

From: Douglas Richardson
Sent: Wednesday, January 14, 2015 1:02 PM
Subject: APS1000 Manual Paralleling
Attachments: 81E315 Paralleling Interconnect.pdf

This information applies to APS800A & B, APS550, APS1000 and MPS1000 Manual Paralleling products. It does **Not apply to APS1000A** or any others that utilize EMCP 4.4 control panels (which has paralleling built-in).

Attached is the wiring diagram for the paralleling interface. Please note that any package can be any unit number in this paralleling scheme.

Unit to unit paralleling setup

Starting with having the generators cabled to a common bus and umbilical cables connected to the paralleling connectors between all units. The umbilical can be connected to either primary or secondary connector. I.E. the scheme does not require a sequential connection arrangement as does the current hardwired scheme of EMCP 4.4 based product. Confirm that the generator breakers of all connected units are in the open position and the synchronizing light switches in the off position.

The paralleling system is designed to operate with the packages configured for 480v only. There is circuitry in the system to inhibit paralleling in any other winding configuration with the change-over board.

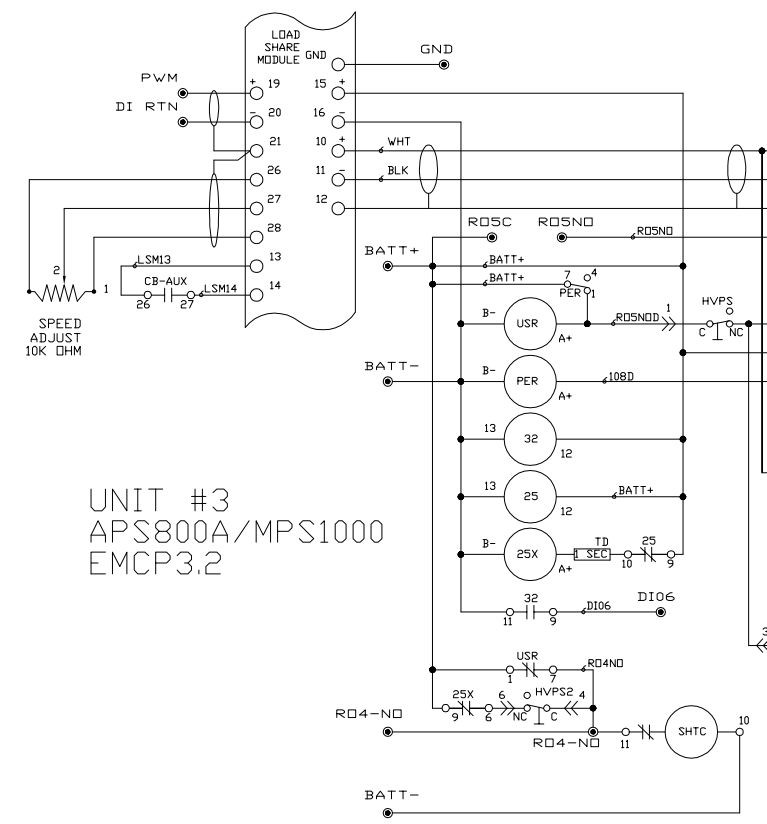
Synchronizing

Start package #1 and adjust speed and voltage for 60 Hz and 480 volt. Once these values are correct manually close the generator breaker. Start package #2, adjust speed and voltage for 60Hz and 480 volts to match the previous unit, then turn on the synchronizing light switch. Observe the lights as they slowly brighten and dim. Once the lights are completely off, close the generator breaker and open the synchronizing light switch. Observe the amperage values on the EMCP for circulating currents. Repeat the package #2 procedure for any additional units. A good rule of thumb is to not have more than 50 amps on any EMCP display when the generators are paralleled with no load applied. The packages are now paralleled and ready to share KW load only. The voltage regulators are programmed for voltage droop to reduce possible recirculating current between the packages and will not share reactive load.

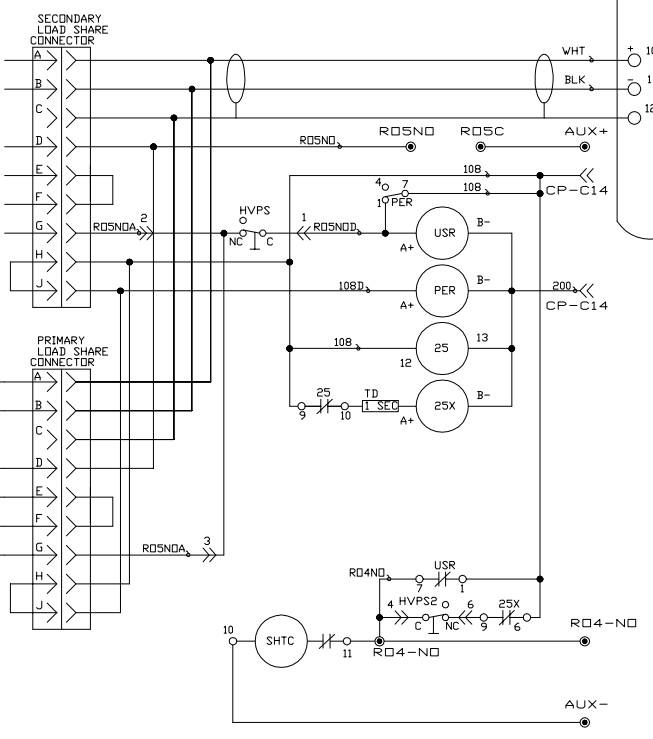
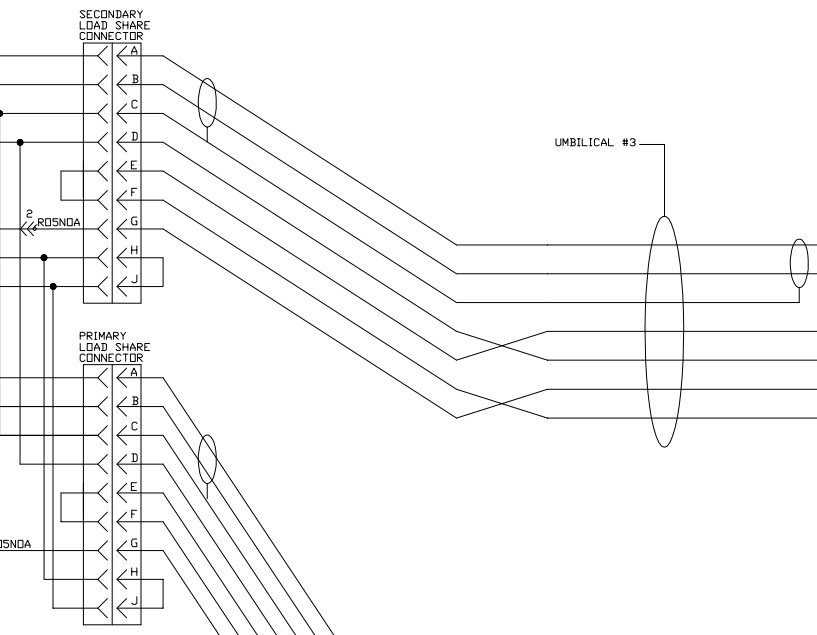
An additional note is that these units are fitted with a synch check relay that functions to prevent closing the generator breaker out of synch. The synchronizing window is relatively tight and can prevent the breaker closure even if the synchronizing lights indicate you are in synch. The relay (mounted on the sub pan of the control panel) has a synchronization LED indicator that can be observed by opening the control panel door.

Let me know if you need anything.

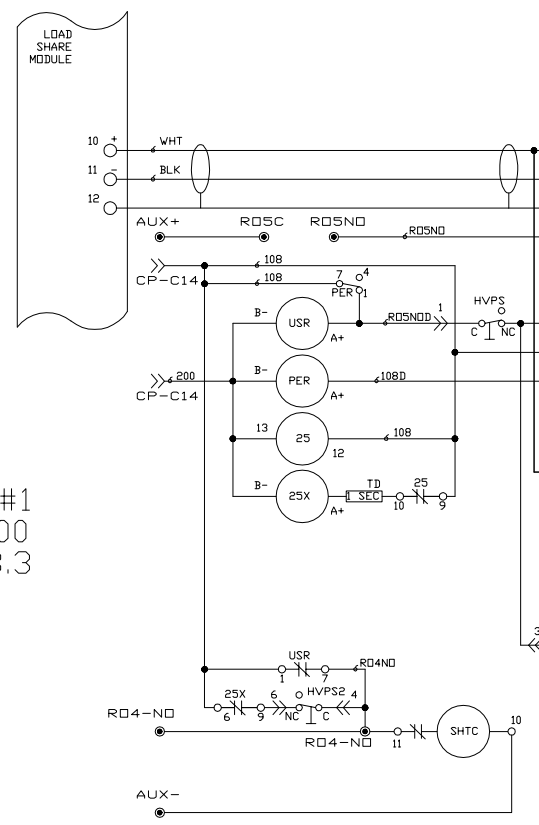
Best Regards
Doug



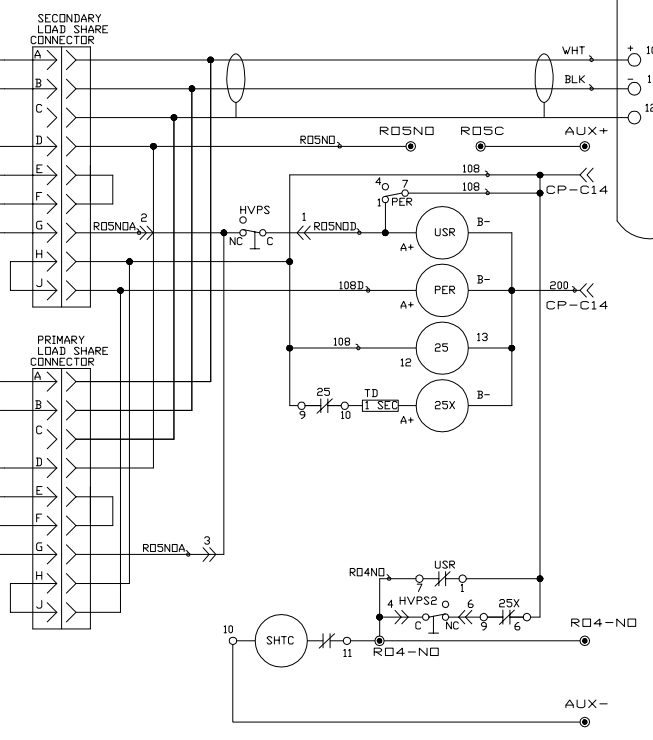
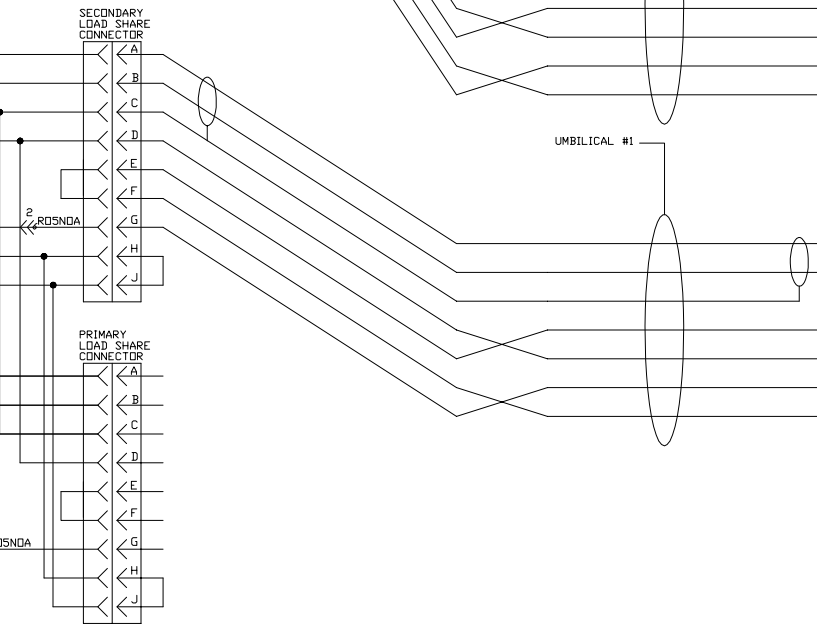
UNIT #3
APS800A/MPS1000
EMCP3.2



UNIT #4
APS800B
EMCP3.3



UNIT #1
APS1000
EMCP3.3



UNIT #2
APS550
EMCP3.3

25 - PARALLELING RELAY
PER - PARALLEL ENABLE RELAY
USR - UMBILICAL SAFETY RELAY

FOR USE WITH DUAL VOLTAGE ARRANGEMENT
???????? CUTLER HAMMER BREAKER - MDS6323HEA ????????

		ALTORFER POWER SYSTEMS 6315 W. FAUBER RD. PHONE (309) 697-1234 BARTONVILLE, IL 61607 FAX (309) 292-7546	
CHANGE NOTICE ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED TOLERANCES: .XX ± 0.100 .XXX ± 0.060 .XXX ± 0.025 ANGULAR ± 1°	FILE DF\80E	PROJECT REFERENCE APS1000 POWER MODULE	
	SCALE/SHEET SIZE 1=1/D	DRAWN BY D. ROLING	QUOTE NUMBER
	SHEET 1 OF 1	DATE 03/16/11	WORK ORDER NUMBER
	TITLE PARALLELING INTERCONNECT DIAGRAM (240/480 VOLT)		DRAWING NUMBER 81E315