

Ups

**USER'S MANUAL
BUKU PETUNJUK PEMAKAIAN**

**UNINTERRUPTIBLE
POWER
SUPPLY**

**CS 638
CS 1238**

CS 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.



Jangan buang sisa kemasan produk ini sebagai limbah rumah tangga: Bawa ke tempat pengumpulan untuk daur ulang.

Untuk informasi tentang tempat daur ulang terdekat, hubungi petugas pembuangan limbah setempat.

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.

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.

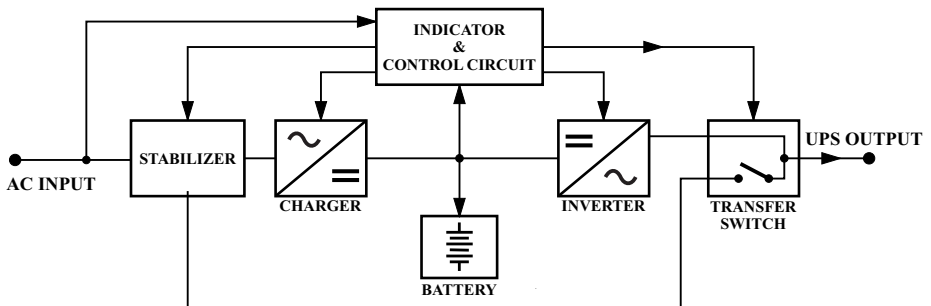
II. INTRODUCTION / PENDAHULUAN

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 bypass 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 ≤ 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, instrumen 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 ≤ 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			CS638	CS1238	
CAPACITY		VA/W	600 / 300	1200 / 600	Maximum
AC INPUT	Voltage	V	165 ~ 250		
	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/7Ah	2 x 12V/7Ah	Sealed Lead Acid Battery
INVERTER OUTPUT	Wave Form		Synthesized Sinewave (Step Wave)		PWM
	Voltage	V	220 ± 5%		
	Frequency	Hz	50		
	Efficiency	%	>80		
CHG	Type		Constant Voltage		
	Voltage	V	13.5	27.0	
	Current	A	1.5		
Transfer Time		ms	≤ 4		Maximum
Back Up Time		min	10		Depending On Load
Indicator			Led & Buzzer		Refer to Table of Status Indicator
Operation Temperature		°C	0 ~ 40		
Dimension		mm	345 x 95 x 158	390 x 145 x 195	D x W x H
Weight	Kg		6	12.6	Netto
			7	14	Gross

Notes :

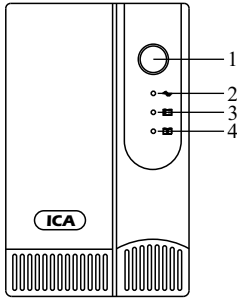
The UPS battery should charge for at least 10 hours to ensure sufficient runtime. The unit is being charged whenever it is connected to utility power and UPS must be turn ON.

Catatan :

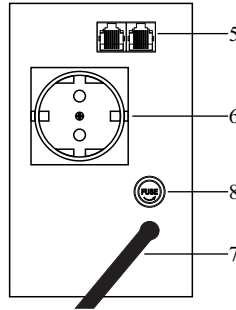
Battery UPS harus di isi sekurangngnya 10 jam untuk memastikan UPS beroperasi dengan memadai.

Unit akan mengisi bilamana dihubungkan dengan sumber listrik dan UPS harus dihidupkan.

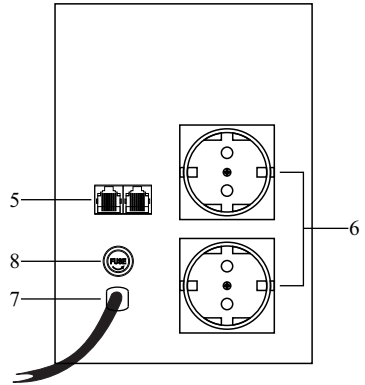
IV. FRONT PANEL & REAR PANEL VIEW / *TAMPAK PANEL DEPAN & PANEL BELAKANG*



FRONT PANEL VIEW
UPS CS638, CS1238



REAR PANEL VIEW
UPS CS638



REAR PANEL VIEW
UPS CS1238

- | | |
|--|---|
| 1. Main Switch / <i>Tombol Daya</i> | : To turn on and turn off the UPS /
<i>Untuk menghidupkan dan mematikan UPS</i> |
| 2. Green Led / <i>Led Hijau</i> | : Indicate output UPS from line power /
<i>Menunjukkan keluaran UPS dari listrik jala-jala</i> |
| 3. Yellow Led / <i>Led Kuning</i> | : Indicate output UPS from battery /
<i>Menunjukkan keluaran UPS dari baterai</i> |
| 4. Red Led / <i>Led Merah</i> | : Indicate battery capacity low /
<i>Menunjukkan kapasitas baterai hampir habis</i> |
| 5. Modem Protector Port* | : Internet modem protection / <i>Perlindungan modem internet</i> |
| 6. Outlet / <i>Stopkontak Keluaran</i> | |
| 7. AC Cord Input / <i>Kabel Input AC</i> | |
| 8. Input Fuse / <i>Fuse Input</i> | |

*** Notice :**

Please disconnect all communication connectors before disconnecting main power cord from receptacle.

Putuskan semua konektor komunikasi sebelum mencabut kabel daya utama dari stopkontak.

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 ≤ 4 ms. Buzzer will sound at interval 4 seconds if the line power off or $<165V$ or $>250V$. 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 ≤ 4 ms mengubah daya baterai menjadi arus listrik AC. Buzzer akan berbunyi putus-putus selang 4 detik, jika listrik jala-jala mati atau $<165V$ atau $>250V$. 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.

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. The red led lights for about 2 seconds and will go out when the battery is in good condition. At the same time the green led light (if line voltage >165V and <250V) which indicates UPS output is from line power.
 4. Disconnect inlet from line power, the green led will go out while the yellow led will light on and audible alarm will sound every 4 seconds.
 5. Connect inlet to line power again and then after about 2 seconds the yellow led will go out while the green led of line on 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. Led merah akan menyala sekitar 2 detik dan padam kembali bila kondisi baterai baik. Bersamaan dengan itu led hijau menyala (bila tegangannya >165V dan <250V) yang menunjukkan keluaran UPS berasal dari listrik jala-jala.
 4. Cabut steker kabel daya dari stopkontak jala-jala maka led hijau padam sedangkan led kuning akan menyala dan buzzer akan berbunyi setiap 4 detik.
 5. Pasang kembali steker maka sekitar 2 detik kemudian led kuning padam sedangkan led hijau akan menyala.
 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	Main Switch	Buzzer		LED			Remarks
		NTPL	NTPC	L1	L2	L3	
All normal	1	0	0	1	0	0	-
Line voltage abnormal	1	1	0	0	1	0	Check the line power, make sure between 165~250 Vac.
Line voltage abnormal at low battery voltage	1	0	1	0	1	1	Save your work now, the inverter will be cut off.
Line voltage normal at low battery voltage	1	0	0	1	0	1	-

Remark:

L1: Green Led (Line On)

L2: Yellow Led (Inverter)

L3: Red Led (Battery Low)

NTPL: Audible alarm sound every 4 seconds

NTPC: Audible alarm sound every 1 second

IX. TROUBLESHOOTING / *PETUNJUK KETIDAK NORMALAN*

SYSTEM	PROBLEM CAUSE	RECOMMENDED SOLUTION
“Green Led” indicator not light.	<ol style="list-style-type: none">1. Main voltage <165 Vac or >250 Vac.2. Problem in transfer switch control.	<ol style="list-style-type: none">1. Check your mains voltage.2. If main voltage >165 Vac and <250 Vac, call for service.
When AC main failure and transfer to stored mode, the backup time is short.	Low battery capacity.	<ol style="list-style-type: none">1. Check battery voltage.2. Charger battery ± 10 hour by kept the main switch in on position when AC mains normal.3. Call for service.
When AC main failure and transfer to stored mode, unit cut-off immediately.	<ol style="list-style-type: none">1. Battery damage.2. Problem in inverter circuit.	<ol style="list-style-type: none">1. Replace battery with the same rating.2. Call for service.

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”.

Catatan :
Untuk informasi lebih lanjut, silakan kunjungi “www.icaups.co.id”.