

ACS550 SINGLE PHASE DE-RATE OPERATION

Description:

Single phase operation of VFD's is a common request from OEM's in in many industries including food and exercise. While the ACS355 offers UL Listed single phase products up to 3Hp at 230 volt larger ratings will require use of the ACS550.

Process for De-Rating an ACS550:

The ACS550 can be de-rated for operation when single phase 230 volt is applied. As with any single phase 230 volt input the output is 3 phase 230 volt with 50% reduction in current. All drive parameters are factory set to operate with three phase input power. As such, the drives output current limit must be adjusted based on the de-rate. In order to achieve the 50% de-rated output current the input single phase power from the utility must be stiff. There will be some DC bus ripple if the input power quality is questionable or if the drive is operated at an output current rating above the 50% de-rate. Continuous operation above the 50% de-rate will cause nuisance DC overvoltage faults or phase loss faults due to excessive DC Ripple..

Documents or other reference material:

ACS550 Single Phase Current De-Rate

Code	Frame	I _{2N} A
Type ACS550-U1-04A6-2	R1	2.3
ACS550-U1-06A6-2	R1	3.2
ACS550-U1-07A5-2	R1	4.2
ACS550-U1-012A-2	R1	6.0
ACS550-U1-017A-2	R1	6.8
ACS550-U1-024A-2	R2	9.6
ACS550-U1-031A-2	R2	15.2
ACS550-U1-046A-2	R3	22.0
ACS550-U1-059A-2	R3	28.0
ACS550-U1-088A-2	R4	44.0
ACS550-U1-114A-2	R4	57.0
ACS550-U1-143A-2	R6	70.1
ACS550-U1-178A-2	R6	68.0
ACS550-U1-221A-2	R6	110.5
ACS550-U1-248A-2	R6	124.0

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Corrective Actions:

The ACS550 can be operated using a 230 volt single phase input. The input power leads should be connected on U1 and W1. The application must reviewed so the drive is correctly sized for the load and output current listed in the above table. If there is an issue of DC bus ripple, Bus Stabilization may need to be adjusted. If this is case, contact your RAE for assistance.

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