Technical Specifications

Smart-UPS VT 10-30 kVA 208 V

APC™
by Schneider Electric

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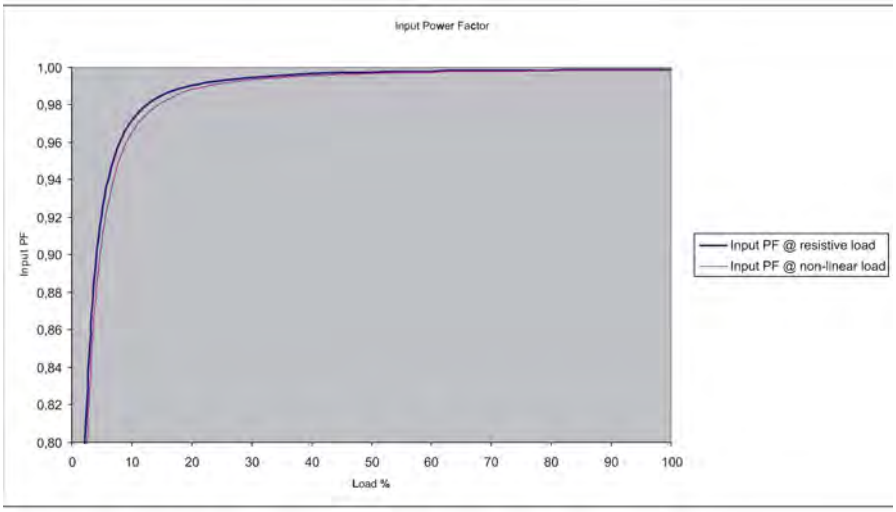
Technical Data

Model List

10 kVA	SUVTP10KF1B2S	APC Smart-UPS VT 10kVA 208V w/1 Batt Mod Exp to 2, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP10KF1B4S	APC Smart-UPS VT 10kVA 208V w/1 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP10KF2B2S	APC Smart-UPS VT 10kVA 208V w/2 Batt. Mod., Start-Up 5X8, Internal Maint Bypass, Parallel Capability
	SUVTP10KF2B4S	APC Smart-UPS VT 10kVA 208V w/2 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP10KF3B4S	APC Smart-UPS VT 10kVA 208V w/3 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP10KF4B4S	APC Smart-UPS VT 10kVA 208V w/4 Batt Mod., Start-Up 5X8, Int Maint Bypass, Parallel Capable
15 kVA	SUVTP15KF2B2S	APC Smart-UPS VT 15kVA 208V w/2 Batt Mod., Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP15KF2B4S	APC Smart-UPS VT 15kVA 208V w/2 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP15KF3B4S	APC Smart-UPS VT 15kVA 208V w/3 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP15KF4B4S	APC Smart-UPS VT 15kVA 208V w/4 Batt Mod, Start-Up 5X8, Int Maint Bypass, Parallel Capable
20 kVA	SUVTP20KF2B4S	APC Smart-UPS VT 20kVA 208V w/2 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP20KF3B4S	APC Smart-UPS VT 20kVA 208V w/3 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP20KF4B4S	APC Smart-UPS VT 20kVA 208V w/4 Batt. Mod., Start-Up 5X8, Internal Maint Bypass, Parallel Capability
30 kVA	SUVTP30KF3B4S	APC Smart-UPS VT 30kVA 208V w/3 Batt Mod Exp to 4, Start-Up 5X8, Int Maint Bypass, Parallel Capable
	SUVTP30KF4B4S	APC Smart-UPS VT 30kVA 208V w/4 Batt. Mod., Start-Up 5X8, Internal Maint Bypass, Parallel Capability

Input Power Factor

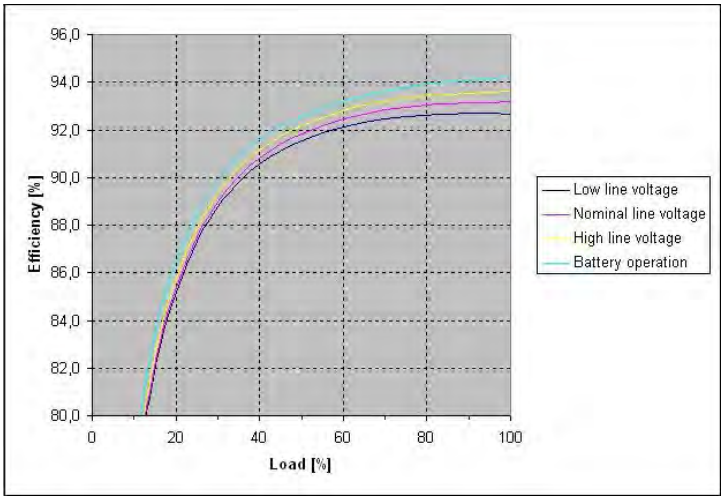


Efficiency

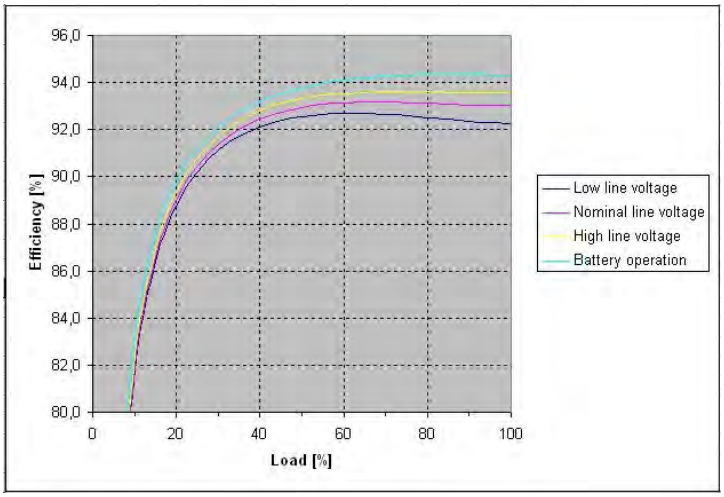
System	25% load	50% load	75% load	100% load
10 kVA 208 V	87.5	91.8	92.9	93.2
15 kVA 208 V	90.4	92.9	93.1	93
20 kVA 208 V	88.6	92.4	93.3	93.4
30 kVA 208 V	91.2	93.3	93.3	93.1

Efficiency Curves

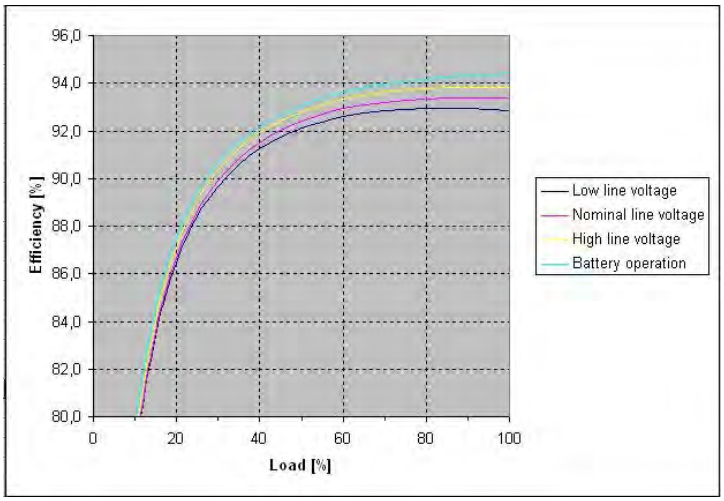
10 kVA 208 V



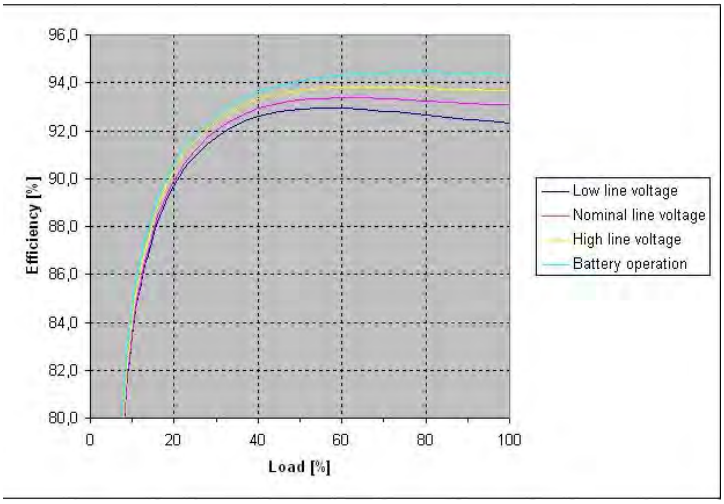
15 kVA 208 V



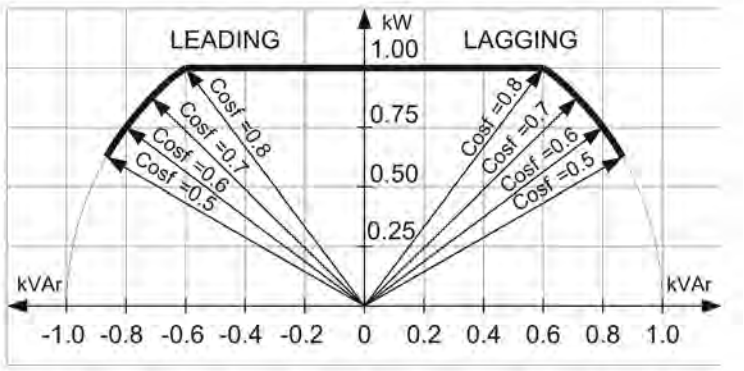
20 kVA 208 V



30 kVA 208 V



Derating due to Load Power Factor



Batteries

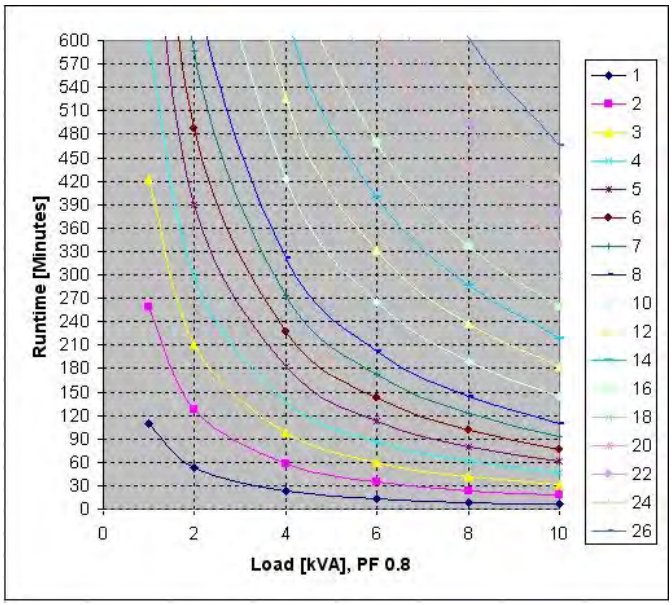
Efficiency DC to AC

	10 kVA		15 kVA		20 kVA		30 kVA	
	208 V	**220V**	**208 V**	**220V**	**208 V**	**220V**	**208 V**	**220V**
Efficiency at nominal batt. voltage (%)	94.3	94.4	94.3	94.4	94.3	94.4	94.3	94.4

Battery Run-Times - APC Battery Solution

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

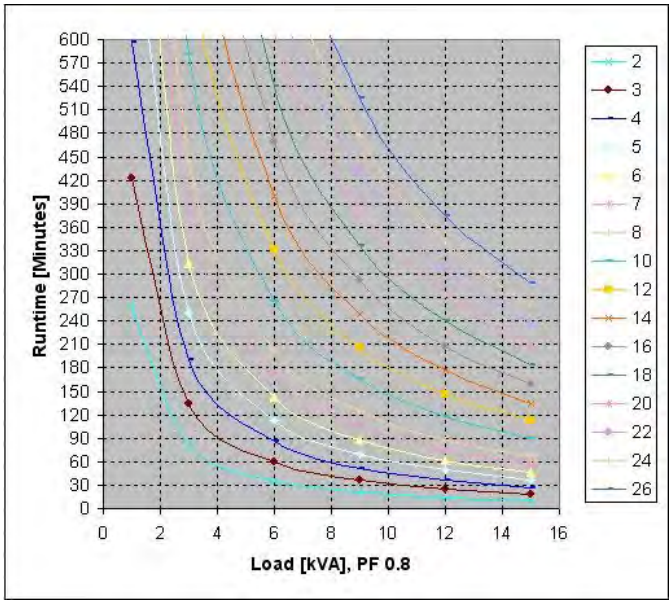
10 kVA 208 V Typical Performances



	Load kVA					
# of battery shelves	**1**	**2**	**4**	**6**	**8**	**10**
1	110	53	23	13	9	6
2	258	128	58	35	24	18

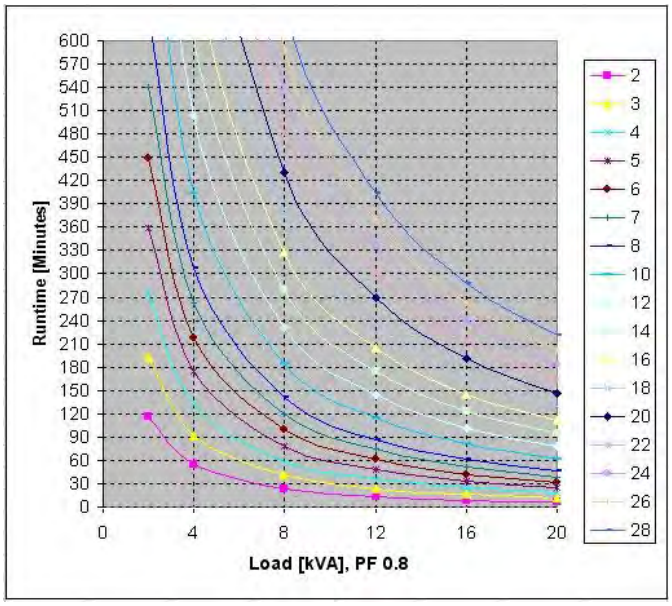
	Load kVA					
# of battery shelves	**1**	**2**	**4**	**6**	**8**	**10**
3	422	210	97	60	42	31
4	597	298	138	86	61	46
5	781	390	182	113	80	61
6	973	487	227	142	101	77
7	1172	586	274	172	122	93
8	1376	689	322	202	144	110
9	1586	794	372	233	167	128
10	1800	901	422	265	189	145
11	2019	1011	474	298	213	163
12	2241	1123	526	331	237	182
13	2468	1236	580	365	261	200
14	2697	1352	634	399	286	219
15	2931	1468	689	434	310	239
16	3167	1587	745	469	336	258
17	3406	1707	801	505	361	278
18	3648	1829	858	541	387	298
19	3893	1951	916	577	413	318
20	4140	2075	975	614	440	339
21	4390	2201	1034	652	467	359
22	4642	2327	1093	689	494	380
23	4897	2455	1153	727	521	401
24	5154	2584	1214	765	548	422
25	5413	2714	1275	804	576	444
26	5674	2845	1337	843	604	465

15 kVA 208 V Typical Performances



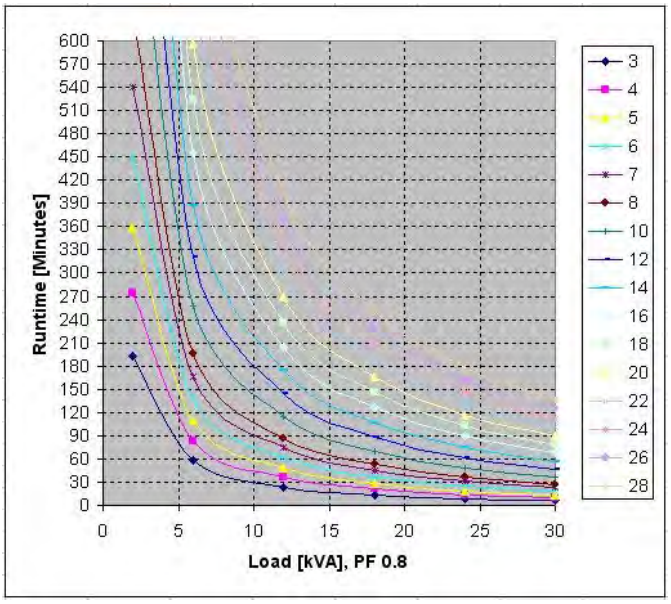
	Load kVA					
# of battery shelves	**1**	**3**	**6**	**9**	**12**	**15**
1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	258	81	35	21	14	10
3	422	134	60	36	25	18
4	597	191	86	52	36	27
5	781	251	113	70	49	37
6	973	314	142	88	62	47
7	1172	378	172	106	75	57
8	1376	444	202	125	88	67
9	1586	512	233	145	102	78
10	1800	582	265	165	117	89
11	2019	653	298	185	131	100
12	2241	725	331	206	146	112
13	2468	799	365	227	161	123
14	2697	873	399	249	177	135
15	2931	949	434	270	192	147
16	3167	1026	469	292	208	159
17	3406	1103	505	315	224	171
18	3648	1182	541	337	240	184
19	3893	1261	577	360	256	196
20	4140	1342	614	383	273	209
21	4390	1423	652	407	290	222
22	4642	1505	689	430	306	235
23	4897	1587	727	454	323	248
24	5154	1671	765	478	341	261
25	5413	1755	804	502	358	274
26	5674	1840	843	526	375	288

20 kVA 208 V Typical Performances



	Load kVA					
# of battery shelves	**2**	**4**	**8**	**12**	**16**	**20**
1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	117	55	24	14	9	6
3	193	92	41	24	16	12
4	274	132	59	36	25	18
5	359	174	78	48	33	25
6	448	217	99	61	42	32
7	540	262	119	74	52	39
8	634	308	141	87	61	46
9	731	355	163	101	71	54
10	830	404	185	115	81	62
11	931	453	208	129	91	70
12	1034	503	231	144	102	78
13	1138	554	255	159	113	86
14	1244	606	279	174	123	94
15	1352	659	303	189	134	103
16	1461	712	328	205	145	111
17	1572	766	353	220	157	120
18	1684	821	378	236	168	129
19	1797	876	404	252	180	137
20	1911	932	430	269	191	146
21	2027	988	456	285	203	155
22	2143	1045	482	302	215	165
23	2261	1103	509	318	227	174
24	2379	1161	536	335	239	183
25	2499	1219	563	352	251	193
26	2620	1278	590	369	263	202
27	2741	1338	618	387	276	211
28	2864	1397	645	404	288	221

30 kVA 208 V Typical Performances



	Load kVA					
# of battery 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	193	58	24	14	9	6
4	274	83	36	21	14	10
5	359	110	48	29	19	14
6	448	138	61	36	25	18
7	540	166	74	45	31	23
8	634	196	87	53	37	27
9	731	226	101	61	43	32
10	830	257	115	70	49	37
11	931	289	129	79	55	42
12	1034	321	144	88	62	47
13	1138	354	159	98	69	52
14	1244	387	174	107	75	57
15	1352	421	189	117	82	62
16	1461	455	205	126	89	68
17	1572	489	220	136	96	73
18	1684	524	236	146	103	78
19	1797	560	252	156	110	84
20	1911	596	269	166	117	89
21	2027	632	285	176	125	95
22	2143	668	302	187	132	101
23	2261	705	318	197	140	106
24	2379	742	335	208	147	112
25	2499	780	352	218	155	118
26	2620	817	369	229	162	124

	Load kVA					
# of battery shelves	**2**	**6**	**12**	**18**	**24**	**30**
27	2741	855	387	240	170	130
28	2864	894	404	251	178	136

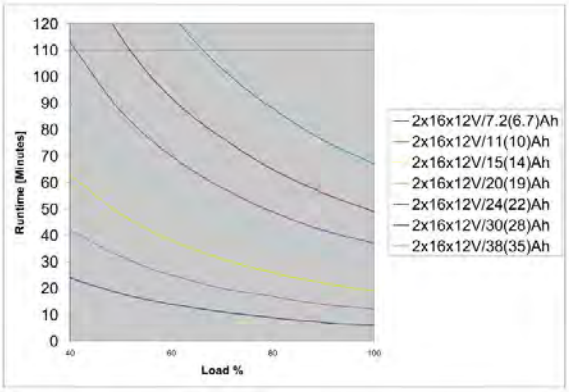
Battery Run-Times - Non-Modular Batteries

- 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

* Approximately equivalent 10 hr rate ah

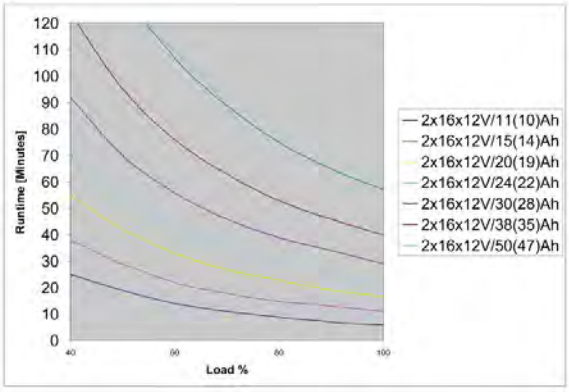
Battery Ah		**Load %**						
20 hr rate	***10 hr rate**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
7.2	6.7	24	18	14	11	9	7	6
11	10	42	32	25	20	17	14	12
15	14	63	48	38	31	26	22	19
20	19	90	69	55	46	39	33	29
24	22	113	87	70	58	49	42	37
30	28	149	115	92	77	65	56	49
38	35	199	154	124	103	88	76	67



15 kVA

* Approximately equivalent 10 hr rate ah

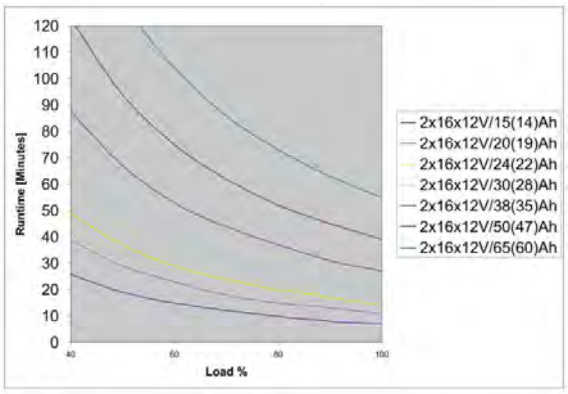
Battery Ah		**Load %**						
20 hr rate	***10 hr rate**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
11	10	25	19	14	11	9	7	6
15	14	38	29	22	18	15	13	11
20	19	55	42	33	27	23	19	17
24	22	70	53	42	35	29	25	21
30	28	92	70	56	46	39	34	29
38	35	124	95	76	63	53	46	40
50	47	174	133	107	89	75	65	57



20 kVA

* Approximately equivalent 10 hr rate ah

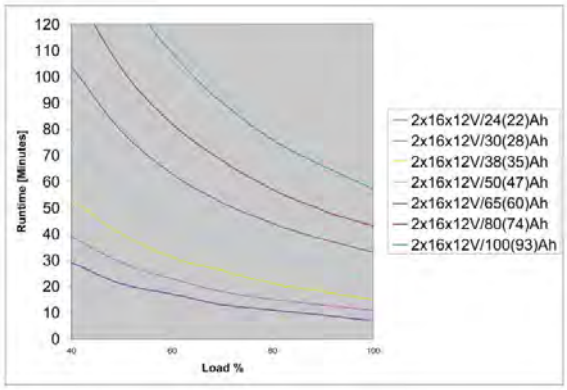
Battery Ah		Load %						
20 hr rate	***10 hr rate**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
15	14	26	19	15	12	10	8	7
20	19	39	29	23	18	15	13	11
24	22	49	37	29	24	20	17	14
30	28	65	49	39	32	27	23	20
38	35	88	67	53	44	37	31	27
50	47	123	94	75	62	52	45	39
65	60	170	130	104	86	73	63	55



30 kVA

* 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

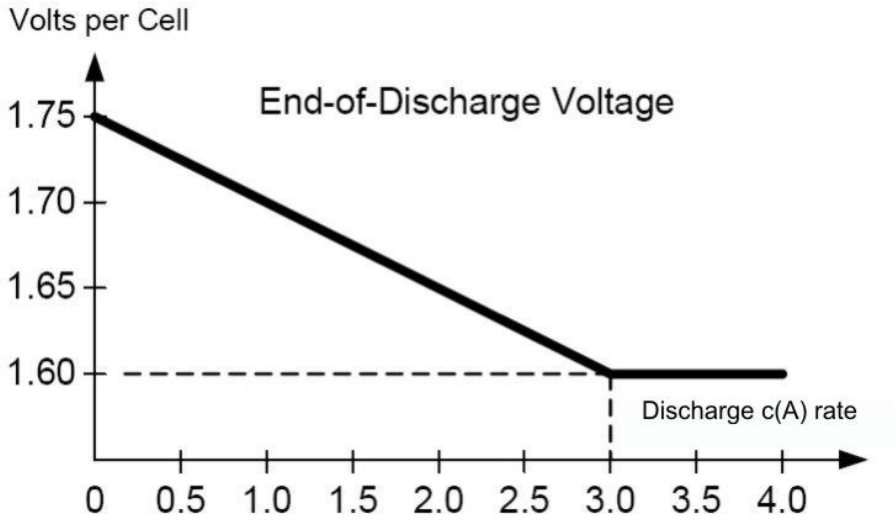


Battery Discharge Current

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

End of Discharge Voltage at 100% Load

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



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

Battery Gassing Rates

10–15 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

Battery position	# of bat shelves	Gassing rate cc/hr (ml/hr)	
		Typical	Max
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

20–30 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

Battery position	# of bat shelves	Gassing rate cc/hr (ml/hr)	
		Typical	Max
XR4	28	672	1344
XR4	28	672	1344

Electrolyte Values for SYBTU1–PLP

	Battery module	String of batteries (Four battery modules)
Electrolyte volume L (gal)	2.78 (0.72)	11.14 (2.87)
Electrolyte weight kg (lbs)	3.72 (8.18)	14.86 (32.73)
Sulfuric acid volume L (gal)	0.89 (0.23)	3.54 (0.91)
Sulfuric acid weight kg (lbs)	1.62 (3.57)	6.48 (14.27)

Battery Material Safety Data Sheet

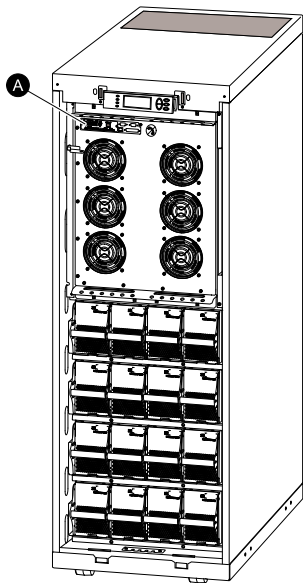
Note: For Material Safety Data Sheet (MSDS), go to ***"http://nam-en.apc.com/app/answers/detail/a_id/564/kw/msds"***.

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



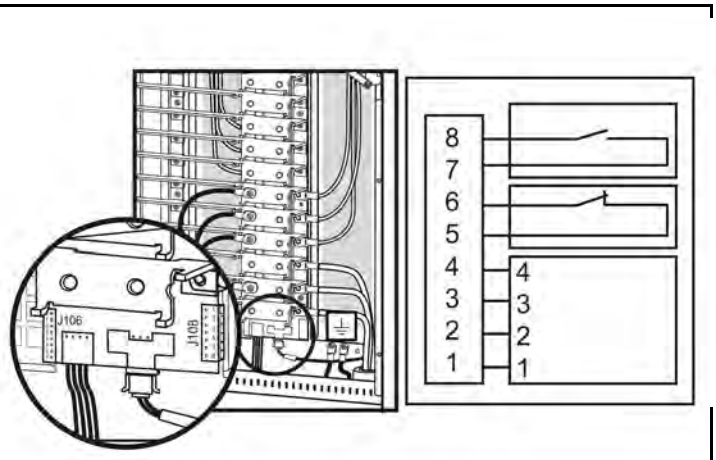
Input and Output Contacts

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

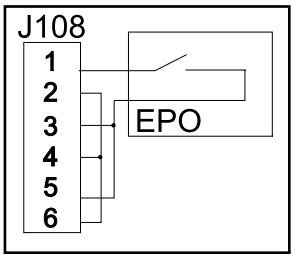
Connect the EPO cable using one of the following four wiring configurations.

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

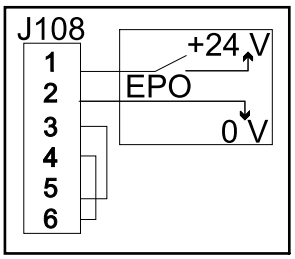
Note: The UPS must be connected to either a dry contact or a 24 VDC EPO (Emergency Power Off) switch.

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

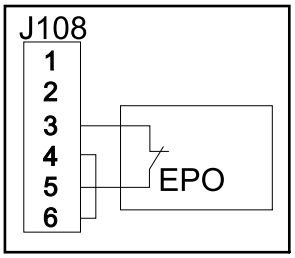
1. **Dry Contacts Normally Open**: EPO is activated when pin 1 is connected to pins 3 and 5. Connections: 2-4-6, 3-5, and 1 (Normally Open).



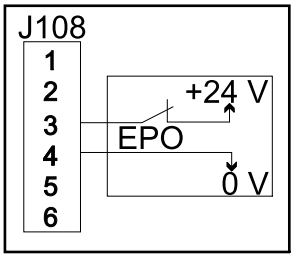
2. **+24 V Normally Open**: EPO is activated when an isolated SELV 24 VDC voltage is supplied on pin 1 with reference to pin 2. Connections: 3-5 and 4-6.



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.

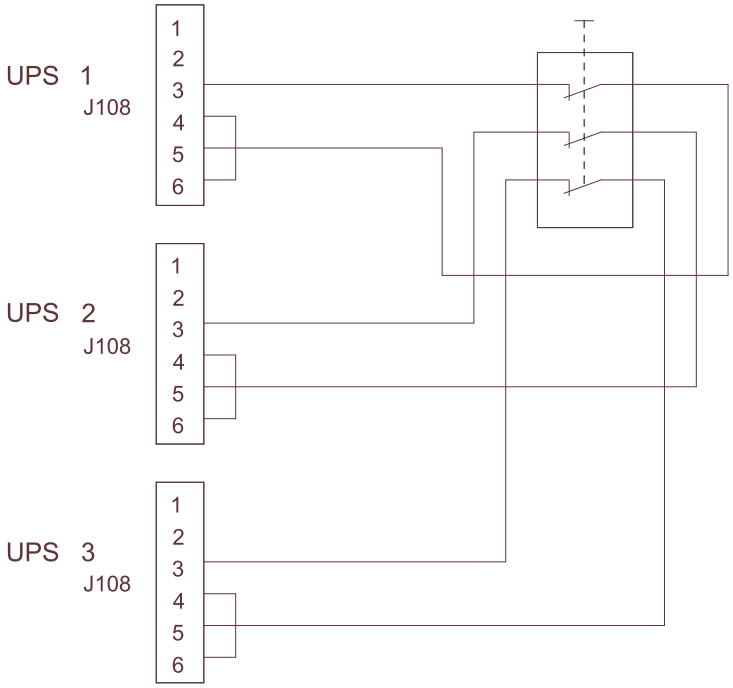


EPO in Parallel Systems

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	89/336/EDC73/237/EEC
Safety	EN/IEC62040-1-1UL1778
EMC	EN50091-2/IEC62040-2FCC15A
Performance	EN/IEC62040-3
Electromagnetic compatibility (EMC)	EN/IEC 61000-4-2 level 3, performance criteria AEN/IEC 61000-4-3 level 2, performance criteria AEN/IEC 61000-4-4 level 2, performance criteria AEN/IEC 61000-4-5 level 3, performance criteria A

Facility Planning

AC Input Specifications

	10 kVA		15 kVA		20 kVA		30 kVA	
	208 V	**220 V**	**208 V**	**220 V**	**208 V**	**220 V**	**208 V**	**220 V**
Connection type	4-wire (3PH + N + G)							
Input frequency (Hz)	40-70							
I thd	< 5% at full load							
Nom input current (A)	24.3	23.0	36.6	34.6	48.6	45.8	73.2	69.0
Max input current (A)	26.7	25.2	40.2	38.0	53.0	50.1	80.1	75.8
Input current limitation (A)	32.8	32.8	49.5	49.5	65.2	65.2	98.8	98.8
Input power factor correction	> 0.98 at load > 50%							
Maximum Short Circuit Withstand (kA)	30							

AC Bypass Input Specifications

	10 kVA		15 kVA		20 kVA		30 kVA	
	208 V	**220 V**	**208 V**	**220 V**	**208 V**	**220 V**	**208 V**	**220 V**
Connection type	4-wire (3PH + N + G)							
Input frequency (Hz)	50 +/- 10 or 60 +/- 10							
Nom input current (A)	27.8	26.2	41.6	39.4	55.5	52.5	83.3	78.7

AC Output Specifications

	10 kVA		15 kVA		20 kVA		30 kVA	
	208 V	**220 V**	**208 V**	**220 V**	**208 V**	**220 V**	**208 V**	**220 V**
Connection type	4-wire (3PH + N + G)							
Overload capacity	150% for 1 minute (normal operation) 125% for 10 minutes (normal operation) 150% for 1 minute (battery operation) 125% for 10 minutes (battery operation) 110% continuous (bypass operation) 800% for 500 ms (bypass operation)							
Voltage tolerance	160-240 V for 208 V systems 160-253 V for 220 V systems							
Nom output current (A)	27.8	26.2	41.6	39.4	55.5	52.5	83.3	78.7
Output frequency (sync to mains)	50 Hz ±0.1 Hz, ±3 Hz, ±10 Hz 60 Hz ±0.1 Hz, ±3 Hz, ±10 Hz							
Slew rate (Hz/Sec)	0.25-1							
Total Harmonic Distortion (THD)	< 1.5% linear < 3.5% non-linear							
Load power factor	0.5 leading to 0.5 lagging							
Dynamic load response	± 5%							
Output voltage regulation	± 1%							

Battery Specifications

Type	**VRLA**
Nominal voltage (VDC)	+/- 192
Float voltage (VDC)	+/- 219
End of discharge voltage (VDC)	+/- 154
Battery current (at full load)	66.5 A at +/-192 V
Max. current (at end of discharge)	83.2 A at + 154 V
Max. charging power	10 kVA: 1600 W 15 kVA: 2400 W 20 kVA: 3200 W 30 kVA: 3200 W
Typical re-charge time	5 hours
End voltage	1.6-1.75 V/cell (automatic, depending on load)

Recommended Cable Sizes

WARNING: At 100% switch mode load, the neutral must be rated for 200% phase current.

Caution: All wiring must comply with all applicable national and/or electrical code.

Note: The recommended cable sizes are based on an environment with an ambient temperature of 30° C (86° F).

	10 kVA	15 kVA	20 kVA	30 kVA
Utility/mains input	8 AWG	6 AWG	4 AWG	1 AWG
Static bypass input	8 AWG	6 AWG	4 AWG	1 AWG
DC input	1 AWG	1 AWG	1 AWG	1 AWG
Output	8 AWG	6 AWG	4 AWG	1 AWG

Connection Terminals

Cable size (AWG)	Cable lug type	Crimping tool	Die	Terminal bolt diameter
12	YA12CL2TC38	MD7-34R	W12CVT	6 mm (0.2 in)
8	YA8CL2TC38	MD7-34R	W8CVT	6 mm (0.2 in)
6	YA6CL2TC38	MD7-34R	W6CVT	6 mm (0.2 in)
4	YA4CL2TC38	MD7-34R	W4CVT	6 mm (0.2 in)
1	YA1CL2TC38	MD7-34R	W1CVT	6 mm (0.2 in)

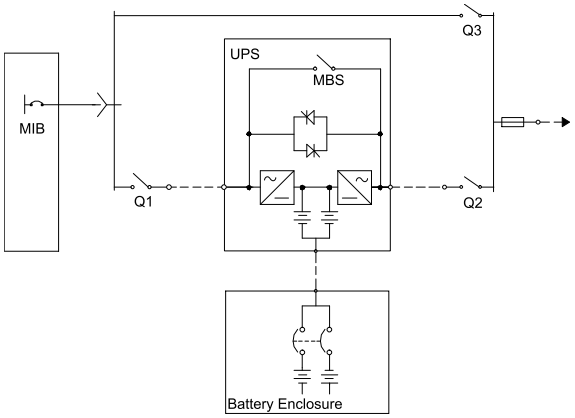
Torque Specifications

The power wiring should be torqued to 7 Nm (45 lbf-in).

Fuses and Breakers

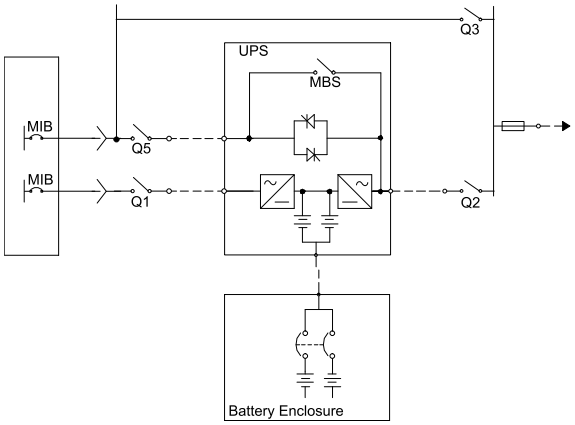
Single Utility/Mains System

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



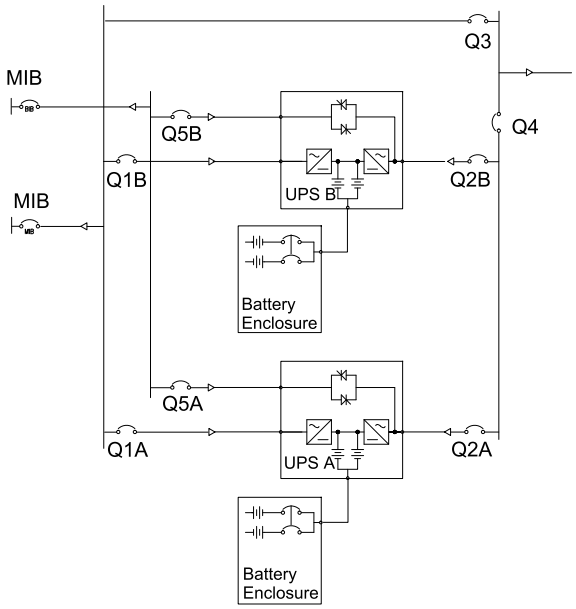
Dual Utility/Mains System

- 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 Systems

	10 kVA	**15 kVA**	**20 kVA**	**30 kVA**
Utility input Q1	35 A	60 A	80 A	110 A
Static bypass input Q5	35 A	60 A	80 A	110 A
UPS output Q2	35 A	60 A	80 A	110 A
Manual bypass Q3	35 A	60 A	80 A	110 A

Fuse and Breaker Sizes in Parallel Systems

Q3 and Q4 in Parallel Capacity Systems

Units in parallel	**10 kVA**	**15 kVA**	**20 kVA**	**30 kVA**
2	70 A	110 A	150 A	225 A
3	110 A	175 A	225 A	350 A
4	150 A	225 A	300 A	450 A

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

Units in parallel	**10 kVA**	**15 kVA**	**20 kVA**	**30 kVA**
2	35 A	60 A	80 A	110 A
3	70 A	110 A	150 A	225 A
4	110 A	175 A	225 A	350 A

Minimum Breaker Settings

		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]	-	-	34 A
	Static bypass input	223 A	-	-	31 A
	UPS output	223 A	42 A	35 A	31 A
15 kVA	Mains input	-[1]	-	-	51 A
	Static bypass input	333 A	-	-	46 A
	UPS output	333 A	63 A	52 A	46 A
20 kVA	Mains input	-[1]	-	-	68 A
	Static bypass input	444 A	-	-	62 A
	UPS output	444 A	84 A	70 A	62 A
30 kVA	Mains input	-[1]	-	-	99 A
	Static bypass input	667 A	-	-	92 A
	UPS output	667 A	125 A	105 A	92 A
[1] For single mains systems, use the higher value of mains and static bypass					

Physical

Weights and Dimensions

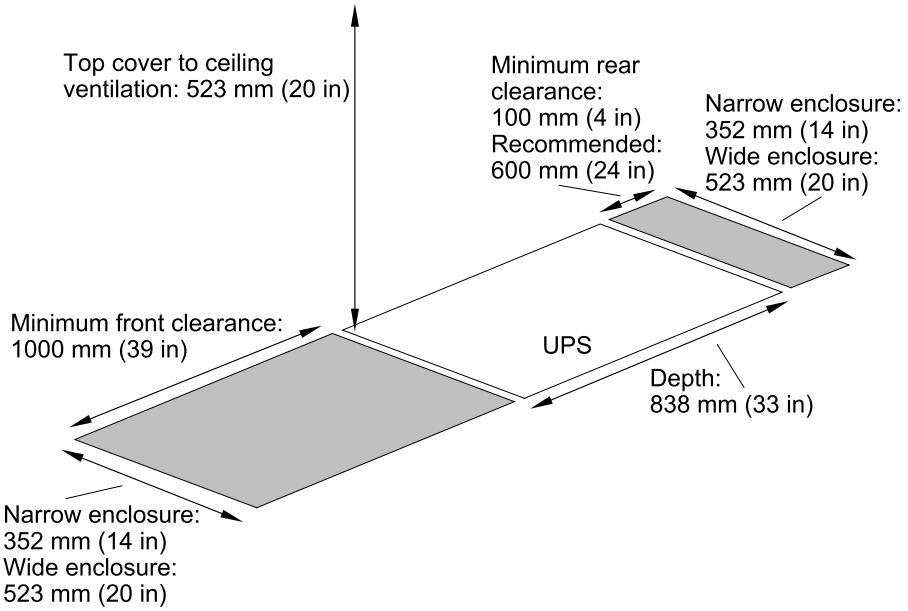
Model kVA	SKU number	Weight kg (lbs)	Height mm (in)	Width mm (in)	Depth mm (in)
10 kVA	SUVTP10KF1B2S	305 (671)	1499 (59)	356 (14)	813 (32.01)
	SUVTP10KF1B4S	323.18 (712)	1499 (59)	523 (20.6)	813 (32.01)
	SUVTP10KF2B2S	396.82 (873)	1499 (59)	356 (14)	813 (32.01)
	SUVTP10KF2B4S	415 (913)	1499 (59)	523 (20.6)	813 (32.01)
	SUVTP10KF3B4S	506.82 (1115)	1499 (59)	523 (20.6)	813 (32.01)
	SUVTP10KF4B4S	599.09 (1318)	1499 (59)	523 (20.6)	813 (32.01)
15 kVA	SUVTP15KF2B2S	396.82 (873)	1499 (59)	356 (14)	813 (32.01)
	SUVTP15KF2B4S	415 (913)	1499 (59)	523 (20.6)	813 (32.01)
	SUVTP15KF3B4S	506.82 (1115)	1499 (59)	523 (20.6)	813 (32.01)
	SUVTP15KF4B4S	599.09 (1318)	1499 (59)	523 (20.6)	813 (32.01)
20 kVA	SUVTP20KF2B4S	445 (979)	1499 (59)	523 (20.6)	813 (32.01)
	SUVTP20KF3B4S	536.82 (1181)	1499 (59)	523 (20.6)	813 (32.01)
	SUVTP20KF4B4S	629.09 (1384)	1499 (59)	523 (20.6)	813 (32.01)
30 kVA	SUVTP30KF3B4S	536.82 (1181)	1499 (59)	523 (20.6)	813 (32.01)
	SUVTP30KF4B4S	629.09 (1384)	1499 (59)	523 (20.6)	813 (32.01)

Shipping Weights and Dimensions

Model kVA	SKU number	Weight kg (lbs)	Height mm (in)	Width mm (in)	Depth mm (in)
10 kVA	SUVTP10KF1B2S	335.92 (739)	1643 (64.7)	650 (25.6)	1062 (41.8)
	SUVTP10KF1B4S	354.09 (78)	1643 (64.7)	650 (25.6)	1062 (41.8)
	SUVTP10KF2B2S	427.73 (941)	1643 (64.7)	650 (25.6)	1062 (41.8)
	SUVTP10KF2B4S	445.91 (983)	1643 (64.7)	650 (25.6)	1062 (41.8)
	SUVTP10KF3B4S	537.73 (1183)	1643 (64.7)	650 (25.6)	1062 (41.8)
	SUVTP10KF4B4S	630 (1386)	1643 (64.7)	650 (25.6)	1062 (41.8)
15 kVA	SUVTP15KF2B2S	428.18 (942)	1643 (64.7)	650 (25.6)	1062 (41.8)
	SUVTP15KF2B4S	445.91 (981)	1643 (64.7)	650 (25.6)	1062 (41.8)
	SUVTP15KF3B4S	537.73 (1183)	1643 (64.7)	650 (25.6)	1062 (41.8)
	SUVTP15KF4B4S	630 (1386)	1643 (64.7)	650 (25.6)	1062 (41.8)
20 kVA	SUVTP20KF2B4S	475.91 (1047)	1643 (64.7)	650 (25.6)	1062 (41.8)
	SUVTP20KF3B4S	568.18 (1252)	1643 (64.7)	650 (25.6)	1062 (41.8)
	SUVTP20KF4B4S	660 (1452)	1643 (64.7)	650 (25.6)	1062 (41.8)
30 kVA	SUVTP30KF3B4S	568.18 (1250)	1643 (64.7)	650 (25.6)	1062 (41.8)
	SUVTP30KF4B4S	660 (1452)	1643 (64.7)	650 (25.6)	1062 (41.8)

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

Operating Temperature	0 - 40 °C (32-104 ºF)
Storage Temperature with batteries	-15 - 40 °C (-5-113 ºF) 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.
Storage Temperature without batteries	-30 - 70 °C (-22-158 ºF)
Operating Relative Humidity	0 - 95%, non-condensing
Storage Relative Humidity	0 - 95%, non-condensing
Operating Elevation	0-1000 m: 100% load 1000–1500 m: 95% load 1500–2000 m: 91% load 2000–2500 m: 86% load 2500–3000 m: 82% load
Storage Elevation	0-15000 meters (0-50000 ft)
Audible noise at 70% load – 1 meter from surface of unit	10–15 kVA: 42.3 dBA 20–30 kVA: 46.2 dBA
Audible noise at 100% load – 1 meter from surface of unit	10-20 kVA: 51.3 dBA 30 kVA: 55.0 dBA
Protection Class	Up to IP51
Colour	Dark grey

Heat Dissipation

Model (kVA)	Heat dissipation (BTU/hr)
10 kVA batteries fully charged	1938.00
10 kVA batteries charging	2211.00
15 kVA batteries fully charged	2989.00
15 kVA batteries charging	3398.00
20 kVA batteries fully charged	4238.00
20 kVA batteries charging	4852.00
30 kVA batteries fully charged	5896.00
30 kVA batteries charging	6715.00

Default Settings

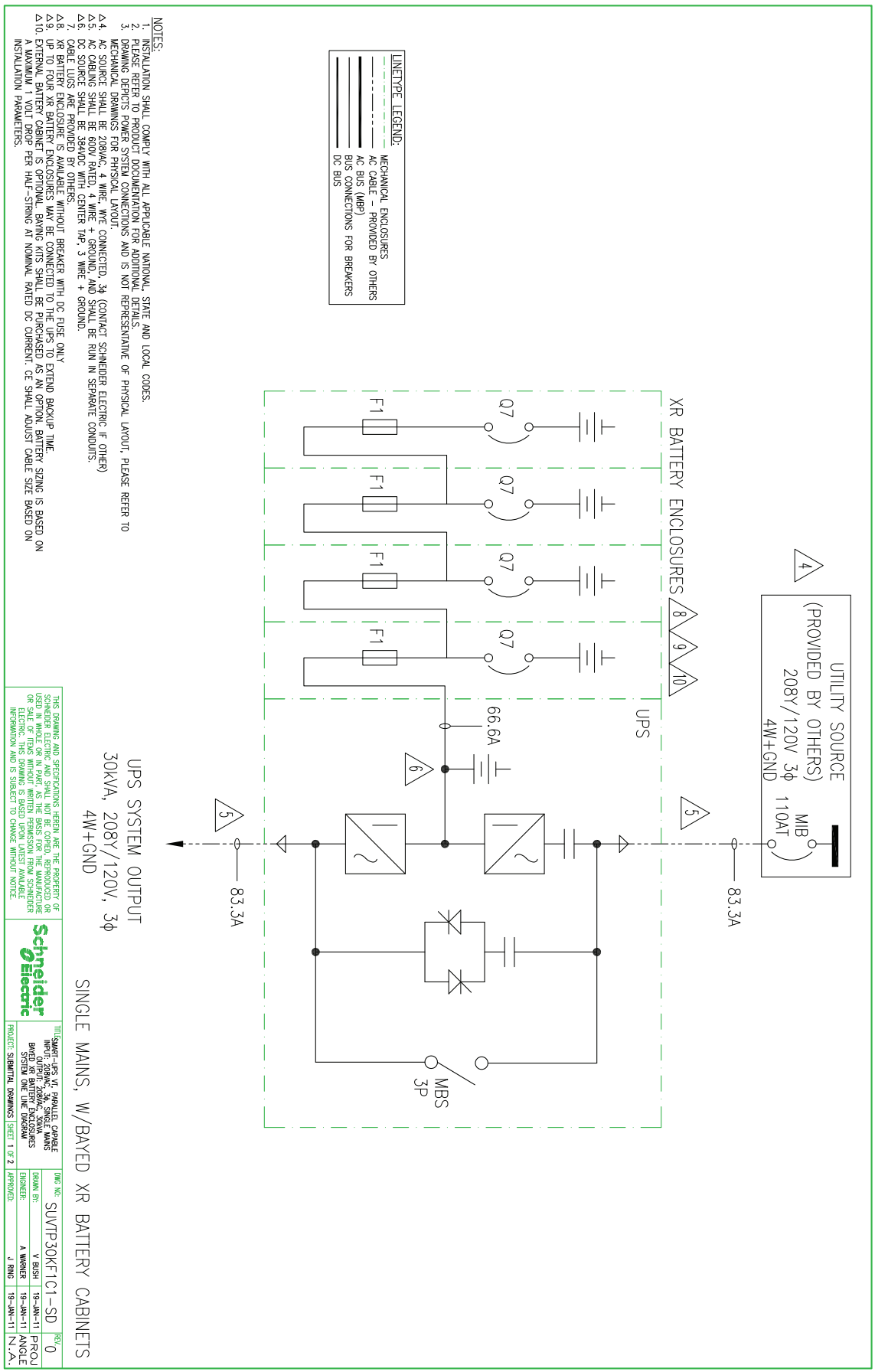
System settings (only updated when in load disconnect)	Default setting
Nominal output voltage (ph-ph)	208 V
Frequency	60 Hz
Frequency self-detect mode	Auto
Frequency range	±10 Hz for 208 V
3-wire mode enabled	Off
Frequency slew rate	1 Hz/s
Generator charge percentage	100%
Cyclic charge mode enabled	Off
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

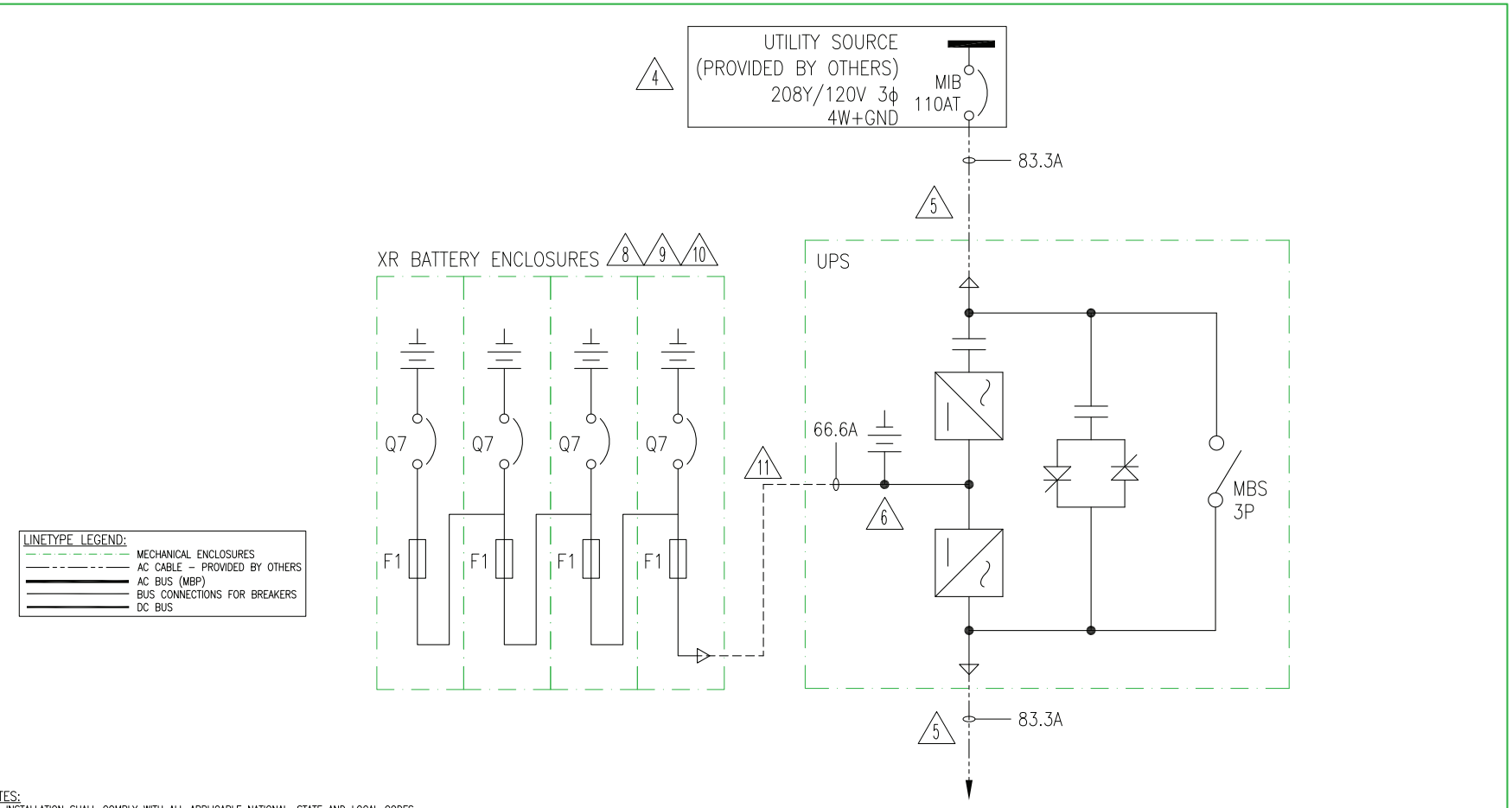
Drawings

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 Feed without MBP





NOTES:
1. INSTALLATION SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES.
2. PLEASE REFER TO PRODUCT DOCUMENTATION FOR ADDITIONAL DETAILS.
3. DRAWING DEPICTS POWER SYSTEM CONNECTIONS AND IS NOT REPRESENTATIVE OF PHYSICAL LAYOUT, PLEASE REFER TO MECHANICAL DRAWINGS FOR PHYSICAL LAYOUT.

△4. AC SOURCE SHALL BE 208VAC, 4 WIRE, WYE CONNECTED, 3ϕ (CONTACT SCHNEIDER ELECTRIC IF OTHER)
△5. AC CABLING SHALL BE 600V RATED, 4 WIRE + GROUND, AND SHALL BE RUN IN SEPARATE CONDUITS.
△6. DC SOURCE SHALL BE 384VDC WITH CENTER TAP, 3 WIRE + GROUND.

7. CABLE LUGS ARE PROVIDED BY OTHERS.

△8. XR BATTERY ENCLOSURE IS AVAILABLE WITHOUT BREAKER WITH DC FUSE ONLY
△9. UP TO FOUR XR BATTERY ENCLOSURES MAY BE CONNECTED TO THE UPS TO EXTEND BACKUP TIME.
△10. EXTERNAL BATTERY CABINET IS OPTIONAL. BAYING KITS SHALL BE PURCHASED AS AN OPTION. BATTERY SIZING IS BASED ON A MAXIMUM 1 VOLT DROP PER HALF-STRING AT NOMINAL RATED DC CURRENT. CE SHALL ADJUST CABLE SIZE BASED ON INSTALLATION PARAMETERS.
△11. DC CABLING SHALL BE 600V RATED, 3W+GND, SHALL BE RUN IN SEPARATE CABLING CONDUITS.

SINGLE MAINS, W/REMOTE XR BATTERY CABINETS

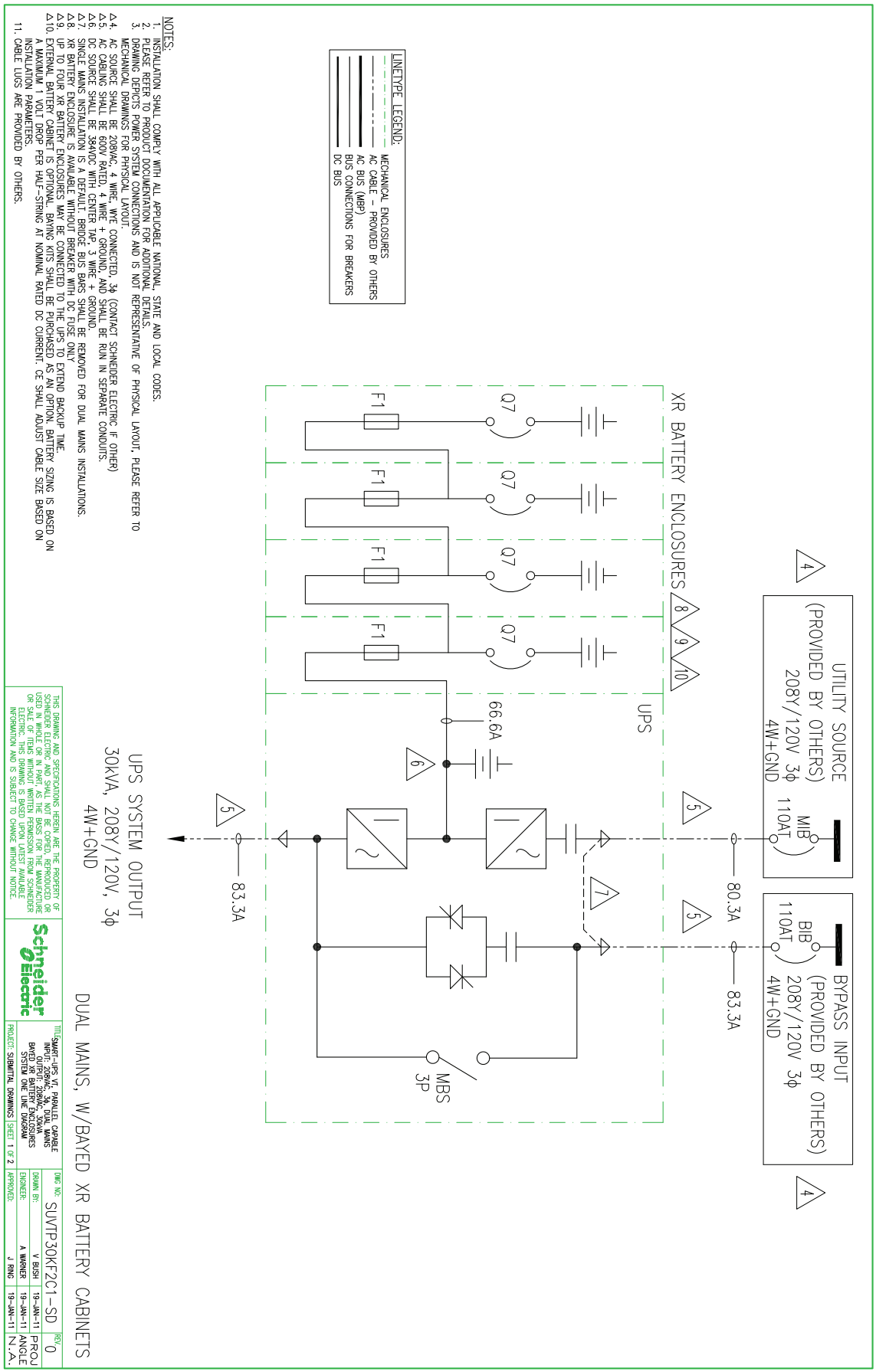
Schneider Electric

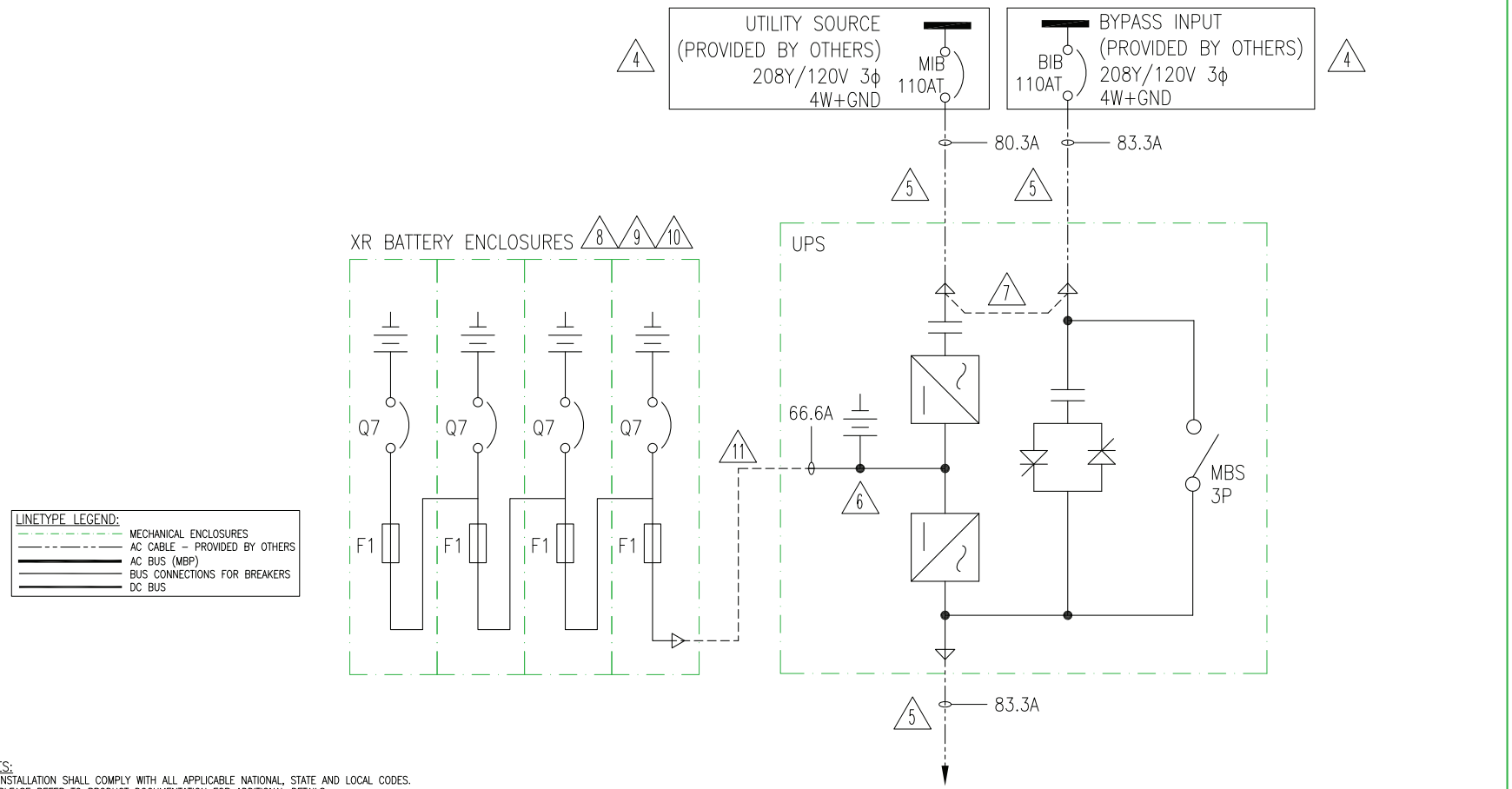
TITLE: SMART-UPS VT, PARALLEL CAPABLE
INPUT: 208VAC, 3ϕ, SINGLE MAINS
OUTPUT: 208VAC, 30kVA
REMOTE XR BATTERY ENCLOSURES
SYSTEM ONE LINE DIAGRAM

PROJECT: SUBMITTAL DRAWINGS | SHEET 2 OF 2

DWG NO:	SUVTP30KF1C1-SD		REV. 0
DRAWN BY:	V BUSH	19-JAN-11	PROJ ANGLE
ENGINEER:	A WARNER	19-JAN-11	N.A.
APPROVED:	J RING	19-JAN-11	

Dual Feed without MBP





LINETYPE LEGEND:
- MECHANICAL ENCLOSURES
- AC CABLE – PROVIDED BY OTHERS
- AC BUS (MBP)
- BUS CONNECTIONS FOR BREAKERS
- DC BUS

NOTES:
1. INSTALLATION SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES.
2. PLEASE REFER TO PRODUCT DOCUMENTATION FOR ADDITIONAL DETAILS.
3. DRAWING DEPICTS POWER SYSTEM CONNECTIONS AND IS NOT REPRESENTATIVE OF PHYSICAL LAYOUT, PLEASE REFER TO MECHANICAL DRAWINGS FOR PHYSICAL LAYOUT.

△4. AC SOURCE SHALL BE 208VAC, 4 WIRE, WYE CONNECTED, 3ϕ (CONTACT SCHNEIDER ELECTRIC IF OTHER)
△5. AC CABLING SHALL BE 600V RATED, 4 WIRE + GROUND, AND SHALL BE RUN IN SEPARATE CONDUITS.
△6. DC SOURCE SHALL BE 384VDC WITH CENTER TAP, 3 WIRE + GROUND.
△7. SINGLE MAINS INSTALLATION IS A DEFAULT. BRIDGE BUS BARS SHALL BE REMOVED FOR DUAL MAINS INSTALLATIONS.
△8. XR BATTERY ENCLOSURE IS AVAILABLE WITHOUT BREAKER WITH DC FUSE ONLY
△9. UP TO FOUR XR BATTERY ENCLOSURES MAY BE CONNECTED TO THE UPS TO EXTEND BACKUP TIME.
△10. EXTERNAL BATTERY CABINET IS OPTIONAL. BAYING KITS SHALL BE PURCHASED AS AN OPTION. BATTERY SIZING IS BASED ON A MAXIMUM 1 VOLT DROP PER HALF-STRING AT NOMINAL RATED DC CURRENT. CE SHALL ADJUST CABLE SIZE BASED ON INSTALLATION PARAMETERS.
△11. DC CABLING SHALL BE 600V RATED, 3W+GND, SHALL BE RUN IN SEPARATE CABLING CONDUITS.
12. CABLE LUGS ARE PROVIDED BY OTHERS.

Schneider Electric

TITLE: SMART-UPS VT, PARALLEL CAPABLE INPUT: 208VAC, 3ϕ, DUAL MAINS OUTPUT: 208VAC, 30kVA REMOTE XR BATTERY ENCLOSURES SYSTEM ONE LINE DIAGRAM	DWG NO: SUVTP30KF2C1-SD		REV. 0
	DRAWN BY: V BUSH	19-JAN-11	PROJ ANGLE
	ENGINEER: A WARNER	19-JAN-11	N.A.
PROJECT: SUBMITTAL DRAWINGS SHEET 2 OF 2	APPROVED: J RING	19-JAN-11	

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

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

Interface Cables

UPS Communications Cable Simple Signalling	940-0020
UPS Communication Cable Smart Signalling	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 Communication Cable for IBM AS/400	940–0006
Cisco Unity Express UPS Simple Signalling Cable	AP9840

Mounting Accessories

APC Smart-UPS VT Battery Lock Kit for 1 Batt. Module	SUVTOPT003
APC Smart-UPS VT Baying Kit, 14inch/351mm UPS Enclosure to XR	SUVTOPT004
APC Smart-UPS VT Baying Kit, 20inch/523mm UPS Enclosure to XR	SUVTOPT005

APC Smart-UPS VT Baying Kit, XR to XR	SUVTOPT006
APC Smart-UPS VT Parallel Operation Baying Kit	SUVTOPT011

Service Bypass Panels

APC Maintenance Bypass Panel 10-15kVA 208V Wallmount	SBPSU10K15F-WP
APC Maintenance Bypass Panel 20-30kVA 208V Wallmount	SBPSU20K30F-WP
APC Smart-UPS VT Maintenance Bypass Panel 10-30kVA 208V Wall Mount w/42 Pos. Distribution Panel	SBPSU10K30FC1M1-WP
APC Smart-UPS VT Maintenance Bypass Cabinet 10-15kVA 208V Floormount	SUVTSBP10K15F
APC Smart-UPS VT Maint. Bypass Cabinet 10-30kVA 208V Floormount with 42 Position Distribution Panel	SUVTSBP10K30F-DP
APC Smart-UPS VT Maintenance Bypass Cabinet 20-30kVA 208V Floormount	SUVTSBP20K30F
APC Smart-UPS VT Parallel Maintenance Bypass, up to 3 units 10-15kVA 208V Floormount	SUVTSBPAR10K15F
APC Smart-UPS VT Parallel Maintenance Bypass, up to 3 units 20-30kVA 208V Floormount	SUVTSBPAR20K30F
APC Smart-UPS VT Parallel Maintenance Bypass Kit	SUVTOPT010

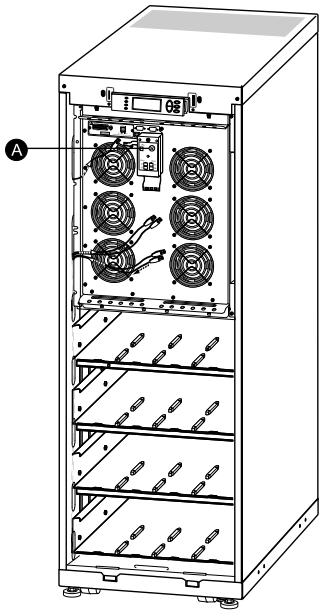
Smart-UPS Accessories

APC Smart-UPS VT Input Transformer 208/208 10-30kVA Floormount	SUVTXFM10K30F
APC Smart-UPS VT Input Transformer 480/208 10-30kVA Floormount	SUVTXFM10K30G
APC Smart-UPS VT Input Transformer MCCB 480/208 10-30kVA Floormount	SUVTSBPXFM10K30G
APC Smart-UPS VT Input Transformer MCCB 208/208 10-30kVA Floormount	SUVTSBPXFM10K30F
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 Subfeed Distribution 208V, (5) L21-20 & (1) 50A HW output	SUVTOPT104
APC Smart-UPS VT Subfeed Distribution 208V, (5) L21-20 & (1) 63A HW output	SUVTOPT105
APC Smart-UPS VT Input Breaker for 20kVA/208V UPS	SUVTOPT112
APC Smart-UPS VT Input Breaker for 30kVA/208V UPS	SUVTOPT113
APC Smart-UPS VT Input Breaker for 20kVA 480/208V UPS	SUVTOPT114
APC Smart-UPS VT Input Breaker for 30kVA 480/208V UPS	SUVTOPT115

Parallel Capabilities

Paralleling Capabilities

- Up to four UPS units paralleled for capacity
- Up to four UPS units paralleled for redundancy (n+1)
- Communication between parallel units via the Parallel Communication Box



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

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