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

FM80 DC- and DC+ outputs are routed (1) to GSLC'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 GSLC's for the GFDI's.

Notes:
A) GSLCs:
  A1) have breaker spaces for up to four charge controllers
  A2) are used as a raceway for AC in and AC out conductors
  A3) house each inverter's:
      a) AC input breakers
      b) AC output breakers
      c) battery DC breakers
  A4) house the FNDC battery monitor if the system has one
B) Bypass switch
  B1) Rated for 50A x QTY of inverters.
  B2) Requires a single pole for 230V systems and 3 poles for 230V/400V systems.

Document description:
This drawing set is a guide for wiring for up to ten Radian inverter/chargers. PV charge controller wiring is also shown on its own sheet. Always check with AHJ for specific installation requirements.
This is example system consists of:
3 battery banks
3 inverters
4 charge controllers

Class T fuses or CF/GJ breakers can be bolted to DC+ bar

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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) GFDI's can be mounted in any available breaker spaces within GSLCs.
**Notes:**

* Since neutral is not switched, it passes through input to loads, regardless of bypass switch position.

** For input panels, breakers distribute source power to inverters. For output panels, breakers consolidate inverter outputs into a single output.

** 3-phase systems must have inverter quantities in multiples of three.
Multi-Radian, Multi FM system diagrams

FILENAME: INTERNATIONAL - MULTI-RADIAN, MULTI-FM, R2.RL.19-8-2015.VSD

DRAWN BY: REX L.

Date: 19-8-2015

Sheet Title: Detail: GSLC wiring

230V or 230V/400V AC conductors

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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.

5) Equipment grounding conductors omitted for drawing clarity.

+ Bus Bar
- Battery Bus Bar
Shunts
- Inverter Bus Bar
- Charge Controller Bus Bar

PV combiner boxes

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Example system 1:
- 10 Radians
- 20 FM80s
- 3 battery banks

Example system 2:
- 3 Radians
- 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 three Radians can be used with an FNDC.