MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6AU1400-1PA23-0AA0-Z

1 GB SIMOTION D410-2 COMPACTFLASH CARD

Used with the applicable SIMOTION D410-2 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens SIMOTION D410-2 operating instructions, CompactFlash card and licensing sections. The -Z options require the actual order record.

MAC addresses

A second rating plate for the MAC address of the Ethernet interface and the PROFINET interface (D410-2 DP/PN only) is attached to the front of the device.



Figure 2-9 SIMOTION D410-2 DP/PN MAC addresses

Depending on the rating plate, the HW version may be designated as "Version" or "FS" (Function State).

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2.7 CompactFlash card

Properties

The CF card is mandatory for operation of the SIMOTION D410-2. The CF card must be ordered as a separate component; it is not included in the SIMOTION D410-2 scope of delivery.

The SIMOTION Kernel (SIMOTION D410-2 firmware) and the software used to control the drives (SINAMICS firmware) are contained on the CF card.

The CF card is used for:

- Backing up the technology packages and user data (programs, configuration data, parameter assignments)
- Update (e.g. SIMOTION firmware update)

The licenses for the technology functions are linked to the serial number of the CF card. This means the CF card can be inserted in different SIMOTION D410-2s without having to change the licenses.

The CF card is supplied in a bootable format with the latest SIMOTION Kernel and drive software.

CF card

Different CF cards are available for SIMOTION D410-2.

- 2 GB CF, article number 6AU1400-1QA20-0AA0
- 1 GB CF, article number 6AU1400-1PA23-0AA0
- 1 GB CF, article number 6AU1400-1PA22-0AA0

You will find detailed information on the compatibility relationships for the CF card, boot loader version, SIMOTION D hardware and SIMOTION firmware version in the software compatibility list.

This list can be found on the Internet at (https://support.industry.siemens.com/cs/ww/en/view/18857317).

CF card rating plate

The following figure shows you all the information included on the rating plate of the CompactFlash card (CF card).



Figure 2-10 CompactFlash card (example for 2 GB CF card)

Pre-installed runtime licenses

The pre-installed licenses are provided as Z option on the label below the article number.

Example with Z option for D410-2 MultiAxes package + two TControl licenses:
6AU1400-1QA20-0AA0-Z
Z=M41+T02

A maximum of seven different Z options are printed on the rating plate of the CF card. When there are more than seven different Z options, the text "Z = see delivery order" is printed on the CF card in place of the Z option.

Available Z options / licenses

The following Z options are available for SIMOTION D410-2:

Table 2-6 Z options / licenses available for the SIMOTION D410-2

Designation	Z option / license	Example
TControl temperature control	Txx - TControl license and number	T03 = three TControl licenses
SIMOTION IT	J00 - SIMOTION IT Virtual Machine license for Java applications	J00
Safety functions	Fxx - SINAMICS Safety Integrated Extended Functions license, specification of the number Lxx - SINAMICS Safety Integrated Advanced Functions license, specification of the number The Safety Integrated Advanced Functions also include the Safety Integrated Extended Functions.	F01 = one license for one drive with Safety Integrated Extended Functions L01 = one license for one drive with Safety Integrated Advanced Functions
High output frequency	H00 - SINAMICS high output frequency for SIMOTION D license	H00
Axis licenses	• Pxx - POS license and number • Gxx - GEAR license and number • Cxx - CAM license and number	• P02 = two POS licenses • G03 = three GEAR licenses • C01 = one CAM license
MultiAxes package	M41 - MultiAxes package license for SIMOTION D410-2	
MIIF	B02 - Multipurpose Information Interface	B02
VIBX	B03 - Vibration Extinction (vibration damping of axes)	B03
OACAMGEN	B04 - Cam generation Motion profiles for servo presses	B04
LECo	B07 - Learning Error Compensation Compensation of cyclic errors from the production process	B07

Note

Path interpolation is supported as of V4.4.

SINAMICS licenses

Selected SINAMICS licenses can be used with a SIMOTION D CF card. Only one relicensing is possible. A prelicensing of SIMOTION D CF cards via Z options is not possible with SINAMICS licenses.

Examples:

- SINAMICS S120 Advanced Position Control (APC)
  Article no. 6SL3074-0AA05-0AA0
  License for each drive (on CU, SINAMICS Integrated)
- SINAMICS S120 cogging torque compensation
  Article no. 6SL3074-0AA15-0AA0
  License for each drive (on CU, SINAMICS Integrated)
- SINAMICS Technology Extension "Vibration Extinction" (VIBX)
  Article no. 6SL3077-0AA00-5AB0
  License for a target device (CU, SINAMICS Integrated)
- SINAMICS DCB Extension
  Article no. 6SL3077-0AA00-0AB0
  License for a target device (CU, SINAMICS Integrated)

With SINAMICS licenses, underlicensing of SINAMICS Integrated is indicated by the flashing SF LED on the SIMOTION D Control Unit. An entry is also made in the diagnostic buffer and the underlicensing is displayed in the License dialog box of SIMOTION SCOUT. The licensing is performed (as for SIMOTION licenses) via SIMOTION SCOUT or via the SIMOTION license key on the CF card.

2.8 Data matrix code

SIMOTION D components (e.g. CF cards, Control Units, etc.) have a machine-readable identification in the form of a data matrix code (2D code).

Reader units that support the data matrix code according to ECC 200 are suitable for reading the code used here.

Example of a data string from the reader:
1P6AU1400-1QA20-0AA0-Z+ST-LDBN05403+30S012610D2609U2416

The volume of the information contained in the data matrix code depends on the product and, for example, on the available space.

Table 2-7 Machine-readable identification via 2D code

Characteristic	Property (example)
Article number ("1P" identifier to identify the products)	6AU1400-1QA20-0AA0-Z
Serial number ("S" identifier, item number)	T-LDBN05403
Hardware serial number (CF cards only) ("30S" identifier)	012610D2609U2416
Hardware version (identifier 2PE)	Not used in the example
Material number (identifier P)	Not used in the example

In addition to the "serial number", CF cards also have a "hardware serial number".

If licenses are purchased for licensed functions, a "license key" is generated from the hardware serial number of the CF card and the serial number of the purchased licenses; such licenses are valid only for the associated CF card.

The data required for the licensing can be read by a reader unit via the bar codes on the license certificates (Certificate of License "CoL") and the 2D code on the CF card in order, for example, to automate the licensing process.

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2.9 Licensing

SIMOTION D410-2 licensing

SIMOTION D410-2 is a compact Control Unit predestined for single-axis applications. SIMOTION D410-2 has an integrated drive control for either a servo, a vector or a V/f axis. One real axis can be used without requiring a license for a SIMOTION D410-2. Speed-controlled axes and virtual axes never require a license.

SIMOTION D410-2 can be extended with additional SINAMICS S110/S120 Control Units (e.g. CU305) and so can also be used for smaller multi-axis applications (e.g. with 2 - 3 axes). These additional axes must be licensed with the single-axis licenses or the "D410-2 MultiAxes Package". See Section CompactFlash card (Page 33).

The POS single-axis license is available if a POS axis has to be licensed; with GEAR/CAM or more than one POS license, it is better to use the D410-2 MultiAxes Package.

Note

If you use more than one real axis with SIMOTION D410-2, you must license these additional axes. The axis license with the highest functionality is covered by the inclusive license (a real axis). The functionality has the following granularity: CAM > GEAR > POS.

Example:

You use two real axes: 1 POS, 1 CAM.
Because the CAM license has a higher value, and so inclusive, you only need to purchase one POS license.

Licenses are required for runtime functions such as SIMOTION IT Virtual Machine. These licenses can be pre-installed on a CompactFlash card (CF card) or ordered separately.