

PRODUCT SERVICE ADVISORY

1756-M03SE, 1756-M08SE, 1756-M16SE, 1756-L60M03SE, 1768-M04SE and 1784-PM16SE ControlLogix SERCOS Interface Modules

Ref: ACIG 2006-12-002

Date: December 2006

Dear Rockwell Automation Customer,

The purpose of this Product Service Advisory is to inform you of a potential functional issue that exists with the following SERCOS interface modules:

SERCOS interface module	Series	Firmware Revision
1756-M03SE 1756-M08SE 1756-M16SE	A B A	15.32 and earlier
1756-L60M03SE	A	15.04 and earlier
1768-M04SE	A	15.35 and earlier
1784-PM16SE	A	15.33 and earlier

This Advisory explains the functional issue and the steps being taken to rectify the situation.

- Issue Description -

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With the 1756-M03SE, 1756-M08SE, 1756-M16SE, 1756-L60M03SE, 1768-M04SE and 1784-PM16SE ControlLogix SERCOS interface modules, hereafter referred to as SERCOS interface modules, the following functional issue may exist:

Functional Issue –An anomaly has been identified that can potentially cause unexpected SERCOS ring drops and/or the IP bit of motion instructions to remain in the set state until the instruction is manually cancelled or the SERCOS interface module is reset.

The cause for this issue has been identified as an anomaly occurring on the SERCON816 Application Specific Integrated Circuit (ASIC) chips used within SERCOS interface modules. A small percentage of all SERCON816 ASIC chips used on the SERCOS interface modules may be affected by this issue.

The anomaly appears with high SERCOS ring loading which is typically linked to high cyclic channel loading (high drive count) and high service channel activity (registration, homing, IDN messaging, SSV and/or drive flashing). SERCOS interface modules affected by the SERCON816 ASIC anomaly and high ring loading can exhibit the following behavior:

- Random unexpected fiber optic ring drops while in phase 4 of the SERCOS communication protocol.
- Proven configurations may stall when transitioning from phase 2 to phase 3 of the SERCOS communication protocol.
- Proven configurations may stall when transitioning from phase 3 to phase 4 of the SERCOS communication protocol.
- Motion instructions that normally complete can “hang” on occasion. If an instruction “hangs”, the IP bit of the instruction remains in the set state until it is manually cancelled or the SERCOS interface module is reset.

To resolve this anomaly, we have taken the following corrective action:

- A firmware revision upgrade that eliminates the issue is available for the affected SERCOS interface modules.
- All future firmware releases will include the fix to resolve this anomaly.

-Temporary Workarounds -

There is no temporary workaround available for this anomaly.

- Product Identification -

Product **affected** by this Mandatory Product Service Advisory include:

SERCOS interface module	Series	Firmware Revision
1756-M03SE 1756-M08SE 1756-M16SE	A B A	15.32 and earlier
1756-L60M03SE	A	15.04 and earlier
1768-M04SE	A	15.35 and earlier
1784-PM16SE	A	15.33 and earlier

Rockwell Automation shipped the affected SERCOS interface modules from August 2002 to present.

- Issue Correction -

The functional issue described above has been **corrected** in the following firmware revisions:

For SERCOS interface module	Series	Firmware Revision
1756-M03SE 1756-M08SE 1756-M16SE	A B A	13.37 and later* 15.37 and later
1756-L60M03SE	A	13.11 and later* 15.05 and later
1768-M04SE	A	15.37 and later
1784-PM16SE	A	16.xx and later

**Customers that prefer to remain at firmware revision 13.xx must upgrade their firmware to revision 13.37 or later (13.11 or later for 1756-L60M03SE modules) to obtain the correction for the SERCON816 ASIC anomaly. Target availability for firmware revision 13.37 is scheduled for January 2007.*

To download the firmware updates:

1. Access the Rockwell Support web page at <http://support.rockwellautomation.com>.
2. On the left side of the page, click on the Firmware updates* link located in the Downloads section.
3. Click on the Control Hardware.
4. Enter your User Name and Password or, register for a new account on the Rockwell Online Registration System web page.
5. Locate the firmware revision file for your controller on the Flash Firmware Update web page.
6. Download and then read the technical Release Notes available for the firmware update by clicking on the pdf icon.
7. Click on the file icon to download the firmware revision file for your controller.

- Requested Customer Action -

Each notified customer should take the following actions:

- Confirm that they have the affected products.
- Immediately contact their local Rockwell Automation Sales and Support office to determine the appropriate course of action. Together, the local office and customer will determine the correction for their situation.

If customers require any further technical assistance, they should contact Rockwell Automation Technical Support (440-646-3223 or RACleAskTheExpert@ra.rockwell.com) or their local Rockwell Automation Sales and Support office.

We require and appreciate your immediate cooperation in this matter. If you have any questions, please contact us.