



PRODUCT INTRODUCTION

International Electric

Asea E&T

Jungwon Electric Systems

CEO Message

International Electric Co., Ltd. was founded in 1946 and celebrates its 73th corporate anniversary this year. After developing its first traction transformer in 1979, the company has had an unrivaled advance in the field of special transformers for trains and has also increased its domestic market share in the heavy electric machinery field. Not satisfied, however, the company is making efforts to jump into overseas exports.

Through the acquisition of related companies, it is strengthening not only the field of special transformers, but also other electronic fields such as UPS, inverters, rectifiers, and battery chargers. As it entered a technology introduction contract with the American firm Emerson in 1984 and became designated as a systematized enterprise specializing in power plants by the government, it has made efforts for exportation by obtaining PS and UL marks while bringing in various technologies such as high pressure generators for electric precipitators, Thyristor digital control method, and high voltage power source for electric precipitators through a technology agreement with Origin Electric in the 90s. With the establishment of an enterprise annex research institute in 1994 as a foundation, the company was designated as a 'Q-Class' nuclear power plant firm and grew as a core enterprise of the national power industry. Also, the company arranged production facilities for molded transformers and started sales in 2009. It endlessly seeks change and challenges as a transformer manufacturer.

We intend to promote the main products of International Electric and its affiliates through this product introduction catalogue.

Thank you.

Chairman

Ji Yeon Kim



| Power Transformers ————— 04

Power Transformer, Cast Resin Transformer, Amorphous Mold Transformer
Pole Mounted Transformer, PAD Transformer, Main Transformer for Electromotive Car,
Filter Reactor (Air core type), Dry Type Neutral Grounding Reactor

| Power Equipments ————— 09

Induction Voltage Regulator (IVR), Automatic Step Voltage Regulator (SVR)

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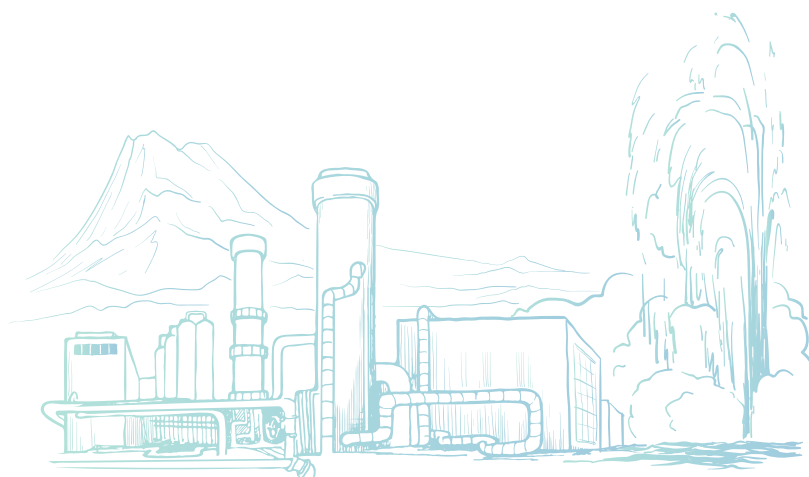
Uninterruptible Power System (UPS), Automatic Voltage Regulator (AVR)
Battery Charger, Inverter, Rectifier (Dry and Oil Type)

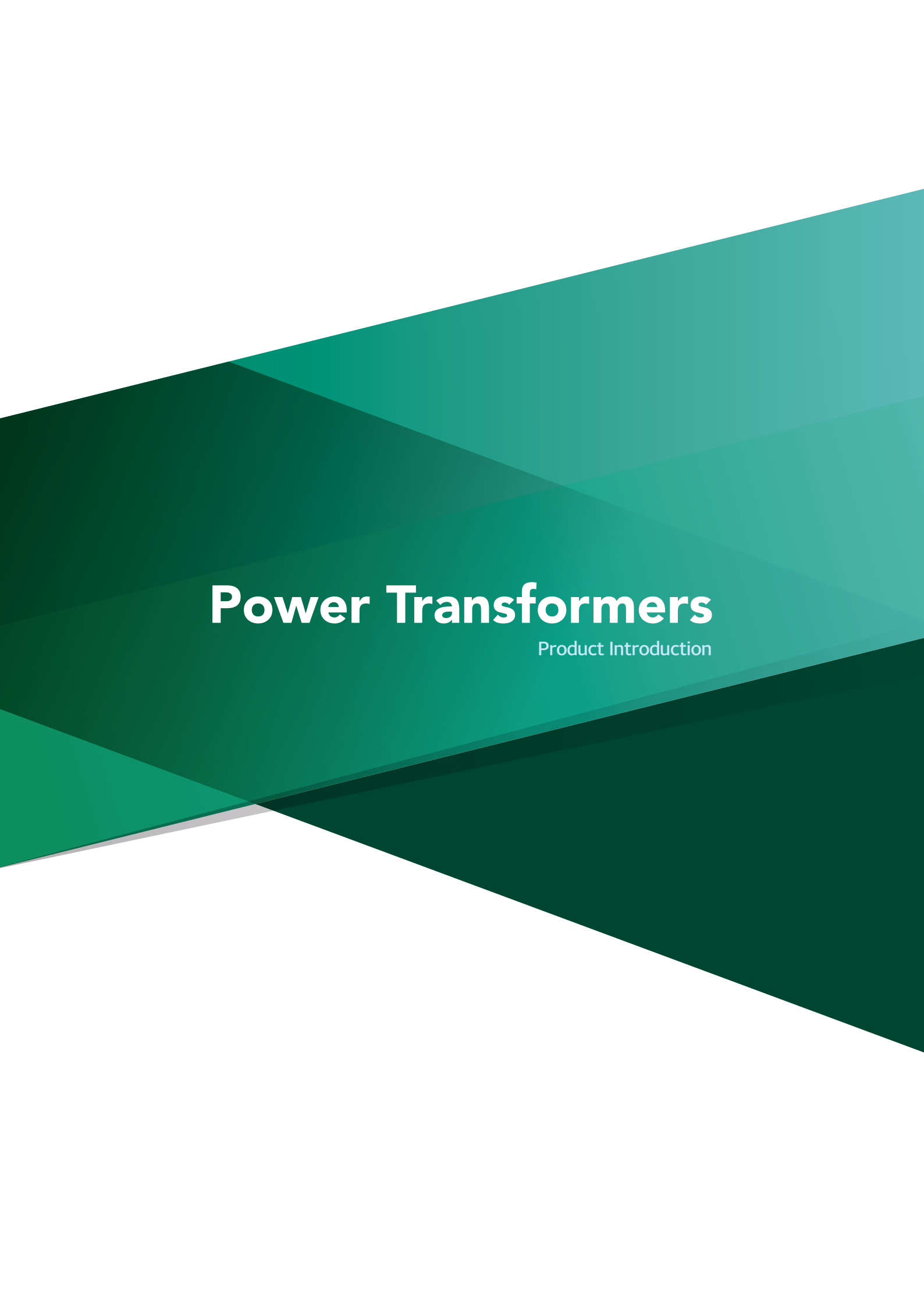
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International Electric Co., Ltd.

Asea E&T

Jungwon Electric Systems Inc.





Power Transformers

Product Introduction

Power Transformers



© Power Transformer

Constant : Single-phase, Three-phase

Frequency : 50, 60Hz

Capacity : 60MVA or lower

Voltage : 69KV or lower

- Power transformer is a device to transmit power from power plant to substation. It is widely used in industrial facilities such as substations and factory.
- It is manufactured in accordance with international standard and KS Standards. We customize our design of power transformer to customer's specifications to meet their satisfaction.



© Cast Resin Transformer

Constant : Single-phase, Three-phase

Frequency : 50, 60Hz

Capacity : 10MVA or lower

Voltage : 36KV or lower

- Since epoxy resin is molded in vacuum state, it is very resistant to humidity and environment-friendly. In addition, it uses specially treated glass for excellent mechanical strength.
- It maintains optimal state of insulation thanks to the coil surface treated with special finishing work.
- Since it is of superior self-extinguishability, there is no risk of fire conduction and poisonous gas during combustion.
- Its partial discharging value is low due to the latest vacuum casting technology applied.

Power Transformers

◎ Amorphous Mold Transformer

Constant : Single-phase, Three-phase

Frequency : 50, 60Hz

Capacity : 5,000kVA or lower

Voltage : 36KV or lower

- Amorphous Transformers made of non-crystalline magnetic materials are thinner than conventional silicon steel plates, so they have less loss and minimize the effects of harmonics. In addition, it is an energy-saving, eco-friendly, high-efficiency Cast resin transformer by reducing no-load loss by about 75%.
- Since epoxy resin is molded in vacuum state, it is very resistant to humidity and environment-friendly. In addition, it uses specially treated glass for excellent mechanical strength.
- Since it is of superior self-extinguishability, there is no risk of fire conduction and poisonous gas during combustion.
- Its partial discharging value is low due to the latest vacuum casting technology applied.



◎ Pole Mounted Transformer

Constant : Single-phase, Three-phase

Frequency : 50, 60Hz

Capacity : 10 - 150KVA

Voltage : 36KV or lower

Type : General, Amorphous Core

- Pole transformer is installed in the distribution lines of KEPCO. It is usually installed on electric poles to lower high voltage.



Power Transformers



◎ PAD Transformer

Constant : Single-phase, Three-phase

Frequency : 50, 60Hz

Capacity : Less than 3,000KVA

Voltage : Less than 36KV

- On-ground transformer is designed for underground distribution facility, streetlights, place adjacent to residential area, school, building, hospital and factory. It is possible to install it near downtown load area. Since it is equipped with protection fuse and fault current limiting fuse, it can prevent damage to transformer and error expansion in case of error in transformer. External power connection unit is designed to be completely insulated. It has radian and loop type transformer. In addition, it can be structured in both open and close type.

◎ Main Transformer for Electromotive Car

Constant : Single-phase, Three-phase

Frequency : 50, 60Hz

Capacity : Less than 3,000KVA

Voltage : Less than 36KV

Rated Capacity : 20KVA-8,900KVA

Input/Output Voltage : 25,000V-840-1,548V-221V
25,000V-840V-929V AC



Purpose

- It receives AC 25K high voltage current from wire (Catenary), changes it to necessary voltage and transmits power to main electric motor through main power converter at secondary (conventional) side or to auxiliary circuit through auxiliary power supply system at the third (tertiary) side.

Characteristics

- Our company produced transformer for railway vehicle first in Korea and is currently developing next-generation train main transformer, emerging as market leader in the domestic market.

Major Client

- Korea Railroad Corporation, Hyundai Rotem and others.

Power Transformers

◎ Filter Reactor (Air core type)

Reactance : 15mH

Rated Current : DC 300A

Rated Voltage : DC 1,500V

Insulating Class : F Class (dry type)

Peripheral Temperature : 25°C ~ 40°C

- This is Filter Reactor that is used for VVVF Inverter system for Railroad Vehicles.
- Inductive Obstacle Prevention Function : Prevention of resonance with signal equipment
- Protection Function of Main Circuit Equipment : Control excessive fluctuation in Line Input Current
- Protection Function of Substation : Control fluctuation of instantaneous current in case of main circuit ground accident
- Major Client : HITACHI



◎ Dry Type Neutral Grounding Reactor

Reactance : 0.6Ω (60Hz)

Continuous current : 300A

Short Time Current : 10,000A / 10sec.

Insulating Class : H class (dry type)

Peripheral Temperature : -25 °C ~ -40 °C

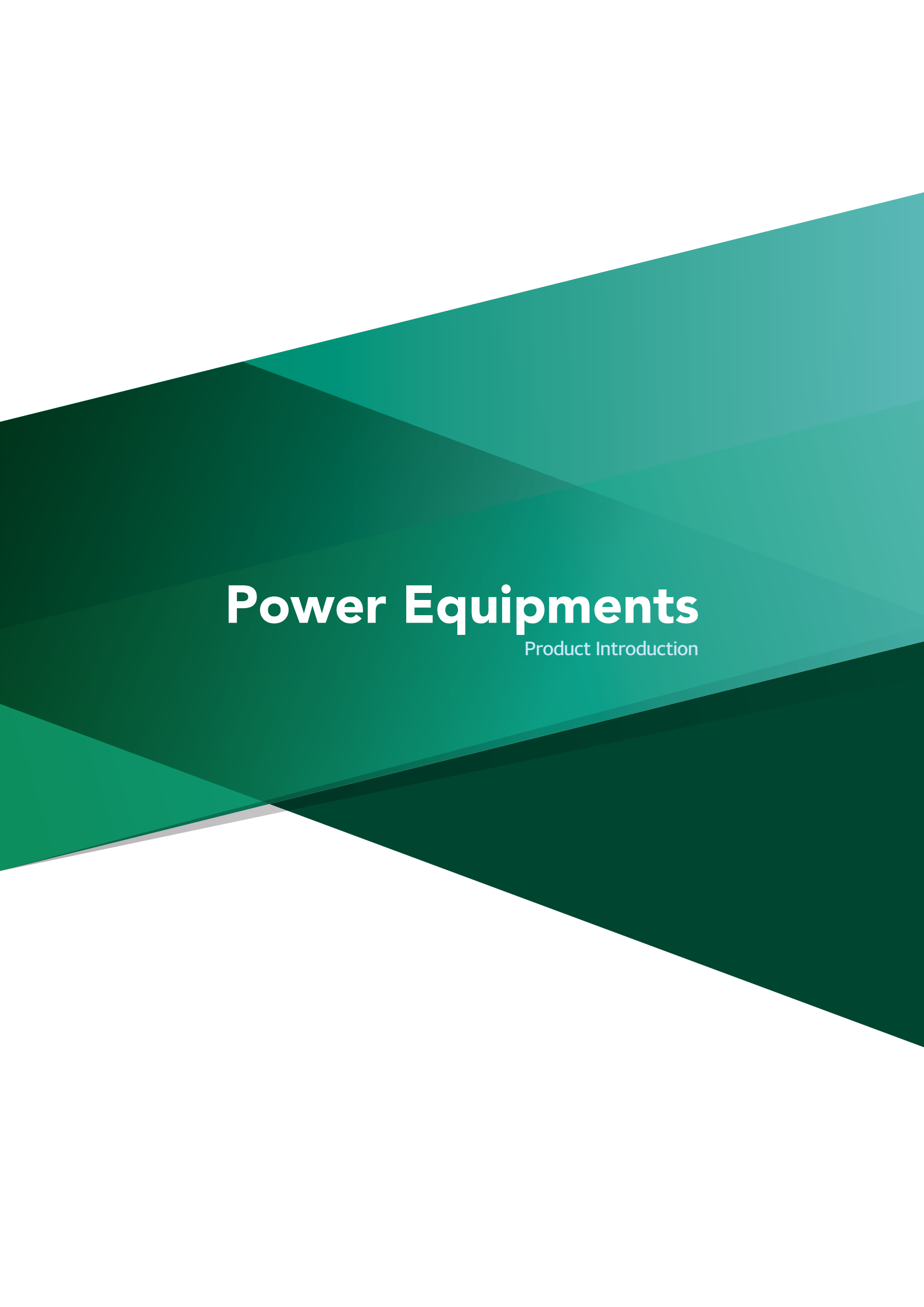
Characteristics

- Independent air core structure supported with base insulator on ground
- Strong enough to resist to electron mechanical power in case that current flows in
- Highly efficient ventilation structure

Purpose

- NGR is a reactor to limit ground fault current at secondary neutron point of power transformer.
- 3Ø 45/60MVA 154KV/22.9KV, KEPCO
- Applied standard : IEC60289, IEC60076-11





Power Equipments

Product Introduction

Power Equipments

© Induction Voltage Regulator (IVR)



High Voltage IVR



Low Voltage IVR

Purpose	Instrument for various electric tests Variable regulator for industrial voltage and current Industrial machinery and tools and system necessary for various uninterrupted voltage
Standards	Type : motor driven voltage stabilizer Phase No : Three-phase and three-wire, Single-phase Frequency : 50, 60Hz Capacity : 10KVA – 2000KVA (self-cooled type: ONAN) Voltage : 220VAC - 13,200VAC Control range : Out Voltage +/-10% - +/-100% Efficiency : Above 95% Ambient Temperature : -20°C - +40°C
Characteristics	On-load Stepless Voltage Variation Using high-magnetic-inductivity silicon steel Microprocessor-controlled Remote monitoring function via RS232,485,422

Power Equipments



© Automatic Step Voltage Regulator (SVR)

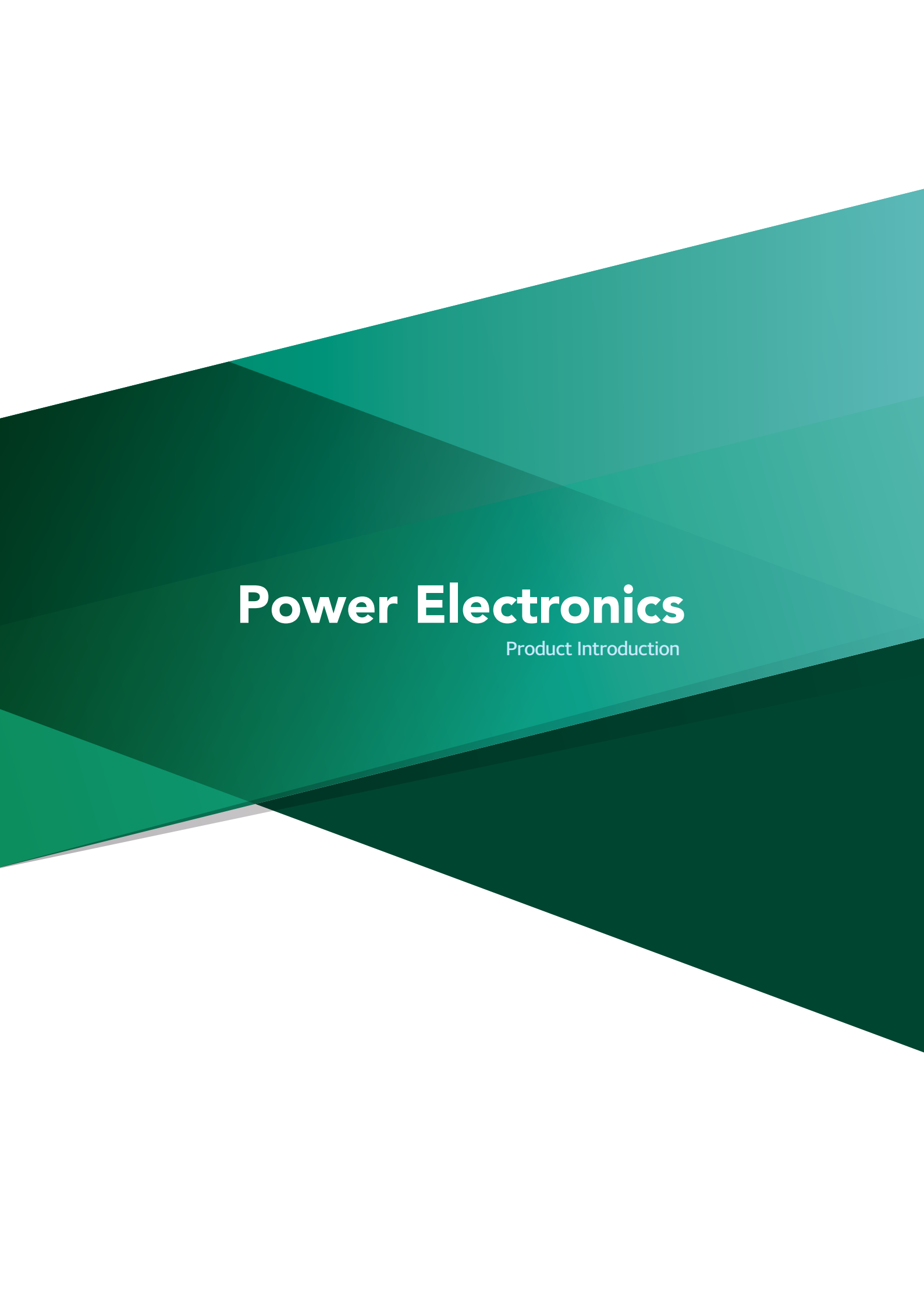
Constant : Single-phase
Frequency : 50, 60Hz
Voltage : 11, 22, 33KV±10%
Current : Up to 640A
BIL : 95, 150, 200
Tank Type : Round, Square
Tap Changer : 32 Steps

Characteristics

- SVR is a tap-changing autotransformer designed to automatically regulate distribution line voltages in a range of plus or minus 10% in thirty-two steps of approximately 5/8% each.
- Based on our experience and know-how, SVR is the product that we succeeded in developing first in Korea under technology contract with US Cooper Power System.



Picture of Installation Case (PVR 7,000kVA)



Power Electronics

Product Introduction

◎ Uninterruptible Power System (UPS)

- N+1 parallel operation
- Online double conversion DSP control
- Input THDi : <3%
- Voltage options of storage battery : 16/19/20PCS
- Load power factor : 0.9PF
- Input voltage tolerance range : 120 - 276Vac
- Input frequency tolerance range : 54 - 66Hz
- Energy-saving ECO mode
- Self-monitoring USP start
- Angular interface (SNMP, Relay Card, Parallel Card)



ESCORT-2600 Series	ESCORT-1600 Series
10 - 20kVA	6 - 10kVA
3:1phase PF:0.9	1:1phase PF:0.9



Control Panel



Rear Side



Relay Card



(SNMP)



Parallel Card



Battery Cabinets (Optional)

Technical Specifications

Model	E1600_6kVA(S)	E1600_6kVA(H)	E1600_10kVA(S)	E1600_10kVA(H)
Capacity (VA/Watts)	6k / 5.4k		10k / 9k	
INPUT				
Nominal voltage	220/230/240Vac			
Operating voltage range	120~276Vac			
Operating frequency range	50Hz:45~55Hz;60Hz:54~66Hz(auto sensing)			
Power factor	>0.99			
Bypass voltage range	Max.voltage:220V:+25%(optional+10%,+15%,+20%) 230V:+20%(optional+10%,+15%) 240V:+15%(optional+10%) Min.voltage:-45%(optional -20%,-30%)			
ECO range	Same as the bypass			
Harmonic distortion(THDi)	<3%(100% Linear load)			
Generator input	Support			
OUTPUT				
Rated voltage	220/230/240Vac			
Power factor	0.9			
Voltage regulation	±1%			
Frequency	Line Mode	±1%/±2%/±4%/±5%/±10% of the rated frequency(optional)		
	Bat. Mode	50/60(±0.1)Hz		
Crest factor	3:1			
Harmonic distortion(THD)	<2% with Linear Load , <5% with non-linear load			
Efficiency	>93.5%			
BATTERY				
Battery voltage	±96/108/120Vdc (optional)			
Typical recharge time	6~8 hours(to 90% of full capacity)			
Charge current	1A(Standard unit);Long run unit Max.current 10A(charge current can be set according to battery capacity installed)			
SYSTEM FEATURES				
Transfer time	Mains to Battery:0ms;Mains to Bypass:0ms			
Overload	Line Mode	Load<110%:last 60min, <125%:last 10min,<150%:last 1min, >150% turn to bypass mode immediately		
	Bypass Mode	40A(Breaker)		60A(Breaker)
Short circuit	Hold Whole System			
Overheat	Line Mode: Turn to Bypass; Backup Mode: Shut down UPS immediately			
Low battery voltage	Alarm and Switch off			
Self-diagnostics	Upon Power On and Software Control			
Battery	Advanced Battery Management			
Audible&Visual alarms	Line Failure, Battery Low, Overload, System Fault			
LED&LCD DISPLAY	Line Mode, Bat. Mode, Eco Mode, Bypass Mode, Battery Low, Battery Bad, Overload & UPS Fault			
LCD display	Input Voltage, Input Frequency, Output Voltage, Output Frequency, Load Percentage, Battery Voltage, Inner Temperature & Remaining Battery Backup Time			
Communication interface	Dry contact, USB, SNMP card(optional), Parallel card(optional), Relay card(optional)			
ENVIRONMENTAL				
Operating temperature	0°C~40°C			
Storage temperature	-25°C~55°C			
Humidity range	0~95%(non-condensing)			
Altitude	<1,500m			
Noise level	<55dB			
PHYSICAL				
Dimension D×W×H(mm)	502×250×616			
Net weight (kg)	62 / 18		64 / 20	
STANDARDS				
Safety	IEC/EN62040-1, IEC/EN60950-1			
EMC	IEC/EN62040-2,IEC61000-4-2,IEC61000-4-3,IEC61000-4-4,IEC61000-4-5,IEC61000-4-6,IEC61000-4-8			
BATTERY BANK				
Model	MP-BT Series			
Battery type&max.quantity	2×20pcs/7Ah(9Ah)			
PHYSICAL OF BATTERY BANK				
Dimensions D×W×H(mm)	597×250×616			
Net weight (kg)	122/134			

Specifications are subject to change without prior notice.

Technical Specifications

Model		E2600_10kVA S/H	E1600_15kVA	E1600_20kVA
Capacity (VA/Watts)		10k / 9k	15k / 13.5k	20k / 18k
INPUT				
Nominal voltage		380/400/415Vac;(3Ph+N+PE)		
Operating voltage range		208~478Vac		
Operating frequency range		50Hz:45~55Hz;60Hz:54~66Hz(auto sensing)		
Power factor		>0.99		
Bypass voltage range		Max.voltage:220V:+25%(optional+10%,+15%,+20%) 230V:+20%(optional+10%,+15%) 240V:+15%(optional+10%) Min.voltage:-45%(optional -20%,-30%)		
Bypass frequency range		Frequency protection range: ±10%		
ECO range		Same as the bypass		
Harmonic distortion(THDi)		<5%(100% Linear load)		
Generator input		Support		
OUTPUT				
Rated voltage		220/230/240Vac		
Power factor		0.9		
Voltage regulation		±1%		
Frequency	Line Mode	±1%/±2%/±4%/±5%/±10% of the rated frequency(optional)		
	Bat. Mode	50/60(±0.1)Hz		
Crest factor		3:1		
Harmonic distortion(THD)		<2% with Linear Load , <5% with non-linear load		
Efficiency		>93.5%	>94.5%	
BATTERY				
Battery voltage		±96/108/120Vdc (optional)		
Capacity (standard unit)		12V/7Ah		
Typical recharge time		6~8 hours(to 90% of full capacity)		
Charge current		1A(10kVA Standard unit); Max.current 10A(Long run unit)		
SYSTEM FEATURES				
Transfer time		Mains to Battery:0ms;Mains to Bypass:0ms		
Overload	Line Mode	Load<110%:last 60min, <125%:last 10min,<150%:last 1min, >150% turn to bypass mode immediately		
	Bypass Mode	63A(Breaker)	100A(Breaker)	125A(Breaker)
Short circuit		Hold Whole System		
Overheat		Line Mode: Turn to Bypass; Bat. Mode: Shut down UPS immediately		
Low battery voltage		Alarm and Switch off		
Self-diagnostics		Upon Power On and Software Control		
Battery		Advanced Battery Management		
Audible&Visual alarms		Line Failure, Battery Low, Overload, System Fault		
LED&LCD DISPLAY		Line Mode, Bat. Mode, Eco Mode, Bypass Mode, Battery Low, Battery Bad, Overload & UPS Fault		
LCD display		Input Voltage, Input Frequency, Output Voltage, Output Frequency, Load Percentage, Battery Voltage, Inner Temperature & Remaining Battery Backup Time		
Communication interface		Dry contact, USB, SNMP card(optional), Parallel board(optional), Relay card(optional)		
ENVIRONMENTAL				
Operating temperature		0℃~40℃		
Storage temperature		-25℃~55℃		
Humidity range		0~95%(non-condensing)		
Altitude		<1,500m		
Noise level		<55dB	<58dB	
PHYSICAL				
Dimension D×W×H(mm)		597×250×655(S)/502×250×616(H)	502×250×616	
Net weight (kg)		76(S)/35(H)	45	46
STANDARDS				
Safety		IEC/EN62040-1, IEC/EN60950-1		
EMC		IEC/EN62040-2,IEC61000-4-2,IEC61000-4-3,IEC61000-4-4,IEC61000-4-5,IEC61000-4-6,IEC61000-4-8		
BATTERY BANK				
Model		MP-BT Series		
Battery type&max.quantity		2×20pcs/7Ah(9Ah)		
PHYSICAL OF BATTERY BANK				
Dimensions D×W×H(mm)		597×250×616		
Net weight (kg)		122/134		

Specifications are subject to change without prior notice.

◎ Uninterruptible Power System (UPS)

- Online high frequency switching double conversion
- Advanced PFC technology
- 3U frame, lag-mounted type
- EPO function
- High input voltage tolerance
- DSP control
- Distributed parallel control
- ABM function
- Protection from thunderbolt, surge, cut circuit and overload
- LCD and LED display in both Korean and English
- EMI/RFI noise filter
- Support RS232 and SNMP



	ESCORT-3000 Series (6~1560kVA)
1 : 1	E1160 / E1110
3 : 1	E3106 / E3110
3 : 3	E3310 / E3315 / E3320 / E3325 / E3330 / E3340 / E3352 / E3380 / E33104 / E33156

Single module(3U)



UPS Cabinet
Control Panel



Module Control Panel



6kVA/10kVA 1:1 phase
6kVA/10kVA 3:1 phase



10kVA/15kVA/20kVA/25kVA/
30kVA/40kVA 3:3 phase



Battery Cabinets
(Optional)



3U Battery Box
(Optional)

Technical Specifications

Model		E1100-30K	E1100-50K	E3100-30K	E3100-50K	E3100-100K	E3300-100K	E3300-200K
Capacity (VA/Watts)	UPS Cabinet	6~30k/4.8~24k	6~50k/4.8~40k	6~30k/4.8~24k	6~50k/4.8~40k	6~100k/4.8~80k	10~100k/9~90k	10~200k/9~180k
	Module	6k / 4.8k, 10k / 8k					10k/9k,15k/13.5k,20k/18k	
INPUT								
Rated Voltage		220/230Vac		380/400Vac(3Ph+N+PE) or 220/230Vac			380/400/415Vac,(3Ph+N+PE)	
Input Voltage Tolerances Range		120~276Vac		208~478Vac or 120VAC-276Vac			208~478Vac	
Input Frequency Tolerances Range		40~70Hz						
Input Power Factor		>0.99						
Bypass Voltage Tolerances Range		Max.voltage:220V:+25%(optional+10%,+15%,+20%) 230V:+20%(optional+10%,+15%) 240V:+15%(optional+10%) Min.voltage:-45%(optional -20%,-30%) Frequency protection range: ±10%						
Harmonic distortion(THDi)		5%(100% non-linear load)					2%(100% nonlinear load)	
Generator input		Support						
OUTPUT								
Output voltage		220/230Vac					380/400/415Vac,(3Ph+N+PE)	
Voltage regulation		±2%						
Power factor		0.8					0.9/1(Customized)	
Output frequency		1. Line Mode: ±1%, ±2%, ±4%, ±5%, ±10% of the rated frequency (optional) 2. Battery Mode: (50/60±0.1%)Hz						
Crest factor		3:1						
Harmonic distortion(THD)		<2% with linear Load, <5% with non-linear load						
Efficiency		93.5%					95.5%	
BATTERY								
Battery voltage		±96\±108\±120Vac;Battery quantity(optional)					±192\±204\±216\±228\±240Vdc; battery quantity(optional)	
Charge current	UPS Cabinet	30A(Max.)	60A(Max.)	30A(Max.)		60A(Max.)	30A(Max.)	60A(Max.)
	Module	6A(Max.)(charge current can be set according to battery capacity installed)						
Backup time		Depends on the capacity of external batteries						
SYSTEM FEATURES								
Transfer time		Utility to Battery: 0ms; Utility to bypass: 0ms						
Overload	Line Mode	Load<110%:last 60min, <125%:last 10min,<150%:last 1min, >150% shut down UPS immediately						
	Bat. Mode	Load<110%:last 30S,<125%:last 1S,<150%:last 200ms, >150% shut down UPS immediately					Load<110%:last 10min, < 125%:last 1min, <150%:last 1S, >150% shut down UPS immediately	
	Bypass Mode	Breaker(6kVA:40A / 10kVA:60A)					Breaker (10kVA:20A/15kVA:32A/20kVA:40A)	
Short circuit		Hold Whole System						
Noise suppression		Complies with EN62040-2						
Communication interface		1. UPS cabinet: RS232, RS485, Dry Contact, Intelligent slot x2(SNMP card, Relay Card optional) 2. UPS module: RS232						
ENVIRONMENTAL								
Operating temperature		0°C~40°C						
Storage temperature		-25°C~55°C						
Humidity range		0~95%(non-condensing)						
Altitude		<1,500m						
Noise level		<55dB				<65dB		
PHYSICAL								
Dimension	UPS cabinet	840×600×1,400	840×600×2,000	840×600×1,400		840×600×2,000	840×600×1,400	1,100×600×2,000
D×W×H(mm)	HPM module	443×580×131 (3U)						
Net weight (kg)	UPS cabinet	138	150	138	150	213	170	270
	HPM module	6kVA/23kg; 10kVA/25kg					10kVA/26;15kVA/30kg;20kVA/31kg	
STANDARDS								
Safety		IEC/EN62040-1, IEC/EN60950-1						
EMC		IEC/EN62040-2,IEC61000-4-2,IEC61000-4-3,IEC61000-4-4, IEC61000-4-5,IEC61000-4-6,IEC61000-4-8						

Specifications are subject to change without prior notice.

Technical Specifications

Model		E3300-250K	E3300-300K	E3300-400K	E3300-520K	E3300-800K	E3300-1040K	E3300-1560K
Capacity	UPS Cabinet	250k/225k	300k/270k	400k/360k	520k/468k	800k/720k	1040k/936k	1560k/1404k
(VA/Watts)	Module	25k/22.5k	30k/27k	40k/36k				
INPUT								
Rated Voltage		380/400/415Vac,(3Ph+N+PE)						
Input Voltage Tolerances Range		208~478Vac						
Input Frequency Tolerances		40~70Hz						
Range Input Power Factor		>0.99						
Bypass Voltage Tolerances Range		Max.voltage:220V:+25%(optional+10%,+15%,+20%) 230V:+20%(optional+10%,+15%) 240V:+15%(optional+10%) Min.voltage:-45%(optional -20%,-30%) Frequency protection range: ±10%						
Harmonic distortion(THDi)		3%(100% non-linear load)						
Generator input		Support						
OUTPUT								
Output voltage		380/400/415Vac,(3Ph+N+PE)						
Voltage regulation		±1%						
Power factor		0.9						
Output frequency		1. Line Mode: ±1%, ±2%, ±4%, ±5%, ±10% of the rated frequency (optional) 2. Battery Mode: (50/60±0.1%)Hz						
Crest factor		3:1						
Harmonic distortion(THD)		<2% with linear Load, <5% with non-linear load						
Efficiency		95.0%						
BATTERY								
Battery voltage		±192\±204\±216\±228\±240Vdc; battery quantity(optional)						
Charge current	UPS Cabinet	60A(Max.)	100A(Max.)		130A(Max.)	200A(Max.)	260A(Max.)	390A(Max.)
	Module	6A(Max.)	10A(Max.)					
Backup time		Depends on the capacity of external batteries						
SYSTEM FEATURES								
Transfer time		Utility to Battery: 0ms; Utility to bypass: 0ms						
Overload	Line Mode	Load<110%:last 60min, <125%:last 10min,<150%:last 1min, >150% shut down UPS immediately						
	Bat. Mode	Load<110%:last 30S,<125%:last 1S,<150%:last 200ms, >150% shut down UPS immediately					Load<110%:last 10min, <125%:last 1min, <150%:last 1S, >150% shut down UPS immediately	
	Bypass Mode	40A	63A	100A				
Short circuit		Hold Whole System						
Nose suppression		Complies with EN62040-2						
Communication interface		1. UPS cabinet: RS232, RS485, Dry Contact, Intelligent slot x2(SNMP card, Relay Card optional) 2. UPS module: RS232						
ENVIRONMENTAL								
Operating temperature		0°C~40°C						
Storage temperature		-25°C~55°C						
Humidity range		0~95%(non-condensing)						
Altitude		<1,500m						
Noise level		<70dB		<73dB				
PHYSICAL		W	D	H	W	D	H	W D H
Dimension	UPS cabinet	600×1,100×2,000		1,200×860×2,000		3,000×860×2,000		4,800×1,100×2,000
D×W×H(mm)	Module	443×580×131 (3U)						
Net weight	UPS cabinet	290	310	750	860	1,600	1,810	2,800
(kg)	Module	32	33	35				
STANDARDS								
Safety		IEC/EN62040-1, IEC/EN60950-1						
EMC		IEC/EN62040-2,IEC61000-4-2,IEC61000-4-3,IEC61000-4-4, IEC61000-4-5,IEC61000-4-6,IEC61000-4-8						

Specifications are subject to change without prior notice.

© ABB's Conceptpower DPA 500 The UPS for those who need zero downtime

True Modularity up to 3MW

Now you can have a UPS size to exactly fit your needs: The Concept- power DPA 500 is the only modular UPS on the market that can easily be scaled up to provide 3MW of clean, reliable power.

True Parallel Architecture

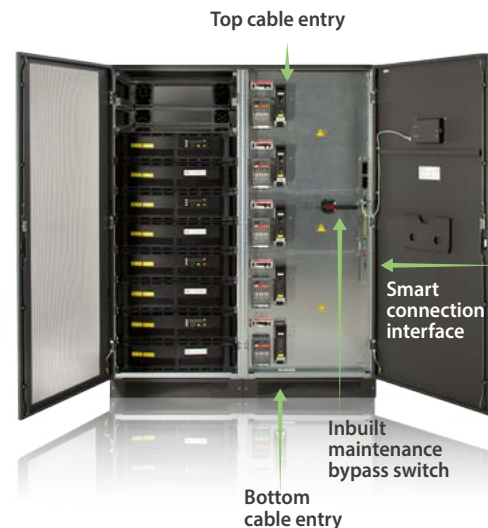
Reliability and availability are ensured by the Conceptpower DPA 500's proven Decentralised Parallel Architecture (DPATM). Each module contains all the hardware and software required for full system operation. They share no common components. Each UPS module has its own independent static bypass, rectifier, inverter, logic control, control panel, battery charger and batteries. With all the critical components duplicated and distributed between individual units, potential single points of failure are eliminated.

Highlights

- 100 kW rated power module
- 500 kW rated power in single frame
- Extended power range: from 100 kW to 3MW
- Unity output power factor ($kVA = kW$)
- AC-AC efficiency up to 96 %
- Efficiency in eco-mode ≥ 99 %
- Online Swap Modularity (OSM)
- Online serviceability
- Top or bottom cable entry (standard)
- Built-in back-feed protection (standard)
- Graphical display on system level
- DPA displays in each module
- Maintenance bypass switch (optional)



Online-swappable modules



Scalable up to 3MW

Vertical scalability:
one to five modules
in one single cabinet



Horizontal scalability:
cabinets in parallel configuration up to 3MW

Technical Specifications

GENERAL DATA	
System power range	100 kW–3 MW
Nominal power / Module	100 kW
Nominal power / Frame	500 kW
Output power factor	1.0
Topology	Double conversion, transformer-free, modular, Decentralized Parallel Architecture
Parallel configuration	Up to 5 modules in one frame (500 kW) / up to 6 frames in parallel (3 MW)
Cable entry	Bottom or top as standard
Serviceability	Fully front serviceable
Back-feed protection	Built-in as standard
INPUT	
Nominal input voltage	3 x 380 / 220 V + N, 3 x 400 / 230 V + N, 3 x 415 / 240 V + N
Voltage tolerance (referred to 400 / 230V)	308–460 V (–23 – +15%) < 100 % load, 280–460V (–30 – +15%) < 80 % load, 240–460V (–40 – +15%) 60 % load
Input distortion THDi	<3.5 % at 100 % load
Frequency range	35–70 Hz
Power factor	0.99@ 100% load
Walk in / Soft start	Yes
OUTPUT	
Rated output voltage	3 x 380 / 220 V + N, 3 x 400 / 230 V + N, 3 x 415 / 240 V + N
Voltage tolerance (referred to 400 / 230V)	<±1% with static load / < ±4% with step load
Voltage distortion	<2% with linear load < 4% with non-linear load
Frequency	50 or 60 Hz (selectable)
EFFICIENCY	
AC-AC	Up to 96%
In eco- mode	≥ 99%
ENVIRONMENT	
Protection rating	IP 20
Storage temperature	–25° – +70°
Operating temperature	0° – +40°
Altitude (above sea level)	1000m without de-rating
BATTERIES	
Number of 12 V blocks / string	Flexible number from 40–50 blocks
Types	VRLA, vented lead-acid, NiCd
Battery charger	Decentralized charger per module\
COMMUNICATIONS	
User interface	Graphical touch screen (one per frame as standard) Decentralized LCD + mimic diagram (one per module as standard)
Communication ports	USB, RS-232, voltage-free contacts, SNMP (optional)
Customer interface	Remote shutdown, gen-set interface, external bypass contact
COMPLIANCY	
Safety	IEC / EN 62040-1
EMC	IEC / EN 62040-2
Performance	IEC / EN 62040-3
Manufacturing	ISO 9001:2008, ISO 14001:2004
WEIGHT, DIMENSIONS	
weight	approx,975kg (500kW system without batteries)
Dimensions WxHxD	1,580 x 1,975 x 945 mm

◎ Automatic Voltage Regulator (AVR)



Constant : Single-phase, Three-phase

Frequency : 50,60Hz

Capacity : 500KVA max

Voltage : Input : 220~480VAC $\pm$ 15%

Output : 220~480VAC $\pm$ 2%

Purpose

- AVR keeps the voltage stability of the output voltage within 2% even when the input voltage fluctuates (+10,-23%).

Characteristics

- It adopts tap changing regulator that has less wave distortion than existing CVT that uses the magnetic saturation and resonance phenomenon of metal pin.
- It can maintain stable output voltage due to high-speed switching.
- Low noise and light weight
- Quicker response than existing CVT method in terms of load and input change

Major Client

- Nuclear plant ("Q", "T", "S" Class), KEPCO, Thermal Plant, etc.

◎ Battery Charger



Constant : Single-phase, Three-phase

Frequency : 50,60Hz

Capacity : 20 - 2,000A

Voltage : Input : 120 - 480VAC

Output : 120 - 480VAC

Purpose

- It is an equipment that supplies DC Power by converting AC power to DC, and it installs batteries to supply power continuously to the load side in case of power failure, allowing continuous use of DC Load.

Characteristics

- Composed of diode, SCR and IGBT rectifier element, recharger receives Single-phase or three-phase power and yields direct current. It is being more and more used in special power facility and safety power facility as industrial facility gets more precise and automated.

Major Client

- Nuclear Plant ("Q", "T", "S" Class), Thermal Plant, Chemical Plant, Iron and Steel Plant, etc.

Power Electronics

◎ Inverter

Input DC : 125~600VDC

Output AC : 120~480VAC

Frequency : 50, 60Hz

Capacity : 5~400KVA

Purpose

- It receives DC Input from Charger or Battery and supplies AC Output with constant voltage and constant frequency.

Major Client

Nuclear Plant ("Q", "T", "S" Class), Thermal Plant, Chemical Plant, Iron and Steel Plant, etc.



◎ Rectifier (Dry and Oil Type)

Constant : Single-phase, Three-phase

Frequency : 50, 60Hz

Voltage : Input : 110 - 480VAC

Output : 24 - 200VDC

Capacity : 10 - 20,000A

Purpose

- The rectifier is also called DC Power Supply, and it is a equipment that converts AC Power to DC to adjust the purity of water through DC constant voltage & DC constant current control.

Characteristics

- Composed of diode, SCR and IGBT rectifier element, rectifier receives single-phase or three-phase power and yields direct current. It is being more and more used in special power facility and safety power facility as industrial facility gets more precise and automated.

Major Client

- Nuclear Plant ("Q", "T", "S" Class), Thermal Plant, Chemical Plant, Iron and Steel Plant, etc.



Contact Information

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To learn more about our products or to request for a quotation, please visit below websites or send us an e-mail. Thank you.

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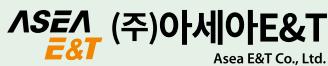
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