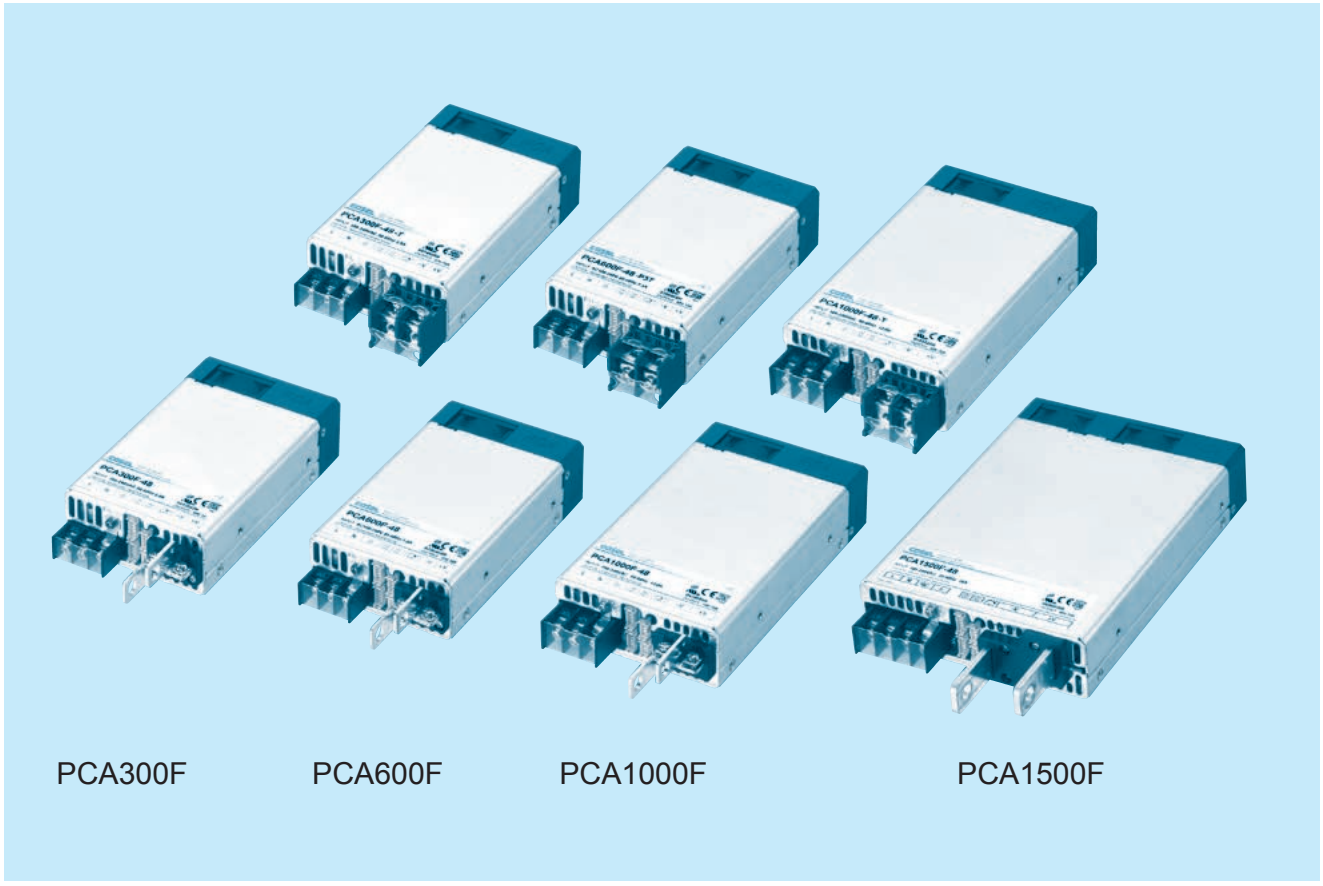
Medical electric equipment | Power Factor Correction | World wide | Safety Approvals | EMI | Inrush current limiting | OCP | OVP | Remote ON/OFF | Parallel Operation | 1U

# PCA-series



PCA300F PCA600F PCA1000F PCA1500F

## Feature

Low profile (41mm, 1.61 inch = meet 1U height)
Universal input 85 - 264VAC
(Refer to “Input vltage Derating”)
DC input 88 - 370VDC possible : Excluding PCA1000F and PCA1500F
(Refer to “Input vltage Derating”)
For medical electric equipment (ANSI/AAMI ES60601-1, EN60601-1 3rd)
Medical Isolation Grade 2MOPP
With AUX output 12V 0.1A (Voltage adjustable range 5 - 12V)
Constant current function
Output voltage can be adjusted to near 0V (the item 2.6 on Instruction Manual)
With various alarms
Parallel Operation / N+1 Parallel Redundancy Operation possible
Monitoring function and various setting values can be changed by communication (the item 2.11 on Instruction Manual)
UL508 (Optional)

## Safety agency approval

・UL62368-1, C-UL (CSA62368-1), EN62368-1,
ANSI/AAMI ES60601-1, EN60601-1 3rd
UL508 (Optional)

## Up to 5-year warranty (Refer to Instruction Manual)

## CE marking

Low Voltage Directive
RoHS Directive

## UKCA marking

Electrical Equipment Safety Regulations
RoHS Regulations

## EMI

・PCA300F, PCA600F
Complies with FCC-B, CISPR32-B, EN55011-B, EN55032-B, VCCI-B
・PCA1000F, PCA1500F
Complies with FCC-A, CISPR32-A, EN55011-A, EN55032-A, VCCI-A

## EMS Compliance : EN61204-3, EN61000-6-2
IEC60601-1-2 (2014), EN60601-1-2 (2015)

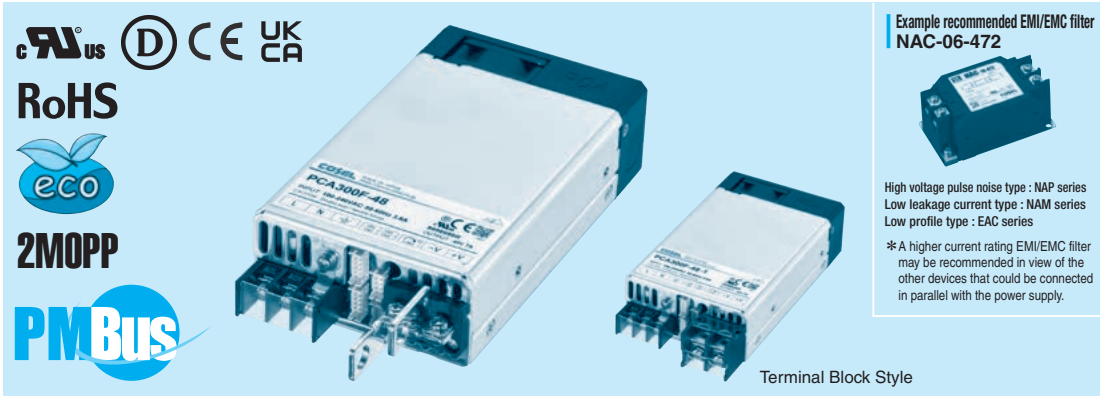
EN61000-4-2
EN61000-4-3
EN61000-4-4
EN61000-4-5
EN61000-4-6
EN61000-4-8
EN61000-4-11

COSEL AC-DC Power Supplies Enclosed Type

# PCA300F

## Ordering information

| PC | A | 300 | F | -5 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑧ |




Example recommended EMI/EMC filter
NAC-06-472



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

＊A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

①Series name
②Single output
③Output wattage
④Universal input
⑤Output voltage
⑥Optional ＊7
C :with Coating
G :Low leakage current
T :Terminal Block Style
I :with PMBus interface
F2 :Reverse air exhaust type
P3 :Master-slave Operation
W1 :Alarm function
T5 :UL508

For option details, refer to instruction manual 6.1.

＊Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

| MODEL | PCA300F-5 | PCA300F-12 | PCA300F-15 | PCA300F-24 | PCA300F-32 | PCA300F-48 |
|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | 300 | 324 | 330 | 336 | 320 | 336 |
| DC OUTPUT | 5V 60A | 12V 27A | 15V 22A | 24V 14A | 32V 10A | 48V 7A |

## SPECIFICATIONS

| | MODEL | | | PCA300F-5 | PCA300F-12 | PCA300F-15 | PCA300F-24 | PCA300F-32 | PCA300F-48 |
|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE | | [VAC] | 85 - 264 1φ | | | | | |
| | | | [VDC] ＊1 | 88 - 370 | | | | | |
| | CURRENT[A] | | ACIN 100V | 3.8typ | | | | | |
| | | | ACIN 230V | 1.6typ | | | | | |
| | FREQUENCY[Hz] | | | 50/60 (45 - 66) | | | | | |
| | EFFICIENCY[%] | ACIN 100V | (Io=50%) | 86typ | 87typ | 87typ | 88typ | 88typ | 88typ |
| | | | (Io=100%) | 87typ | 88typ | 88typ | 89typ | 89typ | 89typ |
| | | ACIN 230V | (Io=50%) | 87typ | 88typ | 88typ | 89typ | 89typ | 89typ |
| | | | (Io=100%) | 89typ | 90typ | 90typ | 91typ | 91typ | 91typ |
| | POWER FACTOR | | ACIN 100V | 0.98typ (Io=100%) | | | | | |
| | | | ACIN 230V | 0.95typ (Io=100%) | | | | | |
| | INRUSH CURRENT[A] | | ACIN 100V＊2 | 20/40 typ (Io=100%) (Primary inrush current / Secondary inrush current) (More than 3 sec. to re-start) | | | | | |
| | | | ACIN 230V＊2 | 40/40 typ (Io=100%) (Primary inrush current / Secondary inrush current) (More than 3 sec. to re-start) | | | | | |
| | LEAKAGE CURRENT[mA] | | | 0.5max (ACIN 240V 60Hz, Io=100%, According to IEC60601-1) | | | | | |
| OUTPUT | VOLTAGE[V] | | | 5 | 12 | 15 | 24 | 32 | 48 |
| | CURRENT[A] | | | 60 | 27 | 22 | 14 | 10 | 7 |
| | LINE REGULATION[mV] | | | 20max | 48max | 60max | 96max | 128max | 192max |
| | LOAD REGULATION[mV] | | | 40max | 100max | 120max | 150max | 150max | 480max |
| | RIPPLE[mVp-p] | 0 to +50℃ ＊3＊4 | | 160max | 240max | 240max | 240max | 320max | 480max |
| | | -20 to 0℃ ＊3 | | 280max | 320max | 320max | 320max | 420max | 640max |
| | RIPPLE NOISE[mVp-p] | 0 to +50℃ ＊3＊4 | | 240max | 300max | 300max | 300max | 400max | 600max |
| | | -20 to 0℃ ＊3 | | 320max | 360max | 360max | 360max | 480max | 720max |
| | TEMPERATURE REGULATION[mV] | 0 to +50℃ ＊4 | | 50max | 120max | 150max | 240max | 320max | 480max |
| | | -20 to +50℃ ＊4 | | 75max | 180max | 180max | 290max | 400max | 600max |
| | DRIFT[mV] ＊5 | | | 20max | 48max | 60max | 96max | 128max | 192max |
| | START-UP TIME[ms] | | | 700typ (ACIN 100/230V Io=100%) | | | | | |
| | HOLD-UP TIME[ms] | | | 20typ (ACIN 230V Io=80%) / 16typ (ACIN 230V Io=100%) | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | | | 3.00 to 6.00 | 7.20 to 14.40 | 9.00 to 18.00 | 14.40 to 28.80 | 19.20 to 38.40 | 28.80 to 57.60 |
| | OUTPUT VOLTAGE SETTING[V] | | | 5.00 to 5.05 | 12.00 to 12.12 | 15.00 to 15.15 | 24.00 to 24.24 | 32.00 to 32.32 | 48.00 to 48.48 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | | | Works over 105% of rating (Recovers automatically, Hiccup overcurrent) | | | | | |
| | OVERVOLTAGE PROTECTION[V] | | | 6.25 to 7.00 | 15.00 to 16.80 | 18.75 to 21.00 | 30.00 to 33.60 | 40.00 to 44.80 | 60.00 to 67.20 |
| | REMOTE SENSING | | | Provided | | | | | |
| | REMOTE ON/OFF (RC) | | | Provided | | | | | |
| | DC_OK LAMP | | | LED (Blue) | | | | | |
| | ALARM LAMP | | | LED (Orange) | | | | | |
| | COMMUNICATION FUNCTION | | | Provided (Extended UART) | | | | | |
| ISOLATION | INPUT-OUTPUT | | | AC4,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 2MOPP | | | | | |
| | INPUT-FG | | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 1MOPP | | | | | |
| | OUTPUT-FG | | | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature) | | | | | |
| | OUTPUT - AUX · RC · PG · INFO · DS · ADDR0 · ADDR1 · ADDR2 | | | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature) | | | | | |
| ENVIRONMENT | OPERATING TEMP.,HUMIDITY.AND ALTITUDE | | | -20 to +70℃, 20 - 90%RH (Non condensing) | | | | | |
| | STORAGE TEMP.,HUMIDITY.AND ALTITUDE | | | -20 to +75℃, 20 - 90%RH (Non condensing) | | | | | |
| | 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 X, Y and Z axis | | | | | |
| SAFETY AND NOISE REGULATIONS | AGENCY APPROVALS | | | UL62368-1, EN62368-1, C-UL (equivalent to CAN/CSA-C22.2 No.62368-1), ANSI/AAMI ES60601-1, EN60601-1 3rd, C-UL (equivalent to CAN/CSA-C22.2 No.60601-1), UL508 (Optional), Complies with IEC60601-1-2 4th Ed. | | | | | |
| | CONDUCTED NOISE | | | Complies with FCC Part15 classB, VCCI-B, CISPR32-B, EN55011-B, EN55032-B | | | | | |
| | HARMONIC ATTENUATOR ＊6 | | | Complies with IEC61000-3-2 (class A) | | | | | |

## SPECIFICATIONS

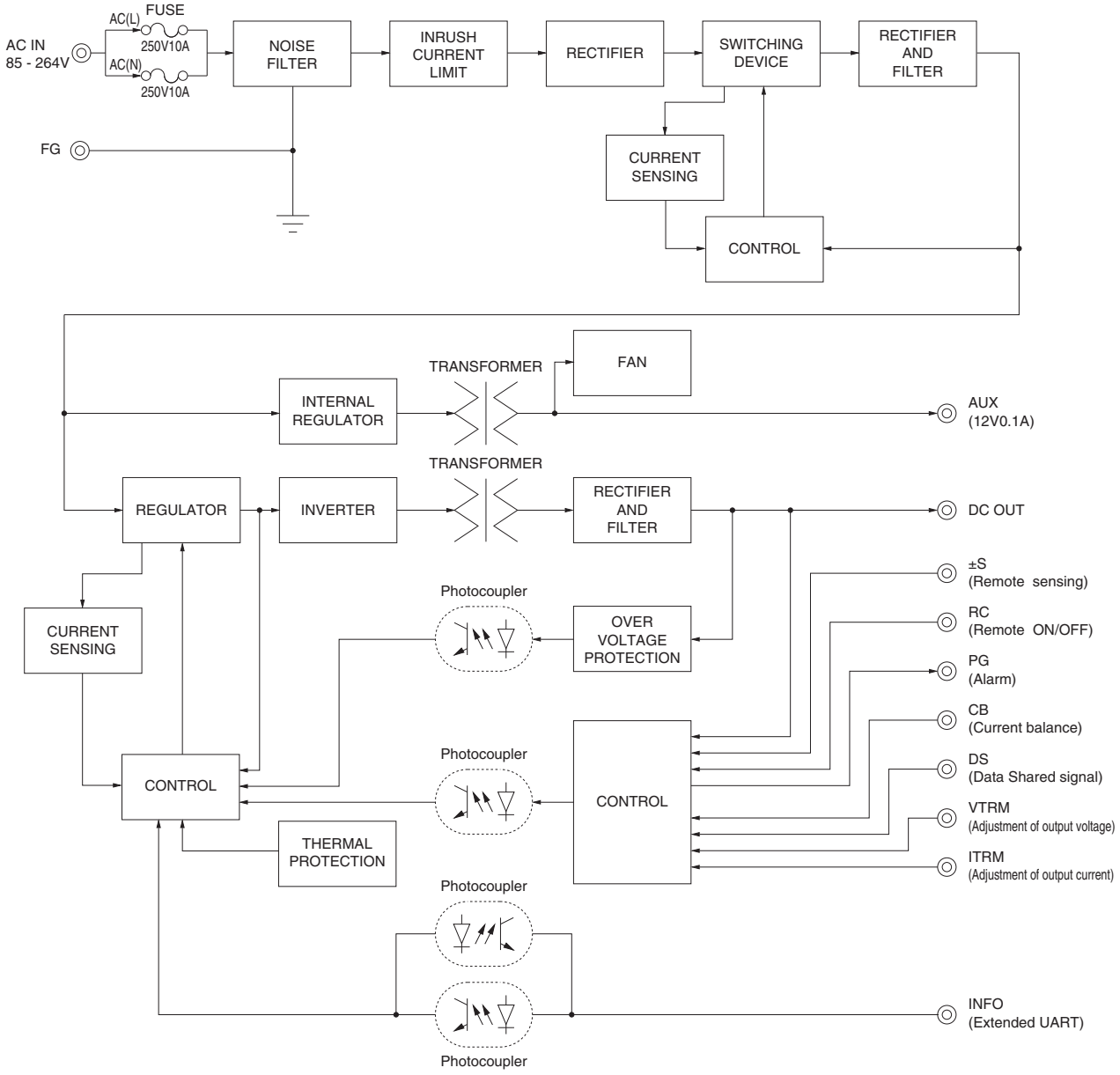
| | | |
|---|---|---|
| OTHERS | CASE SIZE/WEIGHT | 89×41×152mm [3.50×1.61×5.98 inches] (without terminal block and screw) (W×H×D) / 840g max |
| | COOLING METHOD | Forced cooling (internal fan) |

∗1 DC input safety agency approvals deleted.
∗2 The value is primary surge. The current of input surge to a built-in EMI/EMS Filter(0.2ms or less) is excluded.
∗3 Measured by 20MHz oscilloscope or Ripple-Noise meter (equivalent to KEISOKU-GIKEN:RM103). Please refer to the instruction manual 1.2.
∗4 5V output product, the maximum temperature of 40℃.
∗5 Drift is the change in DC output for an eight hours period after a half-hour warm-up at 25℃.
∗6 Please contact us about another class.
∗7 The listed options may affect the published standard specifications. Please contact us for detailed product specifications and safety approvals.
∗ A sound may occur from power supply at pulse loading.

## Features

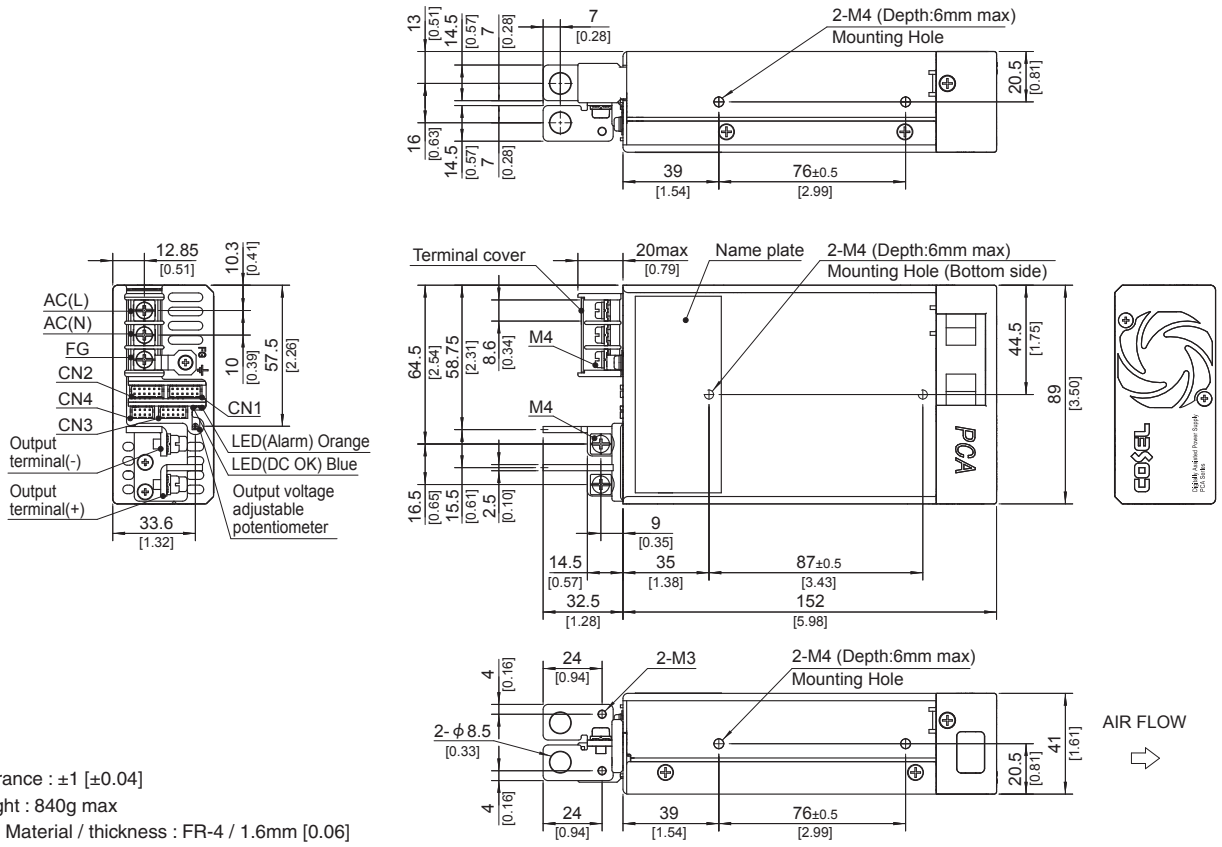
- Low profile (41mm, 1.61 inch = meet 1U height)
- Universal input 85 - 264VAC
- DC input 88 - 370VDC possible
- For medical electric equipment (ANSI/AAMI ES60601-1, EN60601-1 3rd, IEC60601-1-2 4th Ed.)
- Medical Isolation Grade 2MOPP
- With AUX output 12V 0.1A (Voltage adjustable range 5 - 12V)
- Constant current function
- Output voltage can be adjusted to near 0V (the item 2.6 on Instruction Manual)
- With various alarms
- Parallel Operation / N+1 Parallel Redundancy Operation possible
- Monitoring function and various setting values can be changed by communication (the item 2.11 on Instruction Manual)
- Complies with SEMI F47 (the item 2.1 on Instruction Manual)
- UL508 approval

## Block diagram



## External view

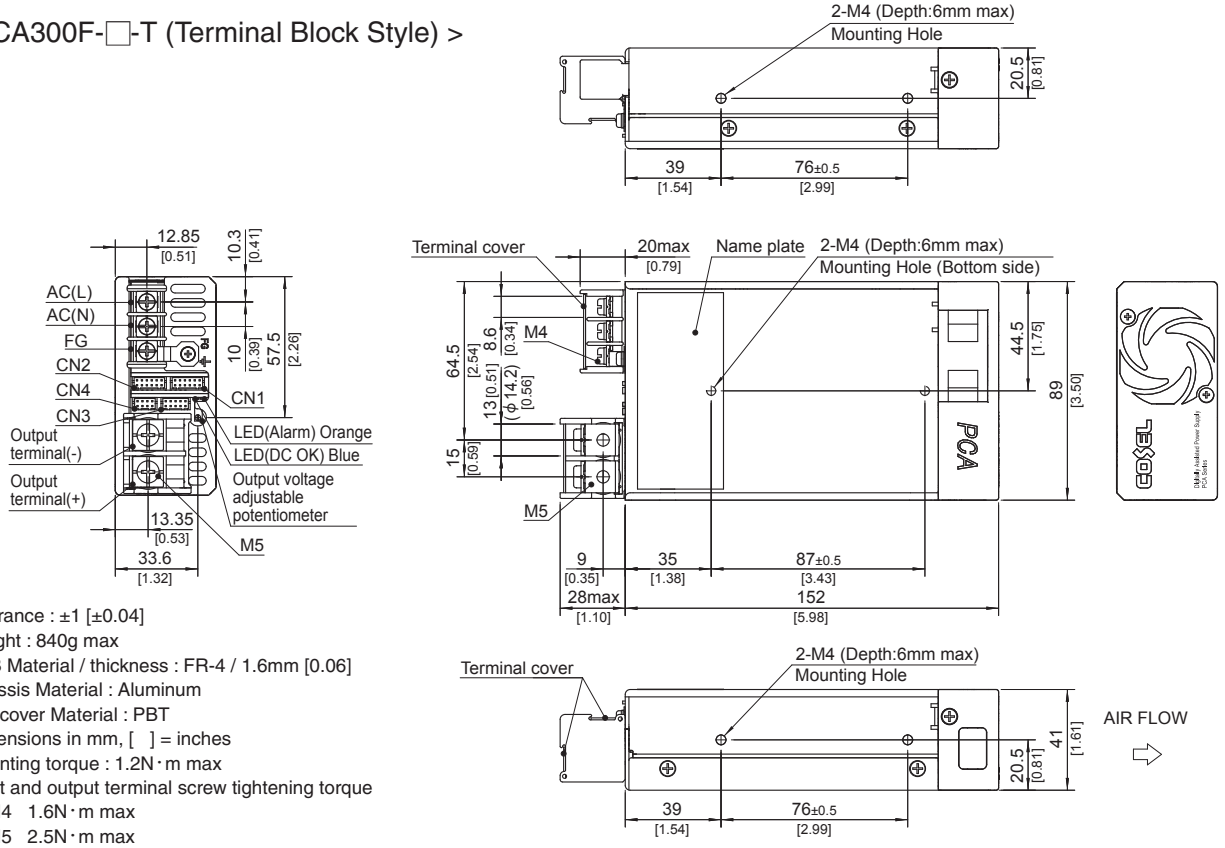
<PCA300F-□ (Bus Bar Style) >




※ Tolerance : ±1 [±0.04]
※ Weight : 840g max
※ PCB Material / thickness : FR-4 / 1.6mm [0.06]
※ Chassis Material : Aluminum
※ Fan cover Material : PBT
※ Dimensions in mm, [ ] = inches
※ Mounting torque : 1.2N·m max
※ Input and output terminal screw tightening torque
M3 0.6N·m max
M4 1.6N·m max
※ Please connect safety ground to FG terminal on the unit.

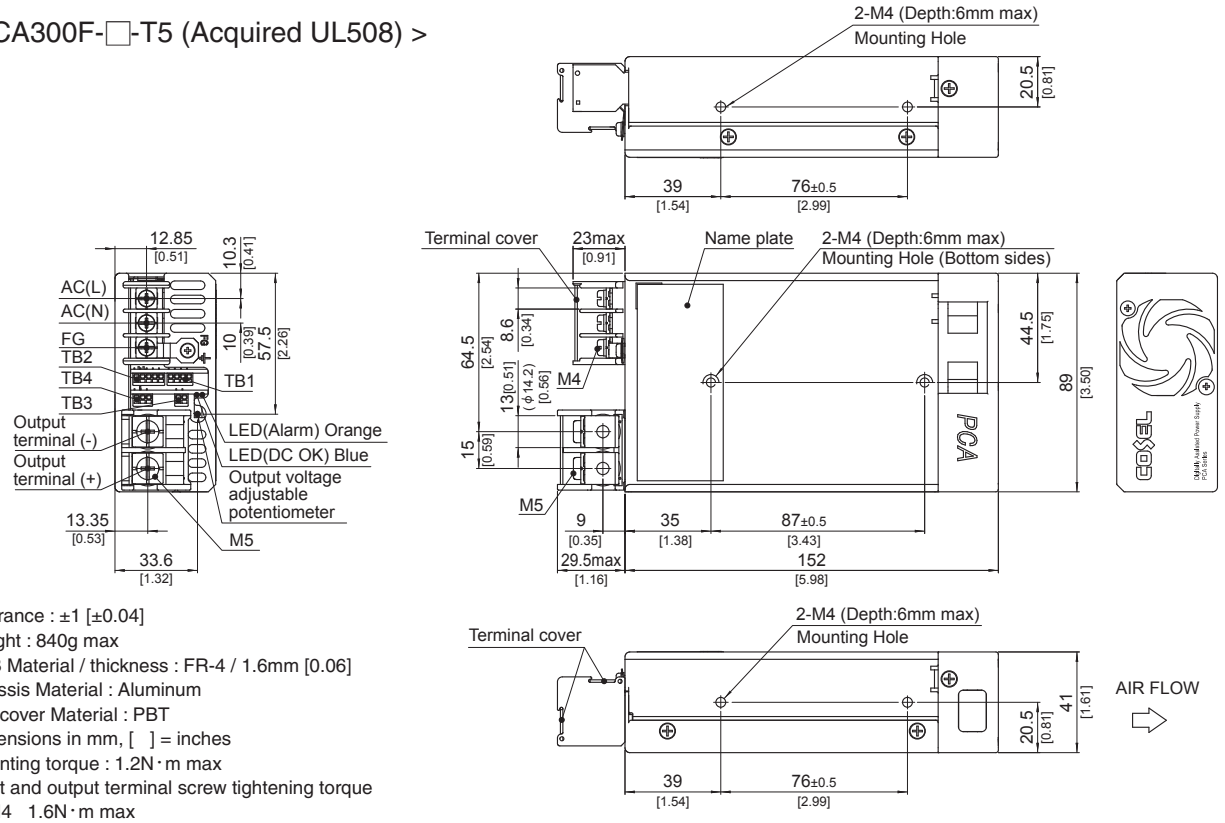
## External view

### <PCA300F-□-T (Terminal Block Style) >




※ Tolerance : ±1 [±0.04]
※ Weight : 840g max
※ PCB Material / thickness : FR-4 / 1.6mm [0.06]
※ Chassis Material : Aluminum
※ Fan cover Material : PBT
※ Dimensions in mm, [ ] = inches
※ Mounting torque : 1.2N·m max
※ Input and output terminal screw tightening torque
M4 1.6N·m max
M5 2.5N·m max
※ Please connect safety ground to FG terminal on the unit.

### <PCA300F-□-T5 (Acquired UL508) >



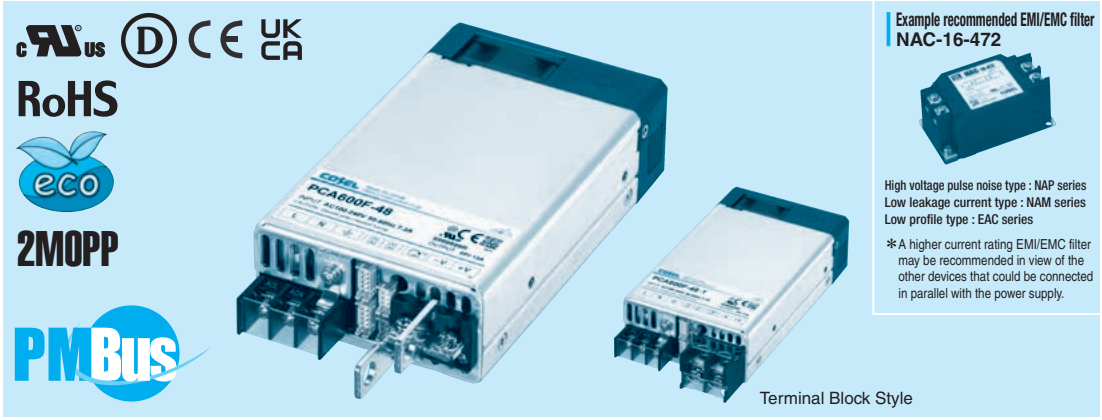

※ Tolerance : ±1 [±0.04]
※ Weight : 840g max
※ PCB Material / thickness : FR-4 / 1.6mm [0.06]
※ Chassis Material : Aluminum
※ Fan cover Material : PBT
※ Dimensions in mm, [ ] = inches
※ Mounting torque : 1.2N·m max
※ Input and output terminal screw tightening torque
M4 1.6N·m max
M5 2.5N·m max
※ Please connect safety ground to FG terminal on the unit.

COSEL AC-DC Power Supplies Enclosed Type

# PCA600F

## Ordering information

| PC | A | 600 | F | -5 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑧ |




Example recommended EMI/EMC filter
NAC-16-472



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

＊A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

①Series name
②Single output
③Output wattage
④Universal input
⑤Output voltage
⑥Optional ＊7
C :with Coating
G :Low leakage current
T :Terminal Block Style (Only 12V, 15V, 24V, 32V and 48V)
I :with PMBus interface
F2 :Reverse air exhaust type
P3 :Master-slave Operation
W1 :Alarm function
T5 :UL508 (Only 12V, 15V, 24V, 32V and 48V)

For option details, refer to instruction manual 6.1.

＊Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

| MODEL | PCA600F-5 | PCA600F-12 | PCA600F-15 | PCA600F-24 | PCA600F-32 | PCA600F-48 |
|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | 600 | 636 | 645 | 648 | 640 | 624 |
| DC OUTPUT | 5V 120A | 12V 53A | 15V 43A | 24V 27A | 32V 20A | 48V 13A |

## SPECIFICATIONS

| | MODEL | | | PCA600F-5 | PCA600F-12 | PCA600F-15 | PCA600F-24 | PCA600F-32 | PCA600F-48 |
|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE | | [VAC] | 85 - 264 1 ϕ (Output derating is required at less than 90V. Refer to “Derating” ) | | | | | |
| | | | [VDC] ＊1 | 88 - 370 (Output derating is required at less than 110V. Refer to “Derating” ) | | | | | |
| | CURRENT[A] | | ACIN 100V | 7.3typ | | | | | |
| | | | ACIN 230V | 3.2typ | | | | | |
| | FREQUENCY[Hz] | | | 50/60 (45 - 66) | | | | | |
| | EFFICIENCY[%] | ACIN 100V | (Io=50%) | 90typ | 91typ | 91typ | 91typ | 91typ | 91typ |
| | | | (Io=100%) | 89typ | 90typ | 90typ | 91typ | 91typ | 91typ |
| | | ACIN 230V | (Io=50%) | 92typ | 92typ | 92typ | 93typ | 93typ | 93typ |
| | | | (Io=100%) | 91typ | 92typ | 92typ | 93typ | 93typ | 93typ |
| | POWER FACTOR | | ACIN 100V | 0.98typ (Io=100%) | | | | | |
| | | | ACIN 230V | 0.95typ (Io=100%) | | | | | |
| | INRUSH CURRENT[A] | | ACIN 100V＊2 | 20/40 typ (Io=100%) (Primary inrush current / Secondary inrush current) (More than 3 sec. to re-start) | | | | | |
| | | | ACIN 230V＊2 | 40/40 typ (Io=100%) (Primary inrush current / Secondary inrush current) (More than 3 sec. to re-start) | | | | | |
| | LEAKAGE CURRENT[mA] | | | 0.5max (ACIN 240V 60Hz, Io=100%, According to IEC60601-1) | | | | | |
| OUTPUT | VOLTAGE[V] | | | 5 | 12 | 15 | 24 | 32 | 48 |
| | CURRENT[A] | | | 120 | 53 | 43 | 27 | 20 | 13 |
| | LINE REGULATION[mV] | | | 20max | 48max | 60max | 96max | 128max | 192max |
| | LOAD REGULATION[mV] | | | 40max | 100max | 120max | 150max | 150max | 480max |
| | RIPPLE[mVp-p] | 0 to +50℃ | ＊3＊4 | 160max | 240max | 240max | 240max | 320max | 480max |
| | | -20 to 0℃ | ＊3 | 280max | 320max | 320max | 320max | 420max | 640max |
| | RIPPLE NOISE[mVp-p] | 0 to +50℃ | ＊3＊4 | 240max | 300max | 300max | 300max | 400max | 600max |
| | | -20 to 0℃ | ＊3 | 320max | 360max | 360max | 360max | 480max | 720max |
| | TEMPERATURE REGULATION[mV] | 0 to +50℃ | ＊4 | 50max | 120max | 150max | 240max | 320max | 480max |
| | | -20 to +50℃ | ＊4 | 75max | 180max | 180max | 290max | 400max | 600max |
| | DRIFT[mV] | | ＊5 | 20max | 48max | 60max | 96max | 128max | 192max |
| | START-UP TIME[ms] | | | 700typ (ACIN 100/230V Io=100%) | | | | | |
| | HOLD-UP TIME[ms] | | | 20typ (ACIN 230V Io=80%) / 16typ (ACIN 230V Io=100%) | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | | | 3.00 to 6.00 | 7.20 to 14.40 | 9.00 to 18.00 | 14.40 to 28.80 | 19.20 to 38.40 | 28.80 to 57.60 |
| | OUTPUT VOLTAGE SETTING[V] | | | 5.00 to 5.05 | 12.00 to 12.12 | 15.00 to 15.15 | 24.00 to 24.24 | 32.00 to 32.32 | 48.00 to 48.48 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | | | Works over 105% of rating (Recovers automatically, Hiccup overcurrent) | | | | | |
| | OVERVOLTAGE PROTECTION[V] | | | 6.25 to 7.00 | 15.00 to 16.80 | 18.75 to 21.00 | 30.00 to 33.60 | 40.00 to 44.80 | 60.00 to 67.20 |
| | REMOTE SENSING | | | Provided | | | | | |
| | REMOTE ON/OFF (RC) | | | Provided | | | | | |
| | DC_OK LAMP | | | LED (Blue) | | | | | |
| | ALARM LAMP | | | LED (Orange) | | | | | |
| | COMMUNICATION FUNCTION | | | Provided (Extended UART) | | | | | |
| ISOLATION | INPUT-OUTPUT | | | AC4,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 2MOPP | | | | | |
| | INPUT-FG | | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 1MOPP | | | | | |
| | OUTPUT-FG | | | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature) | | | | | |
| | OUTPUT - AUX · RC · PG · INFO · DS · ADDR0 · ADDR1 · ADDR2 | | | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature) | | | | | |
| ENVIRONMENT | OPERATING TEMP.,HUMIDITY.AND ALTITUDE | | | -20 to +70℃, 20 - 90%RH (Non condensing) | | | | | |
| | STORAGE TEMP.,HUMIDITY.AND ALTITUDE | | | -20 to +75℃, 20 - 90%RH (Non condensing) | | | | | |
| | 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 X, Y and Z axis | | | | | |
| SAFETY AND NOISE REGULATIONS | AGENCY APPROVALS | | | UL62368-1, EN62368-1, C-UL (equivalent to CAN/CSA-C22.2 No.62368-1), ANSI/AAMI ES60601-1, EN60601-1 3rd, C-UL (equivalent to CAN/CSA-C22.2 No.60601-1), UL508 (Optional), Complies with IEC60601-1-2 4th Ed. | | | | | |
| | CONDUCTED NOISE | | | Complies with FCC Part15 classB, VCCI-B, CISPR32-B, EN55011-B, EN55032-B | | | | | |
| | HARMONIC ATTENUATOR ＊6 | | | Complies with IEC61000-3-2 (class A) | | | | | |

## SPECIFICATIONS

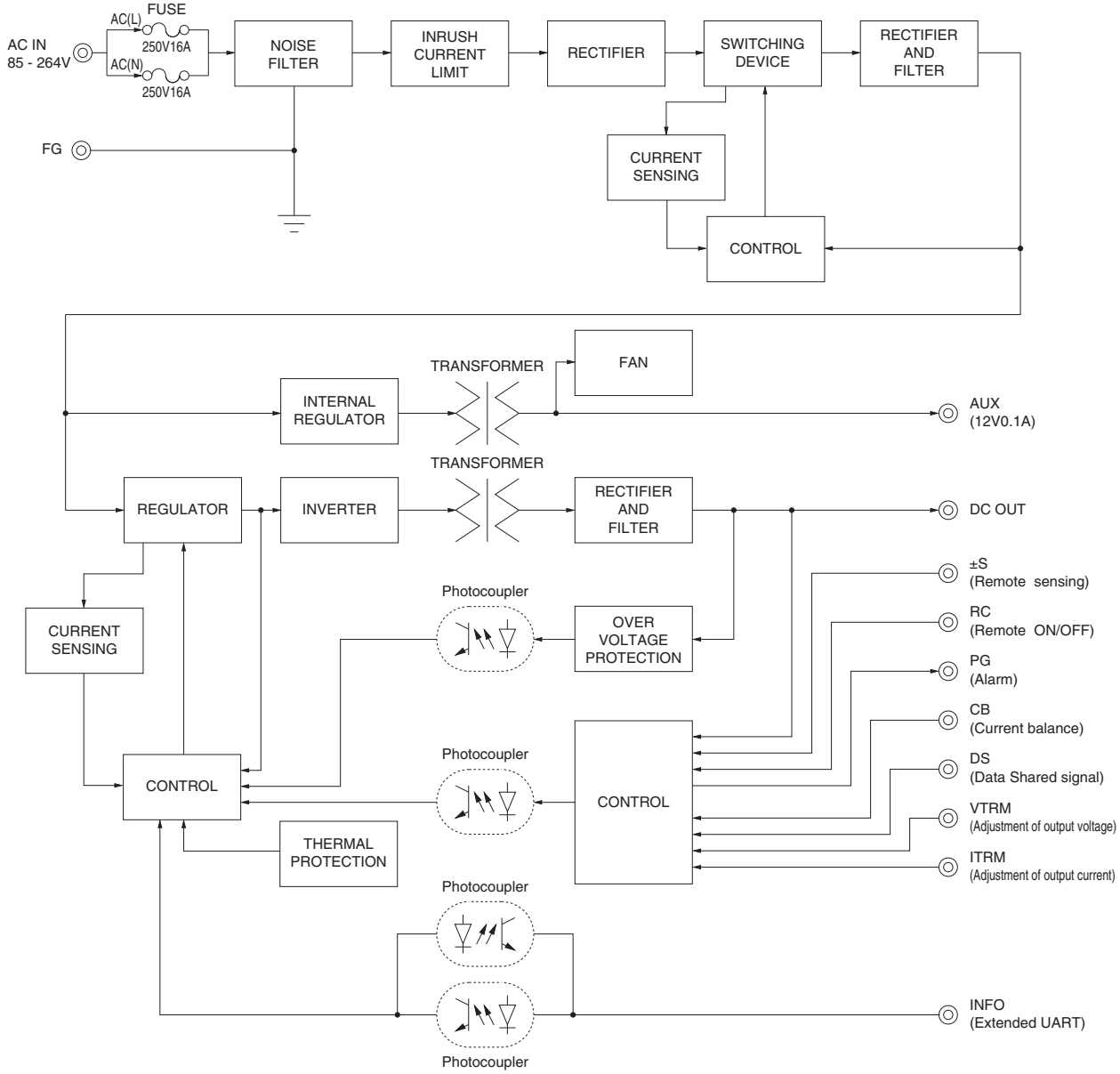
| | | |
|---|---|---|
| OTHERS | CASE SIZE/WEIGHT | 89×41×152mm [3.50×1.61×5.98 inches] (without terminal block and screw) (W×H×D) / 840g max |
| | COOLING METHOD | Forced cooling (internal fan) |

∗1 DC input safety agency approvals deleted.
∗2 The value is primary surge. The current of input surge to a built-in EMI/EMS Filter(0.2ms or less) is excluded.
∗3 Measured by 20MHz oscilloscope or Ripple-Noise meter (equivalent to KEISOKU-GIKEN:RM103). Please refer to the instruction manual 1.2.
∗4 5V output product, the maximum temperature of 40℃.
∗5 Drift is the change in DC output for an eight hours period after a half-hour warm-up at 25℃.
∗6 Please contact us about another class.
∗7 The listed options may affect the published standard specifications. Please contact us for detailed product specifications and safety approvals.
∗ A sound may occur from power supply at pulse loading.

## Features

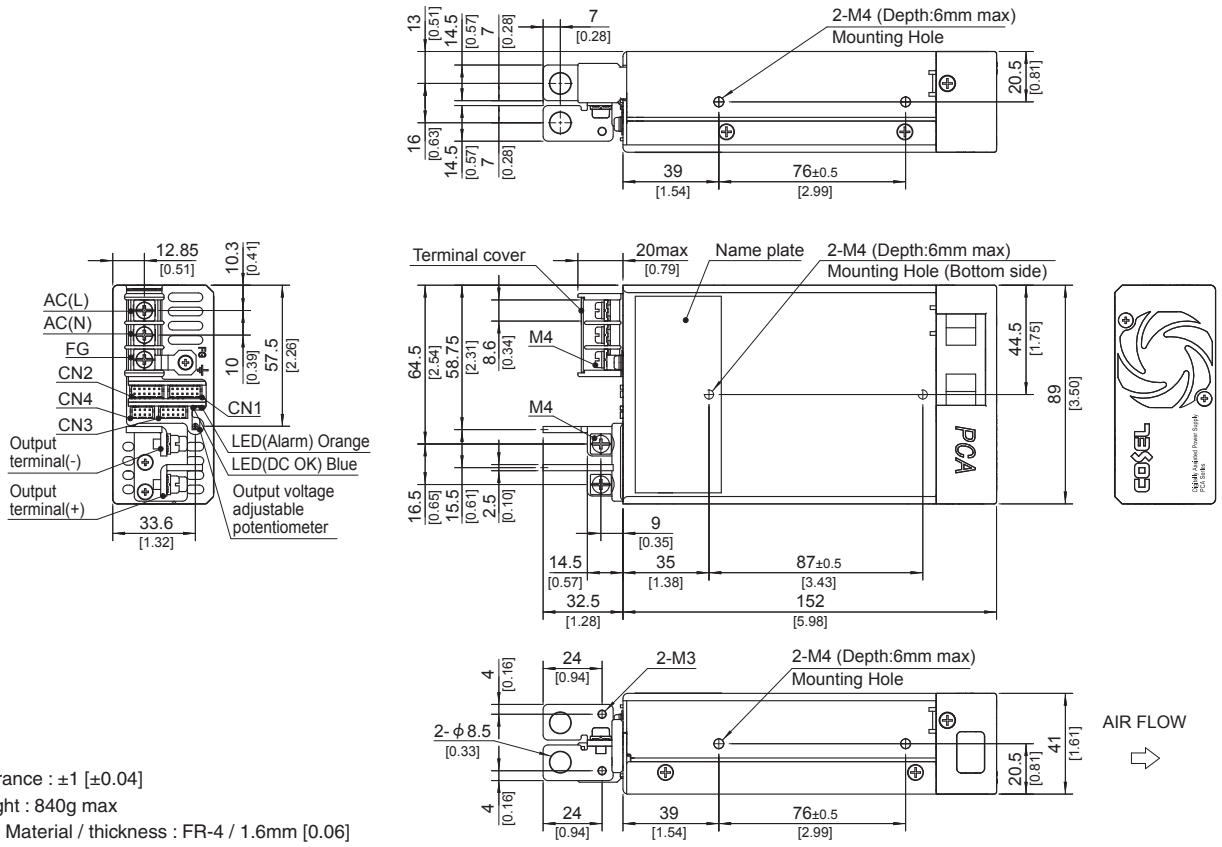
- Low profile (41mm, 1.61 inch = meet 1U height)
- Universal input 85 - 264VAC (Refer to "Derating", when using at 85 - 90VAC)
- DC input 88 - 370VDC possible (Refer to when using at 88 - 110VDC)
- For medical electric equipment (ANSI/AAMI ES60601-1, EN60601-1 3rd, IEC60601-1-2 4th Ed.)
- Medical Isolation Grade 2MOPP
- With AUX output 12V 0.1A (Voltage adjustable range 5 - 12V)
- Constant current function
- Output voltage can be adjusted to near 0V (the item 2.6 on Instruction Manual)
- With various alarms
- Parallel Operation / N+1 Parallel Redundancy Operation possible
- Monitoring function and various setting values can be changed by communication (the item 2.11 on Instruction Manual)
- Complies with SEMI F47 (the item 2.1 on Instruction Manual)
- UL508 approval

## Block diagram



## External view

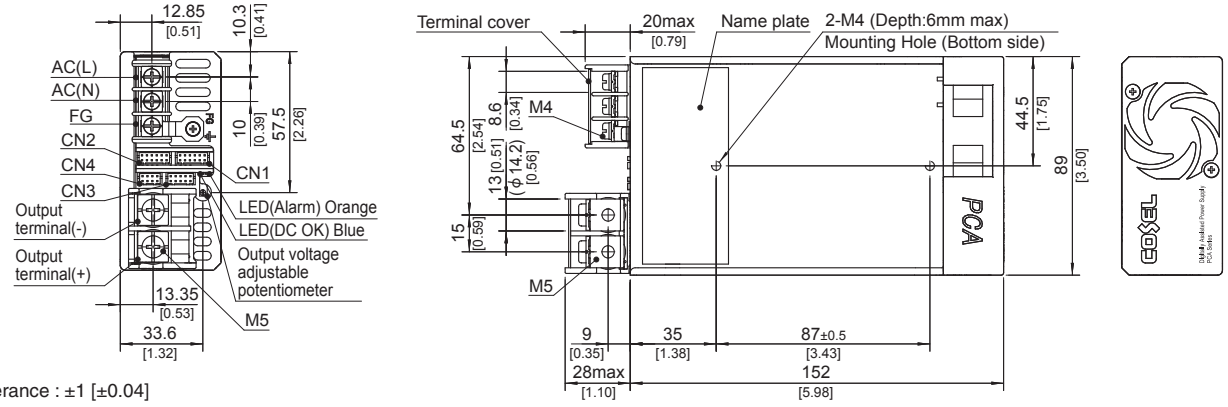
<PCA600F-□ (Bus Bar Style) >




※ Tolerance : ±1 [±0.04]
※ Weight : 840g max
※ PCB Material / thickness : FR-4 / 1.6mm [0.06]
※ Chassis Material : Aluminum
※ Fan cover Material : PBT
※ Dimensions in mm, [ ] = inches
※ Mounting torque : 1.2N·m max
※ Input and output terminal screw tightening torque
M3 0.6N·m max
M4 1.6N·m max
※ Please connect safety ground to FG terminal on the unit.

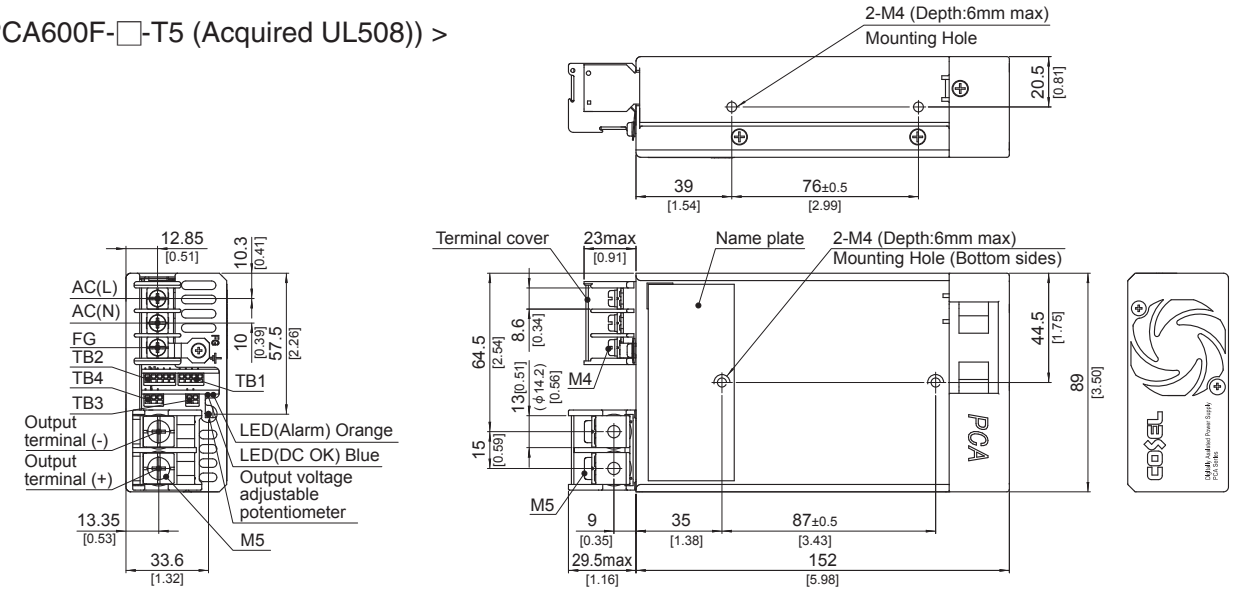
## External view

### <PCA600F-□-T (Terminal Block Style) >




※ Tolerance : ±1 [±0.04]
※ Weight : 840g max
※ PCB Material / thickness : FR-4 / 1.6mm [0.06]
※ Chassis Material : Aluminum
※ Fan cover Material : PBT
※ Dimensions in mm, [ ] = inches
※ Mounting torque : 1.2N·m max
※ Input and output terminal screw tightening torque
M4 1.6N·m max
M5 2.5N·m max
※ Please connect safety ground to FG terminal on the unit.

### <PCA600F-□-T5 (Acquired UL508)) >



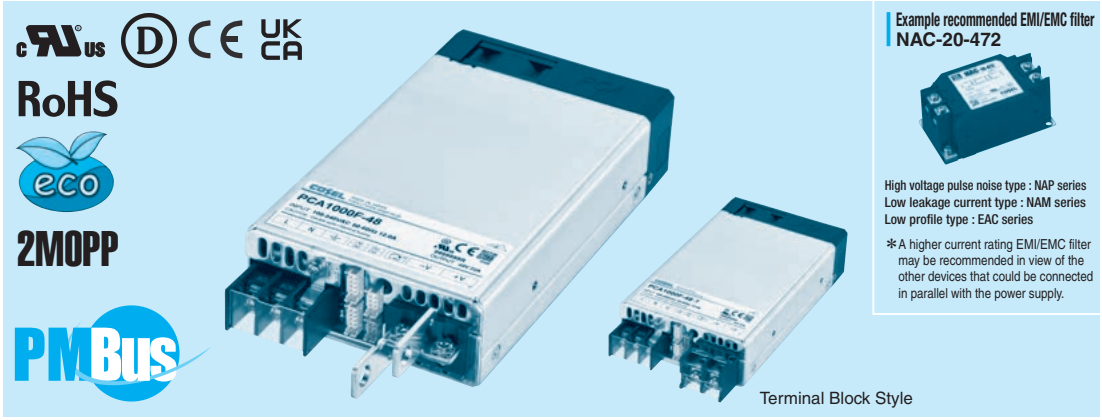

※ Tolerance : ±1 [±0.04]
※ Weight : 840g max
※ PCB Material / thickness : FR-4 / 1.6mm [0.06]
※ Chassis Material : Aluminum
※ Fan cover Material : PBT
※ Dimensions in mm, [ ] = inches
※ Mounting torque : 1.2N·m max
※ Input and output terminal screw tightening torque
M4 1.6N·m max
M5 2.5N·m max
※ Please connect safety ground to FG terminal on the unit.

COSEL AC-DC Power Supplies Enclosed Type

# PCA1000F

## Ordering information

| PC | A | 1000 | F | -5 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑧ |




Example recommended EMI/EMC filter
NAC-20-472



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

＊A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

①Series name
②Single output
③Output wattage
④Universal input
⑤Output voltage
⑥Optional ＊6
C :with Coating
G :Low leakage current
T :Terminal Block Style (Only 24V, 32V and 48V)
I :with PMBus interface
F2:Reverse air exhaust type
P3:Master-slave Operation
W1:Alarm function
E1:EMI classB (Only 24V, 32V and 48V)
T5:UL508 (Only 24V, 32V and 48V)

For option details, refer to instruction manual 6.1.

＊Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

| MODEL | PCA1000F-5 | PCA1000F-12 | PCA1000F-15 | PCA1000F-24 | PCA1000F-32 | PCA1000F-48 |
|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | 1000 | 1056 | 1050 | 1056 | 1056 | 1056 |
| DC OUTPUT | 5V 200A | 12V 88A | 15V 70A | 24V 44A | 32V 33A | 48V 22A |

## SPECIFICATIONS

| | MODEL | | | PCA1000F-5 | PCA1000F-12 | PCA1000F-15 | PCA1000F-24 | PCA1000F-32 | PCA1000F-48 |
|---|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE | | [VAC] | 85 - 264 1 ϕ (Output derating is required at less than 90V. Refer to “Derating”) | | | | | |
| | CURRENT[A] | | ACIN 100V | 12.0typ | | | | | |
| | | | ACIN 230V | 5.3typ | | | | | |
| | FREQUENCY[Hz] | | | 50/60 (45 - 66) | | | | | |
| | EFFICIENCY[%] | ACIN 100V | (Io=50%) | 90typ | 91typ | 91typ | 91typ | 91typ | 91typ |
| | | | (Io=100%) | 89typ | 90typ | 90typ | 91typ | 91typ | 91typ |
| | | ACIN 230V | (Io=50%) | 92typ | 92typ | 92typ | 93typ | 93typ | 93typ |
| | | | (Io=100%) | 91typ | 92typ | 92typ | 93typ | 93typ | 93typ |
| | POWER FACTOR | | ACIN 100V | 0.98typ (Io=100%) | | | | | |
| | | | ACIN 230V | 0.95typ (Io=100%) | | | | | |
| | INRUSH CURRENT[A] | | ACIN 100V＊1 | 20/40 typ (Io=100%) (Primary inrush current / Secondary inrush current) (More than 3 sec. to re-start) | | | | | |
| | | | ACIN 230V＊1 | 40/40 typ (Io=100%) (Primary inrush current / Secondary inrush current) (More than 3 sec. to re-start) | | | | | |
| | LEAKAGE CURRENT[mA] | | | 0.5max (ACIN 240V 60Hz, Io=100%, According to IEC60601-1) | | | | | |
| OUTPUT | VOLTAGE[V] | | | 5 | 12 | 15 | 24 | 32 | 48 |
| | CURRENT[A] | | | 200 | 88 | 70 | 44 | 33 | 22 |
| | LINE REGULATION[mV] | | | 20max | 48max | 60max | 96max | 128max | 192max |
| | LOAD REGULATION[mV] | | | 40max | 100max | 120max | 150max | 150max | 480max |
| | RIPPLE[mVp-p] | | 0 to +50℃ ＊2＊3 | 160max | 240max | 240max | 240max | 320max | 480max |
| | | | -20 to 0℃ ＊2 | 280max | 320max | 320max | 320max | 420max | 640max |
| | RIPPLE NOISE[mVp-p] | | 0 to +50℃ ＊2＊3 | 240max | 300max | 300max | 300max | 400max | 600max |
| | | | -20 to 0℃ ＊2 | 320max | 360max | 360max | 360max | 480max | 720max |
| | TEMPERATURE REGULATION[mV] | | 0 to +50℃ ＊3 | 50max | 120max | 150max | 240max | 320max | 480max |
| | | | -20 to +50℃ ＊3 | 75max | 180max | 180max | 290max | 400max | 600max |
| | DRIFT[mV] | | ＊4 | 20max | 48max | 60max | 96max | 128max | 192max |
| | START-UP TIME[ms] | | | 700typ (ACIN 100/230V Io=100%) | | | | | |
| | HOLD-UP TIME[ms] | | | 20typ (ACIN 230V Io=80%) / 16typ (ACIN 230V Io=100%) | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | | | 3.00 to 6.00 | 7.20 to 14.40 | 9.00 to 18.00 | 14.40 to 28.80 | 19.20 to 38.40 | 28.80 to 57.60 |
| | OUTPUT VOLTAGE SETTING[V] | | | 5.00 to 5.05 | 12.00 to 12.12 | 15.00 to 15.15 | 24.00 to 24.24 | 32.00 to 32.32 | 48.00 to 48.48 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | | | Works over 105% of rating (Recovers automatically, Hiccup overcurrent) | | | | | |
| | OVERVOLTAGE PROTECTION[V] | | | 6.25 to 7.00 | 15.00 to 16.80 | 18.75 to 21.00 | 30.00 to 33.60 | 40.00 to 44.80 | 60.00 to 67.20 |
| | REMOTE SENSING | | | Provided | | | | | |
| | REMOTE ON/OFF (RC) | | | Provided | | | | | |
| | DC_OK LAMP | | | LED (Blue) | | | | | |
| | ALARM LAMP | | | LED (Orange) | | | | | |
| | COMMUNICATION FUNCTION | | | Provided (Extended UART) | | | | | |
| ISOLATION | INPUT-OUTPUT | | | AC4,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 2MOPP | | | | | |
| | INPUT-FG | | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 1MOPP | | | | | |
| | OUTPUT-FG | | | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature) | | | | | |
| | OUTPUT - AUX · RC · PG · INFO · DS · ADDR0 · ADDR1 · ADDR2 | | | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature) | | | | | |
| ENVIRONMENT | OPERATING TEMP.,HUMIDITY.AND ALTITUDE | | | -20 to +70℃, 20 - 90%RH (Non condensing) | | | | | |
| | STORAGE TEMP.,HUMIDITY.AND ALTITUDE | | | -20 to +75℃, 20 - 90%RH (Non condensing) | | | | | |
| | 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 X, Y and Z axis | | | | | |
| SAFETY AND NOISE REGULATIONS | AGENCY APPROVALS | | | UL62368-1, EN62368-1, C-UL (equivalent to CAN/CSA-C22.2 No.62368-1), ANSI/AAMI ES60601-1, EN60601-1 3rd, C-UL (equivalent to CAN/CSA-C22.2 No.60601-1), UL508 (Optional), Complies with IEC60601-1-2 4th Ed. | | | | | |
| | CONDUCTED NOISE | | | Complies with FCC Part15 classA, VCCI-A, CISPR32-A, EN55011-A, EN55032-A | | | | | |
| | HARMONIC ATTENUATOR ＊5 | | | Complies with IEC61000-3-2 (class A) | | | | | |

## SPECIFICATIONS

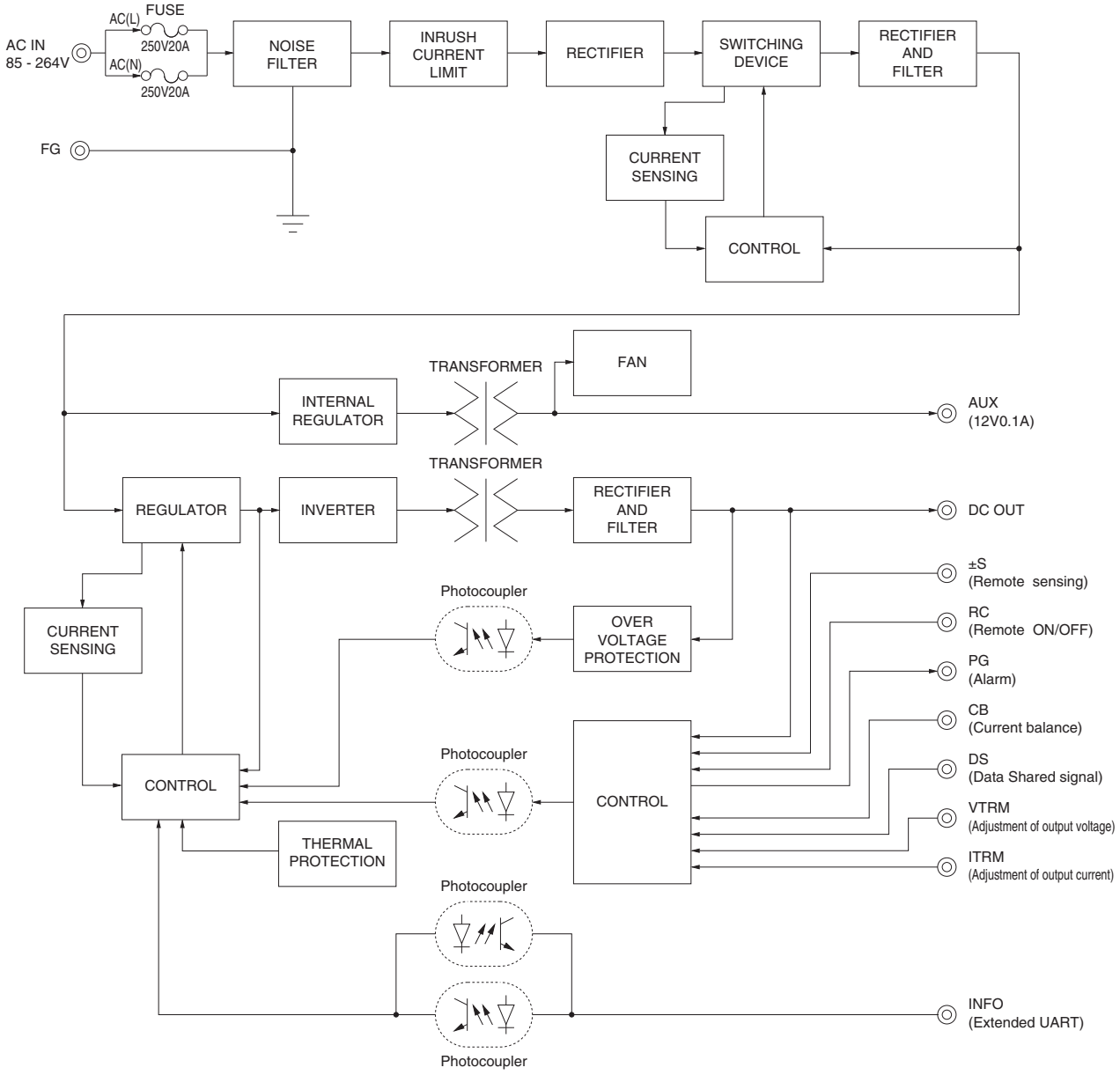
| | | |
|---|---|---|
| OTHERS | CASE SIZE/WEIGHT | 102×41×178mm [4.02×1.61×7.01 inches] (without terminal block and screw) (W×H×D) / 1.2kg max |
| | COOLING METHOD | Forced cooling (internal fan) |

∗1 The value is primary surge. The current of input surge to a built-in EMI/EMS Filter(0.2ms or less) is excluded.
∗2 Measured by 20MHz oscilloscope or Ripple-Noise meter (equivalent to KEISOKU-GIKEN:RM103). Please refer to the instruction manual 1.2.
∗3 5V, 12V, 15V output product, the maximum temperature of 40℃.
∗4 Drift is the change in DC output for an eight hours period after a half-hour warm-up at 25℃.
∗5 Please contact us about another class.
∗6 The listed options may affect the published standard specifications. Please contact us for detailed product specifications and safety approvals.
∗ A sound may occur from power supply at pulse loading.

## Features

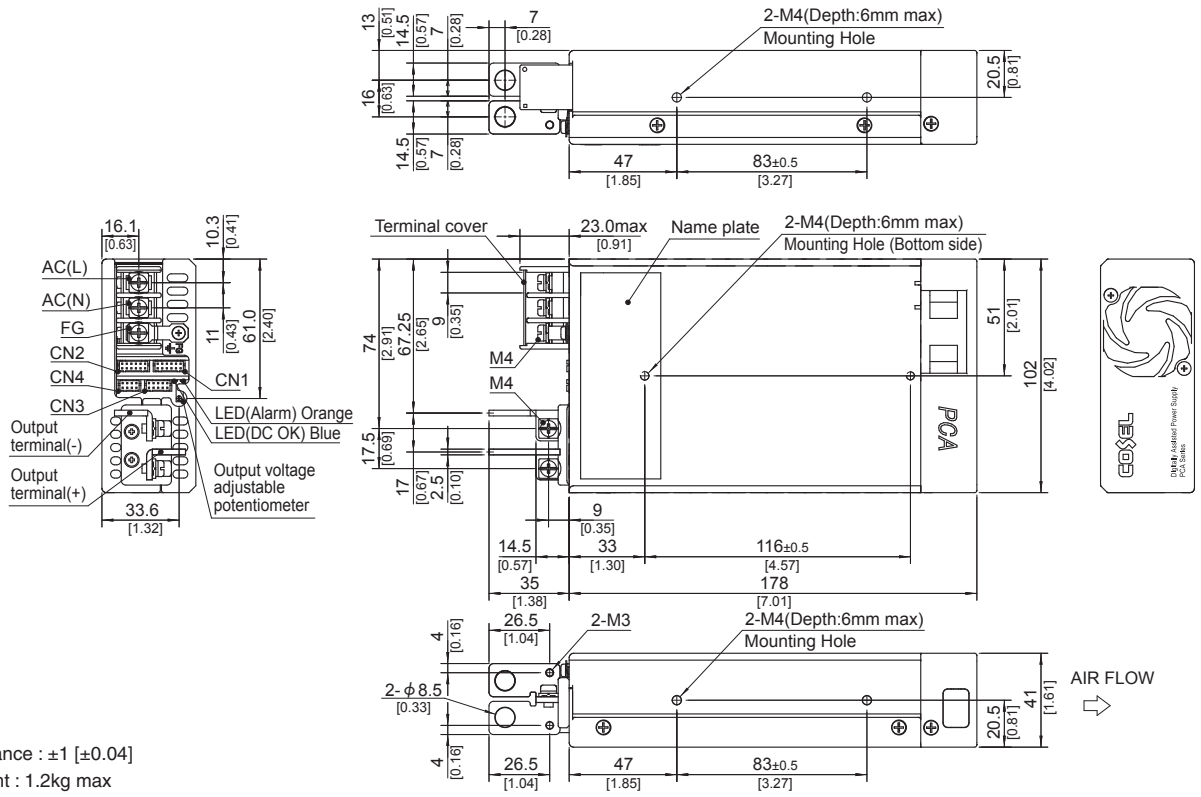
- Low profile (41mm, 1.61 inch = meet 1U height)
- Universal input 85 - 264VAC (Refer to "Derating", when using at 85 - 90VAC)
- For medical electric equipment (ANSI/AAMI ES60601-1, EN60601-1 3rd, IEC60601-1-2 4th Ed.)
- Medical Isolation Grade 2MOPP
- With AUX output 12V 0.1A (Voltage adjustable range 5 - 12V)
- Constant current function
- Output voltage can be adjusted to near 0V (the item 2.6 on Instruction Manual)
- With various alarms
- Parallel Operation / N+1 Parallel Redundancy Operation possible
- Monitoring function and various setting values can be changed by communication (the item 2.11 on Instruction Manual)
- Complies with SEMI F47 (the item 2.1 on Instruction Manual)
- UL508 approval

## Block diagram



## External view

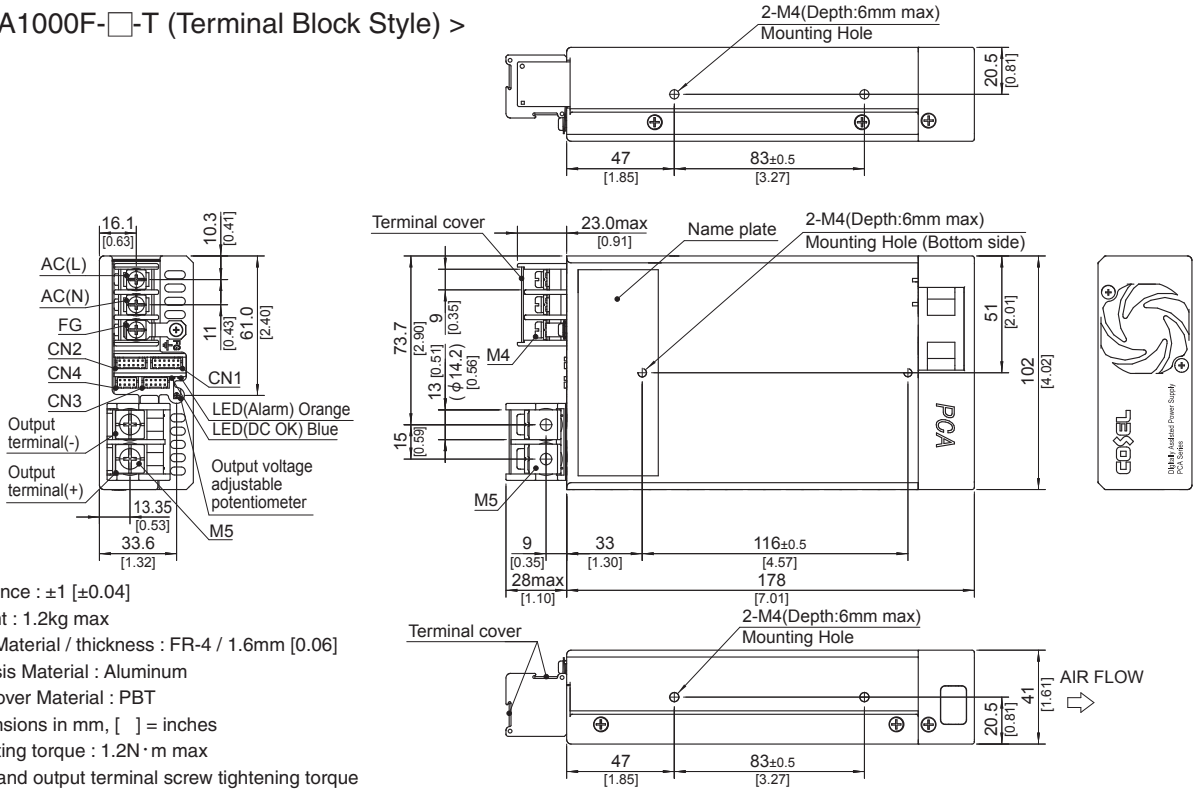
<PCA1000F-□ (Bus Bar Style) >




※ Tolerance : ±1 [±0.04]
※ Weight : 1.2kg max
※ PCB Material / thickness : FR-4 / 1.6mm [0.06]
※ Chassis Material : Aluminum
※ Fan cover Material : PBT
※ Dimensions in mm, [ ] = inches
※ Mounting torque : 1.2N·m max
※ Input and output terminal screw tightening torque
M3 0.6N·m max
M4 1.6N·m max
※ Please connect safety ground to FG terminal on the unit.

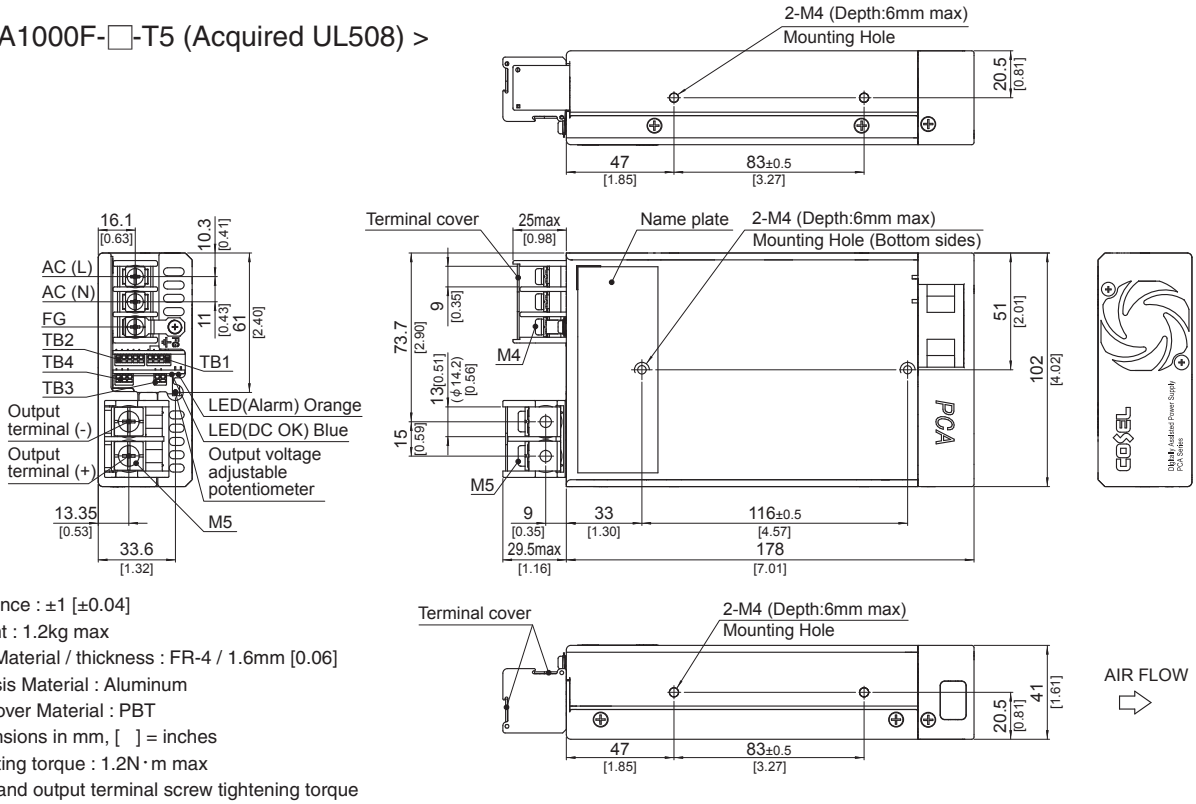
## External view

### <PCA1000F-□-T (Terminal Block Style) >




※ Tolerance : ±1 [±0.04]
※ Weight : 1.2kg max
※ PCB Material / thickness : FR-4 / 1.6mm [0.06]
※ Chassis Material : Aluminum
※ Fan cover Material : PBT
※ Dimensions in mm, [ ] = inches
※ Mounting torque : 1.2N·m max
※ Input and output terminal screw tightening torque
M4 1.6N·m max
M5 2.5N·m max
※ Please connect safety ground to FG terminal on the unit.

### <PCA1000F-□-T5 (Acquired UL508) >




※ Tolerance : ±1 [±0.04]
※ Weight : 1.2kg max
※ PCB Material / thickness : FR-4 / 1.6mm [0.06]
※ Chassis Material : Aluminum
※ Fan cover Material : PBT
※ Dimensions in mm, [ ] = inches
※ Mounting torque : 1.2N·m max
※ Input and output terminal screw tightening torque
M4 1.6N·m max
M5 2.5N·m max
※ Please connect safety ground to FG terminal on the unit.

COSEL AC-DC Power Supplies Enclosed Type

# PCA1500F

## Ordering information

| PC | A | 1500 | F | -5 | -□ |
|---|---|---|---|---|---|
| ① | ② | ③ | ④ | ⑤ | ⑥ |

Example recommended EMI/EMC filter
NAC-30-472

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

＊A higher current rating EMI/EMC filter may be recommended in view of the other devices that could be connected in parallel with the power supply.

①Series name
②Single output
③Output wattage
④Universal input
⑤Output voltage
⑥Optional ＊6
C :with Coating
G :Low leakage current
I :with PMBus interface
F2 :Reverse air exhaust type
P3 :Master-slave Operation
W1 :Alarm function

For option details, refer to instruction manual 6.1.

＊Make sure necessary tests will be carried out on your end equipment with the power supply installed in accordance with any required EMC/EMI regulations.

| MODEL | | PCA1500F-5 | PCA1500F-12 | PCA1500F-15 | PCA1500F-24 | PCA1500F-32 | PCA1500F-48 |
|---|---|---|---|---|---|---|---|
| MAX OUTPUT WATTAGE[W] | ACIN 100V/230V | 1500/1500 | 1500/1500 | 1500/1500 | 1560/1680 | 1504/1664 | 1536/1680 |
| DC OUTPUT | ACIN 100V/230V | 5V 300A/300A | 12V 125A/125A | 15V 100A/100A | 24V 65A/70A | 32V 47A/52A | 48V 32A/35A |

## SPECIFICATIONS

| | MODEL | | PCA1500F-5 | PCA1500F-12 | PCA1500F-15 | PCA1500F-24 | PCA1500F-32 | PCA1500F-48 |
|---|---|---|---|---|---|---|---|---|
| INPUT | VOLTAGE | [VAC] | 85 - 264 1 $\phi$ (Output derating is required at less than 95V. Refer to “Derating”) | | | | | |
| | CURRENT[A] | ACIN 100V | 18typ | | | | | |
| | | ACIN 230V | 7.8typ | | | 8.5typ | | |
| | FREQUENCY[Hz] | | 50/60 (45 - 66) | | | | | |
| | EFFICIENCY[%] ACIN 100V | (Io=50%) | 90typ | 91typ | 91typ | 91typ | 91typ | 91typ |
| | | (Io=100%) | 88typ | 90typ | 90typ | 91typ | 91typ | 91typ |
| | EFFICIENCY[%] ACIN 230V | (Io=50%) | 92typ | 92typ | 92typ | 93typ | 93typ | 93typ |
| | | (Io=100%) | 91typ | 92typ | 92typ | 93typ | 93typ | 93typ |
| | POWER FACTOR | ACIN 100V | 0.98typ (Io=100%) | | | | | |
| | | ACIN 230V | 0.95typ (Io=100%) | | | | | |
| | INRUSH CURRENT[A] | ACIN 100V＊1 | 20/40 typ (Io=100%) (Primary inrush current / Secondary inrush current) (More than 10 sec. to re-start) | | | | | |
| | | ACIN 230V＊1 | 40/40 typ (Io=100%) (Primary inrush current / Secondary inrush current) (More than 10 sec. to re-start) | | | | | |
| | LEAKAGE CURRENT[mA] | | 0.5max (ACIN 240V 60Hz, Io=100%, According to IEC60601-1) | | | | | |
| OUTPUT | VOLTAGE[V] | | 5 | 12 | 15 | 24 | 32 | 48 |
| | CURRENT[A] | ACIN 100V/230V | 300/300 | 125/125 | 100/100 | 65/70 | 47/52 | 32/35 |
| | LINE REGULATION[mV] | | 20max | 48max | 60max | 96max | 128max | 192max |
| | LOAD REGULATION[mV] | | 40max | 100max | 120max | 150max | 150max | 480max |
| | RIPPLE[mVp-p] | 0 to +50℃ ＊2＊3 | 160max | 240max | 240max | 240max | 320max | 480max |
| | | -20 to 0℃ ＊2 | 280max | 320max | 320max | 320max | 420max | 640max |
| | RIPPLE NOISE[mVp-p] | 0 to +50℃ ＊2＊3 | 240max | 300max | 300max | 300max | 400max | 600max |
| | | -20 to 0℃ ＊2 | 320max | 360max | 360max | 360max | 480max | 720max |
| | TEMPERATURE REGULATION[mV] | 0 to +50℃ ＊3 | 50max | 120max | 150max | 240max | 320max | 480max |
| | | -20 to +50℃ ＊3 | 75max | 180max | 180max | 290max | 400max | 600max |
| | DRIFT[mV] | ＊4 | 20max | 48max | 60max | 96max | 128max | 192max |
| | START-UP TIME[ms] | | 700typ (ACIN 100/230V Io=100%) | | | | | |
| | HOLD-UP TIME[ms] | | 20typ (ACIN 230V Io=80%) / 16typ (ACIN 230V Io=100%) | | | | | |
| | OUTPUT VOLTAGE ADJUSTMENT RANGE[V] | | 3.00 to 6.00 | 7.20 to 14.40 | 9.00 to 18.00 | 14.40 to 28.80 | 19.20 to 38.40 | 28.80 to 57.60 |
| | OUTPUT VOLTAGE SETTING[V] | | 5.00 to 5.05 | 12.00 to 12.12 | 15.00 to 15.15 | 24.00 to 24.24 | 32.00 to 32.32 | 48.00 to 48.48 |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION | | Works over 105% of rating (Recovers automatically, Hiccup overcurrent) | | | | | |
| | OVERVOLTAGE PROTECTION[V] | | 6.25 to 7.00 | 15.00 to 16.80 | 18.75 to 21.00 | 30.00 to 33.60 | 40.00 to 44.80 | 60.00 to 67.20 |
| | REMOTE SENSING | | Provided | | | | | |
| | REMOTE ON/OFF (RC) | | Provided | | | | | |
| | DC_OK LAMP | | LED (Blue) | | | | | |
| | ALARM LAMP | | LED (Orange) | | | | | |
| | COMMUNICATION FUNCTION | | Provided (Extended UART) | | | | | |
| ISOLATION | INPUT-OUTPUT | | AC4,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 2MOPP | | | | | |
| | INPUT-FG | | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature) 1MOPP | | | | | |
| | OUTPUT-FG | | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature) | | | | | |
| | OUTPUT - AUX · RC · PG · INFO · DS · ADDR0 · ADDR1 · ADDR2 | | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature) | | | | | |
| ENVIRONMENT | OPERATING TEMP.,HUMIDITY.AND ALTITUDE | | -20 to +70℃, 20 - 90%RH (Non condensing) | | | | | |
| | STORAGE TEMP.,HUMIDITY.AND ALTITUDE | | -20 to +75℃, 20 - 90%RH (Non condensing) | | | | | |
| | 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 X, Y and Z axis | | | | | |
| SAFETY AND NOISE REGULATIONS | AGENCY APPROVALS | | UL62368-1, EN62368-1, C-UL (equivalent to CAN/CSA-C22.2 No.62368-1), ANSI/AAMI ES60601-1, EN60601-1 3rd, C-UL (equivalent to CAN/CSA-C22.2 No.60601-1), Complies with IEC60601-1-2 4th Ed. | | | | | |
| | CONDUCTED NOISE | | Complies with FCC Part15 classA, VCCI-A, CISPR11-A, CISPR32-A, EN55011-A, EN55032-A | | | | | |
| | HARMONIC ATTENUATOR ＊5 | | Complies with IEC61000-3-2 (class A) | | | | | |

## SPECIFICATIONS

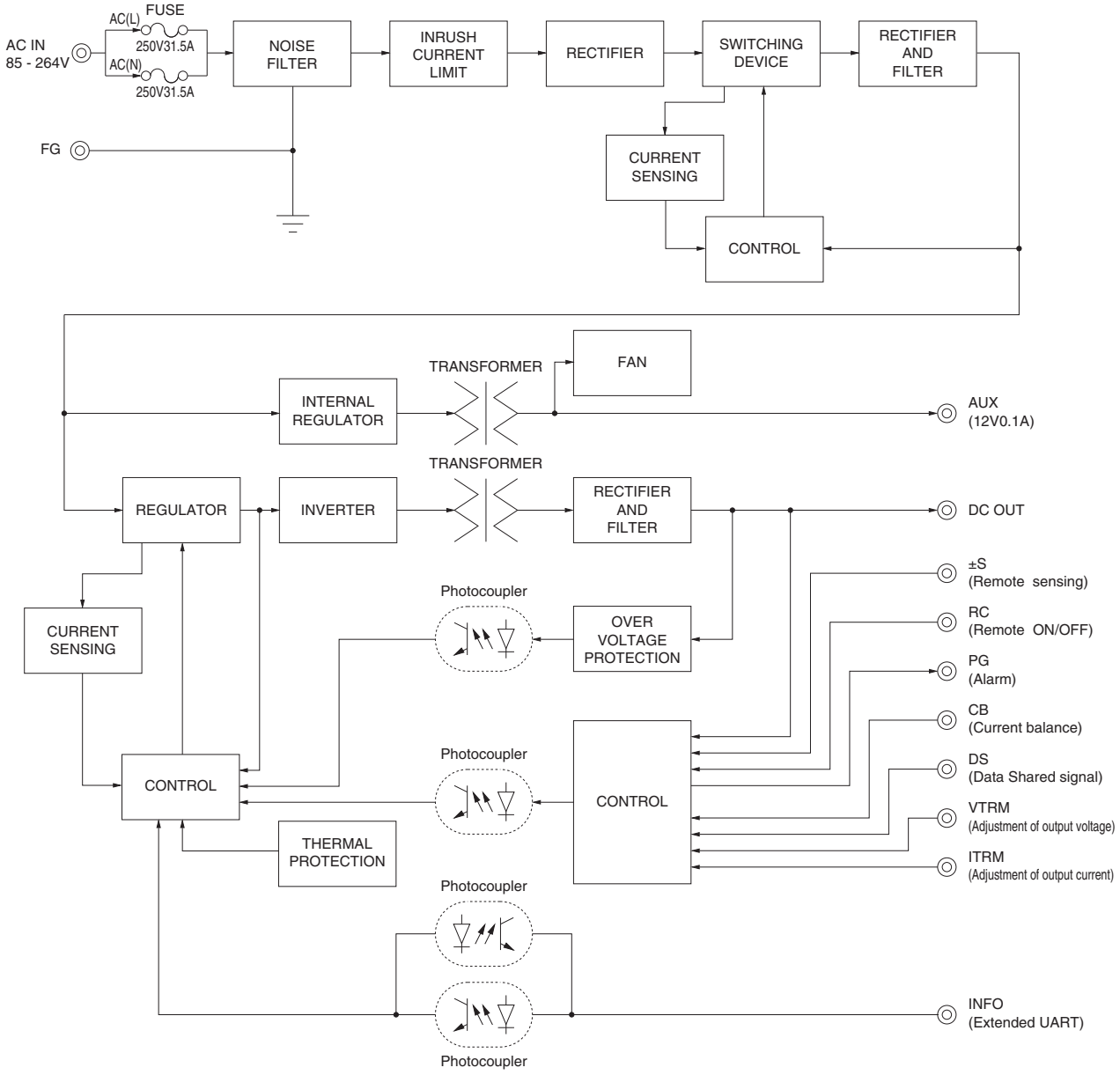
| | | |
|---|---|---|
| OTHERS | CASE SIZE/WEIGHT | 140×41×203mm [5.52×1.61×7.99 inches] (without terminal block and screw) (W×H×D) / 2.0kg max |
| | COOLING METHOD | Forced cooling (internal fan) |

∗1 The value is primary surge. The current of input surge to a built-in EMI/EMS Filter(0.2ms or less) is excluded.
∗2 Measured by 20MHz oscilloscope or Ripple-Noise meter (equivalent to KEISOKU-GIKEN:RM103). Please refer to the instruction manual 1.2.
∗3 5V, 12V, 15V output product, the maximum temperature of 40℃.
∗4 Drift is the change in DC output for an eight hours period after a half-hour warm-up at 25℃.
∗5 Please contact us about another class.
∗6 The listed options may affect the published standard specifications. Please contact us for detailed product specifications and safety approvals.
∗ A sound may occur from power supply at pulse loading.

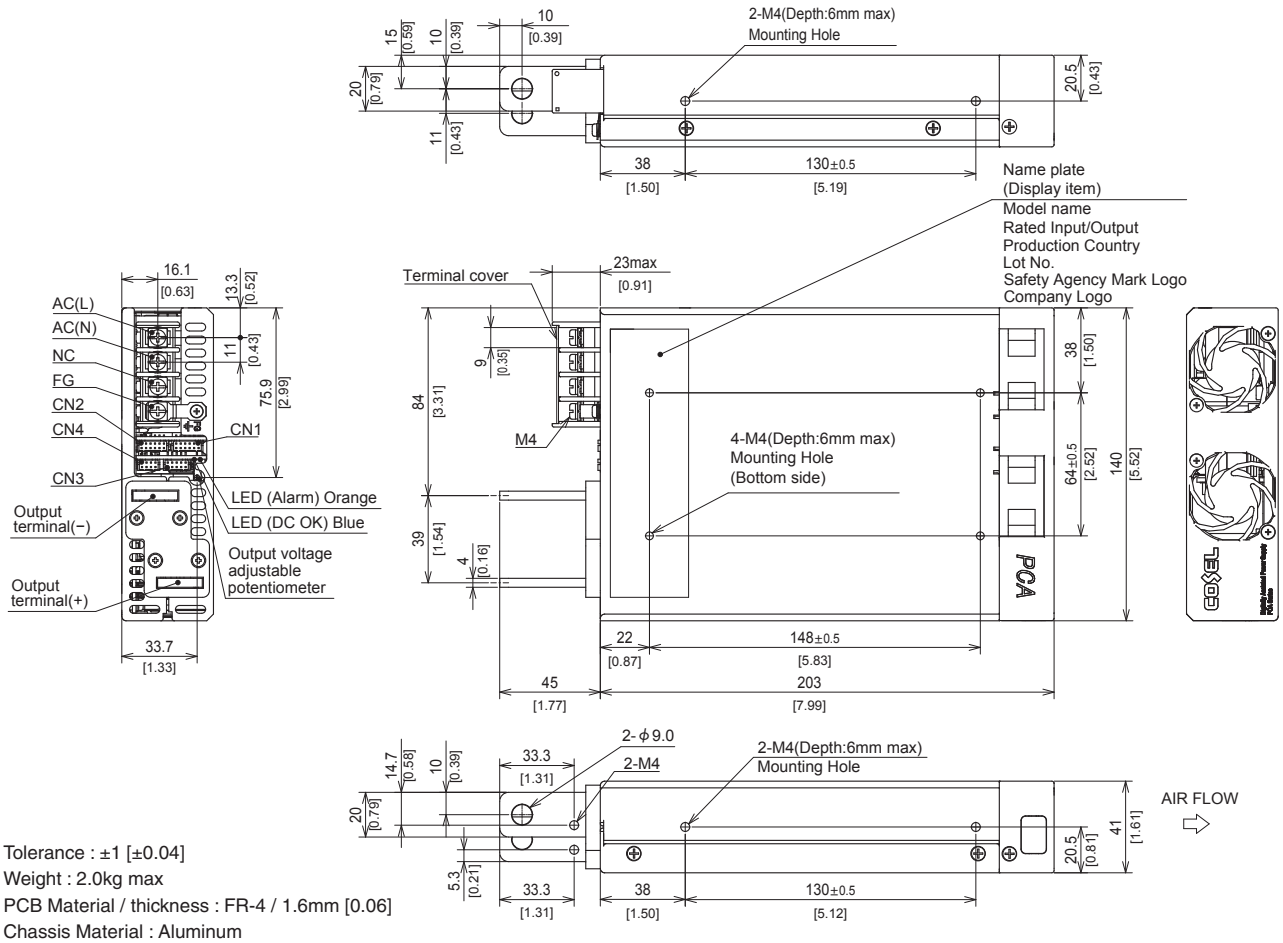
## Features

- Low profile (41mm, 1.61 inch = meet 1U height)
- Universal input 85 - 264VAC (Refer to "Derating", when using at 85 - 95VAC)
- For medical electric equipment (ANSI/AAMI ES60601-1, EN60601-1 3rd, IEC60601-1-2 4th Ed.)
- Medical Isolation Grade 2MOPP
- With AUX output 12V 0.1A (Voltage adjustable range 5 - 12V)
- Constant current function
- Output voltage can be adjusted to near 0V (Refer to the item 2.6 on Instruction Manual.)
- With various alarms
- Parallel Operation / N+1 Parallel Redundancy Operation available
- Monitoring function and various setting values can be changed by communication (Refer to the item 2.11 on Instruction Manual.)
- Complies with SEMI F47 (Refer to the item 2.1 on Instruction Manual.)

## Block diagram



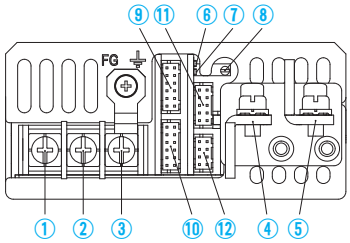
## External view



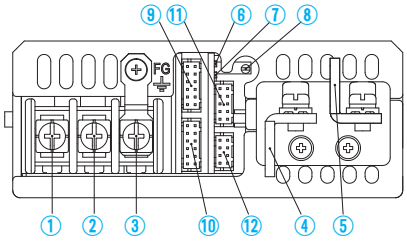

※ Tolerance : ±1 [±0.04]
※ Weight : 2.0kg max
※ PCB Material / thickness : FR-4 / 1.6mm [0.06]
※ Chassis Material : Aluminum
※ Fan cover Material : PBT
※ Dimensions in mm, [ ] = inches
※ Mounting torque : 1.2N·m max
※ Input and output terminal screw tightening torque
M3 0.6N·m max
M4 1.6N·m max
※ Please connect safety ground to FG terminal on the unit.

## Terminal Blocks

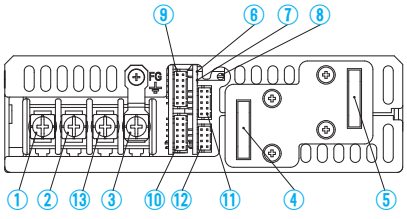
### ●PCA300F, PCA600F

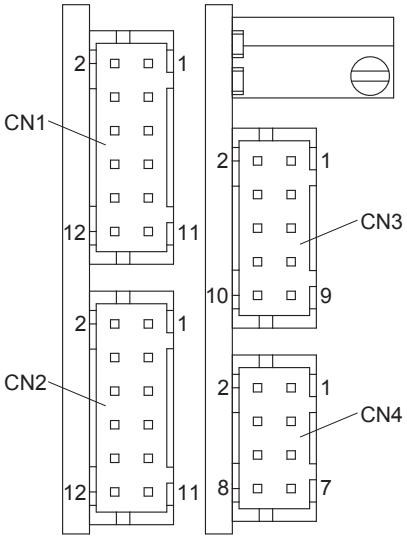



### ●PCA1000F




### ●PCA1500F




Connector pin numbers

①AC (L) ②AC (N) } Input Terminals (M4) 85 - 264VAC 1φ45 - 66Hz, 88 - 370VDC (Excluding PCA1000F PCA1500F)
③Frame ground (M4)
④–Output
⑤+Output
⑥LED for fault condition detection (ALARM) Color : Orange
⑦LED for output voltage confirmation (DC_OK) Color : Bule
⑧Output voltage adjustable potentiometer
⑨CN1
⑩CN2
⑪CN3
⑫CN4 } Connectors
⑬N.C.

Pin Configuration and Functions of CN1, CN2

| Pin No. | Function | | Ground level |
|---|---|---|---|
| 1 | +S | +Remote sensing | COM |
| 2 | N.C. | No connection | - |
| 3 | N.C. | No connection | - |
| 4 | -S | -Remote sensing | COM |
| 5 | VTRM | Adjustment of output voltage | COM |
| 6 | COM | Common ground (for signal) | COM |
| 7 | INFO | Extended UART signal | SGND |
| 8 | CB | Current Balance | COM |
| 9 | DS | Data Shared signal | SGND |
| 10 | SGND | Signal ground | SGND |
| 11 | RC2 | Remote ON/OFF | RCG |
| 12 | RCG | Remote ON/OFF ground | RCG |

∗ Each terminal of CN1 and CN2 are connected inside the power supply.

Pin Configuration and Functions of CN3

| Pin No. | Function | | Ground level |
|---|---|---|---|
| 1 | AUX | Auxiliary output | AUXG |
| 2 | AUXG | Auxiliary output ground | AUXG |
| 3 | RC1 | Remote ON/OFF | AUXG |
| 4 | AUXG | Auxiliary output ground | AUXG |
| 5 | PG | Alarm | PGG |
| 6 | PGG | Alarm ground | PGG |
| 7 | ITRM | Adjustment of output current | COM |
| 8 | COM | Common ground (for signal) | COM |
| 9 | VTRM_EN | Enable Vtrm | COM |
| 10 | SLV_EN | Enable Slave mode ∗1 | COM |

Pin Configuration and Functions of CN4

| Pin No. | Function | | Ground level |
|---|---|---|---|
| 1 | SDA | Serial data ∗2 | SGND |
| 2 | SGND | Signal ground | SGND |
| 3 | SCL | Serial clock ∗2 | SGND |
| 4 | SMBA | SMBAlert ∗2 | SGND |
| 5 | ADDR0 | Address bit 0 | SGND |
| 6 | ADDR1 | Address bit 1 | SGND |
| 7 | ADDR2 | Address bit 2 | SGND |
| 8 | SGND | Signal ground | SGND |

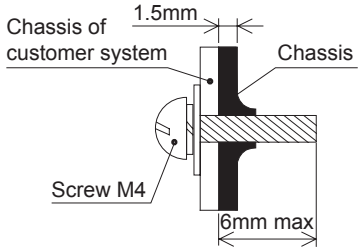
Matching connectors and terminals

| Connector | | Housing | Terminal | Mfr. |
|---|---|---|---|---|
| CN1 | S12B-PHDSS | PHDR-12VS | Reel : SPHD-002T-P0.5<br>Loose : BPHD-001T-P0.5 ∗3<br>BPHD-002T-P0.5 ∗3 | J.S.T |
| CN2 | | | | |
| CN3 | S10B-PHDSS | PHDR-10VS | | |
| CN4 | S8B-PHDSS | PHDR-8VS | | |

∗1 For -P3 option.
∗2 For -I option.
∗3 The manufacturer prepares only the ratchet hand.

## Assembling and Installation Method

■Please observe the mounting screw length in right figure to obtain enough isolation between screws and internal components.

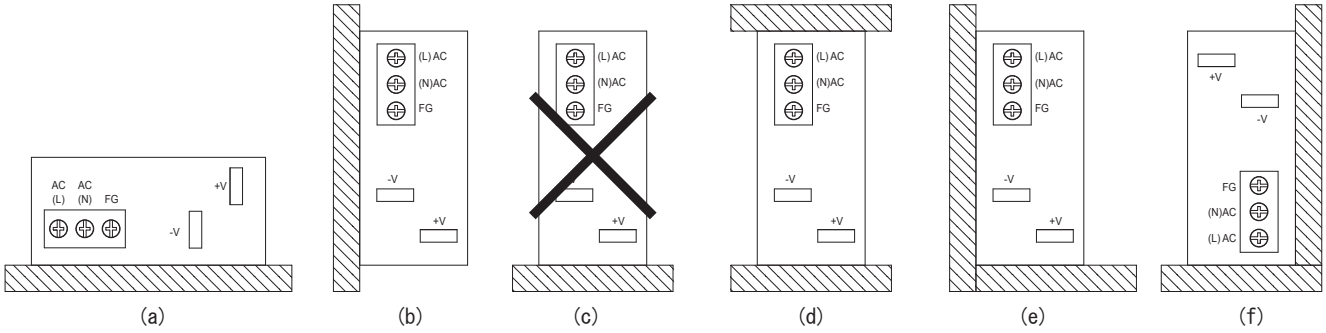


## Assembling and Installation Method

■Please do not block built-in fans and ventilation holes.When the power supply is mounted by screws, please consider its weight and set it in place. (Please see below.)

■Please avoid installing the power supply by only one narrow side like the Fig.(c).
In that case , another narrow side or the wide side should be also used to install as shown in Fig .(d), (e), and (f).

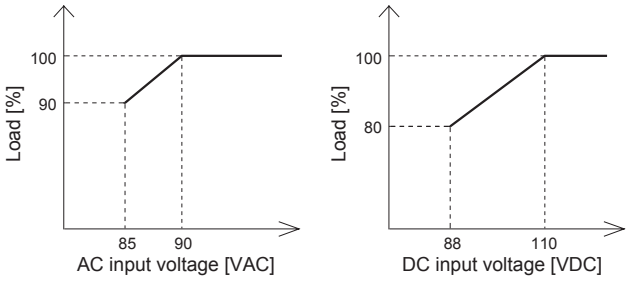
■If power supplies are used in a dusty environment, it might cause a failure. Please consider taking such countermeasures as installing an air filter near the suction area of the system to prevent a failure.



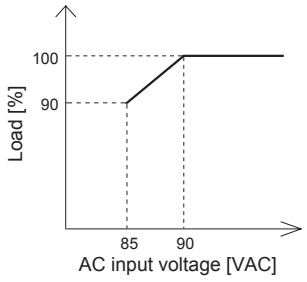

## Derating

### Input voltage Derating curve

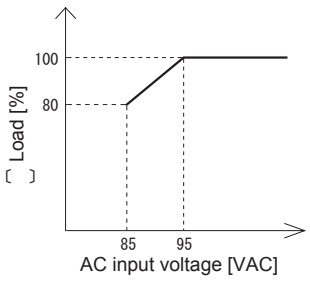
#### ●PCA600F



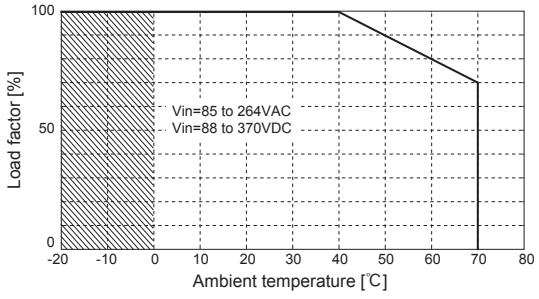

#### ●PCA1000F



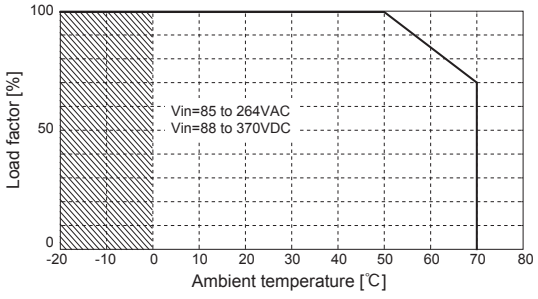

#### ●PCA1500F



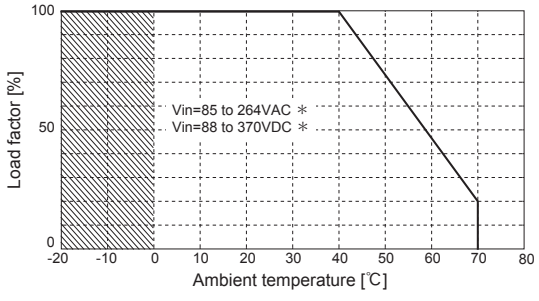

#### ●PCA300F-5 Ambient Temperature Derating Curve




#### ●PCA300F-12, -15, -24, -32, -48 Ambient Temperature Derating Curve

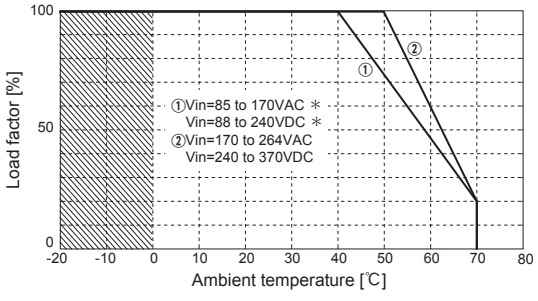



#### ●PCA600F-5 Ambient Temperature Derating Curve




*With derating due to input voltage

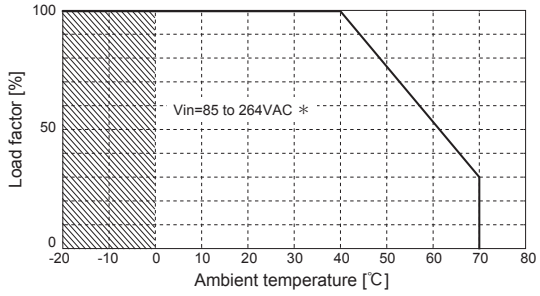
#### ●PCA600F-12, -15, -24, -32, -48 Ambient Temperature Derating Curve




*With derating due to input voltage

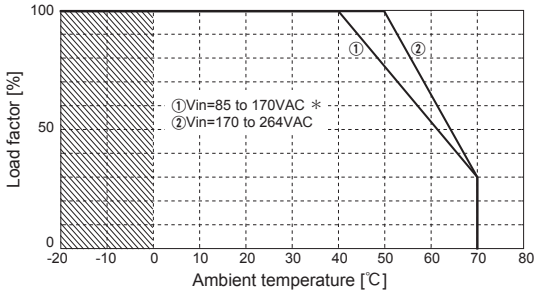
## Derating

### ●PCA1000F-5, -12, -15 Ambient Temperature Derating Curve



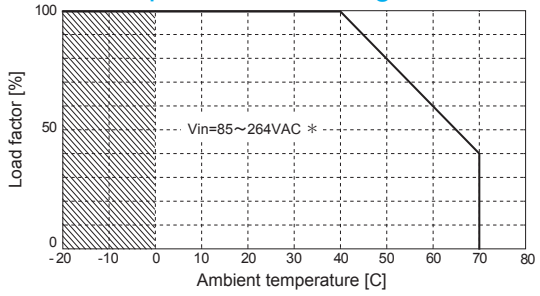

*With derating due to input voltage

### ●PCA1000F-24, -32, -48 Ambient Temperature Derating Curve



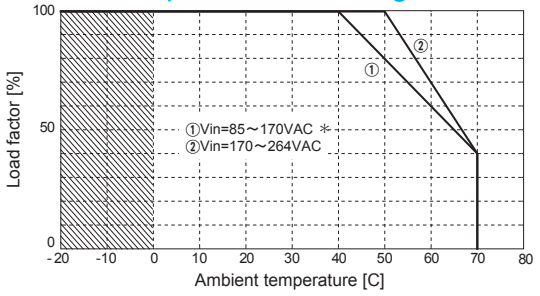

*With derating due to input voltage

### ●PCA1500F-5,-12,-15 Ambient Temperature Derating Curve




*With derating due to input voltage

### ●PCA1500F-24,-32,-48 Ambient Temperature Derating Curve




*With derating due to input voltage

■Specifications for ripple and ripple noise are different in the hatched area.

■The ambient temperature is defined as the temperature of the air at air-intake side of the power supply.

## Instruction Manual

◆ It is neccessary to read the “Instruction Manual” and “Before using our product” before you use our product.

| | |
|---|---|
| Instruction Manual | https://www.cosel.co.jp/redirect/catalog/en/PCA/ |
| Before using our product | https://en.cosel.co.jp/technical/caution/index.html |

PCA

NOTICE

## Basic Characteristics Data

| Model | Circuit method | Switching frequency [kHz] | Input current [A] | Rated input fuse | Inrush current protection circuit | PCB/Pattern | | | Series/Parallel operation availability | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Material | Single sided | Double sided | Series operation | Parallel operation |
| PCA300F | Active filter | 15 - 400 | 3.8 | 250V 10A | Relay | FR-4 | - | Yes | Yes | Yes |
| | Buck converter | 88 | | | | | | | | |
| | Full - bridge converter | 44 | | | | | | | | |
| PCA600F | Active filter | 15 - 400 | 7.3 | 250V 16A | Relay | FR-4 | - | Yes | Yes | Yes |
| | Buck converter | 88 | | | | | | | | |
| | Full - bridge converter | 44 | | | | | | | | |
| PCA1000F | Active filter | 15 - 400 | 12.0 | 250V 20A | Relay | FR-4 | - | Yes | Yes | Yes |
| | Buck converter | 88 | | | | | | | | |
| | Full - bridge converter | 44 | | | | | | | | |
| PCA1500F | Active filter | 15 - 400 | 18.0 | 250V 31.5A | Relay | FR-4 | - | Yes | Yes | Yes |
| | Buck converter | 88 | | | | | | | | |
| | Full - bridge converter | 44 | | | | | | | | |

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