

# Ups

**USER'S MANUAL  
BUKU PETUNJUK PEMAKAIAN**

**UNINTERRUPTIBLE  
POWER  
SUPPLY**

**CE 600D  
CE 1200D**

**CE SERIES**

**ICA**

## I. SAFETY NOTES / CATATAN KESELAMATAN

### Electrical Safety

- Do not work alone under hazardous conditions.
- High current through conductive materials could cause severe burns.
- Check that the power cord(s), plug(s), and socket are in good condition.
- When grounding cannot be verified, disconnect the equipment from the utility power outlet before installing or connecting to other equipment. Reconnect the power cord only after all connections are made.
- Connect the equipment to a three wire utility outlet (two pole plus ground). The receptacle must be connected to appropriate branch circuit/ mains protection (fuse or circuit breaker). Connection to any other type of receptacle may result in risk of electrical shock.

### Deenergizing Safety

- If the UPS has an internal energy source (battery), the output may be energized when the unit is not connected to a utility power outlet.
- To deenergize a pluggable UPS, press the OFF button or switch to shut the equipment off. Unplug the UPS from the utility power outlet. Disconnect the external batteries where applicable and disconnect the internal battery. Push the ON button to deenergize the capacitors.

### Battery Safety

- Repair are to be performed only by qualified personnel.
- Do not dispose of batteries in a fire. The batteries may explode.
- Do not open or mutilate batteries. They contain an electrolyte that is toxic and harmful to the skin and eyes.
- Replace batteries with the same number and type of batteries as originally installed in the equipment.

### Keselamatan Listrik

- Jangan bekerja sendiri dalam situasi berbahaya.
- Tegangan tinggi melalui bahan konduktif dapat menyebabkan luka bakar.
- Periksa agar kabel listrik, fitting, dan soket berada dalam kondisi baik.
- Bila grounding tak dapat diverifikasi, putuskan hubungan peralatan listrik dengan keluaran listrik AC sebelum memasang atau menghubungkannya dengan peralatan lain. Hubungkan kembali dengan kabel listrik hanya jika seluruhnya selesai dihubungkan.
- Hubungkan peralatan ke keluaran listrik AC tiga kabel (dua kutub dan ground). Soket penerima harus terhubung secara benar melalui sirkuit cabang/ pelindung utama (sekring atau pemutus arus). Hubungan ke soket penerima dalam bentuk lainnya dapat menyebabkan bahaya sengatan listrik.

### Keselamatan Saat Membuang Arus Listrik

- Jika alat memiliki sumber energi internal (baterai), output mungkin masih mengandung arus listrik walaupun unit tidak terhubung dengan tegangan listrik AC.
- Untuk membuang arus listrik dari UPS yang terhubung, tekan tombol OFF untuk mematikan alat. Putuskan alat dari outlet listrik AC. Lepaskan baterai dan putuskan baterai internal. Tekan tombol ON untuk membuang listrik di dalam kapasitor.

### Keselamatan Baterai

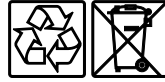
- Perbaikan hanya dilakukan oleh seorang teknisi yang memiliki kualifikasi.
- Jangan buang baterai ke dalam api, dapat meledak.
- Jangan membongkar baterai. Baterai mengandung elektrolit yang beracun dan dapat merusak kulit dan mata.
- Ganti baterai dengan nomor dan jenis yang sama seperti aslinya terpasang dalam alat.



Do not dispose of leftover packaging for this product as household waste: Take it to a collection point for recycling.  
For information about the nearest recycling facility, contact your local waste disposal authority.

### **Disposing of the product**

The UPS contains internal material that (in case of disposal) are considered TOXIC and HAZARDOUS WASTE, such as electronic circuit boards and batteries. Treat these materials according to the laws applicable referring to qualified service personnel. Their proper disposal contributes to respect the environment and human health.



Jangan buang sisa kemasan produk ini sebagai limbah rumah tangga: Bawa ke tempat pengumpulan untuk didaur ulang.  
Untuk informasi tentang tempat daur ulang terdekat, hubungi petugas pembuangan limbah setempat.

### **Pembuangan produk**

UPS berisi bahan internal yang (dalam kasus pembuangan) dianggap LIMBAH BERACUN dan BERBAHAYA, seperti papan sirkuit elektronik dan baterai. Perlakukan bahan-bahan ini sesuai dengan undang-undang yang berlaku dengan merujuk pada personel servis yang berkualifikasi. Pembuangan yang tepat berkontribusi untuk menghormati lingkungan dan kesehatan manusia.

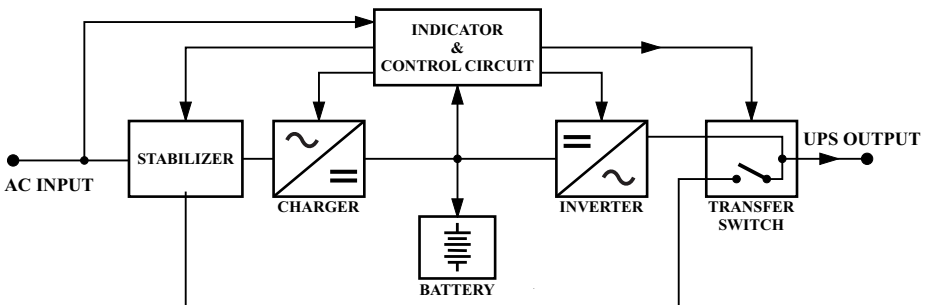
## **II. INTRODUCTION / PENDAHULUAN**

UPS (Uninterruptible Power Supplies) can provide full protection against all of power problem for your sensitive equipment ranging from computer, computerized instrument, PABX, facsimile, cash register to all electronic equipment.

This UPS consists of inverter, batteries, battery charger, control circuit, stabilizer, transfer switch and indicator. When line power is normal, the UPS filters line power input and by pass to output UPS and at the same time the batteries is being charged by battery charger. And when line power fails (off, voltage too low/high), inverter will supply regulated AC power to the load within  $\leq 4$  ms transfer time so that the power supplied to the load is uninterrupted. And when line power is normal automatically load gets from line power again.

UPS (Uninterruptible Power Supplies) dapat melindungi peralatan anda yang rentan terhadap gangguan kelistrikan seperti: komputer, instrument terkomputerisasi, PABX, faksimili, cash register dan peralatan elektronik lainnya.

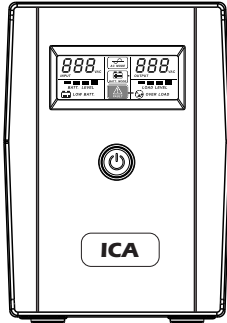
UPS ini terdiri atas inverter, baterai, pengisi baterai, rangkaian pengendali, stabilisator, saklar-pengalih dan indikator. Saat listrik jala-jala normal, UPS menyaring listrik masukan dan menyalurkannya pada keluaran UPS, pada saat yang sama baterai diisi oleh pengisi baterai. Manakala terjadi gangguan listrik (padam, tegangan terlalu rendah/tinggi), inverter seketika bekerja dengan waktu alih  $\leq 4$  ms sehingga pasokan listrik pada beban tidak terganggu/terputus. Dan bila listrik jala-jala pulih maka otomatis beban mendapat daya listrik jala-jala kembali.



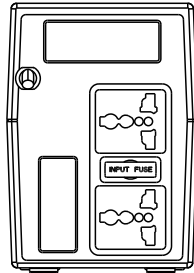
### III. TECHNICAL SPECIFICATION / SPESIFIKASI TEKNIS

| ITEM                  |                  | UNIT | SPECIFICATION                    |                 | REMARKS                            |
|-----------------------|------------------|------|----------------------------------|-----------------|------------------------------------|
| MODEL                 |                  |      | CE600D                           | CE1200D         |                                    |
| CAPACITY              |                  | VA/W | 600/300                          | 1200/600        | Maximum                            |
| AC INPUT              | Voltage          | V    | 140 ~ 300                        |                 |                                    |
|                       | Current          | A    | 1.6                              | 2.9             | Max. Load & Charger                |
|                       | Frequency        | Hz   | 50 ± 3                           |                 |                                    |
|                       | Protection       | A    | 3                                | 5               | Fuse                               |
| DC INPUT              | Internal Battery |      | 1 x 12V/7.2Ah                    | 2 x 12V/7.2Ah   | Sealed Lead Acid Battery           |
| INVERTER OUTPUT       | Wave Form        |      | Synthesized Sinewave (Step Wave) |                 | PWM                                |
|                       | Voltage          | V    | 230 ± 10%                        |                 |                                    |
|                       | Frequency        | Hz   | 50 ± 1                           |                 |                                    |
|                       | Efficiency       | %    | >80                              |                 |                                    |
| CHG                   | Type             |      | Constant Voltage                 |                 |                                    |
|                       | Voltage          | V    | 13.5                             | 27.0            |                                    |
|                       | Current          | A    | 1.5                              |                 |                                    |
| Transfer Time         |                  | ms   | 4 ~ 8                            |                 | Typical                            |
| Back Up Time          |                  | min  | 7 ~ 20                           |                 | Depending On Load                  |
| Indicator             |                  |      | LCD & Buzzer                     |                 | Refer to Table of Status Indicator |
| Operation Temperature |                  | °C   | 0 ~ 40                           |                 |                                    |
| Dimension             |                  | mm   | 298 x 101 x 142                  | 353 x 150 x 162 | D x W x H                          |
| Weight                | Kg               |      | 4.5                              | 8               | Netto                              |
|                       |                  |      | 5                                | 10              | Gross                              |

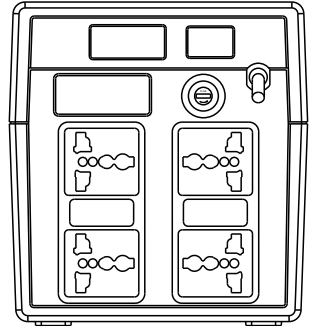
## IV. FRONT PANEL & REAR PANEL VIEW / *TAMPAK PANEL DEPAN & PANEL BELAKANG*



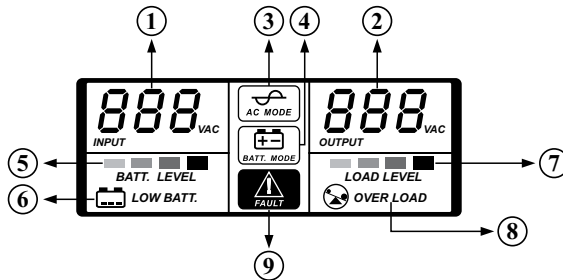
FRONT PANEL VIEW  
UPS CE600D & CE1200D



REAR PANEL VIEW  
UPS CE600D



REAR PANEL VIEW  
UPS CE1200D



- |  |   |
|--|---|
| 1. Input voltage / <i>Tegangan input</i>   | : Display UPS input voltage /<br><i>Menampilkan tegangan input UPS</i>  |
| 2. Output voltage / <i>Tegangan output</i> | : Display UPS output voltage /<br><i>Menampilkan tegangan output UPS</i>  |
| 3. AC mode / <i>Mode AC</i>                | : UPS in AVR mode, this LCD symbol flashes /<br><i>UPS dalam mode AVR, simbol LCD ini berkedip</i>  |
| 4. Battery mode / <i>Mode baterai</i>      | : When AC input voltage is abnormal, this LCD symbol lights /<br><i>Saat tegangan input AC tidak normal, simbol LCD ini menyala</i>   |
| 5. Battery level / <i>Tingkat baterai</i>  | : Battery capability / <i>Kemampuan baterai</i>   |
| 6. Low battery / <i>Baterai rendah</i>     | : When battery voltage is low, this LCD symbol flashes /<br><i>Saat tegangan baterai rendah, simbol LCD ini berkedip</i>  |
| 7. Load level / <i>Tingkat beban</i>       | : Load percentage / <i>Persentase beban</i>   |
| 8. Overload / <i>Beban-lebih</i>           | : When there is output overload, this LCD symbol flashes /<br><i>Saat ada beban-lebih output, simbol LCD ini berkedip</i>   |
| 9. Fault mode / <i>Mode fault</i>          | : This LCD symbol lights when UPS in fault mode, such as output shorted, over charge, overload / <i>Simbol LCD ini menyala saat UPS dalam mode fault, seperti korslet output, pengisian berlebih, beban berlebih.</i> |

## V. UPS INSTALLATION / PEMASANGAN UPS

### 1. Unpacking and Inspection.

Unpack the packaging and check the package contents. The contains of package; UPS unit, user manual, and warranty card.

Inspect the appearance of the UPS to see if there is any damage during transportation. Do not on the unit and notify the carrier and dealer immediately if there is any damage or lacking of some parts.

### 2. UPS Installation.

This UPS should be located in protected place.

This UPS must be connected to a power receptacle with earth ground.

- a. Make sure main switch on the off position.
- b. Connect the UPS to the available outlet.

### 1. Buka kemasan dan Pemeriksaan.

Buka kemasan dan periksa isinya. Isi dari kemasan; unit UPS, buku petunjuk, dan kartu garansi.

Periksa penampilan UPS untuk mengetahui apakah terdapat kerusakan akibat pengiriman. Jangan menghidupkan unit dan langsung beritahukan kepada agen jika ditemukan kerusakan ataupun kekurangan.

### 2. Instalasi UPS.

Letakkan UPS di tempat terlindung.

UPS harus dipasang pada stopkontak yang mempunyai hubungan ke bumi (arde).

- a. Pastikan main switch pada posisi off.
- b. Hubungkan UPS dengan stopkontak yang tersedia.

## VI. OPERATION PROCEDURE / CARA PENGOPERASIAN

### 1. Turn on procedure.

- a. Press on main switch at the front panel.
- b. Turn on the load connected to the outlet.

### 2. When the line power is interrupted.

In case of line power is interrupted (off or voltage is too low/ high), inverter converts the battery power to AC power automatically with transfer time  $\leq 4$  ms. Buzzer will sound at interval 4 seconds if the line power off or  $<140V$  or  $>300V$ . When the battery is near the end of its capacity, buzzer will sound continuously. At this time data should be stored and all load shutdown.

### 3. Turn off procedure.

- a. Turn off all the load connected to the outlet.
- b. Press on power button at the front panel.

### 1. Cara Menghidupkan.

- a. Tekan tombol daya pada panel depan.
- b. Hidupkan beban yang terpasang pada stopkontak keluaran.

2. Saat listrik jala-jala terganggu (padam atau tegangannya terlalu rendah / tinggi), inverter langsung bekerja dengan waktu alih  $\leq 4$  ms mengubah daya baterai menjadi arus listrik AC. Buzzer akan berbunyi putus-putus selang 4 detik, jika listrik jala-jala mati atau  $<140V$  atau  $>300V$ . Saat baterai hampir habis buzzer akan berbunyi kontinyu. Pada saat ini data harus sudah tersimpan dan semua beban harus sudah dimatikan.

### 3. Cara mematikan.

- a. Matikan semua beban yang terpasang pada UPS.
- b. Tekan tombol daya pada panel depan.

### Notes :

The UPS battery should charge for at least 10 hours to ensure sufficient runtime. The unit is being charged whenever it is connected to utility power and UPS must be turn ON.




### Catatan :

Baterai UPS harus di isi sekurangnya 10 jam untuk memastikan UPS beroperasi dengan memadai. Unit ini akan mengisi bilamana dihubungkan dengan sumber listrik dan UPS harus dihidupkan.

## VII. START UP UPS / MENGHIDUPKAN UPS

1. Make sure main switch on the “off” position and no load is connected to the outlet.
  2. Connect inlet with power cord to a power receptacle with earth ground.
  3. Turn on the UPS by pressing power button.  
At the same time the AC Mode indicator light (if line voltage >140V and <300V) which indicates UPS output is from line power.
  4. Disconnect inlet from line power, the AC Mode indicator will go out and audible alarm will sound every 10 seconds.
  5. Connect inlet to line power again and then AC Mode indicator will light on.
  6. Now your UPS is ready for operation.  
Connect the equipment that is going to be supplied by the UPS into the UPS.
1. Pastikan tombol pada posisi “off” dan tidak ada beban yang terpasang pada stopkontak keluaran.
  2. Hubungkan steker kabel daya ke stopkontak jala-jala yang mempunyai arde.
  3. Hidupkan UPS dengan menekan tombol daya. Bersamaan dengan itu indikator AC Mode menyala (bila tegangannya >140V dan <300V) yang menunjukkan keluaran UPS berasal dari listrik jala-jala.
  4. Cabut steker kabel daya dari stopkontak jala-jala maka indikator AC Mode akan padam dan buzzer akan berbunyi setiap 10 detik.
  5. Pasang kembali steker maka indikator AC Mode akan menyala kembali.
  6. Sekarang UPS siap menjalankan fungsinya. Hubungkan peralatan yang akan diberi pasokan daya pada stopkontak keluaran UPS.

## VIII. TABLE OF STATUS INDICATOR / TABEL STATUS INDIKATOR

| Status Condition                             | Buzzer |   |   |   | Symbol  |   |   | Remarks  |
|--|--------|---|---|---|---|---|---|--|
|  | A      | B | C | D |  |  |  |  |
| All normal                                   | 0      | 0 | 0 | 0 | 1   | 0   | 0   | -  |
| Line voltage abnormal                        | 1      | 0 | 0 | 0 | 0   | 1   | 0   | Check the line power, make sure between 140~300 Vac. |
| Line voltage abnormal at low battery voltage | 0      | 1 | 0 | 0 | 0   | 1   | 0   | Save your work now, the inverter will be cut off.    |
| Line voltage normal at low battery voltage   | 1      | 0 | 0 | 0 | 1   | 0   | 0   | -  |

Remark:

A: (Backup mode) Alarm every 10 seconds

B: (Battery low) Alarm every 1 second

C: (Overload) Alarm every 0.5 seconds

D: (Fault) Continuous sounding

## IX. TROUBLESHOOTING / *PETUNJUK KETIDAK NORMALAN*

| SYSTEM  | PROBLEM CAUSE  | RECOMMENDED SOLUTION   |
|---|--|--|
| “AC Mode” indicator not light.  | <ol style="list-style-type: none"><li>1. Main voltage &lt;140 Vac or &gt;300 Vac.</li><li>2. Problem in transfer switch control.</li></ol> | <ol style="list-style-type: none"><li>1. Check your mains voltage.</li><li>2. If main voltage &gt;140 Vac and &lt;300 Vac, call for service.</li></ol>   |
| When AC main failure and transfer to stored mode, the backup time is short. | Low battery capacity.  | <ol style="list-style-type: none"><li>1. Check battery voltage.</li><li>2. Charger battery ± 10 hour by kept the main switch in on position when AC mains normal.</li><li>3. Call for service.</li></ol> |
| When AC main failure and transfer to stored mode, unit cut-off immediately. | <ol style="list-style-type: none"><li>1. Battery damage.</li><li>2. Problem in inverter circuit.</li></ol>                                 | <ol style="list-style-type: none"><li>1. Replace battery with the same rating.</li><li>2. Call for service.</li></ol>  |

### SERVICE CENTRE **ICA**

Jln. Pinangsia Raya I No: 22BB  
Jakarta - 11120  
Phone : (021) 6906020 (Hunting)



Notes :  
For further information, please visit “[www.icaups.co.id](http://www.icaups.co.id)”.

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Catatan :  
Untuk informasi lebih lanjut, silakan kunjungi “[www.icaups.co.id](http://www.icaups.co.id)”.