

SmartOnline™ 3-Phase Intelligent, True On-Line UPS System Resource Documents

SmartOnline 3-Phase UPS Systems provide the most reliable solutions available for protecting and supporting critical systems in any environment: 10 - 80 kVA capacities; true on-line operation; zero transfer time, double-conversion topology; IGBT inverter technology; external batteries and extended runtime options.

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Everything needed to specify a Tripp Lite 3-Phase UPS System for any installation:

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Looking For More?

For the latest revisions of these resource documents, as well as additional resource materials...

- Visit Tripp Lite's website (www.tripplite.com)
- Call Tripp Lite's Application Services Department (773.869.1236)



1111 W. 35th Street, Chicago, IL 60609
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Specifications (Power Modules)

The power module includes the UPS system's control panel, communication ports and inverter/charger components. The power module delivers true on-line, pure sine wave power to connected equipment. The power module works with an external battery module to supply battery backup during a blackout. Additional battery modules are available separately for additional runtime.

208V Specifications

Model: **SU20K3/3** 20kVA Power Module and Battery Module

Input

Input Voltage	96-144/166-250V AC 3ph
Input Frequency	50/60 Hz +/- 3 Hz (auto-selectable)
Input Current (per phase on-line)	60A
Power Factor (full load)	> 0.95
Efficiency (full load/on-line)	> 89% (resistive)
Rectifier Circuit Breaker	200A
Input Bypass Circuit Breaker	200A

Output

VA	20,000
Watts (power factor 0.8)	16,000
Nominal Current	55.5A
Waveform (On-line)	Sine wave
Waveform (Battery)	Sine wave
Output Voltage (RMS)	120/208V
Output Frequency	50/60 Hz (auto-selectable) +/- 0.1 hz
Voltage Regulation	+/- 2%
THD (full load linear)	< 3%
Overload Capabilities	102% continuous; 125% 1 min.; > 150% 30 sec.
Crest Factor	3 : 1

Operation

On-Line Transfer Time	0 ms
Audible Noise	< 60 dBA @ 1 meter
Operating Elevation	0 to 1000m

Battery

Battery Type	Sealed, lead acid, 12V DC
Battery Quantity	20
Protection	2 x 125A/400V fuse
Full/Half Load Backup Time	12/29 minutes

Communications

Includes RS232, AS400 and status dry contact ports and an accessory slot

Environment

Ambient Operating Temperature	0°C - 40°C
Ambient Storage Temperature	-20°C - 40°C
Relative Humidity	< 90%

Connections

Input Terminal Block	100A
Output	100A
Battery Terminal	100A

Dimensions

Power Module (WDH)	15 x 26 x 34 in
Battery Module (WDH)	18 x 35.5 x 20 in
Power Module Weight	238 lb
Battery Module Weight	575 lb

Model: **SU30K3/3** 30kVA Power Module and Battery Module

Input

Input Voltage	96-144/166-250V AC 3ph
Input Frequency	50/60 Hz +/- 3 Hz (auto-selectable)
Input Current (per phase on-line)	90A
Power Factor (full load)	> 0.95
Efficiency (full load/on-line)	> 89% (resistive)
Rectifier Circuit Breaker	200A
Input Bypass Circuit Breaker	200A

Output

VA	30,000
Watts (power factor 0.8)	24,000
Nominal Current	83.3A
Waveform (On-line)	Sine wave
Waveform (Battery)	Sine wave
Output Voltage (RMS)	120/208V
Output Frequency	50/60 Hz (auto-selectable) +/- 0.1 hz
Voltage Regulation	+/- 2%
THD (full load linear)	< 3%
Overload Capabilities	102% continuous; 125% 1 min.; > 150% 30 sec.
Crest Factor	3 : 1

Operation

On-Line Transfer Time	0 ms
Audible Noise	< 60 dBA @ 1 meter
Operating Elevation	0 to 1000m

Battery

Battery Type	Sealed, lead acid, 12V DC
Battery Quantity	20
Protection	2 x 125A/400V fuse
Full/Half Load Backup Time	6/18 minutes

Communications

Includes RS232, AS400 and status dry contact ports and an accessory slot

Environment

Ambient Operating Temperature	0°C - 40°C
Ambient Storage Temperature	-20°C - 40°C
Relative Humidity	< 90%

Connections

Rectifier	100A
Output	100A
Battery Terminal	100A

Dimensions

Power Module (WDH)	15 x 26 x 34 in
Battery Module (WDH)	18 x 35.5 x 20 in
Power Module Weight	238 lb
Battery Module Weight	575 lb

Specifications (Power Modules) *continued*

380V Specifications

Model: **SU20K3/3X** 20kVA Power Module and Battery Module

Input

Input Voltage	156-280/270-485V AC 3ph
Input Frequency	50/60 Hz +/- 3 Hz (auto-selectable)
Input Current (per phase on-line)	30A
Power Factor (full load)	> 0.95
Efficiency (full load/on-line)	> 89% (resistive)
Rectifier Circuit Breaker	50A
Input Bypass Circuit Breaker	50A

Output

VA	20,000
Watts (power factor 0.8)	16,000
Nominal Current	30A
Waveform (On-line)	Sine wave
Waveform (Battery)	Sine wave
Output Voltage (RMS)	220/380V
Output Frequency	50/60 Hz (auto-selectable) +/- 0.1 hz
Voltage Regulation	+/- 2%
THD (full load linear)	< 3%
Overload Capabilities	102% continuous; 125% 1 min.; > 150% 30 sec.
Crest Factor	3 : 1

Operation

On-Line Transfer Time	0 ms
Audible Noise	< 60 dBA @ 1 meter
Operating Elevation	0 to 1000m

Battery

Battery Type	Sealed, lead acid, 12V DC
Battery Quantity	20
Protection	2 x 125A/400V fuse
Full/Half Load Backup Time	12/29 minutes

Communications

Includes RS232, AS400 and status dry contact ports and an accessory slot

Environment

Ambient Operating Temperature	0°C - 40°C
Ambient Storage Temperature	-20°C - 40°C
Relative Humidity	< 90%

Connections

Input Terminal Block	100A
Output	100A
Battery Terminal	100A

Dimensions

Power Module (WDH)	38 x 66 x 87 cm
Battery Module (WDH)	45.7 x 90.17 x 50.8 cm
Power Module Weight	108 kg
Battery Module Weight	261 kg

Model: **SU30K3/3X** 30kVA Power Module and Battery Module

Input

Input Voltage	156-280/270-485V AC 3ph
Input Frequency	50/60 Hz +/- 3 Hz (auto-selectable)
Input Current (per phase on-line)	45A
Power Factor (full load)	> 0.95
Efficiency (full load/on-line)	> 89% (resistive)
Rectifier Circuit Breaker	63A
Input Bypass Circuit Breaker	63A

Output

VA	30,000
Watts (power factor 0.8)	24,000
Nominal Current	45A
Waveform (On-line)	Sine wave
Waveform (Battery)	Sine wave
Output Voltage (RMS)	220/380V
Output Frequency	50/60 Hz (auto-selectable) +/- .1 hz
Voltage Regulation	+/- 2%
THD (full load linear)	< 3%
Overload Capabilities	102% continuous; 125% 1 min.; > 150% 30 sec.
Crest Factor	3 : 1

Operation

On-Line Transfer Time	0 ms
Audible Noise	< 60 dBA @ 1 meter
Operating Elevation	0 to 1000m

Battery

Battery Type	Sealed, lead acid, 12V DC
Battery Quantity	20
Protection	2 x 125A/400V fuse
Full/Half Load Backup Time	6/18 minutes

Communications

Includes RS232, AS400 and status dry contact ports and an accessory slot

Environment

Ambient Operating Temperature	0°C - 40°C
Ambient Storage Temperature	-20°C - 40°C
Relative Humidity	< 90%

Connections

Rectifier	100A
Output	100A
Battery Terminal	100A

Dimensions

Power Module (WDH)	38 x 66 x 87 cm
Battery Module (WDH)	45.7 x 90.17 x 50.8 cm
Power Module Weight	108 kg
Battery Module Weight	261 kg

Specifications (Power Modules) *continued*

380V Specifications

Model: **SU10K3/1X** 10kVA Power Module and Battery Module

Input

Input Voltage	270-485V, Y, 3Ø4W
Input Frequency	50/60 Hz +/- 3 Hz (selectable)
Input Current	15A
Inrush Current	< 200A
Power Factor (full load)	> 0.95
Efficiency (full load/on-line)	> 90%
Circuit Breakers	32A 3 pole (AC Input Breaker), 63A 1 pole (Bypass AC Input Breaker)

Output

VA	10,000
Watts (power factor 0.8)	8,000
Waveform (on-line)	Sine wave
Waveform (on-battery)	Sine wave
Output Voltage (RMS)	220/230/240V AC 1Ø2W
Output Frequency	50/60 Hz (+/- 0.2 Hz on battery)
Voltage Regulation	+/- 2%
Max. Harmonic Distortion (Non-Linear Full Load)	< 3%
Overload Capabilities	≤ 102% (continuous), 102% - 125% (1 min.), 125% - 150% (30 sec.), > 150% (2 sec.)
Short Circuit Capability	≥ 160A
Crest Factor	3 : 1

Battery

Battery Type	12V/9 AH
Battery Quantity	20
Protection	2 x 30A/600V fuse
Full/Half Load Backup Time	6+/18+ minutes

Operation

On-Line Transfer Time	0 ms
Audible Noise	< 55 dBA

Indicators

Includes an LCD Display and LEDs (AC Line In, AC to DC, DC to AC, AC Output, Battery Backup and Bypass)

Communications

Includes an RS232 DB9 female connector, an AS-400 DB9 female connector, a dry contact DB9 female connector and an accessory slot

Connections

Input Terminal Block	60A
Output Terminal Block	60A

Dimensions

Power Module (WDH)	28 x 63 x 56.5 cm
Battery Module (WDH)	13.3 x 57.2 x 44.5 cm
Power Module Weight	46 kg
Battery Module Weight	86 kg

Specifications (Power Modules) *continued*

400V Specifications

Model: **SU50K3/3INTPM** 50kVA Power Module

Input

Input Voltage	176-288 / 305-499 VAC
Input Frequency	50/60 Hz +/- 3 Hz (auto-selectable)
Input Current (per phase on-line)	86A rated, 103A max.
Efficiency (full load/on-line)	> 90% (resistive)
Rectifier Circuit Breaker	125A
Input Bypass Circuit Breaker	100A

Output

VA	50,000
Watts (power factor 0.8)	40,000
Nominal Current	72A
Waveform (On-Line)	Sine wave
Waveform (Battery)	Sine wave
Output Voltage (RMS)	230/400V
Output Frequency	50/60 Hz (auto-selectable) +/- 0.1 hz
Voltage Regulation	+/- 1%
Max THD	< 3%
Overload Capabilities	110% 60 min.; 125% 10 min.; 150% 1 min.
Inverter Efficiency	93.50%
Crest Factor	3 : 1

Operation

On-Line Transfer Time	0 ms
Audible Noise	< 65 dBA @ 1 meter
Operating Elevation	0 to 1000m

Communications

Includes RS232, RS485 and status dry contact connections and an accessory slot

Environment

Ambient Operating Temperature	0°C - 40°C
Ambient Storage Temperature	-20°C - 40°C
Relative Humidity	< 90%
Audible Noise	< 65 dBA @ 1.5 meter
Operating Elevation	0 to 1000m

Connections

Rectifier	125A/600V Breaker 3 pole
Bypass	100A/600V Breaker 3 pole
Reserve	100A/600V Breaker 3 pole
Output	100A/600V Breaker 3 pole
Battery Terminal	150A/600V 3 pin

Dimensions

Height	55.1 in / 140 cm
Width	23.6 in / 60 cm
Depth	31.5 cm / 80 cm
Weight	1,012 lb / 460 kg

Model: **SU80K3/3INTPM** 80kVA Power Module

Input

Input Voltage	176-288 / 305-499 VAC
Input Frequency	50/60 Hz +/- 3 Hz (auto-selectable)
Input Current (per phase on-line)	137A rated, 165A max
Efficiency (full load/on-line)	> 92% (resistive)
Rectifier Circuit Breaker	200A
Input Bypass Circuit Breaker	150A

Output

VA	80,000
Watts (power factor 0.8)	64,000
Nominal Current	116A
Waveform (On-Line)	Sine wave
Waveform (Battery)	Sine wave
Output Voltage (RMS)	230/400V
Output Frequency	50/60 Hz (auto-selectable) +/- 0.1 hz
Voltage Regulation	+/- 1%
Max THD	< 3%
Overload Capabilities	110% 60 min.; 125% 10 min.; 150% 1 min.
Inverter Efficiency	94.00%
Crest Factor	3 : 1

Operation

On-Line Transfer Time	0 ms
Audible Noise	< 65 dBA @ 1 meter
Operating Elevation	0 to 1000m

Communications

Includes RS232, RS485 and status dry contact connections and an accessory slot

Environment

Ambient Operating Temperature	0°C - 40°C
Ambient Storage Temperature	-20°C - 40°C
Relative Humidity	< 90%
Audible Noise	< 65 dBA @ 1.5 meter
Operating Elevation	0 to 1000m

Connections

Rectifier	200A/600V Breaker 3 pole
Bypass	150A/600V Breaker 3 pole
Reserve	150A/600V Breaker 3 pole
Output	150A/600V Breaker 3 pole
Battery Terminal	200A/600V

Dimensions

Height	55.1 in / 140 cm
Width	23.6 in / 60 cm
Depth	31.5 cm / 80 cm
Weight	1,155 lb / 525 kg

Specifications (Power Modules) *continued*

480V Specifications

Model: **SU50K3/3PM** 50kVA Power Module

Input

Input Voltage	221-332 / 384-576 VAC
Input Frequency	50/60 Hz +/- 3 Hz (auto-selectable)
Input Current (per phase on-line)	71A rated, 86A max.
Efficiency (full load/on-line)	> 89% (resistive)
Rectifier Circuit Breaker	100A
Input Bypass Circuit Breaker	75A

Output

VA	50,000
Watts (power factor 0.8)	40,000
Nominal Current	60A
Waveform (On-line)	Sine wave
Waveform (Battery)	Sine wave
Output Voltage (RMS)	277/480V
Output Frequency	50/60 Hz (auto-selectable) +/- 0.1 hz
Voltage Regulation	+/- 1%
Max THD	< 3%
Overload Capabilities	110% 60 min.; 125% 10 min.; 150% 1 min.
Crest Factor	3 : 1

Operation

On-Line Transfer Time	0 ms
Audible Noise	< 65 dBA @ 1 meter
Operating Elevation	0 to 1000m

Communications

Includes RS232, RS485 and status dry contact connections and an accessory slot

Environment

Ambient Operating Temperature	0°C - 40°C
Ambient Storage Temperature	-20°C - 40°C
Relative Humidity	< 90%
Audible Noise	< 65 dBA @ 1.5 meter
Operating Elevation	0 to 1000m

Connections

Rectifier	100A/600V Breaker 3 pole
Bypass	75A/600V Breaker 3 pole
Reserve	75A/600V Breaker 3 pole
Output	75A/600V Breaker 3 pole
Battery Terminal	150A/600V

Dimensions

Height	55.1 in / 140 cm
Width	23.6 in / 60 cm
Depth	31.5 in / 80 cm
Weight	1,276 lb / 580 kg

Model: **SU80K3/3PM** 80kVA Power Module

Input

Input Voltage	221-332 / 384-576 VAC
Input Frequency	50/60 Hz +/- 3 Hz (auto-selectable)
Input Current (per phase on-line)	114A rated, 137A max.
Efficiency (full load/on-line)	> 89% (resistive)
Rectifier Circuit Breaker	150A
Input Bypass Circuit Breaker	125A

Output

VA	80,000
Watts (power factor 0.8)	64,000
Nominal Current	96A
Waveform (On-line)	Sine wave
Waveform (Battery)	Sine wave
Output Voltage (RMS)	277/480V
Output Frequency	50/60 Hz (auto-selectable) +/- 0.1 hz
Voltage Regulation	+/- 1%
Max THD	< 3%
Overload Capabilities	110% 60 min.; 125% 10 min.; 150% 1 min.
Crest Factor	3 : 1

Operation

On-Line Transfer Time	0 ms
Audible Noise	< 65 dBA @ 1 meter
Operating Elevation	0 to 1000m

Communications

Includes RS232, RS485 and status dry contact connections and an accessory slot

Environment

Ambient Operating Temperature	0°C - 40°C
Ambient Storage Temperature	-20°C - 40°C
Relative Humidity	< 90%
Audible Noise	< 65 dBA @ 1.5 meter
Operating Elevation	0 to 1000m

Connections

Rectifier	150A/600V Breaker 3 pole
Bypass	125A/600V Breaker 3 pole
Reserve	125A/600V Breaker 3 pole
Output	125A/600V Breaker 3 pole
Battery Terminal	150A/600V

Dimensions

Height	66.9 in / 170 cm
Width	31.5 in / 80 cm
Depth	32.7 in / 83 cm
Weight	1,540 lb / 700 kg

Specifications (External Battery Modules)

All Tripp Lite 3-Phase UPS Systems feature external battery connectors to accept optional external batteries for additional runtime. 10kVA, 20kVA and 30kVA models include a single battery module (standard), but will accept multiple battery modules (available separately). 50kVA and 80kVA models do not include a battery module, but will accept multiple battery modules (available separately).

240V DC External Battery Module Specifications.

Compatibility: **20kVA & 30kVA Models Only**

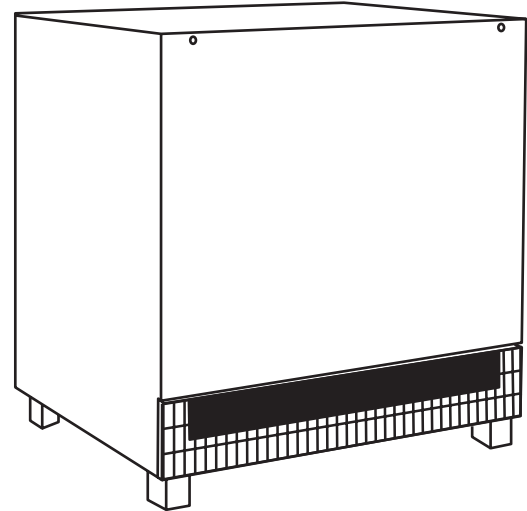
Model Numbers: **BP240V99, BP240V120, BP240V120-7C and BP240V150**

Features and Benefits

- UL listed.
- Factory pre-wired and ready for installation.
- Fully vented and meets NEMA 1 standard.
- Removeable top and sides for ease of installation and maintenance.
- Fused for overcurrent protection.
- Ground stud provided.
- Knock-outs on sides and in bottom.
- UBC Seismic zone 4 certified.
- Neoprene insulation between batteries and rails.
- Adjustable rails to accommodate multiple rows of batteries.
- Shipped bolted to a heavy-duty pallet.
- Batteries strapped to rails.
- Fork lift access from four directions.
- Chip and corrosion resistant powder coating.
- Black color.

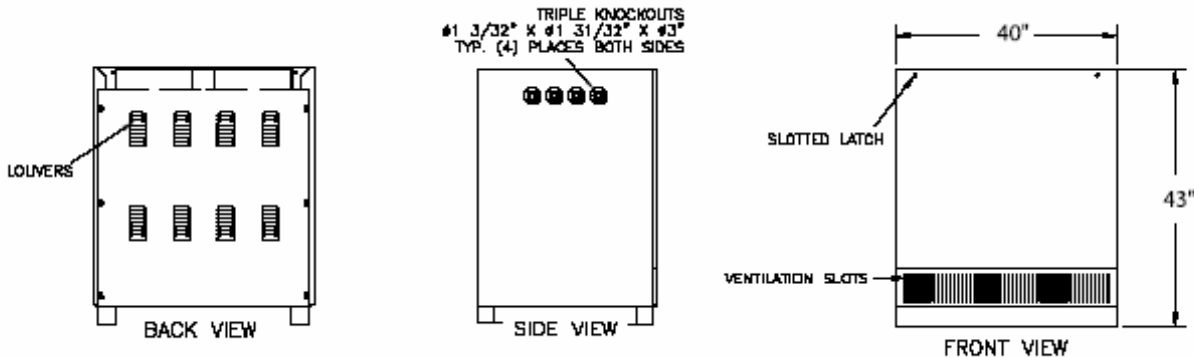
Available Options

- Casters for ease of installation.
- Chargers for extended runtime systems.
- Circuit breakers and accessories sized to meet your load requirements.
- Custom colors and cabinets designed to match existing equipment.
- Floor loading plates for weight distribution.
- Blocking diodes for feedback protection and isolation.
- Seismic anchor bolt kits.



DIMENSIONS and WEIGHT

Height	43 in / 1092 mm
Width	40 in / 1016 mm
Depth	32.5 in / 826 mm
Weight	326 lb / 149 kg



Specifications (External Battery Modules) *continued*

348V DC External Battery Module Specifications.

Compatibility: 50kVA & 80kVA Models Only

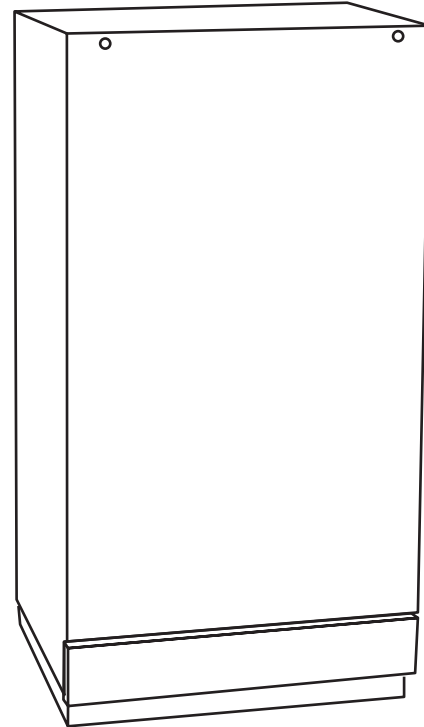
Model Numbers: BP348V33, BP348V66, BP348V99, BP348V120 and BP348V150

Features and Benefits

- UL listed.
- Factory pre-wired and ready for installation.
- Fully vented and meets NEMA 1 standard.
- Removeable top and sides for ease of installation and maintenance.
- Fused for overcurrent protection.
- Ground stud provided.
- Knock-outs on sides and in bottom.
- UBC Seismic zone 4 certified.
- Neoprene insulation between batteries and rails.
- Adjustable rails to accommodate multiple rows of batteries.
- Shipped bolted to a heavy-duty pallet.
- Batteries strapped to rails.
- Fork lift access from four directions.
- Chip and corrosion resistant powder coating.
- Black color.

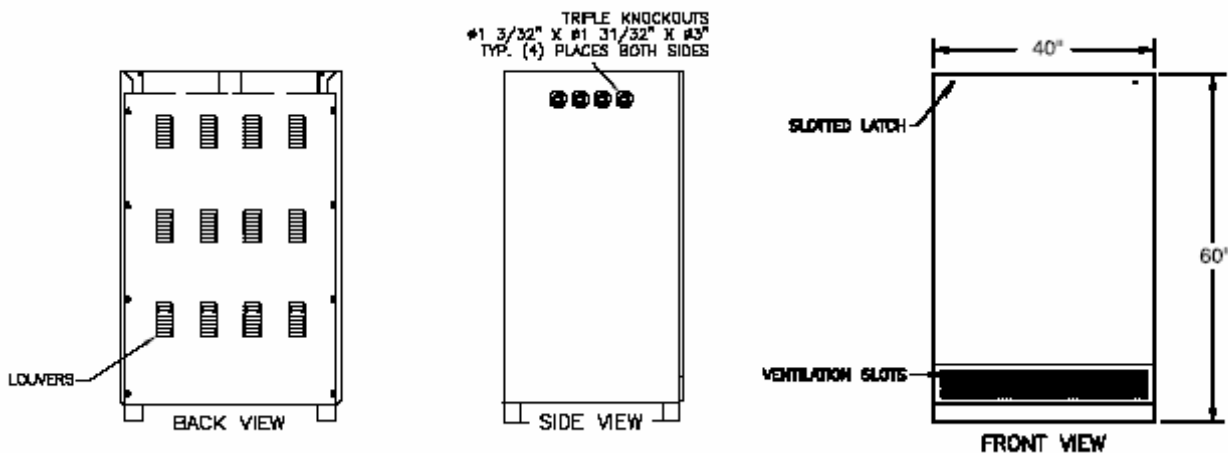
Available Options

- Casters for ease of installation.
- Chargers for extended runtime systems.
- Circuit breakers and accessories sized to meet your load requirements.
- Custom colors and cabinets designed to match existing equipment.
- Floor loading plates for weight distribution.
- Blocking diodes for feedback protection and isolation.
- Seismic anchor bolt kits.



DIMENSIONS and WEIGHT

Height	60 in / 1524 mm
Width	40 in / 1016 mm
Depth	32.5 in / 826 mm
Weight	442 lb / 200 kg



Runtime Charts (External Battery Modules)

All Tripp Lite 3-Phase UPS Systems feature external battery connectors to accept optional external batteries for additional runtime. 10kVA, 20kVA and 30kVA models include a single battery module (standard), but will accept multiple battery modules (available separately). 50kVA and 80kVA models do not include a battery module, but will accept multiple battery modules (available separately).

240V DC Battery Runtime Chart (Minutes)

Battery Module	Quantity	Dimensions W x D x H	System Weight lb / kg	SU20K3/3PM		SU30K3/3PM	
				Full Load	Half Load	Full Load	Half Load
BP240V33*	1	17.5 x 35.5 x 20 in	575 / 261.4	12	29	6	18
BP240V33**	2	44.5 x 90.2 x 50.8 cm	1,150 / 522.8	29	70	18	38
BP240V99	1	101.6 x 82.6 x 109 cm 40 x 32.5 x 43 in	1,674 / 802	44	110	26	66
BP240V120	1		1,900 / 864	53	136	31	79
BP240V120-7C	1		1,915 / 870	53	136	31	79
BP240V150	1		2,328 / 1,058	69	197	48	103
BP240V99	2		each cabinet 101.6 x 82.6 x 109 cm 40 x 32.5 x 43 in	3,348 / 1,604	108	266	63
BP240V120	2	3,800 / 1,728		135	322	76	193
BP240V150†	2	4,656 / 2,116		195	435	99	271
BP240V120†	3	5,700 / 2,592		225	518	135	322
BP240V150†	3	6,984 / 3,174		308	685	195	435

* Cabinets in stock, battery cables included. Other manufacturers have 4-week lead times and battery cables not included. Consult Tripp Lite for longer runtimes.

** Requires BPMULTI to daisy-chain batteries together.

† Chargers should be added to these systems to reduce recharge times. Consult Tripp Lite.

348V DC Battery Runtime Chart (Minutes)

Battery Module	Quantity	Dimensions W x D x H	System Weight lb / kg	SU50K3/3PM		SU80K3/3PM	
				@ 40kVA	@ 50kVA	@ 60kVA	@ 80kVA
BP348V33*	1	101.6 x 82.6 x 152.4 cm 40 x 32.5 x 60 in	1,100 / 500	7	4	-	-
BP348V66*	1		1,963 / 892	13	8	5	4
BP348V90	1		2,260 / 1,027	24	18	13	8
BP348V99	1		2,599 / 1,182	28	21	16	10
BP348V120	1		2,803 / 1,274	35	26	20	13
BP348V150	1		3,445 / 1,566	53	39	30	21
BP348V99	2	2 of above	5,118 / 1,784	70	53	41	28
BP348V120	2	"	5,606 / 2,548	86	64	51	35
BP348V150	2	"	6,890 / 3,132	125	85	68	53
BP348V120	3	3 of above	8,409 / 3,822	150	111	86	59
BP348V150	3	"	10,335 / 4,698	217	162	125	76

* Cabinets in stock. Other manufacturers require 5-6 weeks. Battery cables not included.

Site Planning Data Sheets

Contact Tripp Lite's Application Services Department (773) 869-1236 for comprehensive assistance specifying and planning for your particular application. The following Site Planning Data Sheets provide an overview to aid in planning.

208V Site Planning Data Sheet

UPS 20 & 30kVA 120/208VAC

UPS Rating		Voltage		AC Input			Battery			AC Output		Mechanical Data				
kVA	kW	Input	Output	Current A		Rec. Ext. OCPD	Min. Input AWG	Float VDC	KW	Max. Dis-charge	Nom.	OCPD	Dimensions (W x D x H, in)	Weight (lb)	Heat Dis. (BTU/hr)	Cooling Air CFM (m3/hr)
				Nom.	Max.											
20	16	208/ 60Hz	120/208	53A	60A	75A	6 AWG	274	17.8	89A	56A	75A	15 x 25.6 x 34	244.2	6743	482 (820)
30	24	208/ 60Hz	120/208	79A	90A	100A	4 AWG	274	26.7	133A	83A	100A	15 x 25.6 x 34	259.6	10115	587 (998)
See Notes for Table Below:				1	2,3,4,5	6	3,4	7		1,3,4,5	1,3,4,5	6	8	8		

Notes For Table

- Nominal (Nom) current is based on full rated output load.
- Maximum (Max) current is of short duration for battery recharge.
- Input, bypass and output cables to be run in separate conduit. Not more than 3 conductors in raceway assumed; ambient temperature of 86°F.
- Wiring Requirements: (Copper conductors. Consult NEC handbook and local codes.)
AC input: 3-phase, 4 wire, plus ground
AC output: 3-phase, 4 wire, plus ground
- Control and power wiring must be run in separate conduit.
- Over Current Protection Device (OCPD) recommended represents 125% of nominal full load current (continuous) per NEC 215.
- Nominal battery voltage is shown at 2.0 volts/cell per NEC 480-2.
- Dimensions and weight do not include battery module.
- All wiring is to be in accordance with national and local electric codes.
- Minimum access clearance is 3 ft. front, 1 in. sides, 6 in. rear, and 24 in. top.
- It is recommended that 3 ft. of flex cable be installed for AC input and output for ease of access and maintenance.
- Minimum sized grounding conductors per NEC 250-122. Parity-sized ground conductors are recommended. Neutral conductors to be sized for full capacity per NEC 310-15(b)(4). References are per NEC 1999.
- Cable entry from lower rear of UPS.
- If site conditions include a generator, consult generator manufacturer for required generator options and sizing.
- If site configuration requires an external maintenance bypass, care must be taken to ensure phase parity between UPS input and UPS bypass. Consult Tripp Lite applications engineer.
- RATINGS FOR OVERCURRENT DEVICES AND CABLES SUPPLIED IN THIS DOCUMENT ARE FOR INFORMATIONAL PURPOSES ONLY. USER SHOULD CONSULT WITH ITS ENGINEERING SERVICES BEFORE ADOPTING.**

Site Planning Data Sheets continued

International 380V Site Planning Data Sheet

UPS 10, 20, 30, 50, 80, 100, 120 & 200kVA, 50Hz, 220/380VAC

UPS Rating		Voltage		AC Input			Battery			AC Output		Mechanical Data				
kVA	kW	Input	Output	Current A		Rec. Ext. OCPD	Min. Input mm ²	Float VDC	KW	Max. Dis-charge	Nom.	OCPD	Dimensions (W x D x H, cm)	Weight (kg)	Heat Dis. (BTU/hr)	Cooling Air CFM (m3/hr)
				Nom.	Max.											
10	8	380/50Hz	220 1ph	14/45A	16/47A	32/63A	6/14	274	9.1	45.5A	45A	N/A	28 x 63 x 56.5	46	3034	327(557)
20	16	380/50Hz	220/380	28A	30A	50A	8	274	18.2	91A	30A	50A	38 x 66 x 87	151	6067	442(752)
30	24	380/50Hz	220/380	43A	45A	63A	14	274	27.3	136.5A	46A	63A	38 x 66 x 87	151	9101	489(832)
NT Series																
50	40	380/ 50Hz	220/380	90A	108A	150A	38	393	44.5	148A	76A	100A	60 x 80 x 140	460	13501	1024(1740)
80	64	380/ 50Hz	220/380	144A	172A	225A	50	393	71.2	237A	121A	150A	60 x 80 x 140	525	18993	1024(1740)
* 100	80	380/ 50Hz	220/380	180A	216A	225A	80	393	85.1	284A	152A	200A	80 x 83 x 170	700	23742	1567(2664)
* 120	96	380/ 50Hz	220/380	215A	258A	300A	125	393	106.8	356A	182A	225A	80 x 83 x 170	752	28490	1567(2664)
* 160	128	380/ 50Hz	220/380	288A	345A	350A	185	393	136.2	454A	242A	300A	120 x 83 x 170	1,050	35420	2161(3673)
* 200	160	380/ 50Hz	220/380	359A	431A	500A	80 x 2	393	170.2	567A	303A	400A	120 x 83 x 170	1,088	44275	2161(3673)
See Notes for Table Below:				1	2,3,4,5	6	3,4	7		1,3,4,5	1,3,4,5	6	8	8		

* These UPS Systems are non-stocked items. Contact Tripp Lite for details.

Notes For Table

- 1) Nominal (Nom) current is based on full rated output load.
- 2) Maximum (Max) current is of short duration for battery recharge.
- 3) Input, bypass and output cables to be run in separate conduit. Not more than 3 conductors in raceway assumed; ambient temperature of 30°C.
- 4) Wiring Requirements: (Copper conductors. Consult NEC handbook and local codes.)
 AC input: 3-phase 4 wire, Plus Ground
 AC output: 3-phase, 4 wire, plus ground
 AC output: 1-phase, 2 wire, plus ground (for N-series 3/1 model)
- 5) Control and power wiring must be run in separate conduit.
- 6) Over Current Protection Device (OCPD) recommended represents 125% of nominal full load current (continuous) per NEC 215.
- 7) Nominal battery voltage is shown at 2.0 volts/cell per NEC 480-2.
- 8) Dimensions and weight do not include battery module.
- 9) All wiring is to be in accordance with national and local electric codes.
- 10) Minimum access clearance is 91.4 cm front, 2.5 cm Sides, 15.2 cm Rear, and 61 cm top. 50kVA and higher require 61 cm rear, 30.5 cm sides, 91.4 cm top and 91.4 cm front clearance.
- 11) It is recommended that 91.4 cm of flex cable be installed for AC input and output for ease of access and maintenance.
- 12) Minimum sized grounding conductors per NEC 250-122. Parity-sized ground conductors are recommended. Neutral conductors to be sized for full capacity per NEC 310-15(b)(4). References are per NEC 1999.
- 13) Cable entry from lower rear of UPS.
- 14) If site conditions include a generator, consult generator manufacturer for required generator options and sizing.
- 15) If site configuration requires an external maintenance bypass, care must be taken to ensure phase parity between UPS input and UPS bypass. Consult Tripp Lite applications engineer.
- 16) **RATINGS FOR OVERCURRENT DEVICES AND CABLES SUPPLIED IN THIS DOCUMENT ARE FOR INFORMATIONAL PURPOSES ONLY. USER SHOULD CONSULT WITH ITS ENGINEERING SERVICES BEFORE ADOPTING.**

Site Planning Data Sheets continued

International 208 & 480V Site Planning Data Sheet

UPS 20 & 30kVA 120/208VAC – 50 & 80kVA 277/480VAC, 60Hz

UPS Rating		Voltage		AC Input				Battery			AC Output		Mechanical Data			
kVA	kW	Input	Output	Current A		Rec. Ext. OCPD	Min. Input AWG	Float VDC	KW	Max. Dis-charge	Nom.	OCPD	Dimensions (W x D x H, in)	Weight (lb)	Heat Dis. (BTU/hr)	Cooling Air CFM (m3/hr)
				Nom.	Max.											
20	16	208/ 60Hz	120/208	53A	60A	75A	6 AWG	274	17.8	89A	56A	75A	15 x 25.6 x 34	244.2	6743	482 (820)
30	24	208/ 60Hz	120/208	79A	90A	100A	4 AWG	274	26.7	133A	83A	100A	15 x 25.6 x 34	259.6	10115	587 (998)
NT Series UPS																
50	40	480/ 60Hz	277/480	71A	86A	125A	2 AWG	393	44.5	148A	60A	75A	24 x 32 x 55	1,276	16873	1129(1920)
80	64	480/ 60Hz	277/480	114A	137A	175A	0 AWG	393	71.2	237A	96A	125A	32 x 33 x 67	1,540	24269	1567(2664)
* 100	80	480/ 60Hz	277/480	143A	171A	200A	0 AWG	393	85.1	284A	121A	150A	47.25 x 33 x 67	1,925	27933	2161(3673)
* 120	96	480/ 60Hz	277/480	171A	205A	225A	000 AWG	393	103.2	344A	145A	225A	47.25 x 33 x 67	2,048	33525	2161(3673)
* 160	128	480/ 60Hz	277/480	228A	274A	300A	0000 AWG	393	136.2	454A	193A	300A	47.25 x 33 x 67	2,882	48540	2161(3673)
* 200	160	480/ 60Hz	277/480	285A	342A	350A	300MCM	393	170.2	567A	241A	350A	47.25 x 33 x 67	2,970	54008	2161(3673)
See Notes for Table Below:				1	2,3,4,5	6	3,4	7		1,3,4,5	1,3,4,5	6	8	8		

* These UPS Systems are non-stocked items. Contact Tripp Lite for details.

Notes For Table

- 1) Nominal (Nom) current is based on full rated output load.
- 2) Maximum (Max) current is of short duration for battery recharge.
- 3) Input, bypass and output cables to be run in separate conduit. Not more than 3 conductors in raceway assumed; ambient temperature of 86°F.
- 4) Wiring Requirements: (Copper conductors. Consult NEC handbook and local codes.)
 AC input: 3-phase, 4 wire, plus ground
 AC output: 3-phase, 4 wire, plus ground
- 5) Control and power wiring must be run in separate conduit.
- 6) Over Current Protection Device (OCPD) recommended represents 125% of nominal full load current (continuous) per NEC 215.
- 7) Nominal battery voltage is shown at 2.0 volts/cell per NEC 480-2.
- 8) Dimensions and weight do not include battery module.
- 9) All wiring is to be in accordance with national and local electric codes.
- 10) Minimum access clearance is 3 ft. front, 1 in. sides, 6 in. rear, and 24 in. top. 50kVA and higher require 2 ft. rear, 1 ft. sides, 3 ft. top and 3 ft. front clearance
- 11) It is recommended that 3 ft. of flex cable be installed for AC input and output for ease of access and maintenance.
- 12) Minimum sized grounding conductors per NEC 250-122. Parity-sized ground conductors are recommended. Neutral conductors to be sized for full capacity per NEC 310-15(b)(4). References are per NEC 1999.
- 13) Cable entry from lower rear of UPS.
- 14) If site conditions include a generator, consult generator manufacturer for required generator options and sizing.
- 15) If site configuration requires an external maintenance bypass, care must be taken to ensure phase parity between UPS input and UPS bypass. Consult Tripp Lite applications engineer.
- 16) **RATINGS FOR OVERCURRENT DEVICES AND CABLES SUPPLIED IN THIS DOCUMENT ARE FOR INFORMATIONAL PURPOSES ONLY. USER SHOULD CONSULT WITH ITS ENGINEERING SERVICES BEFORE ADOPTING.**

Part Number List

Whether you are ordering additional power modules for redundancy, additional battery modules for extended runtime or service programs for peace-of-mind, Tripp Lite provides a solution for all your needs.

208V AC Part Number List

UPS Systems	Dimensions (W x D x H in.)	Weight (lb)	Description
SU20K3/3 (Power Module & Battery Module)	Power Module 15 x 26 x 34 Battery Module 18 x 35.5 x 20	238 575	20kVA UPS, 208V in/out 12 minute battery runtime standard.
SU20K3/3PM	15 x 26 x 34	238	Power module only.
SU30K3/3 (Power Module & Battery Module)	Power Module 15 x 26 x 34 Battery Module 18 x 35.5 x 20	238 575	30kVA UPS, 208V in/out, 6 minute battery runtime standard.
SU30K3/3PM	15 x 26 x 34	238	Power module only.
Extra Battery Module*			
BP240V33	18 x 35.5 x 20	575	Extra module provides 29 minutes for 20kVA and 18 minutes for 30kVA @ full load.
BP240V99+	40 x 32.5 x 43	1,674	Provides 42 minutes (20kVA) or 29 minutes (30kVA) runtime @ full load.
BP240V120+	40 x 32.5 x 43	1,900	Provides 50 minutes (20kVA) or 32 minutes (30kVA) runtime @ full load.
BP240V120-7C+	40 x 32.5 x 43	1,915	Includes internal charger, providing 50 minutes (20kVA) or 32 minutes (30kVA) @ full load.
BP240V150+	40 x 32.5 x 43	2,328	Provides 9 minutes (20kVA) or 48 minutes (30kVA) runtime @ full load.
BPMULTI		5	Used for daisy chain of multiple BP240V33 battery modules.
Accessories			
SU20KMBP	24 x 9 x 37	135	Wall mounted maintenance bypass panel with (3) 80 amp breakers, copper bus, 18kaic.
SU30KMBP	30 x 12 x 42	190	Wall mounted maintenance bypass panel with (3) 100 amp breakers, copper bus, 65kaic.
SNMPWEBCARD			Internal card connects power module to the Internet.
ENVIROSENSE			Temperature/humidity sensor for battery cabinet (requires SNMPWEBCARD).
Start-Up Service			
W3STRTUP20			For 20kVA models. Monday - Friday, 8 am CST - 5 pm CST.
W3STRTUP30			For 30kVA models. Monday - Friday, 8 am CST - 5 pm CST.
W3STRTUP-OFFHRS			Includes weekends & holidays.
W3STRTUP-ZONE2			Add on for service beyond 200 miles from service center. Contact Tripp Lite.
Preventive Maintenance Service			
W3OSPM20B1			For 20kVA models. 1 battery string. Monday - Friday, 8 am CST - 5 pm CST.
W3OSPM30B1			For 30kVA models. 1 battery string. Monday - Friday, 8 am CST - 5 pm CST.
W3OSPM-OFFHRS			Includes weekends & holidays.
B2, B3, etc			Change to reflect additional battery strings.
Extended Warranties		20kVA	30kVA
W3OSWAR202	Additional year.	W3OSWAR302	Additional year.
W3OSWAR203	Two additional years.	W3OSWAR303	Two additional years.
W3OSWAR204	3 additional (4 total years).	W3OSWAR304	3 additional (4 total years).

* Custom battery modules are available for extended runtime.

+ 3-4 week lead time

Part Number List *continued*

380V, 400V, 480V AC 3-Phase Part Number List

UPS Systems	Dimensions (W x D x H in.)	Weight (lb.)	Description
SU10K3/1X	Power Module 11 x 24.8 x 22.3 17.5 x 22.5 x 5.25	102 44	10kVA UPS 3ph. 280V input, 220V 1ph. output, with 29 minute battery runtime standard.
SU20K3/3X (Power Module & Battery Module)	Power Module 15 x 26 x 34 Battery Module 18 x 35.5 x 20	238 575	20kVA UPS, 208V in/out 12 minute battery runtime standard.
SU20K3/3INTPM	18 x 26 x 34	238	Power module only.
SU30K3/3X (Power Module & Battery Module)	Power Module 15 x 26 x 34 Battery Module 18 x 35.5 x 20	238 575	30kVA UPS, 208V in/out, 6 minute battery runtime standard.
SU30K3/3INTPM	15 x 26 x 34	238	Power module only.
SU50K3/3INTPM	24 x 32 x 56	1,012	50kVA Power module only 400V in/out.
SU50K3/3PM+	23.6 x 31.5 x 55.1	1,276	50kVA Power module only 480V in/out.
SU80K3/3INTPM	24 x 32 x 56	1,155	80kVA power module only 400V in/out.
SU80K3/3PM+	31.5 x 32.7 x 66.9	1,540	80kVA power module only 480V in/out.
Extra Battery Module*			
BP240V33	15 x 35.5 x 20	575	Extra module provides 29 minutes for 20kVA and 18 minutes for 30kVA @ full load.
BP240V66*	40 x 32.5 x 43	1,225	Provides 29 minutes (20kVA) or 16 minutes (30kVA) runtime @ full load.
BP240V99*	40 x 32.5 x 43	1,725	Provides 42 minutes (20kVA) or 29 minutes (30kVA) runtime @ full load.
BP240V120*	40 x 32.5 x 43	1,900	Provides 50 minutes (20kVA) or 32 minutes (30kVA) runtime @ full load.
BP240V120-7C	40 x 32.5 x 43	1,908	Includes internal charger, providing 50 minutes (20kVA) or 32 minutes (30kVA) @ full load.
BPMULTI		5	Used for daisy chain of multiple BP240V33 battery modules.
BP348V33	40 x 33 x 60		Provides 4 minutes at 50kVA load.
BP348V66	40 x 33 x 60		Provides 5 minutes at 80kVA load or 14 minutes at 50kVA load.
Accessories			
SU20KMBP**	24 x 9 x 37	135	Wall mounted maintenance bypass panel with (3) 80 amp breakers, copper bus, 18kaic 208V only.
SU30KMBP**	30 x 12 x 42	190	Wall mounted maintenance bypass panel with (3) 100 amp breakers, copper bus, 65kaic 208V only.
SNMPWEBCARD			Internal card connects power module to the Internet.
ENVIROSENSE			Temperature/humidity sensor for battery cabinet (requires SNMPWEBCARD).

* 4-5 week lead time. Cable provided by others.

** rated for 208V product only

+ These products only carry CE listing

Parts Kit Lists (for 208V Models Only)

Tripp Lite Parts Kits provide a convenient source for replacement parts.

20kVA DOMESTIC (208V) PARTS KIT LIST

Part number	Description	UPS Qty.	Kit Qty.
Group A 430597	Fuse 200A, 150VAC, Input	3	2
430598	Fuse 250A, 150VAC, Bypass	3	2
430577	Fuse F/T 125A 660V Terminal	3	2
430569	FUSE,125AMP,400V,EURO IEC,A, (BP240V33)	2	2
Group B 510137	DC FAN 12V 0.30A 1.06 37db 8cm, Base Case	1	1
510143	AC FAN 12V 1.6A 5.89 55dB, Heatsink	1	1
510133	DC FAN 12V .48A 3.0 41dB 12cm, Rear Case	2	1
691197	Dio BRD 35A 800V 4PIN	1	1
691223	Dio FRD 99A 1200V SOT-227	4	2
691199	IGBT 600V 200A PM	2	1
691151	SCR 1200V 95A A48 TO-240AA, Bypass	3	1
166530T	LCD Modules 30C*4 8*16 DOT	1	1
Group C 166464T	PWB ASM 3CH-A (208V), Rectifier Board A	1	1
166468T	PWB ASM 3CH-M (208V), Main Control Board	1	1
166465T	PWB ASM 3CH-C Charger Board	2	1
166467T	PWB ASM 3CH-F2, (208V) Input Filter Board	1	1
166589T	PWB ASM 3CH-F1 (208V)	1	1
166469T	PWB ASM 3CH-P CPU, Blank & FIRMWARE 3SUVXX.BIN	1	1

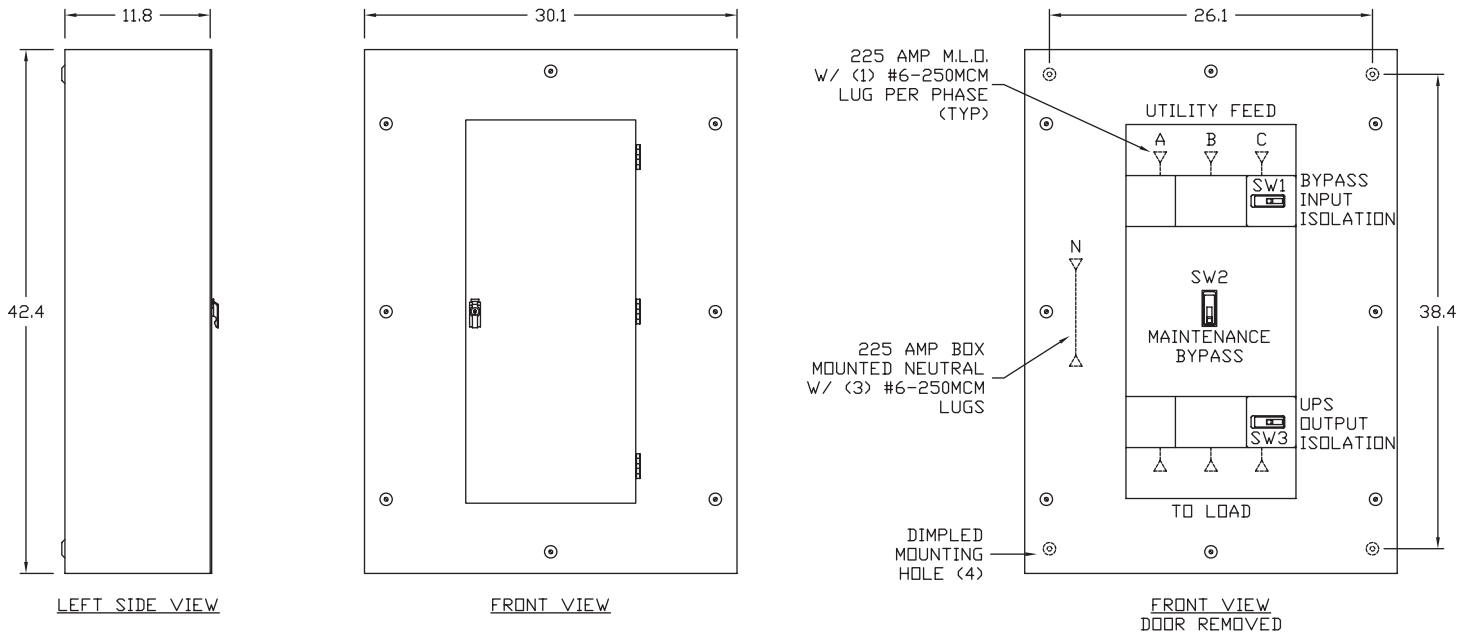
30kVA DOMESTIC (208V) PARTS KIT LIST

Part number	Description	UPS Qty.	Kit Qty.
Group A 430597	Fuse 200A, 150VAC, Input	3	2
430598	Fuse 250A, 150VAC, Bypass	3	2
430577	Fuse F/T 125A 660V Terminal	3	2
430569	FUSE,125AMP,400V,EURO IEC,A, (BP240V33)	2	2
Group B 510137	DC FAN 12V 0.30A 1.06 37db 8cm, Base Case	1	1
510143	AC FAN 115V .36A 55dB, Heatsink	1	1
510133	DC FAN 12V .48A 3.0 41dB 12cm, Rear Case	2	1
691197	Dio BRD 35A 800V 4PIN	1	1
691223	Dio FRD 99A 1200V SOT-227	4	2
691175	IGBT 600V 300A PM 48*94 B	2	1
691222	SCR 1600V 168A A21	3	1
691150	SCR 1200V 106A A48 TO-240AA	6	2
691152	SCR 1200V 128A A21, Battery	4	2
166530T	LCD Modules 30C*4 8*16 DOT	1	1
Group C 166464T	PWB ASM 3CH-A (208V), Rectifier Board A	1	1
166468T	PWB ASM 3CH-M (208V), Main Control Board	1	1
166465T	PWB ASM 3CH-C Charger Board	2	1
166467T	PWB ASM 3CH-F2, (208V) Input Filter Board	1	1
166589T	PWB ASM 3CH-F1 (208V)	1	1
166469T	PWB ASM 3CH-P CPU, Blank & FIRMWARE 3SUVXX.BIN	1	1

Maintenance Bypass Panel Diagrams (for 20kVA & 30kVA Models Only)

SmartOnline 3-Phase UPS Systems feature a manual bypass switch as well as an internal bypass function to ensure 100% availability of connected equipment by safely passing through AC power even when the power module requires maintenance. In addition to bypass features integral to the UPS System, Tripp Lite offers Maintenance Bypass Panels for 20kVA and 30kVA models, which provide an extra, externally-mounted source for bypass power.

Maintenance Bypass Panel Physical Diagram

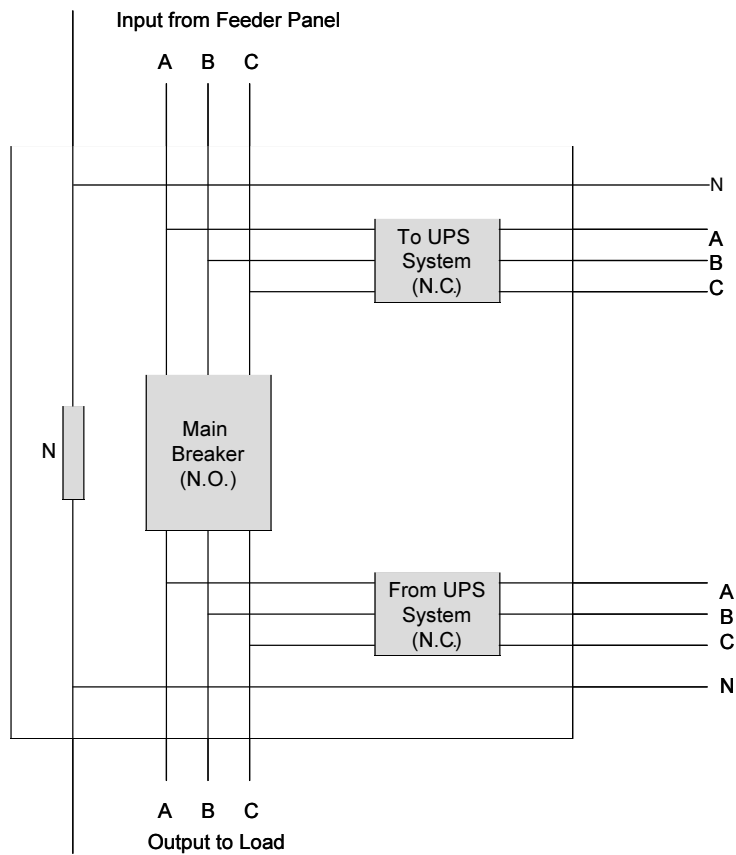


3 BREAKER MAINTENANCE BYPASS PANEL (MBP)							
PART NUMBER	WEIGHT	DIMENSIONS	BREAKER TYPE	BREAKER FRAME	BREAKER TRIP	SERVICE	A. I. C. RATING
SU20KMBP	135 LB	24 x 9 x 7 IN	EHD	100 AMP	70 AMP	208/120V	18,000
SU30KMBP	190 LB	30 x 12 x 42 IN	ED	225 AMP	100 AMP	"	65,000

PANEL TYPE: CDP (UL 67 LISTED INTERIOR)
SERVICE: SEE TABLE ABOVE.
ENCLOSURE: NEMA 1 (UL 50 LISTED ENCLOSURE)
BOX: 12 GAUGE PAINTED STEEL, NO KNOCKOUTS.
TRIM: 12 GAUGE PAINTED STEEL, HELD TO BOX WITH ADJUSTABLE TRIM CLAMPS - SURFACE MOUNTING.
DOOR: EQUIPPED WITH CORBIN 15767 SNAPLOCK.
FINISH: BEIGE POLYESTER POWDERCOAT APPLIED TO SURFACES TREATED WITH AN IRON PHOSPHATE AND CHROME FREE SEALER.
BUS: ELECTROLYTIC COPPER OF 98% CONDUCTIVITY, BASED ON 1000 AMPS PER SQUARE INCH DENSITY.
WIRE BENDING GUTTER: MEETS OR EXCEEDS NEC TABLES 373-6(a), 373-6(b).
BREAKERS: CUTLER-HAMMER THERMAL-MAGNETIC, 3 POLE, TRIP AND FRAME AS INDICATED;
 SEE TABLE ABOVE FOR BREAKER TYPE, AMPERES, AND A. I. C. RATING.
BREAKER TERMINAL LUG: 15 - 100 AMP (1) #14-1/0 PER PHASE.
 101 - 225 AMP (1) #4-4/0 PER PHASE.

Maintenance Bypass Panel Diagrams (for 20kVA & 30kVA Models Only) *continued*

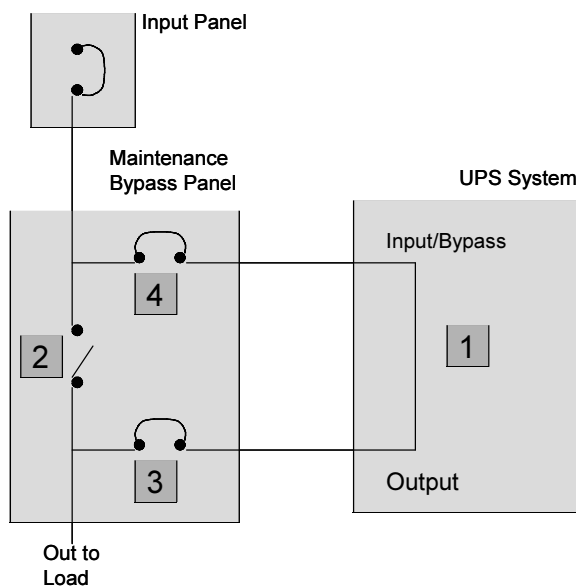
Maintenance Bypass Panel Wiring Diagram



Note:

- Test for phase rotation at all terminations.

Maintenance Bypass Panel Operational Sequence Diagram



Bypassing UPS

1. Put UPS into bypass.
2. Close main breaker.
3. Open UPS output breaker.
4. Open UPS input bypass breaker.

Notes:

- Remove fuses from battery before working on UPS.
- Ensure internal bypass is in bypass mode to avoid dropping the load.

Extended Service & Support Programs

Tripp Lite's Application Services Department provides support through every stage of the power protection process. For more comprehensive coverage, a variety of extended warranties and on-site service plans is available through local Tripp Lite partners. Tripp Lite service and support programs vary by geography. For more information contact your local distributor or Tripp Lite representative. International service options vary by country and region. Please contact Tripp Lite's International Service Department (email: intlservice@tripplite.com) for information regarding programs available in your country or region.

BEFORE UPS PURCHASE

3-Phase UPS System Site Survey Service

Tripp Lite offers a site survey service for added peace of mind when considering a 3-Phase UPS System purchase. An authorized Tripp Lite field service technician will visit your site and collect data pertaining to electrical loads, wiring requirements, power quality and existing conditions. A customized report will be developed outlining the scope of work and recommending the optimal power protection solution for your facility.

Part #	Description
W3SITESURVEY	20kVA & 30kVA Site Survey Service

NOTE: Site Survey Service is only valid for sites located within 200 miles of an authorized Tripp Lite service center. Contact Tripp Lite for details.

DURING UPS INSTALLATION

3-Phase UPS System Start-Up Service Programs (Recommended)

Tripp Lite 3-Phase Start-Up Service Programs add security to every installation. The service includes a physical inspection of the UPS and batteries, electrical connections and evaluation of the site. It also initiates a historical service record. An authorized Tripp Lite field service technician will validate the installation of the UPS and ensure compliance with manufacturer specifications. Performed Monday - Friday, 8am CST - 5pm CST (24/7 on-site response is available in certain areas). Pricing is based on locations within 200 miles of a service center. Remote locations may require additional charges. Consult 3-phase service at 773-869-1279 for pricing.

Part #	Description
W3STRTUP20	20kVA 3-Phase Start-Up Service Program (Business Hours Start-Up; UPS System & Battery Module)
W3STRTUP30	30kVA 3-Phase Start-Up Service Program (Business Hours Start-Up; UPS System & Battery Module)
W3STRTUP-OFFHRS	Additional Charge for Off-Hours Start-Up
W3STRTUP-ZONE2	Additional Charge for Start-Up Beyond 200 Miles of Service Center

Start-Up Service Benefits:

- Enhance the standard warranty by including free of charge on-site remedial maintenance with our best endeavor M-F, 8-5 during the warranty period (including travel time)
- Validate the electrical installation
- Perform a complete inspection of UPS and batteries for specification compliance
- Start up your UPS system with report documentation of operating parameters
- Provide basic operational training to personnel on-site during the start-up
- 24/7 phone support

Examples of Additional Charges:

Off Hours - Added to start-up service performed on nights, weekends, and holidays. Example: W3STRTUP20 and W3STRTUP-OFFHRS = 20kVA start-up on a weekend.

Beyond 200 Miles - Added to start-up service performed beyond 200 miles of a service center. Example: W3STRTUP20 and W3STRTUP-ZONE2 = 20kVA start-up beyond 200 miles.

NOTES:

- Start-Up Service Programs provide a thorough inspection of system components upon installation.
- Start-Up Service Programs are valid for sites located within 200 miles of an authorized Tripp Lite service center. Includes one UPS System module and up to two battery modules. Consult Tripp Lite for service area or extra module pricing.
- All Start-Up Service Program requests should be made at least two weeks prior to start day.
- Additional day for start-up will be billed at Tripp Lite time and material rates. These charges will be incurred if UPS System and battery modules are not ready for start up on the scheduled day and time.
- There are no discounts for multiple unit start-up.
- Program assumes sealed lead acid batteries. Extra charges apply for flooded wet cells. Contact Tripp Lite for details.

AFTER UPS INSTALLATION

3-Phase UPS System Preventative Maintenance Services

Tripp Lite offers Preventive Maintenance (PM) Services to increase the reliability and life expectancy of your UPS investment. This service includes the labor and travel for an authorized Tripp Lite field service technician to conduct one (1) full preventative maintenance service on the UPS and one (1) on a string of batteries. A full report is provided along with suggestions and a quotation for remedial action. Performed Monday - Friday, 8am CST - 5pm CST. Pricing is based on locations within 200 miles of a service center. Remote locations may require additional charges. Consult 3-phase service at 773-869-1279 for pricing.

Part #	Description
W3OSPM201B	20kVA Preventative Maintenance Service
W3OSPM301B	30kVA Preventative Maintenance Service
W3OSPM202B	20kVA Additional Charge for Additional Battery Strings
W3OSPM302B	30kVA Additional Charge for Additional Battery Strings
W3OSPM-OFFHRS	Additional Charge for Off-Hours Preventative Maintenance

Preventative Maintenance Service Benefits:

- 20% discount on parts (and labor if second trip required. See labor and parts rates)
- Maximize uptime and reliability
- 24/7 phone support
- Verification and calibration of all system features
- Testing of individual batteries for specification compliance
- Installation of upgrades as required
- Testing of all transfer conditions
- Written record of equipment performance

Examples of Additional Charges:

Extra Battery Strings - Added if there are additional battery strings that require maintenance and testing. Example: W3OSPM20B2 = 20kVA UPS preventative maintenance visit with 2 battery strings.

Off Hours - Added to preventative maintenance performed on nights, weekends, and holidays. Example: W3OSPM30B1 and W3OSPM-OFFHRS = 30kVA PM on weekday night.

3-Phase Time & Material Hourly Rates

Time and material rates will apply to 3-phase UPS systems that are not under warranty or on-site extended warranty. Consult 3-phase service at 773-869-1279 for pricing.

AFTER UPS INSTALLATION *continued*

3-Phase UPS System On-Site Extended Warranties

For coverage after the first year, Tripp Lite offers On-site Extended Warranty Programs to help manage your infrastructure budget. These warranties extend the duration of the 3-phase UPS system warranty from one to three additional years. This on-site service includes parts, labor and travel time associated with the power module performed Monday - Friday, 8am - 5pm. Batteries and battery replacement are not included. Extended warranties must include purchase of the start-up service and be ordered at the same time as the UPS purchase. Periodic preventive maintenance is required but not part of this warranty. Contact Tripp Lite or your distributor for details and cost.

Part #	Description
W3OSWAR202	20kVA Extended Warranty (2-year total)
W3OSWAR203	20kVA Extended Warranty (3-year total)
W3OSWAR204	20kVA Extended Warranty (4-year total)
W3OSWAR302	30kVA Extended Warranty (2-year total)
W3OSWAR303	30kVA Extended Warranty (3-year total)
W3OSWAR304	30kVA Extended Warranty (4-year total)

On-Site Extended Warranty Benefits:

- Maximize uptime and reliability while keeping costs low
- Available up to a maximum of four years
- Service priority customer
- 24/7 phone support
- Provide discounts on spare parts kits
- 24/7 Service available in select areas.

NOTES:

- Extended Warranties are only valid for the UPS System module and are only valid within the Continental US and Canada.
- Extended Warranties do not include remedial maintenance due to normal wear or to damage resulting from accident, misuse, abuse or neglect.
- Extended Warranties must be sold with the initial order for the UPS System module.
- Extended Warranties include business hours service, parts, labor and travel for the UPS System module only. Parts or labor for batteries, peripheral products and accessories or related failures are not covered under the Extended Warranties.



Tripp Lite World Headquarters 1111 W. 35th Street, Chicago, IL 60609 USA • (773) 869-1236 • www.tripplite.com

