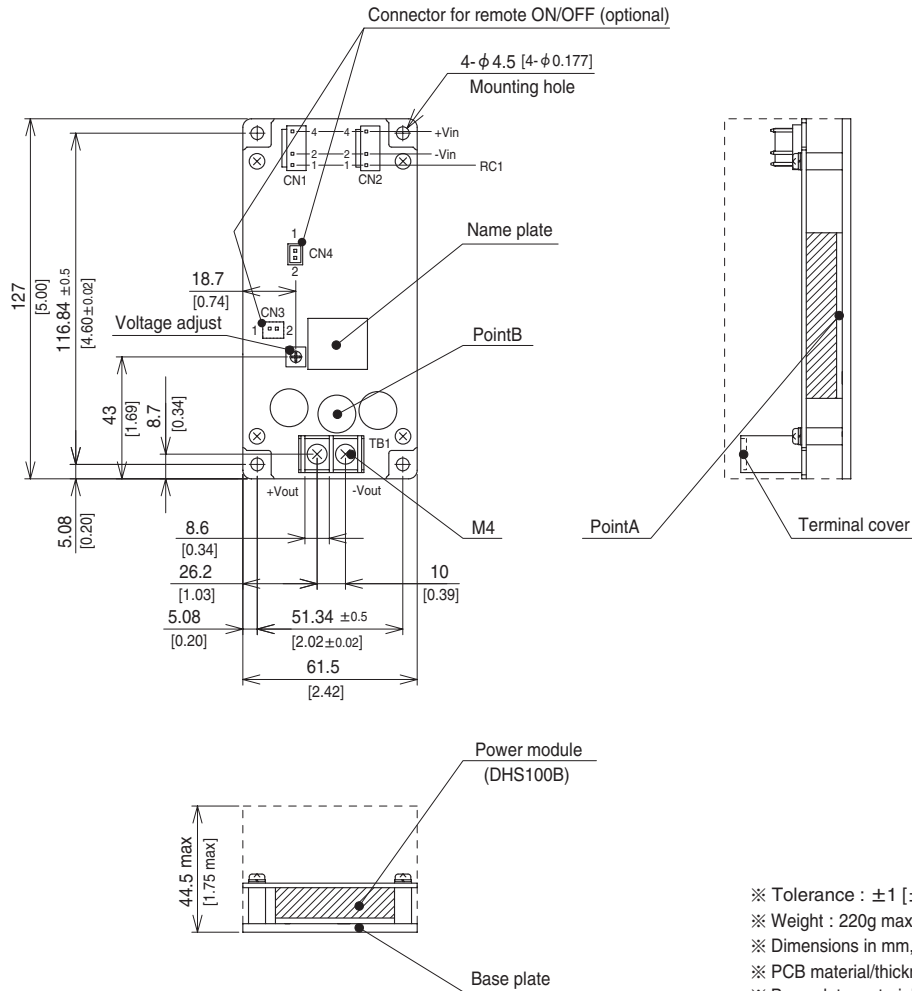
| MODEL                 | SNDHS100B03 | SNDHS100B05 | SNDHS100B12 | SNDHS100B15 | SNDHS100B24 | SNDHS100B28 |
|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| MAX OUTPUT WATTAGE[W] | 66.0        | 100.0       | 100.8       | 100.5       | 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 *)                                |   |               |               |               |               |        |
|                                    | 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°C *2   | 80max   | 80max         | 120max        | 120max        | 120max        | 120max |
|                                    |                                    | -20 to 0°C *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°C *2   | 160max  | 160max        | 200max        | 200max        | 200max        | 200max |
|                                    |                                    | -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 |
|                                    |                                    | -20 to +95°C  | 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, RC                   | *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, RC-FG                      | *8  | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)   |               |               |               |               |        |
|                                    | OUTPUT-RC                          | *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, EN60950-1  |   |               |               |               |               |        |
| 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.  
 \*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 Applicable when unnecessary external power source (option) is added. The specifications are applied to RC2 only.

## 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.

# 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 Unnecessary external power source

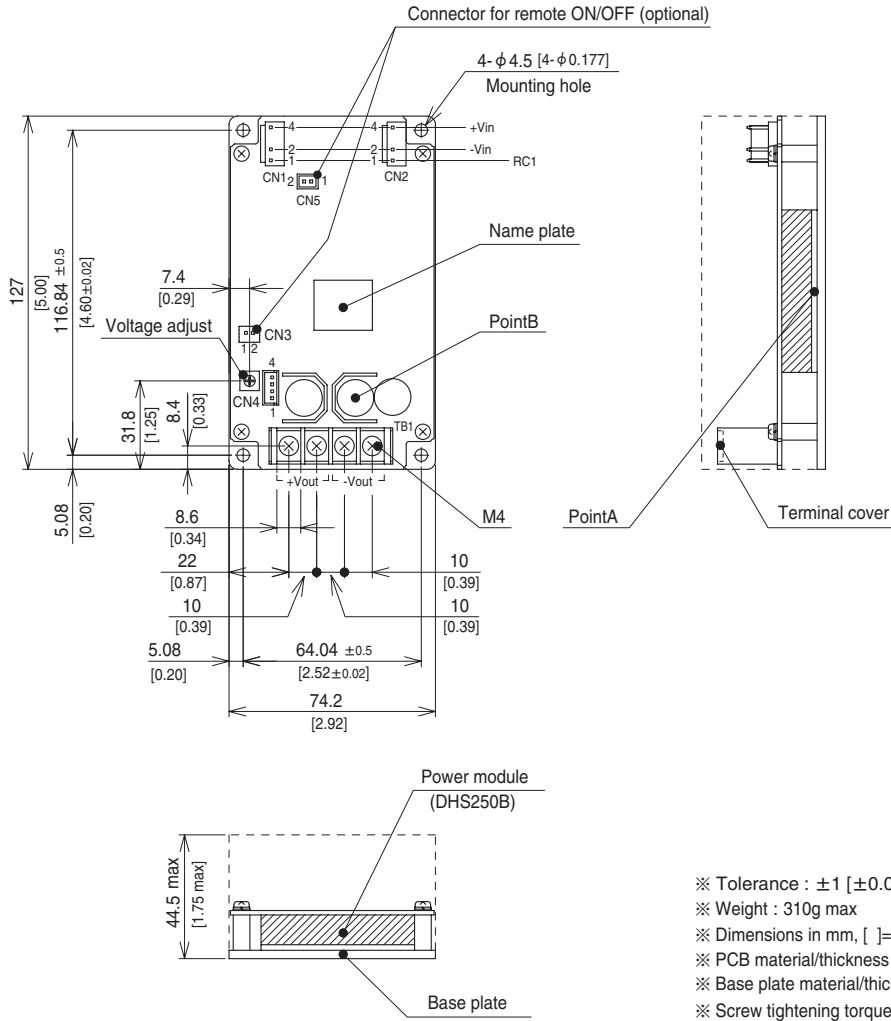
| MODEL                 | SNDHS250B03 | SNDHS250B05 | SNDHS250B07 | SNDHS250B12 | SNDHS250B15 | SNDHS250B24 | SNDHS250B28 | SNDHS250B48 |
|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| MAX OUTPUT WATTAGE[W] | 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 *)                                |   |              |               |               |               |               |               |        |
|                                    | 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            |        |
| OUTPUT                             | 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, RC                     | *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, RC-FG                        | *8  | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C)   |              |               |               |               |               |               |        |
|                                    | OUTPUT-RC                            | *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, EN60950-1  |   |              |               |               |               |               |               |        |
| OTHERS                             | CASE SIZE/WEIGHT                     | 74.2×44.5×127mm [2.92×1.75×5.0 inches](W×H×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 Applicable when unnecessary external power source (option) is added. The specifications are applied to RC2 only.

## 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 : 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.