

TECHNICAL BULLETIN

► *Recommend Earliest Possible Action* ◀



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Reference 110
Route to **Service Manager/Modernization Manager/Construction Manager**
From MCE Technical Support Department – David Dunlap (916/463-9231)
Date May 17, 1999
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Subject **Premature Drive Transistor Failure in Yaskawa / EMS AC Motor Drives**

Description Yaskawa / EMS recently notified us that they have detected a higher than normal incidence of failure of the three main drive transistor packs used in some of their AC drives. Yaskawa / EMS has determined that these transistor packs fail prematurely due to thermal power cycling.

Yaskawa / EMS records indicate that only a small percentage of the drives produced (less than 2%) have failed due to this thermal power cycling, which is prevalent only on applications requiring an inordinate amount of starts and stops with high current. Our records also indicate that less than 2% of the Yaskawa / EMS drives that are installed in our elevator controllers, of which all are subjected to frequent high current starts and stops, have failed. Although the detected frequency of failure is extremely low, nonetheless you may experience a premature failure.

Note: The following drive parameters must be set at the values shown below to ensure the longest life of the transistor packs:

***DC injection time at stop B2-04 = 0.5 seconds.
***Carrier frequency C6-01 = 10 KHz.
***Stall prevention during acceleration L3-01 = 1
***Stall prevention level during acceleration L3-02 = 180%.

Affected MCE products include: VFMC-1000 (Standard AC, PTC-AC and PTC-AC Series M) controls, shipped by MCE between May1, 1996 and March 26, 1999, equipped with any of the following Yaskawa / EMS AC motor drives: Note: These drives are used only for 208 -230 VAC applications.

MCE Part Number	Yaskawa / EMS Part Number
11-08-0243	G5U22P2
11-08-0244	G5U23P7
11-08-0245	G5U25P5
11-08-0246	G5U27P5
11-08-0247	G5U2011
11-08-0248	G5U2015
11-08-0249	G5U2018
11-08-0250	G5U2022

Action

To ensure reliable drive operation and long service life, Yaskawa / EMS has begun an unprecedented campaign to visit those controller installations that have experienced drive failures in the past, and replace all three transistor packs in each drive. Yaskawa / EMS may also visit any installation where MCE, EMS and Yaskawa feel that there is a high potential for failure.

Replacement with more robust transistors **will not require any drive reprogramming**. Yaskawa / EMS's technicians will do all necessary work (estimated to be approximately one hour per drive) – they simply need machine room access.

Yaskawa / EMS has expressed their total confidence in this upgrade by providing an additional warranty period on these upgraded drives. The warranty will be extended to 3 years from the date of drive transistor replacement, or to 5 years from the date of manufacture, which ever occurs first. In the event that it is felt that a particular drive does not have a high potential for failure, the drive transistors will be replaced at no charge should they fail within 5 years from the date of manufacture.

Telephone **Sean Colgan at (916) 463-9214** with MCE to discuss your applications and the likelihood of potential problems. If replacement is appropriate, Sean will advise when Yaskawa / EMS technicians are scheduled to be in your area.

Other Help

As always, should you require any other technical assistance:

- ! Telephone 916/463-9200
- ! Touch "6" for Technical Support