SIEMENS

# Manufacturer's Declaration

Nr. / No. SINAMICS_S_Book_Size_668.DCO.BG.2105.40.047

| | |
|---|---|
| Manufacturer: | SIEMENS Aktiengesellschaft |
| Address: | SIEMENS Aktiengesellschaft, DI MC<br>Frauenauracher Straße 80<br>D-91056 Erlangen<br>Germany |
| **Product description:** | SINAMICS S120 frame size:<br>**Booksize, Booksize Compact and Chassis**<br>(for included hardware and software releases see annex) |

**The functional safety functions**

- for Drive based Safety (Basic Functions): STO, SS1, SBC
- for Drive based Safety (Extended Functions): STO, SS1, SBC, SOS, SS2, SLS, SSM, SDI, SLP, SP, SCA, SLA

**of the above mentioned product fulfil the requirements of SIL2 according to [1] and [4], PLd according to [2] and category 3 according to [2]. The functions STO, SS1 and SS2 correspond to stop category 0, stop category 1 and stop category 2 according to [3], respectively.**

**Additionally, the I/Os (including brake control), PROFIsafe Master and brake test are implemented by using integrated safety technology and, therefore, are suitable to be used with safety functions.**

**The safe brake test (SBT) is suitable as diagnostic function according to [2] for a safely controlled brake (e.g. via SBC). By using a single brake in a category 2 application or two brakes in a category 3 application with an appropriate test rate, it is possible to reach a performance level up to PLd.**

**Reference number**


| | |
|---|---|
| [1] | IEC 61508, part 1 to 3 (2010) |
| [2] | ISO 13849 part 1 (2015) |
| [3] | IEC 60204 (2009) |
| [4] | IEC 61800-5-2 (2016) |


Erlangen, 21-05-05

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# 1 Basic Functions

## 1.1 Software

### 1.1.1 SINAMICS Control Units

| **CU310DP**<br>6SL3040-0LA00-0AA0<br>6SL3040-0LA00-0AA1<br>**CU310 PN**<br>6SL3040-0LA01-0AA1 | **CU320**<br>6SL3040-0MA00-0AA1 | **CU320-2 DP**<br>6SL3040-1MA00-0AA0 | **CU320-2 PN**<br>6SL3040-1MA01-0AA0<br>**CU310-2 DP**<br>6SL3040-1LA00-0AA0<br>**CU310-2 PN**<br>6SL3040-1LA01-0AA0 | **Safety-Firmware-Version** |
|---|---|---|---|---|
| --- | V 2.1 | --- | --- | 02.10.36.00 |
| --- | V 2.2 | --- | --- | 02.20.24.00 |
| --- | V 2.3 | --- | --- | 02.30.18.00<br>02.30.29.00<br>02.30.31.00 |
| V 2.4 | V 2.4 | --- | --- | 02.40.28.00<br>02.40.33.00<br>02.40.43.00 |
| V 2.5 | V 2.5 | --- | --- | 02.50.22.00<br>02.50.28.00<br>02.50.32.14<br>02.50.39.00<br>02.50.49.00 |
| V 2.6 | V 2.6 | --- | --- | 02.60.30.00<br>02.60.40.00 |
| --- | --- | V 4.3 | --- | 04.30.14.00 |
| --- | --- | V 4.4 | V 4.4 | 04.40.22.00 |
| --- | --- | V 4.5 | V 4.5 | 04.50.30.00<br>04.50.30.05<br>04.50.30.29<br>04.30.34.00<br>04.50.30.46 |
| --- | --- | V 4.6 | V 4.6 | 04.60.19.00<br>04.60.21.06 |
| --- | --- | V 4.7 | V 4.7 | 04.70.35.07<br>04.70.35.18<br>04.70.35.35<br>04.70.35.42<br>04.70.35.51<br>04.70.36.02<br>04.74.35.02 |
| --- | --- | V 4.8 | V 4.8 | 04.80.60.00 |
| --- | --- | V 5.1 | V 5.1 | 05.10.16.00<br>05.10.34.00 |
| --- | --- | V 5.2 | V 5.2 | 05.20.25.00<br>05.20.29.01<br>05.20.29.07<br>05.20.68.00 |

### 1.1.2 SINAMICS Motor Modules (booksize/chassis/cabinet)

| Motor Module (booksize) | CIB Assembly (chassis/cabinet) | Safety-Firmware-Version |
|---|---|---|
| V 2.1 | --- | 02.10.36.00<br>02.10.41.00<br>02.20.24.00 |
| V 2.3 | V 2.3 | 02.30.17.00<br>02.30.27.00 |
| V 2.4 | V 2.4 | 02.40.20.00<br>02.40.33.00<br>02.40.52.00 |
| V 2.5 | V 2.5 | 02.50.15.00<br>02.50.28.00<br>02.50.37.00<br>02.50.49.00 |
| V 2.6 | V 2.6 | 02.60.25.00 |

### 1.1.3 SINAMICS Motor Modules (booksize/chassis/cabinet) – 2. Generation[1]

| Motor Module (booksize) | Motor Module (motor-integrated) | CIM Assembly (chassis/cabinet) | Safety-Firmware-Version |
|---|---|---|---|
| V 2.5 | --- | --- | 02.50.22.00<br>02.50.32.00<br>02.50.39.00<br>02.50.49.00 |
| V 2.6 | --- | V 2.6 | 02.60.30.00<br>02.60.40.00 |
| V 4.3 | --- | V 4.3 | 04.30.14.00 |
| V 4.4 | --- | V 4.4 | 04.40.23.04<br>04.40.23.22 |
| V 4.4 HF99 | --- | --- | 04.40.23.96 |
| V 4.5 | --- | V 4.5 | 04.50.28.00<br>04.50.30.05 |
| V 4.6 | V 4.6 | V 4.6 | 04.60.16.00<br>04.60.21.05 |
| V 4.7 | V 4.7 | V 4.7 | 04.70.35.00<br>04.70.35.18<br>04.70.36.02 |
| V 4.8 | V 4.8 | V 4.8 | 04.80.60.00 |
| V 5.1 | V 5.1 | V 5.1 | 05.10.16.00<br>05.10.34.00 |
| V 5.2 | V 5.2 | V 5.2 | 05.20.28.00<br>05.20.29.05<br>05.20.70.00 |

[1] The 2nd generation motor modules of book size type are designated by an MLFB with final digit 3 or higher. The 2nd generation motor modules also include all book size compact types.

### 1.1.4 Hydraulic Linear Axis

| HLA | Safety-Firmware-Version |
|---|---|
| V 4.7 | 04.70.35.00<br>04.70.35.18<br>04.70.36.02 |
| V 4.8 | 04.80.60.00 |
| V 5.1 | 05.10.16.00<br>05.10.34.00 |
| V5.2 | 05.20.28.00<br>05.20.29.05<br>05.20.70.00 |

## 1.2 Hardware

### 1.2.1 SINAMICS Control Units

| Description | Order Purchase No. (MLFB) |
|---|---|
| CU310 DP | 6SL3040-0LA00-0AA0<br>6SL3040-0LA00-0AA1 |
| CU310-2 DP | 6SL3040-1LA00-0AA0 |
| CU310 PN | 6SL3040-0LA01-0AA1 |
| CU310-2 PN | 6SL3040-1LA01-0AA0 |
| CU320 | 6SL3040-0MA00-0AA1 |
| CU320-2 DP | 6SL3040-1MA00-0AA0 |
| CU320-2 PN | 6SL3040-1MA01-0AA0 |

### 1.2.2 SINAMICS Motor Modules (chassis/cabinet)

Only applies to chassis and cabinet motor modules of the SINAMICS drive system including the subassembly listed below.

| Description | Order Purchase No. (MLFB) |
|---|---|
| CIB (control interface board, only STO and SS1) | 6SL335x-6xxxx-xAx3 |

The entire safety functionality of motor modules of type chassis and cabinet is completely concentrated within the CIB (control interface board). All parts outside the CIB are considered to be irrelevant for integrated safety functionality.
Information:
The CIB (6SL335x-6xxxx-xAx3) are integrated in the modules listed below:

**SINAMICS Chassis**

6SL3310-1TExx-xAA0 (110kW-250kW)
6SL3315-1Texx-xAA0 (110kW-250kW)
6SL3320-1Texx-xAA0 (110kW-250kW)
6SL3325-1Texx-xAA0 (110kW-250kW)
6SL3325-1TGxx-xAA0 (110kW-250kW)

### 1.2.3 SINAMICS Motor Modules (chassis/cabinet) – 2. Generation

| Description | Order Purchase No. (MLFB) |
|---|---|
| CIM (control interface module) | 6SL3350-6TK00-0EA0<br>6SL3350-6TK00-0BA0<br>6SL3350-6TK00-0CA0<br>6SL3350-6TK00-0DA0 |

The entire safety functionality of motor modules of type chassis and cabinet is completely concentrated within the CIM (control interface module). All parts outside the CIM are considered to be irrelevant for integrated safety functionality.
Information:
The above mentioned CIM are integrated in the modules listed below:

**SINAMICS Chassis**

6SL3310-1Texx-xAA3 (110kW-250kW)
6SL3315-1Texx-xAA3 (110kW-250kW)
6SL3320-1Texx-xAA3 (110kW-250kW)
6SL3325-1Texx-xAA3 (110kW-250kW)
6SL3325-1TGxx-xAA3 (110kW-250kW)

### 1.2.4 SINAMICS Motor Modules (booksize)

**Warning:**
The DC-link interconnection of a multiple drive assembly must be electrically isolated on the right and left hand side by assembling a DC-link protection cover (order purchase no.: 6SL3162-5AA00-0AA0).

| Description | | Order Purchase No. (MLFB) | | | |
|---|---|---|---|---|---|
| Motor Module 400V | | Internal Cooling | | Cold-Plate Cooling | External Cooling |
| | | | coated | | |
| SMM[2] | 3A | 6SL3120-1TE13-0AA0 [3] | 6SL3120-1TE13-0AB0 | 6SL3126-1TE13-0AA0 [3] | 6SL3121-1TE13-0AA0 |
| SMM | 5A | 6SL3120-1TE15-0AA0 [3] | 6SL3120-1TE15-0AB0 | 6SL3126-1TE15-0AA0 [3] | 6SL3121-1TE15-0AA0 |
| SMM | 9A | 6SL3120-1TE21-0AA1 [3] | 6SL3120-1TE21-0AB0 | 6SL3126-1TE21-0AA0 [3] | 6SL3121-1TE21-0AA0 |
| SMM | 18A | 6SL3120-1TE21-8AA1 [3] | 6SL3120-1TE21-8AB0 | 6SL3126-1TE21-8AA0 [3] | 6SL3121-1TE21-8AA0 |
| SMM | 30[a] | 6SL3120-1TE23-0AA1 [3] | 6SL3120-1TE23-0AB0 | 6SL3126-1TE23-0AA0 [3] | 6SL3121-1TE23-0AA0 |
| SMM | 45A | 6SL3120-1TE24-5AA1 [3, 4] | 6SL3120-1TE24-5AB0 [4] | 6SL3126-1TE24-5AA0 [3, 4] | 6SL3121-1TE24-5AA0 [4] |
| SMM | 60A | 6SL3120-1TE26-0AA1 [3, 4] | 6SL3120-1TE26-0AB0 [4] | 6SL3126-1TE26-0AA0 [3, 4] | 6SL3121-1TE26-0AA0 [4] |
| SMM | 85A | 6SL3120-1TE28-5AA1 [3] | 6SL3120-1TE28-5AB0 | 6SL3126-1TE28-5AA0 [3] | 6SL3121-1TE28-5AA0 |
| SMM | 132A | 6SL3120-1TE31-3AA0 | 6SL3120-1TE31-3AB0 | 6SL3126-1TE31-3AA0 | 6SL3121-1TE31-3AA0 |
| SMM | 200A | 6SL3120-1TE31-3AA0 | 6SL3120-1TE32-0AB0 | 6SL3126-1TE32-0AA0 | 6SL3121-1TE32-0AA0 |
| DMM[5] | 3A | 6SL3120-2TE13-0AA0 [3] | 6SL3120-2TE13-0AB0 | 6SL3126-2TE13-0AA0 [3] | 6SL3121-2TE13-0AA0 |
| DMM | 5A | 6SL3120-2TE15-0AA0 [3] | 6SL3120-2TE15-0AB0 | 6SL3126-2TE15-0AA0 [3] | 6SL3121-2TE15-0AA0 |
| DMM | 9A | 6SL3120-2TE21-0AA0 [3] | 6SL3120-2TE21-0AB0 | 6SL3126-2TE21-0AA0 [3] | 6SL3121-2TE21-0AA0 |
| DMM | 18A | 6SL3120-2TE21-8AA0 | 6SL3120-2TE21-8AB0 | 6SL3126-2TE21-8AA0 | 6SL3121-2TE21-8AA0 |

### 1.2.5 SINAMICS Motor Modules (booksize) – 2. Generation

**Warning:**
The DC-link interconnection of a multiple drive assembly must be electrically isolated on the right and left hand side by assembling a DC-link protection cover (order purchase no.: 6SL3162-5AA00-0AA0).

| Description | | Order Purchase No. (MLFB) | | | |
|---|---|---|---|---|---|
| Motor 400V | Module | Internal Cooling | Cold-Plate Cooling | External Cooling | Compact |
| SMM[2] | 3A | 6SL3120-1TE13-0AA3<br>6SL3120-1TE13-0AA4<br>6SL3120-1TE13-0AD0 | 6SL3126-1TE13-0AA3<br>6SL3126-1TE13-0AA4 | 6SL3121-1TE13-0AA3<br>6SL3121-1TE13-0AA4 | --- |
| SMM | 5A | 6SL3120-1TE15-0AA3<br>6SL3120-1TE15-0AA4<br>6SL3120-1TE15-0AD0 | 6SL3126-1TE15-0AA3<br>6SL3126-1TE15-0AA4 | 6SL3121-1TE15-0AA3<br>6SL3121-1TE15-0AA4 | --- |
| SMM | 9A | 6SL3120-1TE21-0AA3<br>6SL3120-1TE21-0AA4<br>6SL3120-1TE21-0AD0 | 6SL3126-1TE21-0AA3<br>6SL3126-1TE21-0AA4 | 6SL3121-1TE21-0AA3<br>6SL3121-1TE21-0AA4 | --- |
| SMM | 18A | 6SL3120-1TE21-8AA3<br>6SL3120-1TE21-8AA4<br>6SL3120-1TE21-8AC0<br>6SL3120-1TE21-8AD0 | 6SL3126-1TE21-8AA3<br>6SL3126-1TE21-8AA4 | 6SL3121-1TE21-8AA3<br>6SL3121-1TE21-8AA4 | --- |
| SMM | 24[a] | 6SL3120-1TE22-4AC0 | --- | --- | --- |

[2] Single Motor Module
[3] in version A (PRODIC) SBC is not available
[4] only valid in combination with a terminal board cover with order purchase no.: 6SL3162-3CF00-0AA1 and article code A5E00397355), which is moulded-in on the inside of the cover
[5] Double Motor Module

| Description | | Order Purchase No. (MLFB) | | | |
|---|---|---|---|---|---|
| Motor 400V | Module | Internal Cooling | Cold-Plate Cooling | External Cooling | Compact |
| | | 6SL3120-1TE22-4AD0 | | | |
| SMM | 30[a] | 6SL3120-1TE23-0AA3<br>6SL3120-1TE23-0AC0<br>6SL3120-1TE23-0AD0 | 6SL3126-1TE23-0AA3 | 6SL3121-1TE23-0AA3 | --- |
| SMM | 45[a] | 6SL3120-1TE24-5AA3[4]<br>6SL3120-1TE24-5AC0 | 6SL3126-1TE24-5AA3[4] | 6SL3121-1TE24-5AA3[4] | --- |
| SMM | 60A | 6SL3120-1TE26-0AA3[4]<br>6SL3120-1TE26-0AC0 | 6SL3126-1TE26-0AA3[4] | 6SL3121-1TE26-0AA3[4] | --- |
| SMM | 85A | 6SL3120-1TE28-5AA3 | 6SL3126-1TE28-5AA3 | 6SL3121-1TE28-5AA3 | --- |
| SMM | 132A | 6SL3120-1TE31-3AA3 | 6SL3126-1TE31-3AA3 | 6SL3121-1TE31-3AA3 | --- |
| SMM | 150A | --- | --- | 6SL3125-1UE31-5AA0[6] | --- |
| SMM | 200A | 6SL3120-1TE32-0AA3<br>6SL3120-1TE32-0AA4[7] | 6SL3126-1TE32-0AA3<br>6SL3126-1TE32-0AA4[7] | 6SL3121-1TE32-0AA3<br>6SL3121-1TE32-0AA4[7]<br>6SL3125-1TE32-0AA3[6]<br>6SL3125-1TE32-0AA4[6,7] | --- |
| SMM | 225A | --- | --- | 6SL3125-1UE32-2AA0[6] | --- |
| DMM[5] | 3A | 6SL3120-2TE13-0AA3<br>6SL3120-2TE13-0AA4<br>6SL3120-2TE13-0AD0 | 6SL3126-2TE13-0AA3<br>6SL3126-2TE13-0AA4 | 6SL3121-2TE13-0AA3<br>6SL3121-2TE13-0AA4 | --- |
| DMM | 5A | 6SL3120-2TE15-0AA3<br>6SL3120-2TE15-0AA4<br>6SL3120-2TE15-0AD0 | 6SL3126-2TE15-0AA3<br>6SL3126-2TE15-0AA4 | 6SL3121-2TE15-0AA3<br>6SL3121-2TE15-0AA4 | --- |
| DMM | 9A | 6SL3120-2TE21-0AA3<br>6SL3120-2TE21-0AA4<br>6SL3120-2TE21-0AD0 | 6SL3126-2TE21-0AA3<br>6SL3126-2TE21-0AA4 | 6SL3121-2TE21-0AA3<br>6SL3121-2TE21-0AA4 | --- |
| DMM | 18A | 6SL3120-2TE21-8AA3<br>6SL3120-2TE21-8AC0<br>6SL3120-2TE21-8AD0 | 6SL3126-2TE21-8AA3 | 6SL3121-2TE21-8AA3 | --- |
| SMM | 9A | 6SL3120-1VE21-0AA0 | --- | --- | --- |
| SMM | 18A | 6SL3120-1VE21-8AA0 | --- | --- | --- |
| SMM | 24A | 6SL3120-1VE22-4AA0 | --- | --- | --- |
| DMM | 5A | 6SL3120-2VE15-0AA0 | --- | --- | --- |
| DMM | 9A | 6SL3120-2VE21-0AA0 | --- | --- | --- |
| SMM | 3A | --- | --- | --- | 6SL3420-1TE13-0AA0<br>6SL3420-1TE13-0AA1 |
| SMM | 5A | --- | --- | --- | 6SL3420-1TE15-0AA0<br>6SL3420-1TE15-0AA1 |
| SMM | 8A | --- | --- | --- | 6SL3420-1TE21-0AA0<br>6SL3420-1TE21-0AA1 |
| SMM | 18A | --- | --- | --- | 6SL3420-1TE21-8AA0<br>6SL3420-1TE21-8AA1 |
| DMM | 1,7A | --- | --- | --- | 6SL3420-2TE11-7AA0<br>6SL3420-2TE11-7AA1 |
| DMM | 3A | --- | --- | --- | 6SL3420-2TE13-0AA0<br>6SL3420-2TE13-0AA1 |
| DMM | 5A | --- | --- | --- | 6SL3420-2TE15-0AA0<br>6SL3420-2TE15-0AA1 |

### 1.2.6 COMBI Motor Modules

| Description | Order Purchase No. (MLFB) |
|---|---|

[6] Liquid Cooled
[7] 70% de-rating

| Description | Order Purchase No. (MLFB) |
|---|---|
| COMBI (400V, 3 axis, 16kW, 18A-5A-5A) | 6SL3111-3VE21-6FA0<br>6SL3111-3VE21-6FA1<br>6SL3111-3VE21-6FA2 |
| COMBI (400V, 3 axis, 16kW, 24A-9A-9A) | 6SL3111-3VE21-6EA0<br>6SL3111-3VE21-6EA1 |
| COMBI (400V, 3 axis, 20kW, 30A-9A-9A) | 6SL3111-3VE22-0HA0<br>6SL3111-3VE22-0HA1 |
| COMBI (400V, 4 axis, 10kW, 24A-12A-12A-12A) | 6SL3111-4VE21-0EA0<br>6SL3111-4VE21-0EA1 |
| COMBI (400V, 4 axis, 16kW, 18A-9A-5A-5A) | 6SL3111-4VE21-6FA0<br>6SL3111-4VE21-6FA1<br>6SL3111-4VE21-6FA2 |
| COMBI (400V, 4 axis, 16kW, 24A-9A-9A-5A) | 6SL3111-4VE21-6EA0<br>6SL3111-4VE21-6EA1 |
| COMBI (400V, 4 axis, 16kW, 24A-12A-9A-9A) | 6SL3111-4VE21-6EC1<br>6SL3111-4VE21-6ED1 |
| COMBI (400V, 4 axis, 20kW, 30A-12A-9A-9A) | 6SL3111-4VE22-0HA0<br>6SL3111-4VE22-0HA1 |

### 1.2.7 Motor-Integrated Motor Modules

| Description | Order Purchase No. (MLFB) |
|---|---|
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RA1 |
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RB1 |
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RG1 |
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RH1 |
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RA2 |
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RB2 |
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RG2 |
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RH2 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RA1 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RB1 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RG1 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RH1 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RA2 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RB2 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RG2 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RH2 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RA1 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RB1 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RG1 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RH1 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RA2 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RB2 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RG2 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RH2 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RA1 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RB1 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RG1 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RH1 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RA2 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RB2 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RG2 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RH2 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RA1 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DC71-0RA1 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RB1 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DC71-0RB1 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RG1 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RH1 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RA2 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RB2 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RG2 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RH2 |

# 2 Extended Functions

## 2.1 Software

### 2.1.1 SINAMICS Control Units

| **CU310DP**<br>6SL3040-0LA00-0AA0<br>6SL3040-0LA00-0AA1<br>**CU310 PN**<br>6SL3040-0LA01-0AA1 | **CU320**<br>6SL3040-0MA00-0AA1 | **CU320-2 DP**<br>6SL3040-1MA00-0AA0 | **CU320-2 PN**<br>6SL3040-1MA01-0AA0<br>**CU310-2 DP**<br>6SL3040-1LA00-0AA0<br>**CU310-2 PN**<br>6SL3040-1LA01-0AA0 | **Safety-Firmware-Version** |
|---|---|---|---|---|
| V 2.5 | V 2.5 | --- | --- | 02.50.30.00<br>02.50.32.29<br>02.50.49.00 |
| V 2.6 | V 2.6 | --- | --- | 02.60.31.00<br>02.60.40.00<br>02.60.45.03<br>02.60.45.13<br>02.60.45.31 |
| --- | --- | V 4.3 | --- | 04.30.17.00 |
| --- | --- | V 4.4 | V 4.4 | 04.40.23.04<br>04.40.23.35 |
| --- | --- | V 4.5 | V 4.5 | 04.50.24.00<br>04.50.30.05<br>04.50.30.14<br>04.50.30.23<br>04.50.30.24<br>04.50.30.30<br>04.50.30.34<br>04.50.30.41 |
| --- | --- | V 4.6 | V 4.6 | 04.60.20.00<br>04.60.21.13 |
| --- | --- | V 4.7 | V 4.7 | 04.70.29.00[8]<br>04.70.35.21[8]<br>04.70.35.37[8]<br>04.70.35.44[8]<br>04.70.35.62<br>04.70.36.01[8]<br>04.70.36.04<br>04.74.35.02<br>04.74.35.13<br>04.74.35.15 |
| --- | --- | V 4.8 | V 4.8 | 04.80.65.01<br>04.80.65.05 |
| --- | --- | V 5.1 | V 5.1 | 05.10.20.00<br>05.10.23.01<br>05.10.39.00 |
| --- | --- | V 5.2 | V 5.2 | 05.20.29.00<br>05.20.29.07<br>05.20.29.23<br>05.20.68.00 |

[8] The use of SOS in combination with SS2 may lead to behaviour not described in the manual. For details see 3.1.

### 2.1.2 SINAMICS Motor Modules (booksize/chassis/cabinet)

| Motor Module (booksize) | CIB Assembly (chassis/cabinet) | Safety-Firmware-Version |
|---|---|---|
| --- | --- | --- |

### 2.1.3 SINAMICS Motor Modules (booksize/chassis/cabinet) – 2. Generation[9]

| Motor Module (booksize) | Motor Module (motor-integrated) | CIM Assembly (chassis/cabinet) | Safety-Firmware-Version |
|---|---|---|---|
| V 2.5 | --- | --- | 02.50.31.00<br>02.50.49.00 |
| V 2.6 | --- | V 2.6 | 02.60.30.00<br>02.60.39.00<br>02.60.45.03<br>02.60.45.31 |
| V 4.3 | --- | V 4.3 | 04.30.15.00 |
| V 4.4 | --- | V 4.4 | 04.40.23.04<br>04.40.23.25 |
| V 4.5 | --- | V 4.5 | 04.50.24.00<br>04.50.30.05<br>04.50.30.14<br>04.50.30.23<br>04.50.30.24<br>04.50.30.30 |
| V 4.6 | V 4.6 | V 4.6 | 04.60.20.00<br>04.60.21.13 |
| V 4.7 | V 4.7 | V4.7 | 04.70.28.00[10]<br>04.70.35.18[10]<br>04.70.35.35[10]<br>04.70.35.62<br>04.70.36.01[10]<br>04.70.36.04 |
| V 4.8 | V 4.8 | V4.8 | 04.80.65.01 |
| V 5.1 | V 5.1 | V 5.1 | 05.10.17.00<br>05.10.34.00 |
| V 5.2 | V 5.2 | V 5.2 | 05.20.22.00<br>05.20.29.11<br>05.20.68.00 |

[9] The 2nd generation motor modules of book size type are designated by an MLFB with final digit 3 or higher. The 2nd generation motor modules also include all book size compact types.

[10] The use of SOS in combination with SS2 may lead to behaviour not described in the manual. For details see 3.1.

### 2.1.4 Sensor Modules

| **SMI20**<br>6SL3055-0AA00-5MA0<br>**SME20**<br>6SL3055-0AA00-5EA0<br>**SME25**<br>6SL3055-0AA00-5HA0<br>**SME120**<br>6SL3055-0AA00-5JA0<br>**SME125**<br>6SL3055-0AA00-5KA0<br>**SMC20**<br>6SL3055-0AA00-5BA1<br>6SL3055-0AA00-5BA2 | **SMI20 (2. Generation)**<br>6SL3055-0AA00-5MA3<br>**SMI24**[11]<br>6SL3055-0AA00-5SA3 | **SMC20 (2. Generation)**<br>6SL3055-0AA00-5BA3<br>**SME20 (2. Generation)**<br>6SL3055-0AA00-5EA3<br>**SME25 (2. Generation)**<br>6SL3055-0AA00-5HA3<br>**SME120 (2. Generation)**<br>6SL3055-0AA00-5JA3<br>**SME125 (2. Generation)**<br>6SL3055-0AA00-5KA3 | **Safety-Firmware-Version** |
|---|---|---|---|
| V 2.4 SP1<br>V 2.5<br>V 2.6<br>V 4.1<br>V 4.3<br>V 4.4<br>V 4.5<br>V 4.6<br>V 4.7<br>V 4.8<br>V 5.1 | --- | --- | 02.40.06.00 |
| --- | V 2.5<br>V 2.6 | --- | 02.60.29.00<br>02.60.34.00 |
| --- | V 2.4 HF12<br>V 4.3 | V 2.4 HF12<br>V 4.3 | 04.30.13.00 |
| --- | V 4.4 | V 4.4 | 04.40.18.00<br>04.50.13.00<br>04.50.19.00 |
| --- | V 4.5 | V 4.5 | 04.50.19.00 |
| --- | V 4.6 | V 4.6 | 04.60.09.00 |
| --- | V 4.7 | V 4.7 | 04.70.02.00 |
| --- | --- | V 4.8 | 04.80.40.00 |
| --- | V 5.1 | V 5.1 | 05.10.05.00 |
| --- | V 5.2 | V 5.2 | 05.20.05.00 |

### 2.1.5 Terminal Module

| **TM54F**<br>6SL3055-0AA00-3BA0 | **Safety-Firmware-Version** |
|---|---|
| V 2.5 | 02.50.30.00 |
| V 2.6 | 02.60.30.00 |
| V 4.3 | 04.30.14.00 |
| V 4.4 | 04.40.21.00 |
| V 4.5 | 04.50.22.00 |
| V 4.6 | 04.60.15.00 |
| V 4.7 | 04.70.32.00 |
| V 4.8 | 04.80.43.00 |
| V 5.1 | 05.10.16.00 |
| V 5.2 | 05.20.05.00 |

[11] SMI24 only released for V4.4 and higher

### 2.1.6 Hydraulic Linear Axis

| HLA | Safety-Firmware-Version |
|---|---|
| V 4.7 | 04.70.28.00[12]<br>04.70.35.18[12]<br>04.70.35.35[12]<br>04.70.35.62<br>04.70.36.01[12]<br>04.70.36.04 |
| V 4.8 | 04.80.65.01 |
| V 5.1 | 05.10.17.00<br>05.10.34.00 |
| V 5.2 | 05.20.22.00<br>05.20.29.11<br>05.20.68.00 |

[12] Not valid for SOS and SS2. For details see 3.1.

## 2.2 Hardware

### 2.2.1 SINAMICS Control Units

| Description | Order Purchase No. (MLFB) |
|---|---|
| CU310 DP | 6SL3040-0LA00-0AA0<br>6SL3040-0LA00-0AA1 |
| CU310-2 DP | 6SL3040-1LA00-0AA0 |
| CU310 PN | 6SL3040-0LA01-0AA1 |
| CU310-2 PN | 6SL3040-1LA01-0AA0 |
| CU320 | 6SL3040-0MA00-0AA1 |
| CU320-2 DP | 6SL3040-1MA00-0AA0 |
| CU320-2 PN | 6SL3040-1MA01-0AA0 |

### 2.2.2 SINAMICS Motor Modules (chassis/cabinet)

| Description | Order Purchase No. (MLFB) |
|---|---|
| --- | --- |

### 2.2.3 SINAMICS Motor Modules (chassis/cabinet) – 2. Generation

Only applies to chassis and cabinet motor modules of the SINAMICS drive system including the subassembly listed below.

| Description | Order Purchase No. (MLFB) |
|---|---|
| CIM (control interface module) | 6SL3350-6TK00-0EA0<br>6SL3350-6TK00-0BA0<br>6SL3350-6TK00-0CA0<br>6SL3350-6TK00-0DA0 |

The entire safety functionality of motor modules of type chassis and cabinet is completely concentrated within the CIM (control interface module). All parts outside the CIM are considered to be irrelevant for integrated safety functionality.

**Information:**
The above mentioned CIM are integrated in the modules listed below:

**SINAMICS S120 Chassis**

6SL3310-1TExx-xAA3 (110kW-250kW)
6SL3315-1TExx-xAA3 (110kW-250kW)
6SL3320-1TExx-xAA3 (110kW-250kW)
6SL3325-1TExx-xAA3 (110kW-250kW)
6SL3325-1TGxx-xAA0 (110kW-250kW)

### 2.2.4 SINAMICS Motor Modules (booksize)

| Description | Order Purchase No. (MLFB) | | | |
|---|---|---|---|---|
| Motor Module 400V | Internal Cooling | | Cold-Plate Cooling | External Cooling |
| | | coated | | |
| --- | --- | --- | --- | --- |

### 2.2.5 SINAMICS Motor Modules (booksize) – 2. Generation

**Warning:**
The DC-link interconnection of a multiple drive assembly must be electrically isolated on the right and left hand side by assembling a DC-link protection cover (order purchase no.: 6SL3162-5AA00-0AA0).

| Description | Order Purchase No. (MLFB) | | | |
|---|---|---|---|---|
| Motor Module 400V | Internal Cooling | Cold-Plate Cooling | External Cooling | Compact |
| SMM[13] 3A | 6SL3120-1TE13-0AA3<br>6SL3120-1TE13-0AA4<br>6SL3120-1TE13-0AD0 | 6SL3126-1TE13-0AA3<br>6SL3126-1TE13-0AA4 | 6SL3121-1TE13-0AA3<br>6SL3121-1TE13-0AA4 | 6SL3420-1TE13-0AA0<br>6SL3420-1TE13-0AA1 |
| SMM 5A | 6SL3120-1TE15-0AA3<br>6SL3120-1TE15-0AA4<br>6SL3120-1TE15-0AD0 | 6SL3126-1TE15-0AA3<br>6SL3126-1TE15-0AA4 | 6SL3121-1TE15-0AA3<br>6SL3121-1TE15-0AA4 | 6SL3420-1TE15-0AA0<br>6SL3420-1TE15-0AA1 |
| SMM 9A | 6SL3120-1TE21-0AA3<br>6SL3120-1TE21-0AA4<br>6SL3120-1TE21-0AD0 | 6SL3126-1TE21-0AA3<br>6SL3126-1TE21-0AA4 | 6SL3121-1TE21-0AA3<br>6SL3121-1TE21-0AA4 | 6SL3420-1TE21-0AA0<br>6SL3420-1TE21-0AA1 |
| SMM 18A | 6SL3120-1TE21-8AA3<br>6SL3120-1TE21-8AA4<br>6SL3120-1TE21-8AC0<br>6SL3120-1TE21-8AD0 | 6SL3126-1TE21-8AA3<br>6SL3126-1TE21-8AA4 | 6SL3121-1TE21-8AA3<br>6SL3121-1TE21-8AA4 | 6SL3420-1TE21-8AA0<br>6SL3420-1TE21-8AA1 |
| SMM 24A | 6SL3120-1TE22-4AC0<br>6SL3120-1TE22-4AD0 | --- | --- | --- |
| SMM 30A | 6SL3120-1TE23-0AA3<br>6SL3120-1TE23-0AC0<br>6SL3120-1TE23-0AD0 | 6SL3126-1TE23-0AA3 | 6SL3121-1TE23-0AA3 | --- |
| SMM 45A | 6SL3120-1TE24-5AA3[14]<br>6SL3120-1TE24-5AC0 | 6SL3126-1TE24-5AA3[14] | 6SL3121-1TE24-5AA3[14] | --- |
| SMM 60A | 6SL3120-1TE26-0AA3[14]<br>6SL3120-1TE26-0AC0 | 6SL3126-1TE26-0AA3[14] | 6SL3121-1TE26-0AA3[14] | --- |
| SMM 85A | 6SL3120-1TE28-5AA3 | 6SL3126-1TE28-5AA3 | 6SL3121-1TE28-5AA3 | --- |
| SMM 132A | 6SL3120-1TE31-3AA3 | 6SL3126-1TE31-3AA3 | 6SL3121-1TE31-3AA3 | --- |
| SMM 150A | --- | --- | 6SL3125-1UE31-5AA0[15] | --- |
| SMM 200A | 6SL3120-1TE32-0AA3<br>6SL3120-1TE32-0AA4[16] | 6SL3126-1TE32-0AA3<br>6SL3126-1TE32-0AA4[16] | 6SL3121-1TE32-0AA3<br>6SL3121-1TE32-0AA4[16]<br>6SL3125-1TE32-0AA3[15]<br>6SL3125-1TE32-0AA4[15,16] | --- |
| SMM 225A | --- | --- | 6SL3125-1UE32-2AA0[15] | --- |
| DMM[17] 1,7A | --- | --- | --- | 6SL3420-2TE11-7AA0<br>6SL3420-2TE11-7AA1 |
| DMM 3A | 6SL3120-2TE13-0AA3<br>6SL3120-2TE13-0AA4 | 6SL3126-2TE13-0AA3<br>6SL3126-2TE13-0AA4 | 6SL3121-2TE13-0AA3<br>6SL3121-2TE13-0AA4 | 6SL3420-2TE13-0AA0<br>6SL3420-2TE13-0AA1 |

[13] Single Motor Module
[14] only valid in combination with a terminal board cover with order purchase no.: 6SL3162-3CF00-0AA1 and article code A5E00397355), which is moulded-in on the inside of the cover
[15] Liquid Cooled
[16] 70% de-rating
[17] Double Motor Module

| Description | | Order Purchase No. (MLFB) | | | |
|---|---|---|---|---|---|
| Motor Module 400V | | Internal Cooling | Cold-Plate Cooling | External Cooling | Compact |
| | | 6SL3120-2TE13-0AD0 | | | |
| DMM | 5A | 6SL3120-2TE15-0AA3<br>6SL3120-2TE15-0AA4<br>6SL3120-2TE15-0AD0 | 6SL3126-2TE15-0AA3<br>6SL3126-2TE15-0AA4 | 6SL3121-2TE15-0AA3<br>6SL3121-2TE15-0AA4 | 6SL3420-2TE15-0AA0<br>6SL3420-2TE15-0AA1 |
| DMM | 9A | 6SL3120-2TE21-0AA3<br>6SL3120-2TE21-0AA4<br>6SL3120-2TE21-0AD0 | 6SL3126-2TE21-0AA3<br>6SL3126-2TE21-0AA4 | 6SL3121-2TE21-0AA3<br>6SL3121-2TE21-0AA4 | --- |
| DMM | 18A | 6SL3120-2TE21-8AA3<br>6SL3120-2TE21-8AC0<br>6SL3120-2TE21-8AD0 | 6SL3126-2TE21-8AA3 | 6SL3121-2TE21-8AA3 | --- |
| SMM | 9A | 6SL3120-1VE21-0AA0 | --- | --- | --- |
| SMM | 18A | 6SL3120-1VE21-8AA0 | --- | --- | --- |
| SMM | 24A | 6SL3120-1VE22-4AA0 | --- | --- | --- |
| DMM | 5A | 6SL3120-2VE15-0AA0 | --- | --- | --- |
| DMM | 9A | 6SL3120-2VE21-0AA0 | --- | --- | --- |

### 2.2.6 COMBI Motor Modules

| Description | Order Purchase No. (MLFB) |
|---|---|
| COMBI (400V, 3 axis, 16kW, 18A-5A-5A) | 6SL3111-3VE21-6FA0<br>6SL3111-3VE21-6FA1 |
| COMBI (400V, 3 axis, 16kW, 24A-9A-9A) | 6SL3111-3VE21-6EA0<br>6SL3111-3VE21-6EA1 |
| COMBI (400V, 3 axis, 20kW, 30A-9A-9A) | 6SL3111-3VE22-0HA0<br>6SL3111-3VE22-0HA1 |
| COMBI (400V, 4 axis, 10kW, 24A-12A-12A-12A) | 6SL3111-4VE21-0EA0<br>6SL3111-4VE21-0EA1 |
| COMBI (400V, 4 axis, 16kW, 18A-9A-5A-5A) | 6SL3111-4VE21-6FA0<br>6SL3111-4VE21-6FA1 |
| COMBI (400V, 4 axis, 16kW, 24A-9A-9A-5A) | 6SL3111-4VE21-6EA0<br>6SL3111-4VE21-6EA1 |
| COMBI (400V, 4 axis, 16kW, 24A-12A-9A-9A) | 6SL3111-4VE21-6EC1<br>6SL3111-4VE21-6ED1 |
| COMBI (400V, 4 axis, 20kW, 30A-12A-9A-9A) | 6SL3111-4VE22-0HA0<br>6SL3111-4VE22-0HA1 |

### 2.2.7 Motor-Integrated Motor Modules

| Description | Order Purchase No. (MLFB) |
|---|---|
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RA1 |
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RB1 |
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RG1 |
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RH1 |
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RA2 |
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RB2 |
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RG2 |
| S120M (400V, AH36, motor-integrated) | 6SL3532-6DF71-0RH2 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RA1 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RB1 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RG1 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RH1 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RA2 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RB2 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RG2 |
| S120M (400V, AH48, motor-integrated) | 6SL3540-6DF71-0RH2 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RA1 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RB1 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RG1 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RH1 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RA2 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RB2 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RG2 |
| S120M (400V, AH48, motor-integrated) | 6SL3542-6DF71-0RH2 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RA1 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RB1 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RG1 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RH1 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RA2 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RB2 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RG2 |
| S120M (400V, AH63, motor-integrated) | 6SL3562-6DF71-0RH2 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RA1 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RB1 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RG1 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RH1 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RA2 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RB2 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RG2 |
| S120M (400V, AH63, motor-integrated) | 6SL3563-6DF71-0RH2 |

### 2.2.8 Sensor Modules

| Description | Order Purchase No. (MLFB) |
|---|---|
| SMI20 (sensor module internal) | 6SL3055-0AA00-5MA0 (A5E00207496)<br>6SL3055-0AA00-5MA3 (A5E01139087) |
| SMI24 (sensor module internal) | 6SL3055-0AA00-5SA3 |
| SME20 (sensor module external) | 6SL3055-0AA00-5EA0<br>6SL3055-0AA00-5EA3 (2. Generation) |
| SME25 (sensor module external) | 6SL3055-0AA00-5HA0<br>6SL3055-0AA00-5HA3 (2. Generation) |
| SME120 (sensor module external) | 6SL3055-0AA00-5JA0<br>6SL3055-0AA00-5JA3 (2. Generation) |
| SME125 (sensor module external) | 6SL3055-0AA00-5KA0<br>6SL3055-0AA00-5KA3 (2. Generation) |
| SMC20 (sensor module cabinet) | 6SL3055-0AA00-5BA1<br>6SL3055-0AA00-5BA2<br>6SL3055-0AA00-5BA3 (2. Generation) |
| SMC40 (sensor module cabinet) | 6SL3055-0AA00-5DA0 |

### 2.2.9 Motor-Integrated Sensor Modules

| Description | Order Purchase No. (MLFB) |
|---|---|
| 1FK2 Motor AH20 (DQ-singleturn, one cable connector) | 1FK2x02-xAxxx-xSAx |
| 1FK2 Motor AH30 (DQ-singleturn, one cable connector) | 1FK2x03-xAxxx-xSAx |
| 1FK2 Motor AH40 (DQ-singleturn, one cable connector) | 1FK2x04-xAxxx-xSAx |
| 1FK2 Motor AH48 (DQ-singleturn, one cable connector) | 1FK2x05-xAxxx-xSAx |
| 1FK2 Motor AH63 (DQ-singleturn, one cable connector) | 1FK2x06-xAxxx-xSAx |
| 1FK2 Motor AH80 (DQ-singleturn, one cable connector) | 1FK2x08-xAxxx-xSAx |
| 1FK2 Motor AH100 (DQ-singleturn, one cable connector) | 1FK2x10-xAxxx-xSAx |
| 1FK2 Motor AH20 (DQ-multiturn, one cable connector) | 1FK2x02-xAxxx-xMAx |
| 1FK2 Motor AH30 (DQ-multiturn, one cable connector) | 1FK2x03-xAxxx-xMAx |
| 1FK2 Motor AH40 (DQ-multiturn, one cable connector) | 1FK2x04-xAxxx-xMAx |
| 1FK2 Motor AH48 (DQ-multiturn, one cable connector) | 1FK2x05-xAxxx-xMAx |
| 1FK2 Motor AH63 (DQ-multiturn, one cable connector) | 1FK2x06-xAxxx-xMAx |
| 1FK2 Motor AH80 (DQ-multiturn, one cable connector) | 1FK2x08-xAxxx-xMAx |
| 1FK2 Motor AH100 (DQ-multiturn, one cable connector) | 1FK2x10-xAxxx-xMAx |
| 1FK2 Motor AH20 (DQ-singleturn, two cable connector) | 1FK2x02-xAxxx-xSBx |
| 1FK2 Motor AH30 (DQ-singleturn, two cable connector) | 1FK2x03-xAxxx-xSBx |
| 1FK2 Motor AH40 (DQ-singleturn, two cable connector) | 1FK2x04-xAxxx-xSBx |
| 1FK2 Motor AH48 (DQ-singleturn, two cable connector) | 1FK2x05-xAxxx-xSBx |
| 1FK2 Motor AH63 (DQ-singleturn, two cable connector) | 1FK2x06-xAxxx-xSBx |
| 1FK2 Motor AH80 (DQ-singleturn, two cable connector) | 1FK2x08-xAxxx-xSBx |
| 1FK2 Motor AH100 (DQ-singleturn, two cable connector) | 1FK2x10-xAxxx-xSBx |
| 1FK2 Motor AH20 (DQ-multiturn, two cable connector) | 1FK2x02-xAxxx-xMBx |
| 1FK2 Motor AH30 (DQ-multiturn, two cable connector) | 1FK2x03-xAxxx-xMBx |
| 1FK2 Motor AH40 (DQ-multiturn, two cable connector) | 1FK2x04-xAxxx-xMBx |
| 1FK2 Motor AH48 (DQ-multiturn, two cable connector) | 1FK2x05-xAxxx-xMBx |
| 1FK2 Motor AH63 (DQ-multiturn, two cable connector) | 1FK2x06-xAxxx-xMBx |
| 1FK2 Motor AH80 (DQ-multiturn, two cable connector) | 1FK2x08-xAxxx-xMBx |
| 1FK2 Motor AH100 (DQ-multiturn, two cable connector) | 1FK2x10-xAxxx-xMBx |

| Description | Order Purchase No. (MLFB) |
|---|---|
| 1FT2 Motor AH20 (DQ-singleturn, one cable connector) | 1FT2x02-xAxxx-xSAx |
| 1FT2 Motor AH30 (DQ-singleturn, one cable connector) | 1FT2x03-xAxxx-xSAx |
| 1FT2 Motor AH40 (DQ-singleturn, one cable connector) | 1FT2x04-xAxxx-xSAx |
| 1FT2 Motor AH48 (DQ-singleturn, one cable connector) | 1FT2x05-xAxxx-xSAx |
| 1FT2 Motor AH63 (DQ-singleturn, one cable connector) | 1FT2x06-xAxxx-xSAx |
| 1FT2 Motor AH80 (DQ-singleturn, one cable connector) | 1FT2x08-xAxxx-xSAx |
| 1FT2 Motor AH100 (DQ-singleturn, one cable connector) | 1FT2x10-xAxxx-xSAx |

| Description | Order Purchase No. (MLFB) |
|---|---|
| 1FT2 Motor AH20 (DQ-multiturn, one cable connector)<br>1FT2 Motor AH30 (DQ-multiturn, one cable connector)<br>1FT2 Motor AH40 (DQ-multiturn, one cable connector)<br>1FT2 Motor AH48 (DQ-multiturn, one cable connector)<br>1FT2 Motor AH63 (DQ-multiturn, one cable connector)<br>1FT2 Motor AH80 (DQ-multiturn, one cable connector)<br>1FT2 Motor AH100 (DQ-multiturn, one cable connector) | 1FT2x02-xAxxx-xMAx<br>1FT2x03-xAxxx-xMAx<br>1FT2x04-xAxxx-xMAx<br>1FT2x05-xAxxx-xMAx<br>1FT2x06-xAxxx-xMAx<br>1FT2x08-xAxxx-xMAx<br>1FT2x10-xAxxx-xMAx |
| 1FT2 Motor AH20 (DQ-singleturn, two cable connector)<br>1FT2 Motor AH30 (DQ-singleturn, two cable connector)<br>1FT2 Motor AH40 (DQ-singleturn, two cable connector)<br>1FT2 Motor AH48 (DQ-singleturn, two cable connector)<br>1FT2 Motor AH63 (DQ-singleturn, two cable connector)<br>1FT2 Motor AH80 (DQ-singleturn, two cable connector)<br>1FT2 Motor AH100 (DQ-singleturn, two cable connector) | 1FT2x02-xAxxx-xSBx<br>1FT2x03-xAxxx-xSBx<br>1FT2x04-xAxxx-xSBx<br>1FT2x05-xAxxx-xSBx<br>1FT2x06-xAxxx-xSBx<br>1FT2x08-xAxxx-xSBx<br>1FT2x10-xAxxx-xSBx |
| 1FT2 Motor AH20 (DQ-multiturn, two cable connector)<br>1FT2 Motor AH30 (DQ-multiturn, two cable connector)<br>1FT2 Motor AH40 (DQ-multiturn, two cable connector)<br>1FT2 Motor AH48 (DQ-multiturn, two cable connector)<br>1FT2 Motor AH63 (DQ-multiturn, two cable connector)<br>1FT2 Motor AH80 (DQ-multiturn, two cable connector)<br>1FT2 Motor AH100 (DQ-multiturn, two cable connector) | 1FT2x02-xAxxx-xMBx<br>1FT2x03-xAxxx-xMBx<br>1FT2x04-xAxxx-xMBx<br>1FT2x05-xAxxx-xMBx<br>1FT2x06-xAxxx-xMBx<br>1FT2x08-xAxxx-xMBx<br>1FT2x10-xAxxx-xMBx |

### 2.2.10 Terminal Module

| Description | Order Purchase No. (MLFB) |
|---|---|
| TM54F | 6SL3055-0AA00-3BA0 |

### 2.2.11 Hydraulic Linear Axis

| Description | Order Purchase No. (MLFB) |
|---|---|
| HLA | 6SL3420-2HX00-0AA0 |

# 3 Boundary Conditions

## 3.1 Exceptions

The marked software versions may lead to unexpected behaviour if SOS is used in combination with SS2. Please contact your local support for details.

## 3.2 System Related Software

According to IEC61508-4 (2010) the related engineering system “SINAMICS Startdrive” is classified as T3 off-line support tool. Therefore, all required measures considering T3 off-line support tools as defined in [1] were applied.

| Off-Line Support Tool | Version TIA Portal |
|---|---|
| SINAMICS Startdrive | V14<br>V14.1<br>V15<br>V15.1<br>V16<br>V17 |