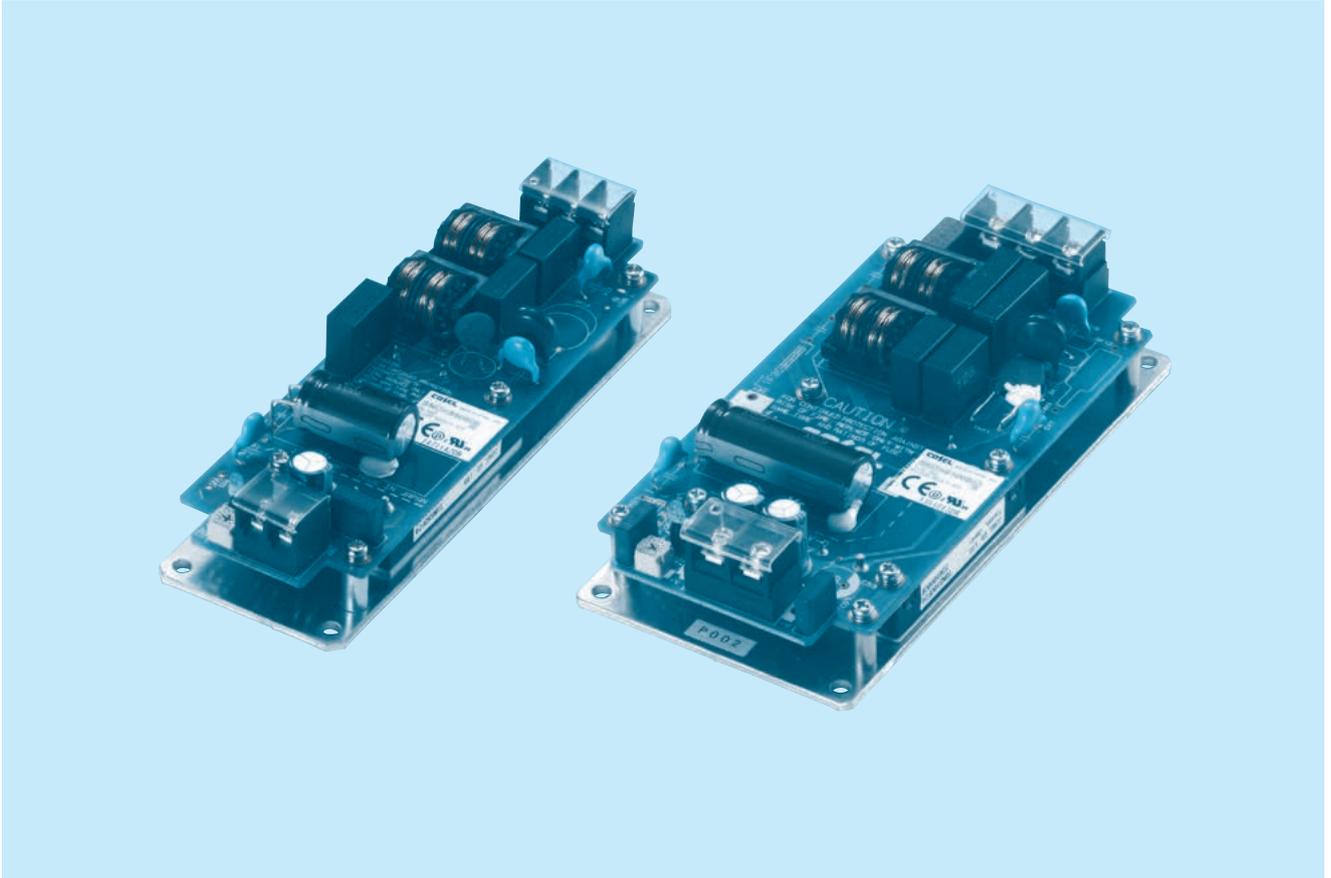




SNTU-series



■ Feature

AC-DC converter, SNTUNS50/100F series includes TUNS50/100F series.
 Universal input(AC85-264V)
 Power factor correction
 Harmonic attenuator (Complies with IEC61000-3-2)
 Built-in Inrush current , overcurrent, overvoltage and thermal protection

■ Safety agency approvals

UL60950-1, C-UL, EN62368-1
 Complies with DEN-AN

■ 3-year warranty

■ CE marking

Low voltage directive
 RoHS Directive

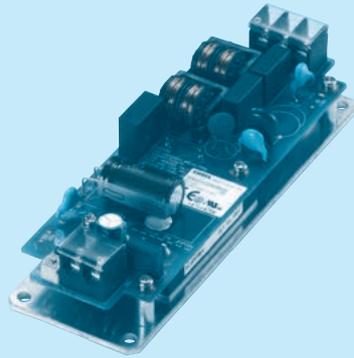
■ UKCA marking

Electrical Equipment Safety Regulations
 RoHS Regulations

SNTUNS50

SNTUN S 50 F 05 - □

① ② ③ ④ ⑤ ⑥



Recommended EMI/EMC Filter
NAC-04-472



High voltage pulse noise type : NAP series
Low leakage current type : NAM series
*The EMI/EMC Filter is recommended to connect with several devices.

- ① Series name
- ② Single output
- ③ Output wattage
- ④ Universal Input
- ⑤ Output voltage
- ⑥ Optional
- C :with Coating
- J :Connector type

| MODEL | SNTUNS50F05 | SNTUNS50F12 | SNTUNS50F24 |
|-----------------------|-------------|-------------|-------------|
| MAX OUTPUT WATTAGE[W] | 50.0 | 50.4 | 50.4 |
| DC OUTPUT | 5V 10A | 12V 4.2A | 24V 2.1A |

SPECIFICATIONS

| | MODEL | SNTUNS50F05 | SNTUNS50F12 | SNTUNS50F24 | |
|------------------------------------|---|---|-------------------|---------------|--------|
| INPUT | VOLTAGE[V] | AC85 - 264 1 φ (Please refer to the instruction manual 1.1 and 3.2) | | | |
| | CURRENT[A] | ACIN 100V | 0.67typ (Io=100%) | | |
| | | ACIN 200V | 0.37typ (Io=100%) | | |
| | FREQUENCY[Hz] | 50/60 (47 - 63) | | | |
| | EFFICIENCY[%] | ACIN 100V | 76typ | 80typ | 81typ |
| | | ACIN 200V | 78typ | 83typ | 84typ |
| | POWER FACTOR (Io=100%) | ACIN 100V | 0.95typ | | |
| | | ACIN 200V | 0.90typ | | |
| INRUSH CURRENT[A] | ACIN 100V | 15typ (Io=100%) (At cold start) (Ta=25°C) | | | |
| | ACIN 200V | 30typ (Io=100%) (At cold start) (Ta=25°C) | | | |
| LEAKAGE CURRENT[mA] | 0.4/0.75 (ACIN 100V / 240V 60Hz, Io=100%, According to IEC62368-1 and DEN-AN) | | | | |
| OUTPUT | VOLTAGE[V] | 5 | 12 | 24 | |
| | CURRENT[A] | 10 | 4.2 | 2.1 | |
| | LINE REGULATION[mV] | 10max | 24max | 48max | |
| | LOAD REGULATION[mV] | 150max | 100max | 100max | |
| | RIPPLE[mVp-p] | 0 to +95°C *1 | 80max | 120max | 120max |
| | | -20 to 0°C *1 | 140max | 160max | 160max |
| | | 0 to 15% Load *1 | 200max | 280max | 380max |
| | RIPPLE NOISE[mVp-p] | 0 to +95°C *1 | 120max | 150max | 150max |
| | | -20 to 0°C *1 | 200max | 200max | 250max |
| | | 0 to 15% Load *1 | 280max | 360max | 460max |
| | TEMPERATURE REGULATION[mV] | 0 to +65°C | 50max | 120max | 240max |
| | | -20 to +95°C | 100max | 240max | 480max |
| | DRIFT[mV] | *2 | 20max | 40max | 90max |
| OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | 4.50 - 5.50 | 10.80 - 13.20 | 21.60 - 26.40 | | |
| OUTPUT VOLTAGE SETTING[V] | 5.00 - 5.15 | 12.00 - 12.48 | 24.00 - 24.96 | | |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | Works over 105% of rating and recovers automatically | | | |
| | OVERVOLTAGE PROTECTION[V] | 6.30 - 7.00 | 13.90 - 16.35 | 27.60 - 32.40 | |
| | REMOTE SENSING | Not provided | | | |
| | REMOTE ON/OFF | Not provided | | | |
| ISOLATION | INPUT-OUTPUT | 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-FG | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C) | | | |
| ENVIRONMENT | OPERATING TEMP., HUMID. AND ALTITUDE | -20 to +95°C (On aluminum base plate), 20 - 95%RH (Non condensing) *4 | | | |
| | 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 ² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | |
| | IMPACT | 196.1m/s ² (20G), 11ms, once each along X, Y and Z axis | | | |
| SAFETY AND NOISE REGULATIONS | AGENCY APPROVALS | UL60950-1, C-UL (CSA60950-1), EN62368-1 Complies with DEN-AN | | | |
| | CONDUCTED NOISE | Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B | | | |
| | HARMONIC ATTENUATOR | Complies with IEC61000-3-2 (Class A) *3 | | | |
| OTHERS | CASE SIZE/WEIGHT | 50 X 36 X 150mm [1.97 X 1.42 X 5.91 inches] (W X H X D) / 230g max | | | |

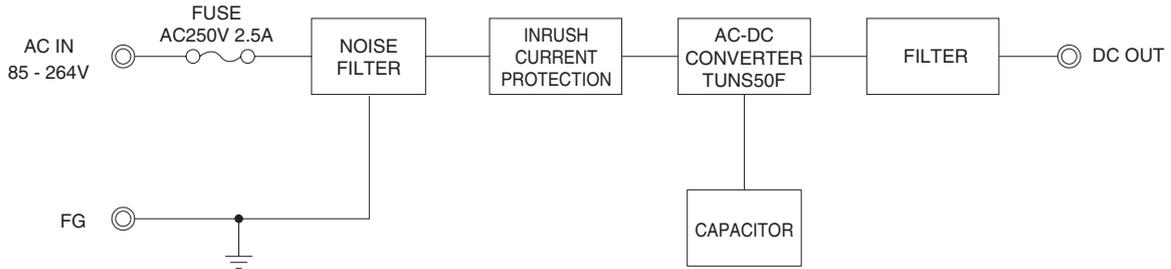
*1 Refer to Instruction manual for measuring method of an electrical property.

*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.

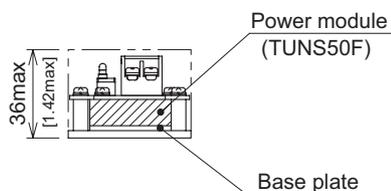
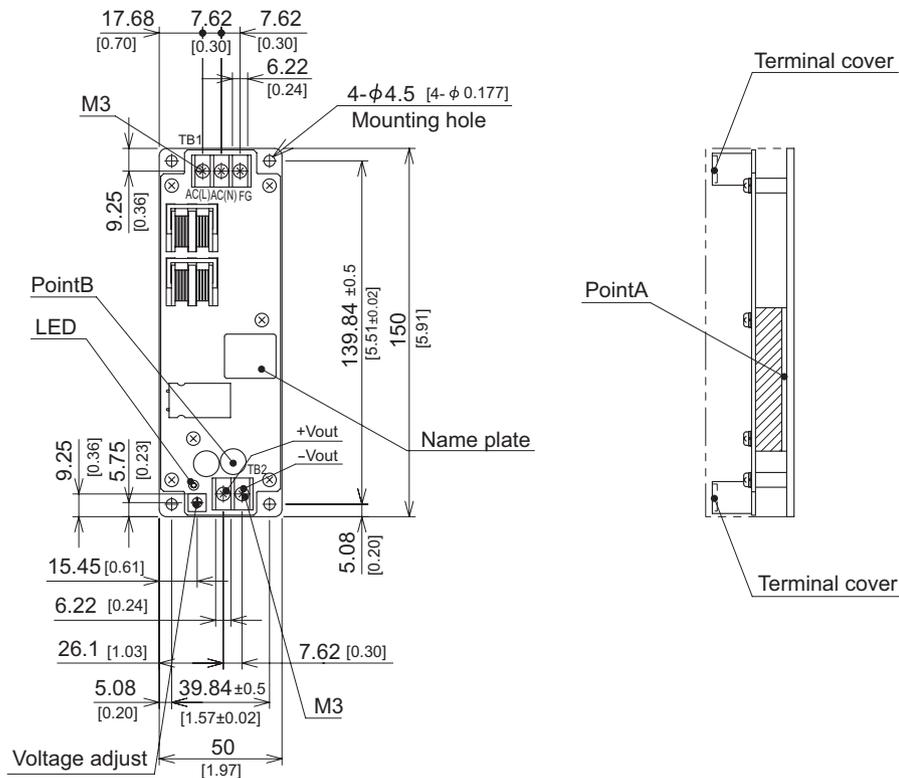
*3 Please contact us about another class.

*4 Refer to Instruction manual 3.2 and 3.3.

Block diagram



External view

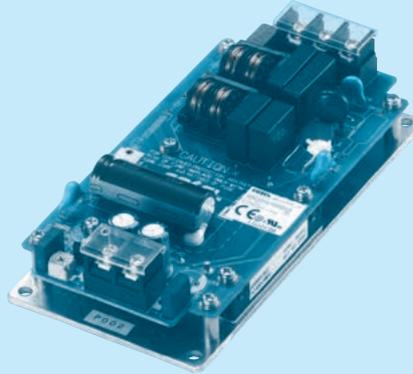


- * Tolerance ± 1 [± 0.04]
- * Weight : 230g max
- * Dimensions in mm, []=inches
- * PCB material / thickness : FR-4 / 1.6mm [0.06]
- * Base plate material / thickness : Aluminum / 3.0mm [0.12]
- * Screw tightening torque M3 : $0.9N \cdot m$ (9.2kgf \cdot cm) max
- * Please connect safety ground to the base plate in $\phi 4.5$ [$\phi 0.177$] hole.

SNTUNS100

SNTUN S 100 F 05 - □

① ② ③ ④ ⑤ ⑥



Recommended EMI/EMC Filter
NAC-04-472



High voltage pulse noise type : NAP series
Low leakage current type : NAM series

*The EMI/EMC Filter is recommended to connect with several devices.

- ① Series name
- ② Single output
- ③ Output wattage
- ④ Universal Input
- ⑤ Output voltage
- ⑥ Optional
- C :with Coating
- J :Connector type

| MODEL | SNTUNS100F05 | SNTUNS100F12 | SNTUNS100F24 |
|-----------------------|--------------|--------------|--------------|
| MAX OUTPUT WATTAGE[W] | 100.0 | 100.8 | 100.8 |
| DC OUTPUT | 5V 20A | 12V 8.4A | 24V 4.2A |

SPECIFICATIONS

| | MODEL | SNTUNS100F05 | SNTUNS100F12 | SNTUNS100F24 | |
|------------------------------------|---|---|------------------|---------------|--------|
| INPUT | VOLTAGE[V] | AC85 - 264 1 φ (Please refer to the instruction manual 1.1 and 3.2) | | | |
| | CURRENT[A] | ACIN 100V | 1.3typ (Io=100%) | | |
| | | ACIN 200V | 0.7typ (Io=100%) | | |
| | FREQUENCY[Hz] | 50/60 (47 - 63) | | | |
| | EFFICIENCY[%] | ACIN 100V | 79typ | 81typ | 82typ |
| | | ACIN 200V | 82typ | 83typ | 84typ |
| | POWER FACTOR (Io=100%) | ACIN 100V | 0.95typ | | |
| | | ACIN 200V | 0.90typ | | |
| INRUSH CURRENT[A] | ACIN 100V | 20yp (Io=100%) (At cold start) (Ta=25°C) | | | |
| | ACIN 200V | 40typ (Io=100%) (At cold start) (Ta=25°C) | | | |
| LEAKAGE CURRENT[mA] | 0.4/0.75 (ACIN 100V / 240V 60Hz, Io=100%, According to IEC62368-1 and DEN-AN) | | | | |
| OUTPUT | VOLTAGE[V] | 5 | 12 | 24 | |
| | CURRENT[A] | 20 | 8.4 | 4.2 | |
| | LINE REGULATION[mV] | 10max | 24max | 48max | |
| | LOAD REGULATION[mV] | 150max | 100max | 100max | |
| | RIPPLE[mVp-p] | 0 to +95°C *1 | 80max | 120max | 120max |
| | | -20 to 0°C *1 | 140max | 160max | 160max |
| | | 0 to 15% Load *1 | 160max | 240max | 240max |
| | RIPPLE NOISE[mVp-p] | 0 to +95°C *1 | 120max | 150max | 150max |
| | | -20 to 0°C *1 | 200max | 200max | 250max |
| | | 0 to 15% Load *1 | 240max | 300max | 300max |
| | TEMPERATURE REGULATION[mV] | 0 to +65°C | 50max | 120max | 240max |
| | | -20 to +95°C | 100max | 240max | 480max |
| | DRIFT[mV] | *2 | 20max | 40max | 90max |
| OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | 4.50 - 5.50 | 10.80 - 13.20 | 21.60 - 26.40 | | |
| OUTPUT VOLTAGE SETTING[V] | 5.00 - 5.15 | 12.00 - 12.48 | 24.00 - 24.96 | | |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | Works over 105% of rating and recovers automatically | | | |
| | OVERVOLTAGE PROTECTION[V] | 6.30 - 7.00 | 13.90 - 16.35 | 27.60 - 32.40 | |
| | REMOTE SENSING | Optional (Option:K) | - | - | |
| | REMOTE ON/OFF | Not provided | | | |
| ISOLATION | INPUT-OUTPUT | 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-FG | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (20±15°C) | | | |
| ENVIRONMENT | OPERATING TEMP., HUMID. AND ALTITUDE | -20 to +95°C (On aluminum base plate), 20 - 95%RH (Non condensing) *4 | | | |
| | 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 ² (2G), 3minutes period, 60minutes each along X, Y and Z axis | | | |
| | IMPACT | 196.1m/s ² (20G), 11ms, once each along X, Y and Z axis | | | |
| SAFETY AND NOISE REGULATIONS | AGENCY APPROVALS | UL60950-1, C-UL (CSA60950-1), EN62368-1 Complies with DEN-AN | | | |
| | CONDUCTED NOISE | Complies with FCC-B, VCCI-B, CISPR-B, EN55011-B, EN55022-B | | | |
| | HARMONIC ATTENUATOR | Complies with IEC61000-3-2 (Class A) *3 | | | |
| OTHERS | CASE SIZE/WEIGHT | 74 X 37 X 150mm [2.91 X 1.46 X 5.91 inches] (W X H X D) / 340g max | | | |

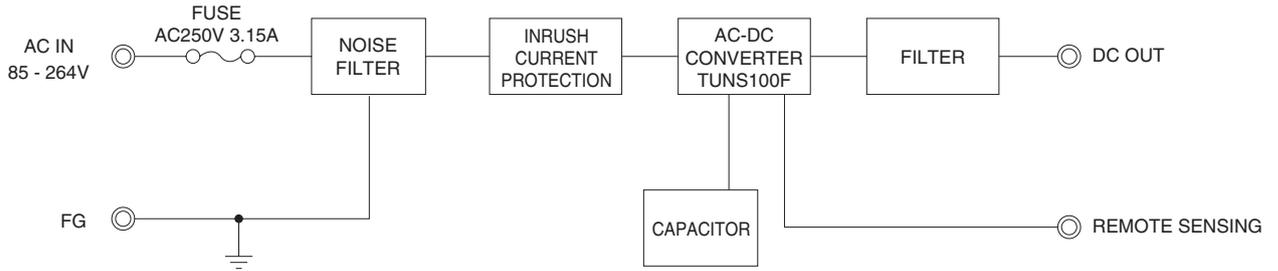
*1 Refer to Instruction manual for measuring method of an electrical property.

*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.

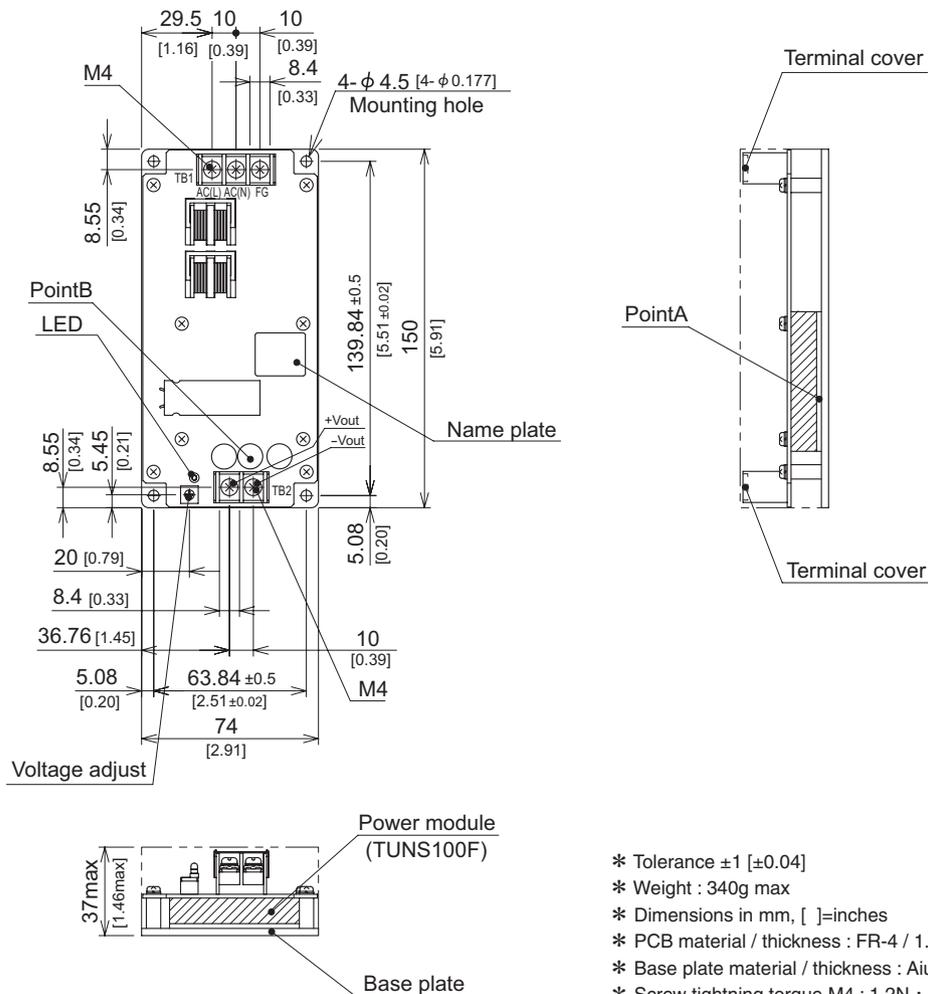
*3 Please contact us about another class.

*4 Refer to Instruction manual 3.2 and 3.3.

Block diagram



External view



- * Tolerance ± 1 [± 0.04]
- * Weight : 340g 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 M4 : $1.2N \cdot m$ (12.2kgf · cm) max
- * Please connect safety ground to the base plate in $\phi 4.5$ [$\phi 0.177$] hole.

Basic Characteristics Data

| Model | Circuit method | Switching frequency [kHz] | Input current [A] *1 | Inrush current protection circuit | PCB/Pattern | | | Series/Parallel operation availability | |
|------------|-------------------|---------------------------|----------------------|-----------------------------------|-------------|--------------|--------------|--|--------------------|
| | | | | | Material | Single sided | Double sided | Series operation | Parallel operation |
| SNTUNS50F | Active filter | 80-600 | 0.67 | Thermistor | FR-4 | | Yes | Yes | *2 |
| | Flyback converter | 100-300 | | | | | | | |
| SNTUNS100F | Active filter | 80-600 | 1.3 | Thermistor | FR-4 | | Yes | Yes | *2 |
| | Forward converter | 300 | | | | | | | |

*1 The value of input current is at ACIN 100V and rated load.

*2 Refer to instruction manual.