


## EPC ENERGY AND POWER CONVERSION SYSTEMS

EPC Energy was established in 2006 by executives and engineers from Turkey's first Power Electronics Company, established in 1977.

EPC Energy has been growing rapidly ever since by combining this '42 years of know-how' with new Technologies. This proficiency in Development and Manufacturing ensures EPC Energy to rank among the top players in the industry.

EPC Energy is a manufacturer and integrator mainly for Rectifiers, Inverters, Converters, Industrial Type UPSs, and Static Voltage Regulators, etc. In addition, we also provide commercial standard products

EPC Energy is the first choice of many businesses from different industries due to its customized, client specific power solutions. We produce the fastest and the most efficient solutions while using the most appropriate products needed by our customers and business partners.

EPC Energy has strong local and international business partnerships. One of our major business partners is ABB. We are the exclusive distributor in Turkey of  power protection units, such as, UPSs.

Our priority is to sustain utmost customer satisfaction. EPC Energy will continue to grow by leveraging the accumulated knowledge and experience it has, while continuously adapting to new technologies, to produce efficient and reliable energy systems. And the synergy we create with all our customers will be the locomotive for our enthusiasm to achieve our goals.

3000 m Factory located in Istanbul



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## Research and Development

EPC Energy gives great importance to research and development. 10% of our budget is dedicated to our R&D Department. Our top tier R&D Team Works around the clock to make a difference. For us, R&D is the main foundation in attaining our goal to become a worldwide renowned Power Electronic Company.



## High Quality Consciousness

High quality is the most essential principle of our company. Therefore, we only choose providers that have significant quality consciousness with both Local and International certificates.

All our products are being tested 100% and they undergo strict quality control processes. Our company has ISO 9001 and ISO 14001 quality certificates.

## After Sale Support

We call it 24/7 uninterrupted support!

Technical Support is being provided for all products, whether manufactured or marketed by EPC Energy, Our technical service team is at your service 24/7 all year around.



## Export

We export our products to more than 60 countries on 4 continents. Export is a major part of our business; approximately 50% of our annual income is sourced by Export activities

Some of the countries we mainly export to are; USA, Germany, Denmark, Netherlands, Bosnia and Hersegovina, Singapore, Vietnam, Mexico, Brazil, Argentina, Saudi Arabia, Jordan, Iraq, UAE, Philippines etc.

## References

### Local (TURKEY)

- ▶ ABB
- ▶ AGDAŞ
- ▶ AGE İNŞAAT
- ▶ ALARKO
- ▶ ALPHA
- ▶ ALSTOM
- ▶ ANDRITZ HYDRO
- ▶ ASELSAN
- ▶ ASTOR
- ▶ AYEDAŞ
- ▶ BEDAŞ
- ▶ BOTAŞ
- ▶ BAŞKENT ELEKTRİK
- ▶ BRISA
- ▶ CENGİZ ENERJİ
- ▶ ÇALIK ENERJİ
- ▶ DIGITURK
- ▶ ENERJİ SA
- ▶ ENKA
- ▶ ERE ENERJİ
- ▶ ERK ENERJİ
- ▶ ETİ ALUMİNYUM
- ▶ EÜAŞ
- ▶ FİNA ENERJİ
- ▶ GAMA
- ▶ GE GRID SOLUTIONS
- ▶ GES ELECTRIC
- ▶ GOODYEAR
- ▶ GRID TELECOM
- ▶ HALK BANKASI
- ▶ İŞDEMİR
- ▶ KARADENİZ ENERJİ
- ▶ KARSAN (PEGUOT)
- ▶ LAFARGE
- ▶ METRO ELECTRIC
- ▶ SIEMENS
- ▶ TEİAŞ
- ▶ TOFAŞ (FIAT)
- ▶ TREDAŞ
- ▶ TURKISH NAVY
- ▶ TURKCELL
- ▶ TÜRK TELECOM
- ▶ TÜRK TRAKTÖR
- ▶ ULUSOY ELECTRIC

### International

- ▶ AGET (Tunisia)
- ▶ ALFANAR (KSA)
- ▶ ALSTOM (Albania)
- ▶ ALPHA (Brazil, Canada, Germany)
- ▶ AMF INGENIERIA (Argentina)
- ▶ ANDRITZ HYDRO (Ecuador, Georgia, Norway, Colombia)
- ▶ ARAMCO (KSA)
- ▶ BEMAI (Tunisia)
- ▶ BEN VUNG CORP. (Vietnam)
- ▶ CEB (Sri Lanka)
- ▶ ÇALIK ENERGY (Yemen, Georgia, Uzbekistan, Turkmenistan)
- ▶ E-CELL (Netherlands)
- ▶ EDM (Lebanon)
- ▶ EFFAA COMPANY (Iraq)
- ▶ ESA GRIMA (Germany)
- ▶ EXCELLENT (Palestine)
- ▶ EXXON MOBIL
- ▶ GE GRID SOLUTIONS (Pakistan)
- ▶ GES ELECTRIC (Pakistan)
- ▶ GRUPO IND. DOESER (Mexico)
- ▶ GRUPO PC (Mexico)
- ▶ GLOCOM (Vietnam)
- ▶ IMTECH (Netherlands)
- ▶ JOULZ (Netherlands)
- ▶ JORDAN PETROLEUM (Jordan)
- ▶ MAST ENERGY (Guinea)
- ▶ MEE S.A. (Chile, Peru)
- ▶ METRO ELECTRIC (Uzbekistan)
- ▶ MODON (KSA)
- ▶ NATA HOLDING (Turkmenistan)
- ▶ NOSPCO (Egypt)
- ▶ POWIN (USA)
- ▶ PPI PAZIFIK (Philippines)
- ▶ PT PLN (Indonesia)
- ▶ REJMAN CO. (Iraq)
- ▶ SIEMENS (Libya)
- ▶ SPHERE POWER (Singapore)
- ▶ TAQA (Netherlands)
- ▶ TRITEK (UAE)
- ▶ ULUSOY ELECTRIC (Algeria)
- ▶ USLUEL ENERGY (Afghanistan)
- ▶ UNIMEX (Denmark)
- ▶ WIHU (Germany)

## SD Series



### OPTIONS

- Active parallel (current sharing) operation up to 4 devices
- Ability to monitor batteries and battery low alarm, even when the AC input fails
- Battery temperature compensation
- Easy observation via analog gauges(Input / Output / Battery Voltages / Currents)
- Battery test with adjustable voltage and duration
- Transducers for input / output voltage(s) / current(s) (4-20mA and 0-10V)
- 12 pulse option to limit input current distortion.
- Internal cabinet light / anticondensation heater.
- Earth leakage monitoring Power Factor measurement
- Input Power / kVA / kW measurement
- Touch Screen

### GENERAL SPECIFICATIONS

- 1 phase and 3 phase input (model dependent)
- Internal isolation transformer at input
- Full controlled conventional rectifier
- Smart control and high reliability with DSP (Digital Signal Processor)
- Float charge, equalizing charge and boost charge modes
- Automatic and manual charge modes
- Low output voltage ripple and high reliability
- 2x16 character LCD display, showing measurements status and alarm messages
- Soft start
- Led displays for easy observation of Rectifier status.
- Audible alarm.
- Programmable current limitation
- Operation as voltage source or current source
- Calibration of measurements from front panel (English / German / Turkish / Dutch / Portuguese)
- DC Low / High, Line Failure, Over Temperature, Short Circuit protections
- Ability to program all operation parameters (password protected)
- Programmable alarm relay contact outputs (4 standart, up to 16 relays as option)
- Possibility of monitor and control over RS232-RS485.
- Modbus communication.
- Log records with date and time stamp up to 200 events
- 24 V / 48 V / 110 V / 220 V output options



# SD Series 3 phase

MODEL	SD1 (monophase)	SD3 (threephase)
<b>INPUT</b>		
Voltage	110VAC to 275 ± 15% VAC	190VAC to 600 ± 15% VAC
Frequency	50, 60 or 400Hz ± 10%	
Rectifier Type	Half Bridge / Full Bridge	6 pulse / 12 pulse
Power Factor	0.7	0.8 (6 pulse)/ 0.9 (12 pulse)
<b>OUTPUT</b>		
Output Voltage (VDC)	12V / 24V / 48V / 60V / 110V / 125V / 220V / 250V / 400V / 600V	
Output Current	10 to 1000A	10 to 5000A
Efficiency	83% to 90%	85% to 94%
Voltage Regulation	<0,5%	
Current Regulation	<2%	
Overload	Protection: Current Limiting	
Ripple	<4%	<1%
Battery Type	VRLA / OPzV / OPzS / NiCad	
Battery Charge Voltage	VRLA / OPzV / OPzS : 2,25 (Float) per cell NiCad : 1,42 (Float) – 1,5 to 1,7 (Boost/equalize) per cell	
Battery Charge Current	VRLA / OPzV / OPzS : 10-15% of Battery Capacity (adjustable) NiCad : 20% of Battery Capacity (adjustable)	
Boost Charge Timer	0-20 hrs. adjustable (with Auto Boost inhibit)	
Voltage Adj. Range	80% to 140% of Nominal Voltage	
Isolation	1500, 2000 or 3000VAC input&output/chassis	
<b>PHYSICAL CHARACTERISTICS</b>		
Protection Degree	Standard: IP20, (OPT: 21 to 66)	
Cooling System	Forced Ventilation (OPT: Natural cooling, Water cooling, Smart Fans)	
Cable Entry	Standard: Bottom (OPT: Top, Rear, Side)	
Cabinet Color	Standard: RAL7032,7035 (OPT: Others)	
Dimensions	600*600*1200mm (W*D*H)	
<b>ENVIRONMENT</b>		
Operating Temperature	0 to 50C°	
Storage Temperature	-25 to 70C°	
Relative Humidity	0 to 95% (non-condensing)	
Operating Altitude	1000m from MSL (1% derate each 100m after 1000m)	
Acoustic Noise	<75dB	
Isolation Resistance	200MΩ	
<b>COMMUNICATIONS</b>		
Standard Comm.	RS232, Dry Contact x4 to x16 (OPT: RS485, TCP, SNMP and IEC61850)	
Paralel Operation	Passive: Infinite (Active: up to 3)	
HMI	LED/LCD Panel (OPT: HMI Touch Panel, Mimic Panel)	
<b>PROTECTIONS</b>		
Battery Protections	Temperature Compensating Charge / LVD	
Input/output Protections	Auxiliary Trip Contacts / TMS or LS/G Breakers AC or DC Earth Fault / DROPPER (or DC/DC Conv.)	
Internal Protection	Phase Sequence Protection / SCR Protection Rapid Fuses	
<b>STANDARDS</b>		
IEC 60146-1-1:2009	Semi Conductor Converters – Specification of basic requirements	
IEC 60335	Household and similar electrical appliances – Safety - Part 1: General requirements	
IEC 61204	Low-Voltage power supply devices , DC output performance characteristics	
Others	IEC61100-6-2/4, EN60529, EN50178 (Decleration)	
Product properties may change without a notice*		
Values based on this Datasheet indicates the selectable design. Not adjustable ranges.		

# HI-RECT Series



## OPTIONS

- Active parallel (current sharing) operation up to 4 devices.
- Ability to monitor batteries and battery low alarm, even when the AC input fails.
- Easy observation via analog gauges (input / output / battery voltages / currents).
- Earth leakage monitoring
- Battery temperature compensation
- Battery test with adjustable voltage and duration
- Transducers for input / output voltage(s) / current(s) (4-20mA and 0-10V)
- RS485 and SNMP communication

## GENERAL SPECIFICATIONS

- Single phase or Three phase input (model dependent)
- 24VDC / 48VDC / 110VDC / 220VDC output option
- Smart control and high reliability with DSP (Digital Signal Processor)
- Float charge, equalizing charge and boost charge modes
- Automatic and manual charge modes
- Low output voltage ripple
- 2x16 character LCD display, showing measurements, status and alarm messages
- Soft start
- Led displays for easy observation of Rectifier status. Audible alarm.
- Programmable current limitation
- Operation as voltage source or current source
- Calibration of measurements from front panel
- Language selection from front panel (English / German / Turkish / Dutch / Portuguese)
- DC Low / High, Line Failure, Over Temperature, Short Circuit protections
- Ability to program all operation parameters (password protected)
- Programable alarm relay contact outputs
- Possibility of monitor and control over RS232-RS485.
- Log records with date and time stamp up the 200 events.
- 10 years of spare parts supply warranty
- 19" or 21" options with ability to wall mount and rack.

## TECHNICAL SPECIFICATIONS

INPUT	SINGLE PHASE	THREE PHASE
Voltage	220VAC / 230VAC / 240VAC	3*380VAC / 3*400VAC / 3*415VAC
Voltage Tolerance	± 15%	
Frequency	50 - 60 Hz.	
Frequency Tolerance	±10%	
OUTPUT		
Voltage	24VDC / 48VDC / 110VDC / 220VDC, adjustable (10V - Vnom)	
Power	100W to 12kW	
Current Limiting	0 - 102% (Adjustable)	
Ripple	<0,5%	
Voltage Regulation	±0.5 % at float charge, ±1% at boost charge	
Efficiency	>85%	>92%
Protections	Thermic Magnetic Breaker (Input/Output) Short circuit, Over voltage/current protection, Automatic restart	
Endurable Dielectric Voltage	2000 V Input-Output 2000 V Input-Chassis 500 V Output - Chassis (For PS with output voltage <50 V) 1000 V Output - Chassis (For PS with output voltage >50 V)	
BATTERY		
Battery Charge Voltage	Automatic charge, boost charge: 2,4 V / Cell Float Charge: 2.25 V / Cell	
Boost Charge Time	0 to 99 hours (adjustable)	
Displays	Automatic charge, Float charge, Boost charge, Common alarm	
Alarms	Common relay contact output for AC input low, DC output low and overheat	
GENERAL FETURES		
Protection Class	IP20(Standard) to IP54(Optional), (consult to EPC for IP54 to IP65)	
Storage Temperature	(-10°C) to (+60°C)	
Operating Temperature	(-0°C) to (+50°C)	
Cooling	Fan Forced Cooling(Standard), Natural Cooling(Optional)	
Altitude	1000m (-1% Power for every 100m after 1000m) Max. 4000m	
Relative Humidity	0 - 95% (Non-condensing)	
Noise (1m away)	<45 - 50 dB (depends on capacity)	<50 - 55 dB (depends on capacity)
Color	RAL7035, RAL7032 (Standard), others (Optional)	
Cable Entry	Front Bottom (Top entry optional)	
Battery Charge Characteristics	VDE, DIN 41773	
Dimensions (1U=44,45mm)	19", 21" or Wall Mount Cabinet, 5U	
STANDARDS		
Standards	ANSI-NEMA PE 5; IEC62040-1; IEC62040-2; ISO9001; ISO14001, ISO27001, ISO15001, ISO45001 CE Declaration	

NOTE: All specifications are subject to change without notice. Consult EPC's Technical Support Department for special applications. All names used above are registered trademarks of their respective owners.



► Rectifiers/ Modular Battery Charger

# SDM Series



## OPTIONS

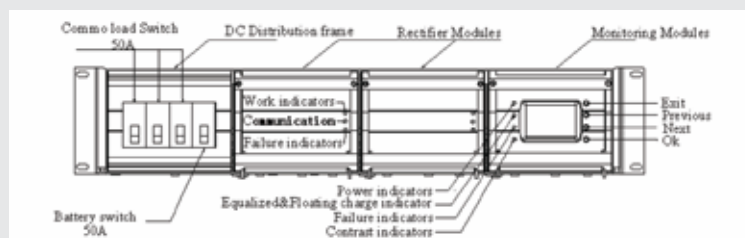
Input: 48 (85V-290V), 110 V (90-150V), 220 V (130-520V)

- Output: 48V, 110 V, 220V (42V-300V) continuouslyAdjustable)
- Switch Mode Power Supply
- Hot-swappable technology
- Soft-switching technology
- Plug and Play
- N + 1 redundancy
- RS232, RS485, SNMP Communication
- High efficiency

## GENERAL SPECIFICATIONS

- 48 V ,110 V , 220 V DC Power System has two parts, PFC adjust and the DC/DC transformation
  - All technology make the wide input voltage range(48 (85V-290V), 110 (90V-150V), 220(130V-520V)).
  - While load rate 10% , then efficiency can be 91% , 50% load the efficiency can be above 96%
  - Digital signal collection via an internal RS485 bus; RS232 interface for remote operation.
  - Hot-swappable technology, plug and play, N + 1 redundancy, extension slots.
  - 48 V ,110 V , 220 V DC Power System using Low-pressure difference automatic current sharing technology between modules.
  - 48 V ,110 V , 220 V DC Power System adopted stepless current limiter technology, output current is continuously adjustable.
  - Adopted stepless temperature control speed, it can reduce power consumption and prolong the life of the fan
  - Sharing load,equalized-current imbalance < 3%.
  - Adopted stepless temperature control speed, it can reduce power consumption and prolong the life of the fan ·
  - Optional Ethernet interface through SNMP and/or TCP/IP. Controller MCU ·
  - Fan use stepless temperature control to reduce losses and noise.
  - Pairs of soft-switching technology and circuit topology.
  - Dry contact alarm and out of the system function, more secure and more stable
- 2U height, 19 inch rack,light weight ,high power density.  
Active power factor compensation technology, the power factor is 0.9999.

MODEL SDM	15 A	20A	30A	40A	50A
Input voltage (AC)	48 (85V-290V), 110 (90-150V), 220 (130-520V)				
Output voltage (DC)	48V, 110, 220 (42V-300 VContinuously Adjustable)				
Output current (A)	15A	20A	30A	40A	50A
Max. power (W)	800-3300W	1000-4400W	1600-6600W	2300-8800W	2900-11000W
Operating temperature	-25°C ~ 65°C				
Relative Humidity	≤97%RH				
Load regulation	≤0.5%				
Voltage regulation	≤0.10%				
Dimension (H*W*D)	110 V(103*261*88), 48 V (88*103*261), 220 V(482x92x385)(mm) H*W*D				
Weight	110 v (3.2 kg ) , 48 v (2.6 kg ) , 220 v (2.6 kg)				



▶ Static Power Inverters

# INVERTA Series



### GENERAL SPECIFICATIONS

- ▶ Input and output breakers
- ▶ 1kVA to 600kVA power options
- ▶ Output isolation transformer
- ▶ 50 to 400Hz output
- ▶ 50Hz/60Hz adjustable frequency
- ▶ By-Pass input correction interruptable
- ▶ interruptable by-pass option
- ▶ Compatible with inrush current devices
- ▶ Short circuit protection
- ▶ Parallel working and scaling (option)
- ▶ 2x16 LCD display to monitor the output, input voltage and current
- ▶ Line voltage low/high, output voltage low/high, over temperature, and IGBT/Mosfet fault and alarms
- ▶ Through RS232 or RS485(optional) Modbus Communication
- ▶ Advanced PC control and monitoring program.
- ▶ Monitoring and controlling of all operational parameters by the LCD Display
- ▶ Automatic or Manual Start
- ▶ Language selection on LCD display
- ▶ Log records up to 200 events
- ▶ Controlling with an external input
- ▶ Perfect dynamic answer
- ▶ Soft Start
- ▶ LED's on the front panel
- ▶ Standing or rack type cabinet
- ▶ Voltage & Current Transducers
- ▶ Relay Output



### TECHNICAL SPECIFICATIONS

INPUT			
Inverter Type	RACK TYPE (1 PHASE)	TOWER TYPE (1 Phase)	3 PHASE
Power (kVA)	1kVA to 10kVA	1kVA to 200kVA	3kVA to 600kVA
Voltage (VDC)	24VDC to 220VDC	24VDC to 220VDC	24VDC to 432VDC
Frequency (Hz)	50 to 400Hz		
OUTPUT			
Voltage (V)	110VAC, 127VAC, 220VAC, 230VAC, 240VAC		3*220VAC to 3*600VAC
Power (kVA)	1kVA to 10kVA	1kVA to 200kVA	3kVA to 600kVA
Power (kW)	800W to 10kW	800W to 200kW	240W to 600kW
Frequency (Hz)	50Hz/60Hz/83 1/3Hz/400Hz	50Hz/60Hz/83 1/3Hz/400Hz	50Hz/60Hz/83 1/3Hz/400Hz
Power Factor	0.8 to 1	0.8 to 1	0.8 to 1
Crest Factor	3:1	3:1	3:1
THDu	< 4%	< 4%	< 3%
Efficiency	> 83%	> 83%	> 87%
SYSTEM PROPERTIES			
Design Life	20 years		
Protection Class	IP20(Standard) to IP54(Optional), (consult to EPC for IP54 to IP65)		
Storage Temperature	(-20 °C) – (+70 °C)		
Operating Temperature	(-5°C) - (+50°C)		
Cooling	Fan Forced Cooling(Standard), Natural Cooling(Optional)		
Altitude	1000m (-1% Power for every 100m after 1000m) Max. 4000m		
Relative Humidity	0 - 95% Non-condensing		
Noise (1m away)	<55db		<65dB
Cabinet Color	RAL7035, RAL7032 (Standard), others (Optional)		
Cable Entry	Front Bottom (Top entry optional), Back/Front (Rack Type)		
STANDARDS			
Standards	IEC60146, IEC62040-1, IEC62040-2, ISO9001, ISO14001, ISO27001, ISO15001, ISO45001, CE Declaration		

NOTE: All above technical specifications subject to change without notice. All specifications are just simple guidelines. Refer to the EPC for special applications. All trade names mentioned above are registered trademarks of their respective owners.

# INV Series Inverter



## GENERAL SPECIFICATIONS

- ▶ CPU control technology
- ▶ SPWM technology with pure sine wave
- ▶ Powerful load capability and high compatibility
- ▶ Advanced reverse noise technology
- ▶ Settable to AC model and DC model
- ▶ Fault protection
- ▶ Interface: RS485, Dry contact

## TECHNICAL SPECIFICATIONS

Technical Specifications (VA)	0.5 K	1K	2K	3K	4K	5K	6K	10K
<b>DC INPUT</b>								
Input Voltage (Vdc)	See the chart below							
Input Current (A)	See the chart below							
Input Range of Voltage (Vdc)	See the chart below							
<b>AC BYPASS</b>								
Bypass Volt (Vac)	260V - 180V (±10V)							
Input Current (A)	4	6	10	15	20	25	30	50
Transfer Time (ms)	0 ms							
<b>AC OUTPUT</b>								
Rated Capacity (VA)	500	1000	2000	3000	4000	5000	6000	10000
Output Power (W)	400	800	1600	2100	2800	3500	4200	7000
Voltage and Frequency	110 V / 50 Hz, 220Vac / 50Hz, 600 - 230V 50 / 60 Hz							
Voltage Precision (V)	± 1.5%							
Frequency Precision (V)	50 ± 0.1%, 60Hz +0.1%							
Output wave	Pure Sine Wave							
Wave Distortion (THD) (Resistant Load)	≤ 3 % (Linear Load)							
Dynamic Reaction Time (Load 0 <----> 100%)	8 % (load 0 <----> 100%)							
Power Factor (PF)	0.8 / 0.7							
Overload	120%. 30s							
Inversion Efficiency (80% Resistant Load)	≥ 70 - 85							
Transfer Time (ms)	≤ 5 ms							
<b>ENVIRONMENT</b>								
Isolation (IN/OUT)	1500 Vac, 1min							
Noise (1m)	≤ 40 dB							
Temperature	-20°C to +50°C							
Humidity	0 ~ 90%, Non-condensing							
Sea Level (m)	≤ 2000							
<b>SHOW</b>								
LCD	Input and Output Voltage, Frequency, Output Current, Temperature							
Inverter Status	Power Normal, Inverter Normal, Battery Voltage, Output Overload							
<b>MECHANICAL</b>								
Protection Function	Input Low / High Voltage, Output Overload / Shortage, Reversed Input Connecting Protection							
NOTE: All specifications are subject to change without notice. Consult EPC's Technical Support Department for special applications. All names used above are registered trademarks of their respective owners.								

Rated Input Voltage (VDC)	12 V	I in	24 V	I in	48 V	I in	110 V	I in	220 V	I in
Dc Input Voltage	10 - 16		20 - 32		40 - 60		90 - 160		180 - 300	
Dimention (W*H*D)	500 - 1 kVA 1kVA 2,5 kVA 2,5 kVA 8 kVA		19" x 200 x 400 19" x 300 x 500 19" x 400 x 650		--		--		--	
Rated Input Current (A)	500 VA	48	500 VA	23	500 VA	12	500 VA	6	500 VA	2.5
	1 kVA	92	1 kVA	45	1 kVA	23	1 kVA	10	1 kVA	6
	--	--	2 kVA	88	2 kVA	47	2 kVA	20	2 kVA	10
	--	--	2.5 kVA	115	3 kVA	70	3 kVA	29	3 kVA	15
	--	--	--	--	4 kVA	91	4 kVA	39	4 kVA	19
	--	--	--	--	5 kVA	112	5 kVA	49	5 kVA	24
	--	--	--	--	6 kVA	140	6 kVA	59	6 kVA	28
	--	--	--	--	10 kVA	224	10 kVA	98	10 kVA	48
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► Static Transfer Switches

# STS Series 1 phase



## GENERAL SPECIFICATIONS

- Smart control and high reliability with DSP (Digital Signal Processor)
- Thyristor controlled switching (fully static)
- Automatic and manual transfer modes
- 2x16 character LCD display, showing measurements, status and alarm messages, led test
- Graphic touchscreen user interface module (HMI) Option
- Led displays for easy observation of static transfer switch status. Audible alarm.
- Internal maintenance bypass switch
- Internal, redundant and monitored power supplies
- Calibration of measurements from front panel
- Language selection from front panel (English / German / Turkish / Dutch / Portuguese)
- Input Low / High, Output Low / High, Over Temperature, Short Circuit protections
- Ability to program all operation parameters (password protected).
- Common alarm relay output.
- Possibility of monitor and control over RS232-RS485.
- Modbus (RTU) communication.
- Log records with date and time stamp up the 200 events.
- Thyristor failure detection.
- Natural cooling up to 500A
- Hot Swap (for 2U solutions)

## OPTIONS

- 4 programable alarm relay contact outputs.
- Easy observation via analog gauges (input / output voltages / currents).
- Transducers for input / output voltage(s) / current(s) (4-20mA and 0-10V).
- Internal cabinet light / anticondensation heater.

## TECHNICAL SPECIFICATIONS

MODELS	STS 1016	STS 1032	STS 1050	STS 1063	STS 1100	STS 1150
Current (A)	16	32	50	63	100	150
<b>INPUT</b>						
Input Voltage	110VAC / 127VAC / 208VAC / 220VAC / 230VAC / 240VAC					
Nominal frequency	50 or 60 Hz					
<b>OUTPUT</b>						
Output Voltage	110VAC / 127VAC / 208VAC / 220VAC / 230VAC / 240VAC					
Efficiency	> 98%					
Transfer Time	< 5ms @ 50 Hz, < 4,1ms @ 60 Hz					
<b>SYSTEM PROPERTIES</b>						
Weight (kg)	12 kg			16 kg		20 kg
Dimensions (1U = 44,45mm)	19 inch rack cabinet, Height: 2U, Depth: 400mm			19 inch rack cabinet, Height: 4U, Depth: 400mm		
Operation Temperature	(-5°C) - (50°C)					
Storage Temperature	(-20°C) - (70°C)					
Overload Capability	150 % for 1 minutes, 250% 20ms					
Acceptable Source Voltage Distortion	10 % Maximum					
Max Altitude	2000m					
Communication	Modbus Communication over RS232 Serial Port					
Dry Contact	1 Dry contact output dedicated for common alarm, 4 Dry Contacts (Optional)					
Cabinet Color	RAL7035, RAL7032 (Standard), others (Optional)					
Protection Level	IP20					
<b>ALARMS AND COMMUNICATION</b>						
Protections	Overload, Short circuit, Over Temperature, Backfeed, SCR Fault Alarm, Unsync protection, Bypass protection (Interlock)					
Maintenance Switch	On cabinet					
Communication	RS232(Standard), Dry Contact(Standard), RS485(Optional)					
Time - Date	Log Records up to 200 logs with Real Time Clock Calendar					
LED Indicators	(Source1 Good, Source2 Good, Source1 On, Source2 On, Output OK, Common Alarm, Source1 Maint, Source2 Maint, Synchronisation Bad)					
Power Supplies	Redundant Internal Power Supplies					
Warnings	Audible Alarm					
Current Function	Load High Current Inhibit Function, which inhibits emergency transfer in case of very high currents like short circuits					
<b>STANDARDS</b>						
Applicable Standards	IEC62310-1, IEC62310-2, IEC62310-3, ISO9001, ISO14001, ISO27001, ISO15001, ISO45001, CE Declaration					

NOTE: All specifications are subject to change without notice. Consult EPC's Technical Support Department for special applications. All names used above are registered trademarks of their respective owners.

► Static Transfer Switches

# STS Series 3 phase



### OPTIONS

- 4 programable alarm relay contact outputs.
- Easy observation via analog gauges (input / output voltages / currents).
- Transducers for input / output voltage(s) / current(s) (4-20mA and 0-10V).
- Internal cabinet light / anticondensation heater.

### GENERAL SPECIFICATIONS

- Smart control and high reliability with DSP (Digital Signal Processor)
- Thyristor controlled switching (fully static)
- Automatic and manual transfer modes
- 2x16 character LCD display, showing measurements, status and alarm messages, led test
- Graphic touchscreen user interface module (HMI) Option
- Led displays for easy observation of static transfer switch status. Audible alarm.
- Low malfunction risk with 4 parallel redundant power supplies
- Internal maintenance bypass switch
- Internal, redundant and monitored power supplies
- Calibration of measurements from front panel
- Language selection from front panel (English / German / Turkish / Dutch / Portuguese)
- Input Low / High, Output Low / High, Over Temperature, Short Circuit protections
- Ability to program all operation parameters (password protected)
- Common alarm relay output
- Possibility of monitor and control over RS232-RS485.
- Modbus (RTU) communication.
- Log records with date and time stamp up the 200 events.
- Thyristor failure detection
- Natural cooling up to a 500A

### TECHNICAL SPECIFICATIONS

MODELS	STS 3050	STS 3100	STS 3150	STS 3200	STS 3300	STS 3400	STS 3500	STS 3600
Current (A)	50	100	150	200	300	400	500	600
<b>INPUT</b>								
Nominal Voltage-Sources	3*190VAC / 3*220VAC / 3*360VAC / 3*380VAC / 3*400VAC / 3*415VAC (Phase to Phase)							
Switched Input Phases	3(3-pole)(Standard), 3+N(4-pole)(Optional)							
Nominal Frequency	50 - 60 Hz							
Input Frequency Range	±20 % ( adjustable)							
Distribution Compatibility	IT, TT, TNS, TNC							
<b>OUTPUT</b>								
Output Voltage	3*190VAC / 3*220VAC / 3*360VAC / 3*380VAC / 3*400VAC / 3*415VAC (Phase to Phase)							
Transfer Type	"Break Before Make" (no overlapping sources)							
Transfer time for source failure	5.0ms @ 50Hz, 4.1ms @ 60Hz with Synchronized Sources; 10 msec with Unsynchronized Sources							
Efficiency at full load (%)	> 99 %							
<b>ENVIRONMENTAL</b>								
Noise level @ 1m (dB)	55				65			
Storage temperature	(-20 °C) – (+70 °C)							
Ambient temperature	(-5°C) - (+50°C)							
Relative humidity	0 - 95% Non-condensing							
Operating Altitude	1000 m from MSL (1% derate each 100m after 1000m) Max. 4000m							
Cabinet Color	RAL7035, RAL7032 (Standard), others (Optional)							
Protection level	IP20(Standard) to IP54(Optional), (consult to EPC for IP54 to IP65)							
<b>ALARMS AND COMMUNICATION</b>								
Communication	RS232(Standard), Dry Contact(Standard), RS485(Optional)							
Time- Date	Log Records up to 200 logs with Real Time Clock Calendar							
LED Indicators	(Source1 Good, Source2 Good, Source1 On, Source2 On, Output OK, Common Alarm, Source1 Maint, Source2 Maint, Synchronisation Bad)							
Power Supplies	Redundant Internal Power Supplies							
Warnings	Audible Alarm							
Current Function	Load High Current Inhibit Function, which inhibits emergency transfer in case of very high currents like short circuits							
Communication	RS232(Standard), Dry Contacts (Standard), RS485(Optional), TCP(Optional), SNMP(Optional), GSM(Optional)							
<b>STANDARDS</b>								
Applicable Standards	IEC62310-1, IEC62310-2, IEC62310-3, ISO9001, ISO14001, ISO27001, ISO15001, ISO45001, CE Declaration							

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## PLI Series



### Features

- Long life design (up to 25 years)
- 12 pulse rectifier (10% Input THDi), < 5% Input THDi with harmonic filter
- Various voltage settings for different countries, Removing input neutral at site
- Input and output isolation transformer
- Fusible Surge Suppression (AC/DC)
- Redundant Fans, Natural Cooling + Smart Fan System
- RS485 serial Interface with MODBUS protocol, Network Interface (TCP/IP)
- SNMP, GSM Communication, and Remote Display
- Automatic Battery Test, Programmable relay card, analog input (battery temperature, etc.), and analog output
- Parallel Operation: Parallel redundant configuration with monitored coupling switch
- Dual Configuration with synchronization (with common or individual batteries)
- DC Load supply

### Protections

- Temperature Compensating Charging, Auxiliary Trip Contact
- TMS or LSI/G Protection, Dropper (for DC loads), LVD for battery protection
- AC/DC Earth Fault Protection (adjustable), Phase Voltage/Sequence protection

### Add-on Options

- 12 pulse rectifier (10% Input THDi), < 5% Input THDi with harmonic filter
- Various voltage settings for different countries, Removing input neutral at site
- Input and Bypass Isolation (Scott), Bypass Voltage Regulator (Servo/Static)
- Fusible Surge Suppression (AC/DC)
- Redundant Fans, Natural Cooling + Smart Fan System
- RS485 serial Interface with MODBUS protocol, Network Interface (TCP/IP)
- SNMP, GSM Communication, and Remote Display
- Automatic Battery Test, Touch Panel with Mimic Diagram
- Programmable relay card, analog input (battery temperature, etc.), and analog output
- Parallel Operation: Parallel redundant configuration with monitored coupling switch
- Dual Configuration with synchronization (with common or individual batteries)
- DC Load supply
- Touch Panel with Mimic Diagram



Industrial UPS  
**PLI Series**

TECHNICAL SPECIFICATIONS		
Model	PLI3100	PLI3300
Rated Power [kVA]	UP TO 400KVA	UP TO 800KVA
<b>INPUT CHARACTERISTICS</b>		
Phase	3 Phases + N + PE	
Rectifier Input Voltage	190VAC to 600VAC $\pm$ 15%	
Bypass AC Input Voltage	110VAC to 275VAC $\pm$ 15% VAC	190VAC to 600VAC $\pm$ 15%
Frequency	50, 60 or 400Hz $\pm$ 10%	
Rectifier Type	6 Pulse / 12 Pulse (Option)	
Input THDi	30% (6 Pulse) / 10%(12 Pulse)	
<b>OUTPUT CHARACTERISTICS</b>		
Phase	1 Phases + N + PE	3 Phases + N + PE
Output Voltage	110VAC to 275VAC $\pm$ 1% VAC (Bypass applies)	190VAC to 600VAC $\pm$ 1% (Bypass applies)
Power [kW]	UP TO 320KW	UP TO 640KW
Power Factor	0.8	
Frequency	50, 60 or 400Hz $\pm$ 1%	
Efficiency	Up to 93% (6/12 pulse)	
Output THDu	2% @linear load / 5% @non-linear load	
Crest Factor	3:1	
Recovery Time	25ms (to within 1%)	
Overload	continuous @ 110%, 10mins @ 110-125%, 1mins @ 125-150%, bypass >150%	
Wave Form	Sine Wave	
<b>DC BUS</b>		
DC Ripple	1% with battery, 2% without battery	
DC Nominal Voltage	110VDC / 220VDC / 360VDC / 384VDC / 480VDC (Depends on the rated power)	
Battery Type	VRLA / OPzV / OPzS / NiCad	
<b>INTERFACE &amp; COMMUNICATION</b>		
Communication	RS232, Dry Contacts, RS485(Optional), TCP(Optional), SNMP(Optional), GSM(Optional)	
LCD Display	4x20 character LCD display (Optional: HMI Touch Panel, Mimic Panel)	
Notifications (LCD)	Measured values, status, and alarm messages	
LED Indicator	LED panel with individual LEDs for individual alarms.	
<b>CHARACTERISTICS</b>		
Protection Degree	Standard: IP20, (Optional: 21 to 54) (Consult to EPC for others)	
Cooling System	Forced Ventilation with Redundant AC Fans (Optional: Natural cooling, Water cooling, Smart Fans)	
Cable Entry	Standard: Bottom (Optional: Top, Rear, Side)	
Cabinet Color	Standard: RAL7032,7035 (Optional: Others)	
<b>ENVIRONMENT</b>		
Operating Temperature	0 to 50 oC	
Storage Temperature	-20 to 70 oC	
Relative Humidity	up to 90% (non-condensing)	
Operating Altitude	<1000m from MSL (1% derate each 100m after 1000m)	
Acoustic Noise	50 to 73 dBA (depending on kVA rating)	
<b>STANDARDS</b>		
EMC, Safety	IEC62040-1, IEC62040-2	
Quality Assurance	ISO14001 - ISO9001 - ISO27001 - ISO50001 – ISO45001	
Conformity	CE	
<b>OPTIONS</b>		
Input Harmonic Filter	5% (12 pulse rectifier and filter)	
Input Power Factor	0.9 (With additional filter or 12 pulse rectifier and filter)	
MBS	Full isolation with maintenance Bypass	
Operating in Parallel	1+1 system (Standby, Current Sharing, Parallel Redundant)	
NOTE: All specifications are subject to change without notice. Consult EPC's Technical Support Department for special applications. For Customized Solution UPSs, Project-Based Specifications are considered.		

# Industrial UPS PL Series



## GENERAL SPECIFICATIONS

- ▶ True On-line Topology / Sinusoidal Output
- ▶ IGBT / IPM Technology (Inverter Circuit)
- ▶ 12 or 6 Pulsed Thyristor Controlled Rectifier
- ▶ Galvanic Isolation at the Output of the Inverter
- ▶ Static and Mechanic Maintenance By-Pass
- ▶ Advanced Automatic and Manual Battery Test System
- ▶ Superior performance on non-linear loads.
- ▶ RS232 and Dry Contacts or RS485, Modbus Communication and Remote Monitoring.
- ▶ High Efficiency up to 94%.
- ▶ Space Vector Application.
- ▶ High Performance Design.
- ▶ Overload and Short Circuit Protection.
- ▶ Compatible with International Standards
- ▶ Soft Start
- ▶ Temperature Compensated Battery Charging
- ▶ Hot Standby Configuration
- ▶ Advanced 2x16 or 4x20 LCD Panel Providing detailed Information on Input/Output Voltage, Battery Voltage, Charging Current.
- ▶ Interior Temperature and Setting User Selectable Parameters
- ▶ 200 Recorded Event History.
- ▶ Alarm Logging with date and time
- ▶ Compact and Quiet.
- ▶ Guarantee of 10 years spare parts availability.
- ▶ 24 Hours Emergency Technical Support.

## Options:

- ▶ Parallel Application, Touchscreen Display, IGBT Rectifier

## TECHNICAL SPECIFICATIONS

MODELS	310	315	320	330	340	360	380	3100	3120	3160	3200	3250	3300	3400	3500	
Power (kVA)	10	15	20	30	40	60	80	100	120	160	200	250	300	400	500	
<b>INPUT</b>																
Input Voltage	3*190VAC / 3*220VAC / 3*360VAC / 3*380VAC / 3*400VAC / 3*415VAC (Phase to Phase)															
Input Voltage Range	+10%, -15%															
Input Frequency	50 Hz or 60 Hz															
<b>OUTPUT</b>																
Power (kW)	8	12	16	24	32	48	64	80	96	128	160	200	240	320	400	
Power Factor	0.8															
Output Voltage	3*190VAC / 3*220VAC / 3*360VAC / 3*380VAC / 3*400VAC / 3*415VAC (Phase to Phase)															
Voltage Stability	(Balanced load: ± %1) (Unbalanced load: ± %2.5) (Step load: ± %5)															
Correction Time	After step load: Max 25 ms.															
Frequency	50 Hz or 60Hz															
Frequency Tolerance	Adjustable + % 2 (synchronous) , +%0.2 (free operation)															
Efficiency of %100 Load	87 - 91%						90 - 92%				92 - 94%					
Total Harmonic Distortion	<%3 (for linear loads), <%7 (for non-linear loads)															
Crest Factor	3:1															
Overload Protection	(100% 125% load: 10min.) (125% 150% load: 1min.) (>150% load: by-pass)															
Short Circuit Protection	Short circuit protection electronically															
<b>BATTERY</b>																
Type	Maintenance free lead-acid															
Battery Number	30 or 32 or 40						30 or 32 or 40				30 or 32 or 40					
Charge Voltage (Vdc)	405 / 432 / 540						405 / 432 / 540				405 / 432 / 540					
Discharge Voltage (Vdc)	300 / 320 / 400						300 / 320 / 400				300 / 320 / 480					
Ambient Temperature	25 °C															
Battery Test	Automatic or manual															
<b>GENERAL</b>																
Series Communication	RS232(Standard), Dry Contacts (Standard), RS485(Optional), TCP(Optional), SNMP(Optional), GSM(Optional)															
Software	Management software															
Operating Temperature Interval	0°C - 40°C															
Cooling	Forced cooling															
Relative Humidity	>90% condensing															
Operating Altitude	1000 m from MSL (1% derate each 100m after 1000m) Max. 4000m															
Acoustic Noise	<56dBA			<60dBA			<65dBA			<70dBA						
Protection Class	IP20(Standard) to IP54(Optional), (consult to EPC for IP54 to IP65)															
<b>APPLICATION STANDARDS</b>																
EMC, Safety	IEC62040-1, IEC62040-2															
Quality Assurance	ISO14001 - ISO9001, ISO27001, ISO15001, ISO45001, CE															
<b>OPTIONS</b>																
Input Transformer	Isolation transformer at input.															
Input Harmonic Distortion THD	%5 (12 pulse rectifier and filter)															
Input Power Factor	0.90 (With additional filter or 12 pulse rectifier and filter)															
MBS	Full isolation with maintenance by-pass															
Operating In Parallel	1+1 system (Standby, Current sharing, Parallel Redundant)															
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# EPCIT Series



## Special Hospital IT Solutions compatible with IEC 60364-7-710 standards

IT Systems are mandatory to be used in Group 2 rooms for the safety of patients and healthcare workers against electrical shocks. The primary difference that separates this system from grounded network (TT or TN) is that it doesn't have operation grounding. This is provided by an isolation transformer. On the other hand the second important feature is that all of the loads, which is connected to distribution system, is grounded separately. Places as Operating Rooms, Intensive Care Rooms, Premature Babies Rooms and Angiography Rooms are protected and well cared with our IT Systems consists of Isolation Transformer, insulation values, load and temperature monitoring unit and current transformer consists of and alert notification system which is produced in accordance to TS EN61588-2-15 Standard.

### Usage Areas

- ▶ Intensive care rooms
- ▶ Premature babies' rooms
- ▶ Angiography control-medical examination rooms
- ▶ Operating rooms
- ▶ Surgery preparation and recovery rooms
- ▶ Anesthesia Rooms
- ▶ Heart Catheterization rooms

### Superior Features

- ▶ Over 4000 Units of operating STS Systems with superior knowledge.
- ▶ Uninterruptable Power and Energy reliability with STS.
- ▶ Transformer Power between 0.5 and 10kVA.
- ▶ Lowering the leakage current to microamperes level.
- ▶ Fault detection system
- ▶ Monitoring of 24V loads.
- ▶ The multiple communication capability between devices
- ▶ Life safety of patient, doctor and healthcare workers.
- ▶ Customized panel design
- ▶ Easy and simple installation on place

### General Information

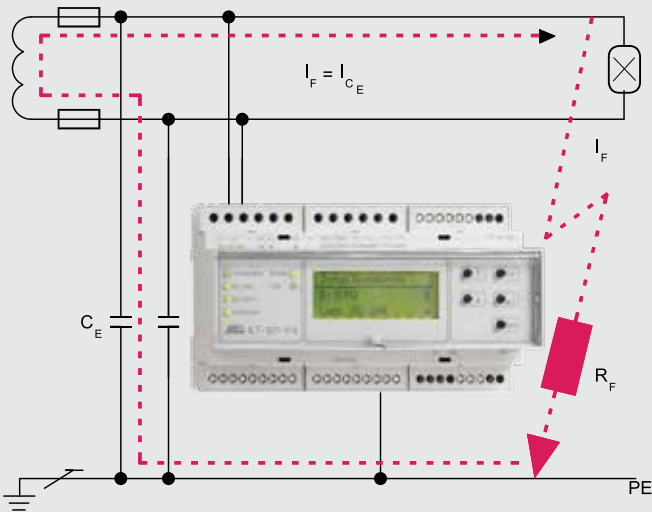
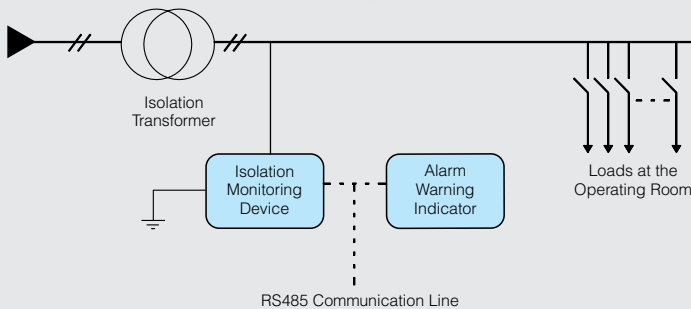
- ▶ 50- 500 k $\Omega$  insulation resistance
- ▶ 5-50A load current
- ▶ Menu selection from the LCD panel
- ▶ The transfer time of less than 5 ms
- ▶ 4 different languages
- ▶ The static transfer switch (STS) system via RS232 / 485 data sharing

### Isolation Transformer

Isolation Transformers have an important part in providing insulation between AC Input (Network) and the critical loads. Through the insulation transformer the energy in the room can be isolated from the network. That way leakage current in the room lowered to  $\mu$ A level from mA level. Another important feature...

### Transformer Features

- ▶ Nominal Power of Transformer: 10kVA
- ▶ Single Phase input and output.
- ▶ For three phase system the voltage between phases must be 230Vac.
- ▶ Short circuit voltage should be less than %3.
- ▶ The blank current should be less than %3
- ▶ Initial current must be less than 8 times the rated current.



# EPCIT Series



## Touch Screen Control Panel

- Microprocessor controlled, smart and flexible design
- 6-digit hour and 6-digit LED display timer
- User-friendly touch screen can do all the settings
- Multiple language options menu design
- Easy to clean front surface
- 2mm stainless front panel complies with the standard DIN 4301
- Operation ON / OFF, flow, damper, UV lamp, gas discharge
- Electric heating, air-conditioning controls
- Hands-free phone, and internal speaker Hi-Fi amplifier
- Control of Lighting Group

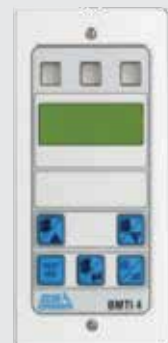
## TECHNICAL SPECIFICATIONS

SCREEN TYPE	5.7" TOUCH LCD, 2X16 LCD DISPLAY
Clock Display	4 cm 6-Digit LED Display
Stopwatch screen	4cm 6-Digit LED Display
User Data Entry	Touch Panel
MEASUREMENTS	UNIT / MEASUREMENT RANGE / INPUT INFORMATION
Temperature	° / 0 ~ 50 ° / 0 ~ 10V analog
Humidity	% / 0 ~ 100% / 0 ~ 10V analog
Room pressure	Pascal / 0 ~ 100Pa / 0 ~ 10V analog
Filter Pollution Level	Pascal / 0 ~ 100Pa / 0 ~ 10V analog
OUTPUTS / LED INDICATORS	
Lighting	4 Channel / (On-Off) -( L1/L2/L3/L4)
Operation Lamp	2 Channel / (On-Off)
Negatoscope	1 Channel / (On-Off)
UV Lamp	1 Channel / (On-Off)
Lighting Dimmer	1 Channel
Negatoscope Dimmer	1 Channel
Music	4 Channel / (On-Off)
Air conditioning (Full / Half Flow)	2 Channel / (On-Off)
Reserve	3 Channel
Heater	1 Channel / (On-Off)
Alarms	(On-Off)
Alarm Mute	(On-Off)
INPUTS	
1-10V Analog Sensor Input 16 Channel	16 Channel
Music input 4 Channel	4 Channel
GAS PRESSURE GAUGES	(HIGH / NORMAL / LOW)
O2	OK
N2O	OK
CO2	OK
Air5	OK
VAC	OK
AUDIBLE WARNING	BUZZER
Connected to the automation system	TCP IP - RS485 - CANBUS
Front panel	DIN 4301 (2mm stainless steel)
Nutrition	220V - 50Hz
Internal Dimensions	(Width / Height / Depth) mm 440/455/90
External Dimensions	(Width / Height) mm 490/475

NOTE: All above technical specifications subject to change without notice. All specifications are just simple guidelines. Refer to the EPC for special applications. All trade names mentioned above are registered trademarks of their respective owners.



- Multi-Color 17" Touch Screen
- Windows-Based Operating System
- Mail and Messenger usage
- Communication with Automation,
- Elegant design
- Other features with user-friendly menu and application options



# FC Series



## GENERAL SPECIFICATIONS

- ▶ 3 Phase full sinus output wave-form.
- ▶ 50 to 400 Hz output frequency.
- ▶ Internal isolation transformer at output.
- ▶ Ability to drive non-linear loads.
- ▶ Reliable IPM (Intelligent Power Module) technology IGBT.
- ▶ DSP (Digital Signal Processor) control.
- ▶ Space Vector Control technology.
- ▶ 2x16 / 4x20 Character LCD display for monitoring all adjustments
- ▶ Audible alarm.
- ▶ Programmable dry contact outputs and Modbus communication
- ▶ Adjustable switching frequency.
- ▶ Advanced pc program for PC connection.
- ▶ Ability to set up / adjust all operational parameters through front panel and PC communication.
- ▶ Input, Output over voltage, over current, short circuit, over temperature protections.
- ▶ Ability to control via external digital input or communication.
- ▶ Programmable automatic restart.
- ▶ Ability to cold start and battery operation.

## TECHNICAL SPECIFICATIONS

INPUT	
Voltage (V)	3*190VAC / 3*220VAC / 3*360VAC / 3*380VAC / 3*400VAC / 3*415VAC (Phase to Phase)
Frequency (Hz)	50Hz / 60Hz Automatic Selectable ± 10 %
Frequency Range	± 10%
Rectifier Topology	6 pulse, 12 pulse Thyristor or IGBT
OUTPUT	
Power (kVA)	10 - 400kVA
Power (kW)	8kW - 320kW
Voltage (V)	Single Phase Output 110VAC / 127VAC / 208VAC / 220VAC / 230VAC / 240VAC Three Phase Output 3*190VAC / 3*220VAC / 3*360VAC / 3*380VAC / 3*400VAC / 3*415VAC (Phase to Phase)
Frequency (Hz)	50Hz / 60Hz / 83 1/3Hz / 400Hz ± 1%
Power Factor	0.8
Crest Factor	3 : 1
Total Harmonic Distortion	< 3 % with linear load
Efficiency	> 88 - 93%
Communication	RS232(Standard), Dry Contacts (Standard), RS485(Optional), TCP(Optional), SNMP(Optional), GSM(Optional)
ALARMS AND DISPLAYS	
Measurements	Output Voltage (3 Phase) / Output Current (3 Phase) / DC Bus Voltage / DC Bus Current
Protections & Alarm Warning messages	Output Low / High
	DC Bus Low / High / Too Low
	Overload / Overcurrent
	Over Temperature
	Short Circuit / IGBT Overcurrent
Led Indicators	Memory / DSP Error
	Input OK
	Operation Common Alarm
SYSTEM PROPERTIES	
System Design Life	20 years
Protection Class	IP20(Standard) to IP54(Optional), (consult to EPC for IP54 to IP65)
Storage Temperature	(-20°C) to (+70°C)
Operating Temperature	(-10°C) to (+50°C)
Cooling	1000 m from MSL (1% derate each 100m after 1000m) Max. 4000m
Operating Altitude	1000m (-1% Pow for every 100m after 1000m) Max. 4000m
Relative Humidity	0 - 95% (Non-condensing)
Noise (1m away)	<55db (Single Phase), <65dB (Three Phase)
Cabinet Color	RAL7035, RAL7032 (Standard), others (Optional)
Cable Entry	Front Bottom (Top entry optional)
STANDARDS	
Standards	IEC62040-1, IEC62040-2, ISO 9001, ISO 14001, ISO27001, ISO15001, ISO45001, CE Declaration

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## ► Static Voltage Stabilizer

# tCON Series



### OPTIONS

- Programmable alarm relay output (up to 16).
- SNMP and RS485
- Input / Output Voltage / Current Transducers. (4-20mA and 0-10V simultaneously)
- Easy monitoring with Analog meters
- Touch graphic LCD display (Russian and Arabic support)
- Interior cabinet light, cabinet heater, dust filter etc.
- Internal input and output isolation transformer

### USAGE AREAS

- |                                  |                                     |                            |                                       |
|----------------------------------|-------------------------------------|----------------------------|---------------------------------------|
| - CNC Laser Machine              | - TV Transmitters                   | - Burglar Alarm Systems    | - Heating and Cooling Systems         |
| - Uninterruptible Power Supplies | - Textile Machinery                 | - Jewelry Devices          | - Fire Safety Systems                 |
| - Medical Devices                | - Design and construction Machinery | - Technical Devices        | - Personnel Attendance Control System |
| - Telecommunications Equipment   | - Marine Equipment                  | - Air-conditioning systems | - Electrical Appliances               |
| - Automation Equipment           | - Photo Printers                    | - Motorized Shutters       | - Motor Machinery                     |
| - Woodworking Machinery          | - Lifts                             | - Computer Systems         | - Telephone Exchange                  |
| - Injection Molding Machines     | - Access Control Systems            | - Lighting Units           | - Radio Transmitters                  |
|                                  | - Dental Equipment                  | - Boilers                  | - Laser Devices                       |
|                                  |                                     | - Packaging Machinery      |                                       |

### GENERAL SPECIFICATIONS

- Single Phase, 3kVA - 50kVA
- Three Phase, 10kVA - 2000kVA
- DSP (Digital Signal Processor, 16-bit) with intelligent control and high reliability
- Normal and wide bandwidth
- Static (thyristor) switching due to the quick response and regulation time (500V/s)
- Up to 25 levels of voltage regulation
- Network / Regulator selection switch
- Static and manual bypass
- High efficiency
- Optional built-in output isolation transformer
- Measurement, 2x16 character LCD display that can show their status and alarm messages
- Electronic and electromechanical protections thermal-magnetic protection and extinguishing input voltage (which suppresses sudden voltage pulse)
- Output safety contactors
- LED indicators can easily monitor the status of the regulator Audible alarm.
- Ability to program all study variables (password protected)
- The possibility to calibrate the measurements from the front panel
- Language selection from the front panel (English, German, Turkish, Dutch, Portuguese, Spanish, Arabic)
- Automatic self-test mode
- Up to 200 dates and times for event recording
- Permanent 1 general alarm for relay contact output
- Easy maintenance
- Making the network performance analysis
- Programmable alarm relay output
- RS232 ability to monitor Modbus communications,
- 10-year spare parts guarantee and extensive service support

# tCON Series

TECHNICAL SPECIFICATIONS		
PHASE	SINGLE PHASE	THREE PHASE
Power (kVA)	1kVA - 200kVA	10kVA - 2000kVA
<b>INPUT</b>		
Input Voltage	220/230/240 VAC Single Phase + Neutral	3*380/3*400/3*415 VAC Three Phase + Neutral
Input Voltage Tolerance	176 VAC - 276 VAC (154 - 276 VAC Optional)	3*300 VAC - 3*475 VAC (265 - 475 VAC Optional)
Input Frequency	50 - 60 Hz $\pm$ 5%	
<b>OUTPUT</b>		
Output Voltage	220/230/240 VAC Single Phase + Neutral	*380/3*400/3*415 VAC Three Phase + Neutral
Output Voltage Tolerance	$\pm$ 3% ( $\pm$ 2% Optional)	
Over Load	115% @ load 10mins; 125% @ load 1mins; 150% @ load 10 Sec; >150% @ load Output Off	
Output Frequency	50-60 Hz. $\pm$ % 5	
Regulation Speed	~ 500 V/s	
Power Factor	0.8	
Efficiency	0,92%	0,94%
Output Connection	Suitable terminal with 4x16 Character LCD Display	
Measurements	Input Power; Input Voltage; Output Voltage; Output Load; Output Frequency	
Alarms	Overload; Over Temperature; Input Fault; Output Fault etc.	
Communication	RS232(Standard), Dry Contacts (Standard), RS485(Optional), TCP(Optional), SNMP(Optional), GSM(Optional)	
<b>PROTECTION</b>		
Output Voltage Protection	When output voltage out of adjusted tolerance values, Output off with contactor	
Current Protection	Thermic Magnetic Breakers	
Maintenance	Maintenance Bypass Line (15kVA and above)	
<b>OPTIONS</b>		
Phase Protection	In any phase failure turns off the device	
RFI / Harmonic Filter	Protects from input surges and drops	
Harmonic Filter	RFI / HARMONIC filter decreases high frequency noise and harmonic	
Isolation Transformer	Input and output Isolation Transformer for special usage	
<b>SYSTEM PROPERTIES</b>		
System Design Life	20 years	
Protection Class	IP20(Standard) to IP54(Optional), (consult to EPC for IP54 to IP65)	
Storage Temperature	(-20°C) to (+70°C)	
Operating Temperature	(-10°C) to (+50°C)	
Cooling	Fan Forced Cooling(Standard), Natural Cooling(Optional)	
Operating Altitude	1000 m from MSL (1% derate each 100m after 1000m) Max. 4000m	
Relative Humidity	0 - 95% (Non-condensing)	
Noise (1m away)	<45 - 55 dB (depends on capacity)	<45 - 65 dB (depends on capacity)
Cabinet Color	RAL7035, RAL7032 (Standard), others (Optional)	
Cable Entry	Front Bottom (Top entry optional)	
<b>STANDARDS</b>		
Standards	ISO9001, ISO14001, ISO27001, ISO15001, ISO45001	
NOTE: All above technical specifications are subject to change without notice. All specifications are just simple guidelines. Refer to the EPC for special applications. All trade names mentioned above are registered trademarks of their respective owners.		

► Automatic Voltage Stabilizer

# OVR Series



### AREAS OF OPERATION

Hospitals, Buildings and Constructions, Manufacturing Companies, Offices and supply of devices in need of stabilized voltage.

### GENERAL SPECIFICATIONS

- High efficiency, High reliability
- Modular construction for easy customization
- Continuous voltage regulation and uninterrupted transfer.
- Separate management of each phase.
- Voltage regulation on Network fluctuations and unbalanced loads
- Monitoring and managing of output current and settings.
- External maintenance by-pass
- Short circuit and over load protection
- Ability to work with non-linear loads
- Easy, front panel Access for Service / Installation
- Noise Attenuation
- Guarantee of 20 years spare parts availability.
- Reliable technical support

### OPTIONS

- Wide input voltage range
- Advanced LCD panel providing detailed information
- Microprocessor controlled
- Optional RS232 Communication for remote monitoring and control

TECHNICAL SPECIFICATIONS		
MODELS	SINGLE PHASE	THREE PHASE
Power (kVA)	2 to 30kVA	6 to 1500kVA
<b>INPUT</b>		
Input Voltage	220VAC - 230VAC - 240VAC Single Phase + Neutral	3*380VAC - 3*400VAC - 3*415 Three Phase + Neutral
Input Voltage Tolerance	160VAC - 245VAC	3*277VAC - 3*424VAC
Input Frequency	30 - 70 Hz	
<b>OUTPUT</b>		
Output Voltage	220VAC - 230VAC - 240VAC	3*380VAC - 3*400VAC - 3*415
Output Voltage Tolerance	2% and 1%(Optional)	
Over Load	110% @ load 10mins; 125% @ load 1mins; 150% @ load 10 Sec; >150% @ load 1 sec. then Output Off	
Output Frequency	50Hz - 60Hz ± 10%	
Regulation Speed	80 V/s	
Power Factor	0.8	
Efficiency	%95 - %96	%95 - %97
LCD Display	Input Voltage, Output Voltage, Output Load, Output Frequency and Failure Infos (Overload, Over Temperature etc.)	
Communication	RS232(Standard), Dry Contacts (Standard), RS485(Optional), TCP(Optional), SNMP(Optional), GSM(Optional)	
<b>PROTECTION</b>		
Output Voltage Protection	When output voltage out of adjusted tolerance values, Output off with contactor	
Current Protection	Thermic Magnetic Breakers	
Maintenance	Maintenance Bypass Line (15kVA and above)	
<b>OPTIONS</b>		
Phase Protection	In any phase failure turns off the device	
RFI / Harmonic Filter	Protects from input surges and drops	
Harmonic Filter	RFI / HARMONIC filter decreases high frequency noise and harmonic	
<b>GENERAL</b>		
Protection Class	IP20(Standard) to IP54(Optional), (consult to EPC for IP54 to IP65)	
Storage Temperature	(-10°C) to (+60°C)	
Operating Temperature	(-0°C) to (+50°C)	
Cooling	Fan Forced Cooling(Standard), Natural Cooling(Optional)	
Altitude	1000m (-1% Power for every 100m after 1000m) Max. 4000m	
Relative Humidity	0 - 90% (Non-condensing)	
Noise (1m away)	<45 - 50 dB (depends on capacity)	<45 - 65 dB (depends on capacity)
Cabinet Color	RAL7035, RAL7032 (Standard), others (Optional)	
Cable Entry	Front Bottom (Top entry optional)	
<b>STANDARDS</b>		
Standards	ISO9001, ISO14001, ISO27001, ISO15001, ISO45001, CE Declaration	

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# SLI Series Tower Online UPS

1-3 KVA (220V/230V/240V)

0.8-2 KVA (110V/120V/127V)



## GENERAL SPECIFICATIONS

SLI11 series UPS is an online double-conversion UPS with full DSP control technology. With high input and output power factor, self-adjusting output frequency, smart battery management system and network management, SLI11 is a perfect choice for computers, telecommunication equipments and other sensitive devices.

## APPLICATION

- IDC (Internet Data Center)
- Networks and Servers
- Control and Communication Systems
- Offices (Computer etc.)

## TECHNICAL SPECIFICATIONS (220/230/240V)

MODEL		SLI1101S	SLI1101L	SLI1102S	SLI1102L	SLI1103S	SLI1103L
Capacity		1kVA / 900W		2kVA / 1,8kW		3kVA / 2,7kW	
Phase		Single Phase in, Single Phase out					
Input Voltage Range		110VAC - 288VAC					
		100% load@ > 176VAC; 80% load@ > 154 VAC 70% load@ > 132VAC; 50% load@ > 110 VAC					
Input PF		≥0.97					
Input Frequency		40 Hz ~ 70 Hz					
Output PF		0.9					
Output Voltage		220V / 230V / 240V					
Voltage Regulation		± 1 %					
THDu		≤2% THD, Linear Load ≤ 5.5% THD, Non-Linear			≤2% THD, Linear Load ≤ 5% THD, Non-Linear		
Battery	Model	12VDC / 7Ah	External	12VDC / 7Ah	External	12VDC / 7Ah	External
	Quantity	3	3	6	6	8	8
	Max-Charging Current	1A	5A	1A	5A	1A	5A
	Voltage	36VDC		72VDC		96VDC	
Efficiency		87%		91%		90%	
Noise (1 meter away)		<43dB@<70% Load <47dB@>70% Load			<45dB@<70% Load, <50dB@>70% Load		
Overload Capability (Inverter mode)		105%~130%:to bypass after 1 min; 150%: to bypass after 30sec					
Overload Capability (Battery mode)		105%~130%:shutdown after 10Sec; 150%: shutdown after 5sec					
Crest Ratio		3:1					
Display		LED+LCD					
Options		Surge Protection					
Interface		Standard: RS232 Optional: SNMP, USB, Dry Contacts, Parallel Kit, ECO Kit, Surge Protection					
W*D*H (mm)		145*353*222		190*374*336		190*426*336	
Package Weight (kg)		10	6	17	11	22	12

NOTE: All specifications are subject to change without notice. Consult EPC's Technical Support Department for special applications. All names used above are registered trademarks of their respective owners.

► Tower Online 1/1 Phase UPS

# SLI-SLIX Series Tower Online UPS

6-20kVA (220V/230V/240V)

4-12KVA (110V/120V/127V)



## GENERAL SPECIFICATIONS

SLI-SLIX series UPS is an online double-conversion UPS with full DSP control technology. With high input and output power factor, self adjusting output frequency, smart battery management system and network management, SLI-SLIX is a perfect choice for computers, telecommunication equipments and other sensitive devices.

## APPLICATION

- IDC (Internet Data Center)
- Networks and Servers
- Workstations and Communication Systems
- Offices (Computer etc.)

### TECHNICAL SPECIFICATIONS (220/230/240V)

MODEL	SLI1106XS	SLI1106XL	SLI1110XS	SLI1110XL	SLI1115L	SLI1120L	
Capacity	6kVA / 6kW		10kVA / 10kW		15kVA / 13,5kW	20kVA / 18kW	
Phase	Single Phase in, Single Phase out						
Input Voltage Range	110VAC - 288VAC						
	100% load @ >176VAC; 90% load @ >160VAC 80% load @ >140VAC; 60% load @ >110VAC						
Input PF	≥0.99				≥0.98		
Input Frequency	40 Hz ~70 Hz						
Output PF	1				0.9		
Output Voltage	220V / 230V / 240V						
Voltage Regulation	± 1 %						
THDu	≤2%THD, full linear load; ≤5%THD, non-linear load				1%THD, full linear load 5%THD, non-linear load		
Battery	Model	12VDC / 7Ah	External	12VDC / 9Ah	External	External	External
	Quantity	16 to 20 pcs.	16 to 24 pcs.	16 to 20 pcs.	16 to 24 pcs.	16	
	Max-Charging Current	1A	5A	1A	5A	5A	5A
	Voltage	192 default (Adjustable)				192VDC	
Efficiency	Normal Mode: max 95%; Battery Mode: max 93%				Normal Mode: max 93,5%; Battery Mode: max 92%		
Noise (1 meter away)	<52dB @ <60% Load <56dB @ >60% Load		<56dB@ <60% Load; <58dB@ >60% Load		<48dB@ <70% Load; <60dB@ >70% Load		
Overload Capability (Inverter mode)	110%: for 10 min ; 125%:for 1min ; 150%:for 30 sec (shut down the bypass after 1 min)						
Overload Capability (Battery mode)	110%: Shutdown after 1mins; 130%: Shutdown after 10s; >130%: Shutdown after 200ms						
Crest Ratio	3:1						
Display	LED+LCD						
Options	Surge Protection, Manual Bypass						
Interface	Standard: RS232 Optional: SNMP, USB, Dry Contacts, Parallel Kit, ECO Kit						
W*D*H (mm)	190*510*705	190*510*340	190*580*705	190*580*340	250*562*650	250*562*710	
Package Weight (kg)	66	15	75	17	27	34	

NOTE: All specifications are subject to change without notice. Consult EPC's Technical Support Department for special applications. All names used above are registered trademarks of their respective owners.



► Tower Online 3/1 Phase UPS

# SLI31 Series Tower Online UPS

6-20kVA (220V/230V/240V)

4-12KVA (110V/120V/127V)



## GENERAL SPECIFICATIONS

SLI31 series UPS is an online double-conversion UPS with full DSP controlled technology. With high input and output power factor, self-adjusting output frequency and network management SLI31 is perfect choice for computers, telecommunication equipment and other sensitive devices.

## APPLICATION

- IDC (Internet Data Center)
- Networks and Servers
- Workstations and Communication Systems
- Offices (Computer etc.)

TECHNICAL SPECIFICATIONS (220/230/240V)						
MODEL		SLI3110S	SLI3110L	SLI3115L	SLI3120L	SLI3140L
Capacity		10kVA / 9kW		15kVA / 13,5kW	20kVA / 18kW	40kVA / 36kW
Phase		Three Phase in, Single Phase out				
Input Voltage Range		110VAC - 288VAC				
		100% load @ >176VAC; 90% load @ >160VAC 80% load @ >140VAC; 60% load @ >110VAC				
Input PF		0.95				0.99
Input Frequency		40 Hz ~70 Hz				
Output PF		0.9				
Output Voltage		220V / 230V / 240V				
Voltage Regulation		± 1,5%				
THDu		1%THD, full linear load; 5%THD, non-linear load				
Battery	Model	12VDC / 9Ah	External	External	External	External
	Quantity	16 pcs.	16 pcs.	16 pcs	16 pcs	16 pcs
	Max-Charging Current	1A	5A	5A	5A	5A
	Voltage	192VDC				
Efficiency		Normal Mode: max 93,5%; Battery Mode: max 92%				Normal Mode: 95%; Battery Mode: 95%
Noise (1 meter away)		<53dB @ <70% Load <66dB @ >70% Load				<65dB @ 100% Load; <62dB @ 45% Load
Overload Capability (Inverter mode)		110%: for 10 min ; 125%:for 1min ; 150%:for 30 sec (shut down the bypass after 1 min)				
Overload Capability (Battery mode)		110%: Shutdown after 1mins; 130%: Shutdown after 10s; >130%: Shutdown after 200ms				
Crest Ratio		3:1				
Display		LED+LCD				
Options		Surge Protection, Manual Bypass				
Interface		Standard: RS232, EPO Optional: SNMP, USB, Dry Contacts, Parallel Kit, ECO Kit				
W*D*H (mm)		250*562*770	250*562*650	250*562*650	250*562*710	600*980*950
Package Weight (kg)		60	25	27	34	170

NOTE: All specifications are subject to change without notice. Consult EPC's Technical Support Department for special applications. All names used above are registered trademarks of their respective owners.

# SLR Series Rack Online UPS

1-10 KVA (220V/230V/240V)

0.8-6 KVA (110V/120V/127V)



## GENERAL SPECIFICATIONS

SLR series Rack UPS is an online double-conversion UPS with full DSP control technology. With 19 inch standard rack design, self adjusting output frequency, smart battery management system and network management, SLR11 series Rack is a perfect choice for computers, IT equipments and other sensitive devices.

## APPLICATION

- ▶ IDC (Internet Data Center)
- ▶ Networks and Servers
- ▶ Workstations and Communication Systems
- ▶ Offices (Computer etc.)

TECHNICAL SPECIFICATIONS (220/230/240V)							
MODEL		SLR1101S	SLR1101L	SLR1102S	SLR1102L	SLR1103S	SLR1103L
Capacity		1kVA / 900W		2kVA / 1,8kW		3kVA / 2,7kW	
Phase		Single Phase in, Single Phase out					
Input Voltage Range		110VAC - 288VAC					
		100% load@ > 176VAC; 80% load@ > 154 VAC 70% load@ > 132VAC; 50% load@ > 110 VAC					
Input PF		≥0.97					
Input Frequency		40 Hz ~ 70 Hz					
Output PF		0.9					
Output Voltage		220V / 230V / 240V					
Voltage Regulation		± 1 %					
THDu		≤2% THD, Linear Load ≤ 5.5% THD, Non-Linear			≤2% THD, Linear Load ≤ 5% THD, Non-Linear		
Battery	Model	12VDC / 7Ah	External	12VDC / 7Ah	External	12VDC / 7Ah	External
	Quantity	3	3	6	6	8	8
	Max-Charging Current	1A	5A	1A	5A	1A	5A
	Voltage	36VDC		72VDC		96VDC	
Efficiency		87%		91%		90%	
Noise (1 meter away)		<43dB@<70% Load <47dB@>70% Load			<45dB@<70% Load, <50dB@>70% Load		
Overload Capability (Inverter mode)		105%~130%:to bypass after 1 min; 150%: to bypass after 30sec					
Overload Capability (Battery mode)		105%~130%:shutdown after 10Sec; 150%: shutdown after 5sec					
Crest Ratio		3:1					
Display		LED+LCD					
Options		Surge Protection, Rail Kit, Foot Brackets					
Interface		Standard: RS232 Optional: SNMP, USB, Dry Contacts, Parallel Kit, ECO Kit					
W*D*H (mm)		145*353*222		190*374*336		190*426*336	
Package Weight (kg)		11,5	7	25	8	31	9,5

NOTE: All specifications are subject to change without notice. Consult EPC's Technical Support Department for special applications. All names used above are registered trademarks of their respective owners.

# SLRX Series Rack Online UPS

4-6 KVA (110V/120V/127V)

6-10 KVA (220V/230V/240V)



## GENERAL SPECIFICATIONS

SLRX Series UPS, ranging from 6kVA to 10kVA, is a double conversion online rack UPS with full DSP control technology. It applies the advanced 3-level technology, achieving an efficiency rate up to 95%. With its compact design of high power density (kVA = kW) in 2U height, SLRX series make an ideal choice for computers, telecommunication equipment and other sensitive devices

## APPLICATION

- IDC (Internet Data Center)
- Networks and Servers
- Workstations and Communication Systems
- Offices (Computer etc.)

TECHNICAL SPECIFICATIONS (220/230/240V)					
MODEL	SLR1106XS	SLR1106XL	SLR1110XS	SLR1110XL	
Capacity	6kVA / 6kW		10kVA / 10kW		
Phase	Single Phase in, Single Phase out				
Input Voltage Range	110VAC - 288VAC				
	100% load @ >176VAC; 90% load @ >160VAC 80% load @ >140VAC; 60% load @ >110VAC				
Input PF	≥0.99				
Input Frequency	40 Hz ~70 Hz				
Output PF	1				
Output Voltage	220V / 230V / 240V				
Voltage Regulation	± 1 %				
THDu	≤2%THD, full linear load; ≤5%THD, non-linear load				
Battery	Model	12VDC / 7Ah	External	12VDC / 9Ah	External
	Quantity	16 to 20 pcs.	16 to 24 pcs.	16 to 20 pcs.	16 to 24 pcs.
	Max-Charging Current	1A	5A	1A	5A
	Voltage	192 default (Adjustable)			
Efficiency	Normal Mode: max 95%; Battery Mode: max 93%				
Noise (1 meter away)	<52dB @ <60% Load <56dB @ >60% Load		<56dB@ <60% Load; <58dB@ >60% Load		
Overload Capability (Inverter mode)	110%: for 10 min ; 125%:for 1min ; 150%:for 30 sec (shut down the bypass after 1 min)				
Overload Capability (Battery mode)	110%: Shutdown after 1mins; 130%: Shutdown after 10s; >130%: Shutdown after 200ms				
Crest Ratio	3:1				
Display	LED+LCD				
Options	Surge Protection, Manual Bypass, Rail Kit, Foot Brackets				
Interface	Standard: RS232 Optional: SNMP, USB, Dry Contacts, Parallel Kit, ECO Kit				
W*D*H (mm)	438*660*172	438*550*86	438*660*172	438*550*86	
Package Weight (kg)	59	17,5	67	20,5	

NOTE: All specifications are subject to change without notice. Consult EPC's Technical Support Department for special applications. All names used above are registered trademarks of their respective owners.

► Tower Online UPS

# PLP Series

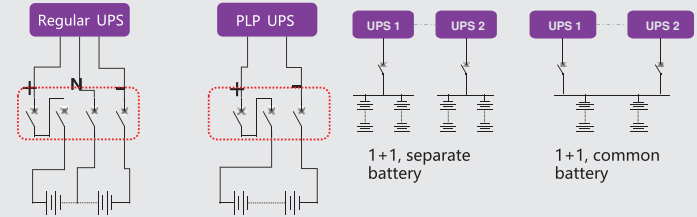
20-200 kVA - 3/3 Phase



## FEATURES

- Tower UPS, modular design, reduce MTTR;
- Optimized parallel technology, eliminates single point of failure;
- 3 Level Charging
- 50/60Hz Frequency Converter mode
- Emergency Power Off mode (EPO)
- Active power factor correction
- Generator compatible
- Flexible number of batteries
- Output isolation transformer (OPT.)
- SNMP, USB and RS232/485
- Optimized battery management (OBM) technology, extended batteries life 50%;
- LCD display provides a user-friendly interface for operational information.

### No need for battery N cable/breaker



- Battery quantity single adjustment from 28-36, provides more flexible battery configuration.
- Saving cost up to 750\$750\$!
- PLP Series provides separate battery solution and common battery solution.
- Saving 50% cost by common battery solution.

MODEL		20kS	30kS	40kS	60kS	80kS	100kS	120kS	160kS	200kS
Capacity	Power rating KVA	20	30	40	60	80	100	120	160	200
	Power rating KW	18	27	36	54	72	90	108	144	180
Input	Topology	PWM, IGBT based								
	Rated voltage	380Vac/220Vac (400/415Vac selectable)								
	Voltage range	45% - +25%, depends on load percentage								
	Input power factor	0.99								
	THDi	3%								
	Rated Frequency	50/60Hz auto sensing								
	Frequency range	42-72Hz								
Output	Power factor	0.9								
	Efficiency	Up to 94% in online mode: >98% in ECO mode								
	Output voltage	380Vac/220Vac +/- 1% (400/415Vac selectable)								
	Output frequency	50/60Hz								
	Overload Capacity	<102% continuous run; 105%-125% 10min; 150% 1min								
	THDv	<2% for Linear load								
	Unbalanced load	1								
Bypass	Crest factor	3:1								
	Internal static switch	Standard								
	Bypass voltage	380Vac (+/- 15%)								
Battery	Maintenance bypass switch	Standard								
	Battery type	VRLA								
	Backup time	Varies from battery capacity and load situation								
	Battery PCS	20-80KS: 28-36 PCS adjustable, 32 PCS as default; 100-200KS: 35-40 PCS adjustable, 40 PCS default								
Communication	Recharge time	8 hours to 90%								
	Interface	RS232, USB, 2 Com slots, 3 Building alarm, EPO								
	Com cards (optional)	SNMP/WEB, Modbus/Ethernet, AS400, NMC								
Environment	Running temperature	UPS: 0-40°C; Battery: 25°C								
	Storage	-25 - 55°C without battery; +15 - 25°C with battery								
	Humidity	5%-95W								
	Elevation	No derating < 1000m								
Dimension	Noise level	20KVA ≤ 55 dBA@1 meter front side; 30-40kVA=62 dBA@1 meter front side; 60-120kVA ≤65 dBA@1 meter front side; 160-200kVA 70 dBA@1 meter front side								
	W*D*H mm	420*715*900	600*720+1200	600+800+1876	600+830*1876					
Regulation	Safety	IEC/EN 62040-1								
	EMC	IEC/EN 62040-2								
	Performance	IEC/EN 62040-3								
	Quality	ISO90001, ISO14001								
	Certification	CE								

► Tower Online UPS 10-180 kVA - 3/3 Phase

# PLTM Series



## FEATURES

- ▶ Tower UPS, reduce MTTR;
- ▶ Optimized parallel technology, eliminates single point of failure;
- ▶ 3 Level Charging
- ▶ 50/60Hz Frequency Converter mode
- ▶ Emergency Power Off mode (EPO),
- ▶ Active power factor correction
- ▶ Generator compatible
- ▶ Flexible number of batteries
- ▶ Output isolation transformer (OPT.)
- ▶ SNMP, USB and RS232/485
- ▶ Optimized battery management (OBM) technology, extended batteries life 50 %;
- ▶ LCD display provides a user-friendly interface for operational information.

MODELS	10-40kVA	60kVA	80kVA	100kVA	120kVA	160kVA	180kVA
<b>INPUT</b>							
Nominal voltage	380/400/415Vac, (3Ph+N+PE)						
Operating voltage range	138~485Vac						
Operating frequency range	40Hz-70Hz						
Power factor	≥0.99						
Harmonic distortion (THDi)	≤3% (100%non-linear load )						
Bypass voltage range	220Vac Max.voltage: +25%(optional +10%,+15%,+20% ) 230Vac Max.voltage: +20%(optional +10%,+15% ) 240Vac Max.voltage: +15%(optional +10% ) Min. voltage: -45% (optional -20%,-30%) Frequency synchronize tracing range: ±10%Support						
Generator input							
<b>OUTPUT</b>							
Output voltage	380/400/415Vac (3Ph+N+PE)						
Voltage regulation	±1%						
Power factor	0.9						
Output frequency	1.Line Mode: synchronize with input; when input frequency >±10% (±1%/±2%/±4%/±5% optional)2.Battery Mode:50/60*(1±0.02%)Hz						
Crest factor	3:1						
Harmonic distortion (THD)	≤2% with linear load						
Efficiency	≤4% with non linear load						
	95.5%						
<b>BATTERY</b>							
Battery voltage	Optional Voltage:±180V/±192V/±204V/±216V/±228V/±240/±252/±264/±276/±288/±300Vdc(30/32/34 /36/38/40/42/44/46/48/50pcs optional)						
Charge Current(A) (charge current can be set according to battery capacity installed)	Max.5A/ Max. 10A	Max. 15A	Max. 20A	Max. 30A	Max. 45A		
<b>SYSTEM FEATURES</b>							
Transfer time	Utility to Battery : 0ms; Utility to bypass: 0ms						
Overload	Load≤110%: last 60min,≤125%: last 10min,≤150%: last 1min						
Alarm	overload, utility abnormal, UPS fault, battery low, etc.						
Backfeed	Support						
Protection	short circuit, overload, over temperature, battery low, fan fault alarm.						
Communication	USB,RS232, RS485, Parallel port, REPO port, LBS port, Backfeed port, Intelligent slot, SNMP card (optional), Relay card (optional)						
<b>ENVIRONMENTAL</b>							
Operating temperature	0°C~40°C						
Storage temperature	-25°C~55°C(no battery)						
Humidity range	0~95% (non condensing)						
Altitude	< 1500m.When>1500m,lower the rated power for use						
Noise level	<58dB	<60dB	<62dB	<63dB	<65dB	<66dB	<68dB
<b>PHYSICAL</b>							
Dimension DxWxH (mm)	720*250*5 35/720*25 0*885		865x25 0x862		885x440x1200		
Net weight (kg)	35/102	70.5	150	160	162	196	198
<b>STANDARDS</b>							
Safety	IEC/EN62040-1,IEC/EN60950-1						

▶ Modular Online UPS

# PLRM Series

80-500 kVA (380V/400V/415V)



## DESCRIPTION

The PLRM Series Modular, online UPS ranging from 40kVA to 500kVA is designed to protect any critical load for medium and large data center achieving maximum availability. The PLRM Series feature the latest technology of 3-level technology and PFC input control, which guarantees high efficiency of 96% and ultra-reliability. 3 units can be paralleled for capacity or redundancy up to 1500kVA, making it an excellent choice for medium and large facilities.

## GENERAL SPECIFICATIONS

- ▶ Compact design, 500kVA in one cabinet (1.45m<sup>2</sup>)
- ▶ 50kVA power modules in 4U height, easy for capacity upgrade
- ▶ High efficiency in double conversion mode up to 96%
- ▶ The system intelligently control the whole process of charging and discharging, improving the lifetime of the battery.
- ▶ System can be configured 40kVA to 500kVA in one single cabinet and can paralleled 3 units for a capacity up to 1500kVA
- ▶ 10.4" touch color LCD with graphic display.
- ▶ System can intelligently shutdown some power modules to increase total load rate, achieving higher efficiency
- ▶ Provides RS232, RS485, USB, SNMP, AS400 and programmable dry contacts.

## TECHNICAL SPECIFICATIONS

MODELS	PLRM500/50X	PLRM400/40X
Power (kVA)	500kVA/450kW	400kVA/400kW
Power Module	PM50X(50kVA/45kVA)	PM40X(40kVA/40kW)
<b>INPUT</b>		
Phase	3 P + N + G, 380V/400V/415V	
Voltage Range	304V-478VAC (line-line), full load; 228V-304VAC (line-line), load derated linearly	
Frequency Range	40Hz - 70Hz	
Power Factor	> 0.99	
THDi	THDi<3% @ 100% linear load	
<b>OUTPUT</b>		
Voltage	380V/400V/415V	
Voltage Regulation	1.5 %	
Power Factor	0.9	1.0
THDu	THD<1%(linear load), THD<5.5%(non-linear load)	
Crest Factor	3:1	
Overload Capability	110% for 1 hour; 125% for 10min; 150% for 1min; >150% for 200ms	
<b>BATTERY</b>		
Voltage	± 240VDC	
Charge Power	20%* System Power	
Charge Voltage Precision	± 1%	
<b>SYSTEM</b>		
System Efficiency	Normal Mode: 96%; Battery Mode: 96%	
Display	10.4" Color touch screen LCD + LED + Keyboard	
IP Class	IP20	
Interface	Standard: RS232, RS485, USB, Dry Contacts(programmable) Optional: SNMP, AS400, Parallel Kit, Battery Cold Start(standard for 250kVA and above), Lightning protection components, Dust Filter, LBS	
Operation/Storage Temperature	(0°C)-(40°C) / (-25°C)-(-70°C)	
Relative Humidity	0-95%(non-condensing)	
Noise	72dB @ 100% load; 69dB @ 45% load (1 meter away)	
<b>PHYSICAL</b>		
Weight	Cabinet	900kg
	Power Module	45kg
Dimension (W*D*H)	Cabinet	1300x1100x2000(mm)
	Power Module	510x700x178(mm)

NOTE: All specifications are subject to change without notice. Consult EPC's Technical Support Department for special applications. All names used above are registered trademarks of their respective owners.

► Tower & Rack Online UPS 1-10 kVA - 1/1 Phase

# SL-P Series



## FEATURES

- SL-Pt Tower Type and SL-Pr Rack Type UPS.
- Wide voltage range input
- Online double conversion technology
- DSP digital control technology
- Output power factor 0.9
- Communications:  
RS232/USB/Dry contact card/SNMP option
- Wide input voltage range adapt to harsh power grid
- Friendly man-machine interface, easy to operate 8.Intelligent battery management extend battery life

MODELS	MODELS	SL-Pt1101H/S SL-Pr1101H/S	SL-Pt1102H/S SL-Pr1102H/S	SL-Pt1103H/S SL-Pr1103H/S	SL-Pt1106H SL-Pr1106H	SL-Pt1110H SL-Pr1110H	
Capacity		1kVA	2kVA	3kVA	6kVA	10kVA	
Input	Phase	L+N+PE					
	Rated Voltage	208/220/230/240Vac					
	Operating voltage range	(90±5)~(300±5)Vac					
	Operating frequency range	50/60Hz±4Hz					
	Power factor	≥0.99					
	Harmonic distortion (THDi)	≤6% (100% linear load)					
Output	Phase	L+N+PE					
	Output voltage	208/220/230/240Vac					
	Power factor	0,9					
	Voltage regulation	≤±2%					
	Output frequency	Utility Mode: follow utility; Battery Mode:(50/60±0.2)Hz					
	Crest factor	3:1					
	THD	≤4%(100% linear load)					
	Efficiency(AC)	≥90%				95,0%	
	Efficiency(Batt.)	≥85%				94,8%	
	Overload	AC mode: Load≤110%, last 30min; ≤130%, last 10min; ≤150%, last 30s; >150%, 200ms to bypass. Battery mode: Load≤110%, last 1min; ≤130%, last 10s; ≤150%, last 3s; >150%, 200ms to bypass				AC mode: Load≤110%, last 30min; ≤130%, last 10min; ≤150%, last 30s; >150%, 500ms to bypass. Battery mode: Load≤110%, last 10min; ≤130%, last 1min; ≤150%, last 10s; >150%, 500ms to bypass.	
Battery	Battery voltage	H	36Vdc	72Vdc	96Vdc	192Vdc	
		S	24Vdc	48Vdc	72Vdc	192Vdc	
	Standard unit QTY	12V,7AH*2	12V,7AH*4	12V,7AH*6	12V,7AH*16		
	Long unit QTY	3	6	8	16		
Charge Current	1A for standard unit, 5.5A for long unit				1A for standard unit, 4A for long unit		
Transfer Time		Utility to Battery : 0ms; Utility to bypass: 4ms					
Environment	Operating temperature	00C~400C					
	Storage temperature	-150C~450C(no battery)					
	Humidity range	20~95% (non condensing)					
	Altitude	< 1000m					
Protection	Noise level	<45dB					
	Alarm	overload, utility abnormal, UPS fault, battery low, etc					
	Protection	short circuit, overload, over temperature, battery low, fan fault alarm					
Communication		RS232,USB(optional), SNMP card(optional)					
Tower	Dimensions D*W*H(mm)	H	280*144*230	400*144*230	400*144*230	425*190*328	533*260*501
		S	400*144*230	400*144*230	425*190*328	533*260*560	533*260*560
	Weight (kg)	H	4,2	6,4	6,5	12,2	21
		S	7,8	13,3	23,4	55	62
Rack	Dimensions D*W*H(mm)	H	482.6*400*88	482.6*400*88	482.6*400*88	665*482.6*133	
		S	482.6*400*88	482.6*400*88	482.6*550*88	665*482.6*133	
	Weight (kg)	H	6,5	7,5	7,8	17	18,5
		S	10,5	15,5	22	/	/
Standards		EN62040-1, EN62040-2					

▶ Line-Interactive UPS

# SH-J Series

650VA - 2000VA



## DESCRIPTION

SH-J Series UPS can be used as office devices backup power, PCs, router, POS machine, communication and industrial control products in scientific research, transportation.

## FEATUES

- ▶ Excellent microprocessor control guarantees high reliability;
- ▶ A wide range of applicable voltage;
- ▶ Boost and buck AVR for voltage stabilization;
- ▶ Auto restart while AC is recovering;
- ▶ Off-mode charging, cold start function;
- ▶ Simulated sine wave;
- ▶ Optional USB/RS-232 port and RJ45 port;.



## TECHNICAL SPECIFICATIONS

Model	SH-J650	SH-J850	SH-J1000	SH-J1200	SH-J1500	SH-J2000
Capacity	650VA/390W	850VA/510W	1000VA/600W	1200VA/720W	1500VA/900W	2000VA/1200W
<b>INPUT</b>						
Voltage	220Vac/230Vac					
Voltage Range	140-290Vac/140-300Vac					
Frequency Range	>40Hz(Auto sensing)					
<b>OUTPUT</b>						
AC Voltage Regulation (Batt.Mode)	220Vac/230Vac +/-10%					
Frequency Range (Batt.Mode)	50Hz±1Hz or 60Hz±1Hz(Auto sensing)					
Transfer Time Typical	4-8ms, 13ms Max.					
Waveform (Batt.Mode)	Simulated Sine Wave					
<b>BATTERY</b>						
Battery Voltage	12Vdc		24Vdc			
Battery Number	7AH*1	9AH*1	7AH*2	7.5AH*2	9AH*2	9AH*2
Max Charge	Current 1.0A					
<b>INDICATORS</b>						
LED display	AC Mode	Green LED lighting				
	Batt.Mode	Yellow LED flash				
	Fault	Red LED flash				
LCD display (Optional)	LCD					
<b>PROTECTION</b>						
Full Protection	Over temperature, Short circuit , Overload , Overcharge and discharge protection					
<b>ALARM</b>						
Battery Mode	Sounding every 10 seconds					
Low Battery	Sounding every second					
Overload	Sounding every 0.5 seconds					
Fault	Continuously sounding					
<b>PHYSICAL</b>						
Approx.Dimension D*W*H(mm)	306X86X140			345X123X189		
Output socket	2x C15	2x C15	3x C15	3x C15	4x C15	4x C15
Weight (kg)	5.0	5.6	9.25	10.35	11.2	11.9
<b>OPERATING ENVIRONMENT</b>						
Humidity	0-90 % RH @ 0- 40°C(non-condensing)					
Noise Level	Less then 40dB (1m spacing)					
<b>MANAGEMENT</b>						
Communication	Port RJ45/USB (Optional)					

NOTE: All specifications are subject to change without notice. Consult EPC's Technical Support Department for special applications. All names used above are registered trademarks of their respective owners.



# ECC Commercial Fast AC Charge System



## Description

ECC System is an intelligent AC charger for residential charging use which features a smaller size design with a maximum output of 7kW which is more suitable for residential use. ECC adopts user-friendly design, that is convenient to use and easy to install and maintain. It also aims to save on energy consumption and energy costs, just enjoy the simple use of the AC charger.

## WHY US?

- Wireless or wired communication, flexible network management.
- On line payment options with sweep payment, card payment API services with open communication protocol.
- Payment or prepayment by RFID card.
- Pricing options • Time • Electric • Pre-paid.



## TECHNICAL SPECIFICATIONS

Model	ECC-IN07	ECC-IN11	ECC-IN22	ECC-MIS	ECC-MIC	ECC-IZS	ECC-IZC
Rater Power	7kW	11kW	22kW	7.4kW Socket Version	7.4kW Cable Version	7kW Socket Version	7kW Cable Version
<b>Input/Output Voltage</b>	<b>Single-phase 230</b>	<b>Three-Phase 400V</b>		<b>Single-Phase 230V(±10%)</b>		<b>Single-Phase 230V(±10%)</b>	
Input/Output Current	32A	16A	32A	32A		32A	
Weight	7.5 kg			2.7 kg	3.8 kg	2.35 kg	2.5 kg
Protection Degree	IP65			IP55/IK10	IP65/IK10	IP55/IK09	IP65/IK09
Dimensions	Ø450mm (W406*H450*D162)			L336*W299*D120mm		W200*H385*D145	
Frequency	50Hz±1Hz			50Hz/60Hz		50Hz/60Hz	
Connector	IEC Type2			IEC Type2		IEC Type2	
<b>Communication Method</b>	<b>LAN/ Wifi / 4G (option)</b>			-		-	
Communication Protocol	OCPP1.6J( can updated to 2.0)			-		-	
Payment method	NFC/ RFID/ Plug and Charge/APP (optional)			-		RFID/ Plug and Charge/APP	
Installation				Floor-mounted/ Wall-mounted		Floor-mounted/ Wall-mounted	
Protection Function	Over current protection, over voltage/under voltage protection, over temperature protection, lightning protection, short circuit protection, ground fault protection, etc.						
Operation Temperature	-30°C — +55°C						
Operation Altitude	<2000m						
Relative Humidity	5%—95%			5%—95%		5%—95%	
RCD	Type A 30mA + DC6mA/ Type B			Built in Type A + DC 6mA		Type A + DC6mA	
EMC	Class B			Class B(Residential Environment)		Class B	
Metering	MID Meter			On-board metering (level B , ±1%)		On-board metering (level B , ±1%)	
Function Extension	Extended Bluetooth, Load Balancing System						
<b>Standard</b>	<b>IEC61581-1:2017, IEC61851-1:2019, IEC62196-21-2:2021</b>						
Cable Length	3.5 Meters Cable(5m optional)			-	5m (3m,7m optional)	-	5 Meters Cable(3m, 7m optional)
Charging Mode	Plug and Charge/ RFID/ App						

# EDC Commercial DC Charge System



## WHY US?

Wireless or wired communication, flexible network management.

- On line payment options with sweep payment, card payment API services with open communication protocol.
- Payment or prepayment by RFID card.
- Pricing options • Time • Electric • Pre-paid.

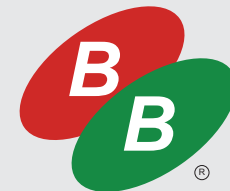
## TECHNICAL SPECIFICATIONS

Model	EDC30	EDC 80	EDC 160	EDC 240	EDC 480
Rated Power [kVA]	30	40-80	60-160	180-240	360-480
<b>INPUT CHARACTERISTICS</b>					
Input Voltage	AC380 ±10% (3P+N+PE)	AC400 ±10% (3P+N+PE)	AC400 ±15% (3P+N+PE)	380 -400V	AC380V -400V
Frequency	50~60Hz				
Power Factor	0.99				
THDi	<5%				
<b>OUTPUT CHARACTERISTICS</b>					
Connector options	Single connector CCS2 CHAdeMO is optional	CCS2 CCS2+CHAdeMO CCS2+CCS2 CCS2+CHAdeMO+Type2 CCS2+CCS2+Type2	CCS2+CHAdeMO	CCS2 CCS2+CHAdeMO CCS2+CCS2	CCS2 CCS2+CHAdeMO CCS2+CCS2
Output Voltage	CCS2: 50-1000 Vdc CHAdeMO: 50-500 Vdc 375~1000V is the output voltage of constant power output(80A CCS2 cable).	200~1000V	200~1000V	200 -1000V(CCS) 200 - 500V(CHAdeMO )	200~1000V
Rated Power [kW]	DC: 30kW	40 -80kW	60 -160kW	180 -240kW	360 -480kW
Max Current	CCS2: 80A CHAdeMO: 80A	200A @CCS	200A @One CCS	200A (300A Optional)	500A
Peak Efficiency	96%				
<b>PHYSICAL CHARACTERISTICS</b>					
Protection Level	IP54/IK10				
Size	W700*D550*H200mm	1900*850*420 mm	W1000*D700*2000 mm	850*750*2000mm	W1000*D700*2000 mm
Weight	≤40 kg				
Communication protocol	OCPP1.6J	OCPP1.6/2.0(Upgrade)		OCPP1.6	OCPP1.6/2.0(Upgrade)
<b>ENVIRONMENT CONDITIONS</b>					
Cooling method	Air cooling	Forced air cooling			
Operating temperature	-25 °C to +50 °C (Full power)	-25 °C ~+65 ° C	-30 °C ~+65 ° C	-25 °C ~+65 ° C	-30 °C ~+55 ° C
Temperature derating	Up to 50 °C: 100% output power, 50-65 °C interval, linear power limit, 65 °C or more, module shutdown protection				
Storage temperature range	-30 °C to +70 °C				
Humidity	5%~95%				
Operating Altitude	<2000m				
<b>OTHERS</b>					
Communication	4G / LAN Port				
Language	English (Support customizing)				
Payment Method	RFID/APP	SwipeCard/QR code/NFC	Credit card/RFID/QR code	RFID/APP (Mobile phone/Visa/Master is optional)	Credit card/RFID/QR code
EMC	Clas A (Industrial)				
Protection	Undervoltage protection, Overvoltage protection, DC Overcurrent protection, Over-temperature protection, Surge Protection Device, Emergency Stop Protection				
Standards	IEC 61851, IEC 62196, DIN 70121, ISO 15118	IEC 62196, IEC 61851		IEC 62196 IEC 61851 IEC61000	IEC 62196 IEC 61851
Certifications	CE, TUV, TR25, UKCA, RCM				

**NI-CD BATTERIES**



**VRLA BATTERIES**



**OPZS BATTERIES**



**OPZY BATTERIES**



**Li-Ion**



Consult for detailed information on available batteries.

**NI-CD**

Nominal Voltage: 1.2VDC  
Low/High Maintenance  
Design Life: 20 years  
Industrial Applications

**VRLA**

Nominal Voltage: 6/12V DC  
Maintenancefree AGM/Gel  
Design Life: 5 years for 7-9Ah & 12 years for others  
Commercial Type Applications

**OPzV**

Nominal Voltage: 2V DC  
Maintenancefree Tubular/Gel  
Design Life: 18/20 years  
Commercial/Industrial Applications

**OPzS**

Nominal Voltage: 2V DC  
High Maintenance  
Design Life: 20 years  
Industrial Applications

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Tel: +90 216 499 54 84

For International Inquires: [sales@epcas.com.tr](mailto:sales@epcas.com.tr)  
For Domestic Inquires: [satis@epcas.com.tr](mailto:satis@epcas.com.tr)  
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ALİ DEMİR  
Tel: 0 242 247 93 91; Gsm: 0 549 274 31 11  
Adres: Varlık Mah. 184 Sok No: 7/A Muratpaşa / ANTALYA

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No:229 0/1 Nilüfer / BURSA

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Adres: Hindi Baba 2. Sk.Tercil Apt. Kat 1 No:2  
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Adres: Kadıköy, Kadı Cd. No:11, 55040 Köyü/İlkadım/Samsun

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HAKAN YAZICI; SERMET H.OĞLU  
Tel: 0 462 281 82 82; Gsm: 0 544 592 5979  
Adres: Iskenderpaşa mah. Dervişoğlu sk. Bayraktaroğlu iş mrk.  
No: 7/2 TRABZON

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