DPP/3DPP

Digital ProcessPower UPS

INDUSTRIAL PWM
UNINTERRUPTIBLE
POWER SUPPLY
SYSTEM

SINGLE PHASE

THREE PHASE

AMETEK®

SOLIDSTATE CONTROLS

PROVIDING CONTINUITY OF ELECTRICAL POWER

DPP/3DPP DIGITAL PROCESS POWER

Industrial Pulse Width Modulated Uninterruptible Power Supply System

DPP SINGLE PHASE 5-100 kVA

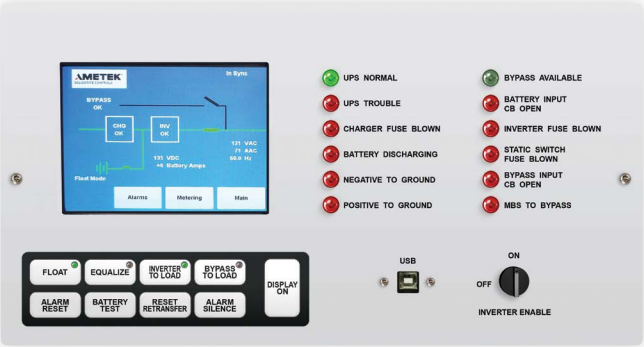
3DPP THREE PHASE 10-225 kVA

The Digital ProcessPower (DPP) Uninterruptible Power Supply (UPS) system from AMETEK Solidstate Controls is a true on-line, double conversion UPS system that provides continuous, clean, regulated power for critical AC loads. Designed specifically for process control and industrial applications, the DPP systems utilize state of the art Pulse Width Modulation (PWM) technology. PWM incorporates high power IGBT semiconductors and digital control for enhanced communications, monitoring, control and diagnostics capabilities.

Also essential to the DPP design is the use of fiber optic cables for control and communications; allowing for better isolation and faster, more accurate signals between processors. The DPP designs also include an LCD panel and user-friendly touch screen display for the ultimate user control.

- True on-line, double conversion UPS
- Provides continuous, clean, regulated power for critical AC loads
- High power IGBT semiconductors and digital control
- Fiber optic cables used for control and communications
- LCD panel and user-friendly touch screen display
- Digital ProcessPower has lower audible noise

The Power Behind the Process



PROCESSPOWER UPS SYSTEM LCD AND TOUCH SCREEN USER PANEL

Shown with optional indicator lights

Keypad Controls and Switches

- Float/Equalize Initialization with Light
- Battery Test Initialization
- Inverter to Load with Light
- Bypass to Load with Light
- Static Switch Reset Retransfer
- Latching Alarm Reset
- Audible Alarm Silence
- Display On
- Inverter Enable (On/Off) Switch

*Standard LED Indicators: UPS Normal and UPS Trouble

Standard LCD Panel Indicators

- Equalize Time Remaining
- Charger Status (OK/Fail)
- Float/Equalize Status
- Inverter Status (OK/Fail)
- Synchronism Status (In/Out of Sync)
- Static Switch Position (Inverter or Bypass)
- Manual Bypass Position (Normal or Bypass)
- Bypass Status (OK/Fail)

A Slimmer DPP

Our single phase DPP system is available in a compact slimmer cabinet while maintaining the reliability and quality you expect from AMETEK. This is designed for off-shore platforms and space-sensitive applications.

Save 8" in width and 8.5" in depth. The slimmer DPP offers the smallest footprint for industrial UPS systems!

Width 24" x Depth 27.5" x Height 79"

The slimmer DPP units are top cable entry only and come with an internal Manual Bypass Switch (MBS) as standard. An optional Remote Manual Bypass Switch (RMBS) can replace the internal MBS. This RMBS can be configured as a standalone wall mount device or paired with an isolation bypass transformer in a separate slimmer cabinet for a more simplified installation.

Input Parameters	
AC Input Voltage	208, 480 VAC
AC Input Phase	3 Ø
AC Input Frequency	60/50 Hz
AC Voltage Tolerance	± 10%
DC Bus Voltage	125, 250 VDC
Output Parameters	
Output Power	5-20 kVA
Power Factor	0.8
AC Output Voltage	120 VAC
AC Output Phase	1 Ø
AC Output Frequency	60/50 Hz

Additional sizes & voltages available. Please consult factory

System Configuration
AC Input Breaker
Bypass Input Breaker
Battery Input Breaker
Optional AC Output Breaker
Optional Inverter Output Breaker
Top-Cable Entry ONLY
6 or 12-Pulse Rectifier/Charger
Make-Before-Break Static Switch
Optional Remote Manual Bypass Switch (3 position)[1]

[1] Remote Manual Bypass Switch must be in an externally mounted device

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	
DPP005-[3]	5	4	92%	87%	11	25	14	44	42	23	21	GTD1X	765	347	3,403
DPP007-[3]	7.5	6	92%	87%	16	37	20	66	63	34	31	GTD1X	930	422	5,105
DPP010-[3]	10	8	92%	87%	21	48	26	88	83	46	42	GTD1X	1,100	499	6,807
DPP015-[3]	15	12	92%	87%	31	70	39	131	125	68	63	GTD1X	1,300	590	10,210
DPP020-[3]	20	16	93%	87%	40	92	50	175	167	91	83	GTD1X	1,500	680	12,881
DPP030-[3]	30	24	93%	87%	59	137	75	263	250	136	125	GTD2X	1,950	885	19,321
DPP040-[3]	40	32	93%	87%	78	181	99	350	333	182	167	GTD2X	2,050	930	25,761
DPP050-[3]	50	40	93%	87%	99	228	125	438	417	227	208	GTD2X	2,150	975	32,201

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	
DPP030-[3]	30	24	93%	89%	58	134	73	128	250	136	125	GTD1X	1,950	885	17,046
DPP040-[3]	40	32	94%	89%	76	176	97	171	333	182	167	GTD2X	2,050	930	21,325
DPP050-[3]	50	40	94%	89%	96	220	121	214	417	227	208	GTD2X	2,150	975	26,657
DPP060-[3]	60	48	94%	89%	119	276	151	257	500	273	250	GTD3X	2,550	1,157	31,988
DPP080-[3]	80	64	94%	89%	153	353	193	342	667	364	333	GTD3X	3,400	1,542	42,650
DPP100-[3]	100	80	94%	89%	191	441	241	428	833	455	417	GTD3X	4,900	2,227	53,313

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	
DPP005-[3]	5	5	92%	87%	15	35	20	55	42	23	21	GTD1X	940	426	4,254
DPP007-[3]	7.5	7.5	92%	87%	20	47	26	82	63	34	31	GTD1X	1,105	501	6,382
DPP010-[3]	10	10	92%	87%	30	70	39	109	83	45	42	GTD1X	1,300	590	8,509
DPP015-[3]	15	15	92%	87%	40	93	51	164	125	68	63	GTD1X	1,500	680	12,075
DPP020-[3]	20	20	93%	87%	60	139	76	219	167	91	83	GTD2X	1,950	885	16,101
DPP030-[3]	30	30	93%	87%	81	187	102	328	250	136	125	GTD2X	2,050	930	24,151
DPP040-[3]	40	40	93%	87%	99	228	125	438	333	182	167	GTD2X	2,150	975	32,201

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	
DPP030-[3]	30	30	93%	89%	77	178	98	161	250	136	125	GTD2X	2,050	930	19,992
DPP040-[3]	40	40	94%	89%	96	220	121	214	333	182	167	GTD2X	2,150	975	26,657
DPP050-[3]	50	50	94%	89%	119	276	151	268	417	227	208	GTD3X	2,550	1,157	33,321
DPP060-[3]	60	60	94%	89%	153	353	193	321	500	273	250	GTD3X	3,400	1,542	39,985
DPP080-[3]	80	80	94%	89%	191	441	241	428	667	364	333	GTD3X	4,900	2,227	53,313

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)				
600 – (60)						

[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: DPP010-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).

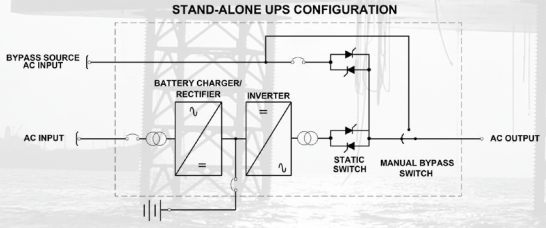
For Example: A 20 kVA with 480 VAC input; 120 VDC bus voltage; 120 VAC output; 60 Hz; 0.8 output power factor; 6 pulse charger; Float system would have the following model number: DPP020-48-12-12-60-K-S-F. For custom systems and for units which do not have a configurable model number, insert a 'C' in the model number as follows: DPP020C

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.

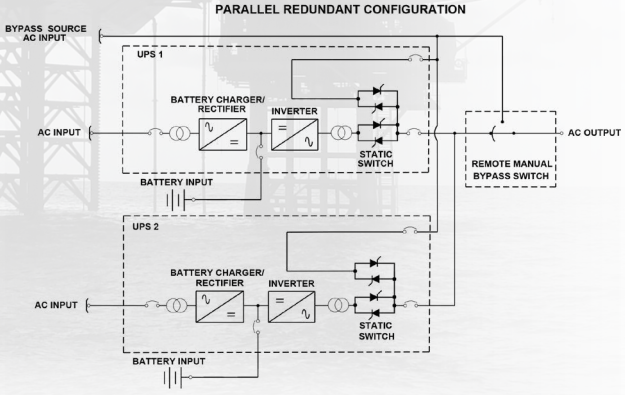
Cabinet Dimensions Inches Millimeters

Style	H x W x D	H x W x D
GTD1X	79 x 32 x 36	2,007 x 813 x 914
GTD2X	79 x 54 x 36	2,007 x 1,372 x 914
GTD3X	79 x 86 x 36	2,007 x 2,184 x 914
GTD4X	79 x 108 x 36	2,007 x 2,743 x 914
GTD5X	79 x 140 x 36	2,007 x 3,557 x 914

STAND-ALONE UPS CONFIGURATION



PARALLEL REDUNDANT CONFIGURATION



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 (14 kAIC, minimum)
Battery Input (10 kAIC, minimum)
Bypass Input (14 kAIC, minimum)

Alarms - All displayed on LCD Alarm Panel with options for LEDs and Relays

R = Red LED[4] A=Amber LED Y=Relay[5]		(Opt #)
Fan Failure	R, Y	(120)
Charger Failure	R, Y	(69)
Low DC Voltage	R, Y	(11)
Low DC Disconnect	R, Y	(107)
Battery Breaker Open	R, Y	(57)
Battery Discharging	R, Y	(197)
Bypass Supplying Load	A, Y	
Over Temperature	R, Y	(10)
ST/SW SCR Failure	R, Y	(228)
Bypass Failure	R, Y	(229)
Inverter Failure	R, Y	(58)
IGBT Desaturation		
Overload Shutdown		
Retransfer Blocked		

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

The following alarms also include one set of normally open and normally closed relay contacts rated for 120 VAC at 8 amps (30 VDC at 8 amps; 125 V at 300 mil):
UPS Trouble (Summary), Bypass Supplying Load, UPS Communications Failure (Summary)

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

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)
Inverter Output (Non-Automatic)	(17)
AC Output	(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 Confrormal Coating	(127)
Fungus and Moisture Proof	(70)
Parallel Redundant Configuration	(136)
12 Pulse Charger (10% Reflected Harmonics)	
Remote External MBS[1]	

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)

[4]Additional LED Indicators (1 green, 9 red allowed)
[5]Additional Relay Contacts (Max of 13 allowed)

General Specifications – Performance

Battery Charger/Rectifier	
AC Input	
Nominal Voltage[2]	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	< 2% 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	5-100 kVA
Power Factor	0.8 or 1.0
AC Output Voltage[2]	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 (fans standard for 40 kVA units and above)
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 1,000% for 1 cycle

Manual Bypass Switch[1]	
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 1,000% for 1 cycle

Environmental	
Ambient Temperature	23 to 104°F (-5 to 40°C)
Relative Humidity	0-95% non-condensing
Operating Altitude	10,000 feet (3,048 meters)
Audible Noise[3]	65-72 dB(A) @ 4.9 feet (1.5 meter) typical
Mean Time Between Failure (MTBF)	> 205,000 Hours

[1] Internal Manual Bypass Switch is normally removed when a Remote Manual Bypass Switch is selected
[2] Custom Input and Output Voltages available – Consult Us
[3] Addition of drip shield may increase the noise by 1-3 dB(A)

ISO 9001:2008 CERTIFICATION
Intertek

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	
3DPP010-[3]	10	8	92%	87%	48	21	17	26	88	28	12	15	GTD1X	1,100	499	6,807
3DPP015-[3]	15	12	92%	87%	70	31	24	39	131	42	18	23	GTD1X	1,300	590	10,210
3DPP020-[3]	20	16	93%	87%	92	40	32	50	175	56	24	30	GTD1X	1,500	680	12,880
3DPP030-[3]	30	24	93%	87%	137	59	47	75	263	83	36	46	GTD2X	1,950	885	19,321
3DPP040-[3]	40	32	93%	87%	181	78	63	99	350	111	48	61	GTD2X	2,050	930	25,761
3DPP050-[3]	50	40	93%	87%	228	99	79	125	438	139	60	76	GTD3X	2,150	1,315	32,201

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	
3DPP030-[3]	30	24	93%	89%	134	58	46	73	128	83	36	46	GTD1X	1,950	885	17,046
3DPP040-[3]	40	32	94%	89%	176	76	61	97	171	111	48	61	GTD2X	2,050	930	21,325
3DPP050-[3]	50	40	94%	89%	220	96	77	121	214	139	60	76	GTD2X	2,150	975	26,657
3DPP060-[3]	60	48	94%	89%	276	119	96	151	257	167	72	91	GTD2X	2,550	1,157	31,988
3DPP080-[3]	80	64	94%	89%	353	153	122	193	342	222	96	122	GTD2X	3,400	1,452	42,650
3DPP100-[3]	100	80	94%	89%	441	191	153	241	428	278	120	152	GTD4X	4,400	1,996	53,313
3DPP125-[3]	125	100	94%	89%	551	239	191	302	535	347	151	190	GTD4X	4,900	2,227	66,641
3DPP160-[3]	160	128	94%	89%	708	307	245	387	685	444	192	243	GTD4X	5,880	2,667	85,301

0.8 Load Power Factor at Rated kVA 360VDC (180 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	
3DPP200-[3]	200	160	94%	89%	885	383	307	484	571	555	241	304	GTD5X	7,060	3,203	106,626
3DPP225-[3]	225	180	94%	89%	995	431	345	545	642	625	271	342	GTD5X	8,470	3,842	119,954

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	
3DPP010-[3]	10	10	92%	87%	70	31	24	39	110	28	12	15	GTD1X	1,300	590	8,509
3DPP015-[3]	15	15	92%	87%	92	40	32	50	164	42	18	23	GTD1X	1,500	680	12,075
3DPP020-[3]	20	20	93%	87%	137	59	47	75	219	56	24	30	GTD2X	1,950	885	16,101
3DPP030-[3]	30	30	93%	87%	181	78	63	99	328	83	36	46	GTD2X	2,050	930	24,151
3DPP040-[3]	40	40	93%	87%	228	99	79	125	438	111	48	61	GTD3X	2,150	975	32,201

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	
3DPP030-[3]	30	30	93%	89%	176	76	61	97	161	83	36	46	GTD2X	2,050	930	19,992
3DPP040-[3]	40	40	94%	89%	220	96	77	121	214	111	48	61	GTD2X	2,150	975	26,657
3DPP050-[3]	50	50	94%	89%	276	119	95	151	268	139	60	76	GTD2X	2,550	1,157	33,321
3DPP060-[3]	60	60	94%	89%	353	153	122	193	321	167	72	91	GTD2X	3,400	1,542	39,985
3DPP080-[3]	80	80	94%	89%	441	191	153	241	428	222	96	122	GTD4X	4,400	1,996	53,313
3DPP100-[3]	100	100	94%	89%	551	239	191	302	535	278	120	152	GTD4X	4,900	2,227	66,641

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)	360 – (36)	220/380 – (38)				
380 – (38)						

[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.

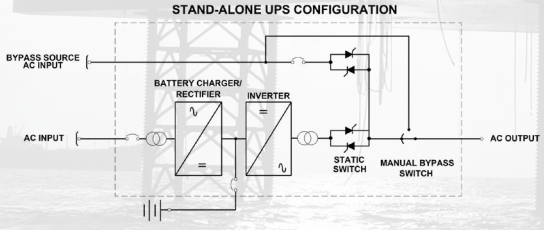
[3] A complete model number includes the AC input voltage, DC bus (link) voltage, AC output voltage, system frequency, output power factor, and UPS configuration. To "build" a model number, use the "code" in the matrix shown above, following the example format: 3DPP010-DD-EE-FF-GG-H-I-J; where DD=AC 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).

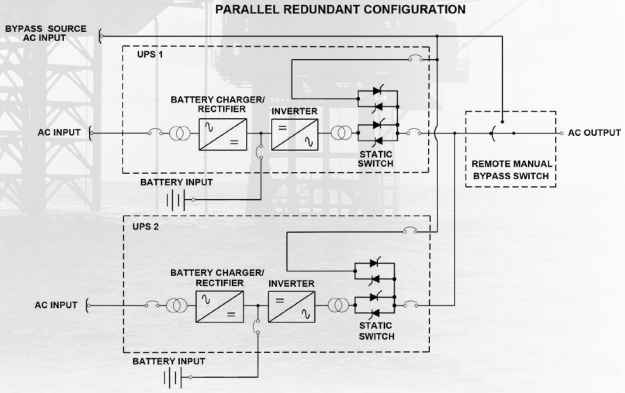
For Example: A 20 kVA with 480 VAC input; 120 VDC bus voltage; 120/208 VAC output; 60 Hz; 0.8 output power factor; 6 pulse charger; Float system would have the following model number: 3DPP020-48-12-20-60-K-S-F. For custom systems and for units which do not have a configurable model number, insert a 'C' in the model number as follows: 3DPP020C

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 Inches Millimeters

Style	H x W x D	H x W x D
GTD1X	79 x 32 x 36	2,007 x 813 x 914
GTD2X	79 x 54 x 36	2,007 x 1,372 x 914
GTD3X	79 x 86 x 36	2,007 x 2,184 x 914
GTD4X	79 x 108 x 36	2,007 x 2,743 x 914
GTD5X	79 x 140 x 36	2,007 x 3,557 x 914





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 (14 kAIC, minimum)
Battery Input (10 kAIC, minimum)
Bypass Input (14 kAIC, minimum)

Alarms - All displayed on LCD Alarm Panel with options for LEDs and Relays

R = Red LED[4] A=Amber LED Y=Relay[5]		(Opt #)
Fan Failure	R, Y	(120)
Charger Failure	R, Y	(69)
Low DC Voltage	R, Y	(11)
Low DC Disconnect	R, Y	(107)
Battery Breaker Open	R, Y	(57)
Battery Discharging	R, Y	(197)
Bypass Supplying Load	A, Y	
Over Temperature	R, Y	(10)
ST/SW SCR Failure	R, Y	(228)
Bypass Failure	R, Y	(229)
Inverter Failure	R, Y	(58)
IGBT Desaturation		
Overload Shutdown		
Retransfer Blocked		

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

The following alarms also include one set of normally open and normally closed relay contacts rated for 120 VAC at 8 amps (30 VDC at 8 amps; 125 V at 300 mil):
UPS Trouble (Summary), Bypass Supplying Load, UPS Communications Failure (Summary)

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

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)
Inverter Output (Non-Automatic)	(17)
AC Output	(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 Confrormal Coating	(127)
Fungus and Moisture Proof	(70)
Parallel Redundant Configuration	(136)
12 Pulse Charger (10% Reflected Harmonics)	
Remote External MBS[1]	

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)

[4]Additional LED Indicators (1 green, 9 red allowed)
[5]Additional Relay Contacts (Max of 13 allowed)

General Specifications – Performance

Battery Charger/Rectifier	
AC Input	
Nominal Voltage[2]	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, 240 and 360 VDC
Regulation	± 1%
Ripple Voltage	< 2% 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) 360 V/180 (315-419 VDC)
AC Output	
Inverter/UPS Ratings	10-225 kVA
Power Factor	0.8 or 1.0
AC Output Voltage[2]	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 (fans standard for 40 kVA units and above)
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 1,000% for 1 cycle

Manual Bypass Switch[1]	
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 1,000% for 1 cycle

Environmental	
Ambient Temperature	23 to 104°F (-5 to 40°C)
Relative Humidity	0-95% non-condensing
Operating Altitude	10,000 feet (3,048 meters)
Audible Noise[3]	65-72 dB(A) @ 4.9 feet (1.5 meter) typical
Mean Time Between Failure (MTBF)	> 205,000 Hours

[1] Internal Manual Bypass Switch is normally removed when a Remote Manual Bypass Switch is selected
[2] Custom Input and Output Voltages available – Consult Us
[3] Addition of drip shield may increase the noise by 1-3 dB(A)

ISO 9001:2008 CERTIFICATION ™
Intertek

SERVICE OPTIONS

AMETEK Solidstate Controls' products are known for their high quality. To keep them running smoothly, do not trust the maintenance of them to just anyone. No one will have the in-depth knowledge and familiarity as we do. We care about our products and we provide superior service agreements that ensure your critical power equipment continuously functions as designed.

We offer three levels of multi-year service agreements, designed to support our preventative maintenance schedules.

General Services	Basic	CSA[1]	CSA+[1]
Pre-Inspection Interview	Annually	Annually	Annually
Post-Inspection Interview	Annually	Annually	Annually
Detailed Service Report	Annually	Annually	Annually
UPS/Inverter/Charger Services	**Basic**	**CSA**	**CSA+**
Visual Inspection	Annually	Annually	Annually
Scheduled Parts Replacement	Every 5 Years	Annually	Annually
System Operational and Functional Testing	Every 5 Years	Annually	Annually
Infrared Scanning/Thermal Imaging	Optional	Annually	Annually
Battery Inspection & Continuity Test	**Basic**	**CSA**	**CSA+**
Visual Inspection	Annually	Annually	Annually
Individual Cell Voltages	Every 5 Years	Annually	Annually
Continuity Test	Every 5 Years	Annually	Annually
Inter-cell resistance	Optional	Optional	Annually
Specific Gravity	Optional	Optional	Annually
System AC Load testing	Optional	Optional	Annually
Battery Capacitance Discharge Testing per IEEE Recommended Schedule	Optional	Optional	Optional
Parts and Service Coverage	**Basic**	**CSA**	**CSA+**
Emergency Service Fee	Waived	Waived	Waived
Guaranteed Emergency Response Time	Not Specified	72 Hours[2]	24 Hours[2]
Minimum Repair Service Cost per Repair Trip	Waived	Waived	Waived
Parts Covered Under Warranty	Only PM parts covered	All Parts in System	All Parts in System
Transformers (Less than 20 years)	No Coverage	Covered	Covered
Travel and Living Expenses	Billed at cost	Covered	Covered
AMETEK Virtual Support	Subscription-Based	Covered	Covered
Labor	Standard Rates	Covered	Covered
Replacement System Manuals	$350 each	$175 each	No Cost
Financial Benefits	**Basic**	**CSA**	**CSA+**
Spare Parts Discount	5%	15%	20%
Annualized Pricing	Included	Included	Included
Discount on Training Seminars	None	25%	50%

[1] CSA and CSA+ meet factory recommended guidelines for preventative maintenance
[2] System restored to safe and stable condition

WORLD HEADQUARTERS
875 Dearborn Drive
Columbus, Ohio 43085
Phone: +1-614-846-7500
Toll Free: +1-800-635-7300
Fax: +1-614-885-3990

GLOBAL OFFICES LOCATED IN
Mexico
Asia Pacific
Brazil
Canada
Middle East
India
Argentina

WEBSITE
www.solidstatecontrolsinc.com

EMAIL
SCI.sales@AMETEK.com

AMETEK®
SOLIDSTATE CONTROLS

THE PURPOSE OF OUR BUSINESS IS TO PROVIDE CONTINUITY OF ELECTRICAL POWER TO KEEP BUSINESSES IN BUSINESS.

WE DO THIS BY HELPING CLIENTS SOLVE THEIR POWER PROBLEMS AND BY CREATING THE MOST ECONOMICAL LONG-TERM RESULTS.

REV 12/2025