AC Wiring for Dual and Triple XW Inverter Installations

Application Note

XW Hybrid Inverter/Charger

976-0186-01-01 Rev A

Introduction

This application note describes the AC wiring for Dual and Triple XW Inverter Installations.

AC Wiring for a Dual-Inverter System

1. Disconnect the AC wires (from the utility grid or generator and to the sub-panel) and remove the factory-installed distribution bars connected to top and bottom terminals on the AC breakers.
2. Remove bypass interlock bracket.
3. Disconnect INV1 AC LOAD (INV1 L1-LOAD, INV1 L2-LOAD) wires from top terminals on right-hand side breaker.
4. Add three additional dual-pole AC breakers (supplied in 865-1020) next to the existing three dual-pole AC breakers.
5. Attach the four, four-tab distribution bars (supplied in 865-1020) to top and bottom of AC breakers as shown in dual-inverter system wiring diagrams.
6. If a backup generator or other secondary AC source is installed in the system, reuse two of the dual-tab power distribution bars previously installed on INV1 Grid/Bypass breakers for generator breakers as shown Figure 1.
7. Connect grid wiring and loads/subpanel wiring to the new distribution bars as shown in Figure 2.
8. Connect INV1 LOAD (INV1 L1-LOAD, INV1 L2-LOAD), INV2 LOAD (INV2 L1-LOAD, INV2 L2-LOAD), and INV2 GRID (INV2 L1-GRID, INV2 L2-GRID) wires to AC breakers as shown in Figure 2.
9. Connect neutral (INV2 N-LOAD (SPLIT-PHASE)) and ground (INV2 GROUND) wiring as shown in dual-inverter system wiring diagrams.
10. Connect wiring at the inverter/chargers.
11. Remove the knockouts on upper wire cover for additional breakers to fit through.
12. Re-install upper wire cover. Relabel the AC breakers with the appropriate labels provided with the XW Power Distribution Panel.
13. Install bypass interlock plate with provided screws and nylon shoulder washers (supplied in 865-1020).

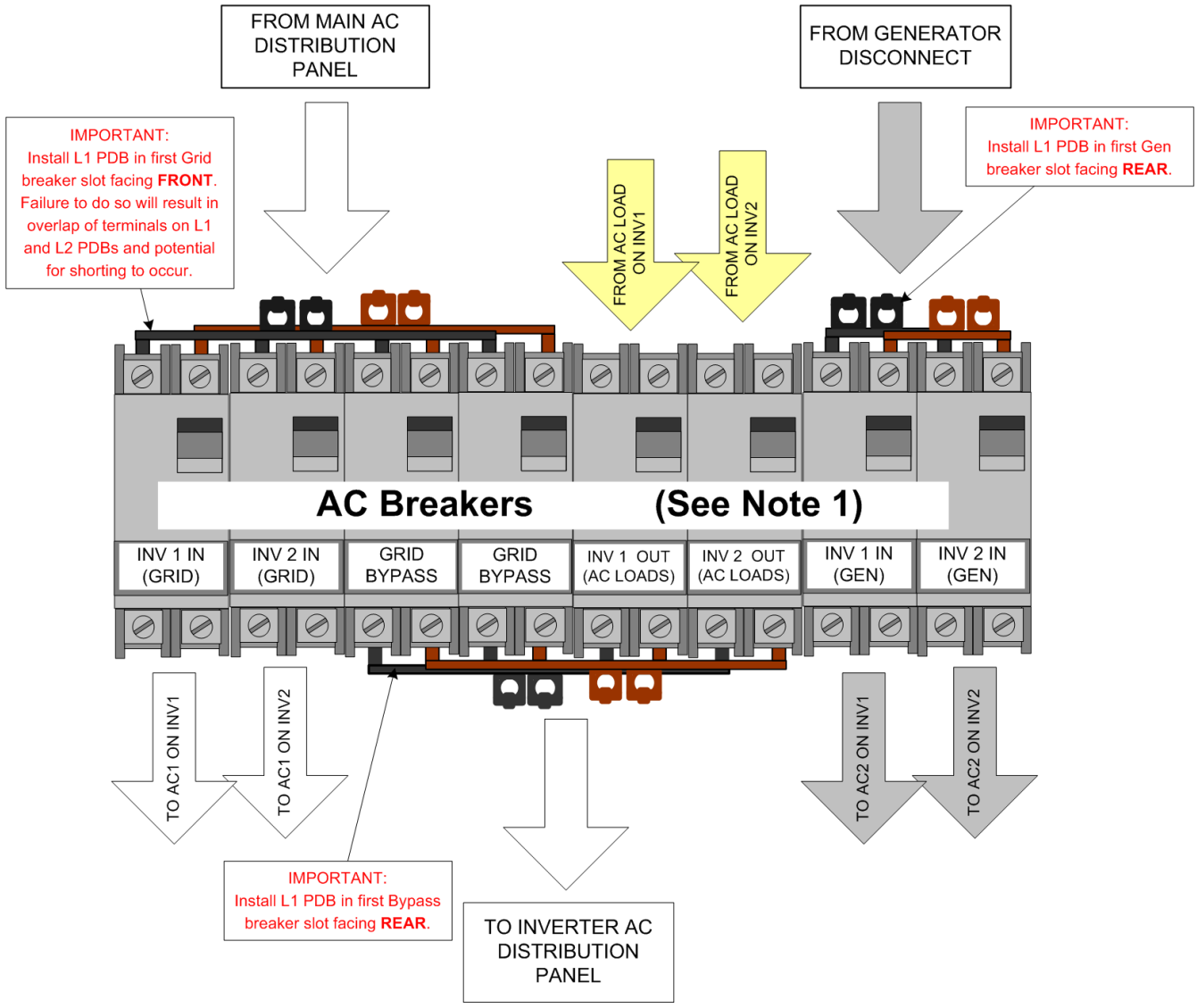

Figure 1 Dual Inverter AC Breaker Arrangement and Wiring Enlargement with Multiple AC Input Sources

AC Wiring for a Triple-Inverter System

1. Prepare power distribution bars (supplied in 865-1020) by cutting away one of the four tabs, only three tabs per power distribution bar are required in a three inverter system. A total of 4 distribution bars should be prepared for a single AC source and 6 distribution bars for a dual AC source.
2. Mount the nine breakers on the din rail and install power distribution bars as follows (refer to figures 1 & 2):
3. Two distribution bars, L1 and L2 at the input (top) terminals of the INV1, INV2 and INV3 Grid breakers.
4. If the installation includes a second AC source, install two distribution bars, L1 and L2 at the input (top) terminals of the INV1, INV2 and INV3 Gen breakers.
5. Two distribution bars, L1 and L2 at the output (bottom) terminals of the INV1, INV2 and INV3 AC Load breakers.
6. Connect L1 and L2, AC wiring from each INV Grid breaker to the corresponding AC Input (AC1) terminal on each of the three inverters.
7. If the installation includes a second AC source,, Connect L1 and L2, AC wiring from each INV Gen breaker to the corresponding AC Input (AC2) terminal on each of the three inverters.
8. Connect L1 and L2, AC wiring from each INV AC Load terminal from each of the three inverters, to the corresponding AC INV Out breaker terminal in the PDP.
9. Connect L1 and L2, AC Load wiring to the INV Out (AC Load) power distribution bar.
10. If the installation includes a second AC source, Connect L1 and L2, AC wiring from the Generator (or other source) disconnect to the Gen breaker power distribution bars.
11. Connect L1 and L2, AC wiring from the Utility Grid distribution panel to the Grid breaker power distribution bars.
12. Connect neutral wiring from INV1 (supplied with PDP), INV2 (supplied in 865-1050) and INV3 (custom, see material list) to the neutral distribution bar in the PDP.
13. Connect ground wiring from INV1 (supplied with PDP), INV2 (supplied in 865-and INV3 (user supplied for single AC source and included in 865-1050 for Dual AC source) to the ground distribution bar in the PDP.

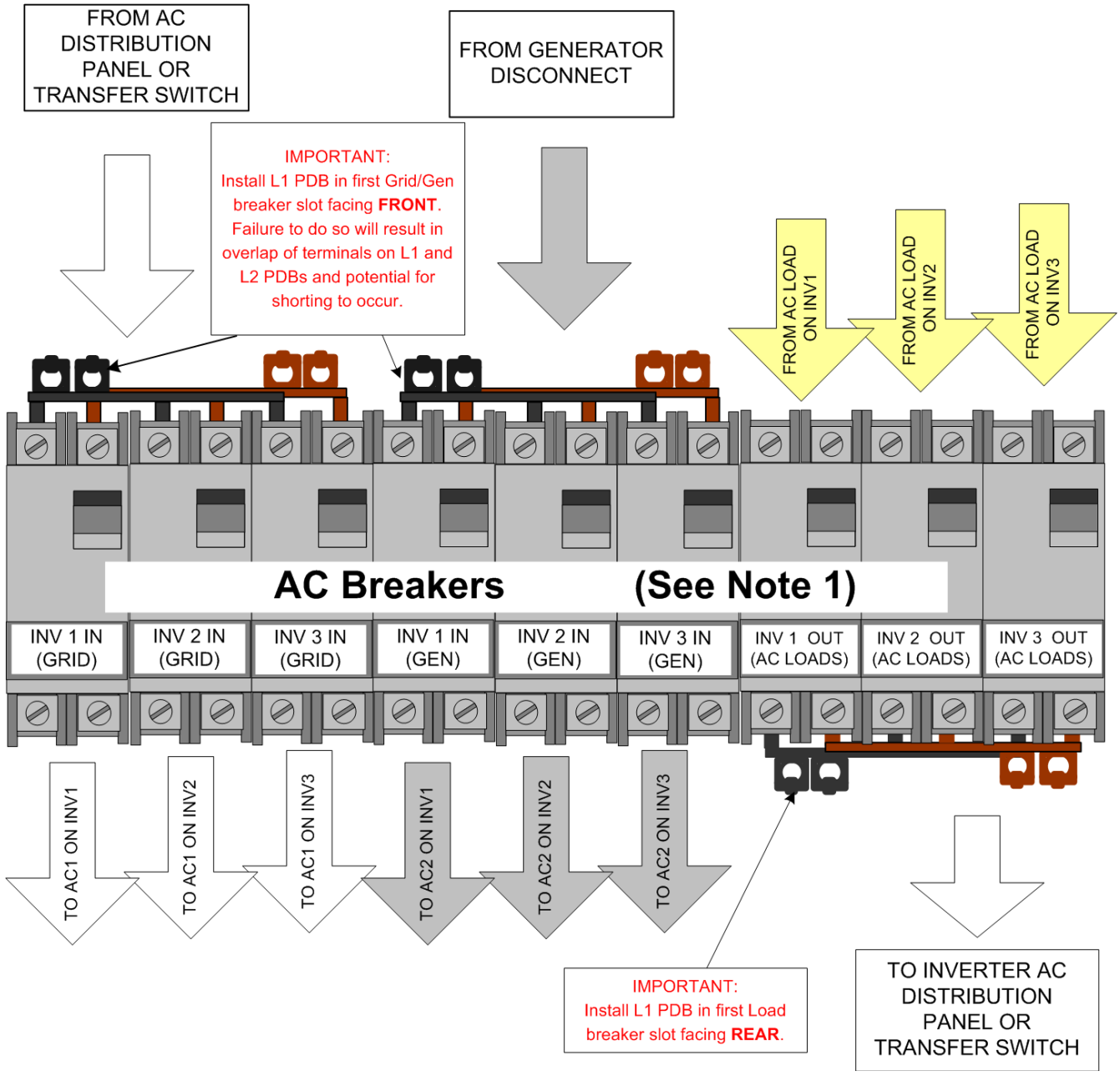

Figure 2 Triple-Inverter AC Breaker Arrangement and Wiring Enlargement with Dual AC Input Sources

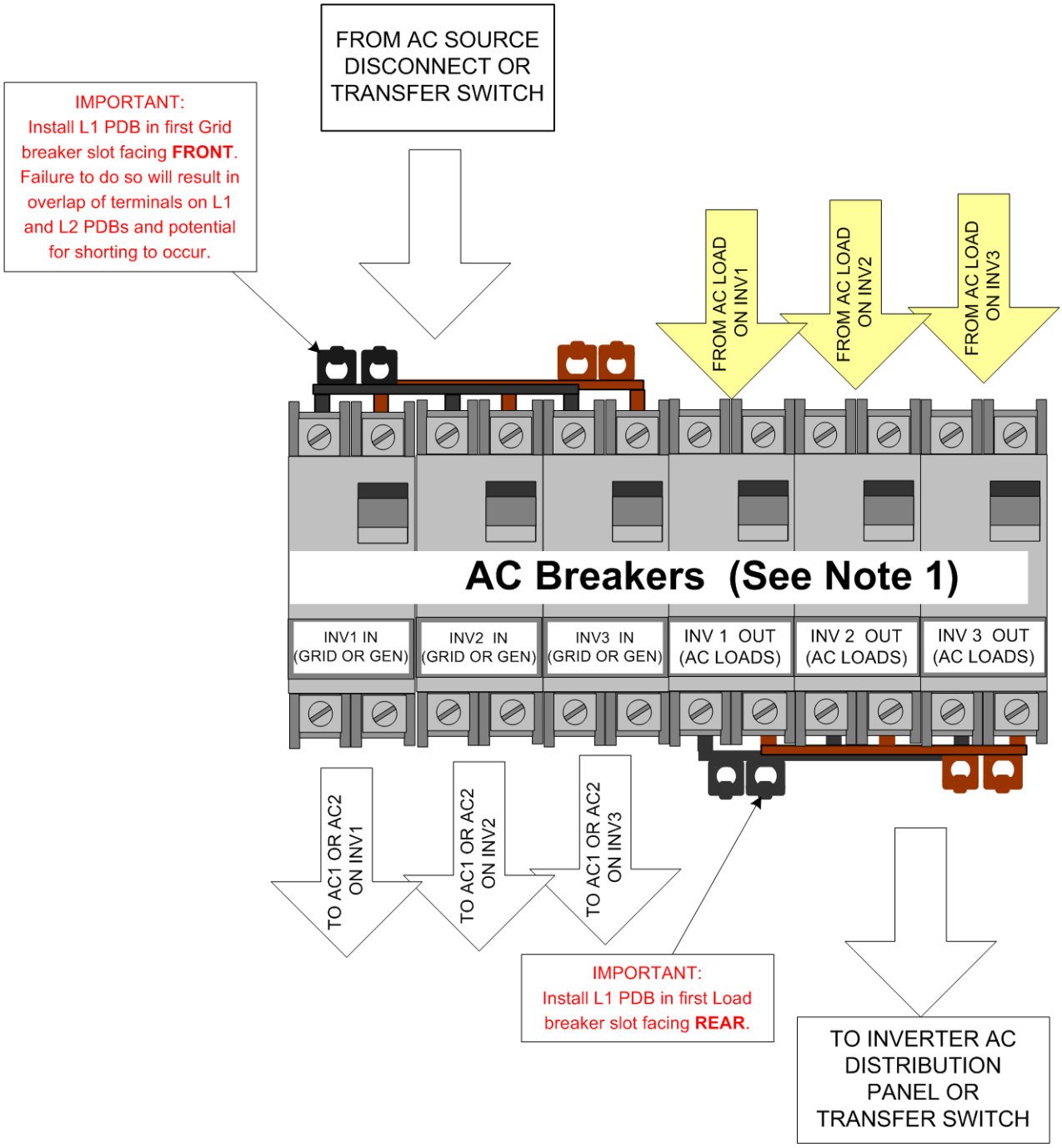

Figure 3 Triple-Inverter AC Breaker Arrangement and Wiring Enlargement with a Single AC Input Source

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