

Details on Sheet 4

Loads

Bypass Switch

AC Source

Supply-side tap

Details on Sheet 4

Inverter AC input conductors, distributed from AC input panel via breakers and separate sets of conductors to each Radian

FP3

FP3

FP3

AC Outputs  
AC Inputs

AC Outputs  
AC Inputs

AC Outputs  
AC Inputs

Details on Sheet 4

FM80 DC- and DC+ outputs are routed (①) to FP's for GFDI and OCPD breakers, then routed to DCBS (②). If a DC Panelboard is used (Page 3) only DC- needs to be routed to FP3's for the GFDI's.

FM80 FM80 FM80 FM80 FM80 FM80

①

FM80 FM80 FM80 FM80 FM80 FM80

①

Details on Sheet 4 & 5

DC breakers

DC breakers

DC breakers

Notes:

A) A single FP3's DC cabinet has breaker space for 4 charge controllers. If more space is needed, the AC cabinet can also be used, where running a combination of AC and DC wiring is not a code violation.

B) Bypass switch

B1) Each pole rated for 30A x QTY of inverters connected to that phase.

B2) Requires 3 poles for 230V/400V systems.

C) FNDC limited to measuring 1000A

Charge Controller Conductors: 2 per controller (-/+)

Battery Bank 1

Battery Bank 2

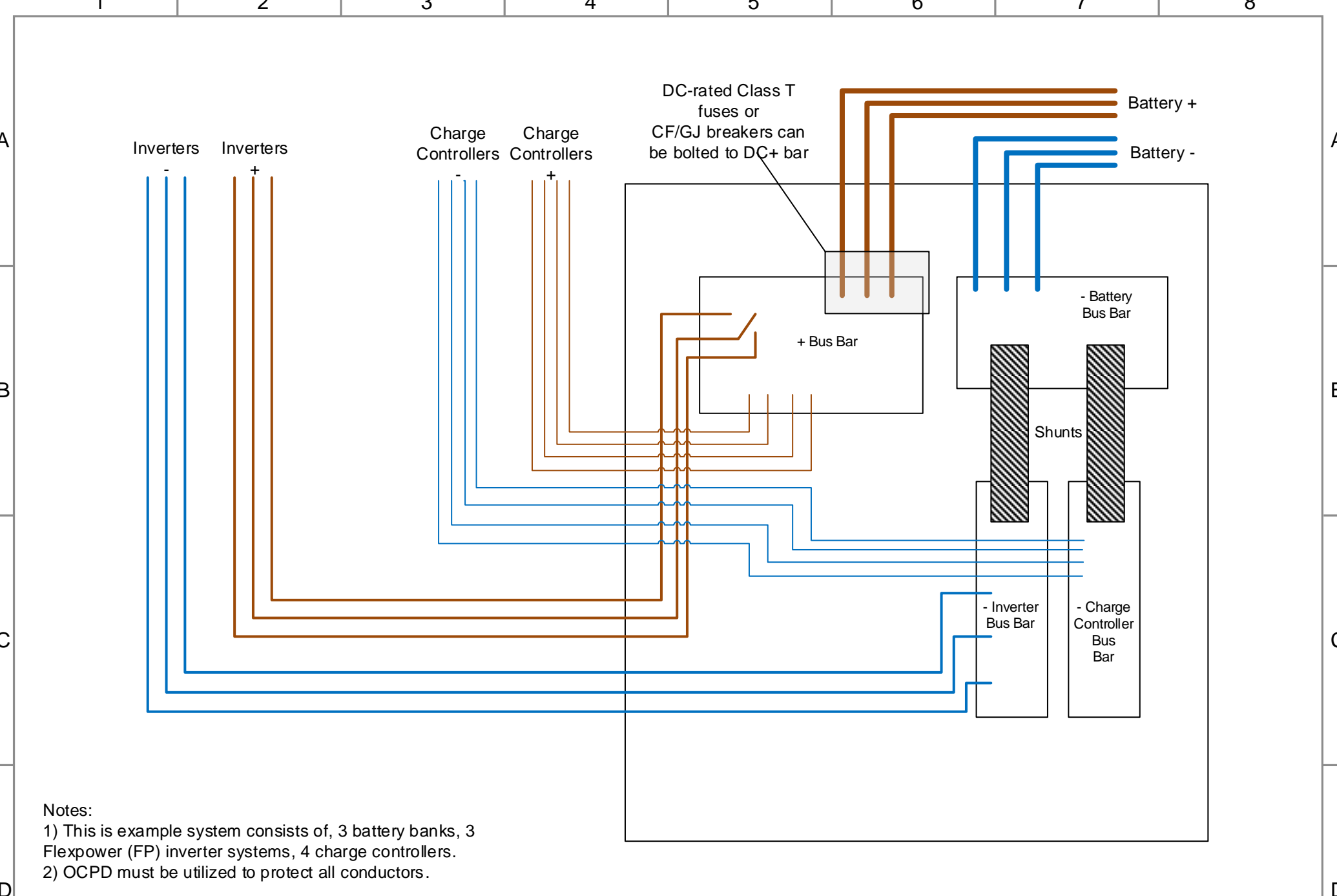
Battery Bank 3

DCBS

Inverter DC conductors

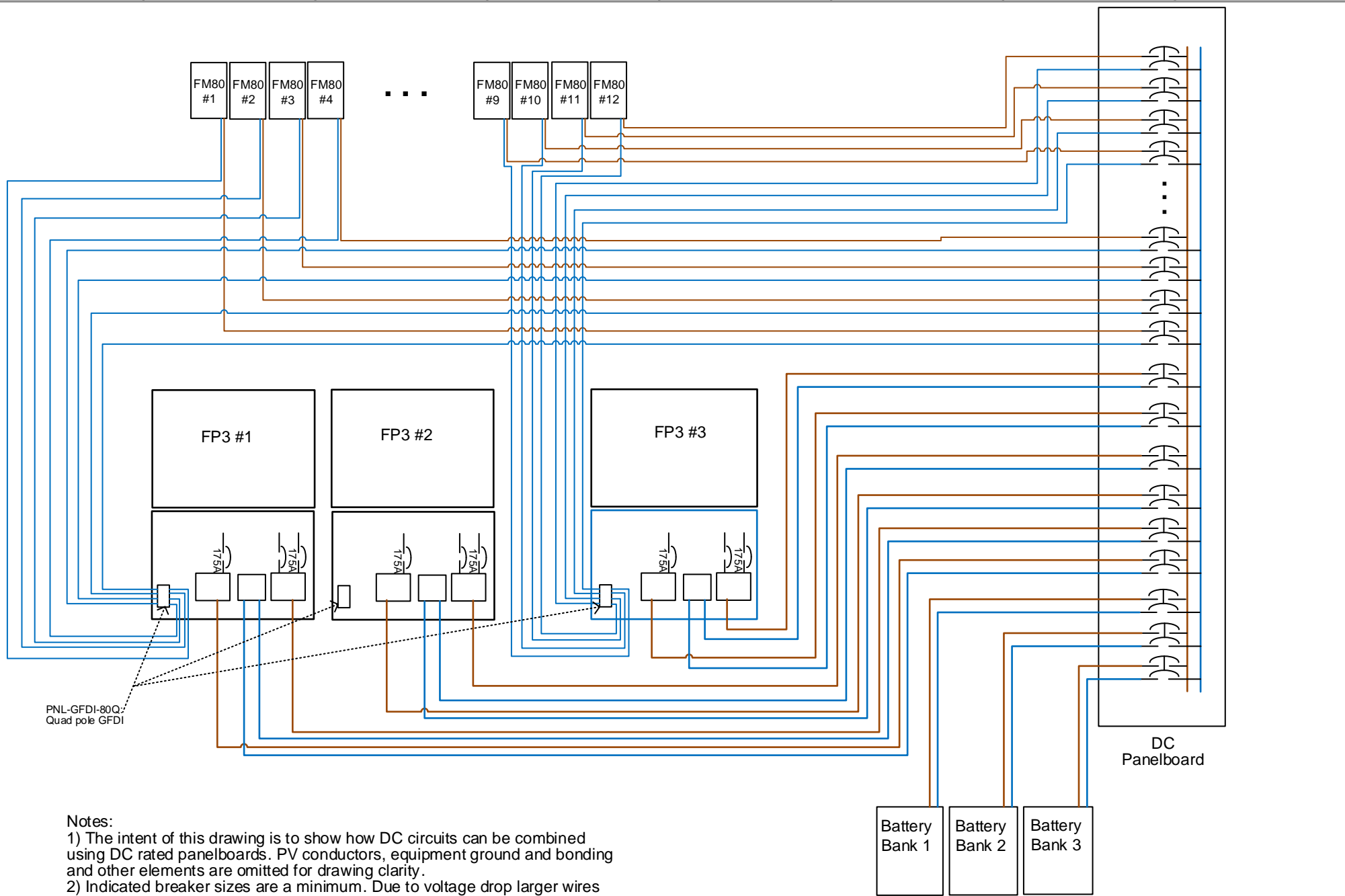
Details on Sheet 2

<b>Document description:</b> This drawing set is a guide for wiring for up to nine FXR inverter/chargers configured for three phase (WYE) applications. PV charge controller wiring is also shown on its own sheet. Always check with AHJ for specific installation requirements.				<b>Sheet list:</b> 1) System single line & cover sheet 2) Three-line: DC Bussing Using Components 3) Three-line: DC Bussing Using DC Panelboard 4) Three-line: AC Combining Panel and Bypass Switch 5) Three-line: AC wiring in FW-1000's 6) Three-line: PV wiring 7) HUB wiring			
<b>TITLE</b> Multi-stack three-phase FXR (w/combining panels) system diagrams				<b>SHEET TITLE</b> System single line & cover sheet			
<b>FILENAME</b> INTERNATIONAL - MULTI-STACK FP3 FXR.R2.RL.19-8-2015 WITH LOADCENTERS.VSD		<b>DRAWN BY</b> REX L.	<b>DATE</b> 19-8-2015	<b>EDITED BY</b>	<b>EDITED ON</b>	<b>REV</b> R2	<b>SHEET</b> 1



Notes:  
 1) This is example system consists of, 3 battery banks, 3 Flexpower (FP) inverter systems, 4 charge controllers.  
 2) OCPD must be utilized to protect all conductors.

TITLE Multi-stack three-phase FXR (w/combining panels) system diagrams				SHEET TITLE Three-line: DC Bussing Using Components			
FILENAME INTERNATIONAL - MULTI-STACK FP3 FXR.R2.RL.19-8-2015 WITH LOADCENTERS.VSD	DRAWN BY REX L.	DATE 19-8-2015	EDITED BY	EDITED ON	REV R2	SHEET 2	



PNL-GFDI-80Q:  
Quad pole GFDI

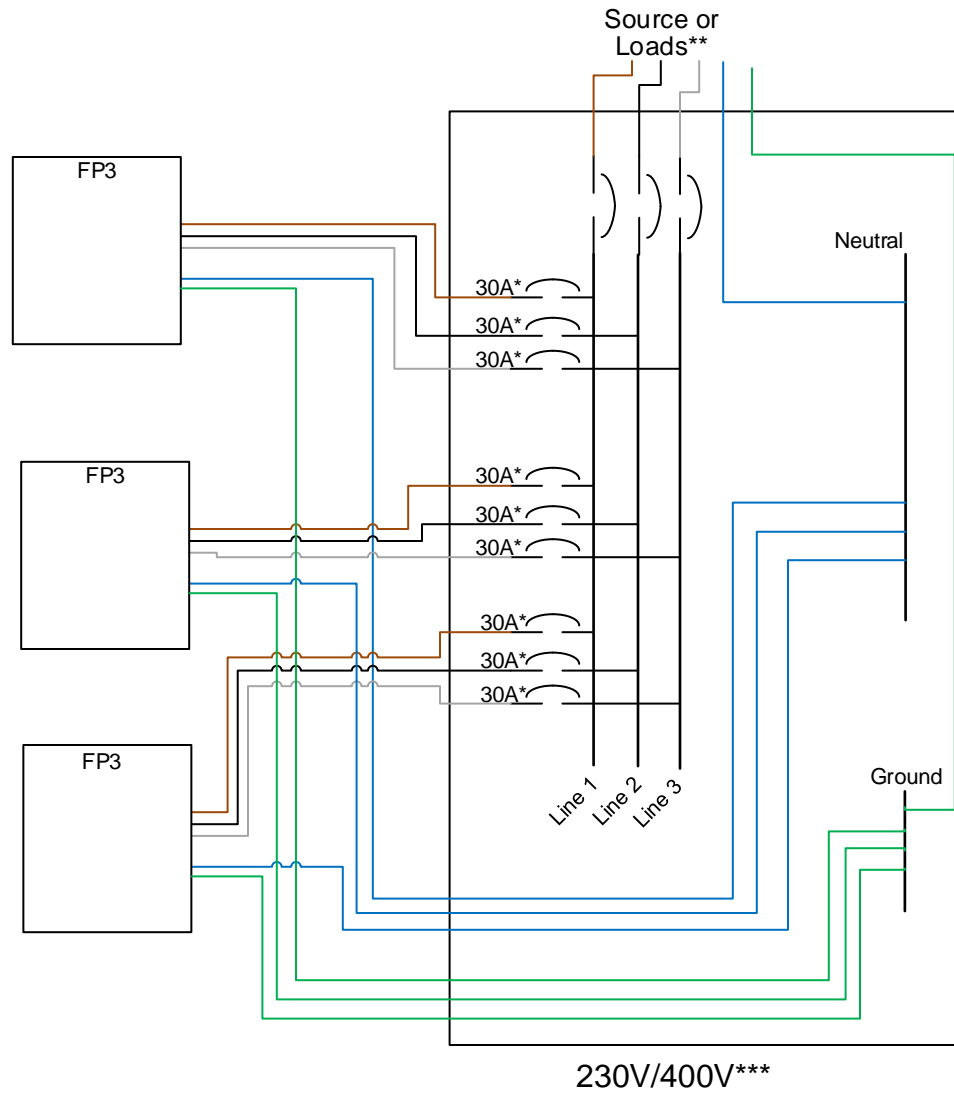
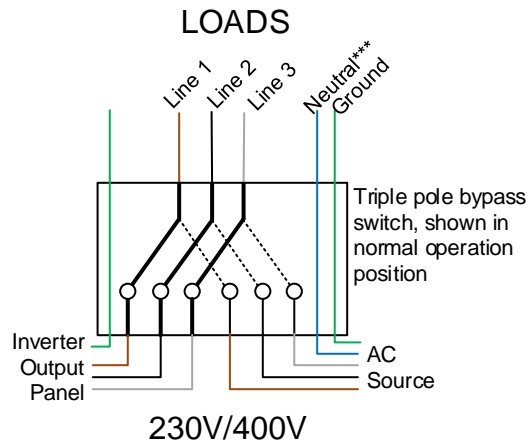
**Notes:**

- 1) The intent of this drawing is to show how DC circuits can be combined using DC rated panelboards. PV conductors, equipment ground and bonding and other elements are omitted for drawing clarity.
- 2) Indicated breaker sizes are a minimum. Due to voltage drop larger wires and consequently breakers may be required.
- 3) For drawing clarity only some of the GFDI wiring is shown. The same principle applies for FP3 #2.

TITLE Multi-stack three-phase FXR (w/combining panels) system diagrams				SHEET TITLE Three-line: DC Bussing Using DC Panelboard			
FILENAME INTERNATIONAL - MULTI-STACK FP3 FXR.R2.RL.19-8-2015 WITH LOADCENTERS.VSD	DRAWN BY REX L.	DATE 19-8-2015	EDITED BY	EDITED ON	REV R2	SHEET 3	



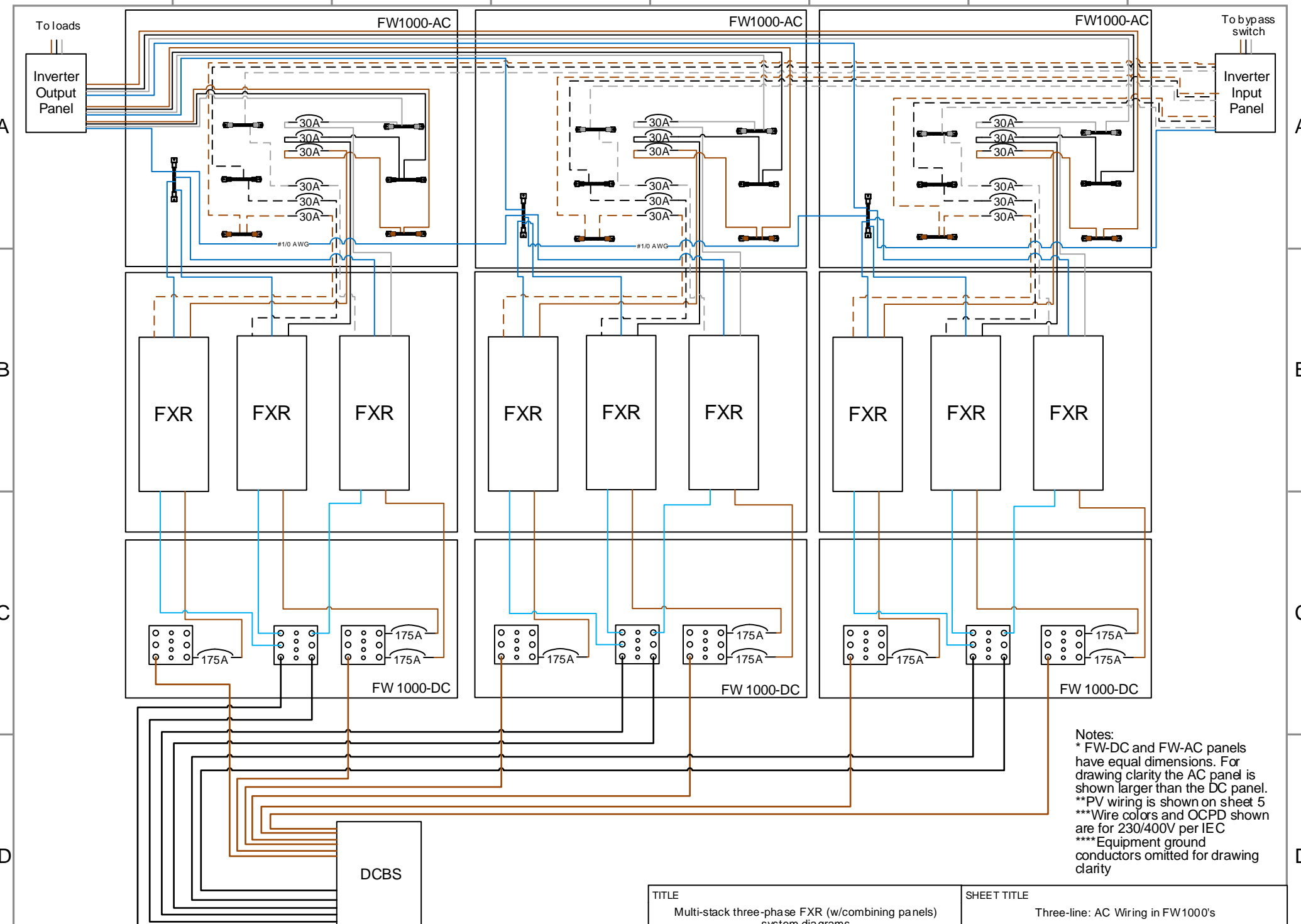
© 2015 by OutBack Power Technologies. All Rights Reserved.



**Notes:**

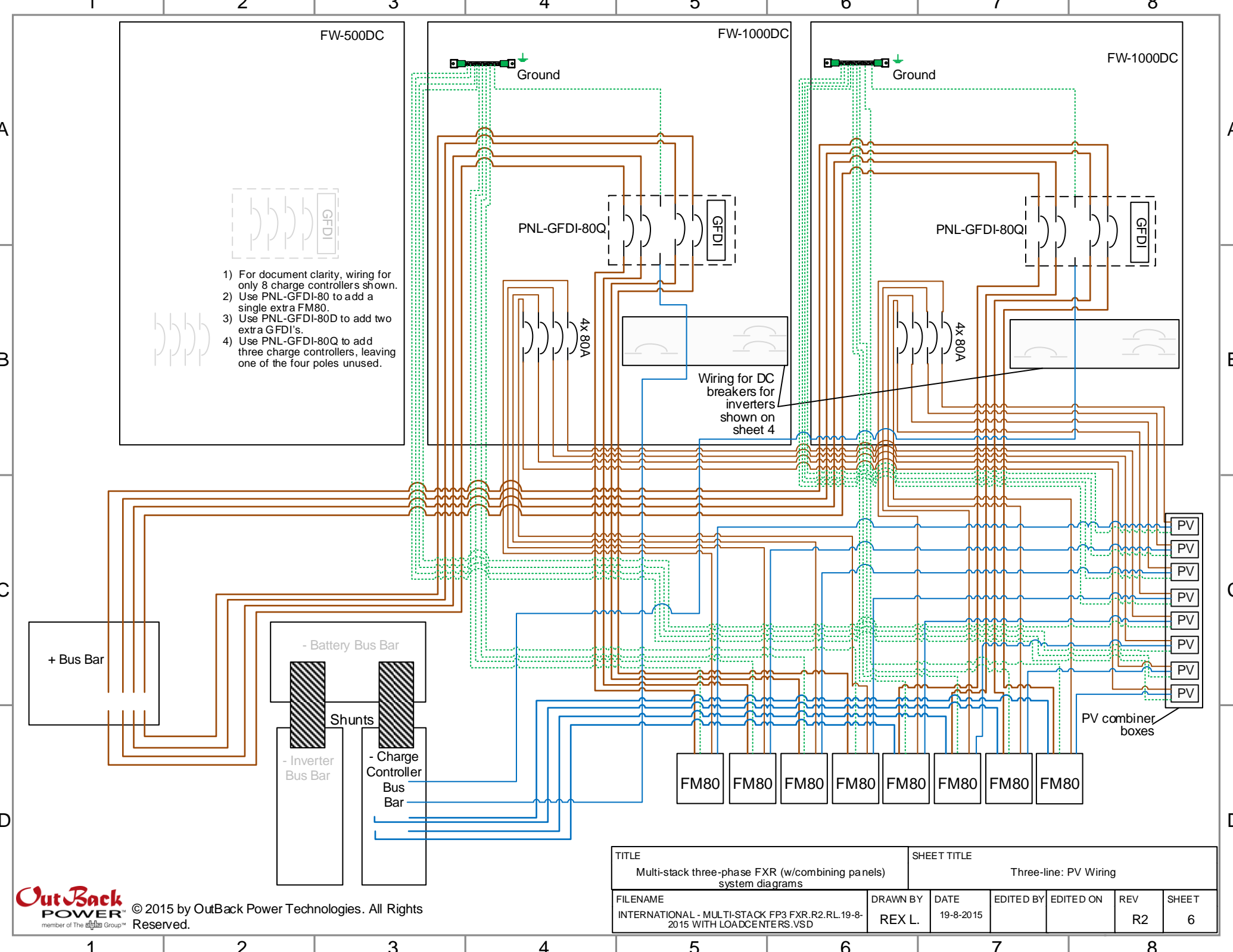
- \* If preferred, 3-pole breakers can be used for each FP3.
- \*\*For input panels, breakers distribute source power to inverters. For output panels, breakers consolidate inverter outputs into a single output.
- \*\*\*Wire colors and OCPD shown for 230/400V service per IEC.
- \*\*\*\*Since neutral is not switched, it passes through input to loads, regardless of bypass switch position.

TITLE Multi-stack three-phase FXR (w/combining panels) system diagrams				SHEET TITLE Three-line: AC Combining Panels and Bypass Switches			
FILENAME INTERNATIONAL - MULTI-STACK FP3 FXR.R2.RL.19-8-2015 WITH LOADCENTERS.VSD	DRAWN BY REX L.	DATE 19-8-2015	EDITED BY	EDITED ON	REV R2	SHEET 4	



Notes:  
 \* FW-DC and FW-AC panels have equal dimensions. For drawing clarity the AC panel is shown larger than the DC panel.  
 \*\*PV wiring is shown on sheet 5  
 \*\*\*Wire colors and OCPD shown are for 230/400V per IEC  
 \*\*\*\* Equipment ground conductors omitted for drawing clarity

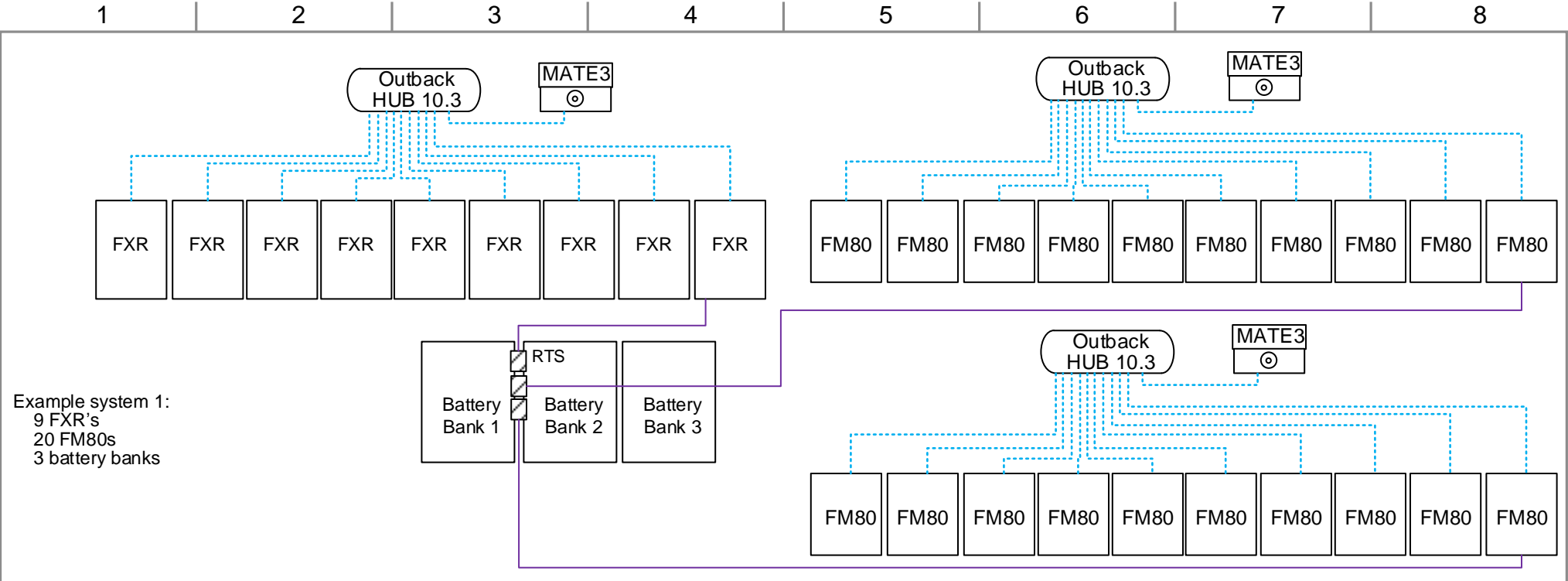
TITLE Multi-stack three-phase FXR (w/combining panels) system diagrams				SHEET TITLE Three-line: AC Wiring in FW1000's				
FILENAME INTERNATIONAL - MULTI-STACK FP3 FXR.R2.RL.19-8-2015 WITH LOADCENTERS.VSD	DRAWN BY REX L.	DATE 19-8-2015	EDITED BY	EDITED ON	REV R2	SHEET 5		



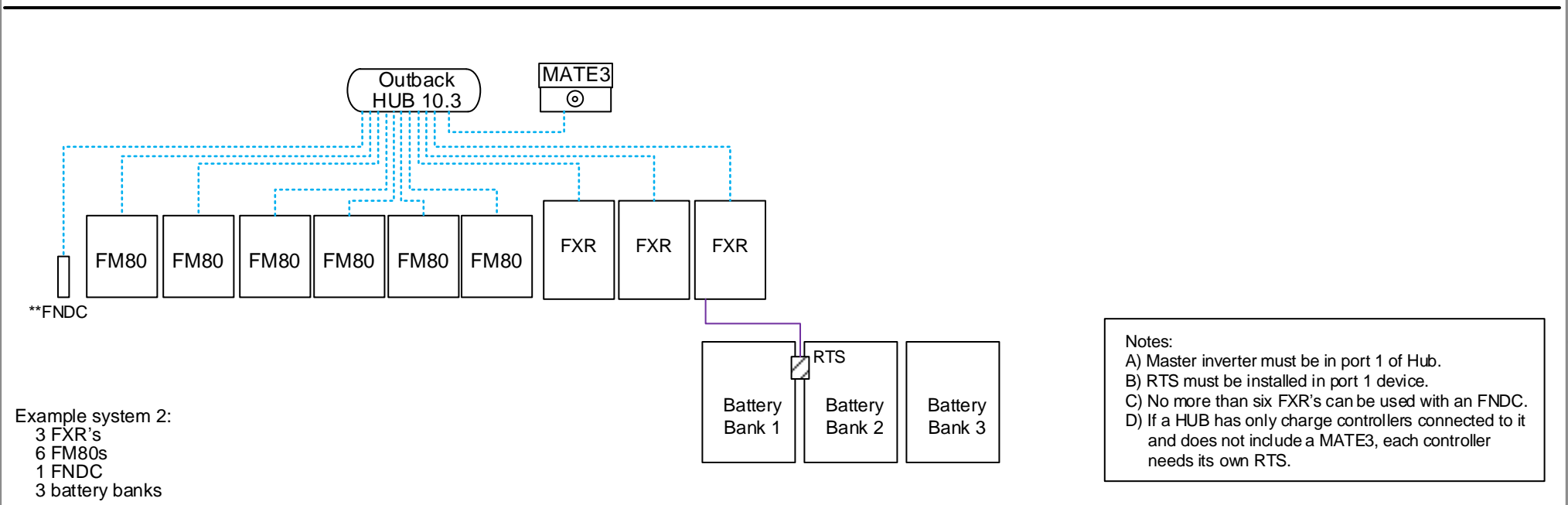
- 1) For document clarity, wiring for only 8 charge controllers shown.
- 2) Use PNL-GFDI-80 to add a single extra FM80.
- 3) Use PNL-GFDI-80D to add two extra GFDI's.
- 4) Use PNL-GFDI-80Q to add three charge controllers, leaving one of the four poles unused.

Wiring for DC breakers for inverters shown on sheet 4

TITLE Multi-stack three-phase FXR (w/combining panels) system diagrams				SHEET TITLE Three-line: PV Wiring			
FILENAME INTERNATIONAL - MULTI-STACK FP3 FXR.R2.RL.19-8-2015 WITH LOADCENTERS.VSD	DRAWN BY REX L.	DATE 19-8-2015	EDITED BY	EDITED ON	REV R2	SHEET 6	



Example system 1:  
 9 FXR's  
 20 FM80s  
 3 battery banks



Example system 2:  
 3 FXR's  
 6 FM80s  
 1 FNDC  
 3 battery banks

Notes:  
 A) Master inverter must be in port 1 of Hub.  
 B) RTS must be installed in port 1 device.  
 C) No more than six FXR's can be used with an FNDC.  
 D) If a HUB has only charge controllers connected to it and does not include a MATE3, each controller needs its own RTS.

TITLE Multi-stack three-phase FXR (w/combining panels) system diagrams				SHEET TITLE HUB Wiring			
FILENAME INTERNATIONAL - MULTI-STACK FP3 FXR.R2.RL.19-8-2015 WITH LOADCENTERS.VSD	DRAWN BY REX L.	DATE 19-8-2015	EDITED BY	EDITED ON	REV R2	SHEET 7	