

Technicals Specifications

Smart-UPS VT 10-40 kVA 380/400/415 V



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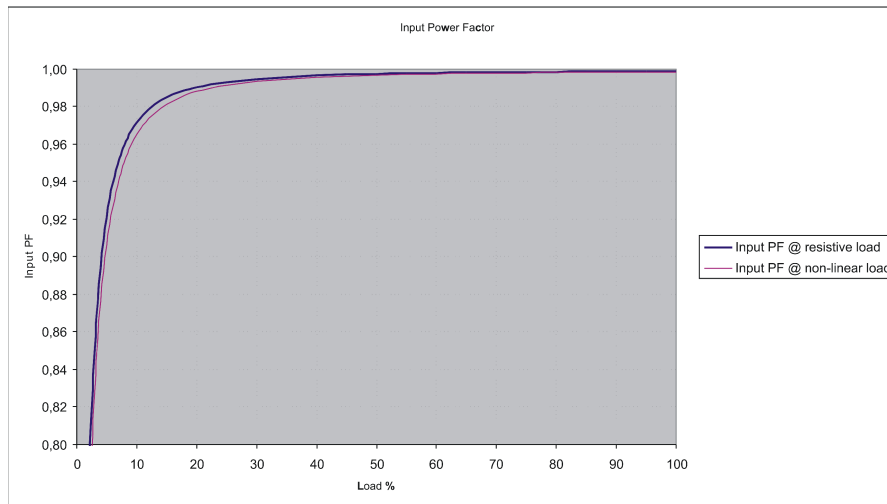
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Technical Data

Model List

10 kVA	SUVTP10KHS	APC Smart-UPS VT 10kVA 400V, w/Start-Up 5X8, Internal Maintenance Bypass, & Parallel Capability
	SUVTP10KH1B2S	APC Smart-UPS VT 10kVA 400V w/1 Batt Mod Exp to 2, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP10KH1B4S	APC Smart-UPS VT 10kVA 400V w/1 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP10KH2B2S	APC Smart-UPS VT 10kVA 400V w/2 Batt Mod., Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP10KH2B4S	APC Smart-UPS VT 10kVA 400V w/2 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP10KH3B4S	APC Smart-UPS VT 10kVA 400V w/3 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP10KH4B4S	APC Smart-UPS VT 10kVA 400V w/4 Batt Mod, Start-Up 5X8, Int Maint Bypass, Parallel Capable
15 kVA	SUVTP15KHS	APC Smart-UPS VT 15kVA 400V, w/Start-Up 5X8, Internal Maintenance Bypass, & Parallel Capability
	SUVTP15KH2B2S	APC Smart-UPS VT 15kVA 400V w/2 Batt Mod., Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP15KH2B4S	APC Smart-UPS VT 15kVA 400V w/2 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP15KH3B4S	APC Smart-UPS VT 15kVA 400V w/3 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP15KH4B4S	APC Smart-UPS VT 15kVA 400V w/4 Batt Mod, Start-Up 5X8, Int Maint Bypass, Parallel Capable
20 kVA	SUVTP20KHS	APC Smart-UPS VT 20kVA 400V, w/Start-Up 5X8, Internal Maintenance Bypass, & Parallel Capability
	SUVTP20KH2B2S	APC Smart-UPS VT 20kVA 400V w/2 Batt Mod., Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP20KH2B4S	APC Smart-UPS VT 20kVA 400V w/2 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP20KH3B4S	APC Smart-UPS VT 20kVA 400V w/3 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP20KH4B4S	APC Smart-UPS VT 20kVA 400V w/4 Batt. Mod., Start-Up 5X8, Internal Maint Bypass, Parallel Capability
30 kVA	SUVTP30KHS	APC Smart-UPS VT 30kVA 400V, w/Start-Up 5X8, Internal Maintenance Bypass, & Parallel Capability
	SUVTP30KH3B4S	APC Smart-UPS VT 30kVA 400V w/3 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP30KH4B4S	APC Smart-UPS VT 30kVA 400V w/4 Batt. Mod., Start-Up 5X8, Internal Maint Bypass, Parallel Capability
40 kVA	SUVTP40KHS	APC Smart-UPS VT 40kVA 400V, w/Start-Up 5X8, Internal Maintenance Bypass, & Parallel Capability
	SUVTP40KH4B4S	APC Smart-UPS VT 40kVA 400V w/4 Batt. Mod., Start-Up 5X8, Internal Maint Bypass, Parallel Capability

Input Power Factor



Efficiency

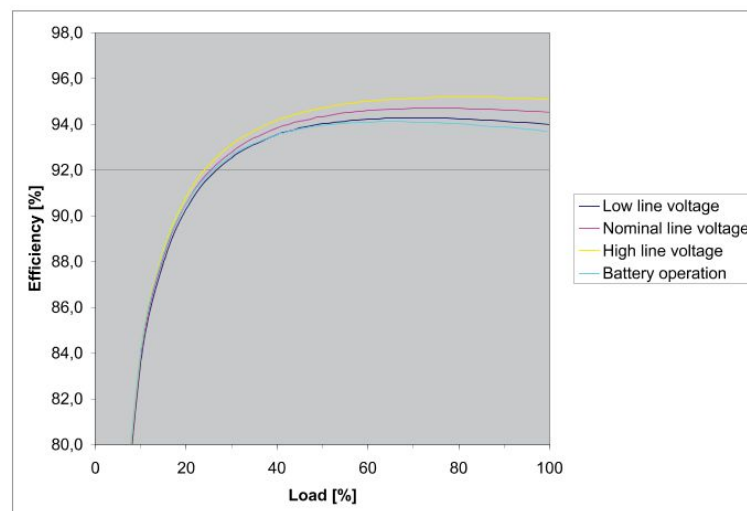
3:3 400 V

System	25% load	50% load	75% load	100% load
10 kVA 400 V	92.9	94.8	94.9	94.9
15 kVA 400 V	92.9	95.3	95.5	95.5
20 kVA 400 V	94.4	95.5	95.5	95.4
30 kVA 400 V	94.1	96.0	95.9	96.1
40 kVA 400 V	95.0	96.0	95.9	95.5

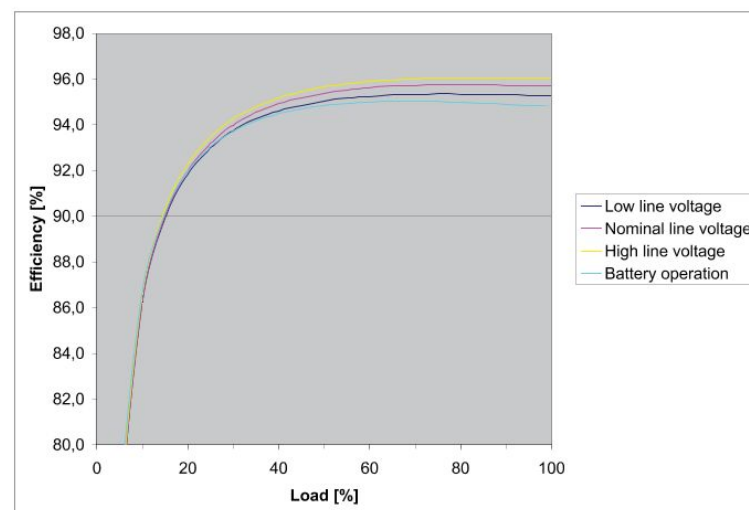
Efficiency Curves

Low line is 348 V and high line is 452 V (+/- 13%).

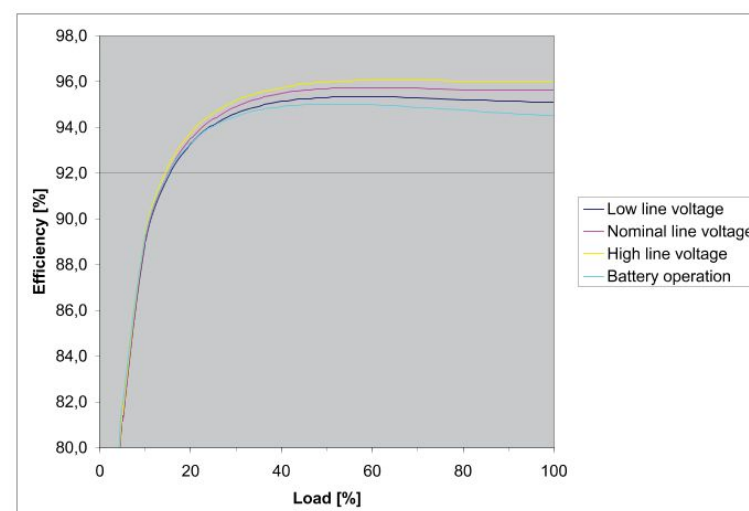
10 kVA 400 V



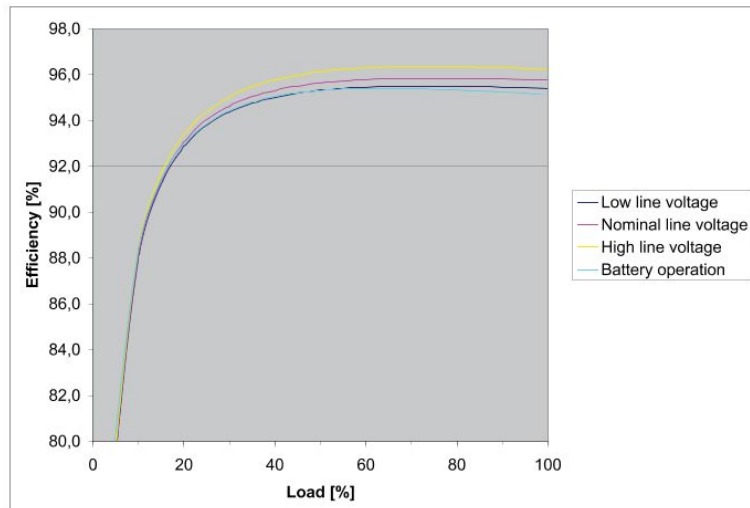
15 kVA 400 V



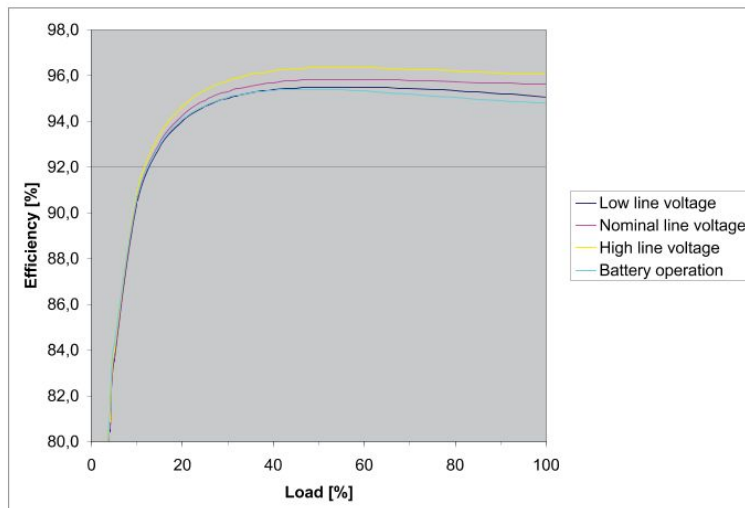
20 kVA 400 V



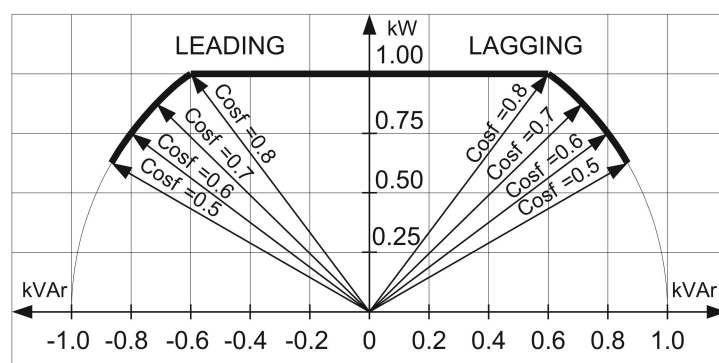
30 kVA 400 V



40 kVA 400 V



Derating due to Load Power Factor



Batteries

Efficiency DC to AC

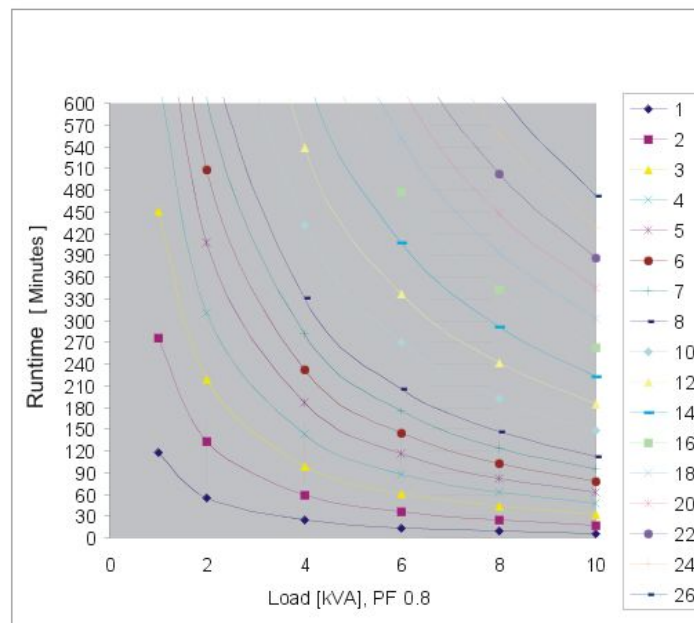
3:3 380/400/415 V

kVA	10			15			20			30			40		
V	380	400	415	380	400	415	380	400	415	380	400	415	380	400	415
Efficiency at nominal batt. voltage (%)	94.7	94.8	94.9	95.1	95.2	95.3	94.9	95.0	95.1	95.0	95.1	95.2	94.8	94.9	95.1

Battery Run-Times – APC Battery Solution

“Bat. shelves” indicates the total number of populated battery shelves in the UPS and Battery Enclosure.

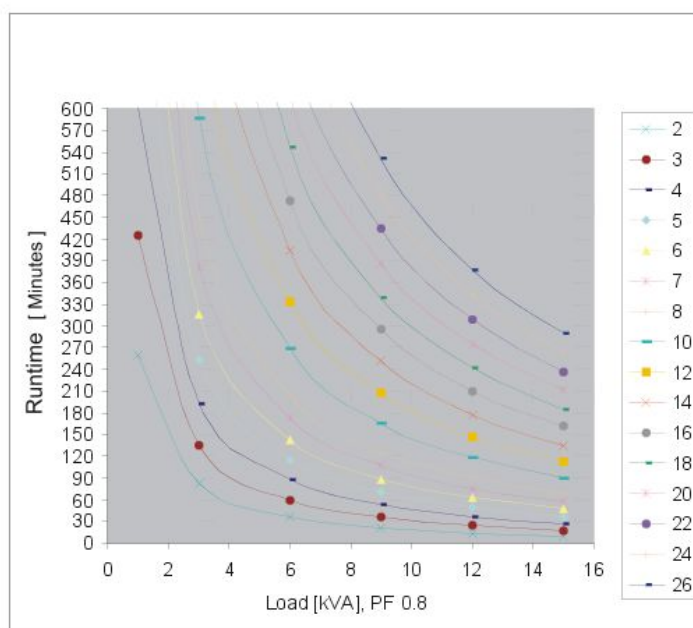
10 kVA 400 V Typical Performances



	Load kVA					
Bat. shelves	1	2	4	6	8	10
1	118	56	24	14	9	6
2	276	133	60	36	25	18
3	452	219	99	61	43	32
4	639	311	142	88	62	47
5	837	407	187	116	82	62
6	1043	508	233	145	103	78
7	1255	611	281	175	124	95
8	1474	718	331	206	147	112
9	1698	828	382	238	170	130
10	1928	940	433	271	193	148
11	2162	1054	486	304	217	166

	Load kVA					
Bat. shelves	1	2	4	6	8	10
12	2400	1171	540	338	241	185
13	2642	1289	595	372	266	204
14	2888	1409	651	407	291	223
15	3138	1531	707	443	316	243
16	3391	1655	765	479	342	262
17	3647	1780	823	515	368	282
18	3906	1907	881	552	394	303
19	4168	2035	941	589	421	323
20	4433	2164	1001	627	448	344
21	4701	2295	1061	665	475	365
22	4971	2427	1122	704	503	386
23	5243	2560	1184	742	530	408
24	5518	2694	1246	781	558	429
25	5795	2830	1309	821	586	451
26	6075	2966	1372	861	615	473

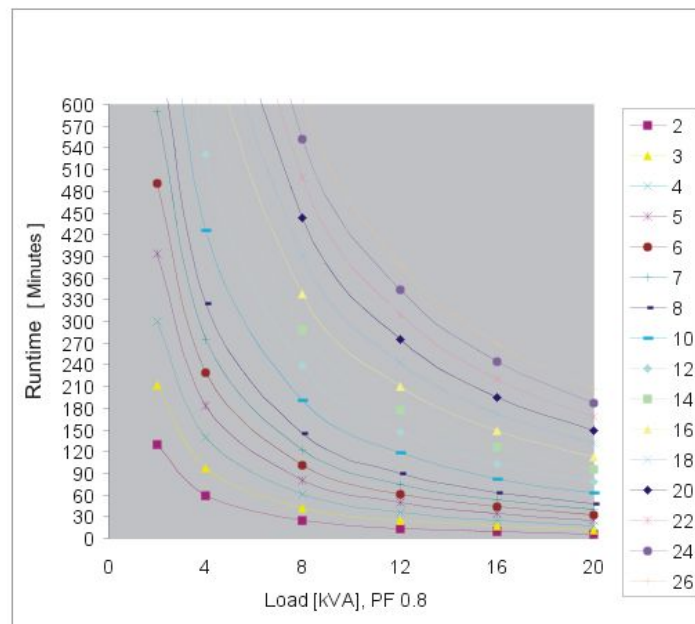
15 kVA 400 V Typical Performances



	Load kVA					
Bat. shelves	1	3	6	9	12	15
1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	260	82	36	21	14	10
3	425	136	60	36	25	18
4	602	193	87	53	37	27
5	788	253	114	70	49	37
6	982	316	143	88	62	47
7	1182	381	173	107	75	57

	Load kVA					
Bat. shelves	1	3	6	9	12	15
8	1388	448	204	126	89	68
9	1600	517	235	146	103	79
10	1816	587	268	166	118	90
11	2036	659	300	187	132	101
12	2261	731	334	208	147	113
13	2489	806	368	229	163	124
14	2721	881	403	251	178	136
15	2956	957	438	273	194	148
16	3194	1035	473	295	210	161
17	3435	1113	509	317	226	173
18	3680	1192	546	340	242	185
19	3926	1272	582	363	259	198
20	4176	1353	620	387	275	211
21	4428	1435	657	410	292	224
22	4682	1518	695	434	309	237
23	4939	1601	733	458	326	250
24	5198	1685	772	482	343	263
25	5459	1770	811	506	361	277
26	5723	1856	850	531	378	290

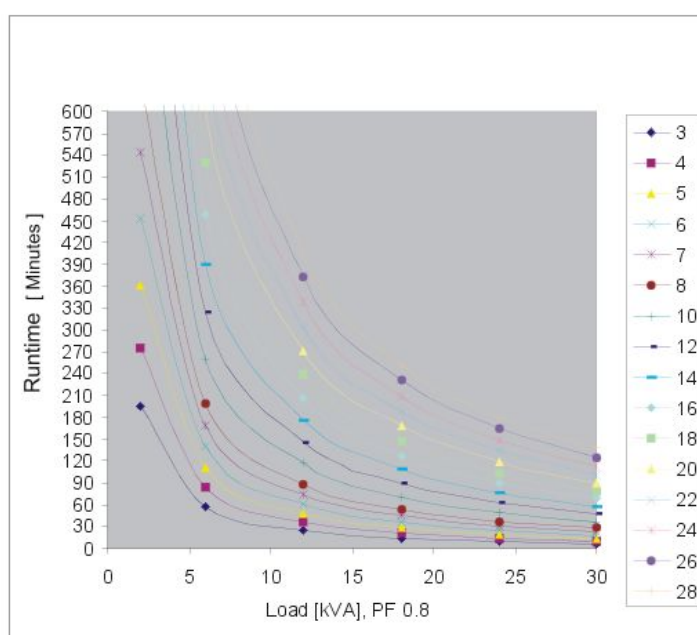
20 kVA 400 V Typical Performances



	Load kVA					
Bat. shelves	2	4	8	12	16	20
1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	129	59	25	14	9	6
3	212	98	42	25	17	12

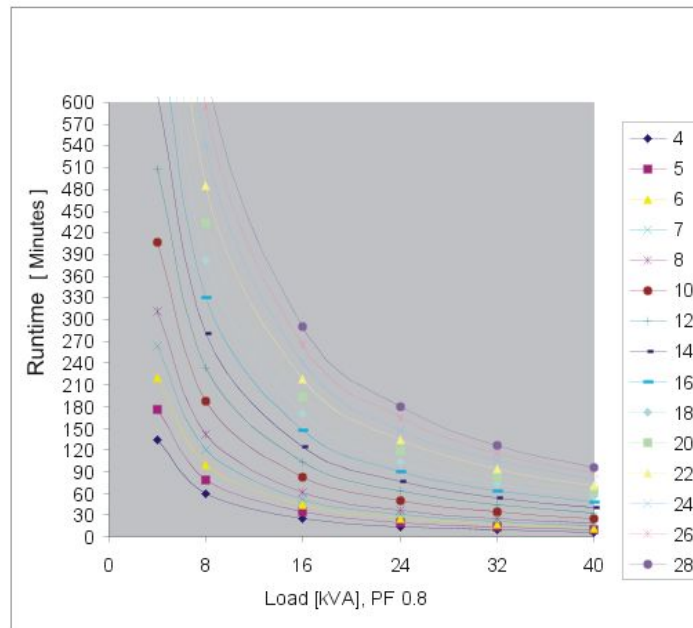
	Load kVA					
Bat. shelves	2	4	8	12	16	20
4	300	139	61	37	25	18
5	394	183	81	49	34	25
6	491	229	102	62	43	32
7	591	276	123	75	53	40
8	695	325	145	89	63	47
9	801	375	168	103	73	55
10	909	426	191	118	83	63
11	1020	478	215	132	93	71
12	1132	531	239	147	104	79
13	1247	585	263	163	115	87
14	1363	639	288	178	126	96
15	1481	695	313	194	137	105
16	1601	751	339	210	149	113
17	1722	808	364	226	160	122
18	1844	866	391	242	172	131
19	1968	924	417	259	183	140
20	2093	983	444	275	195	149
21	2220	1043	471	292	207	158
22	2347	1103	498	309	219	168
23	2476	1163	525	326	232	177
24	2606	1224	553	343	244	187
25	2737	1286	581	361	256	196
26	2869	1348	609	378	269	206

30 kVA 400 V Typical Performances



	Load kVA					
Bat. shelves	2	6	12	18	24	30
1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	195	58	25	14	9	6
4	276	84	36	21	14	10
5	362	111	48	29	19	14
6	452	139	61	37	25	18
7	544	168	74	45	31	23
8	639	198	88	53	37	28
9	737	228	102	62	43	32
10	837	259	116	71	50	37
11	939	291	130	80	56	42
12	1043	324	145	89	63	47
13	1148	357	160	98	69	52
14	1255	390	175	108	76	58
15	1364	424	191	118	83	63
16	1474	459	206	127	90	68
17	1585	494	222	137	97	74
18	1698	529	238	147	104	79
19	1812	565	255	157	111	85
20	1928	601	271	168	118	90
21	2044	637	287	178	126	96
22	2162	674	304	188	133	102
23	2280	711	321	199	141	107
24	2400	749	338	209	148	113
25	2521	786	355	220	156	119
26	2642	824	372	231	164	125
27	2765	863	390	242	171	131
28	2888	901	407	253	179	137

40 kVA 400 V Typical Performances



	Load kVA					
Bat. shelves	4	8	16	24	32	40
1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
4	133	60	25	14	9	6
5	175	79	34	19	13	9
6	219	99	43	25	17	12
7	264	120	52	31	21	15
8	311	142	62	37	25	19
9	358	164	72	43	30	22
10	407	187	82	50	34	25
11	457	210	92	56	39	29
12	508	233	103	63	43	33
13	559	257	114	69	48	36
14	611	281	124	76	53	40
15	664	306	135	83	58	44
16	718	331	147	90	63	47
17	773	356	158	97	68	51
18	828	382	170	104	73	55
19	884	407	181	111	78	59
20	940	433	193	118	83	63
21	997	460	205	126	89	67
22	1054	486	217	133	94	71
23	1112	513	229	141	99	75
24	1171	540	241	148	105	79
25	1230	568	253	156	110	84

	Load kVA					
Bat. shelves	4	8	16	24	32	40
26	1289	595	266	164	115	88
27	1349	623	278	171	121	92
28	1409	651	291	179	127	96

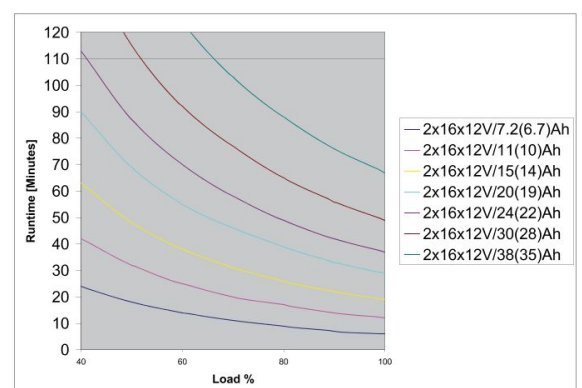
Battery Run-Times – Non-Modular Batteries

- The below battery run-times are based on high quality batteries from approved manufacturers
- The run-times are based on high rate batteries designed for UPS systems
- The run-times are intended as a guide only, and APC disclaim the responsibility for these runtimes

10 kVA 400 V

* Approximately equivalent 10 hr rate ah

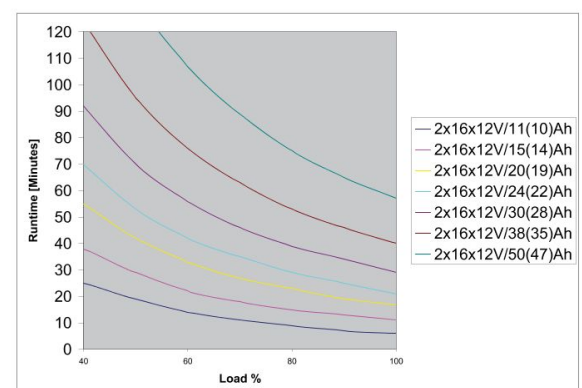
Battery Ah		Load %						
20 hr rate	*10 hr rate	40	50	60	70	80	90	100
7.2	6.7	24	18	14	11	9	7	6
11	10	42	32	25	20	17	14	12
15	14	63	48	38	31	26	22	19
20	19	90	69	55	46	39	33	29
24	22	113	87	70	58	49	42	37
30	28	149	115	92	77	65	56	49
38	35	199	154	124	103	88	76	67



15 kVA 400 V

* Approximately equivalent 10 hr rate ah

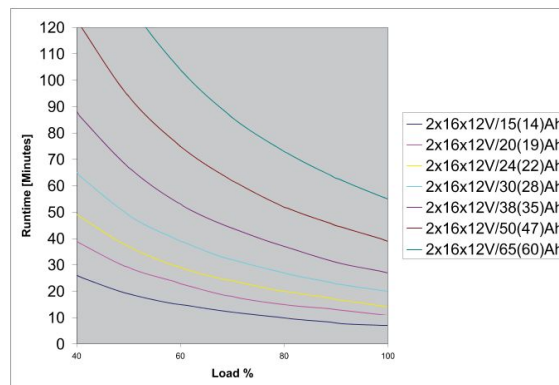
Battery Ah		Load %						
20 hr rate	*10 hr rate	40	50	60	70	80	90	100
11	10	25	19	14	11	9	7	6
15	14	38	29	22	18	15	13	11
20	19	55	42	33	27	23	19	17
24	22	70	53	42	35	29	25	21
30	28	92	70	56	46	39	34	29
38	35	124	95	76	63	53	46	40
50	47	174	133	107	89	75	65	57



20 kVA 400 V

* Approximately equivalent 10 hr rate ah

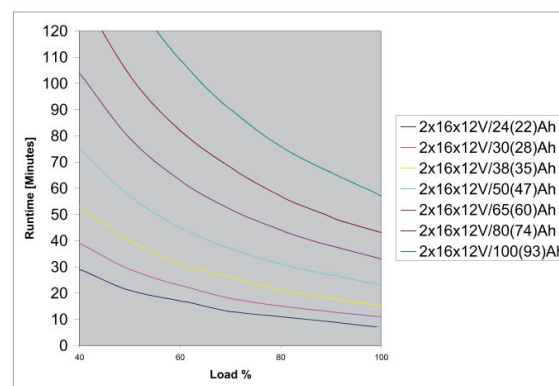
Battery Ah		Load %						
20 hr rate	*10 hr rate	40	50	60	70	80	90	100
15	14	26	19	15	12	10	8	7
20	19	39	29	23	18	15	13	11
24	22	49	37	29	24	20	17	14
30	28	65	49	39	32	27	23	20
38	35	88	67	53	44	37	31	27
50	47	123	94	75	62	52	45	39
65	60	170	130	104	86	73	63	55



30 kVA 400 V

* Approximately equivalent 10 hr rate ah

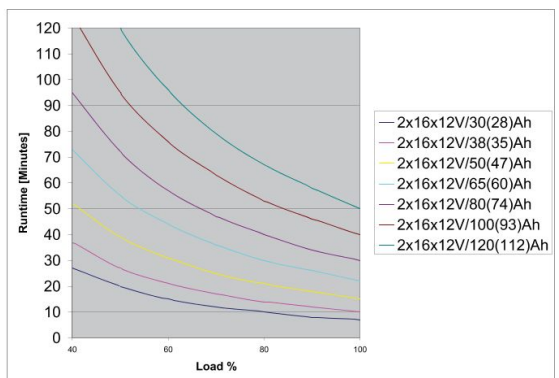
Battery Ah		Load %						
20 hr rate	*10 hr rate	40	50	60	70	80	90	100
24	22	29	21	17	13	11	9	7
30	28	39	29	23	18	15	13	11
38	35	53	40	31	26	21	18	15
50	47	75	57	45	37	31	27	23
65	60	104	79	63	52	44	38	33
80	74	135	103	82	68	57	49	43
100	93	178	136	109	90	76	66	57



40 kVA 400 V

* Approximately equivalent 10 hr rate ah

Battery Ah		Load %						
20 hr rate	*10 hr rate	40	50	60	70	80	90	100
30	28	27	20	15	12	10	8	7
38	35	37	27	21	17	14	12	10
50	47	52	39	31	25	21	18	15
65	60	73	55	44	36	30	26	22
80	74	95	72	57	47	40	34	30
100	93	125	95	76	63	53	46	40
120	112	157	120	96	79	67	58	50



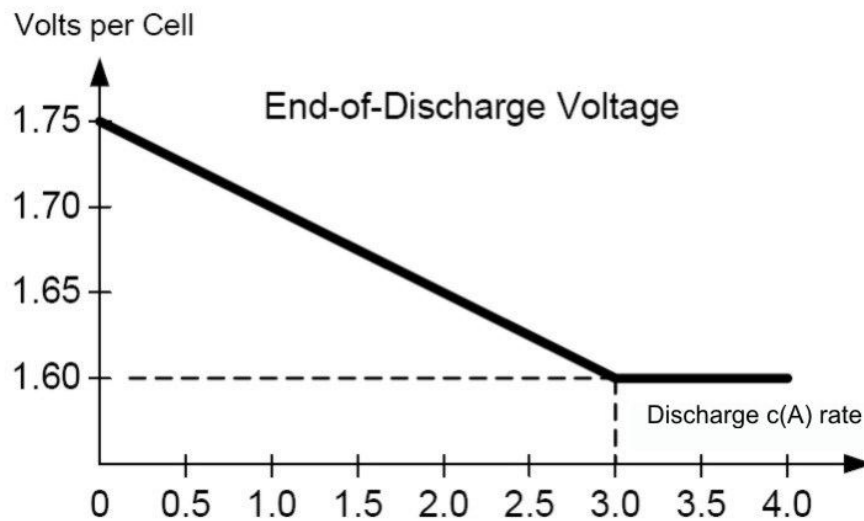
Battery Discharge Current

	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA
I bat @ bat nominal, 100% load	22	33	44	66	88
I bat @ bat min, 100% load	28	41	55	83	110
I bat @ bat min, 150% load	40	62	83	125	166

End of Discharge Voltage at 100% Load



Note: The voltage is 1.6 to 1.75 per cell depending on load.



Note: C equals $I_{\text{discharge}}$ divided by the battery Ah capacity.

Battery Gassing Rates

10–20 kVA



Note: We recommend that room ventilation is based on maximum values.

Battery position	# of bat shelves	Gassing rate cc/hr (ml/hr)	
		Typical	Max
UPS	1	24	48
UPS	2	48	96
XR1	3	72	144
XR1	4	96	192
XR1	5	120	240
XR1	6	144	288
XR1	7	168	336
XR1	8	192	384
XR2	9	216	432
XR2	10	240	480
XR2	11	264	528
XR2	12	288	576
XR2	13	312	624
XR2	14	336	672
XR3	15	360	720
XR3	16	384	768
XR3	17	408	816
XR3	18	432	864
XR3	19	456	912
XR3	20	480	960
XR4	21	504	1008
XR4	22	528	1056
XR4	23	552	1104
XR4	24	576	1152
XR4	25	600	1200
XR4	26	624	1248

30–40 kVA



Note: We recommend that room ventilation is based on maximum values.

Battery position	# of bat shelves	Gassing rate cc/hr (ml/hr)	
		Typical	Max
UPS	1	24	48
UPS	2	48	96
UPS	3	72	144
UPS	4	96	192
XR1	5	120	240
XR1	6	144	288
XR1	7	168	336
XR1	8	192	384
XR1	9	216	432
XR1	10	240	480
XR2	11	264	528
XR2	12	288	576
XR2	13	312	624
XR2	14	336	672
XR2	15	360	720
XR2	16	384	768
XR3	17	408	816
XR3	18	432	864
XR3	19	456	912
XR3	20	480	960
XR3	21	504	1008
XR3	22	528	1056
XR4	23	552	1104
XR4	24	576	1152
XR4	25	600	1200
XR4	26	624	1248
XR4	27	648	1296
XR4	28	672	1344

Electrolyte Values for SYBTU1–PLP

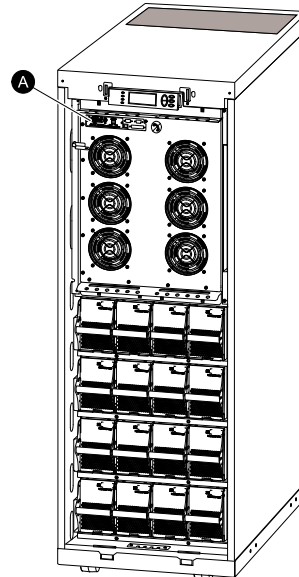
	Battery module	String of batteries (Four battery modules)
Electrolyte volume L	2.78	11.14
Electrolyte weight kg	3.72	14.86
Sulfuric acid volume L	0.89	3.54
Sulfuric acid weight kg	1.62	6.48

Communication and Management

Network Management Card

The system is equipped with one network management card for remote monitoring and control of an individual UPS by connecting it directly to the network.

A. Network Management Card

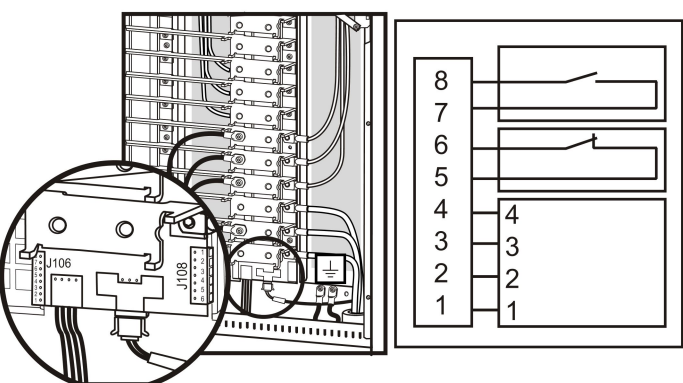


Input and Output Contacts

Pins 7 and 8 are for external charge control. When 7 and 8 are closed, the UPS charges batteries with a pre-defined percentage (0-25-50-75-100%) of the maximum charging power. To be used in generator applications, or if special codes require control of charging.

Pins 5 and 6 are for external maintenance bypass Q3 (auxiliary switch N/C type). When Q3 is closed, signals are fed back to the UPS controller.

Pins 1 to 4 are for battery measurement (only applicable to APC XR Battery Enclosures).

Pin	Description	
8	External charging control return	
7	External control of charging	
6	Q3 active return	
5	Q3 active	
4	Battery measurement supply ¹	
3	Battery unit quantity ¹	
2	Maximum battery temperature ¹	
1	Battery measurement return ¹	
¹ To be used with APC XR Battery Enclosure.		

EPO in Single Systems

Connect the EPO cable using one of the following four wiring configurations.



Note: Use only 1-1½ mm² copper wire for the connection of the Emergency Power Off (EPO) and other optional equipment.

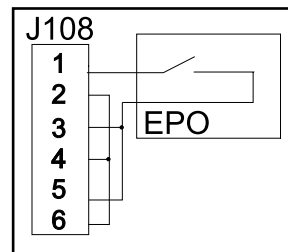


Note: The UPS must be connected to either a dry contact or a 24 VDC EPO (Emergency Power Off) switch.

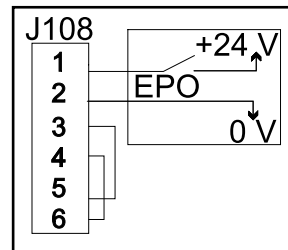


Note: The external EPO +24 VDC, 1500 mA circuit can be supplied through other vendors.

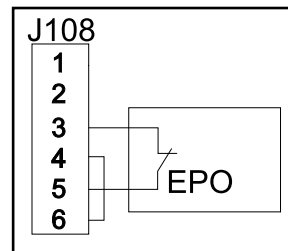
1. **Dry Contacts Normally Open:** EPO is activated when pin 1 is connected to pins 3 and 5. Connections: 2-4-6, 3-5, and 1 (Normally Open).



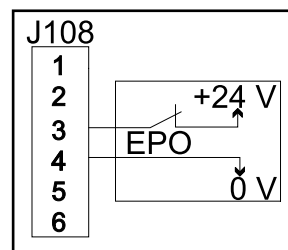
2. **+24 V Normally Open:** EPO is activated when an isolated SELV 24 VDC voltage is supplied on pin 1 with reference to pin 2. Connections: 3-5 and 4-6.



3. **Dry Contacts Normally Closed:** EPO is activated when a connection from pin 3 to 5 is opened. Connections: 4-6.



4. **+24 V Normally Closed:** EPO is activated when a SELV 24 VDC voltage is removed from pin 3 with reference to pin 4.



EPO in Parallel Systems

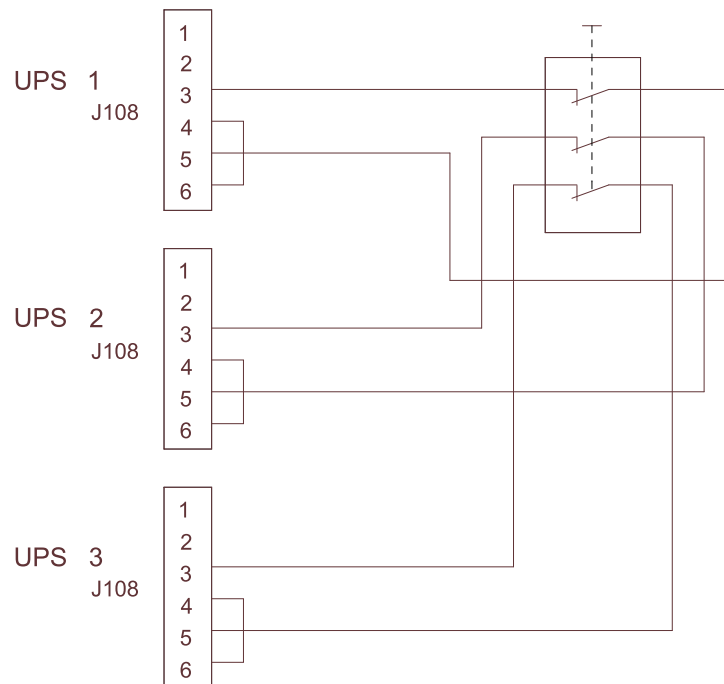
In parallel systems each UPS unit must have its own dry contact (voltage free) connected to J108. The drawing below shows a “Normally Closed” installation of three UPS units in parallel.



WARNING: For parallel and separate systems with common EPO, each UPS unit must be connected to a separate dry contact.



WARNING: Parallel EPO wiring between more UPS units can result in critical UPS malfunctioning.



Compliance

Directives for CE marking	2006/95/EC 2004/108/EC
Safety	EN/IEC 62040-1
EMC	EN/IEC 62040-2 (class C2 and C3)
Performance	VFI-SS-111

Facility Planning

AC Input

3:3 380/400/415 V

kVA	10			15			20			30			40		
V	380	400	415	380	400	415	380	400	415	380	400	415	380	400	415
Connection type	3PH + N + PE														
Input frequency (Hz)	40-70														
THDI	< 5% at full load														
Nom input current (A)	13.0	12.3	11.9	19.4	18.5	17.8	26.0	24.7	23.8	38.6	36.7	35.3	51.7	49.1	47.3
Max input current (A)	14.3	13.5	13.1	21.4	20.3	19.6	28.6	27.2	26.2	42.5	40.3	38.9	56.8	54.0	52.1
Input current limitation (A)	18			26.7			35.5			53			70.6		
Input power factor correction	0.98 at load > 50%														
Maximum Short Circuit Withstand (kA)	30														

AC Bypass



Note: The UPS is capable of running with a bypass input frequency of 50 Hz or 60 Hz. The frequency setting can be configured via the UPS display (Setup > Settings > System > Frequency).

3:3 380/400/415 V

kVA	10			15			20			30			40		
V	380	400	415	380	400	415	380	400	415	380	400	415	380	400	415
Connection type	3PH + N + PE														
Input frequency (Hz)	50 +/- 10 or 60 +/- 10														
Nom input current (A)	15.2	14.4	13.9	22.8	21.7	20.9	30.4	28.9	27.8	45.6	43.3	41.7	60.8	57.7	55.6

AC Output

3:3 380/400/415 V

kVA	10			15			20			30			40		
V	380	400	415	380	400	415	380	400	415	380	400	415	380	400	415
Connection type	3PH + N + PE														
Output capacity	150% for 1 minute (normal operation) 125% for 10 minutes (normal operation) 150% for 1 minute (battery operation) 110% continuous (bypass operation) 800% for 500 ms (bypass operation)														
Voltage tolerance	+/- 20% (304-477 V) at full load														
Nom output current (A)	15.2	14.4	13.9	22.8	21.7	20.9	30.4	28.9	27.8	45.6	43.3	41.7	60.8	57.7	55.6
Output frequency (sync to mains)	47-53 Hz for 50 Hz nominal														
Slew rate (Hz/Sec)	0.25-1														
THDU	< 1.5% linear < 3.5% non-linear														
Output power factor	0.8														
Dynamic load response	+/- 5%														
Output voltage regulation	+/- 1%														

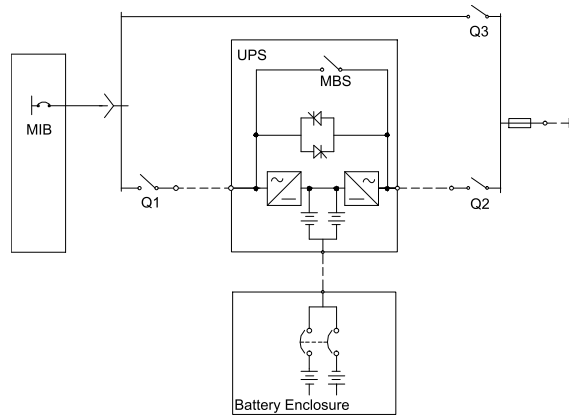
Batteries

Type	VRLA
Nominal voltage (VDC)	+/- 192
Float voltage (VDC)	+/- 219
End of discharge voltage (VDC)	+/- 154
Battery current (at full load)	87.9 A at +/- 192 V
Max. current (at end of discharge)	110.1 A at + 154 V
Max. charging power	10 kVA: 1600 W 15 kVA: 2400 W 20 kVA: 3200 W 30 kVA: 3200 W 40 kVA: 3200 W
Max. charging current	10 kVA: 4.2 A 15 kVA: 6.3 A 20 kVA: 8.4 A 30 kVA: 8.4 A 40 kVA: 8.4 A
Typical re-charge time	5 hours
End voltage	1.6-1.75 V/cell (automatic, depending on load)

Fuses and Breakers

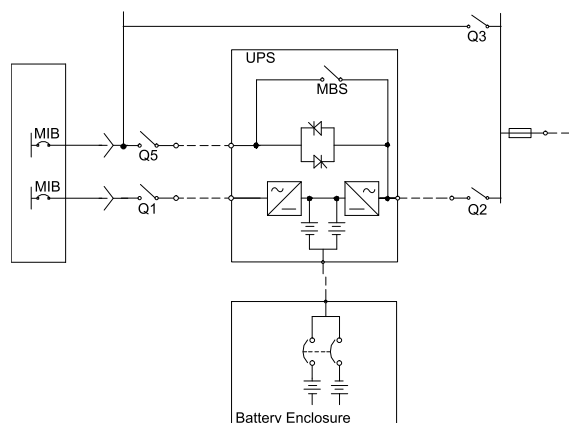
Single Utility/Mains System

- Q1: Utility/mains input
- Q2: UPS output
- Q3: Manual bypass
- MBS: Mechanical bypass switch



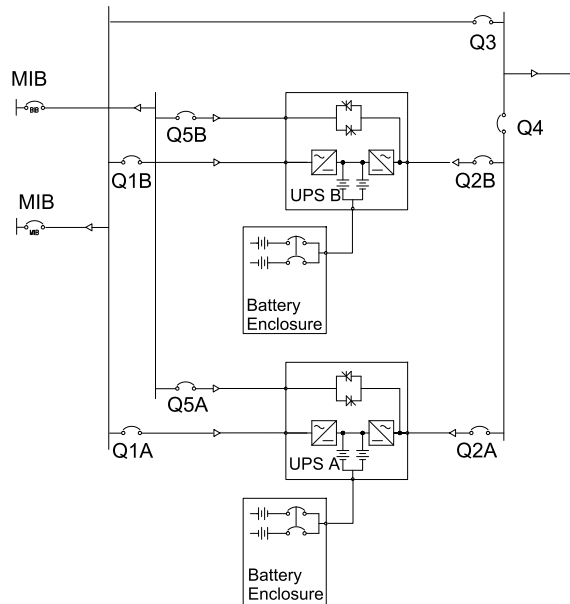
Dual Utility/Mains System

- Q1: Utility/mains input
- Q2: UPS output
- Q3: Manual bypass
- Q5: Static bypass input
- MBS: Mechanical bypass switch



Parallel System

- Q1: Utility/mains input
- Q2: UPS output
- Q3: Manual bypass
- Q4: System output
- Q5: Static bypass input



Fuse and Breaker Sizes in Single System

3:3 400 V

	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA
Mains input Q1 (A) ¹	16	25	35	50	63
Static bypass input Q5 (A)	16	25	35	50	63
UPS output Q2 (A)	16	25	35	50	63

¹ Required upstream current protection: gL type fuse

Fuse and Breaker Sizes Parallel System

3:3 400 V – Q3 and Q4 in Parallel Capacity Systems

Units in parallel	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA
2 (A)	35	50	63	100	125
3 (A)	50	80	100	160	200
4 (A)	63	100	200	200	250

3:3 – Q3 and Q4 in Parallel Redundant Systems (n+1)

Units in parallel	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA
2 (A)	16	25	35	50	63
3 (A)	35	50	63	100	125
4 (A)	50	80	100	160	200

Minimum Breaker Settings

3:3 380/400/415 V

		800% overload bypass operation	150% overload normal/battery operation	125% overload normal/battery operation	Continuously
	Duration	500 ms	60 s	10 min	
10 kVA	Mains input	- ¹	-	-	18.0 A
	Static bypass input	121.5 A	-	-	16.7 A
	UPS output	121.5 A	22.8 A	19 A	16.7 A
15 kVA	Mains input	- ¹	-	-	26.7 A
	Static bypass input	182 A	-	-	25.1 A
	UPS output	182 A	34.2 A	25.4 A	25.1 A
20 kVA	Mains input	- ¹	-	-	35.5 A
	Static bypass input	244 A	-	-	33.4 A
	UPS output	244 A	45.6 A	38 A	33.4 A
30 kVA	Mains input	- ¹	-	-	53.0 A
	Static bypass input	364 A	-	-	50.1 A
	UPS output	364 A	68.4 A	57 A	50.1 A
40 kVA	Mains input	- ¹	-	-	70.6 A
	Static bypass input	487 A	-	-	66.9 A
	UPS output	487 A	91.2 A	76 A	66.9 A
¹ For single mains systems, use the higher value of mains and static bypass					

Physical

Weights and Dimensions

Model kVA	SKU number	Weight kg	Height mm	Width mm	Depth mm
10 kVA	SUVTP10KHS	134	823	352	838
	SUVTP10KH1B2S	305	1499	356	813
	SUVTP10KH1B4S	323.18	1499	559	813
	SUVTP10KH2B2S	396.82	1499	356	813
	SUVTP10KH2B4S	415	1499	559	813
	SUVTP10KH3B4S	506.82	1499	559	813
	SUVTP10KH4B4S	599.09	1499	559	813
15 kVA	SUVTP15KHS	134	823	352	813
	SUVTP15KH2B2S	396.82	1499	356	813
	SUVTP15KH2B4S	415	1499	559	813
	SUVTP15KH3B4S	506.82	1499	559	813
	SUVTP15KH4B4S	599.09	1499	559	813
20 kVA	SUVTP20KHS	134	823	352	813
	SUVTP20KH2B2S	396.82	1499	356	813
	SUVTP20KH2B4S	415	1499	559	813
	SUVTP20KH3B4S	506.82	1499	559	813
	SUVTP20KH4B4S	599.09	1499	559	813
30 kVA	SUVTP30KH4B4S	629.09	1499	559	813
	SUVTP30KHS	182.5	823	523	813
	SUVTP30KH3B4S	536.82	1499	559	813
40 kVA	SUVTP40KHS	182.5	823	523	813
	SUVTP40KH4B4S	629.09	1499	559	813

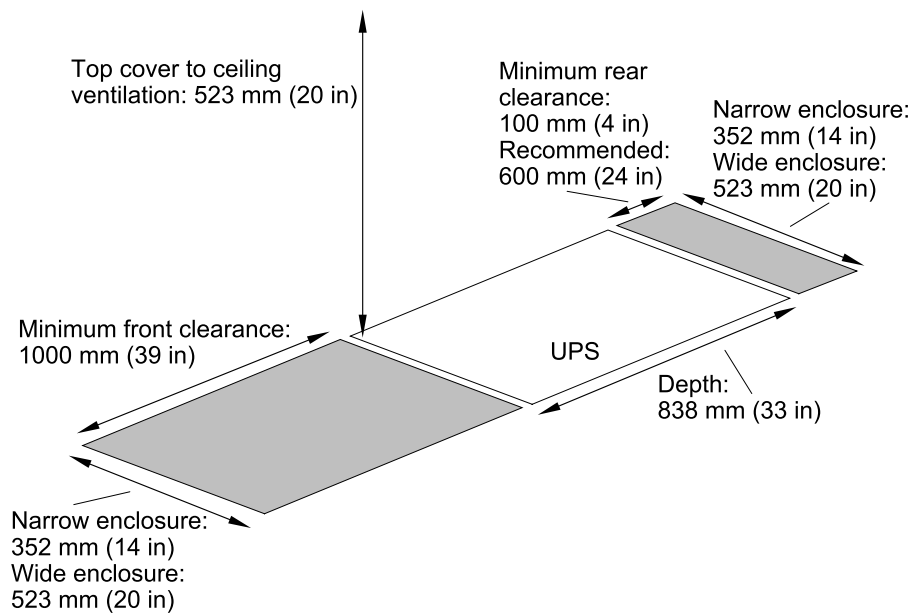
Shipping Weights and Dimensions

Model kVA	SKU number	Weight kg	Height mm	Width mm	Depth mm
10 kVA	SUVTP10KHS	173	1290	720	1110
	SUVTP10KH1B2S	335.91	1643	650	1062
	SUVTP10KH1B4S	354.09	1643	650	1062
	SUVTP10KH2B2S	427.73	1643	650	1062
	SUVTP10KH2B4S	445.91	1643	650	1062
	SUVTP10KH3B4S	537.73	1643	650	1062
	SUVTP10KH4B4S	630	1643	650	1062
15 kVA	SUVTP15KHS	173	1290	720	1110
	SUVTP15KH2B2S	428.18	1643	650	1062
	SUVTP15KH2B4S	445.91	1643	650	1062
	SUVTP15KH3B4S	537.73	1643	650	1062
	SUVTP15KH4B4S	630	1643	650	1062
20 kVA	SUVTP20KHS	173	1290	720	1110
	SUVTP20KH2B2S	428.18	1643	650	1062
	SUVTP20KH2B4S	445.91	1643	650	1062
	SUVTP20KH3B4S	537.73	1643	650	1062
	SUVTP20KH4B4S	630	1643	650	1062
30 kVA	SUVTP30KHS	221.5	1290	720	1110
	SUVTP30KH3B4S	568.18	1643	650	1062
	SUVTP30KH4B4S	660	1643	650	1062
40 kVA	SUVTP40KHS	221.5	1290	720	1110
	SUVTP40KH4B4S	660	1643	650	1062

Clearance



Note: Clearance dimensions are published for airflow and service access only. Consult with the local safety codes and standards for additional requirements in your local area.



Environmental

Relative Humidity	0 - 95%
Operating Temperature	0 - 40 °C (32 - 104 °F)
Storage Temperature	-50 - 40 °C (-58 - 104 °F) Batteries can only be stored for a longer period if they are fully charged. Fully charged batteries can be stored for up to 12 months at temperatures up to 25 °C and up to 6 month at temperatures from 25 °C to 45 °C without being recharged.
Operating Elevation	0-999,9 meters (0-3333 feet)
Storage Elevation	0-15000 meters (0-50000 feet)
Audible noise at 70% load – 1 meter from surface of unit	10-20 kVA: 42.3 dBA 30-40 kVA: 46.2 dBA
Audible noise at 1 meter from surface of unit at 100% load	10-20 kVA: 51.3 dBA 30-40 kVA: 55.0 dBA
Protection Class	IP 20
Colour	Black

Heat Dissipation

Model (kVA)	Thermal dissipation (BTU/hr)
10 kVA batteries fully charged	1583.00
10 kVA batteries charging	1856.00
15 kVA batteries fully charged	1842.00
15 kVA batteries charging	2252.00
20 kVA batteries fully charged	2620.00
20 kVA batteries charging	3166.00
30 kVA batteries fully charged	3685.00
30 kVA batteries charging	4504.00
40 kVA batteries fully charged	5132.00
40 kVA batteries charging	6223.00

Default Settings

System Settings (only updated when in load disconnect)	Default setting
Nominal output voltage (ph-ph)	380/400/415 V
Frequency	50 Hz
Frequency self-detect mode	Auto
Frequency range	±10 Hz
Frequency slew rate	1 Hz/s
Generator charge percentage	100%
Cyclic charge mode enabled	Off
Auto start	On
Parallel UPS number	1
No. of parallel UPSs	1
MBP present	No
Shutdown mode (can only be set from service port)	Never
Shutdown setting	
Low battery duration	2 minutes
Shutdown delay	20 seconds
Turn on delay	0 seconds
Return of battery capacity	0%
Alarm settings	
Load alarm threshold	System power rating
Runtime alarm threshold	0 (disabled)
Parallel redundancy alarm threshold	n+0 (disabled)
Other settings	
Battery self test	Off
External battery capacity	0 Ah
Display settings	
Display language	English
Display contrast	0
Display beeper state	PwerFail+30
Display beeper volume	Low
Display key click	Off

Drawings

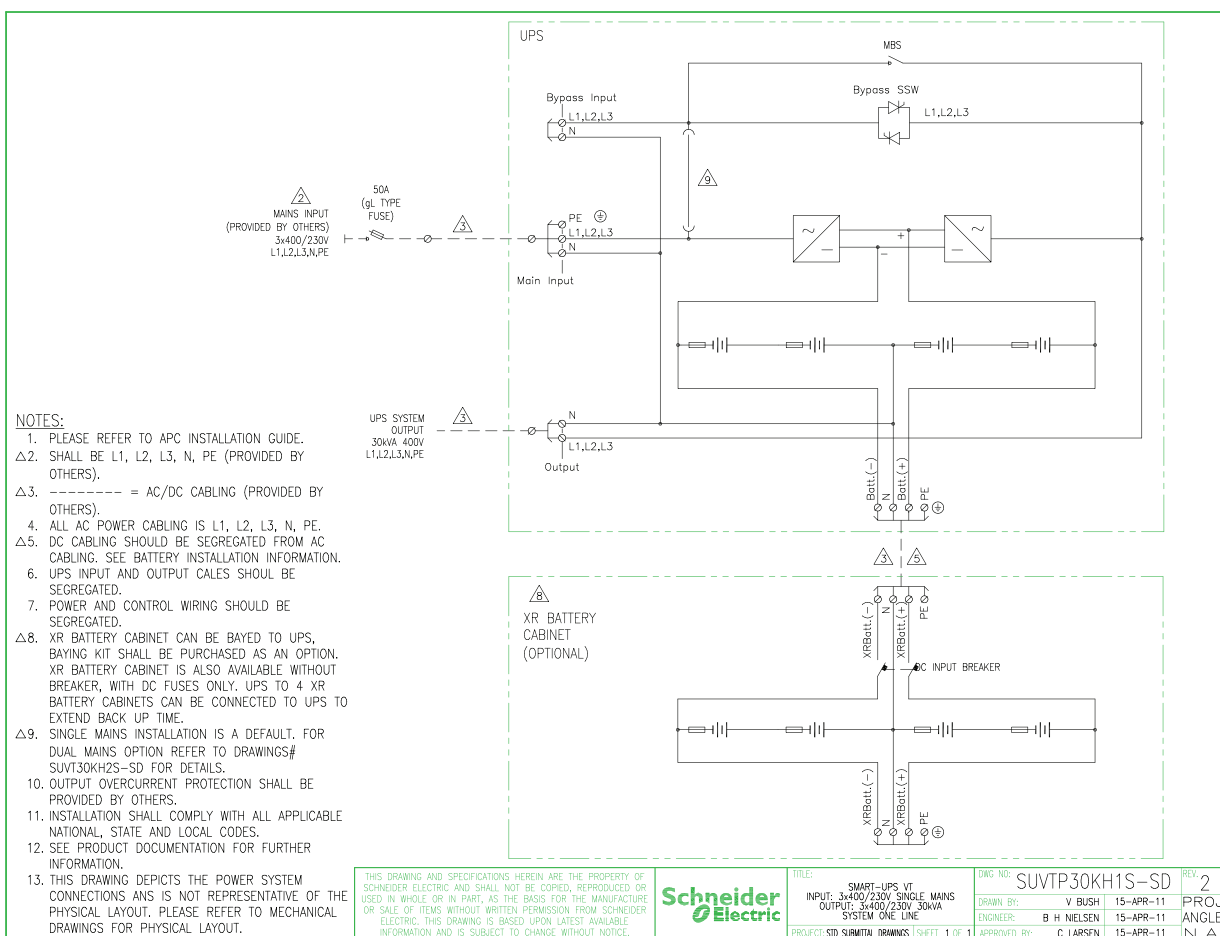


Note: A comprehensive set of drawings is available on the engineering website at www.engineer.apc.com.

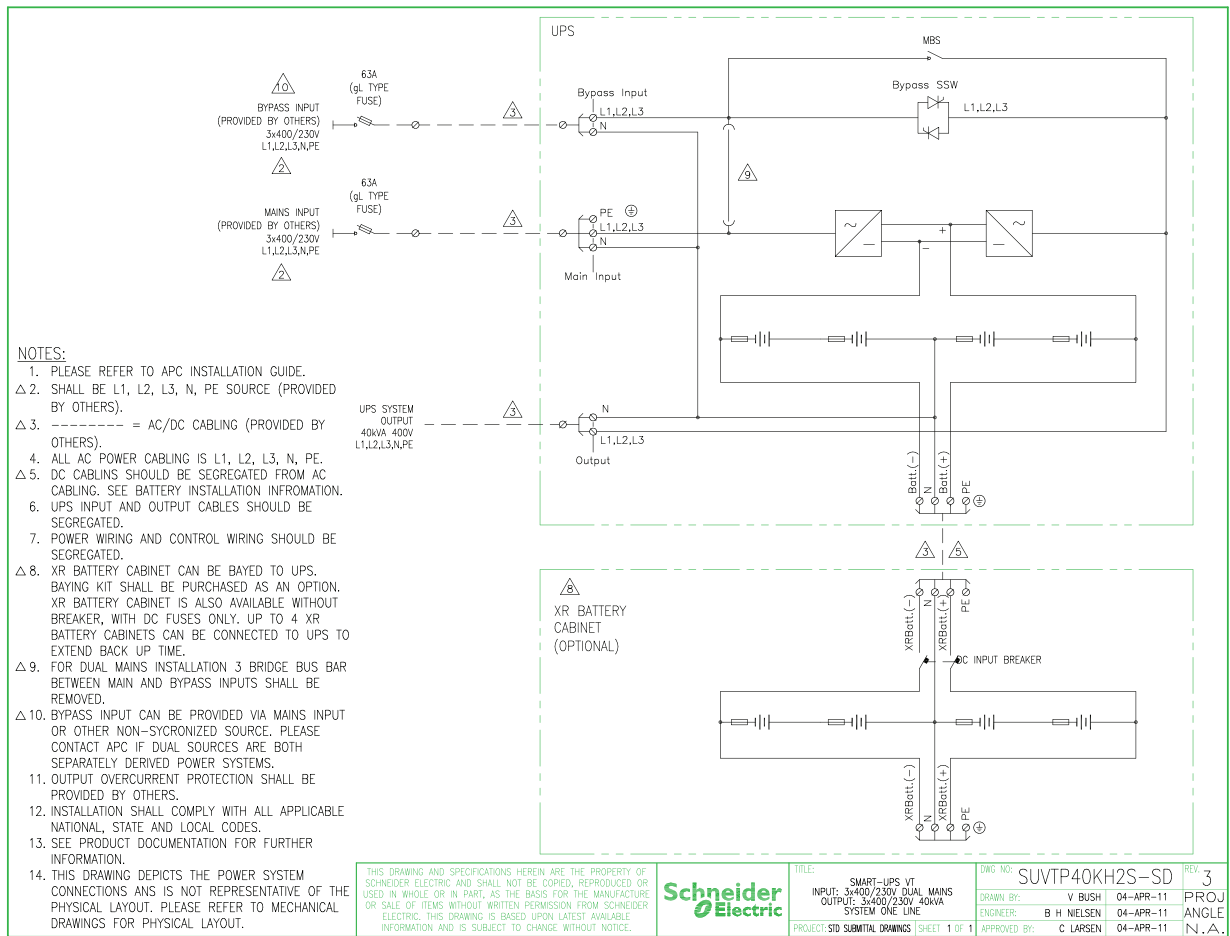


Note: These drawings are for reference ONLY — subject to change without notice.

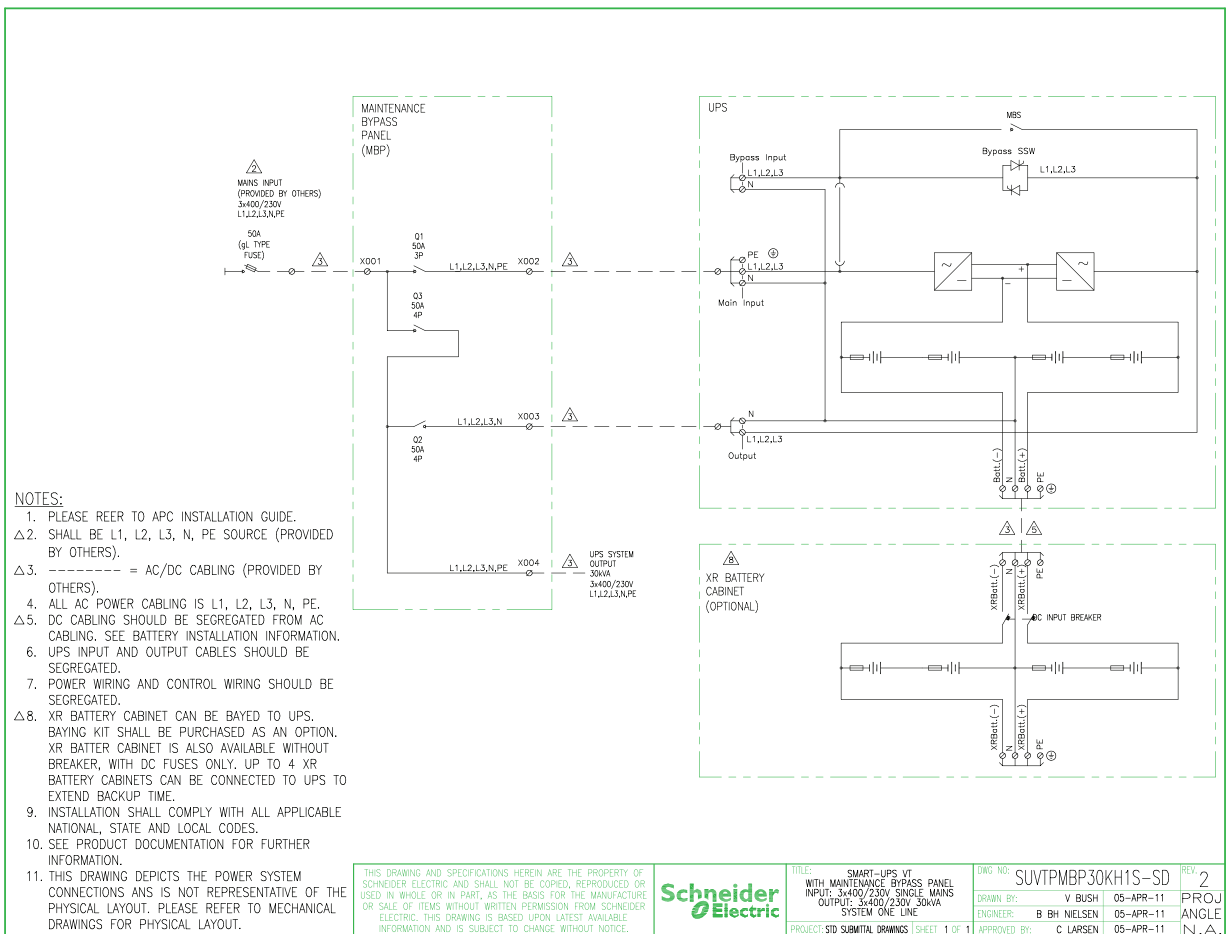
Single Mains without MBP



Dual Mains without MBP



Single Mains with MBP



Options

Hardware Options

Battery Systems

APC Smart-UPS VT Extended Run Frame, w/Breaker, 2 Batt. Modules Exp. to 6, and 5x8 Startup Service	SUVTBXR2B6S
APC Smart-UPS VT Extended Run Enclosure, w/Breaker, 6 Battery Modules and 5x8 Startup Service	SUVTBXR6B6S
APC Smart-UPS VT Extended Run Frame w/2 Batt. Modules Exp. to 6 and 5x8 Startup Service	SUVTXR2B6S
APC Smart-UPS VT Extended Run Enclosure w/6 Batt. Modules and 5x8 Startup Service	SUVTXR6B6S
Battery Module for Symmetra PX, Smart-UPS VT or Galaxy 3500	SYBT4
SYMMETRA PX BATTERY MODULE JAPAN	SYBTJ4

Smart-UPS Accessories

APC Smart-UPS VT Conduit Box for 20.59inch/523mm UPS Enclosure	SUVTOPT002
APC Smart-UPS VT Conduit Box for 13.85inch/352mm UPS Enclosure	SUVTOPT001
APC Smart-UPS VT Battery Lock Kit for 1 Batt. Module	SUVTOPT003
APC Smart-UPS VT Baying Kit, XR to XR	SUVTOPT006
APC Smart-UPS VT Baying Kit, 20inch/523mm UPS Enclosure to XR	SUVTOPT005
Smart-UPS VT Parallel Operation Baying Kit	SUVTOPT011
APC Smart-UPS VT 10-20kVA 400V Battery Breaker Box for Batteries 24Ah to 42Ah +/-200V DC	SUVTBB10K20H
APC Smart-UPS VT 10-40kVA 400V Battery Breaker Box for Batteries 42Ah and above	SUVTBB10K40H
APC Smart-UPS VT Battery Temperature Sensor for External Battery Cabinet	SUVTOPT007
APC Smart-UPS VT Parallel Communications Kit	SUVTOPT009
APC Smart-UPS VT Parallel Communications Kit, including Installation	SUVTOPT009S
APC Smart-UPS VT Parallel Maintenance Bypass Kit	SUVTOPT010
APC Smart-UPS VT Subfeed Distribution 400/230V, (12) C19 16A & (1) 40A 3P HW output	SUVTOPT101
APC Smart-UPS VT Subfeed Distribution 400/230V, (12) C19 16A & (1) 50A 3P HW output	SUVTOPT102
APC Smart-UPS VT Subfeed Distribution 400V, (2) CEE-32 32A & (3) IEC 309 - 16A	SUVTOPT103
APC Smart-UPS VT Input Breaker for 30kVA/400V UPS	SUVTOPT110
APC Smart-UPS VT Input Breaker for 40kVA/400V UPS	SUVTOPT111
APC Smart-UPS VT Maintenance Bypass Panel 10-20kVA 400V Wallmount	SBPSU10K20HC1M1-WP
APC Smart-UPS VT Maintenance Bypass Panel 30-40kVA 400V Wallmount	SBPSU30K40HC1M1-WP
APC Parallel Maintenance Bypass Panel, up to 3 units 10-20kVA 400V Wallmount	SBPAR10K20H-WP
APC Parallel Maintenance Bypass Panel, up to 3 units 30-40kVA, 400V Wallmount	SBPAR30K40H-WP

APC Smart-UPS VT Empty Frame for Batteries 10-40kVA 400V Floormount	SUVTEFBAT10K40H
APC Smart-UPS VT Empty Frame for Transformer 10-40kVA 400V Floormount	SUVTEFXFM10K40H

Interface Cables

UPS Communications Cable Simple Signalling	940-0020
UPS Communication Cable Smart Signaling	940-0024
UPS Communications Cable Smart Signalling 15' / 4.5m	AP9804
15'/5m Extension Cable for use w/ UPS communications cable	AP9815
UNIX BASIC SIGNALING CABLE	AP9823
Isolate Serial Extension Cable	AP9825
UPS Extension Cable Isolate 15M	AP9825I
UPS Communication Cable for IBM AS/400	940-0006
Cisco Unity Express UPS Simple Signaling Cable	AP9840

Management Cards and Options

SMARTSLOT EXPANSION CHASSIS	AP9600
APC SmartSlot Triple Chassis Black	AP9604BLK
Modbus/Jbus Interface Card	AP9622
UPS Network Management Card 2	AP9630
UPS Network Management Card 2 with Environmental Monitoring	AP9631
UPS Network Management Card w/ Environmental Monitoring & Out of Band Management	AP9618

Power Distribution Units

Rack PDU,Basic,ZeroU,16A,230V,(20)C13 & (4)C19; IEC309	AP7551
Rack PDU, Basic, Zero U, 32A, 230V, (20)C13 & (4)C19	AP7553
Rack PDU, Basic, 1U, 22kW, 400V, (6) C19	AP7526
Rack PDU, Basic, Zero U, 22kW, 400V, (6) C19 & (3) C13	AP7555A
In-Line Current Meter, 16A, 230V, IEC309-16A, 2P+G	AP7152
In-Line Current Meter, 32A, 230V, IEC309	AP7155
Rack PDU, Metered, 1U, 16A, 208/230V, (8) C13	AP7821
Rack PDU 2G, Metered, ZeroU, 32A, 230V, (36) C13 & (6) C19	AP8853
Rack PDU 2G, Metered, ZeroU, 16A, 230V, (18) C13 & (2) C19, IEC309 Cord	AP8858EU3
Rack PDU, Metered, Zero U, 22kW, 400V, (6) C19	AP7855A
Rack PDU 2G, Switched Plus, ZeroU, 32A, 230V, (21) C13 & (3) C19	AP8653
Rack PDU, Switched, 2U, 32A, 230V, (16)C13	AP7922
Rack PDU 2G, Switched, ZeroU, 32A, 230V, (21) C13 & (3) C19	AP8953
Rack PDU 2G, Switched, ZeroU, 16A, 230V, (7) C13 & (1) C19, IEC309 Cord	AP8958EU3
Rack PDU 2G, Switched, ZeroU, 16A, 230V, (21) C13 & (3) C19, IEC309 Cord	AP8959EU3

Modular Power Accessories

APC Modular IT Power Distribution Cable Extender 3 Wire 16A IEC309 1080cm	PDX316IEC-1080
APC Modular IT Power Distribution Cable Extender 3 Wire 16A IEC309 120cm	PDX316IEC-120
APC Modular IT Power Distribution Cable Extender 3 Wire 16A IEC309 1200cm	PDX316IEC-1200
APC Modular IT Power Distribution Cable Extender 3 Wire 16A IEC309 240cm	PDX316IEC-240
APC Modular IT Power Distribution Cable Extender 3 Wire 16A IEC309 360cm	PDX316IEC-360
APC Modular IT Power Distribution Cable Extender 3 Wire 16A IEC309 480cm	PDX316IEC-480
APC Modular IT Power Distribution Cable Extender 3 Wire 16A IEC309 600cm	PDX316IEC-600
APC Modular IT Power Distribution Cable Extender 3 Wire 16A IEC309 720cm	PDX316IEC-720
APC Modular IT Power Distribution Cable Extender 3 Wire 16A IEC309 840cm	PDX316IEC-840
APC Modular IT Power Distribution Cable Extender 3 Wire 16A IEC309 960cm	PDX316IEC-960
APC Modular IT Power Distribution Cable Extender 3 Wire 32A IEC309 1080cm	PDX332IEC-1080
APC Modular IT Power Distribution Cable Extender 3 Wire 32A IEC309 120cm	PDX332IEC-120
APC Modular IT Power Distribution Cable Extender 3 Wire 32A IEC309 1200cm	PDX332IEC-1200
APC Modular IT Power Distribution Cable Extender 3 Wire 32A IEC309 240cm	PDX332IEC-240
APC Modular IT Power Distribution Cable Extender 3 Wire 32A IEC309 360cm	PDX332IEC-360
APC Modular IT Power Distribution Cable Extender 3 Wire 32A IEC309 480cm	PDX332IEC-480
APC Modular IT Power Distribution Cable Extender 3 Wire 32A IEC309 600cm	PDX332IEC-600
APC Modular IT Power Distribution Cable Extender 3 Wire 32A IEC309 720cm	PDX332IEC-720
APC Modular IT Power Distribution Cable Extender 3 Wire 32A IEC309 840cm	PDX332IEC-840
APC Modular IT Power Distribution Cable Extender 3 Wire 32A IEC309 960cm	PDX332IEC-960
APC IT Power Distribution Module 3x1 Pole 3 Wire 16A 3xIEC309 300cm, 360cm, 420cm	PDM1316IEC-3P
APC IT Power Distribution Module 3x1 Pole 3 Wire 32A 3xIEC309 300cm, 360cm, 420cm	PDM1332IEC-3P
APC IT Power Distribution Module 3x1 Pole 3 Wire 32A 3xIEC309 480cm, 540cm, 600cm	PDM1332IEC-3P-2
APC IT Power Distribution Module 3x1 Pole 3 Wire 32A 3xIEC309 660cm, 720cm, 780cm	PDM1332IEC-3P-3

Power Cords & Power Cord Adapters

Power Cord Kit (6 ea), Locking, C19 to C20 (90 Degree), 0.6m	AP8712R
Power Cord Kit (6 ea), Locking, C19 to C20, 0.6m	AP8712S
Power Cord Kit (6 ea), Locking, C19 to C20 (90 Degree), 1.2m	AP8714R
Power Cord Kit (6 ea), Locking, C19 to C20, 1.2m	AP8714S
Power Cord Kit (6 ea), Locking, C19 to C20 (90 Degree), 1.8m	AP8716R
Power Cord Kit (6 ea), Locking, C19 to C20, 1.8m	AP8716S
Power Cord Kit (6 ea), C19 to C20 (90 degree), 0.6m	AP98892F
Power Cord Kit (6 ea), C19 to C20 (90 degree), 1.2m	AP98894F
Power Cord Kit (6 ea), C19 to C20 (90 degree), 1.8m	AP98896F
Power Cord, C19 to C20, 0.6m	AP9892
Power Cord, C20 to IEC309 (16A), 2.5m	AP9899

Rack-mount Transfer Switches

Rack ATS, 16A, 230V, (2)IEC 309 in, (1)IEC 309 out

AP7722

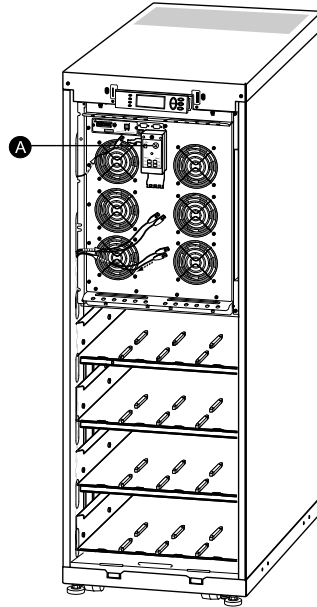
Rack ATS, 2U 230V, 32A, IEC309-32A In, (16)C13, (2)C19 Out

AP7724

Parallel Capabilities

Paralleling Capabilities

- Communication between parallel units via the Parallel Communication Box
- Parallel System Bypass for up to three UPS units in parallel
- 3:3 systems:
 - Up to 4 units in parallel for capacity and/or redundancy



A.Parallel
Communication
Box

APC by Schneider Electric Limited Factory Warranty

Three Phase Power Products or Cooling Solutions One-Year Factory Warranty

The limited warranty provided by APC by Schneider Electric (APC®) in this Statement of Limited Factory Warranty applies only to products you purchase for your commercial or industrial use in the ordinary course of your business.

Terms of Warranty

American Power Conversion warrants that the product shall be free from defects in materials and workmanship for a period of one year from the date of product start-up when start-up is performed by APC authorized service personnel and occurs within six months of The APC shipment date. This warranty covers repairing or replacing any defective parts including on-site labor and travel. In the event that the product fails to meet the foregoing warranty criteria, the warranty covers repairing or replacing defective parts at the sole discretion of APC for a period of one year from the shipment date. For APC cooling solutions, this warranty does not cover circuit breaker resetting, loss of refrigerant, consumables, or preventive maintenance items. Repair or replacement of a defective product or part thereof does not extend the original warranty period. Any parts furnished under this warranty may be new or factory-remanufactured.

Non-transferable Warranty

This warranty is extended to the first person, firm, association or corporation (herein referred to by “You” or “Your”) for whom the APC product specified herein has been purchased. This warranty is not transferable or assignable without the prior written permission of APC.

Assignment of Warranties

APC will assign you any warranties which are made by manufacturers and suppliers of components of the APC product and which are assignable. Any such warranties are assigned “AS IS” and APC makes no representation as to the effectiveness or extent of such warranties, assumes no responsibility for any matters which may be warranted by such manufacturers or suppliers and extends no coverage under this Warranty to such components.

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APC warrants for the warranty period and on the terms of the warranty set forth herein that the APC product will substantially conform to the descriptions contained in the APC Official Published Specifications or any of the drawings certified and agreed to by contract with APC if applicable thereto (“Specifications”). It is understood that the Specifications are not warranties of performance and not warranties of fitness for a particular purpose.

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Worldwide Customer Support

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