Troubleshooting Guide
CTTG #121

Unidrive Size 5 Power Module Fault Isolation

This document pertains to UNIDRIVE Size 5

WARNING: ALLOW SUFFICIENT TIME FOR THE DRIVE TO DISCHARGE
Recommended Time is 10 minutes after power down
Measure from DC+ to DC- to ensure the buss voltage has discharged.

Problem: Unidrive Size 5 is tripping

When there are multiple power modules involved a fault may need to be isolated. This
document can also be used for instructions on how to move the Control Pod to another
power module in an effort to isolate a fault condition.

The Unidrive Size 5 is mainly comprised of a control module or POD, one or
more power modules, and interconnecting cables. Many times when a fault occurs the
description will indicate the responsible power module. Other times it may be
necessary to move major elements in order to confirm a control, power, or cable
problem within the individual sections. Some common Unidrive Size 5 trips are listed
below. The “n” indicates the power module number.

Ol.AC n Over current in the output stage
Ol.dc n DC over current
Ot HS n Heatsink over temperature
Ot inP Input stage over temperature
OU n Over voltage
PS n Internal power supply fault
St GL Hardware fault
UFLt n Unidentified trip
The control module/POD and each Power Module have dip switch banks that are set up to identify each device in the system. The control pod dip switch is set to the total number of power modules on the system. The power module dip switch bank is set to identify its node in the system.

**Interconnect Diagram**

Size 5 Power modules with the covers removed.
The individual components can be isolated by removing cables and reassigning the dip switches. This may not be suitable for running the motor under full load but it can certainly assist in efforts to isolate a trip. You may be able to run the motor unloaded as long as the magnetizing current does not exceed the rating of the individual power module.

Page # 4 shows an example where power module #2 is removed from the system.

Page # 5 shows an example where power module #1 is removed from the system.
Change the dip-switch in the POD from 2 to 1

Remove the cables from module 1 to module 2

The unit has now been converted to a single module system. You may even be able to run the motor unloaded. If the trip clears in this state then the problem was in power module #2 or the interface cables between power module #1 and power module #2.
Change the dip-switch in the POD from 2 to 1.

Remove the cables from power module 1 to power module 2. Move the cables from the control POD over to power module #2.

The unit has now been converted to a single module system. You may even be able to run the motor unloaded. If the trip clears in this state then the problem was in power module #1 or the interface cables between power module #1 and power module #2.