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

<table>
<thead>
<tr>
<th>TFS ID</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
</table>

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 PDAS. 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:

<table>
<thead>
<tr>
<th>Ident number</th>
<th>Module Designation</th>
<th>HW-Index</th>
<th>Date code + Serial number</th>
</tr>
</thead>
<tbody>
<tr>
<td>GJR2403800R1210</td>
<td>81EU50R1210</td>
<td>HW-Index: B</td>
<td>K1118 0050</td>
</tr>
</tbody>
</table>

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.

81EU50R1210

Component is located on the top left of the module as shown in the following picture.
83SR50R1210
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
xxxxxxxxx X
© xxxx AMD
Label of faulty Flash (Manufacturer: Macronix):

MXxxxxxxx
29F040CTI-70G
xxxxxxxxxxx
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

<table>
<thead>
<tr>
<th>Rev. No.</th>
<th>Rev. Date</th>
<th>Page / Chapter</th>
<th>Revised By</th>
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<tbody>
<tr>
<td>A</td>
<td>12-04-2019</td>
<td>all</td>
<td>Christopher Gerlach</td>
<td>Initial version</td>
</tr>
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