

How to register a PROFIBUS device:

As specified in the PROFIBUS guidelines, an Ident Number (ID number) is required for all PROFIBUS devices using PROFIBUS DP communication (except of Master Class 2 devices). The ID number allows devices connected to the bus to be identified with a minimum amount of protocol overhead. In addition, the ID number is used to archive files which contain information on device features and configuration (so-called GSD files). An ID number is only assigned for devices which conform to the PROFIBUS specification.

Vendors must register each device type at PROFIBUS Nutzerorganisation e.V. (PNO) and get either a vendor and/or profile specific ID number. The ID number is not a serial number. The value range is 0001 Hex to FFFE Hex. As soon as an ID number for a device type has been assigned to a vendor by PNO, this number can be used for each manufactured device of this type without renewed registration. If the device is modified technically, it remains associated with the device type provided that it is still possible to describe the parameters, modules and options (e.g. modular I/O devices) in a single GSD file. The use of an already existing ID number is only possible if one of the exceptions listed at ③ applies. Additionally a corresponding manufacturer declaration is needed.

① Device description:

Please enter the exact name of the device as included in the GSD file. Only the device named here will be registered for the corresponding ID number. And please don't forget to enter the revision of the device.

② **Protocol type:** Please enter the communication profile which is supported by the device.
Multiple fields can be selected. Support of the extended DP functions has to be indicated.

③ **Use of an existing ID number:** Basically a new registration of a device is required (including new ID number!), if the functions of a device have been changed. The use of already existing ID numbers is only possible if one of the following exceptions applies:

- *Brand label or joint developments*

A manufacturer declaration of the already registered vendor is required, which confirms the functional identity of the device and allowance to use the registered ID number. Additionally the name of the GSD file must contain a different vendor code (see ⑦). The GSD files should only differ in the key words „Vendor_Name“ und „Model_Name“.

- *DP Extensions*

Because of compatibility reasons, updating of devices with extended DP functions (DP-V1) can require the use of the same ID number. For that a manufacturer declaration is required, which confirms that the old device won't be delivered any more. Additionally, the vendor code of the GSD file name has to be changed (and registered) as well as the key words „Revision“, „Model_Name“ and „GSD_Revision“.

- *GSD Update*

If a GSD file of an already registered device is updated due to an additional module, but without any further functional changes, the same ID number can be kept. In this case an additional vendor code for the new GSD file can be registered, too.

In any case a signed manufacturer declaration containing all required details must be annexed to the application.

④ **PA profile version:** If the device is a PA device, please enter the supported PA profile version (3.02 or higher).

Important: starting with profile version 3.0, profile specific ID numbers/GSD files are used for PA devices, providing manufacturer independent interchangeability of devices. If a PA device supports profile version 3.0, one profile specific ID number **must be** registered at least. Additionally vendor specific ID numbers/GSD files can be used (see ⑥).

⑤ **Only for PA profile devices:** The fields 6 to 8 only must be filled in if the device supports PA profile version 3.0 or higher.

⑥ **Profile specific ID numbers:** Please enter one option at least. Simultaneous use of fix and universal profile specific ID numbers/GSD files is possible. In the Profile for Process Control Devices, Version 3.02 (3.042) the following profile specific ID numbers/GSD files are specified:

Fix device classes	<ul style="list-style-type: none">• Transmitter 0x9700 to 0x970F• Actuator 0x9710 to 0x971F• Discrete_Input 0x9720 to 0x972F• Discrete_Output 0x9730 to 0x973F• Transmitter AI + TOT 0x9740• Transmitter 2 AI + TOT 0x9741• Transmitter 3 AI + TOT 0x9742
Universal device classes	<ul style="list-style-type: none">• Analyser 0x9750• Multi_Variable 0x9760, for complex, variable devices

⑦ If your device supports PA profile version 3.02 or higher, please select the physical layer which is used (RS 485 or MBP). This is necessary because depending on the physical layer different GSD files are used.

The corresponding GSD files are available at www.profibus.com/products/gsd-files/gsd-library/

⑧ Please tick, if you want to use a vendor specific ID number/GSD file besides the profile specific ID number/GSD file. In this case, an additional ID number will be applied to you.

⑨ Desired vendor code for the GSD file name:

According to the PROFIBUS guidelines all vendors of PROFIBUS devices are required to provide a GSD file for each device type. Structure and syntax of GSD files are described in the PROFIBUS guideline "GSD Specification for PROFIBUS DP" (Order No. 2.122).

If you would like a particular vendor code for your GSD file, you can specify the required code for your company here. Otherwise or if the desired code is already registered for another vendor, PNO will assign a vendor code automatically. The confirmation of the registration you will receive from PI includes the GSD file name which has been applied to you. The structure of the GSD file name is as follows:

- The first four characters contain the vendor code (alpha numeric, min. 1 and max. 4 characters)
- The following four characters consist of the ID number (hexadecimal)
- The last character of the file name extension (**GSD**) is the language version. The default language version code is D (**D**efault). Additionally you can use the following version codes: English = E, French = F, German = G, Italian = I, Portuguese = P, Spanish = S.

Attention: the parameters in the GSD file have to be independent with regard to the language!

⑩ Contact person

Please name the contact person for further information on the device and GSD file.

PROFIBUS GSD Editor and GSD Library:

GSD files have a standard file format, which is described in the PROFIBUS guidelines. PROFIBUS Nutzerorganisation e.V. has developed a GSD Editor to assist the vendor when setting up GSD files for PROFIBUS DP slave devices. The editor includes a complete checking of syntax and semantics according to the GSD specifications. Members can download the GSD Editor free of charge from the PI Web site at www.profibus.com.

Liability exclusion:

PROFIBUS Nutzerorganisation e.V. (PNO) treats the information on your application form with utmost care. Please check the information returned to you upon receipt. PNO refuses any liable for mistakes when assigning the ID number provided that the mistake has not arisen through gross negligence.