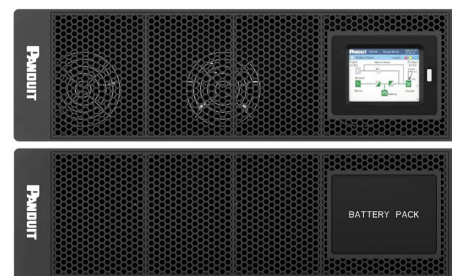# SmartZone™ UPS 10-20kVA VRLA

overview

The Panduit® SmartZone™ 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

Online Double Conversion with fully digital control	Provides stable and clean power with less ripple and by filtering noise, automatic voltage regulation (AVR) and surge protection
Wide input voltage range	138-485Vac, covering extended voltage range, applicable for severe situation such as large power grid fluctuation
High efficiency	Up to 98.5%, reducing the energy waste and the cost of electricity
Energy savings	High Efficiency on Smart ECO mode for Online Double Conversion models
Green design	RoHS and Reach, CE/UL/ENERGY STAR® 2.0 compliant for North America units
Output unity power factor	Means more active power for customer's load
Input power factor	Power factor correction topology on the input side dramatically reducing the total harmonic distortion (THD)
Expandable battery packs	Allows to connect maximum eight external battery packs, extending the UPS backup time
Three-stage battery charging method	Three-stage battery charging method matching the most optimal curve and temperature-compensated with advanced algorithms prolonging the battery life
EPO function (Emergency Power Off)	Allows to quickly and easily shut down the UPS when emergency event occurs
Generator compatible	Wide input frequency and voltage, supports connecting to generators, ensuring the uninterruptible operation
Hot-Swappable battery design	Can perform the replacement of battery cartridge without powering down the UPS
Cold start function	Allows to boot up the UPS without mains input but with batteries
Intelligent fan speed regulation	Automatic adjustment of fan speed due to the ambient temperature and load percentage
Touch-screen colorful LCD	Colorful LCD with cold start button and LED indicators, providing intuitive display
Multiple communication interface	RS232/RS485/USB/intelligent slot, realizing communication and monitoring function
Comprehensive protection function	Short-circuit, overload, overheat, battery overcharge and over discharge, output low voltage and fan fault alarm
Parallel and Redundant function	Connect up to 4 units to achieve very high availability of backup power
Inverter design	3-Level IGBT for significant advantages of high efficiency, impact resistance, and reliability
Additional Redundancy	Shared battery group and support dual input to achieve very high availability of backup power
Output Options	Supports 3-Phase or single phase output
Intelligent Network Card (included with N Models*)	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.
SmartZone™ Cloud Ready (included with N Models*)	Support for technology allowing to easily, securely, and quickly connect to SmartZone™ Cloud DCIM with management, monitoring, control and alerting of Power Chain, Environmental, Cooling, Security, Asset and Connectivity Infrastructure Assets.
SmartZone™ mPower Management Software	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 www.panduit.com/smartzone-ups.

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

product specifications

• 10-20kVA Lead-Acid 230/400 V EMEA 3-Phase Units

MODEL		U10S32V / U10N32V	U15S32V / U15N32V	U20S32V / U20N32V
Output power capacity		10000 VA	15000 VA	20000 VA
Max Configurable Power (Watts)		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%	95.5%
	ECO mode	98.0%	98.5%	98.5%
Output connection		HW terminal		
Bypass		Internal		
INPUT				
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)		
BATTERY				
Battery type		VRLA		
Typical recharge time		4-5 hrs.		
Battery voltage		480 Vdc		
Battery quantity × capacity		40 × 12 V/ 9 Ah		
Charging current (max.)		12A		
Backup time	Full load	11 min.	6.4 min.	4.1 min.
	Half load	28.7 min.	19 min.	11.8 min.
Expected Battery Life (years)		3-5 yrs.		
EBP Replacement Cartridge		UVD480		
Additional External Battery Pack (EBP)		UVP480		
Maximum External Battery Pack (EBP) quantity		8 units		
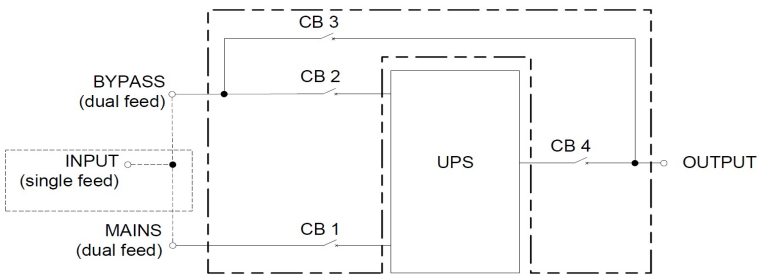
product specifications (continued)

COMMUNICATION & MANAGEMENT			
Communication ports	USB, RS232, RS485, intelligent slot		
Pre-Installed SmartZone™ iNMC Card	N model only		
Local Display/Control Panel	3.5 inch colorful touch screen		
Audible Alarm	Yes		
Emergency Power Off (EPO)	Yes		
ENVIRONMENTAL			
Operating temperature	32°F - 104°F (0°C - 40°C) (no derating)		
Storage temperature	-25°C - 55°C (without batteries)		
Relative humidity	0 - 95% (non-condensing)		
Operating elevation	Up to 3000 m (derated 10%)		
Online thermal dissipation	1607 BTU/hr.	2411 BTU/hr.	3215 BTU/hr.
Protection Class	IP20		
Noise level	<58dB at 1 m		
CONFORMANCE			
Safety	CB: IEC62040-1:2013, CE-LVD: EN62040-1:2008+A1:2013, UKCA: BS62040-1-2013		
EMC	IEC 62040-2-2016, EN 62040-2-2018, BS62040-2-2018		
Transportation	ISTA Procedure 2B		
Surge protection	IEEEE/ANSI C62, 41 Category A, Level 3; 600Joules		
CUSTOMER SERVICE			
Warranty	3 years for UPS and EBP, 2 years for battery		
SUSTAINABLE OFFER STATUS			
Proposition 65 Warning	See Safety Sheet (IM053)		
PHYSICAL			
Maximum Height	131mm UPS + 175mm Battery		
Maximum Width	440mm + 443mm Battery		
Maximum Depth	660mm + 896mm Battery		
Rack Height	7 RU		
Net Weight	180kg		
Shipping Weight	220kg		
Shipping Height	280mm UPS + 340mm Battery + 114mm Pallet		
Shipping Width	770mm Pallet		
Shipping Depth	1060mm Pallet		
Color	Black		

E B P   s p e c i f i c a t i o n s

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, depend on discharging cycle and ambient temperature
System voltage	480Vdc
Battery quantity	40 pcs.
Battery capacity	12 V/9 Ah
Replacement cartridge set	UVD480
PHYSICAL	
Maximum Height	131mm
Maximum Width	443mm
Maximum Depth	896mm
Rack Height	4 RU
Net Weight	153kg
Shipping Weight	180kg
Shipping Height	340mm Battery + 114mm Pallet
Shipping Width	770mm Pallet
Shipping Depth	1060mm Pallet
ENVIRONMENTAL	
Operating temperature	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
Transportation	ISTA Procedure 2B

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
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 to 485 VAC	138 to 485 VAC
Maximum input current	Mains: 42.9A Bypass: 125.1A	Mains: 42.9A Bypass: 41.7
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	90.9A	30.4A
MBS	Yes	Yes

MAIN CIRCUIT WIRING SIZE (Typical)

Single Feed	Input	35mm^2	16mm^2
	Output	25mm^2	10mm^2
Dual Feed	Input	16mm^2 (Mains)	16mm^2
		35mm^2 (Bypass)	
	Output	25mm^2	10mm^2
MBS circuit wiring size (Typical)		0.5mm^2	

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^2 Power cable RoHS	

PDU 10-20k (continued)

BREAKER	
Input & Output & Maintain	Mains: NDB1-63 C50A/3P 50A/400/415Vac 6KA RoHS Bypass: NDB1-63 C50A/3P 50A/400/415Vac 6KA RoHS Output: NDB1-63 C50A/3P 50A/400/415Vac 6KA RoHS Maintenance: NDB1-63 C50A/3P 50A/400/415Vac 6KA RoHS
ENVIRONMENTAL	
Operating Temperature	0°C to 40°C
Storage Temperature	-25°C to +55°C
Operating/Storage Humidity	0 - 95% (non-condensing)
Operating Elevation	0 to 2000 m
PHYSICAL	
Dimension W × D × H	440 × 660 × 131mm
Net Weight	15kg
REGULATORY COMPLIANCE	
Safety	CB: IEC62040-1:2013, CE-LVD: EN62040-1:2008+A1:2013, UKCA: BS62040-1-2013
EMC verification	IEC 62040-2-2016, EN 62040-2-2018, BS62040-2-2018
Transport	ISTA Procedure 2B

UPS accessories

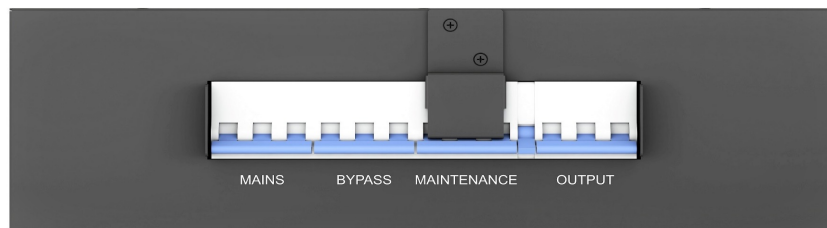|	
UNCP01	Panduit® Intelligent Network Management Card (iNMC)
UMB20K	SmartZone™ PDU (Maintenance Bypass Switch) (17.3 in. × 25.98 in. × 5.1 in.) (440mm × 660mm × 131mm) (15kg)
URMKIT2	Rack mount rail kit for 5-20kVA UPS and 5-10kVA EBP
URM480	Rack mount rail kit for External Battery Pack 480 V Chassis

U10N32V / U15N32V / U20N32V (Rear)

UVP480 (Rear)
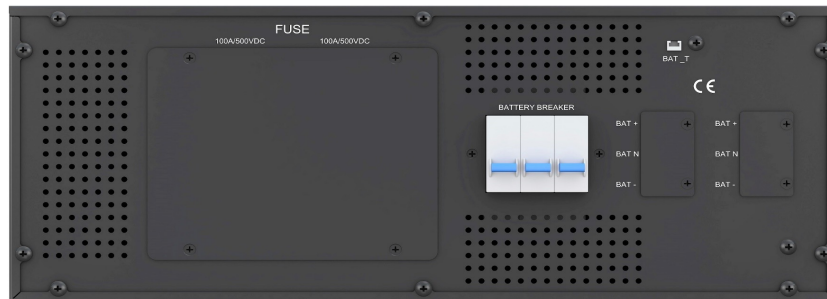
UMB20K (Front)

UMB20K (Rear)

For a copy of Panduit product warranties, log on to www.panduit.com/warranty

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or by phone: 800.777.3300

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