

DIGSI 5 QUICK NOTES

DIGSI-5-QN0004: DIGSI 5 version, Firmware and Device Driver versions:

- Key Points:**
- It is possible to use DIGSI 5 to work with relays with earlier firmware without the need to change/update the relay firmware or setting file version. (You will need the appropriate 'older' Device Drivers).
 - It is possible to open and use DIGSI 5 Projects created/opened in earlier versions of DIGSI 5. (You will need the appropriate 'older' Device Drivers). However;
 - The DIGSI 5 Project version will always be updated to the version of DIGSI 5 being used.
 - You cannot open a later version of a Project with an earlier version of DIGSI 5.

Overview of 'Versions'	
DIGSI 5 version	The version of the DIGSI 5 setting program running on your PC.
DIGSI 5 Project	DIGSI 5 saves setting and other relay/design information in 'Projects', being a group of folders and files. These can be Achieved in a single zipped file (*.dz5), or settings for an individual relay can be Exported in a single file (*dex5).
Relay firmware (FW)	The firmware version of the 'core' relay operating code.
Device Driver	Loaded into DIGSI 5, to allow Project files and devices of different firmware, protocol and configuration versions to be worked on with the one DIGSI 5 version.
Protocol version	Similar to Device Driver, but specifically for SCADA protocol. One Protocol Driver version supports all available SCADA protocols and all relay types.
Configuration File (CFG)	The actual setting file loaded into the relay, the version of which indicates the version of Device Driver used to create the setting file.
Relay hardware	The hardware version of the relay, which includes the CPU type (an indication of the manufacturing date)

QUICK GUIDE TO: Versions

DIGSI 5 Version:

The engineering software DIGSI 5, is upgraded with new features approximately twice a year. DIGSI 5 saves setting and other relay/design information in 'Projects'. Later versions of DIGSI 5 have the capability of being able to open and work with Projects created in earlier versions of DIGSI 5. However, when a Project created in an earlier version of DIGSI 5 is opened, the Project is automatically copied and new instance that is created is upgraded to the current version. That new Project file cannot be opened by an earlier version of DIGSI 5.

For example, Bob creates a Project using DIGSI V7.00, and sends this to Jane who has DIGSI V7.3. When Jane opens the Project in DIGSI 7.30, a 'Version 7.30' copy of the Project will be created. Jane will only be able to make changes/updates to the Version 7.30 Project (she cannot edit the V7.00 file without converting it to V7.30). If Jane sends the 'Version 7.30' Project back to Bob, he will not be able to open that V7.30 Project using the older version of DIGSI V7.00.

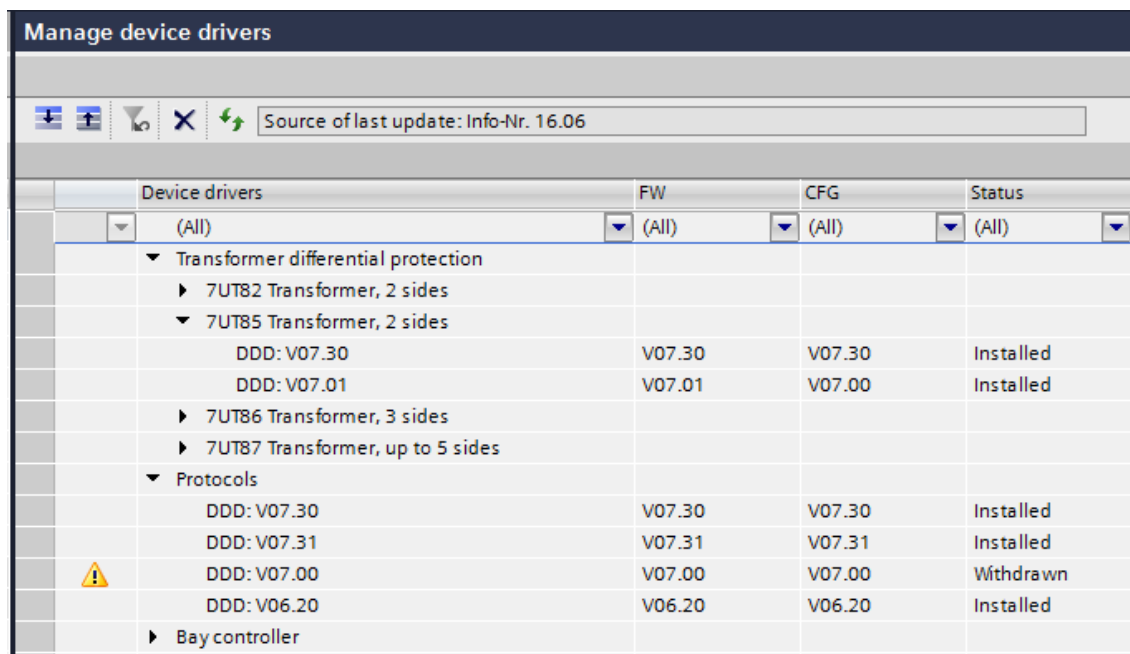
Firmware:

The relay has Firmware with a version identification. (The main one considered here is for the main relay operation, but there may also be separate firmware for each plug-in module). DIGSI 5 has the capability to work with earlier versions of Firmware. For example, DIGSI 5 (V7.30) can create setting files for relays with V7.30, V7.00 and other earlier firmware. This is managed with “Device Drivers”.

Device Drivers:

Device Drivers are produced for each series of relay types (Line Protection, Generator Protection, and Transformer Protection etc), specific to a relay firmware version. For example Version 7.30 Device Drivers, Version 7.00 Device Drivers, and Version 6.30 Device Drivers etc.

Device Drivers function to provide the interface between a single copy of DIGSI 5 and the many different versions of relay and version of relay firmware. The Device Drivers can be considered like a set of filters/transformation-agents that allow a version of DIGSI 5 to interact with different relays, different Firmware and different version Project files.



Device drivers	FW	CFG	Status
(All)	(All)	(All)	(All)
▼ Transformer differential protection			
▶ 7UT82 Transformer, 2 sides			
▼ 7UT85 Transformer, 2 sides			
DDD: V07.30	V07.30	V07.30	Installed
DDD: V07.01	V07.01	V07.00	Installed
▶ 7UT86 Transformer, 3 sides			
▶ 7UT87 Transformer, up to 5 sides			
▼ Protocols			
DDD: V07.30	V07.30	V07.30	Installed
DDD: V07.31	V07.31	V07.31	Installed
DDD: V07.00	V07.00	V07.00	Withdrawn
DDD: V06.20	V06.20	V06.20	Installed
▶ Bay controller			

Figure 1. DIGSI 5, Tools, Manage Device Drivers, allows DIGSI to interact with different relay and firmware versions. FW = Firmware, CFC = Configuration.

DIGSI 5 will allow Device Drivers up to the same version number to be loaded. (For example DIGSI 5 Version 7.00 can have Version 6.20 and Version 7.00 Device Drivers, but not Version 7.30 Device Drivers).

The Device Driver also includes the matching relay firmware – you do not need to find that separately.

Device Drivers are available on the Siemens website (to registered) users in a zipped format. When the file is downloaded, unzipped, and loaded into DIGSI 5, the required information is copied from the unzipped file into DIGSI 5 structure. The original unzipped Device Driver file is no longer needed for DIGSI 5 operation. *However, when you upgrade your version of DIGSI 5, it clears all the Device Drivers from its program structure*

and the Device Drivers will need to be to reload into DIGSI 5 again. You may therefore decide to keep a copy of the downloaded Device Driver source file to eliminate the need to download again in the future.

Note that when loading Device Drivers into DIGSI 5, it is possible to select multiple Device Drivers to import at the same time, eliminating the delay of DIGSI restarting after each individual file is imported.

Protocol Version:

A Communication Protocol Device Driver file is also required for the SCADA Protocol interface. A new version is typically available with each major firmware release. A single Protocol Device Driver supports all relay types and all available Protocols.

A Protocol Device Driver is managed in the same manner as the other Device Drivers

Configuration File:

The Configuration File within the relay will indicate a Version. This indicates the Firmware version that the setting file was originally intended for.

It is possible for example to upgrade the relay firmware, leaving an earlier version configuration file still on the relay, hence the Configuration File Version is reported to avoid that mismatch.

RECOMMENDATIONS:

1. HV Power recommend an enterprise approach being taken with DIGSI 5, where all users, consultants and contractors etc agree and upgrade their versions of DIGSI 5 in parallel. This reduces the chances of a person using a newer version of DIGSI 5, sending files to others who would be unable to open them.
2. Keep a record of what different firmware and protocol versions are used within your network for each relay type, so after a DIGSI 5 installation **and** upgrade all likely required Device Drivers can be loaded/reloaded in preparation.

QUICK GUIDE TO: Determining Firmware etc using relay front panel

Using the SIPROTEC 5 front panel keys to navigate and determine versions:

```
Main Menu >
  Test & Diagnosis>
    HW/SW information>
      Main Board >
        Software inform> .....
      Communication>
        Com. Port F
          Software inform> .....
        Com. Port E
          Software inform> .....
```

QUICK GUIDE TO: Determining Firmware etc using DIGSI 5 online connection

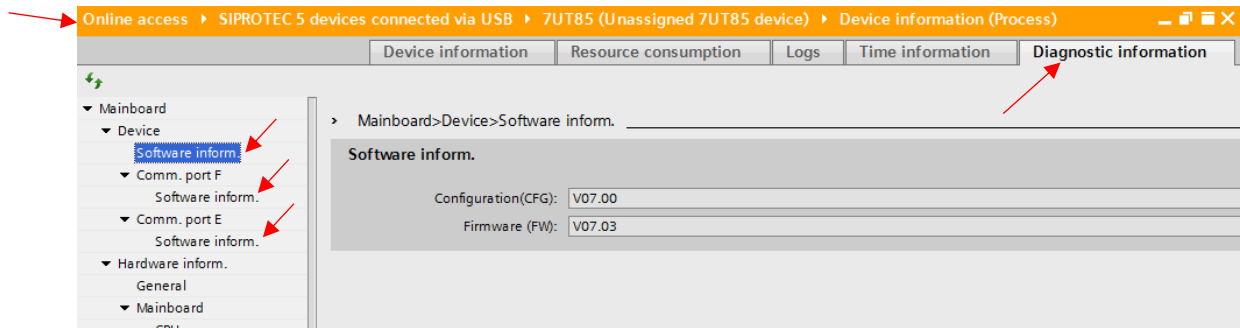


Figure 2. Navigate using the path shown in orange, and select the Diagnostic information for each of the arrowed items in the tree structure to see relevant hardware and firmware versions of a connected device.