



- 2/ Standard output outlets
- 5/ USB communication port
- 6/ RS232 communication port
- 7/ EPO (Emergency Power Off)
- 8/ Input breaker
- 9/ SNMP agent slot
- 11/ Input/Output terminal
- 12/ Parallel port
- 13/ Battery connector
- 14/ Maintenance bypass switch

### GENERAL SPECIFICATIONS

	E4 LCD (S) TM 10k	E4 LCD (S) TM 15k	E4 LCD (S) TM 20k
Technology	On Line Double Conversion High Frequency		
Power	10 kVA / 8 kW	15 kVA / 12 kW	20 kVA / 16 kW
Power Factor	0.8		

INPUT		
Voltage		3 x 400 VAC (Phase-Phase) + Neutral 176 VAC (Phase-Neutral) at 100 % load 110 VAC (Phase-Neutral) at 50 % load
Low Voltage Range	Battery mode transfer	186 VAC (Phase-Neutral) at 100 % load 120 VAC (Phase-Neutral) at 50 % load
	Low line comeback	
High Voltage Range	Battery mode transfer	300 VAC (Phase-Neutral)
	High line comeback	290 VAC (Phase-Neutral)
Frequency Range		46~54 Hz at 50 Hz / 56~64 Hz at 60 Hz
Phase		3-phase with neutral and ground
Power Factor		≥ 0.99 at 100 % load

OUTPUT		
Voltage		230 V
AC Voltage Regulation (Batt. Mode)		± 1 %
Frequency Range (Synchronized Range)		46~54 Hz at 50 Hz / 56~64 Hz at 60 Hz
Frequency Range (Batt. Mode)		50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz
Current Crest Ratio		3:1 max
Harmonic Distortion		≤ 2 % THD (Linear Load)
		≤ 6 % THD (Non Linear Load)
Transfer Time	AC Mode to Batt. Mode	Zero
	Inverter to Bypass	Zero
Waveform		Pure Sinewave
Backup time		From 8 to 30 mn depending on the connected load
Output outlets IEC 10A (or NEMA 110V) standards / programmables		2/0
Output terminal standard / programmable		yes/yes

EFFICIENCY		
AC Mode		89 %
Battery Mode		88 %

BATTERY		
Standard Model	Battery Type	12 V / 9 AH
	Numbers	20
	Typical Recharge Time	40
	Charging Current (max.)	9 hours recover to 90% capacity
Long-run Model (S)	Battery Type & Number	Depending on the capacity of external batteries
	Charging Current (max.)	1 A
		2 A
		2 A

DISPLAY		
LCD Panel		UPS status, Load level, Battery level, Input/Output voltage, Discharge timer and Fault conditions

ALARM		
Battery Mode		Sounding every 4 seconds
Low Battery		Sounding every second
Overload		Sounding twice every second
Fault		Continuously sounding
Bypass mode		Sounding every 2 minutes

PHYSICAL		
Standard Model	Dimensions H x W x D (mm)	576 x 250 x 592
	Net Weight (kgs)	86
Long-run Model	Dimensions H x W x D (mm)	576 x 250 x 592
	Net Weight (kgs)	30

ENVIRONMENT		
Operation Humidity		20-90 % RH at 0-40 °C (non-condensing)
Noise Level		< 58 dB to 1 metre

MANAGEMENT / COMMUNICATION		
RS 232 & USB communication ports		Supports Windows family, Novell, Linux, Mac and FreeBSD
Optional SNMP		Power management from SNMP manager and web browser
Dry contacts		Dry contacts communication card for remote alarm
Software		InfoPower

NORMS		
Standard		CE
EMC		EN62040-2: 2006
Low voltage (Safety)		EN62040-1-1: 2003, 2006/95/EC

SALES INFO		
Warranty		2 years
Package content		RS232 cable, USB cable, user guide, software
Standard versions gencods (230V)		3700085 657607
Extended backup time versions gencods (230V)		3700085 657577

### Accessories

#### • SNMP agent :

The use of SNMP agent with E4 LCD UPSs makes it easier to manage the UPS and network power supply due to a number of special features :

- Connection to the Ethernet network and identification by IP address
- Low battery detection.
- Configuring and programming system extensions and restarts on a weekly or other basis ...
- Setting the UPS locally or remotely.
- Auto-diagnosis of the UPSs while operating.
- Automatic shutdown according to pre-defined priorities on network PCs.
- Sending warning messages to network users.
- Events log.



#### • AS400 dry contact card :

The AS400 communication card supplies dry contacts to feedback alarms from your UPS or centralized technical management. Depending on the applications, dry contacts may normally be open or closed.

#### Maintenance By-pass external box (BPM) for E4 LCD UPSs from 1 to 3 kVA.



#### • Communication software :

An E4 LCD UPS can close files on its own, if there is no power, thanks to the InfoPower control software (supplied as standard), and in doing so save data from all the PCs in a network. The communication software also offers a graphic interface to view system status, different measures, events log, etc.

### Warranty

Two-year warranty (UPS + battery).



### Infosec Communication

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PURE POWER CONTROL



## From 1 to 60 kVA\*

The entire range of E4 LCD (S) and E4 LCD (S)TM UPSs is designed to protect critical networks, data centers, server groups and industrial applications.



So as to meet the various protection needs for medium power industrial applications from 1 to 30 kVA in mono-mono and from 10 to 60 kVA in tri-mono configuration, the E4 LCD range offers several versions:

- E4 LCD from 1 to 10 kVA standard version
- E4 LCD S from 1 to 10 kVA extended backup time version
- E4 LCD TM 10, 15 and 20 kVA tri mono standard backup time version
- E4 STM 10, 15 and 20 kVA Tri Mono extended backup time version.

#### The most reliable of technologies

The On Line Double Conversion technology delivers a perfect sinusoidal output current and provides thorough and effective protection of critical devices.

#### Output power factor of 0.8

E4 LCD UPSs generate an upgraded power factor reaching 0.8, thereby offering higher performance and improved efficiency for vital applications.

#### Practical design



UPS status is seen at a glance on an intuitive LCD screen. The UPS is controlled by a simple control panel on the front with 3 or 4 buttons: ON/OFF, operating mode configuration, voltage setting, programmable outlet setting...

[www.infosec-ups.com](http://www.infosec-ups.com)

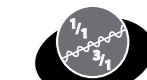
## Networks & critical applications



Technology On Line Double Conversion



Redundant parallelizable\*



Single phase/Single phase or Three phase/Single phase



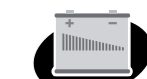
LCD control panel



Remote control software



Tel/fax/modem protection\*



Extended backup time version available

\*see models concerned below.





**UPS controlled by a microprocessor**

Among other advantages this control mode provide a wide range of input voltage (110 V to 300 V), an input power ratio of more than 95 %, little harmonic distortion and effective noise reduction.

**Programmable outlets for load and backup time management**

Programmable outlets allow users to easily control different load groups separately. They will therefore be able to increase the backup time on the most strategic and vital hardware, during a power outage, by stopping non-critical hardware connected to programmable outlets. These outlets are easily managed via the LCD screen.

**50/60 Hz frequency converter mode**

The output frequency can be set to 50 Hz or 60 Hz independently of the input frequency making it easier to adapt to specific hardware.

**Communication**

USB or RS 232 communication ports and SNMP interface enable an E4 LCD UPS to communicate with the various stations and IT servers it is protecting.

The multiple communications function should be noted: USB or RS232 ports can therefore operate simultaneously with the SNMP interface.

**Energy saving ECO mode**

Efficiency of up to 97 % equates to energy and cost savings. In addition, a static bypass power supply via the UPS offers timely return to on-line double conversion if required.



**Emergency Power Off (EPO)**



This function ensures the safety of personnel and hardware in the event of fire or any other emergency situation by triggering the total and immediate shutdown of the UPS.

**Extended backup time (from 5 kVA & S models)**



Opportunity to increase battery power for unstable or highly disrupted environments. The S versions (extended backup time) are delivered without an internal battery but with external battery packs. These battery extensions are available in several sizes depending on the desired backup time.

**Intelligent battery chargers to optimise battery performance**

A battery charger from 1 to 3 kVA with 2 levels reduces charging time and adjusts the charging voltage according to the outside temperature thereby generating energy savings and extending battery life. UPSs from 5 kVA are fitted with extendable chargers with 3 levels optimising battery performance as well as their recharge time and extending their useful life even further. In addition, due to an extendable design, several chargers can be connected in parallel as needed, thereby offering a greater battery charge capacity.

**Cold start function**

It enables an emergency situation involving a total power cut to be overcome by starting the UPS using batteries without the mains power supply.

**Overload protection**

Protection of internal power components from any foreseeable deterioration and prevention of connection errors.

**Auto-test at start-up**

Automatic control of loads, power supply and UPS internal operation for greater reliability.



E4 LCD 1-1,5 kVA

E4 LCD 2-3 kVA

**Modular design**

Facilitates the maintenance of each module comprising the UPS: ventilation, charger, power supply, converter, etc.

**Static by-pass**

In the event of overload or an internal fault, load transfer from normal mode to static by-pass mode prevents a sudden power cut to the protected load.

**E4 LCD UPSs from 5KVA provide the following distinct advantages:**

- DSP technology that offers space and weight saving by replacing cumbersome transformers, relays and other mechanical switches while also ensuring an improvement in the overall performance and efficiency of the product (volume-power ratio).
- A manual maintenance bypass.
- An in/out connection terminal (two outlets: one normal outlet and one programmable outlet for non-critical loads)
- In addition to the terminal, two outlets mean that hardware can be connected directly to the rear of the UPS.
- The opportunity to connect up to 3 UPSs in redundant parallel mode (N+X) enables the capacity and reliability of the protection solution to be increased.
- Battery-free startup : the UPS (connected to the mains) will start up without a battery or with one or several defective batteries.



E4 LCD 5-6-10 kVA



**E4 LCD (S)TM UPSs**, available in 10, 15 & 20 kVA models (up to 60 kVA in parallel), are supplied with a three-phase input voltage (three phase/single phase UPSs).

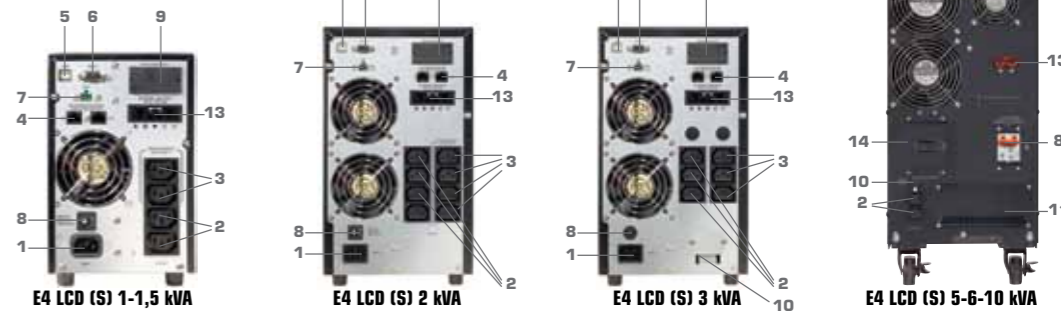
- E4 LCD TM UPSs have their own built-in batteries for standard backup time.
- The E4 LCD STM models are delivered without an internal battery but with external battery packs. These battery extensions are available in several sizes depending on the desired backup time.



E4 LCD TM 15-20 kVA



- 1/ AC input outlet
- 2/ Standard output outlets
- 3/ Programmables output outlets
- 4/ RJ11/45 protected outlets
- 5/ USB communication port
- 6/ RS232 communication port
- 7/ EPO (Emergency Power Off)
- 8/ Input breaker
- 9/ SNMP agent slot
- 10/ Output terminal
- 11/ Input/Output terminal
- 12/ Parallel port
- 13/ Battery connector (from 5 kVA & S models)
- 14/ Maintenance bypass switch



E4 LCD (S) 1-1,5 kVA

E4 LCD (S) 2 kVA

E4 LCD (S) 3 kVA

E4 LCD (S) 5-6-10 kVA

**GENERAL SPECIFICATIONS**

Technology	On Line Double Conversion High Frequency						
	E4 LCD 1000 (S)	E4 LCD 1500 (S)	E4 LCD 2000 (S)	E4 LCD 3000 (S)	E4 LCD 5000 (S)	E4 LCD 6000 (S)	E4 LCD 10k (S)
Power	1000 VA	1500 VA	2000 VA	3000 VA	5000 VA	6000 VA	10000 VA
Power factor	800 W	1200 W	1600 W	2400 W	4000 W	4800 W	8000 W
	0.8						

**INPUT**

Low Voltage Range	Battery mode transfer <small>(based on load percentage: 100-80%/80%-70%/70%-60%/60%-0)</small>	110 V	80 VAC / 70 VAC / 60 VAC / 50 VAC ± 5 %	-
		Low line comeback	230 V	160 VAC / 140 VAC / 120 VAC / 110 VAC ± 5 %
High Voltage Range	Battery mode transfer	110 V	85 VAC ± 5 %	-
	High line comeback	230 V	175 VAC ± 5 %	186 VAC at 100 % load 120 VAC at 50 % load
Frequency Range	Battery mode transfer	110 V	150 VAC ± 5 %	-
	High line comeback	230 V	300 VAC ± 5 %	300 VAC
Phase		110 V	145 VAC ± 5 %	-
Power factor		230 V	290 VAC ± 5 %	290 VAC
			40 Hz~70 Hz	46~54 Hz to 50 Hz / 56~64 Hz to 60 Hz
			Single phase with ground	Single phase with ground
			≥ 0.95	≥ 0.99 to 100 % load

**OUTPUT**

Voltage	230 V (or 110 V for NEMA models)		230 V
AC Voltage Regulation (Batt. Mode)	± 3 %		± 1 %
Frequency Range (Synchronized Range)	47.5~52.5 Hz or 57~63 Hz		46~54 Hz to 50 Hz / 56~64 Hz to 60 Hz
Frequency Range (Batt. Mode)	50 Hz ± 0.25 Hz or 60 Hz ± 0.3 Hz		50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz
Current Crest Ratio	3: 1		3: 1 max
Harmonic Distortion	≤ 3 % THD (Linear Load)	≤ 4 % THD (Linear Load)	≤ 2 % THD (Linear Load)
	≤ 6 % THD (Non Linear Load)	≤ 7 % THD (Non Linear Load)	≤ 6 % THD (Non Linear Load)
Transfer Time	AC Mode to Batt. Mode	Zero	Zero
	Inverter to Bypass	4 ms (Typical)	Zero
Waveform	Pure Sinewave		Pure Sinewave
Backup time	From 8 to 30 mn depending on the connected load		
Output outlets IEC 10A (or NEMA 110V) standards / programmables	2/2	2/2	4/4
Output terminal standard / programmable	-	-	3/3
			2/0
			2/0
			yes / yes
			yes / yes
			yes / yes

**EFFICIENCY**

AC Mode	~ 85 %	~ 88 %	89 %
Battery Mode	~ 83 %		88 %

**BATTERY**

Standard Model	Battery Type	12 V / 7 AH	12 V / 9 AH	12 V / 7 AH	12 V / 9 AH	12 V / 7 AH	12 V / 9 AH
	Numbers	3	3	6	6	20	20
Typical Recharge Time	4 hours recover to 90 % capacity (Typical)				7 hours recover to 90 % capacity		
Charging Current (max.)	1.0 A (max.)				1.0 A		
Long-run Model (S)	Depending on the capacity of external batteries						4.0 A
Charging Current (max.)	8.0 A (max.)						4.0 A

**DISPLAY**

LCD Panel	UPS status, Load level, Battery level, Input/Output voltage, Discharge timer and Fault conditions
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**ALARM**

Battery Mode	Sounding every 4 seconds
Low Battery	Sounding every second
Overload	Sounding twice every second
Fault	Continuously sounding
Bypass mode	Sounding every 10 seconds

**PHYSICAL**

Standard Model	Dimensions H x W x D (mm)	220 x 145 x 397	318 x 190 x 421	576 x 250 x 592
	Net Weight (kgs)	13.2	14	26
Long-run Model	Dimensions H x W x D (mm)	220 x 145 x 397	318 x 190 x 421	576 x 250 x 592
	Net Weight (kgs)	6.9	6.9	13

**ENVIRONMENT**

Operation Humidity	20-90 % RH @ 0- 40° C (non condensing)		
Noise Level	< 45 dB to 1 meter	< 55 dB to 1 meter	< 58 dB to 1 meter

**MANAGEMENT / COMMUNICATION**

RS 232 & USB communication ports	Supports Windows family, Novell, Linux, Mac and FreeBSD
Optional SNMP	Power management from SNMP manager and web browser
Dry contacts	Dry contacts communication card for remote alarm
Software	InfoPower

**NORMS**

Standard	CE						
EMC	EN62040-2 (EN61000-4-2 - EN61000-4-3 - EN61000-4-4 - EN61000-4-5 - EN61000-4-6 - EN61000-4-8 - EN61000-4-11 - EN61000-2-2)						
Low voltage (Safety)	EN62040-1-1						

**SALES INFO**

Warranty	2 years						
Package content	1 input powercord, 2 IEC output powercords, RS232 cable, USB cable, user guide, software		RS232 cable, USB cable, user guide, software				
Standard versions gencods (230V)	3700085 65171 1	3700085 65173 5	3700085 65175 9	3700085 65177 3	3700085 65179 7	3700085 65181 0	3700085 65183 4
Extended backup time versions gencods (230V)	3700085 65172 8	3700085 65174 2	3700085 65176 6	3700085 65178 0	3700085 65180 3	3700085 65182 7	3700085 65184 1