DPP+™

SPECIFICATIONS

0.8 Load Power Factor at Rated kVA 120 VDC (60 Lead Acid Battery Cells)															
Model Number	Rated Output Power		Efficiency		AC Input/Freq. AC Amps per Phase[1]			Max DC Current	AC Output Amps[1]			UPS Cabinet Style	Weight[2]		Heat Loss (BTU/hr)
	kVA	kW	AC-DC	DC-AC	480/60	208/60	380/50	@ 1.75 VPC	120	220	240		lb	kg	
DPP+005-[3]	5	4	92%	87%	11	25	14	44	42	23	21	GTD1Y	735	324	3403
DPP+007-[3]	7.5	6	92%	87%	16	37	20	66	63	34	31	GTD1Y	900	397	5105
DPP+010-[3]	10	8	92%	87%	21	48	26	88	83	46	42	GTD1Y	1070	472	6807
DPP+015-[3]	15	12	92%	87%	31	70	39	131	125	68	63	GTD1Y	1270	560	10210
DPP+020-[3]	20	16	93%	87%	40	92	50	175	167	91	83	GTD1Y	1470	648	12881
DPP+030-[3]	30	24	93%	87%	59	137	75	263	250	136	125	GTD1Y	1920	847	19321

0.8 Load Power Factor at Rated kVA 240 VDC (120 Lead Acid Battery Cells)															
Model Number	Rated Output Power		Efficiency		AC Input/Freq. AC Amps per Phase[1]			Max DC Current	AC Output Amps[2]			UPS Cabinet Style	Weight[2]		Heat Loss (BTU/hr)
	kVA	kW	AC-DC	DC-AC	480/60	208/60	380/50	@ 1.75 VPC	120	220	240		lb	kg	
DPP+010-[3]	10	8	93%	88%	20	47	25	45	83	46	42	GTD1Y	1080	476	6195
DPP+015-[3]	15	12	93%	88%	30	69	38	65	125	68	63	GTD1Y	1280	564	9291
DPP+020-[3]	20	16	94%	89%	38	91	49	90	167	91	83	GTD1Y	1480	653	11593
DPP+030-[3]	30	24	94%	89%	58	136	74	128	250	136	125	GTD1Y	1930	851	17196

1.0 Load Power Factor at Rated kVA 120 VDC (60 Lead Acid Battery Cells)															
Model Number	Rated Output Power		Efficiency		AC Input/Freq. AC Amps per Phase[1]			Max DC Current	AC Output Amps[1]			UPS Cabinet Style	Weight[2]		Heat Loss (BTU/hr)
	kVA	kW	AC-DC	DC-AC	480/60	208/60	380/50	@ 1.75 VPC	120	220	240		lb	kg	
DPP+005-[3]	5	5	92%	87%	15	35	20	55	42	23	21	GTD1Y	910	401	4254
DPP+007-[3]	7.5	7.5	92%	87%	20	47	26	82	63	34	31	GTD1Y	1085	478	6382
DPP+010-[3]	10	10	92%	87%	30	70	39	109	83	45	42	GTD1Y	1270	560	8509
DPP+015-[3]	15	15	92%	87%	40	93	51	164	125	68	63	GTD1Y	1470	648	12075
DPP+020-[3]	20	20	93%	87%	60	139	76	219	167	91	83	GTD1Y	1920	847	16101

1.0 Load Power Factor at Rated kVA 240 VDC (120 Lead Acid Battery Cells)															
Model Number	Rated Output Power		Efficiency		AC Input/Freq. AC Amps per Phase[1]			Max DC Current	AC Output Amps[1]			UPS Cabinet Style	Weight[2]		Heat Loss (BTU/hr)
	kVA	kW	AC-DC	DC-AC	480/60	208/60	380/50	@ 1.75 VPC	120	220	240		lb	kg	
DPP+010-[3]	10	8	93%	88%	26	60	34	55	83	45	42	GTD1Y	1335	589	7755
DPP+015-[3]	15	12	93%	88%	39	90	50	83	125	68	63	GTD1Y	1525	672	11625
DPP+020-[3]	20	16	94%	89%	53	121	69	112	165	90	84	GTD1Y	1980	873	15102

Model Coding

"DD"	"EE"	"FF"	"GG"	"HH"	"I"	"J"
AC Input Volts (code)	DC Bus Volts (code)	AC Output Volts (code)	Freq (code)	Output Power Factor (code)	Charger Design (code)	Config Code (code)
208 – (20)	120 – (12)	120 – (12)	60 – (60)	0.8 – (K)	6-Pulse – (S)	Float – (F)
480 – (48)	240 – (24)	220 – (22)	50 – (50)	1.0 – (W)	12-Pulse – (T)	Parallel (P)
380 – (38)		240 – (24)				
400 – (40)		400 – (40)				
600 – (60)		480 – (48)				

[1] Circuit Breakers are sized at a minimum of 125% of rated current.

[2] Unit weights correspond to a 60 Hz unit. Contact us for 50 Hz unit weight.

[3] A complete model number includes the AC input voltage, DC bus (link) voltage, AC output voltage, system frequency, output power factor, and UPS configuration. To "build" a model number, use the "code" in the matrix shown above, following the example format: DPP+010-DD-EE-FF-GG-H-I-J; where DD=AC Input Voltage; EE=DC bus voltage; FF=AC Output Voltage; GG=System Frequency; H=Output Power Factor ('K' for 0.8; 'W' for 1.0); I=6(S) or 12(T) Pulse Charger design; J=UPS configuration ('F' for Float, 'P' for Parallel Redundant).

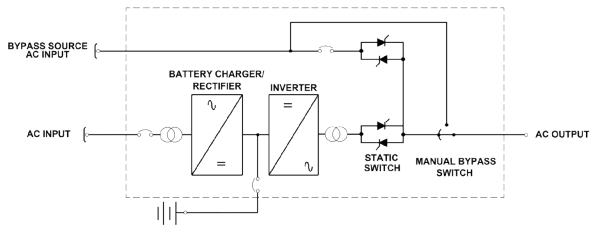
For Example: A 20 kVA with 480 VAC input; 120 VDC bus voltage; 120 VAC output; 60 Hz; 0.8 output power factor; 6 pulse charger; Float system would have the following model number: DPP+020-48-12-12-60-K-S-F. For custom systems and for units which do not have a configurable model number, insert a 'C' in the model number as follows: DPP+020C

Sizes are subject to change. Top mounted cooling fans require 0.5 in (13 mm) additional height. Certain optional features and/or combinations may require larger cabinets.

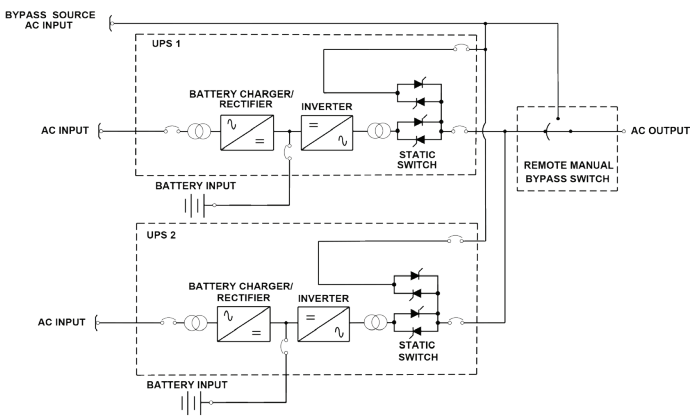
Cabinet Dimensions		
Style	H x W x D (inches)	H x W x D (mm)
GTD1Y-[4]	79 x 24 x 36	2007 x 610 x 914

[4] Sidecar RMBS cabinet adds 14 inches (356 mm) of width to the standard 24 inch cabinet

STAND-ALONE UPS CONFIGURATION



PARALLEL REDUNDANT CONFIGURATION



AMETEK®
SOLIDSTATE CONTROLS

REV-C

PROVIDING CONTINUITY OF ELECTRICAL POWER

DPP+™

SPECIFICATIONS

General Specifications – Standard Features

System Measurements (Displayed on LCD Panel)
Total Number of Battery Discharges
Total Operational Time on Batteries
Average Time on Battery per Discharge
Historical Min/Max Battery Voltage
Recent Min/Max Battery Voltage
Total Operation Time on UPS
Total Operation Time on Bypass
Total Operation Time on Inverter
Metering (Displayed on LCD Panel)
DC Voltage
DC Battery Current (+/-)
AC Output Voltage
AC Output Current
AC Output Frequency
Charger/Rectifier Output Current
Battery Voltage (with Rectifier Configuration)
Circuit Breakers
AC Input (25 kAIC, minimum)
Battery Input (35 kAIC, minimum)
Bypass Input (25 kAIC, minimum)

Alarms - All displayed on LCD Alarm Panel with options for LEDs and Relays
R = Red LED[1] A=Amber LED Y=Relay

Fan Failure	R, Y
Charger Failure	R, Y
Low DC Voltage	R, Y
Low DC Disconnect	R, Y
Battery Breaker Open	R, Y
Battery Discharging	R, Y
Bypass Supplying Load	A, Y
Over Temperature	R, Y
ST/SW SCR Failure	R, Y
Bypass Failure	R, Y
Inverter Failure	R, Y
IGBT Desaturation	
Overload Shutdown	
Retransfer Blocked	

System Diagnostics – Displayed on LCD Alarm Panel
Loss of System Communication(s)
Power Supply Failure(s)

Standard Relays

Three standard relays are included in every unit:
(1) UPS Trouble
(2) Bypass Supply Load
(3) Communication Failure
Thirteen customer configurable additional relays are included in every UPS. Each relay has normally open and normally closed contacts rated for 120 VAC at 8 amps (30 VDC at 8 A; 125 VDC at 300 mA).

Applicable Standards, Codes and Regulations

NEMA PE-1
ANSI
ANSI/NFPA 70
IEEE
UL/C-UL (UL1778)
Unit Manufactured in ISO9001 Certified Facility

ISO 9001:2008 CERTIFICATION™ Intertek

General Specifications – Optional Features

Metering and System Measurements	(Opt. #)
AC Input Power (Voltage, Frequency, Current)	(111)
Bypass Input Frequency	(112)
Bypass Input Voltage	(113)
Output Power (kVA, kW, Power Factor)	(114)
% Inverter Loading	(115)
Inverter Output Voltage	(117)
Circuit Breaker	**(Opt. #)**
65 kAIC AC Input and Bypass Input	(82/85)
AC Output (Option 30R or 30RP must be selected)	(18)
Battery High Interrupt Breaker	(86)
Miscellaneous	**(Opt. #)**
Rectifier Configuration	(34)
Charger Output Blocking Diode	(29)
Charger Output Ripple Filter	(59)
Latching Alarms	(28)
Lamp Test	(35)
ESI (Essential System Indicator) Panel	(123)
Alarm Test	(132)
Precharge Circuit	(122)
Emergency Power Off	(129)
20% Spare Terminals	(96)
Drip Shield	(65)
Lifting Eye Bolts	(105)
Padlockable Circuit Breakers	(93)
PCB Conformal Coating	(127)
Fungus and Moisture Proof	(70)
Parallel Redundant Configuration	(136)
12 Pulse Charger (10% Reflected Harmonics)	
Isolated Sidecar Cabinet w/ MBS[2]	(30R)
Isolated Sidecar Cabinet w/ MBS & Padlock Device	(30RP)
Sodium Nickel Battery Compatible	(244)

Alarms (LCD)	(Option #)
Charger Overload	(119)
High DC Disconnect	(2)
Positive/Negative to Ground (2 relays)	(3)
High/Low Bypass Source Voltage	(7/6)
High/Low AC Output Voltage	(9/8)
AC Power Failure	(26)
AC Output Overload	(40)
High/Low Inverter Output Voltage	(41/42)
Out-of-Sync	(43)
Inverter Fuse Blown	(44)
Inverter Off Frequency	(45)
Bypass Off Frequency	(46)
Battery Near Exhaustion	(60)
Low AC Input Voltage	(68)
High DC Voltage	(5)
MBS to Bypass	(84)
AC Input CB Open	(101)
Bypass Input CB Open	(103)
AC Output CB Open	(104)
High AC Input Voltage	(124)
Communications	**(Option #)**
Modbus RTU (RS485 Connection)	(187)
Ethernet Webpage	(187)
Modbus TCP	(187)
Consult Us for Additional Communications Options	

LED Indicators	(Color)	(Option #)
In Sync	(Green)	(230)
AC Input Available	(Green)	(14)
Bypass Available	(Green)	(15)
Inverter Available	(Green)	(47)
Charger Available	(Green)	(118)

Notes: [1]Select up to 8 additional LEDs of any color

General Specifications – Performance

Battery Charger/Rectifier	
AC Input	
Nominal Voltage[3]	208, 380, 415, 480, 600 VAC
Input Range	± 10% (- 15% without discharging)
Frequency	50 or 60 Hz ± 5%
DC Output	
DC Bus Voltage(s)	110, 120, 220, 240
Regulation	± 1%
Ripple Voltage	< 1% with battery connected
Capacity	Sized to recharge a 30 minute battery to 95% of its rated capacity within 8 hours, while simultaneously supplying power to a fully loaded inverter
Float/Equalize	± 5% Adjustability
Inverter	
DC Input	
Nominal Voltage Range/ #of Cells (Lead Calcium Type)	110 V/55 (96-128 VDC) 120 V/60 (105-140 VDC) 220 V/110 (192-256 VDC) 240 V/120 (210-280 VDC)
AC Output	
Inverter/UPS Ratings	5-30 kVA
Power Factor	0.8 or 1.0
AC Output Voltage[3]	120, 220, 240
Regulation	± 1 %
Voltage Adjustment	± 5 %
Frequency	50 or 60 Hz; + 0.1%
Crest Factor	3:1
Total Harmonic Distortion (THD)	100% linear load < 3% 100% non-linear load < 5%
Transient Response	± 5% (0-100% load)
Recovery Time	< 50 millisecond to ± 1%
Overload Capacity	100% - continuous 125% - 10 minutes 150% - 1 minute
Mechanical	
Cooling	Aided Convection or Forced Air, depending on kVA rating and design
Cable Entry	Top or Bottom Entry Standard
Cabinet Rating	NEMA 1 / IP-20 (IP-21 with addition optional drip shield)

Static Switch	
Bypass Voltage	120, 220, 240 VAC
Switch Type	Inversely paired set of SCRs (one set per leg)
Failure Mode	Automatically fails to Bypass
Transfer Time	Make Before Break
Sync Capture Range	0.5% to 1.5%
Slew Rate	1 Hz/sec to 10 Hz/sec (adjustable)
Overload Capability	125% continuous 150% for 10 minutes 200% for 1 minute 1000% for 1 cycle
Manual Bypass Switch[5]	
Voltage	120, 220, 240 VAC
Mounting	Inside UPS/Inverter Enclosure
Positions	Two
Construction	600 VAC, rotary drum, make-before-break type
Transfer Time	Zero in both directions
Overload Capacity	125% continuous 150% for 10 minutes 200% for 1 minute 1000% for 1 cycle
Environmental	
Ambient Temperature	23 to 104°F (-5 to 40°C)
Relative Humidity	0-95% non-condensing
Operating Altitude	10000 feet (3048 meters)
Audible Noise[4]	65-72 dB(A) @ 4.9 feet (1.5 meter) typical
Mean Time Between Failure (MTBF)	> 205000 Hours

[2] Sidecar cabinet consists of an isolated cabinet that is mounted to the side of the main cabinet to provide isolation while maintaining the UPS system
[3] Custom Input and Output Voltages available – Consult Us
[4] Addition of drip shield may increase the noise by 1-3 dB(A)

3DPP+™

SPECIFICATIONS

0.8 Load Power Factor at Rated kVA 120VDC (60 Lead Acid Battery Cells)																
Model Number	Rated Output Power		Efficiency		3PH AC Input/Freq AC Amps Per Phase[1]				Max DC Current	3PH AC Output Amps Per Phase[1]			Cabinet Style	Weight[2]		Heat Loss (BTU/hr)
	kVA	kW	AC-DC	DC-AC	208/60	480/60	600/60	380/50	@ 1.75 VPC	208	480	380		lb	kg	
3DPP+010-[3]	10	8	92%	87%	48	21	17	26	88	28	12	15	GTD1Y	1070	485	6807
3DPP+015-[3]	15	12	92%	87%	70	31	24	39	131	42	18	23	GTD1Y	1270	576	10210
3DPP+020-[3]	20	16	93%	87%	92	40	32	50	175	56	24	30	GTD1Y	1470	667	12880
3DPP+030-[3]	30	24	93%	87%	137	59	47	75	263	83	36	46	GTD1Y	1920	871	19321
0.8 Load Power Factor at Rated kVA 240VDC (120 Lead Acid Battery Cells)																
Model Number	Rated Output Power		Efficiency		3PH AC Input/Freq AC Amps Per Phase[1]				Max DC Current	3PH AC Output Amps Per Phase[1]			Cabinet Style	Weight[2]		Heat Loss (BTU/hr)
	kVA	kW	AC-DC	DC-AC	208/60	480/60	600/60	380/50	@ 1.75 VPC	208	480	380		lb	kg	
3DPP+010-[3]	10	8	92%	87%	45	20	25	25	43	28	12	15	GTD1Y	1080	490	6194
3DPP+015-[3]	15	12	93%	88%	67	29	23	36.5	64	41.5	18	23	GTD1Y	1280	581	9291
3DPP+020-[3]	20	16	99%	88%	90	40	50	50	86	56	24	31	GTD1Y	1480	671	11721
3DPP+030-[3]	30	24	93%	89%	134	58	46	73	128	83	36	46	GTD1Y	1930	875	17046
1.0 Load Power Factor at Rated kVA 120VDC (60 Lead Acid Battery Cells)																
Model Number	Rated Output Power		Efficiency		3PH AC Input/Freq AC Amps Per Phase*				Max DC Current	3PH AC Output Amps Per Phase[1]			UPS Cabinet Style	Weight[2]		Heat Loss (BTU/hr)
	kVA	kW	AC-DC	DC-AC	208/60	480/60	600/60	380/50	@ 1.75 VPC	208	480	380		lb	kg	
3DPP+010-[3]	10	10	92%	87%	70	31	24	39	110	28	12	15	GTD1Y	1270	576	8509
3DPP+015-[3]	15	15	92%	87%	92	40	32	50	164	42	18	23	GTD1Y	1470	667	12075
3DPP+020-[3]	20	20	93%	87%	137	59	47	75	219	56	24	30	GTD1Y	1920	871	16101
1.0 Load Power Factor at Rated kVA 240VDC (120 Lead Acid Battery Cells)																
Model Number	Rated Output Power		Efficiency		3PH AC Input/Freq AC Amps Per Phase[1]				Max DC Current	3PH AC Output Amps Per Phase[1]			UPS Cabinet Style	Weight[2]		Heat Loss (BTU/hr)
	kVA	kW	AC-DC	DC-AC	208/60	480/60	600/60	380/50	@ 1.75 VPC	208	480	380		lb	kg	
3DPP+010-[3]	10	10	92%	89%	59	26	21	33	54	28	12	16	GTD1Y	1280	581	6807
3DPP+015-[3]	15	15	93%	89%	89	38	31	49	81	42	18	23	GTD1Y	1480	671	9660
3DPP+020-[3]	20	20	93%	89%	119	53	43	67	109	57	24	33	GTD1Y	1935	878	12881

Model Coding

"DD"	"EE"	"FF"	"GG"	"HH"	"I"	"J"
AC Input Volts (code)	DC Bus Volts (code)	AC Output Volts (code)	Freq (code)	Output Power Factor (code)	Charger Design (code)	Config Code (code)
208 – (20)	120 – (12)	120/208 – (20)	60 – (60)	0.8 – (K)	6-Pulse – (S)	Float – (F)
480 – (48)	240 – (24)	277/480 – (48)	50 – (50)	1.0 – (W)	12-Pulse – (T)	Parallel (P)
600 – (60)		220/380 – (38)				
400 – (40)		480/277 - (48)				
380 – (38)		400/230 - (40)				

[1] Circuit Breakers are sized at a minimum of 125% of rated current.

[2] Unit weights correspond to a 60 Hz unit. Contact us for 50 Hz unit weight.

[3] A complete model number includes the AC input voltage, DC bus (link) voltage, AC output voltage, system frequency, output power factor, and UPS configuration. To "build" a model number, use the "code" in the matrix shown above, following the example format: 3DPP+010-DD-EE-FF-GG-H-I-J; where DD=AC Input Voltage; EE=DC bus voltage; FF=AC Output Voltage; GG=System Frequency; H=Output Power Factor ('K' for 0.8; 'W' for 1.0); I=6(S) or 12(T) Pulse Charger design; J=UPS configuration ('F' for Float, 'P' for Parallel Redundant).

For Example: A 20 kVA with 480 VAC input; 120 VDC bus voltage; 120/208 VAC output; 60 Hz; 0.8 output power factor; 6 pulse charger; Float system would have the following model number: 3DPP+020-48-12-20-60-K-S-F. For custom systems and for units which do not have a configurable model number, insert a 'C' in the model number as follows: 3DPP+020C

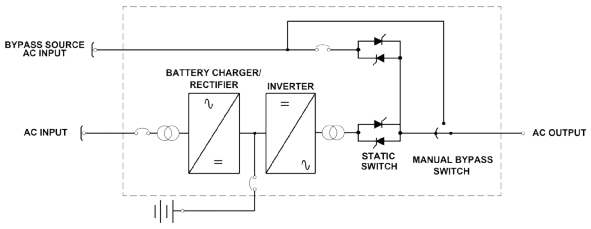
Sizes are subject to change. Top mounted cooling fans require 0.5 in (13 mm) additional height. Certain optional features and/or combinations may require larger cabinets.

Cabinet Dimensions

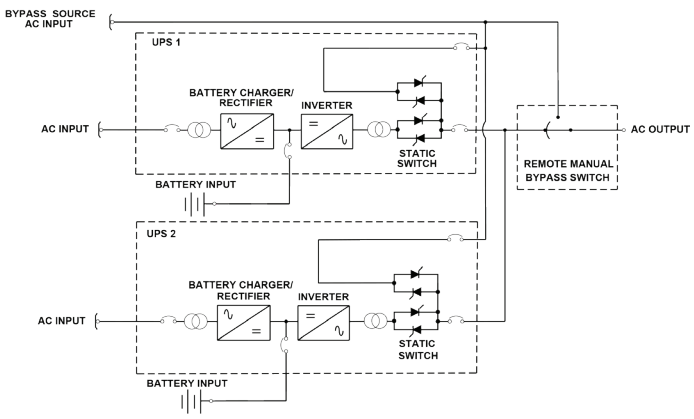
Style	H x W x D (inches)	H x W x D (mm)
GTD1Y[4]	79 x 24 x 36	2007 x 610 x 914

[4] Sidecar RMBS cabinet adds 14 inches (356 mm) of width to the standard 24 inch cabinet

STAND-ALONE UPS CONFIGURATION



PARALLEL REDUNDANT CONFIGURATION



3DPP+™

SPECIFICATIONS

General Specifications – Standard Features

System Measurements (Displayed on LCD Panel)
Total Number of Battery Discharges
Total Operational Time on Batteries
Average Time on Battery per Discharge
Historical Min/Max Battery Voltage
Recent Min/Max Battery Voltage
Total Operation Time on UPS
Total Operation Time on Bypass
Total Operation Time on Inverter

Metering (Displayed on LCD Panel)
DC Voltage
DC Battery Current (+/-)
AC Output Voltage
AC Output Current
AC Output Frequency
Charger/Rectifier Output Current
Battery Voltage (with Rectifier Configuration)

Circuit Breakers
AC Input (25 kAIC, minimum)
Battery Input (35 kAIC, minimum)
Bypass Input (25 kAIC, minimum)

Alarms - All displayed on LCD Alarm Panel with options for LEDs and Relays
R = Red LED[1] A=Amber LED Y=Relay

Fan Failure	R, Y
Charger Failure	R, Y
Low DC Voltage	R, Y
Low DC Disconnect	R, Y
Battery Breaker Open	R, Y
Battery Discharging	R, Y
Bypass Supplying Load	A, Y
Over Temperature	R, Y
ST/SW SCR Failure	R, Y
Bypass Failure	R, Y
Inverter Failure	R, Y
IGBT Desaturation	
Overload Shutdown	
Retransfer Blocked	

System Diagnostics – Displayed on LCD Alarm Panel
Loss of System Communication(s)
Power Supply Failure(s)

Standard Relays
Three standard relays are included in every unit: (1) UPS Trouble (2) Bypass Supply Load (3) Communication Failure Thirteen customer configurable additional relays are included in every UPS. Each relay has normally open and normally closed contacts rated for 120 VAC at 8 amps (30 VDC at 8 A; 125 VDC at 300 mA).

Applicable Standards, Codes and Regulations
NEMA PE-1
ANSI
ANSI/NFPA 70
IEEE
UL/C-UL (UL1778)
Unit Manufactured in ISO9001 Certified Facility

ISO 9001:2008 CERTIFICATION™
Intertek

General Specifications – Optional Features

Metering and System Measurements	(Opt. #)
AC Input Power (Voltage, Frequency, Current)	(111)
Bypass Input Frequency	(112)
Bypass Input Voltage	(113)
Output Power (kVA, kW, Power Factor)	(114)
% Inverter Loading	(115)
Inverter Output Voltage	(117)

Circuit Breaker	(Opt. #)
65 kAIC AC Input and Bypass Input	(82/85)
AC Output (Option 30R or 30RP must be selected)	(18)
Battery High Interrupt Breaker	(86)

Miscellaneous	(Opt. #)
Rectifier Configuration	(34)
Charger Output Blocking Diode	(29)
Charger Output Ripple Filter	(59)
Latching Alarms	(28)
Lamp Test	(35)
ESI (Essential System Indicator) Panel	(123)
Alarm Test	(132)
Precharge Circuit	(122)
Emergency Power Off	(129)
20% Spare Terminals	(96)
Drip Shield	(65)
Lifting Eye Bolts	(105)
Padlockable Circuit Breakers	(93)
PCB Conformal Coating	(127)
Fungus and Moisture Proof	(70)
Parallel Redundant Configuration	(136)
12 Pulse Charger (10% Reflected Harmonics)	
Isolated Sidecar Cabinet w/ MBS[2]	(30R)
Isolated Sidecar Cabinet w/ MBS & Padlock Device	(30RP)
Sodium Nickel Battery Compatible	(244)

Alarms (LCD)	(Option #)
Charger Overload	(119)
High DC Disconnect	(2)
Positive/Negative to Ground (2 relays)	(3)
High/Low Bypass Source Voltage	(7/6)
High/Low AC Output Voltage	(9/8)
AC Power Failure	(26)
AC Output Overload	(40)
High/Low Inverter Output Voltage	(41/42)
Out-of-Sync	(43)
Inverter Fuse Blown	(44)
Inverter Off Frequency	(45)
Bypass Off Frequency	(46)
Rectifier/Charger Fuse Blown	(67)
Battery Near Exhaustion	(60)
Low AC Input Voltage	(68)
High DC Voltage	(5)
MBS to Bypass	(84)
AC Input CB Open	(101)
Bypass Input CB Open	(103)
AC Output CB Open	(104)
High AC Input Voltage	(124)

Communications	(Option #)
Modbus RTU (RS485 Connection)	(187)
Ethernet Webpage	(187)
Modbus TCP	(187)
Consult Us for Additional Communications Options	

LED Indicators	(Color)	(Option #)
In Sync	(Green)	(230)
AC Input Available	(Green)	(14)
Bypass Available	(Green)	(15)
Inverter Available	(Green)	(47)
Charger Available	(Green)	(118)

Notes: [1]Select up to 8 additional LEDs of any color

General Specifications – Performance

Battery Charger/Rectifier	
AC Input	
Nominal Voltage[3]	208, 380, 415, 480, 600 VAC (3Ø)
Input Range	± 10% (- 15% without discharging)
Frequency	50 or 60 Hz ± 5%
DC Output	
DC Bus Voltage(s)	110, 120, 220 and 240 VDC
Regulation	± 1%
Ripple Voltage	< 1% with battery connected
Capacity	Sized to recharge a 30 minute battery to 95% of its rated capacity within 8 hours, while simultaneously supplying power to a fully loaded inverter
Float/Equalize	± 5% Adjustability

Inverter	
DC Input	
Nominal Voltage Range/ #of Cells (Lead Calcium Type)	110 V/55 (96-128 VDC) 120 V/60 (105-140 VDC) 220 V/110 (192-256 VDC) 240 V/120 (210-280 VDC)
AC Output	
Inverter/UPS Ratings	10-30 kVA
Power Factor	0.8 or 1.0
AC Output Voltage[3]	120/208, 220/380, 277/480 VAC
Regulation	± 1 %
Voltage Adjustment	± 5 %
Frequency	50 or 60 Hz; + 0.1%
Crest Factor	3:1
Total Harmonic Distortion (THD)	100% linear load < 3% 100% non-linear load < 5%
Transient Response	± 5% (0-100% load)
Recovery Time	< 50 millisecond to ± 1%
Overload Capacity	100% - continuous 125% - 10 minutes 150% - 1 minute

Mechanical	
Cooling	Aided Convection or Forced Air, depending on kVA rating and design
Cable Entry	Top or Bottom Entry Standard
Cabinet Rating	NEMA 1 / IP-20 (IP-21 with addition optional drip shield)

Static Switch	
Bypass Voltage	208, 380, 415, 480, 600 (3Ø)
Switch Type	Inversely paired set of SCRs (one set per leg)
Failure Mode	Automatically fails to Bypass
Transfer Time	Make Before Break
Sync Capture Range	0.5% to 1.5%
Slew Rate	1 Hz/sec to 10 Hz/sec (adjustable)
Overload Capability	125% continuous 150% for 10 minutes 200% for 1 minute 1000% for 1 cycle

Manual Bypass Switch[5]	
Voltage	208, 380, 415, 480, 600 (3Ø)
Mounting	Inside UPS/Inverter Enclosure
Positions	Two
Construction	600 VAC, rotary drum, make-before-break type
Transfer Time	Zero in both directions
Overload Capacity	125% continuous 150% for 10 minutes 200% for 1 minute 1000% for 1 cycle

Environmental	
Ambient Temperature	23 to 104°F (-5 to 40°C)
Relative Humidity	0-95% non-condensing
Operating Altitude	10000 feet (3048 meters)
Audible Noise[4]	65-72 dB(A) @ 4.9 feet (1.5 meter) typical
Mean Time Between Failure (MTBF)	> 205000 Hours

[2] Sidecar cabinet consists of an isolated cabinet that is mounted to the side of the main cabinet to provide isolation while main taining the UPS system
[3] Custom Input and Output Voltages available – Consult Us
[4] Addition of drip shield may increase the noise by 1-3 dB(A)