CLASS D

- Long Backup Time
- Double-conversion
- Rack-mount and Tower form
- Single and Three Phase Input

Features

- Cold-start function
- SCR rectifier design
- IGBT inverter design
- Pure sine wave output
- IEC 62040-3 compliant
- User friendly, informative LCD
- Unstable generator compatible
- Excellent electrical performance
- High MTBF and heavy-duty design
- Fully digitized microprocessor control
- Automatic and manual internal by-pass
- Galvanic isolation with iron transformer
- Parallel load sharing and redundancy capability
- Three-phase input and output double-conversion UPS
- LAN support and remote managed via SNMP (optional)
- Battery under voltage, Overload, Output short circuit and UPS powers overheat protections

Galvanic isolated industrial double-conversion Hyundai UPS is the best choice for large offices where high reliability is required. This UPS can be connected in parallel, providing the customer with up to 720KVA concentrated UPS. An optional advanced efficiency optimizer circuit can bring you 98% of efficiency during 30 years lifetime.

Till now, the general approach of existing equipment that, in stable conditions of the mains electricity, aimed to increase the efficiency of UPS has consisted in transforming a double-conversion UPS into a passive-standby operation (off-line) UPS.

For the first time, we offer an optional efficiency optimizer, based on rapid-switching circuits and voltage-stabilizer, that, in the same stable conditions, transforms the UPS, instead of passive-standby operation (off-line), into a UPS with a line-interactive performance.

Uninterruptible Power Supply
Energy Efficiency Label

Manufacturer / Licensor	Hyundai Corporation	
Brand	HYUNDAI	
Model	SD1- 0230	
Nominal Power kW[1] / kVA[2]	16 / 20	
Mode of Operation	NORMAL	BYPASS
Conversion Efficiency Categories[3]		
Conversion Efficiency >98% A		A
Conversion Efficiency >96% B		
Conversion Efficiency >94% C		
Conversion Efficiency >92% D	D	
Conversion Efficiency >90% E		
Conversion Efficiency >88% F		
Conversion Efficiency ≤88% G		
Energy Losses kWh / year[4]	6093.9	1357.3 *

1 At resistive load
2 At non-linear load according to EN/IEC 62040-3
3 The conversion efficiency was determined by the worst-cast efficiency at the loading levels tested
4 Energy losses at resistive continuous load with 50% of nominal power operated at the normal mode

* Energy losses for:

SD1-0330	Normal mode: 9140.7 kWh/y; By-pass mode: 2036 kWh/y
SD1-0430	Normal mode: 12187.8 kWh/y; By-pass mode: 2714.6 kWh/y
SD1-0630	Normal mode: 18281.7 kWh/y; By-pass mode: 4071.9 kWh/y
SD1-0830	Normal mode: 24375.7 kWh/y; By-pass mode: 5429.2 kWh/y
SD1-1030	Normal mode: 30469.6 kWh/y; By-pass mode: 3786.5 kWh/y
SD1-1230	Normal mode: 36563.5 kWh/y; By-pass mode: 8143.9 kWh/y

Applications

- Automation equipment
- Telecommunications
- Process machinery
- Industrial controls
- Broadcasting
- Data centers
- Banking

Technical data sheet (Class D)

Construction								
Model catalogue reference	SD1-0230	SD1-0330	SD1-0430	SD1-0630	SD1-0830	SD1-1030	SD1-1230	Unit
Power rating	16/20	24/30	32/40	48/60	64/80	80/100	96/120	KW/KVA
Dimensions W*D*H	660*850*1430		950*850*1600			1200*850*1600		mm
Weight (approx.)	250	300	350	450	560	650	750	kg
Environmental								
Storage temperature	-20 to 70							°C
Operating temperature	0 to 40							°C
Altitude	<3000							m
Relative humidity	0 to 95 Without condensation							%
Degree of protection (IEC 60529)	20							IP
Normal mode acoustic noise at 1 m	<65							dBA
Stored energy mode acoustic noise at 1 m	<65							dBA
Electrical input characteristics								
Rated input voltage	380/400							V
Input voltage range	± 20							%
Rated input frequency	50/60 Hz (selectable)							Hz
Input frequency range	50/60 Hz ± 5%							Hz
Number of input phases	3							Phase (s)
Rated input current	33	50	67	101	134	168	202	A r.m.s.
Maximum continuous input current	45	69	92	139	184	231	278	A r.m.s.
Rectifier	3 Phases 6 pulses							
Output waveform								
Normal mode waveform	Sinusoidal							
Stored energy mode waveform	Sinusoidal							
Transfer normal mode/stored energy	No break							
Electrical output characteristics - static characteristics - normal mode								
Rated output voltage	380/400							V r.m.s.
Output voltage variation	±1							%
Nominal output frequency	50/60							Hz
Synchronized frequency variation	±3							Hz
Synchronized input to output phase error	<6							degrees
Rated output apparent power	20000	30000	40000	60000	80000	100000	120000	VA
Linear load rated active power	16000	24000	32000	48000	64000	80000	96000	W
Non-linear load rated active power	16000	24000	32000	48000	64000	80000	96000	W
Linear load total voltage distortion	<3							%THD
Non-Linear load total voltage distortion	<5							%THD
Output short circuit current capability	200							%
1 min overload capability	150							%
10 min overload capability	120							%
Range of load power factor permitted	No limit (0 Lead to 0 Lag)							
Number of output phases	3							Phase (s)
Electrical output characteristics - dynamic characteristics - normal mode								
Mode changes dynamic output voltage variation	<3							%
Load changes dynamic output voltage variation	<10							%
Electrical output characteristics - static characteristics - stored energy mode								
Rated output voltage	380/400V							V r.m.s.
Output voltage variation	± 1							%
Output frequency	50/60							Hz
Output frequency variation (free running)	± 0.05							%
Rated output apparent power	20000	30000	40000	60000	80000	100000	120000	VA
Linear load rated active power	16000	24000	32000	48000	64000	80000	96000	W
Non-linear load rated active power	16000	24000	32000	48000	64000	80000	96000	W
Linear load total voltage distortion	<3							%THD
Non-Linear load total voltage distortion	<5							%THD
Output short circuit current capability	200							%
1 min overload capability	150							%
10 min overload capability	120							%
Range of load power factor permitted	No limit (0 lead to 0 lag)							

Electrical output characteristics - dynamic characteristics - stored energy mode								
Mode changes dynamic output voltage variation	0.00							%
Load changes dynamic output voltage variation	<10							%
Efficiency								
Efficiency input/output	>92 (>98 in the optional efficiency optimizer mode)							%
Synchronization								
Range of frequency Synchronization	±3							Hz
Acceptable voltage difference	20							%
Maximum phase error	6							degrees
Battery characteristics								
DC voltage	384					432	480	VDC
Charging profile	Advanced IU plus WA characteristics							
Maximum charging current	12			20		25		A
Galvanic isolation								
DC to AC isolation type	Magnetic with iron transformer							
By-pass characteristics								
By-pass	Built-in static by-pass & built-in manual maintenance by-pass							
Continues current	30	45	61	91	121	152	182	A r.m.s.
Circuit breaker current rating	40	63	100	125	160	200	250	
Electromagnetic compatibility								
Immunity & emission	IEC 62040-2							
Parallel operation								
Parallel availability for load sharing and redundancy	Up to six unit							