

LEGEND:  
- - - - - AC CABLE - PROVIDED BY OTHERS

DEVICE RATING (MAINTENANCE BYPASS PANEL)						
DEVICE	CURRENT RATING	RATED OPERATIONAL VOLTAGE	TYPE	MAKE	MODEL	ACCESSORIES
Q1a, Q1b, Q1c, Q1d	1000A	690V	3P+N MCCB	Schneider Electric	NS1000 Micrologic 2.0	1-NO Aux. Contact
Q2a, Q2b, Q2c, Q2d	800A	690V	4P SWITCH DISCONNECT	Schneider Electric	NS800NA	1-NO Aux. Contact
INVERTER FUSES F1-F3/F4-F6	1250A	690V	HIGH SPEED FUSE	BUSSMANN	170M6466	--
SSW FUSES F1-F3	1100A	690V	HIGH SPEED FUSE	BUSSMANN	170M5167	--
Q3 FOR 4 MODULE N	3200A	690V	4P MCCB	Schneider Electric	NS3200N Micrologic 2.0	2-NC Aux. Contact
Q3 FOR 4 MODULE N+1	2500A	690V	4P MCCB	Schneider Electric	NS2500N Micrologic 2.0	2-NC Aux. Contact
Q4 FOR 4 MODULE N	3200A	690V	4P MCCB	Schneider Electric	NS3200N Micrologic 2.0	2-NO Aux. Contact
Q4 FOR 4 MODULE N+1	2500A	690V	4P MCCB	Schneider Electric	NS2500N Micrologic 2.0	2-NO Aux. Contact
DEVICE RATING (XR BATTERY CABINET)						
DC DISCONNECT	400A	600V DC	4P MCSW	ABB	T5	1 AUX., CONTACT, 24V DC, SHUNT TRIP, ACTUATOR

- NOTES:
- INSTALLATION SHALL COMPLY WITH ALL APPLICABLE LOCAL AND NATIONAL CODES.
  - PLEASE REFER TO PRODUCT MANUALS FOR ADDITIONAL DETAILS.
  - DRAWING DEPICTS POWER SYSTEM CONNECTIONS AND IS NOT REPRESENTATIVE OF PHYSICAL LAYOUT, PLEASE REFER TO MECHANICAL DRAWINGS FOR PHYSICAL LAYOUT.
  - MAXIMUM RATED SHORT CIRCUIT CURRENT (I<sub>sc</sub>) IS 50kA.
  - 3x400/230V TN-S (PROVIDED BY OTHERS). FOR OTHER EARTHING PRINCIPLES, PLEASE CONTACT APC BY Schneider Electric. RECOMMENDED UPSTREAM PROTECTION IS A MINIMUM RATING TO SUPPORT MAXIMUM CURRENT, WITHOUT SELECTIVITY. SEE SHEET-3 FOR InfrastruXure PLANNING GUIDE.
  - FOR TN-SYSTEMS, PLEASE PROVIDE A SUITABLE FUNCTIONAL EARTH ELECTRODE ACCORDING TO IEC/EN60364-5-55, 551.4.2 TO MAINTAIN THE UPS INVERTER REFERENCE. MUST BE CONNECTED TO THE FUNCTIONAL EARTH ELECTRODE TERMINAL-E.
  - ALL AC POWER CABLING IS L1, L2, L3, N, PE.
  - SINGLE MAINS IS FACTORY DEFAULT CONFIGURATION. BUS BAR LINKS MUST BE REMOVED FOR DUAL MAINS INSTALLATION
  - CABLE LUGS ARE NOT PROVIDED.
  - THIS DRAWING SHOWS MINIMUM NUMBER OF XR BATTERY FRAMES PER UPS. MAXIMUM (8) XR BATTERY FRAMES CAN BE BAYED TO EACH UPS. BAYING KIT IS SUPPLIED WITH THIS SOLUTION. XR BATTERY FRAME HAS MOTORIZED BREAKER.
  - CABLE LENGTHS FOR STATIC BYPASS INPUT AND OUTPUT MUST BE SAME SUM TOTAL TO ENSURE CORRECT LOAD SHARING IN STATIC BYPASS OPERATION.

2000kVA/kW (500kW 4 MOD CAPACITY) TOP FEED SINGLE MAINS SINGLE INPUT CONFIGURATION

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**Schneider Electric**

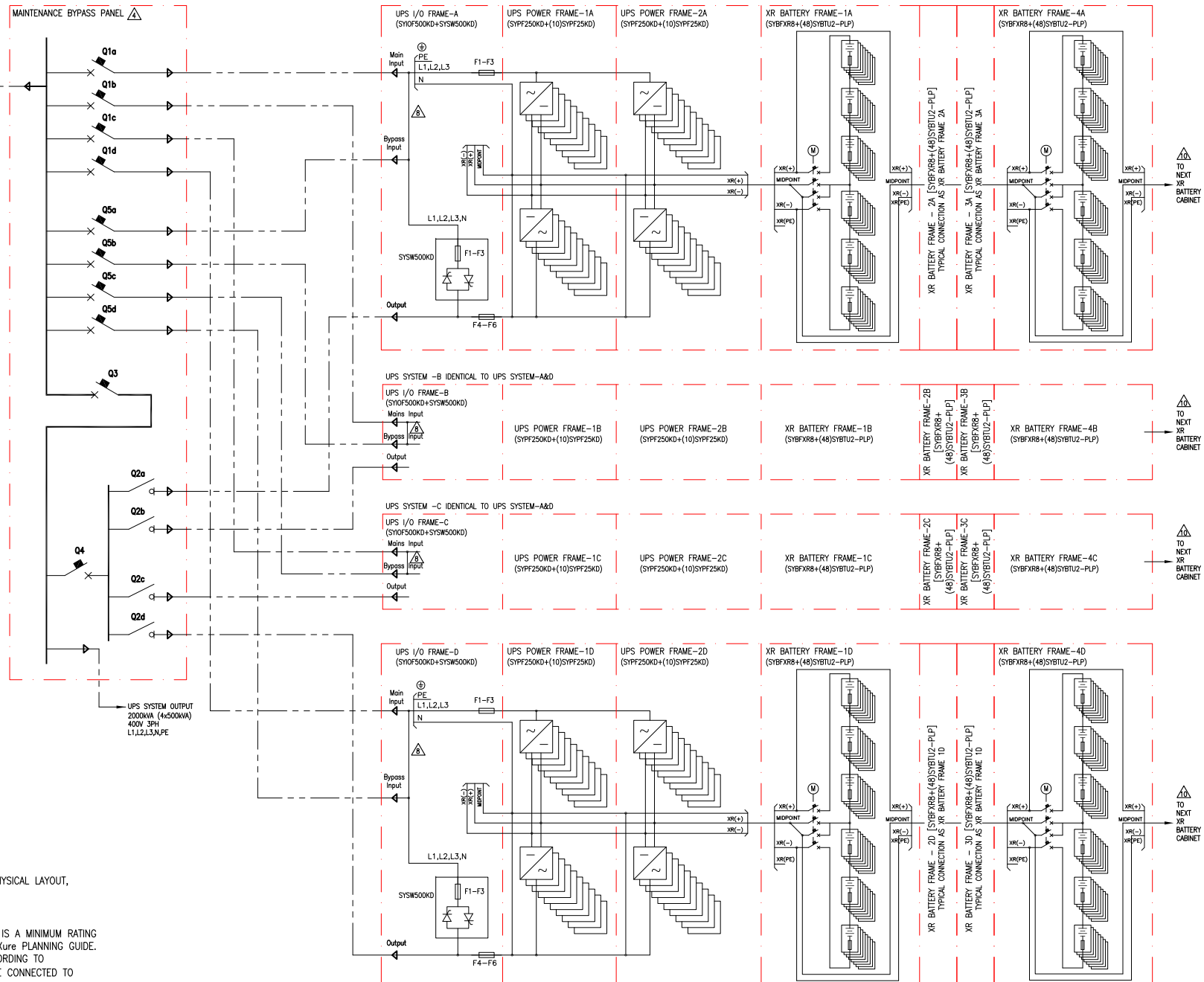
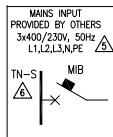
TITLE: SYMMETRA PX500  
Input: 400V AC 3PH SINGLE MAINS, SINGLE INPUT TO UPS  
Output: 400V AC 3PH  
500kW 4 MOD TOP FEED WITH LINE-UP BATT. SYSTEM ONE LINE DIAGRAM

DWG NO: SY500K500TH1-4MOD-SD  
DRAWN: BALAMURAGAN/S CUNHA  
ENGINEER: S.ANDERSEN  
APPROVED: F.DIOSA/S.WAGH

REV: 3  
11-NOV-14  
15-DEC-14  
15-DEC-14

ANGLE PROJECTION: N/A

PROJECT: SUBMITTAL DRAWINGS SHEET 1 OF 4



**LEGEND:**  
 ----- AC CABLE - PROVIDED BY OTHERS

DEVICE RATING (MAINTENANCE BYPASS PANEL)						
DEVICE	CURRENT RATING	RATED OPERATIONAL VOLTAGE	TYPE	MAKE	MODEL	ACCESSORIES
Q1a, Q1b, Q1c, Q1d	1000A	690V	3P+N MCCB	Schneider Electric	NS1000 Micrologic 2.0	1-NO Aux. Contact
Q2a, Q2b, Q2c, Q2d	800A	690V	4P SWITCH DISCONNECT	Schneider Electric	NS800NA	1-NO Aux. Contact
INVERTER FUSES F1-F3/ F4-F6	1250A	690V	HIGH SPEED FUSE	BUSSMANN	170M6466	--
SSW FUSES F1-F3	1100A	690V	HIGH SPEED FUSE	BUSSMANN	170M5167	--
Q3 FOR 4 MODULE N	3200A	690V	4P MCCB	Schneider Electric	NS3200N Micrologic 2.0	2-NC Aux. Contact
Q3 FOR 4 MODULE N+1	2500A	690V	4P MCCB	Schneider Electric	NS2500N Micrologic 2.0	2-NC Aux. Contact
Q4 FOR 4 MODULE N	3200A	690V	4P MCCB	Schneider Electric	NS3200N Micrologic 2.0	2-NO Aux. Contact
Q4 FOR 4 MODULE N+1	2500A	690V	4P MCCB	Schneider Electric	NS2500N Micrologic 2.0	2-NO Aux. Contact
Q5a, Q5b, Q5c, Q5d	800A	690V	3P+N MCCB	Schneider Electric	NS800 Micrologic 2.0	1-NO Aux. Contact

DEVICE RATING (XR BATTERY CABINET)						
DC DISCONNECT	400A	600V DC	4P MCSW	ABB	T5	1 AUX. CONTACT, 24V DC, SHUNT TRIP, ACTUATOR

- NOTES:**
- INSTALLATION SHALL COMPLY WITH ALL APPLICABLE LOCAL AND NATIONAL CODES.
  - PLEASE REFER TO PRODUCT MANUALS FOR ADDITIONAL DETAILS.
  - DRAWING DEPICTS POWER SYSTEM CONNECTIONS AND IS NOT REPRESENTATIVE OF PHYSICAL LAYOUT. PLEASE REFER TO MECHANICAL DRAWINGS FOR PHYSICAL LAYOUT.
  - MAXIMUM RATED SHORT CIRCUIT CURRENT (I<sub>sc</sub>) IS 50kA.
  - 3x400/230V TN-S (PROVIDED BY OTHERS). FOR OTHER EARTHING PRINCIPLES, PLEASE CONTACT APC by Schneider Electric. RECOMMENDED UPSTREAM PROTECTION IS A MINIMUM RATING TO SUPPORT MAXIMUM CURRENT, WITHOUT SELECTIVITY. SEE SHEET-3 FOR InfrastruXure PLANNING GUIDE.
  - FOR TN-SYSTEMS, PLEASE PROVIDE A SUITABLE FUNCTIONAL EARTH ELECTRODE ACCORDING TO IEC/EN60364-5-55, 551.4.2 TO MAINTAIN THE UPS INVERTER REFERENCE. MUST BE CONNECTED TO THE FUNCTIONAL EARTH ELECTRODE TERMINAL-E.
  - ALL AC POWER CABLING IS L1, L2, L3, N, PE.
  - SINGLE MAINS IS FACTORY DEFAULT CONFIGURATION. BUS BAR LINKS MUST BE REMOVED FOR DUAL MAINS INSTALLATION
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  - THIS DRAWING SHOWS MINIMUM NUMBER OF XR BATTERY FRAMES PER UPS. MAXIMUM (8) XR BATTERY FRAMES CAN BE BAYED TO EACH UPS. BAYING KIT IS SUPPLIED WITH THIS SOLUTION. XR BATTERY FRAME HAS MOTORIZED BREAKER.
  - CABLE LENGTHS FOR STATIC BYPASS INPUT AND OUTPUT MUST BE SAME SUM TOTAL TO ENSURE CORRECT LOAD SHARING IN STATIC BYPASS OPERATION.

**2000kVA/kW (500kW 4 MOD CAPACITY) TOP FEED SINGLE MAINS DUAL INPUT CONFIGURATION**

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	<b>PROJECT:</b> SUBMITTAL DRAWINGS <b>SHEET 2 OF 4</b>	<b>APPROVED:</b> F.DIOSA/S.WAGH	<b>ENGINEER:</b> S.ANDERSEN 11-NOV-14 15-DEC-14	<b>ANGLE PROJECTION:</b> N/A	

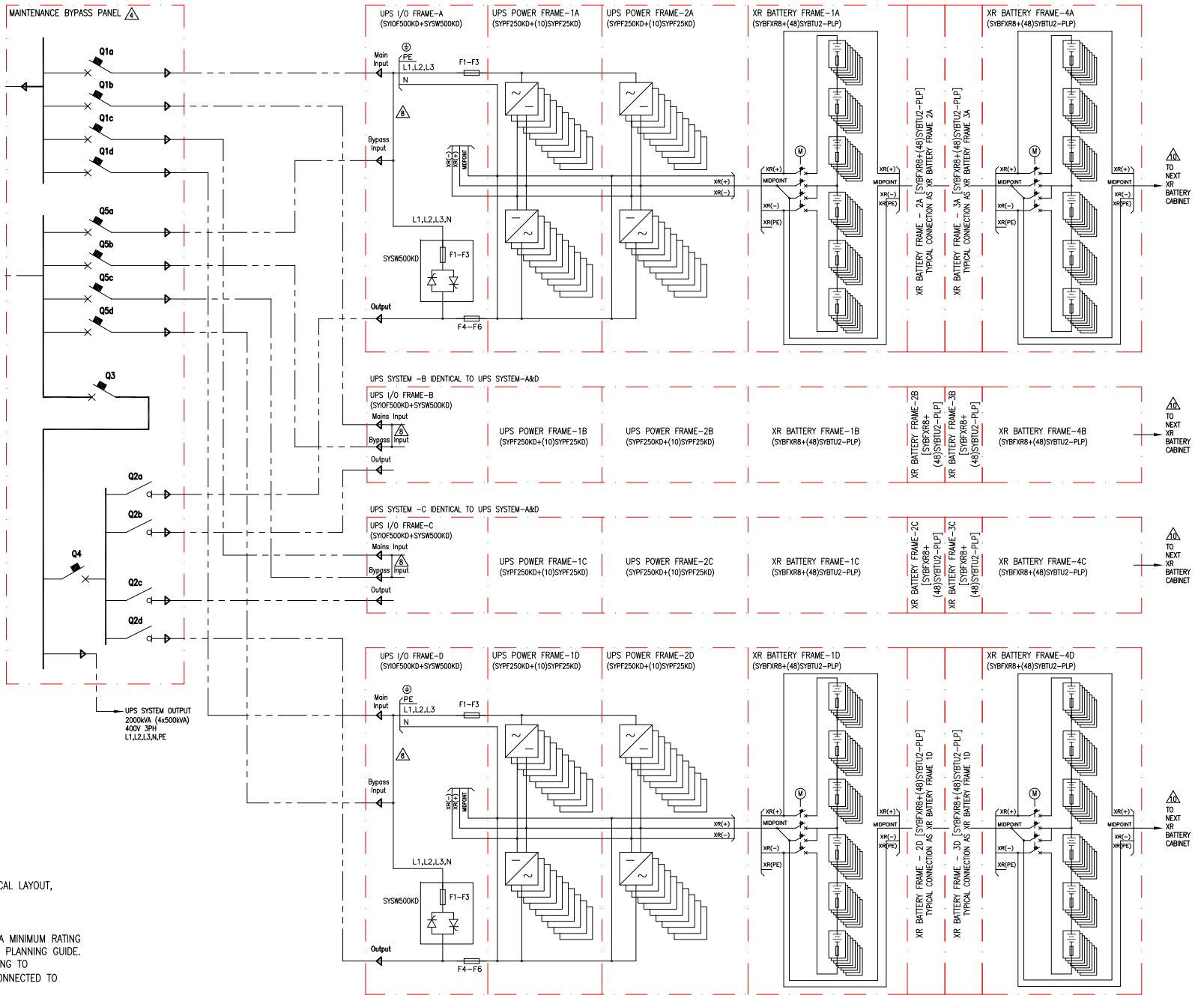
**LEGEND:**  
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DEVICE	CURRENT RATING	RATED OPERATIONAL VOLTAGE	TYPE	MAKE	MODEL	ACCESSORIES
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Q4 FOR 4 MODULE N	3200A	690V	4P MCCB	Schneider Electric	NS3200N Micrologic 2.0	2-NO Aux. Contact
Q4 FOR 4 MODULE N+1	2500A	690V	4P MCCB	Schneider Electric	NS2500N Micrologic 2.0	2-NO Aux. Contact
Q5a, Q5b, Q5c, Q5d	800A	690V	3P+N MCCB	Schneider Electric	NS800 Micrologic 2.0	1-NO Aux. Contact

DEVICE RATING (XR BATTERY CABINET)						
DC DISCONNECT	400A	600V DC	4P MCSW	ABB	T5	1 AUX. CONTACT, 24V DC, SHUNT TRIP, ACTUATOR

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**2000kVA/kW (500kW 4 MOD CAPACITY) TOP FEED DUAL MAINS CONFIGURATION**

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	<b>TITLE:</b> SYMMETRA PX500 Input: 400V AC 3PH DUAL MAINS Output: 400V AC 3PH 500kW 4 MOD TOP FEED WITH LINE-UP BATT. SYSTEM ONE LINE DIAGRAM	<b>DWG NO:</b> SY500K500TH2-4MOD-SD	<b>REV:</b> 3
	<b>PROJECT:</b> SUBMITTAL DRAWINGS <b>SHEET</b> 3 OF 4	<b>ENGINEER:</b> S.ANDERSEN	<b>DATE:</b> 11-NOV-14

## InfrastruXure Planning Guide Symmetra PX 250/500 (400V)

### Individual UPS Details

UPS frame	UPS rating kVA / kW			AC Mains Input (400V) (Single/Dual Mains)						AC Bypass Input (400V) (Dual Mains)					Battery System			AC Output (400V)		
	QTY power module 25kW	[P] kW nom	pf	[P] kW nom	[P] kW max	Utility source		Current I [A]		*Q1 Protection Breaker [A]	Utility source		Current I [A]		*Q5 Protection Breaker [A]	Vn nominal [VDC]	Full load P [kW]	Imax DC Discharge [A]	In [A]	*Q2 Protection Breaker [A]
						Hz	[V]	Nominal	Max		Hz	[V]	Nominal	Max						
<b>250kVA / 250kW 1 x 250k frame</b>	4	100	1	104	115	50	400	151	166	160	50	400	144	159	160	2 x 288	104	226	144	160
	5	125	1	130	143	50	400	189	208	250	50	400	180	198	250	2 x 288	130	283	180	225
	6	150	1	156	172	50	400	227	249	250	50	400	217	238	250	2 x 288	156	339	217	225
	7	175	1	182	201	50	400	264	291	400	50	400	253	278	400	2 x 288	182	396	253	400
	8	200	1	208	229	50	400	302	332	400	50	400	289	318	400	2 x 288	208	452	289	400
	9	225	1	234	258	50	400	340	374	400	50	400	325	357	400	2 x 288	234	509	325	400
	<b>10</b>	<b>250</b>	<b>1</b>	<b>260</b>	<b>286</b>	<b>50</b>	<b>400</b>	<b>378</b>	<b>416</b>	<b>630 ***400</b>	<b>50</b>	<b>400</b>	<b>361</b>	<b>397</b>	<b>***400</b>	<b>2 x 288</b>	<b>260</b>	<b>565</b>	<b>361</b>	<b>400</b>
<b>500kVA / 500kW 2 x 250k Frame</b>	11	275	1	286	315	50	400	416	457	630	50	400	397	437	630	2 x 288	286	622	397	400
	12	300	1	313	344	50	400	453	499	630	50	400	433	476	630	2 x 288	312	678	433	630
	13	325	1	339	372	50	400	491	540	630	50	400	469	516	630	2 x 288	338	735	469	630
	14	350	1	365	401	50	400	529	582	630	50	400	505	556	630	2 x 288	364	791	505	630
	15	375	1	391	430	50	400	567	623	630	50	400	541	595	630	2 x 288	390	848	541	630
	16	400	1	417	458	50	400	605	665	800	50	400	577	635	800	2 x 288	416	904	577	630
	17	425	1	443	487	50	400	642	707	800	50	400	613	675	800	2 x 288	442	961	613	630
	18	450	1	469	516	50	400	680	748	800	50	400	650	714	800	2 x 288	468	1017	650	800
	19	475	1	495	544	50	400	718	790	800	50	400	686	754	800	2 x 288	494	1074	686	800
		<b>20</b>	<b>500</b>	<b>1</b>	<b>521</b>	<b>573</b>	<b>50</b>	<b>400</b>	<b>756</b>	<b>831</b>	<b>1000 ***800</b>	<b>50</b>	<b>400</b>	<b>722</b>	<b>794</b>	<b>***800</b>	<b>2 x 288</b>	<b>520</b>	<b>1130</b>	<b>722</b>

### System Details

UPS frame	UPS rating kVA / kW			System AC Mains Input (400V) (Single/Dual Mains)						System AC Bypass Input (400V) (Dual Mains)					System AC Output (400V)		
	QTY power module 25kW	[P] kW nom	pf	[P] kW nom	[P] kW max	Utility source		Current I [A]		*MIB Protection Breaker [A]	Utility source		Current I [A]		*BIB Protection Breaker [A]	In [A]	*Q4 Protection Breaker [A]
						Hz	[V]	Nominal	Max		Hz	[V]	Nominal	Max			
<b>4 Module N</b>																	
2000kVA/ 2000kW	<b>80</b>	<b>2000</b>	<b>1</b>	<b>2083</b>	<b>2292</b>	<b>50</b>	<b>400</b>	<b>3023</b>	<b>3325</b>	<b>***3200</b>	<b>50</b>	<b>400</b>	<b>2887</b>	<b>3176</b>	<b>***3200</b>	<b>2887</b>	<b>***3200</b>
<b>4 Module N+1</b>																	
2000kVA/ 2000kW	<b>80</b>	<b>1500</b>	<b>1</b>	<b>1563</b>	<b>1719</b>	<b>50</b>	<b>400</b>	<b>2267</b>	<b>2494</b>	<b>***2500</b>	<b>50</b>	<b>400</b>	<b>2165</b>	<b>2382</b>	<b>***2500</b>	<b>2165</b>	<b>***2500</b>

- The Symmetra PX3 250/500 is not configured with less than 5 power modules rated at 100kVA N+1 internal redundancy or 125kVA full load N
- For breaker ratings overload has not been considered
- Values given for stand alone unit.
- \* Q1, Q2, Q3 and Q5 recommended for 3rd party maintenance bypass
- \*\* Used for 3rd party bypass with dual mains
- \*\*\* Breaker must comply with IEC 60947-2 which guarantee a non-tripping current of 1.05 times current setting for 2 hours.  
Alternative breaker size must be higher than stated current
- For maximum scalability option or future expansion, it is recommended that the UPS frames be installed at their full ratings - see highlighted data.

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TITLE: SYMMETRA PX  
Input: 400/230V AC 3PH  
Output: 400/230V AC AND 400V AC 3PH  
500kW 4 MOD WITH LINE-UP BATT.  
InfraStruXure PLANNING GUIDE

PROJECT: SUBMITTAL DRAWINGS SHEET 4 OF 4

DWG NO: SY500K500H-4MOD-SD

DRAWN: BALAMURUGAN 13-NOV-14

ENGINEER: S.ANDERSEN 15-DEC-14

APPROVED: F.DIOSA/S.WAGH 15-DEC-14

REV. 1

ANGLE

PROJECTION:

N/A