

Mod II Series Modular UPS

20kVA - 200kVA





Mod II is applied with online double conversion technology to reach its high performance over 94.5% at 50% load. It significantly reduces overall Total Cost of Ownership (TCO).

High scalability

DSP control provides an improved solution with high performance.Integrated with modular design and parallel technology, ModII simplifies future power expansion.

Unity output power factor

Mod II delivers unity output power (kVA=kW) providing the maximum power capacity to mission critical loads. It satisfies the requirements of the latest servers and optimizes IT investment with every penny.

Modular design lowers MTTR

Modular design is applied in power module, STS module and battery module. It will simplify maintenance and replacement with low MTTR (Mean Time To Repair).

N+1 or N+X parallel redundancy for power quarantee

Scalable architecture allows you to optimize cost expense to meet power demands by vertically expanding in a single rack enclosure from 20KVA to 200KVA and achieve N+1 or N+X redundancy in the same rack. Mod II also supports horizontal expansion by 1+1 cabinet parallel operation.









Ease of installation and maintenance

Built-in maintenance bypass assures continuous power to critical loads during UPS maintenance. Besides, to facilitate installation and maintenance, all panel control and connectors are front accessibility.

Flexible battery configuration adapts different applications

Battery numbers can be adjusted flexibly. It will adapt different power demands and shorten system downtime. Battery voltage can be set from 32 to 40 pieces per string.

Highly reliable operation with redundant power supply in STS

Mod II provides 2 power supplies in STS, ensuring no risk of shutdown.

User-adjustable charging current

Mod II provides maximum 6A charging current for every power module and it's user-adjustable based on requirement.

High overload capability

Mod II supports, 110% overload for 60 minutes, 125% for 10 minutes, and 150% for 1 minute.

Graphic 5.7" LCD design for easy management

Designed for easy management, the intuitive design of 5.7" graphic LCD display enhances the readability of identified and advanced configuration.

Optional 10" touch LCD panel





Mod II Series Modular UPS

Technical Specification

Plase 3 Plase 3 Pl	MODEL	Mod II 20 Mod II 40 Mod II 60 Mod II 80 Mod II 100 Mod II 120 Mod II 140 Mod II 160 Mod II 180 Mod II 200
Power Rating	Phase	3 Phase In / 3 Phase Out
Nominal Voltage 3 x 380VAC / 400VAC / 415VAC (3Ph + N)	Power Module Type	20kVA/20KW
Nominal Voltage 3 x 380VAC / 400VAC / 415VAC (3Ph+ N)	Power Rating	20kVA 40kVA 60kVA 80kVA 100kVA 120kVA 140kVA 160kVA 180kVA 200kVA
Voltage Range 305 ~ 478 VAC at 100% load ; 208 ~ 478 VAC at ~ 70% load Nominal Frequency 50 / 60Hz (Auto-sensing) Frequency Range 40Hz ~ 70Hz Power Factor > 0.99 @ 100% Load, > 0.98 @ 50% load Harmonic Distortion (THDI) < 3% @ 100% Load	INPUT	
Nominal Prequency S0 / 60Hz (Auto-sensing)	Nominal Voltage	3 x 380VAC / 400VAC / 415VAC (3Ph+ N)
Frequency Range	Voltage Range	305 ~ 478 VAC at 100% load ; 208 ~ 478 VAC at <70% load
Power Factor > 0.99 @ 100% Load, > 0.98 @ 50% load Hammonic Distortion (THDI) < 3% @ 100% Load Outreur Nominal Voltage 3 x 380VAC / 400VAC / 415VAC (3Ph+ N) Voltage Regulation (Steady State) 3 x 380VAC / 400VAC / 415VAC (3Ph+ N) Voltage Regulation (Steady State) 4 1% Typical (balance load) : < ± 2% Typical (unbalance load) State) 6 Hz 5 5 Hz < 64Hz Owninal Frequency 6 0Hz / 60Hz 6 6Hz < 6 Hz Frequency Range 4 6Hz < 5 4Hz or 5 6Hz < 64Hz 6 6Hz Coverload Capacity 1 hour for 110%, 10mins for 125%, 1min for 150%, 200ms for > 150% 1 min for 150%, 200ms for > 150% Harmonic Distortion ± 27 HTD (Linear Load); ± 4% THD(Non-linear Load) 1 min for 150%, 200ms for > 150% BATTERY / CHARGER 1 min for 150%, 10min for 150%, 10min for 150%, 200ms for > 150% 1 min for 150%, 200ms for > 150% Maximum Voltage +/- 216V (12V x 36pcs) 1 min min Voltage 1 min min Voltage 1 min min Voltage 2 25V/Cell 1 min min Voltage 2 25V/Cell 1 min min Voltage 2 25V/Cell 1 min min Voltage 6 A 1 min min Voltage 2 25V/Cell 2 25V/Cell 2 25V/Cell 2 25V/Cell	Nominal Frequency	50 / 60Hz (Auto-sensing)
Hamonic Distortion (THDi) OUTPUT Nominal Voltage Voltage Regulation (Steady State) Nominal Frequency Frequency (Shize) Nominal Frequency Frequency (Shize) Nominal Frequency Range (461z - 541z or 561z - 641tz) Overload Capacity (Thour for 110%, 10mins for 125%, 1min for 150%, 200ms for > 150% Hamonic Distortion (Steady Up to 94.5% Bafficiency (Park Thour for 110%, 10mins for 125%, 1min for 150%, 200ms for > 150% Battery / CHARGER Nominal Voltage (12 x 32pcs) Maximum Voltage (12 x 32pcs) Maximum Voltage (12 x 32pcs) Frequency Range (12 x 32pcs) Maximum Voltage (12 x 32pcs) Float Charging Voltage (13 x 32pcs) Float Charging Voltage (14 x 32pcs) Frequency Range (15 x 32pcs) Float Charging Voltage (15 x 32pcs) Float Chargin	Frequency Range	40Hz ~ 70Hz
OUTPUT Nominal Voltage Voltage Regulation (Steady State) 3 x 380VAC / 400VAC / 415VAC (3Ph+ N) Voltage Regulation (Steady State) Voltage Regulation (Steady State) 4 1% Typical (balance load) : < ± 2% Typical (unbalance load)	Power Factor	> 0.99 @ 100% Load, >0.98 @ 50% load
Nominal Voltage	Harmonic Distortion (THDi)	< 3% @ 100% Load
Voltage Regulation (Steady State) S x 380VAL / 40VAL / 415VAL (3Ph+ N)	OUTPUT	
Frequency Range	Voltage Regulation (Steady	
Overload Capacity 1 hour for 110%, 10mins for 125%, 1min for 150%, 200ms for > 150% Harmonic Distortion ≤ 2% THD (Linear Load); ≤ 4% THD(Non-linear Load) Efficiency up to 94.5% BATTERY / CHARGER Nominal Voltage +/- 216V (12V x 36pcs) Maximum Voltage +/- 240V (12V x 40pcs) Minimum Voltage +/- 192V (12V x 32pcs) Float Charging Voltage 2.25V/Cell Boost Charging Voltage 2.25V/Cell Float Charging Current (Per Power Module) Yes COMMUNICATIONS / MANAGEMENT 6A Smart RS-222 / USB Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux and MAC Optional SNMP Power management from SNMP manager and web browser STANDARDS / APPROVALS Safety IEC/EN 60950-1 ; IEC/EN 62040-1 EMC IEC/EN 62040-2 Category C3 ENVIRONMENT Operating Temperature 0 ~ 40°C Relative Humidity 0 ~ 95% Non-Condensing Altitude < 1000m for Nominal Power IP Protection IP-20 PHYSICAL PROPERTIES Power Modu	Nominal Frequency	50Hz / 60Hz
Harmonic Distortion ≤ 2% THD (Linear Load); ≤ 4% THD(Non-linear Load) Efficiency up to 94.5% BATTERY / CHARGER Nominal Voltage +/- 216V (12V x 36pcs) Maximum Voltage +/- 240V (12V x 40pcs) Minimum Voltage +/- 192V (12V x 32pcs) Float Charging Voltage 2.25V/Cell Boost Charging Voltage 2.25V/Cell Boost Charging Voltage 5.25V/Cell Boost Charging Current (Per Power Module) COMMUNICATIONS / MANAGEMENT Smart RS-232 / USB Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux and MAC Optional SNMP Power management from SNMP manager and web browser STANDARDS / APPROVALS Safety EC/EN 60950-1 ; IEC/EN 62040-1 EMC IEC/EN 62040-2 Category C3 ENVIRONMENT Operating Temperature 0 ~ 40°C Relative Humidity 0 % ~ 95% Non-Condensing Altitude 1 Protection P-20 PHYSICAL PROPERTIES Power Module (W X D x H) mm Net Weight (kg) 3.4.5 Battery Module 107 x 710 x 154 Cabinet Dimension (W x D x H) mm S15 x 1000 x 753 (15U) / 600 x 1100 x 1475 (30U) / 600 x 1100 x 2010 (42U)	Frequency Range	46Hz ~ 54Hz or 56Hz ~ 64Hz
Efficiency	Overload Capacity	1hour for 110%, 10mins for 125%, 1min for 150%, 200ms for > 150%
Nominal Voltage	Harmonic Distortion	≤ 2% THD (Linear Load); ≤ 4% THD(Non-linear Load)
Nominal Voltage +/- 216V (12V x 36pcs) Maximum Voltage +/- 240V (12V x 40pcs) Minimum Voltage +/- 192V (12V x 32pcs) Float Charging Voltage 2.25V/Cell Boost Charging Voltage 2.35V/Cell Temperature Compensation Yes Maximum Charging Current (Per Power Module) 6A COMMUNICATIONS / MANAGEMENT Smart RS-232 / USB Supports Windows@ 2000/2003/XP/Vista/2008, Windows@ 7/8/10, Linux and MAC Optional SNMP Power management from SNMP manager and web browser STANDARDS / APPROVALS Safety IEC/EN 60950-1; IEC/EN 62040-1 EMC IEC/EN 60950-1; IEC/EN 62040-1 EMC IEC/EN 62040-2 Category C3 ENVIRONMENT Operating Temperature 0 ~ 40°C Relative Humidity 0% ~ 95% Non-Condensing Altitude 100 m for Nominal Power IP Protection IP-20 PHYSICAL PROPERTIES Power Module 490 x 736.5 x 133 Vx D x H) mm 515 x 1000 x 753 (15U) / 600 x 1100 x 1475 (30U) / 600 x 1100 x 2010 (42U)	Efficiency	up to 94.5%
Maximum Voltage +/- 240V (12V x 40pcs) Minimum Voltage +/- 192V (12V x 32pcs) Float Charging Voltage 2.25V/Cell Boost Charging Voltage 2.35V/Cell Temperature Compensation Yes Maximum Charging Current (Per Power Module) 6A COMMUNICATIONS / MANAGEMENT Smart RS-232 / USB Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux and MAC Optional SNMP Power management from SNMP manager and web browser STANDARDS / APPROVALS Safety IEC/EN 60950-1; IEC/EN 62040-1 EMC IEC/EN 62040-2 Category C3 ENVIRONMENT Operating Temperature 0 ~ 40°C Relative Humidity 0% ~ 95% Non-Condensing Altitude < 1000m for Nominal Power	BATTERY / CHARGER	
Minimum Voltage +/- 192V (12V x 32pcs) Float Charging Voltage 2.25V/Cell Boost Charging Voltage 2.35V/Cell Temperature Compensation Yes Maximum Charging Current (Per Power Module) 6A COMMUNICATIONS / MANAGEMENT Smart RS-232 / USB Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux and MAC Optional SNMP Power management from SNMP manager and web browser STANDARDS / APPROVALS Safety IEC/EN 60950-1 ; IEC/EN 62040-1 EMC IEC/EN 62040-2 Category C3 EMVIRONMENT Operating Temperature 0 ~ 40°C Relative Humidity 0% ~ 95% Non-Condensing Altitude < 1000m for Nominal Power	Nominal Voltage	+/- 216V (12V x 36pcs)
Float Charging Voltage Boost Charging Voltage Compensation Maximum Charging Current (Per Power Module) Optional SNMP Safety ENC ENC ENC ENC ENC ENC ENC EN	Maximum Voltage	+/- 240V (12V x 40pcs)
Boost Charging Voltage 2.35V/Cell	Minimum Voltage	+/- 192V (12V x 32pcs)
Temperature Compensation Yes Maximum Charging Current (Per Power Module) 6A COMMUNICATIONS / MANAGEMENT Smart RS-232 / USB Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux and MAC Optional SNMP Power management from SNMP manager and web browser STANDARDS / APPROVALS Safety IEC/EN 60950-1; IEC/EN 62040-1 EMC IEC/EN 62040-2 Category C3 ENVIRONMENT Operating Temperature 0 ~ 40°C Relative Humidity 0% ~ 95% Non-Condensing Altitude < 1000m for Nominal Power	Float Charging Voltage	2.25V/Cell
Maximum Charging Current (Per Power Module) 6A COMMUNICATIONS / MANAGEMENT Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux and MAC Optional SNMP Power management from SNMP manager and web browser STANDARDS / APPROVALS Safety IEC/EN 60950-1; IEC/EN 62040-1 EMC IEC/EN 62040-2 Category C3 ENVIRONMENT Operating Temperature 0 ~ 40°C Relative Humidity 0% ~ 95% Non-Condensing Altitude < 1000m for Nominal Power	Boost Charging Voltage	2.35V/Cell
COMMUNICATIONS / MANAGEMENT Smart RS-232 / USB Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux and MAC	Temperature Compensation	Yes
Smart RS-232 / USB Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux and MAC Optional SNMP Power management from SNMP manager and web browser STANDARDS / APPROVALS Safety IEC/EN 60950-1; IEC/EN 62040-1 EMC IEC/EN 62040-2 Category C3 ENVIRONMENT O ~ 40°C Operating Temperature 0 ~ 40°C Relative Humidity 0% ~ 95% Non-Condensing Altitude < 1000m for Nominal Power IP Protection IP-20 PHYSICAL PROPERTIES Power Module 490 x 736.5 x 133 (W x D x H) mm 34.5 Battery Module 107 x 710 x 154 Cabinet Dimension (W x D x H) mm 515 x 1000 x 753 (15U) / 600 x 1100 x 1475 (30U) / 600 x 1100 x 2010 (42U)		6A
Optional SNMP Power management from SNMP manager and web browser STANDARDS / APPROVALS Safety IEC/EN 60950-1; IEC/EN 62040-1 EMC IEC/EN 62040-2 Category C3 ENVIRONMENT O ~ 40°C Relative Humidity 0 ~ 40°C Relative Humidity 0% ~ 95% Non-Condensing Altitude < 1000m for Nominal Power IP Protection IP-20 PHYSICAL PROPERTIES Power Module (W x D x H) mm 490 x 736.5 x 133 Net Weight (kg) 34.5 Battery Module 107 x 710 x 154 Cabinet Dimension (W x D x H) mm 515 x 1000 x 753 (15U) / 600 x 1100 x 1475 (30U) / 600 x 1100 x 2010 (42U)	COMMUNICATIONS / MANA	AGEMENT
STANDARDS / APPROVALS Safety IEC/EN 60950-1; IEC/EN 62040-1 EMC IEC/EN 62040-2 Category C3 ENVIRONMENT Operating Temperature 0 ~ 40°C Relative Humidity 0% ~ 95% Non-Condensing Altitude < 1000m for Nominal Power	Smart RS-232 / USB	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux and MAC
Safety IEC/EN 60950-1; IEC/EN 62040-1 EMC IEC/EN 62040-2 Category C3 ENVIRONMENT O ~ 40°C Operating Temperature 0 ~ 40°C Relative Humidity 0% ~ 95% Non-Condensing Altitude < 1000m for Nominal Power IP Protection IP-20 PHYSICAL PROPERTIES Power Module 490 x 736.5 x 133 (W x D x H) mm 34.5 Battery Module 107 x 710 x 154 Cabinet Dimension (W x D x H) mm 515 x 1000 x 753 (15U) / 600 x 1100 x 1475 (30U) / 600 x 1100 x 2010 (42U)	Optional SNMP	Power management from SNMP manager and web browser
EMC IEC/EN 62040-2 Category C3 ENVIRONMENT	STANDARDS / APPROVALS	S
ENVIRONMENT Operating Temperature 0 ~ 40°C Relative Humidity 0% ~ 95% Non-Condensing Altitude < 1000m for Nominal Power	Safety	IEC/EN 60950-1 ; IEC/EN 62040-1
Operating Temperature 0 ~ 40°C Relative Humidity 0% ~ 95% Non-Condensing Altitude < 1000m for Nominal Power	EMC	IEC/EN 62040-2 Category C3
Relative Humidity 0% ~ 95% Non-Condensing Altitude < 1000m for Nominal Power IP Protection IP-20 PHYSICAL PROPERTIES Power Module (W x D x H) mm 490 x 736.5 x 133 Net Weight (kg) 34.5 Battery Module 107 x 710 x 154 Cabinet Dimension (W x D x H) mm 515 x 1000 x 753 (15U) / 600 x 1100 x 1475 (30U) / 600 x 1100 x 2010 (42U)	ENVIRONMENT	
Altitude < 1000m for Nominal Power IP Protection	Operating Temperature	0 ~ 40°C
P Protection	Relative Humidity	0% ~ 95% Non-Condensing
PHYSICAL PROPERTIES Power Module (W x D x H) mm 490 x 736.5 x 133 Net Weight (kg) 34.5 Battery Module 107 x 710 x 154 Cabinet Dimension (W x D x H) mm 515 x 1000 x 753 (15U) / 600 x 1100 x 1475 (30U) / 600 x 1100 x 2010 (42U)	Altitude	< 1000m for Nominal Power
Power Module (W x D x H) mm Net Weight (kg) Battery Module Cabinet Dimension (W x D x H) mm 515 x 1000 x 753 (15U) / 600 x 1100 x 1475 (30U) / 600 x 1100 x 2010 (42U)	IP Protection	IP-20
(W x D x H) mm 490 x 736.5 x 133 Net Weight (kg) 34.5 Battery Module 107 x 710 x 154 Cabinet Dimension (W x D x H) mm 515 x 1000 x 753 (15U) / 600 x 1100 x 1475 (30U) / 600 x 1100 x 2010 (42U)		
Battery Module 107 x 710 x 154 Cabinet Dimension (W x D x H) mm 515 x 1000 x 753 (15U) / 600 x 1100 x 1475 (30U) / 600 x 1100 x 2010 (42U)		490 x 736.5 x 133
Cabinet Dimension (W x D x H) mm 515 x 1000 x 753 (15U) / 600 x 1100 x 1475 (30U) / 600 x 1100 x 2010 (42U)	Net Weight (kg)	34.5
(W x D x H) mm 515 x 1000 x 753 (15U) / 600 x 1100 x 1475 (30U) / 600 x 1100 x 2010 (42U)	-	107 x 710 x 154
Net Weight (kg) 230.5 or 273		515 x 1000 x 753 (15U) / 600 x 1100 x 1475 (30U) / 600 x 1100 x 2010 (42U)
	Net Weight (kg)	230.5 or 273

^{*} When temperature is above 30°C , the output power factor will be de-rated, 0.9 at 31°C ~35°C and 0.8 at 36°C ~40°C .

** One battery module contains 10 pcs of 12V/7Ah or 12/9Ah sealed lead acid batteries in one tray.

One complete battery set contains 4 battery modules.

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^{***}If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.

^{• *} Changes to the specification contained in this document, and to prices are reserved; so are errors and omissions. Only order confirmations and technical documentation by KOSS UPS is binding.

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