

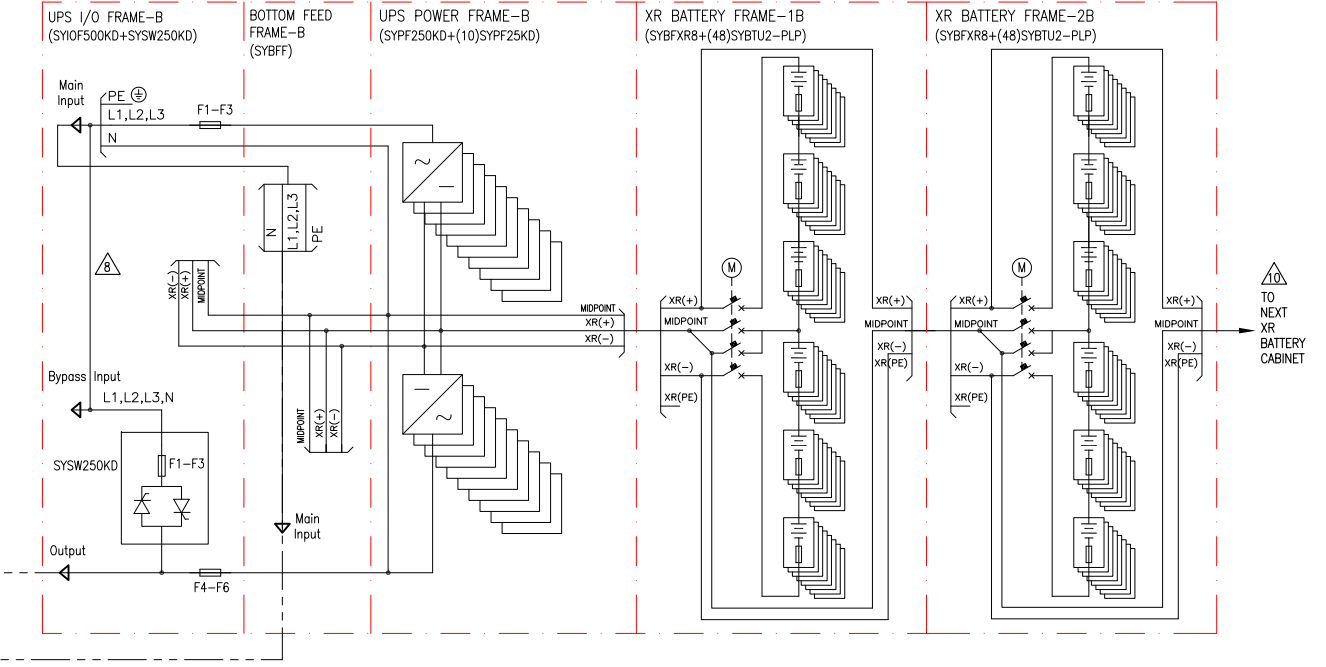
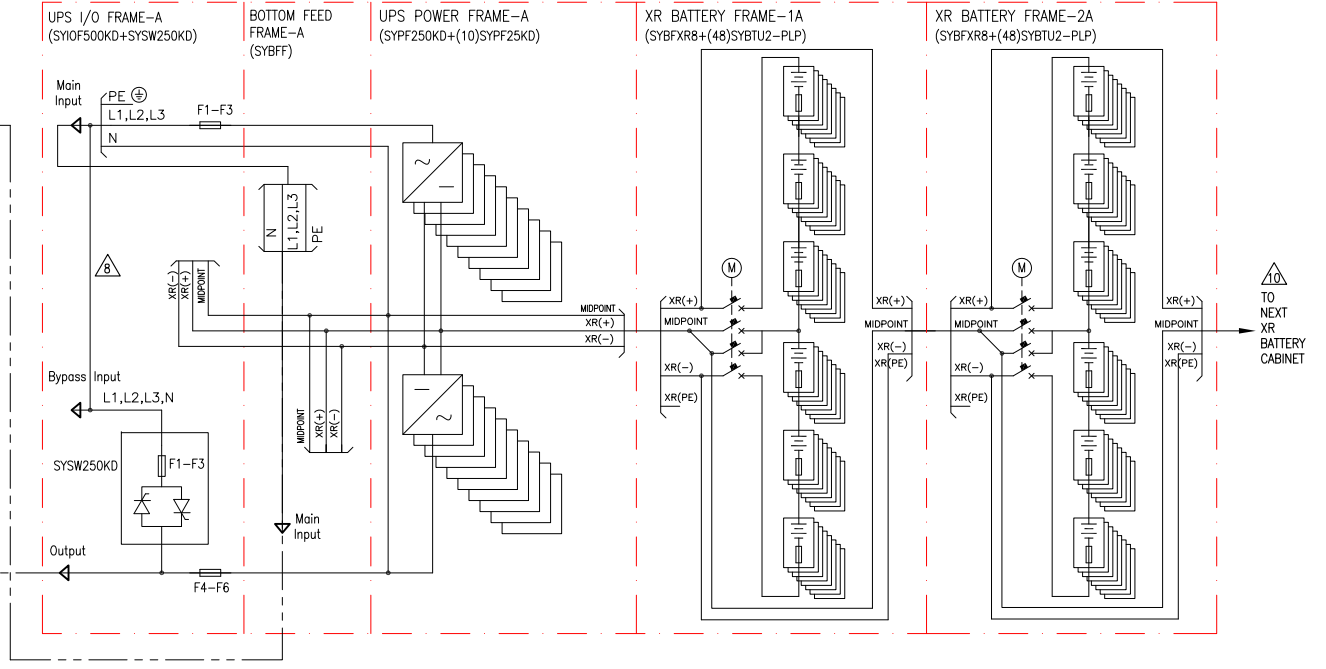
UPS SYSTEM OUTPUT
500kVA—FOR 2 MODULE N
250kVA—FOR 2 MODULE N+1
400V 3PH L1,L2,L3,N,PE

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

DEVICE RATING (MAINTENANCE BYPASS PANEL)						
DEVICE	CURRENT RATING	RATED OPERATIONAL VOLTAGE	TYPE	MAKE	MODEL	ACCESSORIES
Q1a, Q1b	630A	690V	3P+N MCCB	Schneider Electric	NSX630 Micrologic 2.3	1—NO Aux. Contact
Q2a, Q2b	400A	690V	4P SWITCH DISCONNECT	Schneider Electric	INS400	1—NO Aux. Contact
Q3 FOR 2 MODULE N	800A	690V	4P MCCB	Schneider Electric	NS800N Micrologic 2.0	2—NC Aux. Contact
Q3 FOR 2 MODULE N+1	400A	690V	4P MCCB	Schneider Electric	NSX400 Micrologic 2.3	2—NC Aux. Contact
Q4 FOR 2 MODULE N	800A	690V	4P MCCB	Schneider Electric	NS800N Micrologic 2.0	2—NO Aux. Contact
Q4 FOR 2 MODULE N+1	400A	690V	4P MCCB	Schneider Electric	NSX400 Micrologic 2.3	2—NO Aux. Contact
INVERTER FUSES F1-F3/F4-F6	1250A	690V	HIGH SPEED FUSE	BUSSMANN	170M6466	--
SSW FUSES F1-F3	630A	690V	HIGH SPEED FUSE	BUSSMANN	170M5162	--

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_{cw}) 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.
 - ALL CABLING HAS TO BE MULTI FLEXIBLE CABLING.



500kVA/kW (250kW 2 MOD CAPACITY) BOTTOM FEED SINGLE MAINS SINGLE INPUT CONFIGURATION

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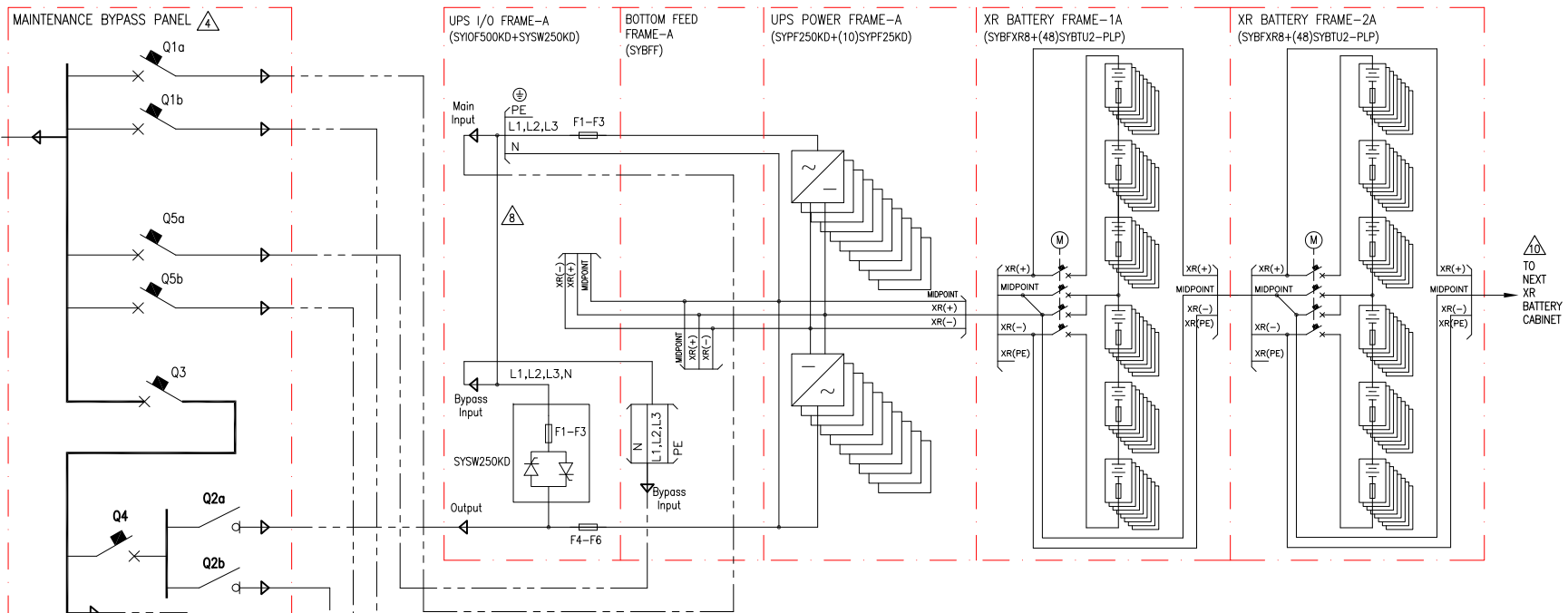
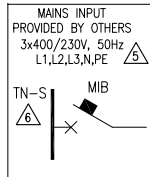


TITLE: SYMMETRA PX250
Input: 400V AC 3PH SINGLE MAINS SINGLE INPUT TO UPS
Output: 400V AC 3PH
250kW 2 MOD BOTTOM FEED W/LINE-UP BATT. SYSTEM ONE LINE DIAGRAM

DWG NO: SY250K250BH1-2MOD-SD
DRAWN: BALAMURUGAN/S CUNHA
ENGINEER: S.ANDERSEN
APPROVED: F.DIOSA/S.WAGH

REV: 1
11-NOV-14
15-DEC-14
15-DEC-14

ANGLE PROJECTION: N/A

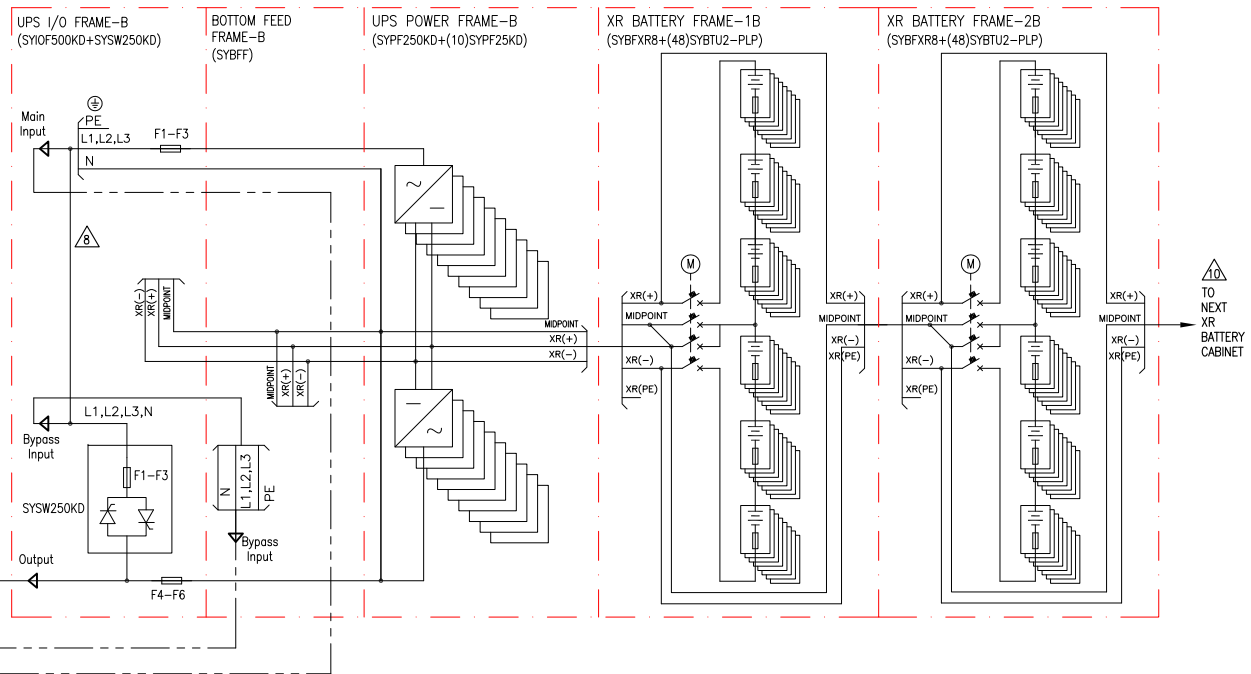


LEGEND:
 - - - - - AC CABLE - PROVIDED BY OTHERS

DEVICE RATING (MAINTENANCE BYPASS PANEL)						
DEVICE	CURRENT RATING	RATED OPERATIONAL VOLTAGE	TYPE	MAKE	MODEL	ACCESSORIES
Q1a, Q1b	630A	690V	3P+N MCCB	Schneider Electric	NSX630 Micrologic 2.3	1-NO Aux. Contact
Q2a, Q2b	400A	690V	4P SWITCH DISCONNECT	Schneider Electric	INS400	1-NO Aux. Contact
Q5a, Q5b	400A	690V	3P+N MCCB	Schneider Electric	NSX400 Micrologic 2.3	1-NO Aux. Contact
Q3 FOR 2 MODULE N	800A	690V	4P MCCB	Schneider Electric	NS800N Micrologic 2.0	2-NC Aux. Contact
Q3 FOR 2 MODULE N+1	400A	690V	4P MCCB	Schneider Electric	NSX400 Micrologic 2.3	2-NC Aux. Contact
Q4 FOR 2 MODULE N	800A	690V	4P MCCB	Schneider Electric	NS800N Micrologic 2.0	2-NO Aux. Contact
Q4 FOR 2 MODULE N+1	400A	690V	4P MCCB	Schneider Electric	NSX400 Micrologic 2.3	2-NO Aux. Contact
INVERTER FUSES F1-F3/F4-F6	1250A	690V	HIGH SPEED FUSE	BUSSMANN	170M6466	--
SSW FUSES F1-F3	630A	690V	HIGH SPEED FUSE	BUSSMANN	170M5162	--

DEVICE RATING (XR BATTERY CABINET)						
DC DISCONNECT	CURRENT RATING	RATED OPERATIONAL VOLTAGE	TYPE	MAKE	MODEL	ACCESSORIES
	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_{cs}) 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.
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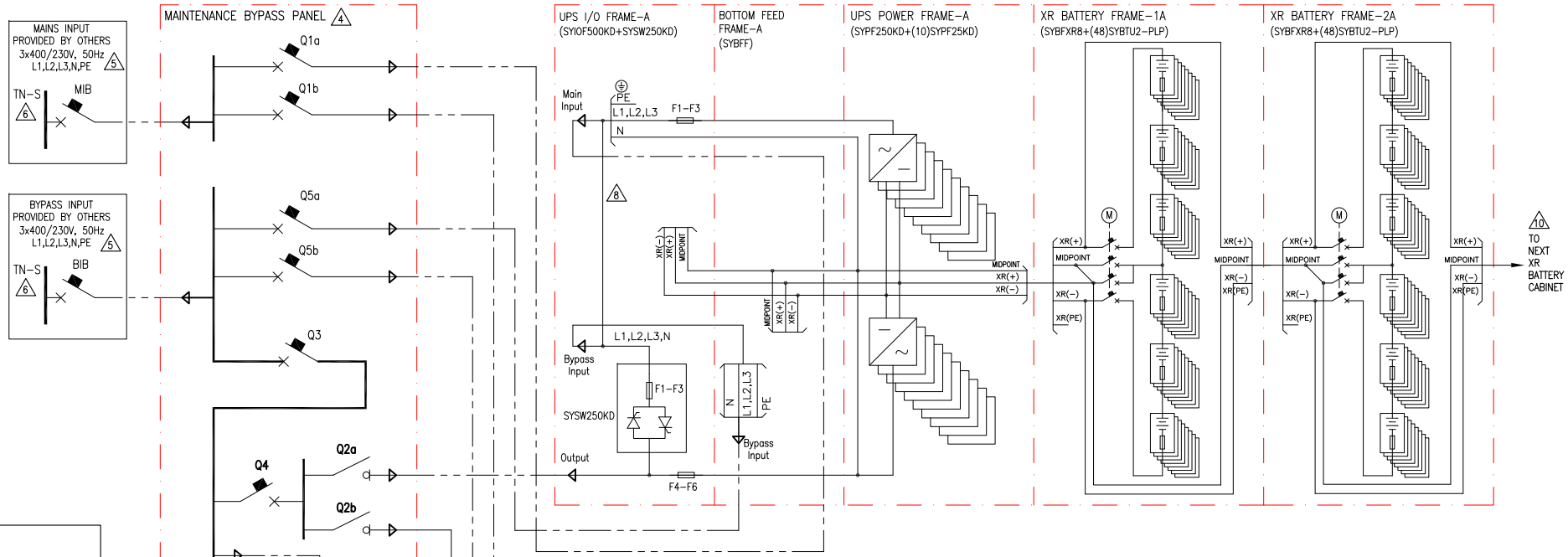


500kVA/kW (250kW 2 MOD CAPACITY) BOTTOM FEED SINGLE MAINS DUAL INPUT CONFIGURATION

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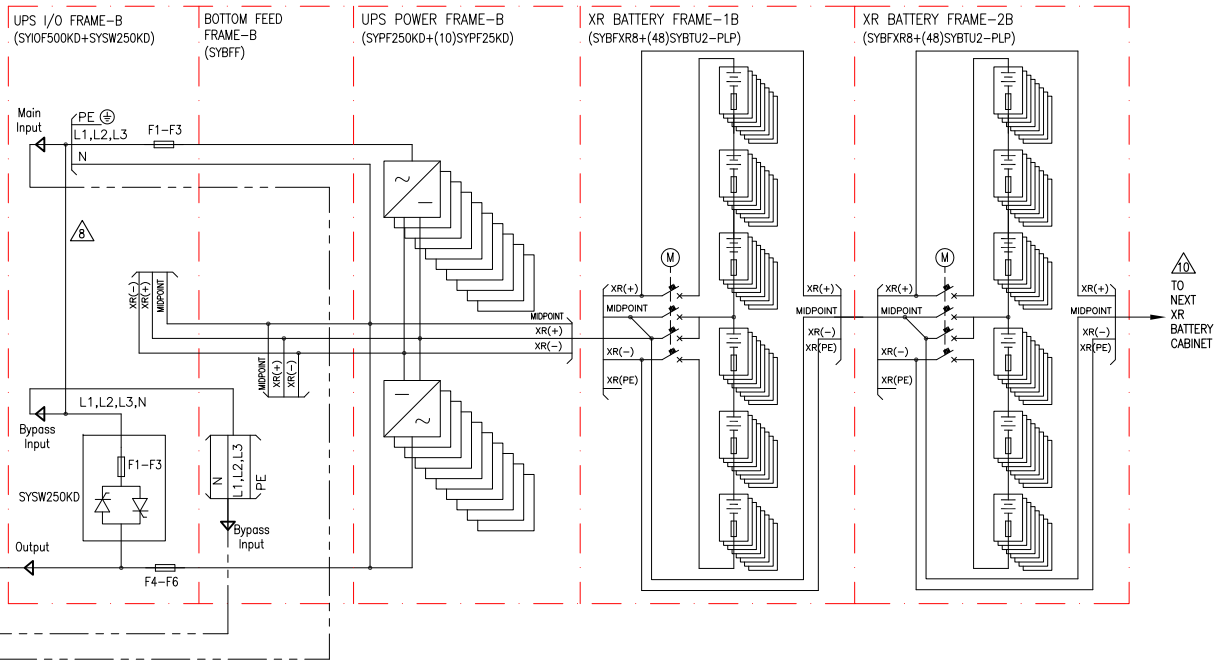
TITLE: SYMMETRA PX250 Input: 400V AC 3PH SINGLE MAINS Output: 400V AC 3PH 250kW 2 MOD BOTTOM FEED W/LINE-UP BATT. SYSTEM ONE LINE DIAGRAM	DWG NO: SY250K250BH1-2MOD-SD	REV: 1	
	DRAWN: BALAMURAGAN S CUNHA	DATE: 11-NOV-14	ANGLE PROJECTION: N/A
PROJECT: SUBMITTAL DRAWINGS	SHEET: 2 OF 4	APPROVED: F.DIOSA/S.WAGH	DATE: 15-DEC-14



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

DEVICE RATING (MAINTENANCE BYPASS PANEL)						
DEVICE	CURRENT RATING	RATED OPERATIONAL VOLTAGE	TYPE	MAKE	MODEL	ACCESSORIES
Q1a, Q1b	630A	690V	3P+N MCCB	Schneider Electric	NSX630 Micrologic 2.3	1-NO Aux. Contact
Q2a, Q2b	400A	690V	4P SWITCH DISCONNECT	Schneider Electric	INS400	1-NO Aux. Contact
Q5a, Q5b	400A	690V	3P+N MCCB	Schneider Electric	NSX400 Micrologic 2.3	1-NO Aux. Contact
Q3 FOR 2 MODULE N	800A	690V	4P MCCB	Schneider Electric	NS800N Micrologic 2.0	2-NC Aux. Contact
Q3 FOR 2 MODULE N+1	400A	690V	4P MCCB	Schneider Electric	NSX400 Micrologic 2.3	2-NC Aux. Contact
Q4 FOR 2 MODULE N	800A	690V	4P MCCB	Schneider Electric	NS800N Micrologic 2.0	2-NO Aux. Contact
Q4 FOR 2 MODULE N+1	400A	690V	4P MCCB	Schneider Electric	NSX400 Micrologic 2.3	2-NO Aux. Contact
INVERTER FUSES F1-F3/F4-F6	1250A	690V	HIGH SPEED FUSE	BUSSMANN	170M6466	--
SSW FUSES F1-F3	630A	690V	HIGH SPEED FUSE	BUSSMANN	170M5162	--
DEVICE RATING (XR BATTERY CABINET)						
DC DISCONNECT	400A	600V DC	4P MCSW	ABB	T5	1 AUX. CONTACT, 24V DC, SHUNT TRIP, ACTUATOR

- NOTES:**
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500kVA/kW (250kW 2 MOD CAPACITY) BOTTOM FEED DUAL MAINS CONFIGURATION

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TITLE:	SYMMETRA PX250 Input: 400V AC 3PH DUAL MAINS Output: 400V AC 3PH 250kW 2 MOD BOTTOM FEED W/LINE-UP BATT. SYSTEM ONE LINE DIAGRAM	DWG NO:	SY250K250BH2-2MOD-SD	REV:	1
PROJECT:	SUBMITTAL DRAWINGS	DRAWN:	BALAMURUGAN/S CUNHA	11-NOV-14	ANGLE PROJECTION:
SHEET	3 OF 4	ENGINEER:	S.ANDERSEN	15-DEC-14	N/A
		APPROVED:	F.DIOSA/S.WAGH	15-DEC-14	

InfrastruXure Planning Guide Symmetra PX 250 (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.						
1 x 250kVA / 250kW 250k frame	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
	10	250	1	260	286	50	400	378	416	630 ***400	50	400	361	397	***400	2 x 288	260	565	361	400

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.			
2 Module N																	
500VA/ 500kW	20	500	1	521	573	50	400	756	831	***800	50	400	722	794	***800	722	***800
2 Module N+1																	
500kVA/ 500kW	20	250	1	260	286	50	400	378	416	***400	50	400	361	397	***400	361	***400

- The Symmetra PX3 250 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 2 MOD W/LINE-UP BATT.
InfrastruXure PLANNING GUIDE

DWG NO: SY250K250H-2MOD--SD REV. 1

DRAWN: BALAMURUGAN 13-NOV-14

ENGINEER: S.ANDERSEN 15-DEC-14

PROJECT: SUBMITTAL DRAWINGS SHEET 4 OF 4

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

ANGLE
PROJECTION:
N/A