

## OVERVIEW

The UPS with maintenance-free VRLA battery, 3-Phase 230/400 V unit is a true Online Double Conversion system that delivers highly efficient and reliable power protection for your computer IT equipment. With excellent electrical performance, enhanced intelligent monitoring, and network functions, complying with EMC and safety standards to meet the continually growing power demands of Data Center, Enterprise, and Edge IT equipment.



## KEY FEATURES AND BENEFITS

<b>Online double conversion with fully digital control:</b>	Provides stable and clean power with less ripple and by filtering noise, automatic voltage regulation (AVR) and surge protection
<b>Wide input voltage range:</b>	138 - 485 VAC, covering extended voltage range, applicable for severe situation such as large power grid fluctuation
<b>High efficiency:</b>	Up to 98.5%, reducing the energy waste and the cost of electricity
<b>Energy savings:</b>	High Efficiency on Smart ECO mode for Online Double Conversion models
<b>Green design:</b>	RoHS and Reach, CE/UL/ENERGY STAR® 2.0 compliant for North America units
<b>Output unity power factor:</b>	Means more active power for customer's load
<b>Input power factor:</b>	Power factor correction topology on the input side dramatically reducing the total harmonic distortion (THD)
<b>Matchable battery packs:</b>	Allows to connect maximum four external battery packs, extending the UPS backup time
<b>Three-stage battery charging method:</b>	Three-stage battery charging method matching the most optimal curve and temperature compensated with advanced algorithms prolonging the battery life
<b>EPO function (emergency power off):</b>	Allows to quickly and easily shut down the UPS when emergency event occurs
<b>Generator compatible:</b>	Wide input frequency and voltage, supports connecting to generators, ensuring the uninterruptible operation
<b>Hot-swappable battery design:</b>	Can perform the replacement of battery cartridge without powering down the UPS
<b>Cold start function:</b>	Allows to boot up the UPS without mains input but with batteries
<b>Intelligent fan speed regulation:</b>	Automatic adjustment of fan speed due to the ambient temperature and load percentage
<b>Touch-screen colorful LCD:</b>	Colorful LCD with cold start button and LED indicators, providing intuitive display
<b>Multiple communication interface:</b>	RS232/RS485/USB/intelligent slot, realizing communication and monitoring function
<b>Comprehensive protection function:</b>	Short-circuit, overload, overheat, battery overcharge and over discharge, output low voltage and fan fault alarm
<b>Parallel functionality:</b>	Connect up to 4 units to achieve very high availability of backup power
<b>Inverter design:</b>	3-Level IGBT for significant advantages of high efficiency, impact resistance, and reliability
<b>Additional redundancy:</b>	Shared battery group and support dual input to achieve very high availability of backup power
<b>Output options:</b>	Supports 3-Phase or single phase output
<b>Intelligent Network Card (included with N models*):</b>	Provides harden security remote access via Ethernet Secure SNMPv3 protocol to monitor and manage the UPS, micro-USB for firmware upgrade and RS-485 for connecting environmental and security sensors. Built-in WiFi and Bluetooth hardware support with future optional firmware upgrade.
<b>Cloud Ready (included with N models*):</b>	Support for technology allowing to easily, securely, and quickly connect to Cloud DCIM with management, monitoring, control and alerting of Power Chain, Environmental, Cooling, Security, Asset and Connectivity Infrastructure Assets.
<b>mPower Management Software:</b>	Configure, monitor, and manage the UPS (includes graceful equipment shutdown) remotely via RS-232 or USB or Ethernet. Software is available for free download from <a href="http://www.panduit.com/ups">www.panduit.com/ups</a> .

\*N Model UPS has an N in the 4th digit of the part number, e.g. U10N32V

# UPS 10-20kVA VRLA

## PRODUCT SPECIFICATIONS

### INTERNATIONAL 10-20KVA LEAD-ACID 230/400V 3-PHASE UNITS

MODEL	U10S32V/U10N32V	U15S32V/U15N32V	U20S32V/U20N32V
Output power capacity:	10000 VA	15000 VA	20000 VA
Max configurable power:	10000 W	15000 W	20000 W
Nominal output voltage:	380/400 (default)/415 VAC (3Ph+N+PE) 220/230/240 VAC (1Ph+N+PE)		
Output voltage distortion:	Linear load:	<2%	
	Non linear load:	<5%	
Output frequency:	Online mode:	50/60 ±10% Hz (±5%, ±4%, ±2%, ±1% selectable)	
	Battery mode:	50/60 ±0.1 Hz	
Output power factor:	1		
Topology:	Double Conversion Online		
Waveform:	Pure Sine Wave		
Overload capability:	Online mode:	105% - 110%: 60 min; 110% - 125%: 10 min; 125% - 150%: 1 min; >150%: 500 ms, transfer to bypass	
	Battery mode:	105% - 110%: 60 min; 110% - 125%: 10 min; 125% - 150%: 1 min; >150%: 500 ms, shut down	
Transfer time (typical):	Online mode <-> Battery mode:	0 ms	
	Inverter <-> Bypass:	0 ms	
Efficiency:	Online mode:	95.5%	95.5%
	ECO mode:	98.0%	98.5%
Output connection:	HW terminal		
Bypass:	Internal		
<b>INPUT</b>			
Nominal input voltage:	380/400 (default)/415 VAC (3Ph+N+PE)		
Input voltage range:	Full load:	305 - 485 VAC	
	Half load:	138 - 485 VAC	
Input frequency range:	40 - 70 Hz (auto sensing)		
Input connection:	HW terminal (L+N+G)		
Input power factor:	>0.99 (full load)		
<b>BATTERY</b>			
Battery type:	VRLA		
Typical recharge time:	4-5 hrs.		
Battery voltage:	480 VDC		
Battery quantity × capacity:	40 × 12 V/9 Ah		
Charging current (max.):	12 Amps		
Backup time:	Full load:	18 min.	12 min.
	Half load:	36 min.	24 min.
Expected battery life:	3-5 yrs.		
EBP replacement cartridge:	UVD480		
Additional External Battery Pack (EBP):	UVP480		
Maximum External Battery Pack (EBP) quantity:	8 units		
<b>ENVIRONMENTAL</b>			
Operating temperature:	32°F - 104°F (0°C - 40°C) (no derating)		
Storage temperature:	-13°F - 131°F (-25°C - 55°C) (without batteries)		
Relative humidity:	0% - 95% (non-condensing)		
Operating elevation:	Up to 3000 meters (derated 10%)		
Online thermal dissipation:	1607 BTU/hr.	2411 BTU/hr.	3215 BTU/hr.
Protection Class:	IP20		
Noise level:	<58dB at 1 meter		

# UPS 10-20kVA VRLA

## INTERNATIONAL 10-20KVA LEAD-ACID 230/400V 3-PHASE UNITS (CONTINUED)

CONFORMANCE	
Safety:	CB: IEC62040-1:2013, CE-LVD: EN62040-1:2008+A1:2013, UKCA: BS62040-1-2013, RCM
EMC:	IEC 62040-2-2016, EN 62040-2-2018, BS62040-2-2018
Transportation:	ISTA Procedure 2B
Surge protection:	IEEE/ANSI C62, 41 Category A, Level 3; 600 Joules
CUSTOMER SERVICE	
Warranty:	3 years for UPS and EBP, 2 years for VRLA battery cartridges
SUSTAINABLE OFFER STATUS	
Proposition 65 Warning:	See Safety Sheet (IM053)
PHYSICAL	
Maximum height:	5.15 in. (131mm) UPS + 6.88 in. (175mm) Battery
Maximum width:	17.32 in. (440mm) + 17.44 in. (443mm) Battery
Maximum depth:	25.98 in. (660mm) + 35.27 in. (896mm) Battery
Rack height:	7 RU
Net weight:	396.83 lbs. (180kg)
Shipping weight:	485.01 lbs. (220kg)
Shipping height:	11.02 in. (280mm) UPS + 13.38 in. (340mm) Battery + 4.48 in. (114mm) Pallet
Shipping width:	30.31 in. (770mm) Pallet
Shipping depth:	41.73 in. (1060mm) Pallet
Color:	Black

## EBP SPECIFICATIONS

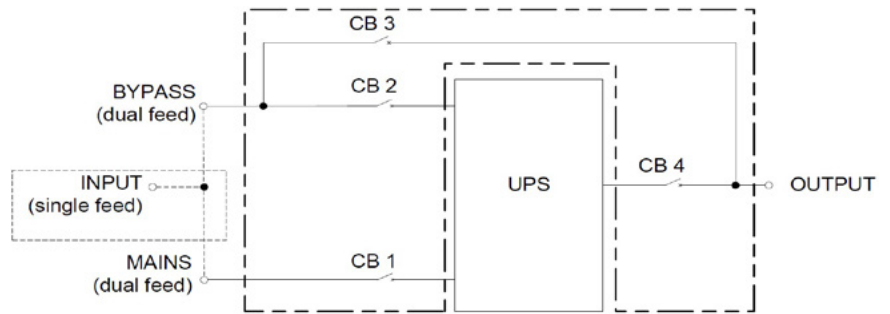
MODEL	UVP480
Matched UPS:	U10S32V/U15S32V/U20S32V/U10N32V/U15N32V/U20N32V
BATTERY SYSTEM	
Battery type:	VRLA (lead acid maintenance free battery)
Typical battery life:	3-5 years, depending on discharging cycle and ambient temperature
System voltage:	480 VDC
Battery quantity:	40 pieces
Battery capacity:	12 V/9 Ah
Replacement cartridge set:	UVD480
PHYSICAL	
Maximum height:	5.15 in. (131mm)
Maximum width:	17.44 in. (443mm)
Maximum depth:	35.27 in. (896mm)
Rack height:	4 RU
Net weight:	337.30 lbs. (153kg)
Shipping weight:	396.83 lbs. (180kg)
Shipping height:	13.38 in. (340mm) Battery + 4.48 in. (114mm) Pallet
Shipping width:	30.31 in. (770mm) Pallet
Shipping depth:	42.08 in. (1060mm) Pallet
ENVIRONMENTAL	
Operating temperature:	32°F - 104°F (0°C - 40°C)
Relative humidity:	0% - 95% (non-condensing)
Noise level:	0dB
CONFORMANCE	
Safety:	CB: IEC62040-1:2013, CE-LVD: EN62040-1:2008+A1:2013, UKCA: BS62040-1-2013, RCM
Transportation:	ISTA Procedure 2B

# UPS 10-20kVA VRLA

## PDU 10-20K

PANDUIT MODEL	UMB20K
Power capacity:	20kVA/20kW (10-15kVA/kW compatible)
Transfer time:	0 ms

Single line diagram:



Model:	3:01	3:3
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INPUT		
Input power capacity:	20kVA/20kW (10-15kVA/kW compatible)	
Nominal input voltage:	Mains: 380/400/415 VAC Bypass: 220/230/240 VAC	Mains & Bypass: 380/400/415 VAC
Input connection:	Hardwire connection (L1+L2+L3+N+PE)	Hardwire connection (L1+L2+L3+N+PE)
Input voltage range:	138 - 485 VAC	138 - 485 VAC
Maximum input current:	Mains: 42.9 Amps Bypass: 125.1 Amps	Mains: 42.9 Amps Bypass: 41.7 Amps

OUTPUT		
Output power capacity:	20kVA/20kW (10-15kVA/kW compatible)	
Nominal output voltage:	220/230/240 VAC	380/400/415 VAC
Output connection:	Hardwire connection (L+N+PE)	Hardwire connection (L1+L2+L3+N+PE)
Maximum total current:	90.9 Amps	30.4 Amps
MBS:	Yes	Yes

MAIN CIRCUIT WIRING SIZE (Typical)			
Single feed:	Input:	35mm <sup>2</sup>	16mm <sup>2</sup>
	Output:	25mm <sup>2</sup>	10mm <sup>2</sup>
Dual feed:	Input:	16mm <sup>2</sup> (Mains)	16mm <sup>2</sup>
		35mm <sup>2</sup> (Bypass)	
	Output:	25mm <sup>2</sup>	10mm <sup>2</sup>
MBS circuit wiring size (typical):	0.5mm <sup>2</sup>		

INTERNAL WIRING DIMENSIONS		
Connection mode:	Input	Output
Main:	Black 1015 8 AWG RoHS	Black 1015 8 AWG RoHS
Bypass:	Black 1015 8 AWG RoHS	Black 1015 8 AWG RoHS
Maintenance bypass:	Black 1015 8 AWG RoHS	Black 1015 8 AWG RoHS
MBS terminal:	Black 60227IEC53(RVV) 2C/0.5mm <sup>2</sup> Power cable RoHS	

BREAKER	
Input & output & maintain:	Mains: NDB1-63 C50A/3P 50A/400/415 VAC 6KA RoHS Bypass: NDB1-63 C50A/3P 50A/400/415 VAC 6KA RoHS Output: NDB1-63 C50A/3P 50A/400/415 VAC 6KA RoHS Maintenance: NDB1-63 C50A/3P50A/400/415 VAC 6KA RoHS

# UPS 10-20kVA VRLA

## PDU 10-20K (CONTINUED)

ENVIRONMENTAL	
Operating temperature:	32°F - 104°F (0°C - 40°C)
Storage temperature:	-13°F - 131°F (-25°C - 55°C)
Operating/storage humidity:	0% - 95% (non-condensing)
Operating elevation:	0 - 2000 meters
PHYSICAL	
Dimension W x D x H:	17.3 in. x 25.9 in. x 5.1 in. (440mm x 660mm x 131mm)
Net weight:	33 lbs. (15kg)
REGULATORY COMPLIANCE	
Safety:	CB: IEC62040-1:2013, CE-LVD: EN62040-1:2008+A1:2013, UKCA: BS62040-1-2013, RCM
EMC verification:	IEC 62040-2-2016, EN 62040-2-2018, BS62040-2-2018
Transport:	ISTA Procedure 2B

## UPS ACCESSORIES

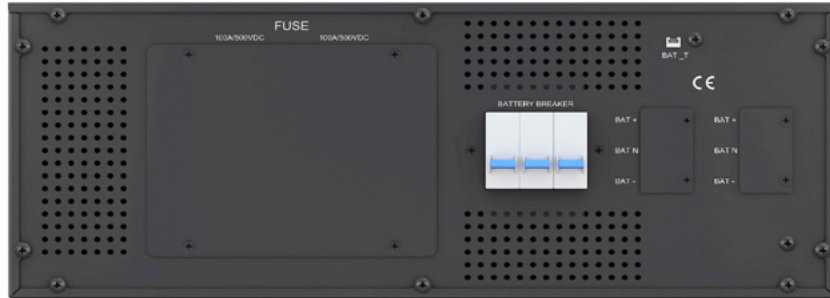
UNCP01:	Panduit Intelligent Network Management Card (iNMC)
UMB20K L x W x H:	PDU (Maintenance Bypass Switch) 17.3 in. x 25.98 in. x 5.1 in. (440mm x 660mm x 131mm) 33 lbs. (15 kg)
URMKIT2:	Rack mount rail kit for 5-20kVA UPS and 5-10kVA EBP
URM480:	Rack mount rail kit for External Battery Pack 480 V Chassis
EXTWLAUPS3:	10-20kVA LEAD ACID UPS 1 Year Extended Warranty, for up to 3 years. The extended warranty includes repair or replacement of UPS and covers your battery
EXTWLABPS3:	10-20kVA LEAD ACID Battery Pack 1 Year Extended Warranty, for up to 3 years. The extended warranty includes repair or replacement and covers your battery

# UPS 10-20kVA VRLA

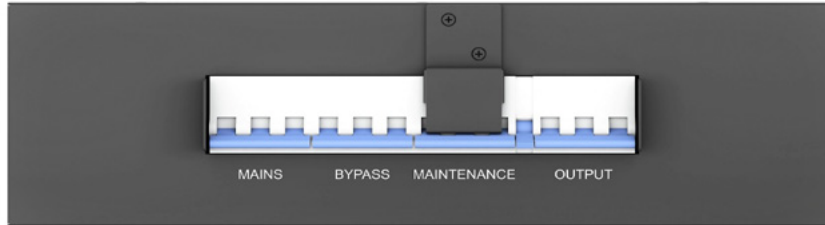
U10N32V/U15N32V/U20N32V (Rear)



UVP480 (Rear)



UMB20K (Front)



UMB20K (Rear)



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