PROCESS CONTROL PLATFORM

Procontrol P14
Flash memory on 83SR50, 83SR51 & 81EU50 is not writable
Product bulletin

Doc. ID	Revision	Status	Author	Approver	Date
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Executive summary

A hardware issue regarding a Flash PROM on the P14 modules 81EU50R1210, 83SR50R1210 and 83SR51R1210 exists on modules with production date after October 2018.

This product bulletin describes which actions are necessary to identify affected modules and projects.

It further describes which possibilities are available to overcome or solve the problem.

1 Products concerned

The following P14 products are affected:

- 81EU50R1210
- 83SR50R1210
- 83SR51R1210

1.1 Effective date

Devices with production date after October 2018 may be affected.

1.2 Reference documents

N/A

2 Product issue number

TFS ID	Title	Description
208750	Defekte 83SR50 Karten (Defective 83SR50 modules)	Während der leittechnischen Erneuerung eines Anlagenteiles sind neue 83SR50 Geräte geliefert worden. Die Geräte wurden geladen, aber nachher könnte man mit der PDAS nicht mehr auf die Karte zugreifen. Beim Aufrufen des Gerätes mittels PDAG (STR,GER) erscheint die Meldung: "Disable. Kennung nicht gefunden."
		Die Karten wurden gezogen, und gesteckt.
		Allen Karten zeigen wieder Störung an (ST und SG).
		Die Karten sind wieder leer, beim Laden zeigt NOP an.
		(During the technical renewal of a plant part, new 83SR50 devices were delivered. The devices were loaded, but afterwards you could not access the module with the PDDS. When the device is called up using PDDS (STR, ENG), the following message appears: "Disable, list code not found."
		The modules were pulled and plugged.
		All modules show an error again (ST and SG).
		The modules are empty again, loading shows NOP.)

3   Description

Due to the obsolescence of a Flash PROM (Manufacturer: AMD) on the three modules 81EU50R1210, 83SR50R1210 and 83SR51R1210 the replacement component (Manufacturer: Macronix) was implemented in October 2018.

In one project which was delivered with modules using the new Flash it was discovered that there are problems with writing/reading application programs with PDDS.

Modules are loaded via the PDDS with application programs. These are first written to the RAM. Subsequently, the processing program of the modules copy the application programs from the RAM into the Flash. For the PDDS, however, the process is complete after successfully writing to the RAM and therefore PDDS is not reporting any error.

Copying from RAM to Flash does not or only partly take place. If you try to read back the application program with PDDS it is queried from the Flash. Since there are no data or incorrect data, the error message appears "Disable, list code not found".

When pulling and plugging a module, the application program stored in RAM is deleted because the memory is volatile.

The following steps are necessary to identify if modules are affected:

1. Identify the production date of the modules. This can be done by checking the label on the package or the connector. Or it can be done using GAF/OVE functionality of PDDS.

The label is e.g. printed with the following information:

Ident number	Module Designation	HW-Index	Date code + Serial number
GJR2403800R1210	81EU50R1210	HW-Index: B	K1118 0050

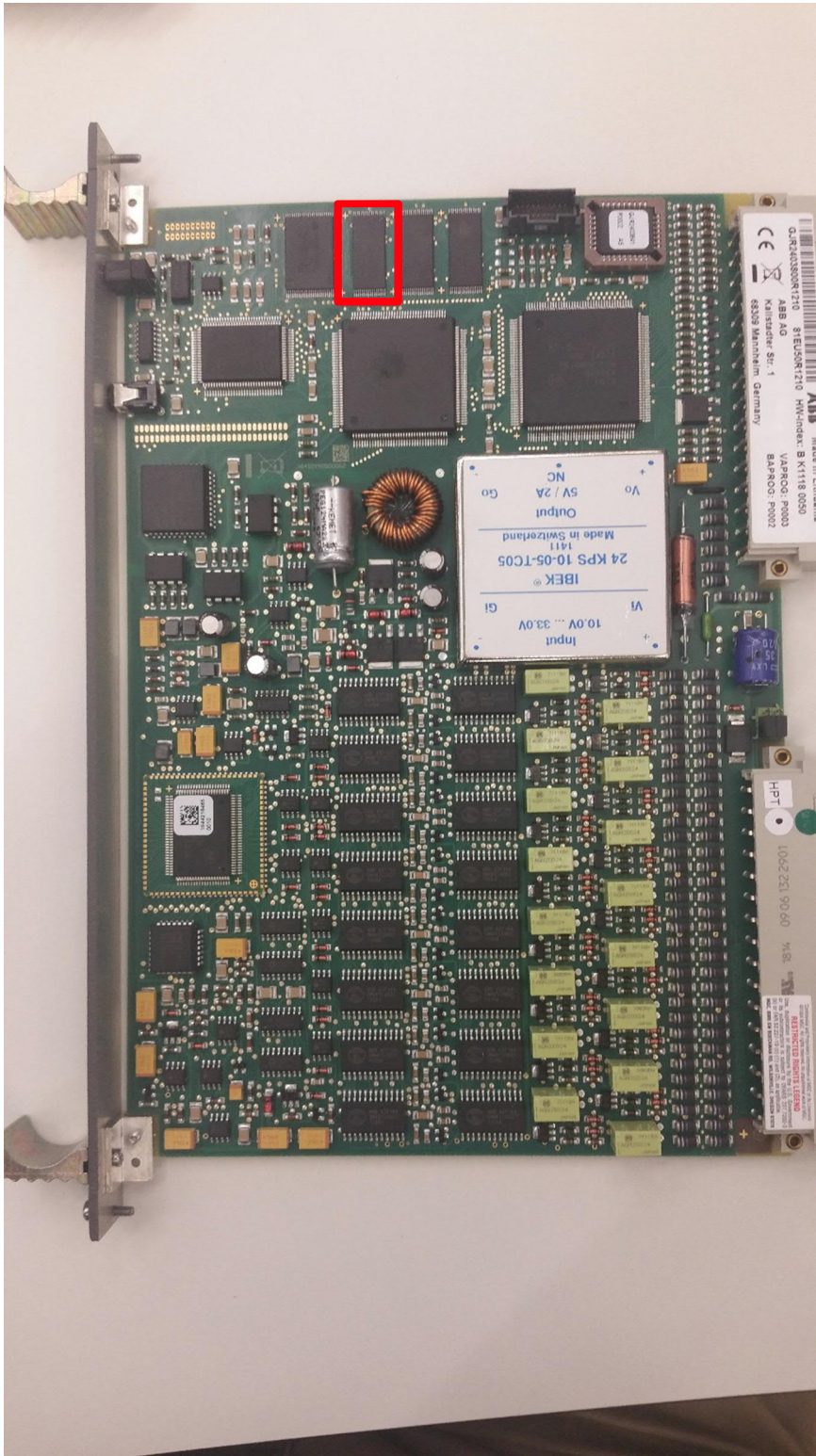The date code is structured as following: YMMY. (Y=Year, M=Month)
For example, for K1118 0050 production date would be 11/18 (November 2018).

2. Ensure that the modules are affected by checking the equipped type of Flash.
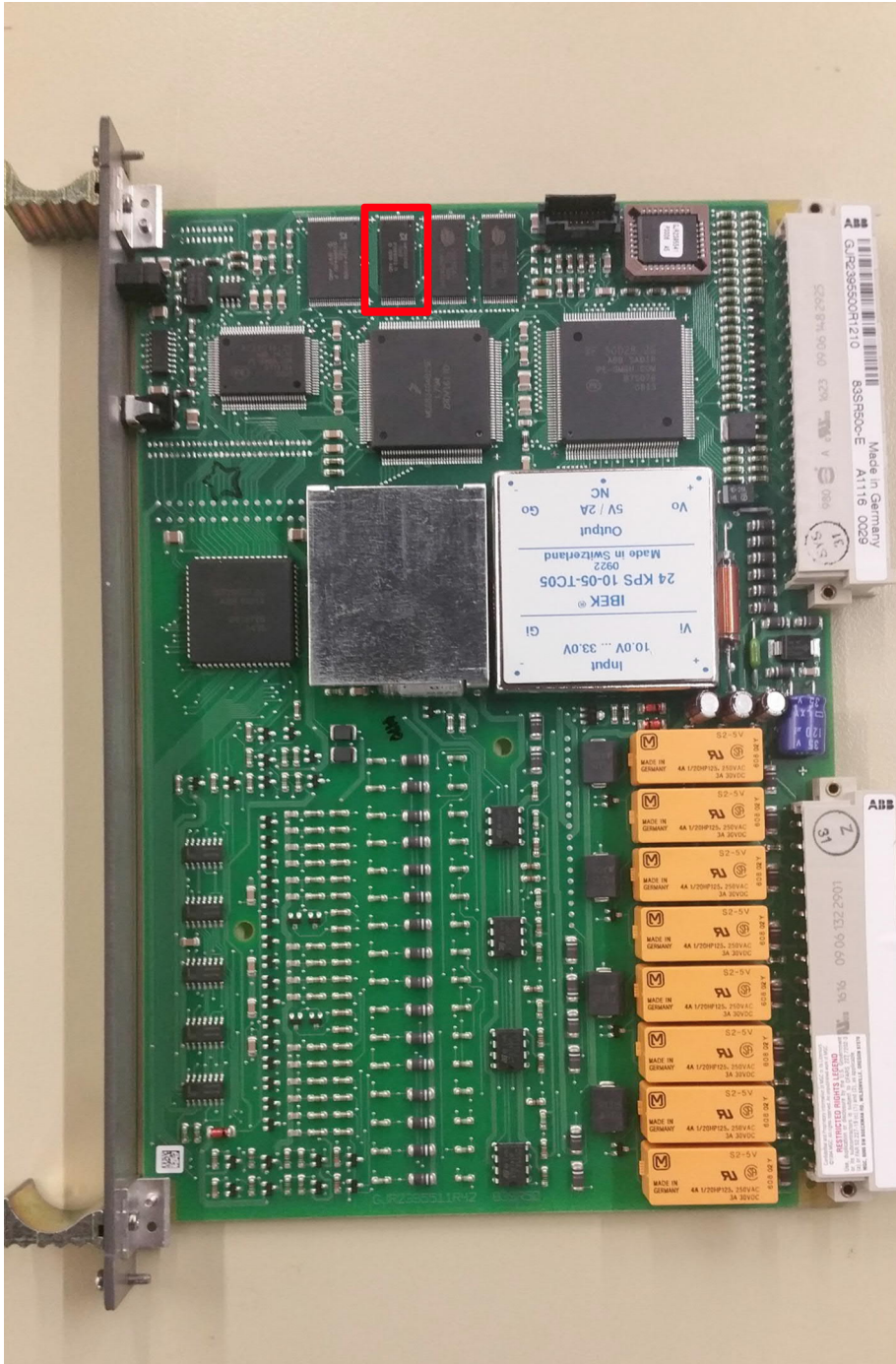
<u>81EU50R1210</u>

Component is located on the top left of the module as shown in the following picture.

<u>83SR50R1210</u>

Component is located on the top left of the module as shown in the following picture.

83SR51R1210

Component is located on the top left of the module as shown in the following picture.
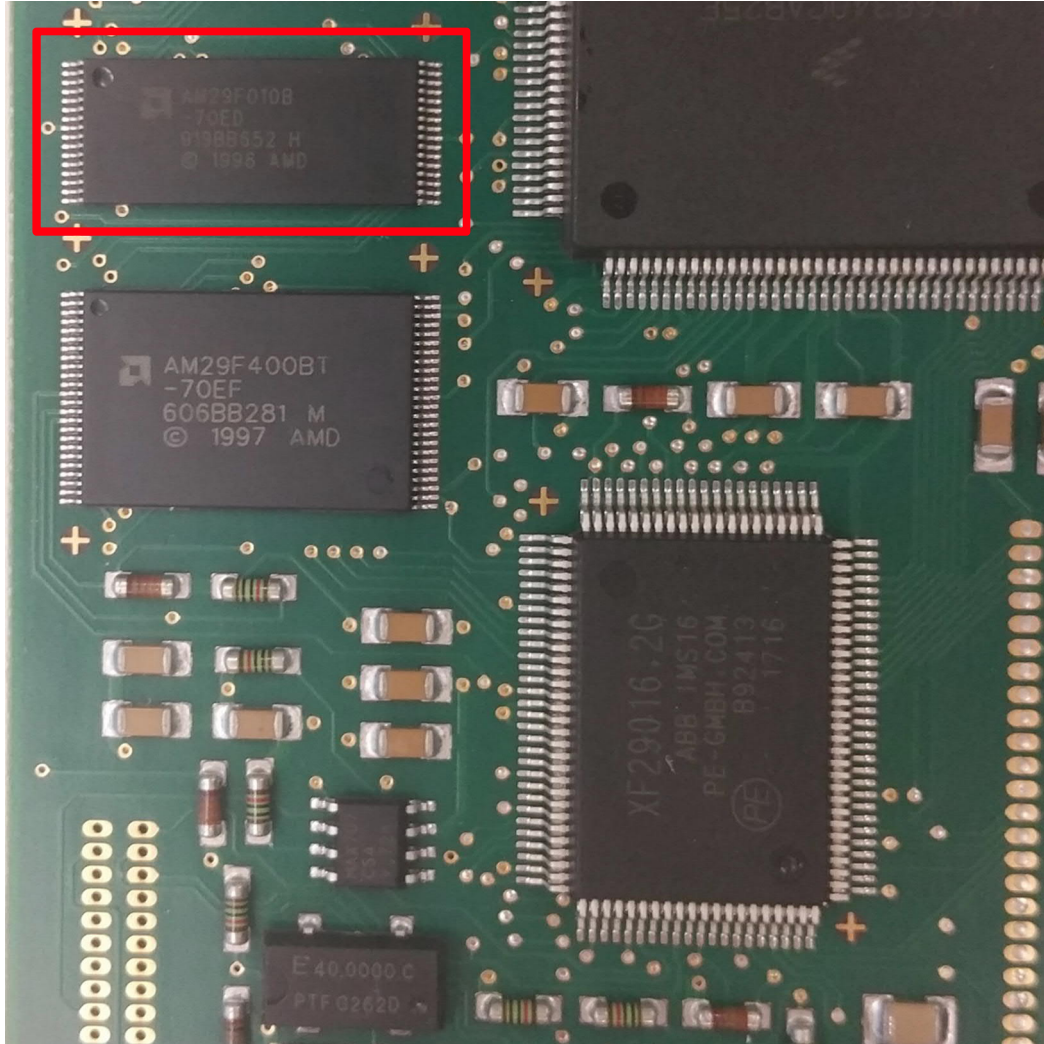
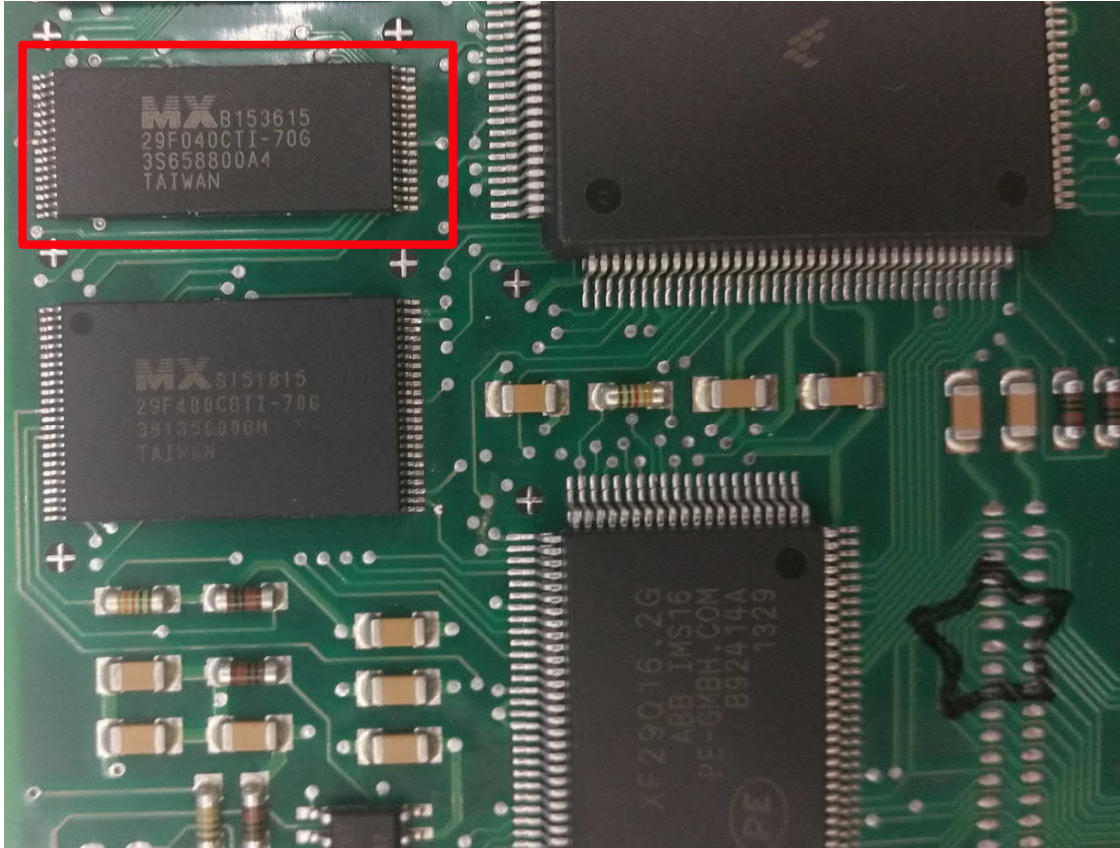Label of faultless Flash (Manufacturer AMD):

AM29F010B
-70ED
xxxxxxxx X
©   xxxx   AMD

Label of faulty Flash (Manufacturer: Macronix):

MXxxxxxxx

29F040CTI-70G

xxxxxxxxxx

TAIWAN

4 Corrective action or resolution

If modules are identified which are equipped with the Macronix Flash.

- CAUTION: No changes should be made to the application. The module is running the application program stored in the RAM if no further actions are done via PDDS, KISS or EDS.

  Also, the module should not be pulled and plugged. After power off the application program in the RAM is lost.

- Either spare modules can be delivered to the project or the modules can be send directly back to Feeder Factory via normal repair process.

5 Document management

5.1 Revision history

Rev. No.	Rev. Date	Page / Chapter	Revised By	Change Description
A	12-04-2019	all	Christopher Gerlach	Initial version

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