

## Important Notes for the Use with Profibus on Updating the A2000 Multifunctional Energy Meter to Version V6.8 or higher

19th January 2016

Performance of the A2000 in combination with Profibus has been improved with the new firmware version V5.7. Version 2 of function block FB90 and version V5.7 of the device database file must be used in order to assure that this improvement can be taken advantage of.

The old FB90 version 0.1 only works with A2000 firmware versions which end with the letter „d“ (e.g. V6.8d). In these cases, the old GSD file **gmc\_04B5.gsd** must be used.

The files required to this end can be downloaded from the A2000 product page of our website ([www.gossenmetrawatt.com](http://www.gossenmetrawatt.com)) or can be requested from the product support department at GMC-I Messtechnik GmbH (phone: [+49 911 8602-500](tel:+499118602500)).

### Why should I update?

The new FB90 function block has been optimized in order to eliminate the following, rarely occurring effects:

- Measured values drop to zero for a brief moment from time to time, or incorrect values are displayed
- Occasional range length error (query from OB121)
- Failure of the A2000 at the Profibus. Occasionally, the A2000 stopped all communication via the Profibus, and had to be switched off and back on again.

### I've never had any problems – should I update anyway?

The above described effects depend upon cycle time and only occur with certain controllers. Controllers with long cycle times demonstrate these effects only occasionally, or not at all, but they may occur more frequently if a controller with a short cycle time is used. We recommend a careful reassessment of the application with this factor in mind.

If you replace an old A2000 (up to version V5.6) with a new A2000 (V5.7 or higher) and you cannot change the old function block FB90, you have to update the A2000 to the new version V6.8d

### How do I know which FB 90 is in my software?

- Click FB 90 in the modules directory with the right-hand mouse key.
- Select object attributes from the menu.
- Click the “General – Part 2” tab.

The following data are shown for the new FB 90: “Version(Header) 2.0”, “Author Gossen”, and for the old FB 90: “Version(Header) 0.1”, “Author FA”.

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### How do I know if I have the right device database file?

The name of the old device database file is gmc\_04B5.gsd, and the name of the new device database file is gm\_04B5.gsd. Caution: The two names are very similar!

After installing the new DDBF in the hardware manager, a new entry with the designation “A2000 as of 5.7” appears in the hardware catalogue under Profibus DP / Further FIELD DEVICES/I/O/Indicators. If you had already installed the old DDBF previously, an additional entry is also displayed, namely “A2000”. You don’t need to uninstall the old DDBF, but you do have to delete all A2000s from the bus overview and add them again with the designation “A2000 as of 5.7”. The associated bitmap has also been changed, making it possible to recognize the new DDBF in the bus overview as well. After an “A2000 as of 5.7” has been added to the hardware configuration, “as of 5.7” clearly appears at the upper right hand corner of the image.

### How do I find out the current firmware version of my A2000?

It’s very easy to check the firmware version. It appears in the top line of the display for about 2 seconds after the A2000 is switched on. 5.7 or greater must appear.

### How does the firmware update for the A2000 work?

You’ll need a PC with serial port and a connector cable from the PC to the A2000 in order to install the update. The firmware and the flash software can be downloaded from the Internet at [www.gossenmetrawatt.com](http://www.gossenmetrawatt.com), or requested from the product support department at GMC-I Messtechnik GmbH (+49 911 8602-500). Install the software and set the A2000 to the programming mode. First of all, make sure that the lock switch is set to on (the left-hand DIP switch on the back of the device). Then simultaneously press the top right-hand key, the second key from the bottom on the right-hand side and the middle key at the bottom, and switch the A200 on. “LoadEprom” then appears at the device display. Connect the RS 232 port (pin 44 = RxD, 45 = TxD, 46 = gnd) at the A2000 to the PC. Then load the A2000.A35 file with the flasher tool and click the “Transmit” button. The A2000 is ready for operation after transmission has been completed. Do not, under any circumstances, interrupt transmission, because the A2000 might otherwise be damaged.

### Which function blocks do I have to copy to my Step 7 program for updating?

You only have to copy FB 90 to your program, after which the FB 90 queries have to be updated and the DB instance has to be regenerated. Parameters DB120 and measured values DB110 are unchanged – we’ve only changed the comments. The date format for the “measured values DB” has also been changed from DWORD to DINT, making it visible during observation. It is thus best to replace the “parameters DB” and the “measured values DB” as well. Caution: Before replacing the DBs, check to see whether or not the “parameters DB” and the “measured values DB” have been adapted in order to read other measured values. If you don’t have time to do this or if you’re not sure, leave the old DBs in your program. But don’t forget to load the regenerated instance DB to the controller (or all regenerated instance DBs in the case of more than one A2000).

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## **The new FB 90 has fewer inputs and outputs – do I have to start all over again with programming?**

No, don't worry. We have taken this opportunity to fully revise the FB 90, and have simplified things for you as well. Reading of the dimensions is now executed cyclically before the measured values are read, which means you don't have to think about it at all. Thus the FB 90 has fewer inputs and outputs and you save a few markers. The FB 90 has also been furnished with two new error outputs. If you don't need them, just leave the circuit out.

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