

SIEMENS



Motion Control Drives

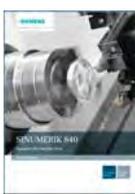
# SINAMICS S120 and SIMOTICS

Catalog  
News  
D 21.4 N

Edition  
October  
2017

[siemens.com/drives](http://siemens.com/drives)

## Related catalogs

<p><b>Motion Control System</b> SIMOTION Equipment for Production Machines</p> <p>E86060-K4921-A101-A4-7600</p>	PM 21 	<p><b>Industrial Controls</b> SIRIUS Classic</p> <p>PDF (E86060-K1010-A191-A5-7600)</p>	IC 10 AO 
<p><b>SINAMICS S120</b> Chassis Format Converter Units Cabinet Modules</p> <p><b>SINAMICS S150</b> Converter Cabinet Units E86060-K5521-A131-A6-7600</p>	D 21.3 	<p><b>Industrial Communication</b> SIMATIC NET</p> <p>E86060-K6710-A101-B8-7600</p>	IK PI 
<p><b>Motion Control Drives</b> SINAMICS Inverters for Single-Axis Drives Built-In Units</p> <p>E86060-K5531-A111-A1-7600</p>	D 31.1 	<p><b>SITRAIN</b> Training for Industry</p> <p><a href="http://www.siemens.com/sitrain">www.siemens.com/sitrain</a></p>	
<p><b>Motion Control Drives</b> SINAMICS Inverters for Single-Axis Drives Distributed Inverters</p> <p>E86060-K5531-A121-A1-7600</p>	D 31.2 	<p><b>SITOP</b> Power supply SITOP</p> <p>E86060-K2410-A111-B2-7600</p>	KT 10.1 
<p><b>SIMOTICS S-1FG1</b> <b>Servo geared motors</b> Helical, Parallel shaft, Bevel and Helical worm geared motors</p> <p>E86060-K5541-A101-A3-7600</p>	D 41 	<p><b>Low-Voltage Power Distribution and Electrical Installation Technology</b> SENTRON • SIVACON • ALPHA Protection, Switching, Measuring and Monitoring Devices, Switchboards and Distribution Systems PDF (E86060-K8280-A101-A4-7600) PDF/print (E86060-K8280-A101-A3-7600)</p>	LV 10 
<p><b>SIMOTICS GP, SD, XP, DP</b> <b>Low Voltage Motors</b> Type series 1FP1, 1LE1, 1MB1 and 1PC1 Frame sizes 71 to 315 Power range 0.09 to 200 kW E86060-K5581-A111-A9-7600</p>	D 81.1 	<p><b>SIMATIC</b> Products for Totally Integrated Automation</p> <p>E86060-K4670-A101-B6-7600</p>	ST 70 
<p><b>Motion Control</b> SINUMERIK 840 Equipment for Machine Tools</p> <p>E86060-K4462-A101-A2-7600</p>	NC 62 	<p><b>SIMATIC HMI / PC-based Automation</b> Human Machine Interface Systems PC-based Automation</p> <p>E86060-K4680-A101-C5-7600</p>	ST 80/ST PC 
<p><b>Motion Control</b> SINUMERIK 828 Equipment for Machine Tools</p> <p>E86060-K4482-A101-A5-7600</p>	NC 82 	<p><b>Products for Automation and Drives</b> Interactive catalog DVD</p> <p>E86060-D4001-A510-D8-7600</p>	CA 01 
<p><b>Industrial Controls</b> SIRIUS</p> <p>PDF (E86060-K1010-A101-A7-7600)</p>	IC 10 	<p><b>Industry Mall</b> Information and Ordering Platform on the Internet</p> <p><a href="http://www.siemens.com/industrymall">www.siemens.com/industrymall</a></p>	



SIEMENS

# SINAMICS S120 and SIMOTICS

Motion Control Drives

Catalog News D 21.4 N · October 2017

Dear Customer,

We are pleased to present you with the new Catalog D 21.4 N · October 2017. We would like to draw your attention to the following product innovations:

- SINAMICS S120 booksize format – Single Motor Modules C/D type with rated currents 24 A, 45 A and 60 A including accessories and MOTION-CONNECT connection system

We have combined the most important catalog information for the respective chapters **7** "SINAMICS S120 drive system" and **12** "MOTION-CONNECT connection systems" in this News catalog for you, whereby the new article numbers are marked with "NEW".

Changes with regard to selection of the new Motor Modules in connection with the SIMOTICS Motion Control motors for the chapters **8** "SIMOTICS servomotors", **9** "SIMOTICS main motors" and **10** "SIMOTICS linear and torque motors" will be available in the Industry Mall as of January 1, 2018. The products listed in this Catalog are also included in the new edition of the Interactive Catalog CA 01 on DVD-ROM and in the [Industry Mall](#).

Up-to-date information about SINAMICS S120 and SIMOTICS Motion Control motors is available on the Internet at

[www.siemens.com/sinamics-s120](http://www.siemens.com/sinamics-s120)

[www.siemens.com/motion-control-motors](http://www.siemens.com/motion-control-motors)

We are keen to receive your suggestions and recommendations for improvement (please make reference to the Catalog D 21.4 · 2017) under [catalogs.industry@siemens.com](mailto:catalogs.industry@siemens.com)

We hope that you will often enjoy using Catalog News D 21.4 N · October 2017 as a selection and ordering reference document and wish you every success with our products and solutions.

With kind regards,



Achim Peltz

Vice President

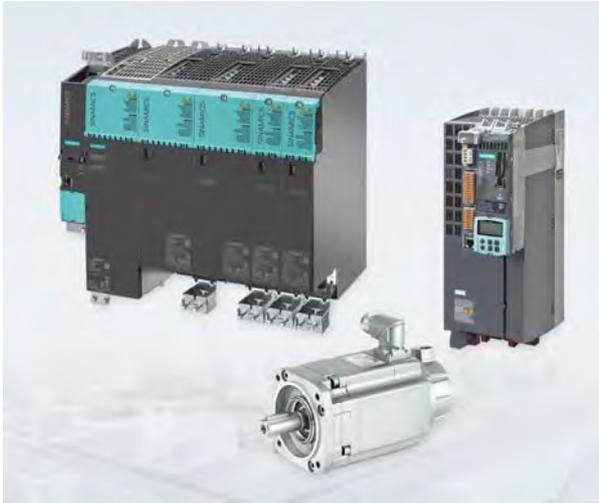
General Motion Control

Siemens AG, Digital Factory, Motion Control



# SINAMICS S120 and SIMOTICS

## Motion Control Drives



### Catalog News D 21.4 N · October 2017

Refer to the Industry Mall for current updates of this catalog:

[www.siemens.com/industrymall](http://www.siemens.com/industrymall)

The products contained in this catalog can also be found in the Interactive Catalog CA 01.

Article No.: E86060-D4001-A510-D8-7600

Please contact your local Siemens branch.

**NEW** New products in this catalog.



The products and systems described in this catalog are distributed under application of a certified quality management system in accordance with DIN EN ISO 9001 (certificate registration No. 001258 QM) and DIN EN ISO 14001 (certificate registration No. 081342 UM). The certificate is recognized by all IQNet countries.

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# Integrated Drive Systems

Faster on the market and in the black with Integrated Drive Systems

SINAMICS is an important element of a Siemens Integrated Drive System, contributing significantly to increased efficiency, productivity, and availability in industrial production processes.

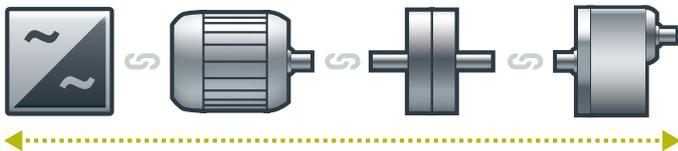
Integrated Drive Systems are Siemens' trendsetting answer to the high degree of complexity that characterizes drive and automation technology today. The world's only true one-stop solution for entire drive systems is characterized in particular by its threefold integration: Horizontal, vertical,

and lifecycle integration ensure that every drive system component fits seamlessly into the whole system, into any automation environment, and even into the entire lifecycle of a plant.

The outcome is an optimal workflow – from engineering all the way to service that entails more productivity, increased efficiency, and better availability. That's how Integrated Drive Systems reduce time to market and time to profit.

## Horizontal integration

**Integrated drive portfolio:** The core elements of a fully integrated drive portfolio are frequency converters, motors, couplings, and gear units. At Siemens, they're all available from a single source. Perfectly integrated, perfectly interacting. For all power and performance classes. As standard solutions or fully customized. No other player in the market can offer a comparable portfolio. Moreover, all Siemens drive components are perfectly matched, so they are optimally interacting.



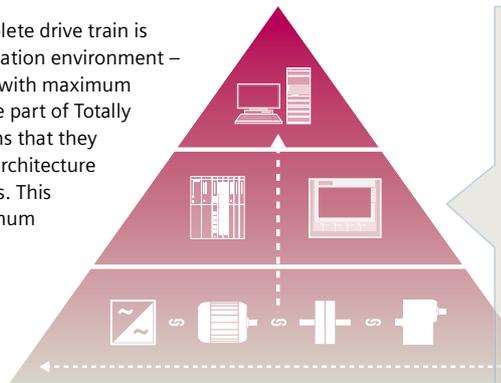
You can boost the availability of your application or plant to up to

**99%\***

\*e.g., conveyor application

## Vertical integration

Thanks to **vertical integration**, the complete drive train is seamlessly integrated in the entire automation environment – an important prerequisite for production with maximum value added. Integrated Drive Systems are part of Totally Integrated Automation (TIA), which means that they are perfectly embedded into the system architecture of the entire industrial production process. This enables optimal processes through maximum communication and control.



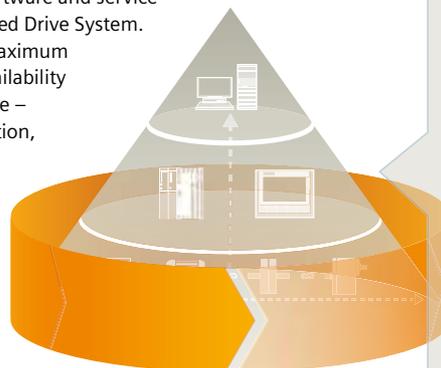
With TIA Portal you can cut your engineering time by up to

**30%**

## Lifecycle integration

**Lifecycle integration** adds the factor of time: Software and service are available for the entire lifecycle of an Integrated Drive System. That way, important optimization potential for maximum productivity, increased efficiency, and highest availability can be leveraged throughout the system's lifecycle – from planning, design, and engineering to operation, maintenance, and all the way even to modernization.

With Integrated Drive Systems, assets become important success factors. They ensure shorter time to market, maximum productivity and efficiency in operation, and shorter time to profit.



With Integrated Drive Systems you can reduce your maintenance costs by up to

**15%**

## SINAMICS S120 drive system



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## SINAMICS S120 drive system

### Motor Modules in booksize format

#### Single Motor Modules in booksize format

##### Design



Single Motor Module in booksize format C/D type, 3 A to 30 A

The Single Motor Modules in booksize format feature the following connections and interfaces as standard:

- 2 DC link connections via integrated DC link busbars
- 1 electronics power supply connection via integrated 24 V DC bars
- 3 DRIVE-CLiQ sockets
- 1 motor connection via connector X1 for C/D type 3 A to 30 A (not included in the scope of delivery)
- 1 Safe Stop input
- 1 safe motor brake control
- 1 temperature sensor input for KTY84-130, Pt1000 or PTC (Pt1000 can be used from firmware V4.7 HF17)
- 2 PE (protective earth) connections – a PE connection is integrated in the connector for C/D types 3 A to 30 A

The status of the Motor Modules is indicated via two multi-color LEDs.

Motor Modules 3 A to 30 A are supplied with a mounted shield connection plate. The associated shield connection clamp can be found in the Terminal Kit supplied. A shield connection plate is optionally available for Motor Modules 45 A to 200 A. On these modules, the motor cable shield can be connected using a shield connection clamp or a hose clip.



Single Motor Module in booksize format C type, 45 A and 60 A, with optional shield connection plate

#### Design (continued)

##### Motor Modules in booksize format C/D types, 3 A to 60 A

Rated current	3 A	5 A	9 A	18 A	24 A	30 A	45 A	60 A
	<b>D types</b>							
Single Motor Modules	<b>3 A / 9 A</b> 50 mm (1.97 in)	<b>5 A / 15 A</b> 50 mm (1.97 in)	<b>9 A / 27 A</b> 50 mm (1.97 in)	<b>18 A / 54 A</b> 50 mm (1.97 in)	<b>24 A / 72 A</b> 50 mm (1.97 in)	<b>30 A / 90 A</b> 100 mm (3.94 in)	–	–
Double Motor Modules	<b>2 x 3 A / 2 x 9 A</b> 50 mm (1.97 in)	<b>2 x 5 A / 2 x 15 A</b> 50 mm (1.97 in)	<b>2 x 9 A / 2 x 27 A</b> 50 mm (1.97 in)	<b>2 x 18 A / 2 x 54 A</b> 50 mm (3.94 in)	–	–	–	–
	<b>C types</b>							
								
	Single Motor Modules	<b>18 A / 36 A</b> 50 mm (1.97 in)	<b>24 A / 48 A</b> 50 mm (1.97 in)	<b>30 A / 56 A</b> 100 mm (3.94 in)	<b>45 A / 90 A</b> 100 mm (3.94 in)	<b>60 A / 120 A</b> 100 mm (3.94 in)		
	Double Motor Module	<b>2 x 18 A / 2 x 36 A</b> 100 mm (3.94 in)	–	–	–	–		
<b>Rated current / maximum current in A</b> 50 mm (1.97 in) or 100 mm (3.94 in) widths								

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Overview of available Single Motor Modules in booksize format C/D types

- C type: Optimized for continuous load with up to 200 % overload (continuous motion)
- D type: Optimized for highly dynamic, intermittent duty cycles with up to 300 % overload (discontinuous motion)

Devices in booksize format C/D types are optimized for multi-axis applications and are mounted next to one another. The connection for the common DC link is an integral feature. The device is internally air cooled.

The Motor Modules in booksize format C/D types have been developed to be fully compatible with the booksize series regarding spare parts and offer the following advantages:

- The portfolio is extended by Single Motor Modules 18 A (C type), 24 A (C/D types) and 30 A (D type), as well as by a Double Motor Module 18 A (D type).
- The width of Motor Modules 45 A and 60 A has been reduced from 150 mm to 100 mm, which makes a significant contribution toward saving space in the cabinet
- The amount of space required beneath the Motor Modules has been reduced thanks to improvements in the design and a new motor plug connector
- With the new motor plug connector design, the brake conductors and the PE connection are integrated directly in the plug connector
- The motor connections on the Double Motor Module are located side by side, resulting in a significantly improved level of accessibility
- The fan can be simply replaced without having to remove the Motor Module

The signal cable shield can be connected to the Motor Module by means of a shield connection clamp, e.g. Weidmüller type KLBUE 3-8 SC.

The scope of delivery of the Motor Modules includes:

- DRIVE-CLiQ cable appropriate to the width of the Motor Module for connection to the adjacent Motor Module, length = width of Motor Module + 0.06 m (0.20 ft)
- Jumper for connecting the 24 V DC busbar to the adjacent Motor Module
- Connector X21
- Connector X11 for the motor brake connection (for Motor Modules 45 A to 200 A)
- 2 blanking plugs for sealing unused DRIVE-CLiQ sockets
- Fan insert for the 132 A and 200 A Motor Modules (the voltage for the fan insert is supplied by the Motor Module)
- 1 shield connection plate with shield connection clamp (for Motor Modules 3 A to 30 A)
- 1 set of warning labels in 30 languages

# SINAMICS S120 drive system

## Motor Modules in booksize format

### Single Motor Modules in booksize format

#### Selection and ordering data

Rated output current	Type rating <sup>2)</sup>	Single Motor Module in booksize format		
		Article No.	C type Article No.	D type Article No.
A	kW (hp)			
<b>DC link voltage 510 ... 720 V DC</b>				
3	1.6 (1.5)	–	–	6SL3120-1TE13-0AD0
5	2.7 (3)	–	–	6SL3120-1TE15-0AD0
9	4.8 (5)	–	–	6SL3120-1TE21-0AD0
18	9.7 (10)	–	6SL3120-1TE21-8AC0	6SL3120-1TE21-8AD0
24	12.9 (15)	–	<b>NEW</b> 6SL3120-1TE22-4AC0	<b>NEW</b> 6SL3120-1TE22-4AD0
30	16 (20)	–	6SL3120-1TE23-0AC0	6SL3120-1TE23-0AD0
45	24 (30)	–	<b>NEW</b> 6SL3120-1TE24-5AC0	–
60	32 (40)	–	<b>NEW</b> 6SL3120-1TE26-0AC0	–
85	46 (60)	6SL3120-1TE28-5AA3	–	–
132	71 (100)	6SL3120-1TE31-3AA3	–	–
200	107 (150)	6SL3120-1TE32-0AA4	–	–

Description	Article No.
<b>Accessories</b>	
<b>Power connector (X1) with screw-type terminal</b> At Motor Module end, with screw-type terminals 1.5 ... 6 mm <sup>2</sup> For Motor Modules in booksize format C/D types with rated output current of 3 ... 30 A	6SL3162-2MA00-0AC0
<b>Power connector (X1) with push-in connection with snap-in actuators</b> At Motor Module end, with spring-loaded terminals 1.5 ... 6 mm <sup>2</sup> For Motor Modules in booksize format C/D types with rated output current of 3 ... 30 A	6SL3162-2MB00-0AC0
<b>Shield connection plate</b> For Motor Modules in booksize format with a width of <ul style="list-style-type: none"> <li>100 mm (3.94 in) (Motor Modules in booksize format C type 45 A/60 A) <b>NEW</b></li> <li>200 mm (7.87 in)</li> <li>300 mm (11.81 in)</li> </ul>	6SL3162-1AD00-0AA0 6SL3162-1AH01-0AA0 6SL3162-1AH00-0AA0
<b>Shield connection clamp</b> For Motor Modules in booksize format C type with rated output current of 45 A/60 A <ul style="list-style-type: none"> <li>Diameter 3 ... 14 mm (0.12 ... 0.55 in) <b>NEW</b></li> <li>Diameter 20 ... 35 mm (0.79 ... 1.38 in) <b>NEW</b></li> </ul>	8WH9130-0MA00 8WH9130-0PA00
<b>DC link rectifier adapter</b> For direct infeed of DC link voltage <ul style="list-style-type: none"> <li>Screw-type terminals 0.5 ... 10 mm<sup>2</sup> For Motor Modules in booksize format with a width of 50 mm (1.97 in) or 100 mm (3.94 in) <sup>1)</sup></li> <li>Screw-type terminals 35 ... 95 mm<sup>2</sup> For Motor Modules in booksize format with a width of 200 mm or 300 mm (7.87 in and 11.81 in)</li> </ul>	6SL3162-2BD00-0AA0 6SL3162-2BM00-0AA0
<b>DC link adapter</b> (2 units) For multi-tier configuration Screw-type terminals 35 ... 95 mm <sup>2</sup> For all Line Modules and Motor Modules in booksize format	6SL3162-2BM01-0AA0
<b>24 V terminal adapter</b> For all Line Modules and Motor Modules in booksize format	6SL3162-2AA00-0AA0
<b>Reinforced DC link bridge 6 mm (0.24 in)</b> For replacement of the DC link bridge in Single Motor Modules 3 A ... 24 A Double Motor Modules 2 x 3 A ... 2 x 9 A	<b>NEW</b> 6SL3162-2BB00-0AA0

Description	Article No.
<b>Accessories for re-ordering</b>	
<b>24 V jumper</b> For connection of the 24 V busbars (for booksize format)	6SL3162-2AA01-0AA0
<b>Terminal Kit for Motor Modules C/D types, 3 A to 30 A</b> (24 V jumper, plug-in terminals, DRIVE-CLiQ jumper (length = module width + 60 mm (2.36 in)), shield connection clamp with pressure plate, dust protection blanking plugs, coding plug for X1) For Motor Modules with a width of <ul style="list-style-type: none"> <li>50 mm (1.97 in), C/D type</li> <li>100 mm (3.94 in), C/D type</li> </ul>	6SL3162-8AC00-0AA0 6SL3162-8BE00-0AA0
<b>Terminal Kit for Motor Modules 45 A to 200 A</b> (24 V jumper, plug-in terminals, DRIVE-CLiQ jumper (length = module width + 60 mm (2.36 in)), dust protection blanking plugs) For Motor Modules with a width of <ul style="list-style-type: none"> <li>100 mm (3.94 in), C type <b>NEW</b></li> <li>200 mm (7.87 in)</li> <li>300 mm (11.81 in)</li> </ul>	6SL3162-8BG00-0AA0 6SL3162-8DH00-0AA0 6SL3162-8EM00-0AA0
<b>Shield connection clamp</b> For Single Motor Modules in booksize format C/D types with rated output current of 3 A to 30 A	<b>NEW</b> 6SL3162-0AQ00-0AA0
<b>Warning labels in 30 languages</b> This label set can be glued over the standard English or German labels to provide warnings in other languages. One set of labels is supplied with the devices. One sign in each of the following languages is provided in each set: BG, CN, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, JP, KR, LT, LV, MT, NL, NO, PL, PT, RO, RU, SE, SI, SK, TR	6SL3166-3AB00-0AA0
<b>Dust protection blanking plugs</b> (50 units) For DRIVE-CLiQ port	6SL3066-4CA00-0AA0
<b>Replacement fan</b> For Motor Modules with a width of <ul style="list-style-type: none"> <li>50 mm (1.97 in), C/D type (3 A ... 18 A)</li> <li>50 mm (1.97 in), C/D type (24 A)</li> <li>100 mm (3.94 in), C/D type (30 A)</li> <li>100 mm (3.94 in), C type (45 A and 60 A) <b>NEW</b></li> <li>200 mm (7.87 in) (85 A)</li> <li>300 mm (11.81 in) (132 A and 200 A)</li> </ul>	6SL3162-0AN00-0AA0 6SL3162-0AS00-0AA0 6SL3162-0AP00-0AA0 6SL3162-0AT00-0AA0 6SL3162-0AH00-0AA1 6SL3162-0AM00-0AA0

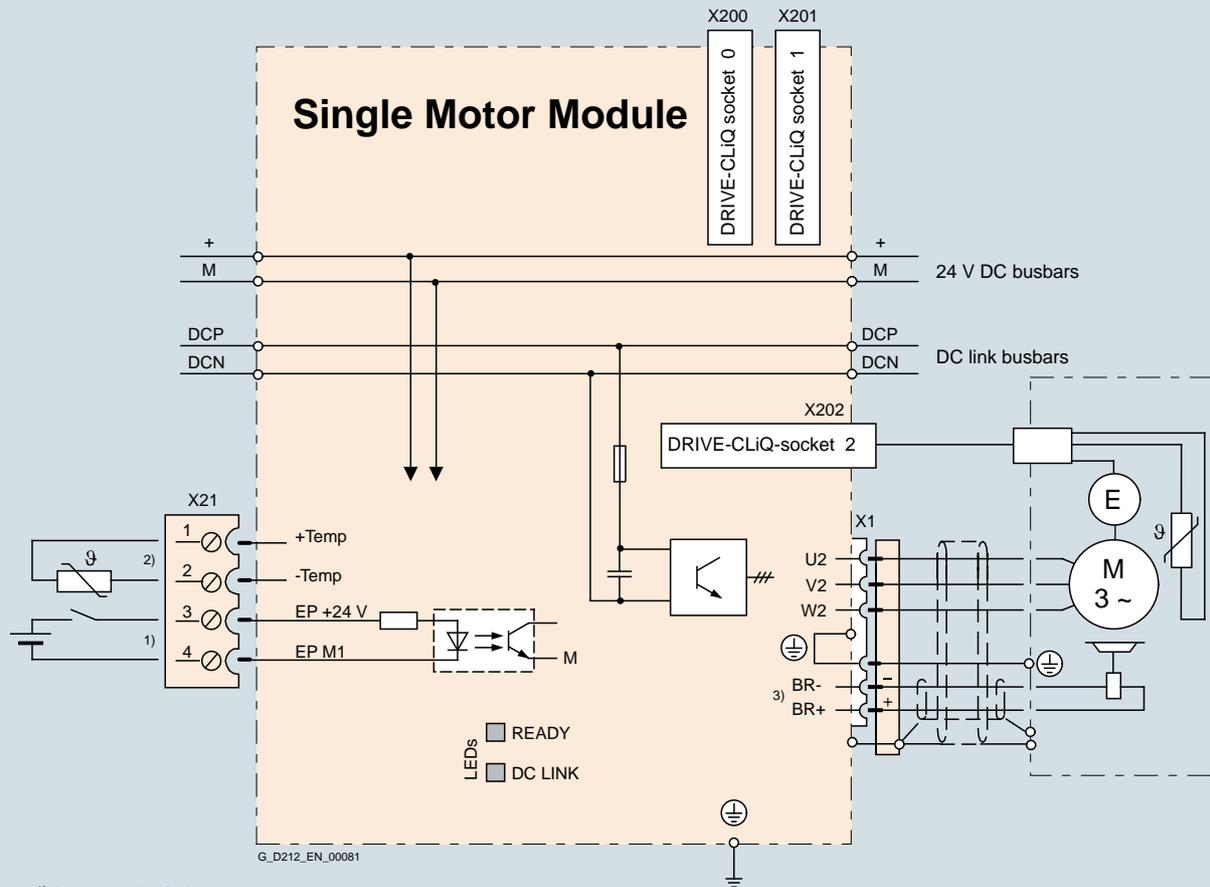
<sup>1)</sup> **NOTICE:** The DC link rectifier adapter must **not** be used for Motor Modules C type, 45 A and 60 A.

<sup>2)</sup> Nominal hp ratings based on asynchronous (induction) motors. Match the motor nameplate current for specific sizing.

#### Integration

The Single Motor Module receives its control information via DRIVE-CLiQ from:

- CU320-2 Control Unit
- SINUMERIK 840D sl with
  - NCU 710.3B PN
  - NCU 720.3B PN
  - NCU 730.3B PN
  - Numeric Control Extensions NX10.3/NX15.3
- SIMOTION D



1) Required for Safety.

2) Temperature sensor terminal for motors without DRIVE-CLiQ interface.

3) The braking signal has an integrated overvoltage protection.  
An external circuit of the holding brake is not necessary.

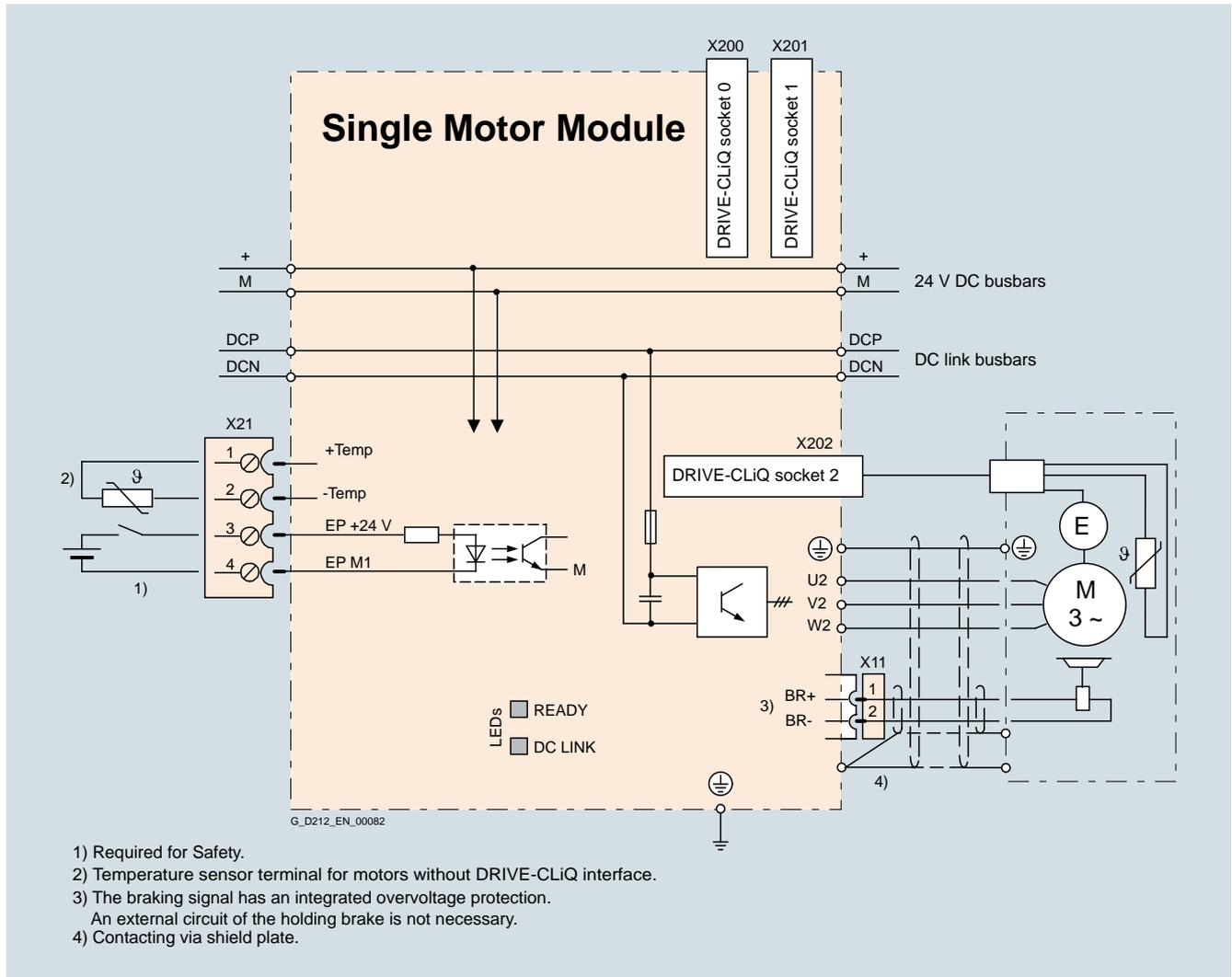
Connection example of Single Motor Modules in booksize format C/D types, 3 A to 30 A

## SINAMICS S120 drive system

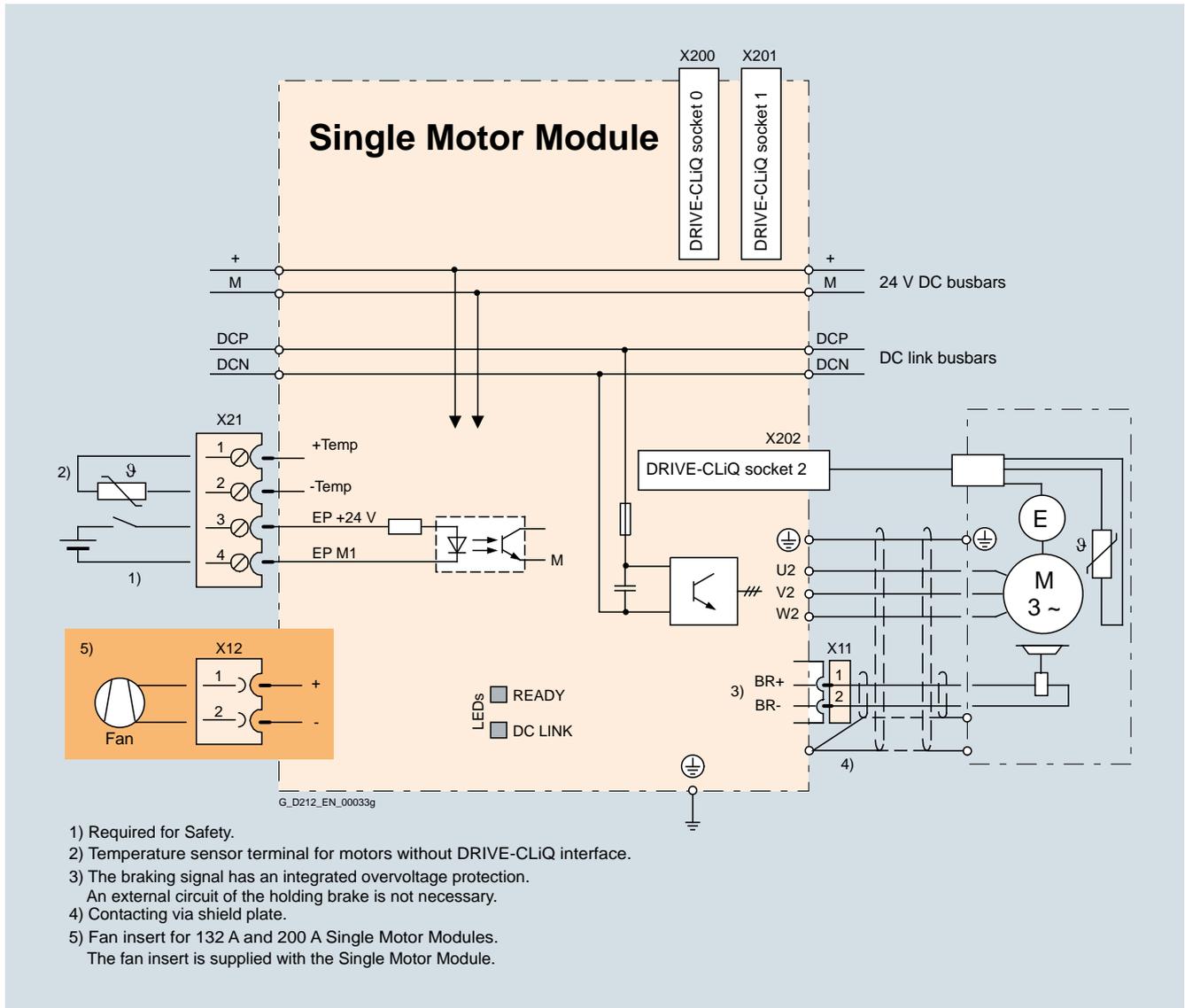
Motor Modules in booksize format

Single Motor Modules in booksize format

Integration (continued)



Connection example of Single Motor Modules in booksize format C type, 45 A and 60 A

**Integration** (continued)


Connection example of Single Motor Modules in booksize format, 85 A to 200 A

## SINAMICS S120 drive system

Motor Modules in booksized format

### Single Motor Modules in booksized format

#### Technical specifications

	Single Motor Module in booksized format 6SL3120-1TE...
<b>DC link voltage</b> (up to 2000 m (6562 ft) above sea level)	510 ... 720 V DC (line voltage 380 ... 480 V 3 AC)
<b>Output frequency</b>	
• Control mode Servo	0 ... 650 Hz <sup>1) 2) 3)</sup>
• Control mode Vector	0 ... 300 Hz <sup>2)</sup>
• Control mode V/f	0 ... 600 Hz <sup>2) 3)</sup>
<b>Electronics power supply</b>	24 V DC -15 %/+20 %
<b>Type of cooling</b>	Internal air cooling (power units with increased air cooling by built-in fan)
<b>Permissible ambient and coolant temperature (air)</b> during operation for line-side components, Line Modules and Motor Modules	0 ... 40 °C (32 ... 104 °F) without derating, >40 ... 55 °C (104 ... 131 °F), <a href="#">see derating characteristics</a>
<b>Installation altitude</b>	Up to 1000 m (3281 ft) above sea level without derating, > 1000 ... 4000 m (3281 ... 13124 ft) above sea level, <a href="#">see derating characteristics</a>
<b>Declarations of conformity</b>	CE (Low Voltage and EMC Directives)
<b>Certificate of suitability</b>	cULus
<b>Safety Integrated</b>	Safety Integrity Level 2 (SIL 2) according to IEC 61508, Performance Level d (PL d) and Category 3 according to EN ISO 13849-1 <a href="#">For further information, see section Safety Integrated.</a>

<sup>1)</sup> At rated output current (max. output frequency 1300 Hz for 62.5 µs current control cycle, 8 kHz pulse frequency, 60 % permissible output current).

<sup>2)</sup> Note the correlation between max. output frequency, pulse frequency and current derating. [For further information, see section Configuration notes.](#)

<sup>3)</sup> The output frequency is currently limited to 550 Hz. The specified values apply to systems with license for high output frequency.  
[For further information, see section Control Units and https://support.industry.siemens.com/cs/document/104020669](https://support.industry.siemens.com/cs/document/104020669)

### Technical specifications (continued)

DC link voltage 510 ... 720 V DC		Single Motor Module in booksize format			
Internal air cooling C type	6SL3120-...	–	–	–	1TE21-8AC0
Internal air cooling D type	6SL3120-...	1TE13-0AD0	1TE15-0AD0	1TE21-0AD0	1TE21-8AD0
<b>Output current</b>					
• Rated current $I_{rated}$	A	<b>3</b>	<b>5</b>	<b>9</b>	<b>18</b>
• Base-load current $I_H$	A	2.6	4.3	7.7	15.3
• For S6 duty (40 %) $I_{S6}$	A	4	6.7	12	24
• $I_{max}$					
- C type	A	–	–	–	36
- D type	A	9	15	27	54
<b>Type rating <sup>1)</sup></b>					
• Based on $I_{rated}$	kW (hp)	1.6 (1.5)	2.7 (3)	4.8 (5)	9.7 (10)
• Based on $I_H$	kW (hp)	1.4 (1)	2.3 (2.5)	4.1 (5)	8.2 (10)
<b>Rated pulse frequency</b>	kHz	4	4	4	4
<b>DC link current <math>I_d</math> <sup>2)</sup></b>	A	3.6	6	11	22
<b>Current carrying capacity</b>					
• DC link busbars	A	100 <sup>3)</sup>	100 <sup>3)</sup>	100 <sup>3)</sup>	100 <sup>3)</sup>
• 24 V DC busbars <sup>4)</sup>	A	20	20	20	20
<b>DC link capacitance</b>	μF	110	110	110	220
<b>Current requirement</b> At 24 V DC, max.	A	0.75	0.75	0.75	0.75
<b>Power loss <sup>5)</sup></b> typ. <sup>6)</sup> /max.	kW	0.03/0.05	0.04/0.07	0.06/0.1	0.14/0.19
<b>Cooling air requirement</b>	m <sup>3</sup> /s (ft <sup>3</sup> /s)	0.009 (0.32)	0.009 (0.32)	0.009 (0.32)	0.009 (0.32)
<b>Sound pressure level</b> $L_{pA}$ (1 m)	dB	<60	<60	<60	<60
<b>Motor connection</b> U2, V2, W2		Plug-in connector (X1) <sup>7)</sup> , 1.5 ... 6 mm <sup>2</sup>	Plug-in connector (X1) <sup>7)</sup> , 1.5 ... 6 mm <sup>2</sup>	Plug-in connector (X1) <sup>7)</sup> , 1.5 ... 6 mm <sup>2</sup>	Plug-in connector (X1) <sup>7)</sup> , 1.5 ... 6 mm <sup>2</sup>
<b>PE connection</b>		M5 screw	M5 screw	M5 screw	M5 screw
<b>Motor brake connection</b>		Integrated into the plug-in motor connector (X1), 24 V DC, 2 A	Integrated into the plug-in motor connector (X1), 24 V DC, 2 A	Integrated into the plug-in motor connector (X1), 24 V DC, 2 A	Integrated into the plug-in motor connector (X1), 24 V DC, 2 A
<b>Motor cable length, max.</b>					
• Shielded	m (ft)	50 (164)	50 (164)	50 (164)	70 (230)
• Unshielded	m (ft)	75 (246)	75 (246)	75 (246)	100 (328)
<b>Degree of protection</b>		IP20	IP20	IP20	IP20
<b>Dimensions</b>					
• Width	mm (in)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)
• Height	mm (in)	380 (14.96)	380 (14.96)	380 (14.96)	380 (14.96)
• Depth	mm (in)	270 (10.63)	270 (10.63)	270 (10.63)	270 (10.63)
<b>Weight, approx.</b>	kg (lb)	4.6 (10.1)	4.6 (10.1)	4.6 (10.1)	4.6 (10.1)

<sup>1)</sup> Rated power of a typical standard asynchronous (induction) motor at 600 V DC link voltage.

<sup>2)</sup> Rated DC link current for dimensioning an external DC connection.

<sup>3)</sup> With reinforced DC link bridges, (Article No. 6SL3162-2BB00-0AA0) 200 A is possible (Accessories).

<sup>4)</sup> If, due to a number of Line Modules and Motor Modules being mounted side by side, the current carrying capacity exceeds 20 A, an additional 24 V DC connection using a 24 V terminal adapter is required (max. cross-section 6 mm<sup>2</sup>, max. fuse protection 20 A).

<sup>5)</sup> Power loss of Motor Module at rated power including losses of 24 V DC electronics power supply.

<sup>6)</sup> At max. motor cable length 30 m (98.43 ft), pulse frequency 4 kHz and DC link voltage 540 ... 600 V.

<sup>7)</sup> Connector not included in scope of delivery, see [Accessories](#).

## SINAMICS S120 drive system

### Motor Modules in booksize format

#### Single Motor Modules in booksize format

#### Technical specifications (continued)

DC link voltage 510 ... 720 V DC		Single Motor Module in booksize format			
Internal air cooling C type	6SL3120-...	1TE22-4AC0	1TE23-0AC0	1TE24-5AC0	1TE26-0AC0
Internal air cooling D type	6SL3120-...	1TE22-4AD0	1TE23-0AD0	–	–
<b>Output current</b>					
• Rated current $I_{rated}$	A	<b>24</b>	<b>30</b>	<b>45</b>	<b>60</b>
• Base-load current $I_H$	A	20.4	25.5	38	51
• For S6 duty (40 %) $I_{S6}$	A	32	40	60	80
• $I_{max}$					
- C type	A	48	56	90 <sup>8)</sup>	120 <sup>8)</sup>
- D type	A	72	90	–	–
<b>Type rating<sup>1)</sup></b>					
• Based on $I_{rated}$	kW (hp)	12.9 (15)	16 (20)	24 (30)	32 (40)
• Based on $I_H$	kW (hp)	10.9 (15)	13.7 (18)	21 (25)	28 (40)
<b>Rated pulse frequency</b>	kHz	4	4	4	4
<b>DC link current <math>I_d</math><sup>2)</sup></b>	A	29	36	54	72
<b>Current carrying capacity</b>					
• DC link busbars	A	100 <sup>3)</sup>	200	200	200
• 24 V DC busbars <sup>4)</sup>	A	20	20	20	20
<b>DC link capacitance</b>	μF	390	705	1230	1410
<b>Current requirement</b> At 24 V DC, max.	A	1.0	0.8	0.9	0.9
<b>Power loss<sup>5)</sup></b> typ. <sup>6)/max.</sup>	kW	0.19/0.20	0.26/0.31	0.34/0.36	0.46/0.48
<b>Cooling air requirement</b>	m <sup>3</sup> /s (ft <sup>3</sup> /s)	0.0147 (0.52)	0.0155 (0.55)	0.0233 (0.82)	0.0233 (0.82)
<b>Sound pressure level</b> $L_{pA}$ (1 m)	dB	<68	<60	<71	<71
<b>Motor connection</b> U2, V2, W2		Plug-in connector (X1) <sup>7)</sup> , 1.5 ... 6 mm <sup>2</sup>	Plug-in connector (X1) <sup>7)</sup> , 1.5 ... 6 mm <sup>2</sup>	M6 screw studs (X1)	M6 screw studs (X1)
<b>Shield connection</b>		At the shield connection plate of the Motor Modules	At the shield connection plate of the Motor Modules	<a href="#">See Accessories</a>	<a href="#">See Accessories</a>
<b>PE connection</b>		M5 screw	M5 screw	M5 screw	M5 screw
<b>Motor brake connection</b>		Integrated into the plug-in motor connector (X1), 24 V DC, 2 A	Integrated into the plug-in motor connector (X1), 24 V DC, 2 A	Plug-in connector (X11), 24 V DC, 2 A	Plug-in connector (X11), 24 V DC, 2 A
<b>Motor cable length, max.</b>					
• Shielded	m (ft)	50 (164)	100 (328)	100 (328)	100 (328)
• Unshielded	m (ft)	75 (246)	150 (492)	150 (492)	150 (492)
<b>Degree of protection</b>		IP20	IP20	IP20	IP20
<b>Dimensions</b>					
• Width	mm (in)	50 (1.97)	100 (3.94)	100 (3.94)	100 (3.94)
• Height	mm (in)	380 (14.96)	380 (14.96)	380 (14.96)	380 (14.96)
• Depth	mm (in)	270 (10.63)	270 (10.63)	270 (10.63)	270 (10.63)
<b>Weight, approx.</b>	kg (lb)	4.7 (10.4)	7.9 (17.4)	8.5 (18.7)	8.6 (19)

<sup>1)</sup> Rated power of a typical standard asynchronous (induction) motor at 600 V DC link voltage.

<sup>2)</sup> Rated DC link current for dimensioning an external DC connection.

<sup>3)</sup> With reinforced DC link bridges, (Article No. 6SL3162-2BB00-0AA0) 200 A is possible (Accessories).

<sup>4)</sup> If, due to a number of Line Modules and Motor Modules being mounted side by side, the current carrying capacity exceeds 20 A, an additional 24 V DC connection using a 24 V terminal adapter is required (max. cross-section 6 mm<sup>2</sup>, max. fuse protection 20 A).

<sup>5)</sup> Power loss of Motor Module at rated power including losses of 24 V DC electronics power supply.

<sup>6)</sup> At max. motor cable length 30 m (98.43 ft), pulse frequency 4 kHz and DC link voltage 540 ... 600 V.

<sup>7)</sup> Connector not included in scope of delivery, [see Accessories](#).

<sup>8)</sup> The specified values are valid as from firmware V4.8.

### Technical specifications (continued)

DC link voltage 510 ... 720 V DC		Single Motor Module in booksize format		
Internal air cooling	6SL3120-...	1TE28-5AA3	1TE31-3AA3	1TE32-0AA4
<b>Output current</b>				
• Rated current $I_{rated}$	A	<b>85</b>	<b>132</b>	<b>200</b>
• Base-load current $I_H$	A	68	105	141
• For S6 duty (40 %) $I_{S6}$	A	110	150	230
• $I_{max}$	A	141	210	282
<b>Type rating <sup>1)</sup></b>				
• Based on $I_{rated}$	kW (hp)	46 (60)	71 (100)	107 (150)
• Based on $I_H$	kW (hp)	37 (50)	57 (75)	76 (100)
<b>Rated pulse frequency</b>	kHz	4	4	4
<b>DC link current <math>I_d</math> <sup>2)</sup></b>	A	102	158	200
<b>Current carrying capacity</b>				
• DC link busbars	A	200	200	200
• 24 V DC busbars <sup>3)</sup>	A	20	20	20
<b>DC link capacitance</b>	μF	1880	2820	3995
<b>Current requirement</b> At 24 V DC, max.	A	1.5	1.5	1.5
<b>Power loss <sup>4)</sup></b> typ. <sup>5)</sup> /max.	kW	0.77/0.79	1.26/1.29	2.03/2.09
<b>Cooling air requirement</b>	m <sup>3</sup> /s (ft <sup>3</sup> /s)	0.044 (1.6)	0.144 (5.1)	0.144 (5.1)
<b>Sound pressure level</b> $L_{pA}$ (1 m)	dB	<60	<73	<73
<b>Motor connection</b> U2, V2, W2				
• Conductor cross-section, max.	mm <sup>2</sup>	2.5 ... 95, 2 × 35	2.5 ... 120, 2 × 50	2.5 ... 120, 2 × 50
<b>Shield connection</b>		<a href="#">See Accessories</a>	<a href="#">See Accessories</a>	<a href="#">See Accessories</a>
<b>PE connection</b>		M6 screw	M8 screw	M8 screw
<b>Motor brake connection</b>		Plug-in connector (X11), 24 V DC, 2 A	Plug-in connector (X11), 24 V DC, 2 A	Plug-in connector (X11), 24 V DC, 2 A
<b>Motor cable length, max.</b>				
• Shielded	m (ft)	100 (328)	100 (328)	100 (328)
• Unshielded	m (ft)	150 (492)	150 (492)	150 (492)
<b>Degree of protection</b>		IP20	IP20	IP20
<b>Dimensions</b>				
• Width	mm (in)	200 (7.87)	300 (11.81)	300 (11.81)
• Height	mm (in)	380 (14.96)	380 (14.96)	380 (14.96)
• - With fan <sup>6)</sup>	mm (in)	–	629 (24.76)	629 (24.76)
• Depth	mm (in)	270 (10.63)	270 (10.63)	270 (10.63)
<b>Weight, approx.</b>	kg (lb)	14.8 (32.6)	21 (46.3)	21 (46.3)

<sup>1)</sup> Rated power of a typical standard asynchronous (induction) motor at 600 V DC link voltage.

<sup>2)</sup> Rated DC link current for dimensioning an external DC connection.

<sup>3)</sup> If, due to a number of Line Modules and Motor Modules being mounted side-by-side, the current carrying capacity exceeds 20 A, an additional 24 V DC connection using a 24 V terminal adapter is required (max. cross-section 6 mm<sup>2</sup>, max. fuse protection 20 A).

<sup>4)</sup> Power loss of Motor Module at rated power including losses of 24 V DC electronics power supply.

<sup>5)</sup> At max. motor cable length 30 m (98.43 ft), pulse frequency 4 kHz and DC link voltage 540 ... 600 V.

<sup>6)</sup> The fan is supplied with the Motor Module and must be installed before the Motor Module is commissioned.

# SINAMICS S120 drive system

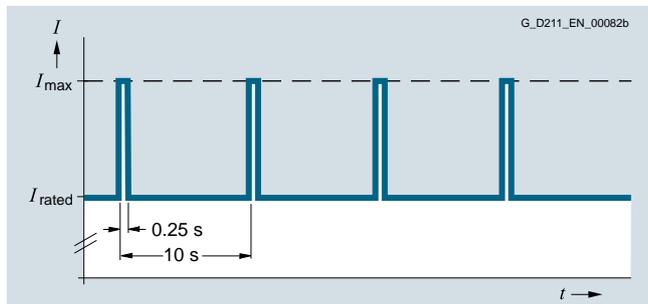
Motor Modules in booksize format

## Single Motor Modules in booksize format

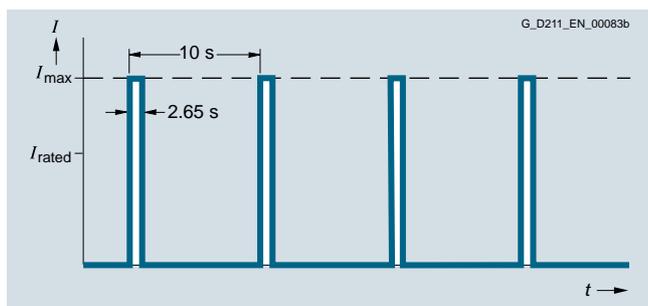
### Characteristic curves

#### Overload capability

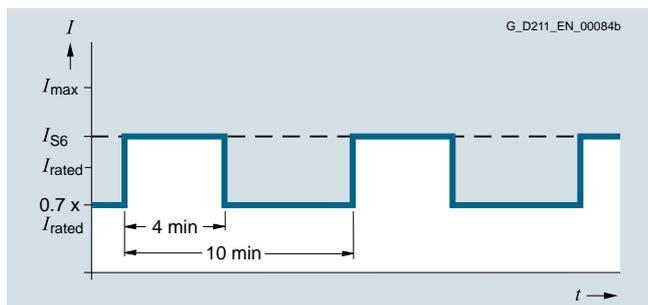
Motor Modules in booksize format C type 3 A to 60 A and booksize format 85 A to 200 A



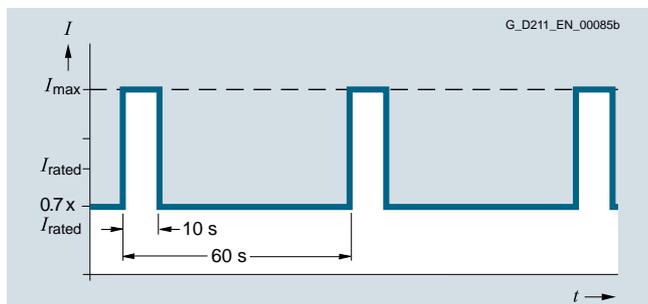
Duty cycle with previous load



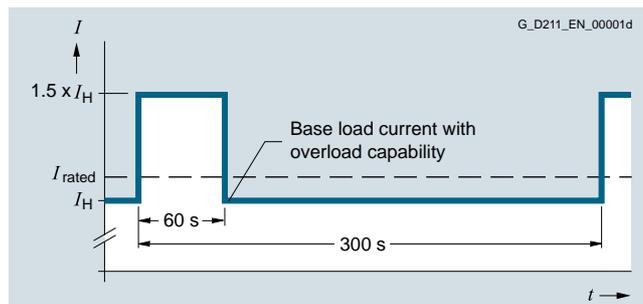
Duty cycle without previous load



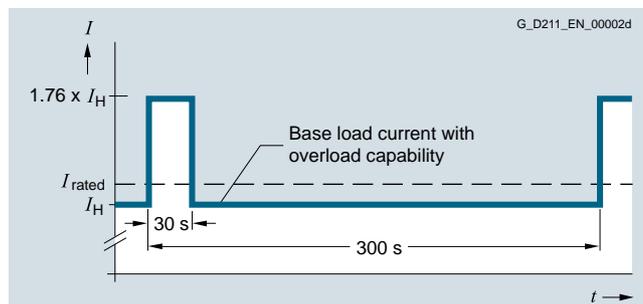
S6 duty cycle with previous load with a duty cycle duration of 600 s



S6 duty cycle with previous load with a duty cycle duration of 60 s



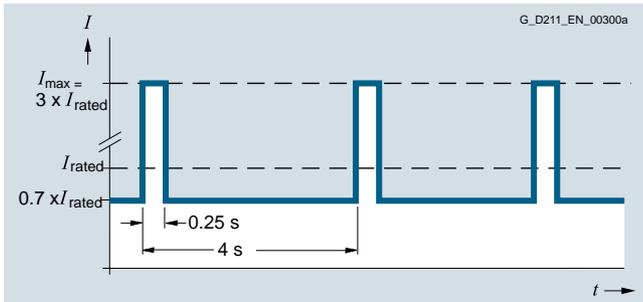
Duty cycle with 60 s overload with a duty cycle duration of 300 s



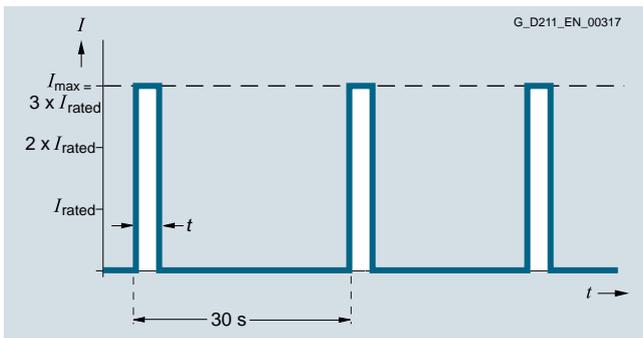
Duty cycle with 30 s overload with a duty cycle duration of 300 s

**Characteristic curves (continued)**

Motor Modules in booksize format D type, 3 A to 30 A



Peak current duty cycle with previous load (300 % overload)

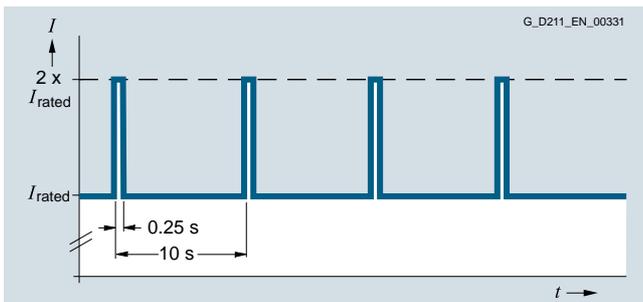


Peak current duty cycle without previous load (300 % overload)

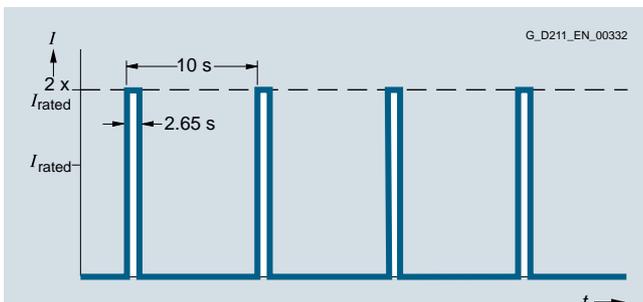
Single Motor Module	Time t at I <sub>max</sub>
3 A	0.5 s
5 A	0.5 s
9 A	0.5 s
18 A	1.25 s
24 A	1.25 s
30 A	3 s

**Note:**

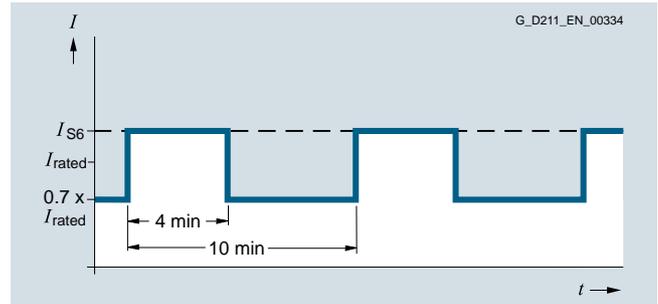
The duty cycle shown above is not permissible for a pulse frequency of 16 kHz. The current must be derated for a pulse frequency of 8 kHz.



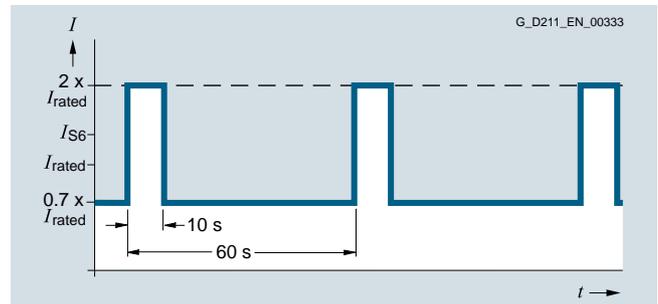
Duty cycle with previous load



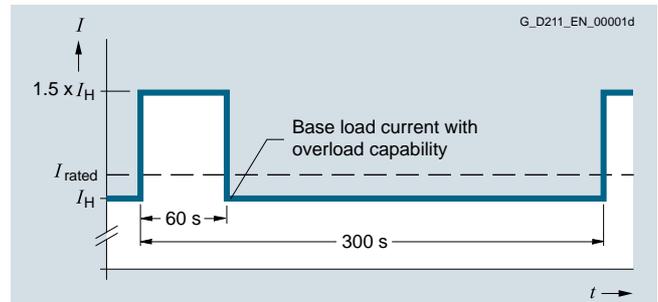
Duty cycle without previous load



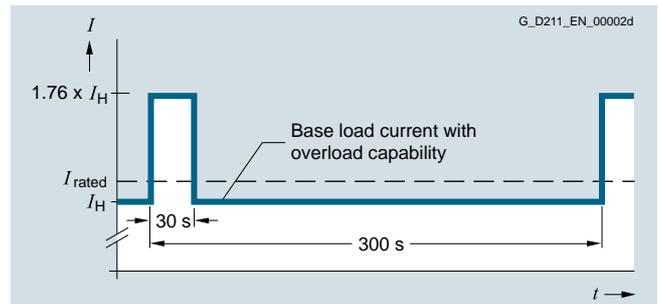
S6 duty cycle with previous load with a duty cycle duration of 600 s



S6 duty cycle with previous load with a duty cycle duration of 60 s



Duty cycle with 60 s overload with a duty cycle duration of 300 s



Duty cycle with 30 s overload with a duty cycle duration of 300 s

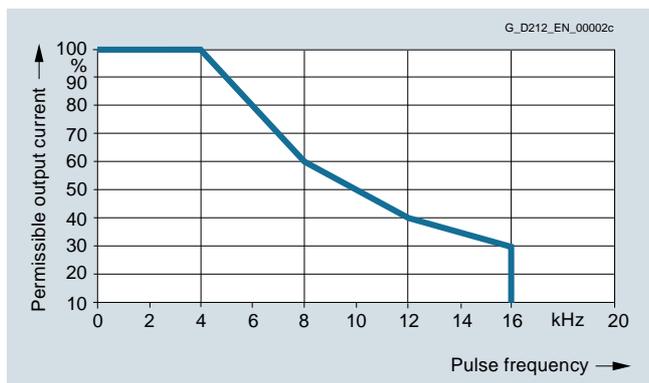
# SINAMICS S120 drive system

## Motor Modules in booksize format

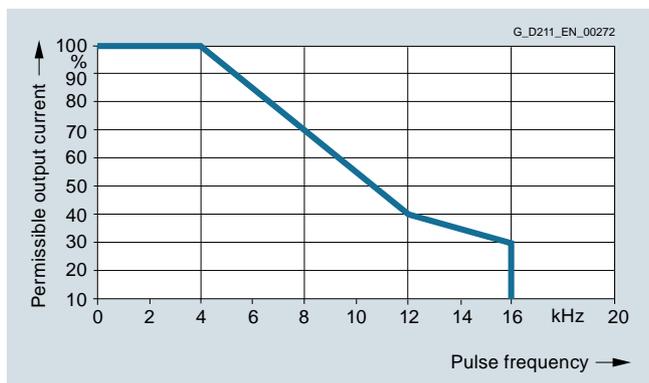
### Single Motor Modules in booksize format

#### Characteristic curves (continued)

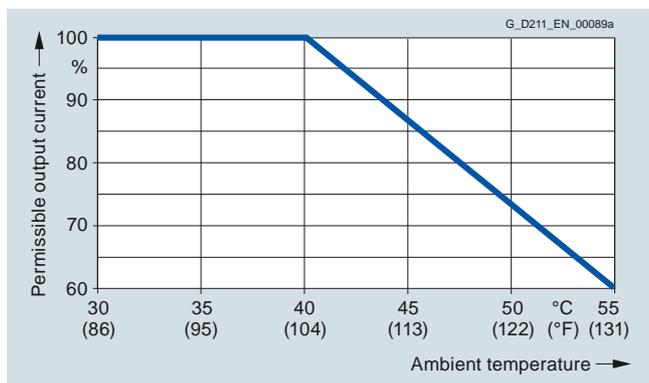
##### Derating characteristics



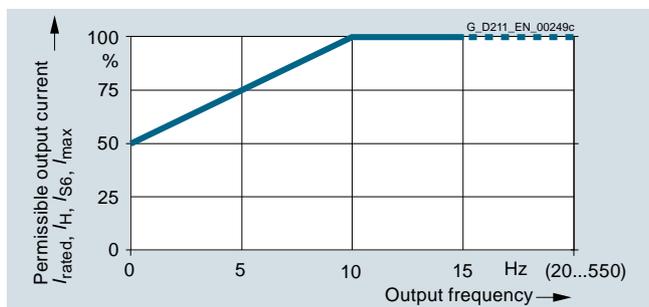
Output current as a function of pulse frequency (Single Motor Modules, 3 A to 132 A)



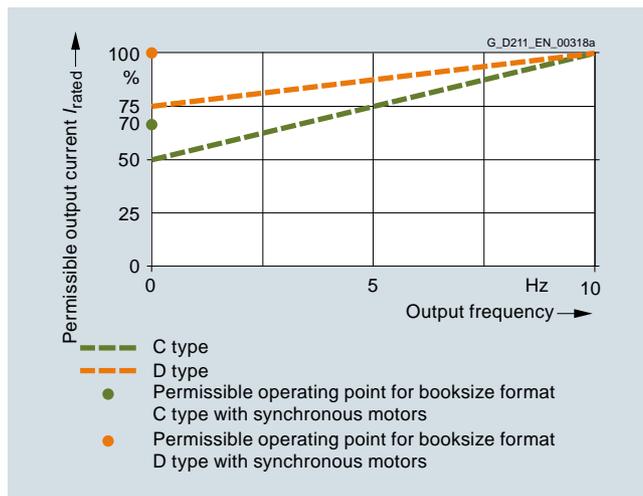
Output current as a function of pulse frequency (Single Motor Modules, 200 A)



Output current as a function of ambient temperature



Output current as a function of output frequency (Single Motor Modules in booksize format, 85 A to 200 A)



Output current at low output frequencies (Single Motor Modules in booksize format C/D types, 3 A to 60 A)

##### Installation altitude

- >1000 ... 4000 m (3281 ... 13124 ft) above sea level
  - Reduction of the output current by 10 % per 1000 m (3281 ft), or
  - Reduction of the ambient temperature by 5 °C (9 °F) per 1000 m (3281 ft)
- >2000 ... 4000 m (6562 ... 13124 ft) above sea level
  - Operation on line supply systems with grounded neutral point, or
  - Operation with an isolating transformer with secondary grounded neutral point

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## SINAMICS S120 drive system

### Motor Modules in booksize format

#### Double Motor Modules in booksize format

#### Design



Double Motor Module in booksize format C/D type

Double Motor Modules feature the following connections and interfaces as standard:

- 2 DC link connections via integrated DC link busbars
- 2 electronics power supply connections via integrated 24 V DC busbars
- 4 DRIVE-CLiQ sockets
- 2 motor connections via connectors X1 and X2 (not included in the scope of delivery)
- 2 Safe Stop inputs (1 input per axis)
- 2 safe motor brake controls
- 2 temperature sensor inputs for KTY84-130, Pt1000 or PTC (Pt1000 can be used from firmware V4.7 HF17)
- 1 PE (protective earth) connection

The status of the Motor Modules is indicated via two multi-color LEDs.

The Motor Modules are supplied with a mounted shield connection plate. The associated shield connection clamp can be found in the Terminal Kit supplied.

#### Motor Modules in booksize format C/D types, 2 x 3 A to 2 x 18 A

Rated current	3 A	5 A	9 A	18 A	24 A	30 A	45 A	60 A
	<b>D types</b>							
Single Motor Modules	3 A / 9 A 50 mm (1.97 in)	5 A / 15 A 50 mm (1.97 in)	9 A / 27 A 50 mm (1.97 in)	18 A / 54 A 50 mm (1.97 in)	24 A / 72 A 50 mm (1.97 in)	30 A / 90 A 100 mm (3.94 in)	–	–
Double Motor Modules	2 x 3 A / 2 x 9 A 50 mm (1.97 in)	2 x 5 A / 2 x 15 A 50 mm (1.97 in)	2 x 9 A / 2 x 27 A 50 mm (1.97 in)	2 x 18 A / 2 x 54 A 100 mm (3.94 in)	–	–	–	–
	<b>C types</b>							
Single Motor Modules			18 A / 36 A 50 mm (1.97 in)	24 A / 48 A 50 mm (1.97 in)	30 A / 56 A 100 mm (3.94 in)	45 A / 90 A 100 mm (3.94 in)	60 A / 120 A 100 mm (3.94 in)	
Double Motor Module			2 x 18 A / 2 x 36 A 100 mm (3.94 in)	–	–	–	–	
<b>Rated current / maximum current in A</b> 50 mm (1.97 in) or 100 mm (3.94 in) widths								

G\_PM21\_EN\_00267a

Overview of available Double Motor Modules in booksize format C/D types

- C type: Optimized for continuous load with up to 200 % overload (continuous motion)
- D type: Optimized for highly dynamic, intermittent duty cycles with up to 300 % overload (discontinuous motion)

## SINAMICS S120 drive system

### Motor Modules in booksize format

#### Double Motor Modules in booksize format

##### Design (continued)

Devices in booksize format C/D types are optimized for multi-axis applications and are mounted next to one another. The connection for the common DC link is an integral feature. The device is internally air cooled.

The Motor Modules in booksize format C/D types have been developed to be fully compatible with the booksize series regarding spare parts and offer the following advantages:

- The amount of space required beneath the Motor Modules has been reduced thanks to improvements in the design and a new motor plug connector
- With the new motor plug connector design, the brake conductors and the PE connection are integrated directly in the plug connector
- The motor connections on the Double Motor Module are located side by side, resulting in a significantly improved level of accessibility
- The fan can be simply replaced without having to remove the Motor Module
- The Double Motor Module 2 x 18 A is available with double and treble overload

The signal cable shield can be connected to the Motor Module by means of a shield connection clamp, e.g. Weidmüller type KLBUE 3-8 SC.

The scope of delivery of the Motor Modules includes:

- DRIVE-CLiQ cable appropriate to the width of the Motor Module for connection to the adjacent Motor Module, length = width of Motor Module + 0.06 m (0.20 ft)
- 2 blanking plugs for sealing unused DRIVE-CLiQ sockets
- Jumper for connecting the 24 V DC busbar to the adjacent Motor Module
- Connectors X21 and X22
- Device fans supplied from the internal voltage levels for cooling the power unit
- 1 shield connection plate with shield connection clamp
- 1 set of warning labels in 30 languages

#### Selection and ordering data

Rated output current	Type rating <sup>1)</sup>	Double Motor Module in booksize format	
		C type	D type
A	kW (hp)	Article No.	Article No.
<b>DC link voltage 510 ... 720 V DC</b>			
2 × 3	2 × 1.6 (2 × 1.5)	–	<b>6SL3120-2TE13-0AD0</b>
2 × 5	2 × 2.7 (2 × 3)	–	<b>6SL3120-2TE15-0AD0</b>
2 × 9	2 × 4.8 (2 × 5)	–	<b>6SL3120-2TE21-0AD0</b>
2 × 18	2 × 9.7 (2 × 10)	<b>6SL3120-2TE21-8AC0</b>	<b>6SL3120-2TE21-8AD0</b>

Description	Article No.
<b>Accessories</b>	
<b>Power connector (X1/X2) with screw-type terminal</b> At Motor Module end, with screw-type terminals 1.5 ... 6 mm <sup>2</sup> For Motor Modules in booksize format C/D types with rated output current of 3 ... 30 A	<b>6SL3162-2MA00-0AC0</b>
<b>Power connector (X1/X2) with push-in connection with snap-in actuators</b> At Motor Module end, with spring-loaded terminals 1.5 ... 6 mm <sup>2</sup> For Motor Modules in booksize format C/D types with rated output current of 3 ... 30 A	<b>6SL3162-2MB00-0AC0</b>
<b>DC link rectifier adapter</b> For direct infeed of DC link voltage Screw-type terminals 0.5 ... 10 mm <sup>2</sup> For Motor Modules in booksize format with a width of 50 mm (1.97 in) or 100 mm (3.94 in)	<b>6SL3162-2BD00-0AA0</b>
<b>DC link adapter</b> (2 units) For multi-tier configuration Screw-type terminals 35 ... 95 mm <sup>2</sup> For all Line Modules and Motor Modules in booksize format	<b>6SL3162-2BM01-0AA0</b>
<b>24 V terminal adapter</b> For all Line Modules and Motor Modules in booksize format	<b>6SL3162-2AA00-0AA0</b>
<b>Reinforced DC link bridge 6 mm (0.24 in)</b> <b>NEW</b> For replacement of the DC link bridge in Single Motor Modules 3 A ... 24 A Double Motor Modules 2 × 3 A ... 2 × 9 A	<b>6SL3162-2BB00-0AA0</b>

Description	Article No.
<b>Accessories for re-ordering</b>	
<b>24 V jumper</b> For connection of the 24 V busbars (for booksize format)	<b>6SL3162-2AA01-0AA0</b>
<b>Terminal Kit</b> (24 V jumper, plug-in terminals, DRIVE-CLiQ jumper (length = module width + 60 mm (2.36 in)), shield connection clamp with pressure plate, dust protection blanking plugs, coding plug for X1 and X2) For Motor Modules with a width of <ul style="list-style-type: none"> <li>• 50 mm (1.97 in), C/D type</li> <li>• 100 mm (3.94 in), C/D type</li> </ul>	<b>6SL3162-8AD00-0AA0</b> <b>6SL3162-8BF00-0AA0</b>
<b>Shield connection clamp</b> <b>NEW</b> For Double Motor Modules in booksize format C/D types	<b>6SL3162-0AR00-0AA0</b>
<b>Warning labels in 30 languages</b> This label set can be glued over the standard English or German labels to provide warnings in other languages. One set of labels is supplied with the devices. One sign in each of the following languages is provided in each set: BG, CN, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, JP, KR, LT, LV, MT, NL, NO, PL, PT, RO, RU, SE, SI, SK, TR	<b>6SL3166-3AB00-0AA0</b>
<b>Dust protection blanking plugs</b> (50 units) For DRIVE-CLiQ port	<b>6SL3066-4CA00-0AA0</b>
<b>Replacement fan</b> For Motor Modules with a width of <ul style="list-style-type: none"> <li>• 50 mm (1.97 in), C/D type</li> <li>• 100 mm (3.94 in), C/D type</li> </ul>	<b>6SL3162-0AN00-0AA0</b> <b>6SL3162-0AP00-0AA0</b>

<sup>1)</sup> Nominal hp ratings based on asynchronous (induction) motors.  
Match the motor nameplate current for specific sizing.

## SINAMICS S120 drive system

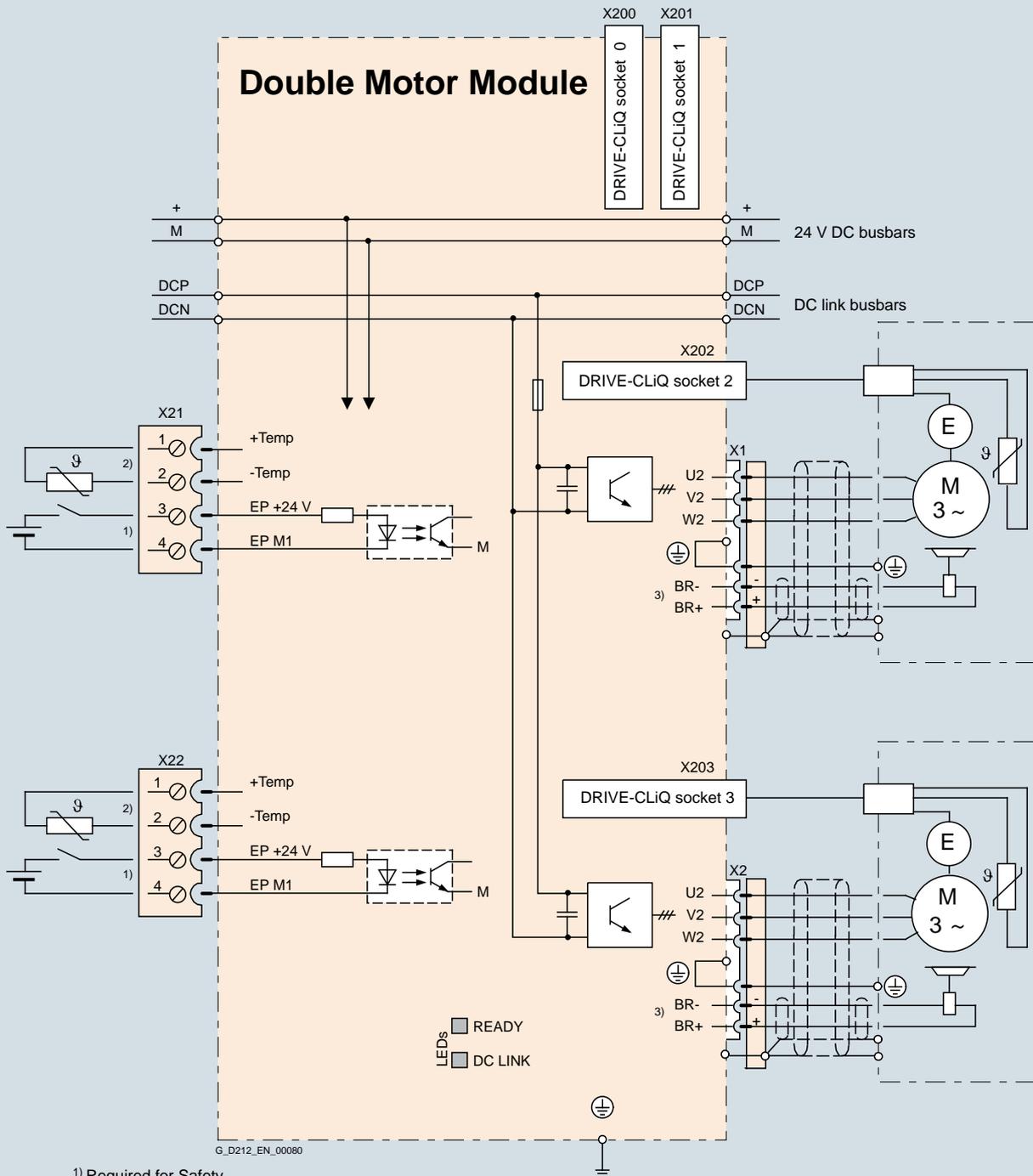
Motor Modules in booksize format

### Double Motor Modules in booksize format

#### Integration

The Double Motor Module receives its control information via DRIVE-CLiQ from:

- CU320-2 Control Unit
- SINUMERIK 840D sl with
  - NCU 710.3B PN
  - NCU 720.3B PN
  - NCU 730.3B PN
  - Numeric Control Extensions NX10.3/NX15.3
- SIMOTION D



<sup>1)</sup> Required for Safety.

<sup>2)</sup> Temperature sensor terminal for motors without DRIVE-CLiQ interface.

<sup>3)</sup> The braking signal has an integrated overvoltage protection.  
An external circuit of the holding brake is not necessary.

Connection example of Double Motor Modules in booksize format C/D types, 2 × 3 A to 2 × 18 A

#### Technical specifications

	Double Motor Module in booksize format 6SL3120-2TE...
<b>DC link voltage</b> (up to 2000 m (6562 ft) above sea level)	510 ... 720 V DC (line voltage 380 ... 480 V 3 AC)
<b>Output frequency</b>	
• Control mode Servo	0 ... 650 Hz <sup>1) 2) 3)</sup>
• Control mode Vector	0 ... 300 Hz <sup>2)</sup>
• Control mode V/f	0 ... 600 Hz <sup>2) 3)</sup>
<b>Electronics power supply</b>	24 V DC -15 %/+20 %
<b>Type of cooling</b>	Internal air cooling (power units with increased air cooling by built-in fan)
<b>Permissible ambient and coolant temperature (air)</b> during operation for line-side components, Line Modules and Motor Modules	0 ... 40 °C (32 ... 104 °F) without derating, >40 ... 55 °C (104 ... 131 °F), <a href="#">see derating characteristics</a>
<b>Installation altitude</b>	Up to 1000 m (3281 ft) above sea level without derating, > 1000 ... 4000 m (3281 ... 13124 ft) above sea level, <a href="#">see derating characteristics</a>
<b>Declarations of conformity</b>	CE (Low Voltage and EMC Directives)
<b>Certificate of suitability</b>	cULus
<b>Safety Integrated</b>	Safety Integrity Level 2 (SIL 2) according to IEC 61508, Performance Level d (PL d) and Category 3 according to EN ISO 13849-1 <a href="#">For further information, see section Safety Integrated.</a>

<sup>1)</sup> At rated output current (max. output frequency 1300 Hz for 62.5 µs current control cycle, 8 kHz pulse frequency, 60 % permissible output current).

<sup>2)</sup> Note the correlation between max. output frequency, pulse frequency and current derating. [For further information, see section Configuration notes.](#)

<sup>3)</sup> The output frequency is currently limited to 550 Hz. The specified values apply to systems with license for high output frequency.  
[For further information, see section Control Units and https://support.industry.siemens.com/cs/document/104020669](#)

# SINAMICS S120 drive system

## Motor Modules in booksize format

### Double Motor Modules in booksize format

#### Technical specifications (continued)

DC link voltage 510 ... 720 V DC		Double Motor Module in booksize format			
Internal air cooling C type	6SL3120-...	–	–	–	2TE21-8AC0
Internal air cooling D type	6SL3120-...	2TE13-0AD0	2TE15-0AD0	2TE21-0AD0	2TE21-8AD0
<b>Output current</b>					
• Rated current $I_{rated}$	A	2 × 3	2 × 5	2 × 9	2 × 18
• For S6 duty (40 %) $I_{S6}$					
- C type	A	–	–	–	2 × 24
- D type	A	2 × 4	2 × 6.7	2 × 12	2 × 24
• Base-load current $I_H$	A	2 × 2.6	2 × 4.3	2 × 7.7	2 × 15.3
• $I_{max}$					
- C type	A	–	–	–	2 × 36
- D type	A	2 × 9	2 × 15	2 × 27	2 × 54
<b>Type rating <sup>1)</sup></b>					
• Based on $I_{rated}$	kW (hp)	2 × 1.6 (1.5)	2 × 2.7 (3)	2 × 4.8 (5)	2 × 9.7 (10)
• Based on $I_H$	kW (hp)	2 × 1.4 (1)	2 × 2.3 (2.5)	2 × 4.1 (5)	2 × 8.2 (10)
DC link current $I_d^{2)}$	A	7.2	12	22	43
<b>Current carrying capacity</b>					
• DC link busbars	A	100	100	100	100
• 24 V DC busbars <sup>3)</sup>	A	20	20	20	20
DC link capacitance	μF	220	220	220	705
Current requirement At 24 V DC, max.	A	0.9	0.9	0.9	1.1
Power loss <sup>4)</sup> typ. <sup>5)</sup> /max.	kW	0.05/0.1	0.08/0.13	0.15/0.19	0.28/0.35
Cooling air requirement	m <sup>3</sup> /s (ft <sup>3</sup> /s)	0.009 (0.32)	0.009 (0.32)	0.009 (0.32)	0.0155 (0.55)
Sound pressure level $L_{pA}$ (1 m)	dB	<60	<60	<60	<60
Motor connection U2, V2, W2		2 × plug-in connector (X1, X2) <sup>6)</sup> , 2 × (1.5 ... 6 mm <sup>2</sup> )	2 × plug-in connector (X1, X2) <sup>6)</sup> , 2 × (1.5 ... 6 mm <sup>2</sup> )	2 × plug-in connector (X1, X2) <sup>6)</sup> , 2 × (1.5 ... 6 mm <sup>2</sup> )	2 × plug-in connector (X1, X2) <sup>6)</sup> , 2 × (1.5 ... 6 mm <sup>2</sup> )
PE connection		M5 screw	M5 screw	M5 screw	M5 screw
Motor brake connection		Integrated into the plug-in motor connector (X1, X2), 24 V DC, 2 A	Integrated into the plug-in motor connector (X1, X2), 24 V DC, 2 A	Integrated into the plug-in motor connector (X1, X2), 24 V DC, 2 A	Integrated into the plug-in motor connector (X1, X2), 24 V DC, 2 A
<b>Motor cable length, max.</b>					
• Shielded	m (ft)	50 (164)	50 (164)	50 (164)	70 (230)
• Unshielded	m (ft)	75 (246)	75 (246)	75 (246)	100 (328)
Degree of protection		IP20	IP20	IP20	IP20
<b>Dimensions</b>					
• Width	mm (in)	50 (1.97)	50 (1.97)	50 (1.97)	100 (3.94)
• Height	mm (in)	380 (14.96)	380 (14.96)	380 (14.96)	380 (14.96)
• Depth	mm (in)	270 (10.63)	270 (10.63)	270 (10.63)	270 (10.63)
Weight, approx.	kg (lb)	4.7 (10.4)	4.7 (10.4)	4.7 (10.4)	7.7 (17.0)

<sup>1)</sup> Rated power of a typical standard asynchronous (induction) motor at 600 V DC link voltage.

<sup>2)</sup> Rated DC link current for dimensioning an external DC connection. For DC link current calculation for dimensioning the Line Module, see section Configuration notes.

<sup>3)</sup> If, due to a number of Line Modules and Motor Modules being mounted side-by-side, the current carrying capacity exceeds 20 A, an additional 24 V DC connection using a 24 V terminal adapter is required (max. cross-section 6 mm<sup>2</sup>, max. fuse protection 20 A).

<sup>4)</sup> Power loss of Motor Module at rated power including losses of 24 V DC electronics power supply.

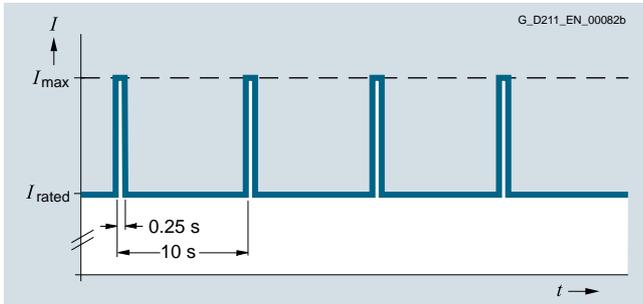
<sup>5)</sup> At max. motor cable length 30 m (98.43 ft), pulse frequency 4 kHz and DC link voltage 540 ... 600 V.

<sup>6)</sup> Connector not included in scope of delivery, see Accessories.

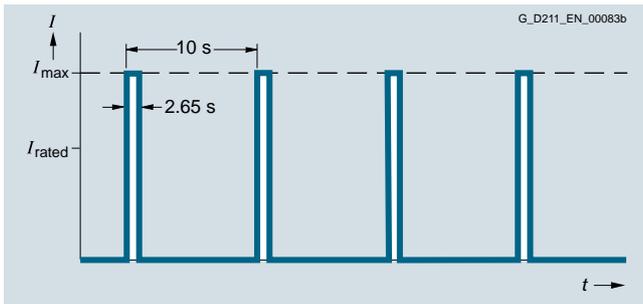
**Characteristic curves**

**Overload capability**

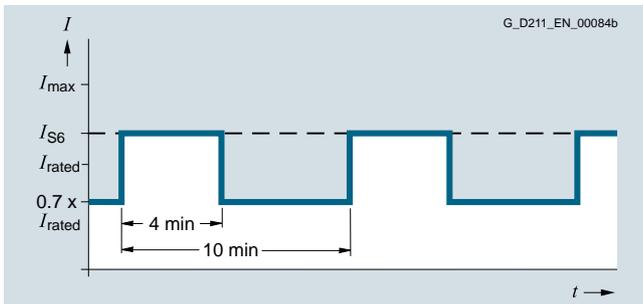
Motor Modules in booksize format C type



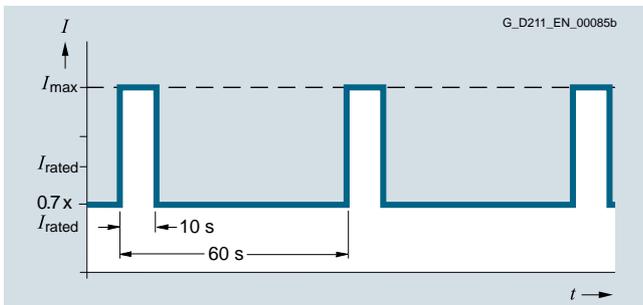
Duty cycle with previous load



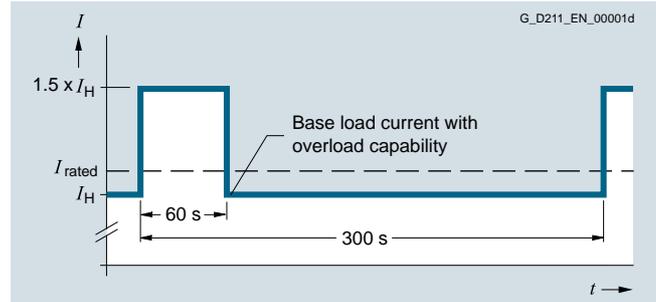
Duty cycle without previous load



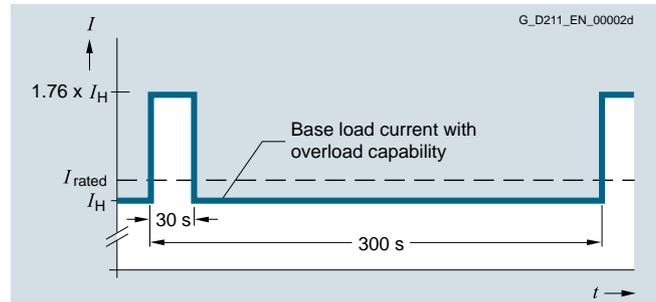
S6 duty cycle with previous load with a duty cycle duration of 600 s



S6 duty cycle with previous load with a duty cycle duration of 60 s



Duty cycle with 60 s overload with a duty cycle duration of 300 s



Duty cycle with 30 s overload with a duty cycle duration of 300 s

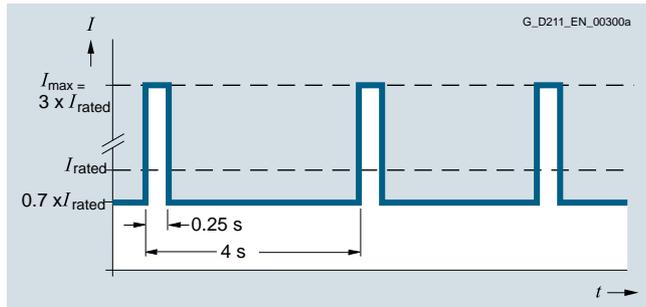
# SINAMICS S120 drive system

## Motor Modules in booksize format

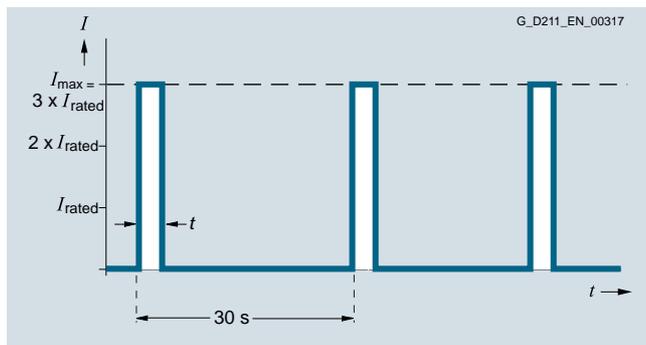
### Double Motor Modules in booksize format

#### Characteristic curves (continued)

Motor Modules in booksize format D type



Peak current duty cycle with previous load (300 % overload)

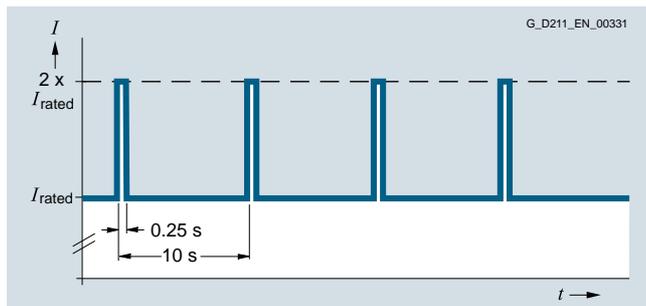


Peak current duty cycle without previous load (300 % overload)

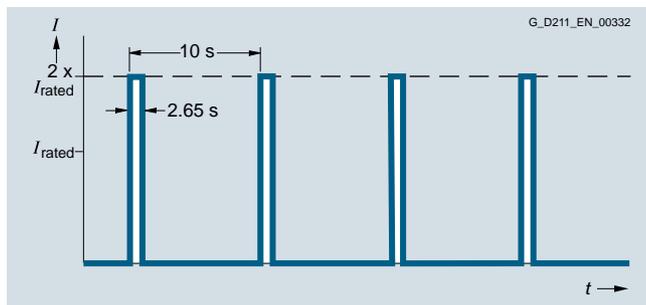
Double Motor Module	Time $t$ at $I_{max}$
2 x 3 A	0.5 s
2 x 5 A	0.5 s
2 x 9 A	0.5 s
2 x 18 A	1.25 s

**Note:**

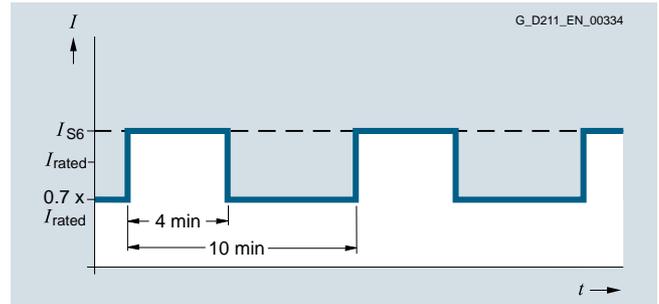
The duty cycle shown above is not permissible for a pulse frequency of 16 kHz. The current must be derated for a pulse frequency of 8 kHz.



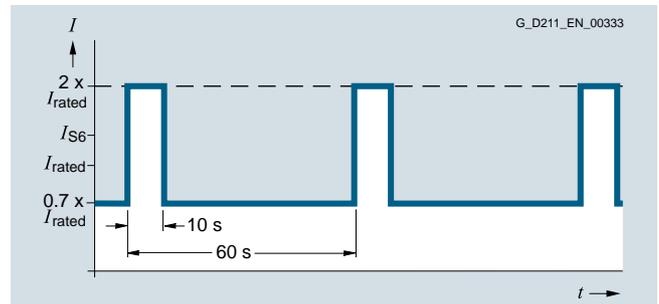
Duty cycle with previous load



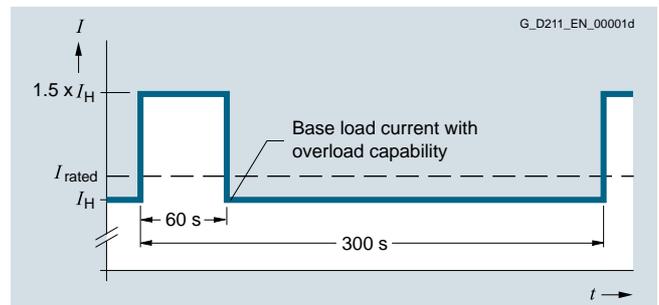
Duty cycle without previous load



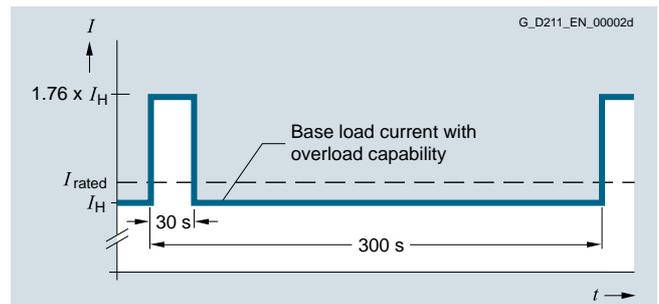
S6 duty cycle with previous load with a duty cycle duration of 600 s



S6 duty cycle with previous load with a duty cycle duration of 60 s



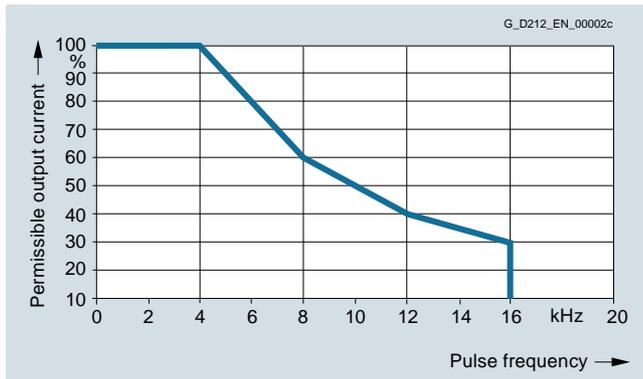
Duty cycle with 60 s overload with a duty cycle duration of 300 s



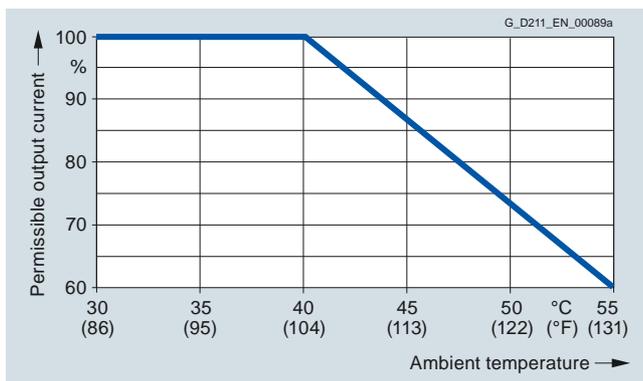
Duty cycle with 30 s overload with a duty cycle duration of 300 s

#### Characteristic curves (continued)

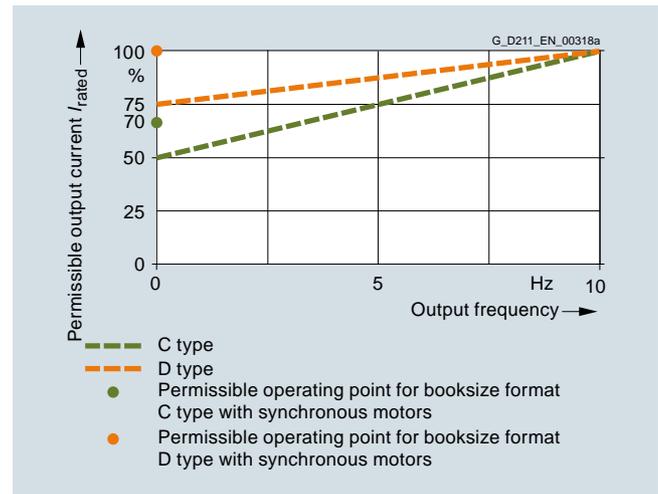
##### Derating characteristics



Output current as a function of pulse frequency



Output current as a function of ambient temperature



Output current at low output frequencies

##### Installation altitude

- >1000 ... 4000 m (3281 ... 13124 ft) above sea level
  - Reduction of the output current by 10 % per 1000 m (3281 ft), or
  - Reduction of the ambient temperature by 5 °C (9 °F) per 1000 m (3281 ft)
- >2000 ... 4000 m (6562 ... 13124 ft) above sea level
  - Operation on line supply systems with grounded neutral point, or
  - Operation with an isolating transformer with secondary grounded neutral point

## SINAMICS S120 drive system

### Notes

7

## MOTION-CONNECT connection systems



<b>12/2</b>	<b>Overview</b>
<b>12/3</b>	<b>Power cables for SINAMICS S120</b>
	<u>Power cables for SIMOTICS S-1FT7/ S-1FK7/M-1PH8 motors</u>
12/3	with SPEED-CONNECT connector
12/5	with full-thread connector
12/8	Extensions for power cables with SPEED-CONNECT or full-thread connector
	<u>Power cables for motors</u>
12/9	SIMOTICS M-1PH8 with terminal box
<b>12/10</b>	<b>Article number code</b>
12/10	Power cables
12/11	Length code
<b>12/12</b>	<b>Accessories for power and signal cables</b>
12/12	Power and signal connectors

## MOTION-CONNECT connection systems

### Overview

#### Power cables

Cable	For motor	MOTION-CONNECT 500	MOTION-CONNECT 800PLUS	Page
Dynamic requirements	SIMOTICS	Medium	High	
Environmental requirements		Medium	High	
UL/CSA		✓	✓	
Halogen-free		–	✓	
RoHS		✓	✓	
<b>Power cables with SPEED-CONNECT connector</b>				
	S-1FT7	✓	✓	12/3, 12/4
	S-1FK7/S-1FG1	✓	✓	12/3
	M-1PH808 M-1PH810	✓	✓	12/3
<b>Power cables with full-thread connector</b>				
	S-1FT7	✓	✓	12/5 ... 12/7
	S-1FK7	✓	✓	12/5
	M-1PH808 M-1PH810 M-1PH813	✓	✓	12/5
<b>Extensions for power cables with SPEED-CONNECT or full-thread connector</b>				
	S-1FT7	✓	✓	12/8
	S-1FK7	✓	✓	12/8
	M-1PH808 M-1PH810 M-1PH813	✓	✓	12/8
<b>Power cables for motors with terminal box</b>				
	M-1PH8	✓ from 35 mm <sup>2</sup>	✓ up to 16 mm <sup>2</sup>	12/9

#### Note:

Additional information on power cables and signal cables, connection examples and accessories are available in Catalog D 21.4 · 2017 and in the Industry Mall at: <https://mall.industry.siemens.com/mall/en/Catalog/Products/7519999>

## MOTION-CONNECT connection systems

### Power cables for SINAMICS S120

Power cables for SIMOTICS S-1FT7/S-1FK7/S-1FG1/M-1PH8 motors with SPEED-CONNECT connector

#### Selection and ordering data

For SIMOTICS S-1FT7/S-1FK7/S-1FG1/M-1PH808/M-1PH810 motors without holding brake, with SPEED-CONNECT connector on SINAMICS S120 Motor Modules in booksize format

Connection method, Motor Module end	No. of cores × cross-section mm <sup>2</sup>	Connector size, motor end	Pre-assembled cable without brake cores Article No.	Cable sold by the meter <sup>1)</sup> without brake cores Article No.	$D_{max}$		Weight (without connector)		Smallest bending radius <sup>2)</sup>	
					6FX5 mm (in)	6FX8 mm (in)	6FX5 kg/m (lb/ft)	6FX8 kg/m (lb/ft)	6FX5 mm (in)	6FX8 mm (in)
Connector <sup>3)</sup>	4 × 1.5	0.5	6FX002-5CN27-....	6FX008-1BB11-....	8.4 (0.33)	9.5 (0.37)	0.12 (0.08)	0.15 (0.10)	155 (6.10)	75 (2.95)
		1	6FX002-5CN06-....							
		1.5	6FX002-5CN26-....							
	4 × 2.5	1	6FX002-5CN16-....	6FX008-1BB21-....	10.0 (0.39)	11.0 (0.43)	0.21 (0.14)	0.20 (0.13)	180 (7.09)	90 (3.54)
		1.5	6FX002-5CN36-....							
	4 × 4	1.5	6FX002-5CN46-....	6FX008-1BB31-....	11.4 (0.45)	12.3 (0.48)	0.27 (0.18)	0.27 (0.18)	210 (8.27)	100 (3.94)
4 × 6	1.5	6FX002-5CN56-....	6FX008-1BB41-....	13.6 (0.54)	14.9 (0.59)	0.37 (0.25)	0.41 (0.28)	245 (9.65)	120 (4.72)	
4 × 10	1.5	6FX002-5CN66-....	6FX008-1BB51-....	20.0 (0.79)	18.2 (0.72)	0.73 (0.49)	0.62 (0.42)	360 (14.17)	140 (5.51)	
Ring cable lugs <sup>4)</sup>	4 × 6	1.5	6FX002-5CN54-....	6FX008-1BB41-....	13.6 (0.54)	14.9 (0.59)	0.37 (0.25)	0.41 (0.28)	245 (9.65)	120 (4.72)
			6FX042-5CN54-....							
	4 × 10	1.5	6FX002-5CN64-....	6FX008-1BB51-....	20.0 (0.79)	18.2 (0.72)	0.73 (0.49)	0.62 (0.42)	360 (14.17)	140 (5.51)
			6FX042-5CN64-....							
	4 × 16	1.5	<b>NEW</b> 6FX002-5CN24-....	6FX008-1BB61-....	24.2 (0.95)	22.3 (0.88)	1.10 (0.74)	1.01 (0.68)	440 (17.32)	170 (6.69)
			<b>NEW</b> 6FX042-5CN24-....							
Exposed core ends <sup>5)</sup>	4 × 10	1.5	<b>NEW</b> 6FX002-5CG62-....	6FX008-1BB51-....	20.0 (0.79)	18.2 (0.72)	0.73 (0.49)	0.62 (0.42)	360 (14.17)	140 (5.51)
			<b>NEW</b> 6FX042-5CG62-....							
	4 × 16	1.5	<b>NEW</b> 6FX002-5CG25-....	6FX008-1BB61-....	24.2 (0.95)	22.3 (0.88)	1.10 (0.74)	1.01 (0.68)	440 (17.32)	170 (6.69)
			<b>NEW</b> 6FX042-5CG25-....							
	<b>MOTION-CONNECT 500</b>			5	5					
	<b>MOTION-CONNECT 800PLUS</b>			8	8					
<b>Power cable</b>										
Pre-assembled			0							
Connector at module end supplied separately			1							
Connector at module end not supplied			2							
Connector at motor end supplied separately			4							
Length code			....	....						

1) Note type of delivery.

2) Valid for installation in a cable carrier.

3) For Motor Modules in booksize format C/D types, 3 A to 30 A

4) For Motor Modules in booksize format C type, 45 A and 60 A.

5) For Motor Modules in booksize format C type, 45 A and 60 A and booksize format from 85 A. Length of core ends 250 mm (9.84 in). 5 M8 cable lugs and 5 M6 cable lugs are also included in the scope of supply of the cables.

## MOTION-CONNECT connection systems

Power cables for SINAMICS S120

Power cables for SIMOTICS S-1FT7/S-1FK7/S-1FG1/M-1PH8 motors with SPEED-CONNECT connector

### Selection and ordering data (continued)

For SIMOTICS S-1FT7/S-1FK7 motors with holding brake, with SPEED-CONNECT connector on SINAMICS S120 Motor Modules in booksize format

Connection method, Motor Module end	No. of cores × cross-section mm <sup>2</sup>	Connector size, motor end	Pre-assembled cable with brake cores Article No.	Cable sold by the meter <sup>1)</sup> with brake cores Article No.	$D_{max}$		Weight (without connector)		Smallest bending radius <sup>2)</sup>	
					6FX5 mm (in)	6FX8 mm (in)	6FX5 kg/m (lb/ft)	6FX8 kg/m (lb/ft)	6FX5 mm (in)	6FX8 mm (in)
Connector <sup>3)</sup>	4 × 1.5+2 × 1.5	0.5	6FX002-5DN27-....	6FX008-1BA11-....	10.8 (0.43)	12.0 (0.47)	0.22 (0.15)	0.23 (0.15)	195 (7.68)	90 (3.54)
		1	6FX002-5DN06-....							
		1.5	6FX002-5DN26-....							
	4 × 2.5+2 × 1.5	1	6FX002-5DN16-....	6FX008-1BA21-....	12.4 (0.49)	13.8 (0.54)	0.25 (0.17)	0.30 (0.20)	225 (8.86)	105 (4.13)
		1.5	6FX002-5DN36-....							
	4 × 4+2 × 1.5	1.5	6FX002-5DN46-....	6FX008-1BA31-....	14.0 (0.55)	15.2 (0.60)	0.35 (0.24)	0.38 (0.26)	255 (10.0)	115 (4.53)
4 × 6+2 × 1.5	1.5	6FX002-5DN56-....	6FX008-1BA41-....	16.1 (0.63)	17.3 (0.68)	0.49 (0.33)	0.50 (0.34)	290 (11.42)	130 (5.12)	
4 × 10+2 × 1.5	1.5	6FX002-5DN66-....	6FX008-1BA51-....	21.7 (0.85)	20.1 (0.79)	0.81 (0.54)	0.71 (0.48)	395 (15.55)	150 (5.91)	
Ring cable lugs <sup>4)</sup>	4 × 6+2 × 1.5	1.5	6FX002-5DN54-....	6FX008-1BA41-....	16.1 (0.63)	17.3 (0.68)	0.49 (0.33)	0.50 (0.34)	290 (11.42)	130 (5.12)
			6FX042-5DN54-....							
	4 × 10+2 × 1.5	1.5	6FX002-5DN64-....	6FX008-1BA51-....	21.7 (0.85)	20.1 (0.79)	0.81 (0.54)	0.71 (0.48)	395 (15.55)	150 (5.91)
			6FX042-5DN64-....							
<b>MOTION-CONNECT 500</b>			5		5					
<b>MOTION-CONNECT 800PLUS</b>			8		8					
<b>Power cable</b>										
Pre-assembled			0							
Connector at module end supplied separately			1							
Connector at module end not supplied			2							
Connector at motor end supplied separately			4							
Length code			....		....					

1) Note type of delivery.

2) Valid for installation in a cable carrier.

3) For Motor Modules in booksize format C/D types, 3 A to 30 A

4) For Motor Modules in booksize format C type, 45 A and 60 A.

## MOTION-CONNECT connection systems

### Power cables for SINAMICS S120

#### Power cables for SIMOTICS S-1FT7/S-1FK7/M-1PH8 motors with full-thread connector

#### Selection and ordering data

For SIMOTICS S-1FT7/S-1FK7/M-1PH808/M-1PH810/M-1PH813 motors without holding brake, with full-thread connector on SINAMICS S120 Motor Modules in booksize format

Connection method, Motor Module end	No. of cores × cross-section mm <sup>2</sup>	Connector size, motor end	Pre-assembled cable without brake cores Article No.	Cable sold by the meter <sup>1)</sup> without brake cores Article No.	$D_{max}$		Weight (without connector)		Smallest bending radius <sup>2)</sup>		
					6FX5 mm (in)	6FX8 mm (in)	6FX5 kg/m (lb/ft)	6FX8 kg/m (lb/ft)	6FX5 mm (in)	6FX8 mm (in)	
Connector <sup>3)</sup>	4 × 1.5	1	6FX002-5CS06-....	6FX008-1BB11-....	8.4 (0.33)	9.5 (0.37)	0.12 (0.08)	0.15 (0.10)	155 (6.10)	75 (2.95)	
		1.5	6FX002-5CS26-....								
		e. c. <sup>4)</sup>	6FX 5 002-5CW02-....								
			6FX 5 012-5CW02-....								
			6FX 5 022-5CW02-....								
	4 × 2.5	1	6FX002-5CS16-....	6FX008-1BB21-....	10.0 (0.39)	11.0 (0.43)	0.21 (0.14)	0.20 (0.13)	180 (7.09)	90 (3.54)	
		1.5	6FX002-5CS36-....								
		e. c. <sup>4)</sup>	6FX 5 002-5CW12-....								
			6FX 5 012-5CW12-....								
			6FX 5 022-5CW12-....								
	4 × 4	1.5	6FX002-5CS46-....	6FX008-1BB31-....	11.4 (0.45)	12.3 (0.48)	0.27 (0.18)	0.27 (0.18)	210 (8.27)	100 (3.94)	
		e. c. <sup>4)</sup>	6FX 5 002-5CW42-....								
			6FX 5 012-5CW42-....								
	4 × 6	1.5	6FX002-5CS56-....	6FX008-1BB41-....	13.6 (0.54)	14.9 (0.59)	0.37 (0.25)	0.41 (0.28)	245 (9.65)	120 (4.72)	
		e. c. <sup>4)</sup>	6FX 5 002-5CW52-....								
			6FX 5 012-5CW52-....								
	4 × 10	1.5	6FX002-5CS66-....	6FX008-1BB51-....	20.0 (0.79)	18.2 (0.72)	0.73 (0.49)	0.62 (0.42)	360 (14.17)	140 (5.51)	
		3	6FX002-5CS17-....								
		e. c. <sup>4)</sup>	6FX 5 002-5CW62-....								
			6FX 5 012-5CW62-....								
		6FX 5 022-5CW62-....									
Ring cable lugs <sup>5)</sup>	4 × 6	1.5	6FX002-5CS54-....	6FX008-1BB41-....	13.6 (0.54)	14.9 (0.59)	0.37 (0.25)	0.41 (0.28)	245 (9.65)	120 (4.72)	
			6FX042-5CS54-....								
	4 × 10	1.5	6FX002-5CS64-....	6FX008-1BB51-....	20.0 (0.79)	18.2 (0.72)	0.73 (0.49)	0.62 (0.42)	360 (14.17)	140 (5.51)	
			6FX042-5CS64-....								
		3	6FX002-5CS14-....								
	4 × 16	1.5		6FX002-5CS24-....	6FX008-1BB61-....	24.2 (0.95)	22.3 (0.88)	1.10 (0.74)	1.01 (0.68)	440 (17.32)	170 (6.69)
				NEW 6FX042-5CS24-....							
		3		6FX002-5CS23-....							
				6FX042-5CS23-....							

MOTION-CONNECT 500	5			5
MOTION-CONNECT 800PLUS	8			8
<b>Power cable</b>				
Pre-assembled	0			
Connector at module end supplied separately	1			
Connector at module end not supplied	2			
Connector at motor end supplied separately	4			
Length code		....		....

<sup>1)</sup> Note type of delivery.

<sup>2)</sup> Valid for installation in a cable carrier.

<sup>3)</sup> For Motor Modules in booksize format C/D types, 3 A to 30 A

<sup>4)</sup> e. c. = exposed core ends; suitable for motors with terminal box.

<sup>5)</sup> For Motor Modules in booksize format C type, 45 A and 60 A.

## MOTION-CONNECT connection systems

Power cables for SINAMICS S120

Power cables for SIMOTICS S-1FT7/S-1FK7/M-1PH8 motors with full-thread connector

### Selection and ordering data (continued)

For SIMOTICS S-1FT7/S-1FK7/M-1PH808/M-1PH810/M-1PH813 motors without holding brake, with full-thread connector on SINAMICS S120 Motor Modules in booksize format

Connection method, Motor Module end	No. of cores × cross-section mm <sup>2</sup>	Connector size, motor end	Pre-assembled cable without brake cores		Cable sold by the meter <sup>1)</sup> without brake cores		$D_{max}$		Weight (without connector)		Smallest bending radius <sup>2)</sup>	
			Article No.	Article No.	6FX5	6FX8	6FX5	6FX8	6FX5	6FX8		
							mm (in)	mm (in)	kg/m (lb/ft)	kg/m (lb/ft)	mm (in)	mm (in)
Exposed core ends <sup>3)</sup>	4 × 10	1.5	<b>NEW</b>	6FX5002-5CG61-....	6FX5008-1BB51-....		20.0 (0.79)	18.2 (0.72)	0.73 (0.49)	0.62 (0.42)	360 (14.17)	140 (5.51)
			<b>NEW</b>	6FX5042-5CG61-....								
		3	<b>NEW</b>	6FX5002-5CG13-....								
			<b>NEW</b>	6FX5042-5CG13-....								
	4 × 16	1.5	<b>NEW</b>	6FX5002-5CG24-....	6FX5008-1BB61-....		24.2 (0.95)	22.3 (0.88)	1.10 (0.74)	1.01 (0.68)	440 (17.32)	170 (6.69)
			<b>NEW</b>	6FX5042-5CG24-....								
		3	<b>NEW</b>	6FX5002-5CG23-....								
			<b>NEW</b>	6FX5042-5CG23-....								
<b>MOTION-CONNECT 500</b>			5		5							
<b>MOTION-CONNECT 800PLUS</b>			8		8							
<b>Power cable</b>												
Pre-assembled			0									
Connector at module end supplied separately			1									
Connector at module end not supplied			2									
Connector at motor end supplied separately			4									
Length code				....		....						

<sup>1)</sup> Note type of delivery.

<sup>2)</sup> Valid for installation in a cable carrier.

<sup>3)</sup> For Motor Modules in booksize format C type, 45 A and 60 A and booksize format from 85 A. Length of core ends 250 mm (9.84 in). 5 M8 cable lugs and 5 M6 cable lugs are also included in the scope of supply of the cables.

## MOTION-CONNECT connection systems

### Power cables for SINAMICS S120

#### Power cables for SIMOTICS S-1FT7/S-1FK7/M-1PH8 motors with full-thread connector

#### Selection and ordering data (continued)

For SIMOTICS S-1FT7/S-1FK7 motors with holding brake, with full-thread connector on SINAMICS S120 Motor Modules in booksize format

Connection method, Motor Module end	No. of cores × cross-section mm <sup>2</sup>	Connector size, motor end	Pre-assembled cable with brake cores		Cable sold by the meter <sup>1)</sup> with brake cores		$D_{max}$		Weight (without connector)		Smallest bending radius <sup>2)</sup>	
			Article No.	Article No.	6FX5	6FX8	6FX5	6FX8	6FX5	6FX8	mm (in)	mm (in)
Connector <sup>3)</sup>	4 × 1.5+2 × 1.5	0.5	6FX002-5DS27-....	6FX5 008-1BA11-....	10.8 (0.43)	–	0.22 (0.15)	–	195 (7.68)	–	–	–
		1	6FX002-5DS06-....	6FX008-1BA11-....	10.8 (0.43)	12.0 (0.47)	0.22 (0.15)	0.23 (0.15)	195 (7.68)	90 (3.54)	–	–
		1.5	6FX002-5DS26-....	–	–	–	–	–	–	–	–	–
	4 × 2.5+2 × 1.5	1	6FX002-5DS16-....	6FX008-1BA21-....	12.4 (0.49)	13.8 (0.54)	0.25 (0.17)	0.30 (0.20)	225 (8.86)	105 (4.13)	–	–
		1.5	6FX002-5DS36-....	–	–	–	–	–	–	–	–	–
	4 × 4+2 × 1.5	1.5	6FX002-5DS46-....	6FX008-1BA31-....	14.0 (0.55)	15.2 (0.60)	0.35 (0.24)	0.38 (0.26)	255 (10.04)	115 (4.53)	–	–
4 × 6+2 × 1.5	1.5	6FX002-5DS56-....	6FX008-1BA41-....	16.1 (0.63)	17.3 (0.68)	0.49 (0.33)	0.50 (0.34)	290 (11.42)	130 (5.12)	–	–	
4 × 10+2 × 1.5	1.5	6FX002-5DS66-....	6FX008-1BA51-....	21.7 (0.85)	20.1 (0.79)	0.81 (0.54)	0.71 (0.48)	395 (15.55)	150 (5.91)	–	–	
		3	6FX002-5DS17-....	–	–	–	–	–	–	–	–	–
Ring cable lugs <sup>4)</sup>	4 × 6+2 × 1.5	1.5	6FX002-5DS54-....	6FX008-1BA41-....	16.1 (0.63)	17.3 (0.68)	0.49 (0.33)	0.50 (0.34)	290 (11.42)	130 (5.12)	–	–
			6FX042-5DS54-....	–	–	–	–	–	–	–	–	–
	4 × 10+2 × 1.5	1.5	6FX002-5DS64-....	6FX008-1BA51-....	21.7 (0.85)	20.1 (0.79)	0.81 (0.54)	0.71 (0.48)	395 (15.55)	150 (5.91)	–	–
			6FX042-5DS64-....	–	–	–	–	–	–	–	–	–
	3	6FX002-5DS14-....	–	–	–	–	–	–	–	–	–	–
		6FX042-5DS14-....	–	–	–	–	–	–	–	–	–	–
4 × 16+2 × 1.5	3	6FX002-5DS23-....	6FX008-1BA61-....	25.0 (0.98)	23.8 (0.94)	1.12 (0.75)	1.03 (0.69)	450 (17.72)	180 (7.09)	–	–	
		6FX042-5DS23-....	–	–	–	–	–	–	–	–	–	
Exposed core ends <sup>5)</sup>	4 × 16+2 × 1.5	3	6FX002-5DG23-....	6FX008-1BA61-....	25.0 (0.98)	23.8 (0.94)	1.12 (0.75)	1.03 (0.69)	450 (17.72)	180 (7.09)	–	–
			6FX042-5DG23-....	–	–	–	–	–	–	–	–	–
	4 × 25+2 × 1.5	3	6FX002-5DG33-....	6FX008-1BA25-....	29.4 (1.16)	27.6 (1.09)	1.62 (1.09)	1.47 (0.99)	530 (20.87)	280 (11.02)	–	–
			6FX042-5DG33-....	–	–	–	–	–	–	–	–	–
	4 × 35+2 × 1.5	3	6FX002-5DG43-....	6FX008-1BA35-....	32.6 (1.28)	31.9 (1.26)	2.06 (1.38)	1.92 (1.29)	590 (23.23)	320 (12.6)	–	–
			6FX042-5DG43-....	–	–	–	–	–	–	–	–	–
4 × 50+2 × 1.5	3	6FX002-5DG53-....	6FX008-1BA50-....	38.0 (1.50)	35.0 (1.38)	3.04 (2.04)	2.56 (1.72)	685 (26.97)	350 (13.78)	–	–	
		6FX042-5DG53-....	–	–	–	–	–	–	–	–	–	

MOTION-CONNECT 500	5				5
MOTION-CONNECT 800PLUS	8				8
<b>Power cable</b>					
Pre-assembled	0				
Connector at module end supplied separately	1				
Connector at module end not supplied	2				
Connector at motor end supplied separately	4				
Length code		....			....

1) Note type of delivery.

2) Valid for installation in a cable carrier.

3) For Motor Modules in booksize format C/D types, 3 A to 30 A

4) For Motor Modules in booksize format C type, 45 A and 60 A.

5) For Motor Modules in booksize format C type, 45 A and 60 A and booksize format from 85 A. Length of core ends 250 mm (9.84 in) for 4 × 16 mm<sup>2</sup> and 300 mm (11.81 in) for 4 × 25 mm<sup>2</sup> to 4 × 50 mm<sup>2</sup>. 5 M8 cable lugs, 5 M6 cable lugs, and 1 spring-type terminal are also included in the scope of supply of the cables.

## MOTION-CONNECT connection systems

### Power cables for SINAMICS S120

#### Extensions for power cables with SPEED-CONNECT or full-thread connector

#### Accessories

##### Extensions for power cables with SPEED-CONNECT or full-thread connector

No. of cores × cross-section without brake cores    with brake cores		Connector size, motor end	Basic cable for motors on SINAMICS S120		Extension  Article No.
mm <sup>2</sup>	mm <sup>2</sup>		Motor Modules booksize format  Type	Power Modules Motor Modules booksize compact format  Type	
4 × 1.5	4 × 1.5+2 × 1.5	0.5	6FX . 002-5DS27-....	6FX . 002-5DA30-....	<b>6FX</b> 002-5 <b>ME</b> 05-....
			6FX . 002-5 . N27-....	6FX . 002-5DN30-....	<b>6FX</b> 002-5 <b>MN</b> 05-....
4 × 1.5	4 × 1.5+2 × 1.5	1	6FX . 002-5 . S06-....	6FX . 002-5 . G01-....	<b>6FX</b> 002-5 <b>A</b> 05-....
			6FX . 002-5 . N06-....	6FX . 002-5 . G10-....	<b>6FX</b> 002-5 <b>N</b> 05-....
		1.5	6FX . 002-5 . S26-....	6FX . 002-5 . G21-....	<b>6FX</b> 002-5 <b>A</b> 28-....
			6FX . 002-5 . N26-....	6FX . 002-5 . G22-....	<b>6FX</b> 002-5 <b>Q</b> 28-....
4 × 2.5	4 × 2.5+2 × 1.5	1	6FX . 002-5 . S16-....	6FX . 002-5 . G11-....	<b>6FX</b> 002-5 <b>A</b> 15-....
			6FX . 002-5 . N16-....	6FX . 002-5 . G12-....	<b>6FX</b> 002-5 <b>Q</b> 15-....
		1.5	6FX . 002-5 . S36-....	6FX . 002-5 . G31-....	<b>6FX</b> 002-5 <b>A</b> 38-....
			6FX . 002-5 . N36-....	6FX . 002-5 . G32-....	<b>6FX</b> 002-5 <b>Q</b> 38-....
4 × 4	4 × 4+2 × 1.5	1.5	6FX . 002-5 . S46-....	6FX . 002-5 . G41-....	<b>6FX</b> 002-5 <b>A</b> 48-....
			6FX . 002-5 . N46-....	6FX . 002-5 . G42-....	<b>6FX</b> 002-5 <b>Q</b> 48-....
4 × 6	4 × 6+2 × 1.5	1.5	6FX . 002-5 . S56-....	6FX . 002-5 . G51-....	<b>6FX</b> 002-5 <b>A</b> 58-....
			6FX . 002-5 . S54-....	–	<b>6FX</b> 002-5 <b>A</b> 58-....
			6FX . 002-5 . N56-....	6FX . 002-5 . G52-....	<b>6FX</b> 002-5 <b>Q</b> 58-....
			6FX . 002-5 . N54-....	–	<b>6FX</b> 002-5 <b>Q</b> 58-....
4 × 10	4 × 10+2 × 1.5	1.5	6FX . 002-5 . S66-....	6FX . 002-5 . G61-....	<b>6FX</b> 002-5 <b>A</b> 68-....
			6FX . 002-5 . S64-....	–	<b>6FX</b> 002-5 <b>A</b> 68-....
			6FX . 002-5 . N66-....	6FX . 002-5 . G62-....	<b>6FX</b> 002-5 <b>Q</b> 68-....
			6FX . 002-5 . N64-....	–	<b>6FX</b> 002-5 <b>Q</b> 68-....
		3 <sup>1)</sup>	6FX . 002-5 . S17-....	6FX . 002-5 . G13-....	<b>6FX</b> 002-5 <b>X</b> 18-....
			6FX . 002-5 . S14-....	–	<b>6FX</b> 002-5 <b>X</b> 18-....
4 × 16	4 × 16+2 × 1.5	1.5	<b>NEW</b> 6FX8002-5CS24-....	6FX . 002-5CG24-....	<b>6FX</b> 8002-5 <b>YW</b> 12-....
			<b>NEW</b> 6FX . 002-5CN24-....	6FX . 002-5CG25-....	<b>6FX</b> 8002-5 <b>YW</b> 12-.... <sup>2)</sup>
		3 <sup>1)</sup>	6FX . 002-5 . S23-....	6FX . 002-5 . G23-....	<b>6FX</b> 002-5 <b>X</b> 28-....
			6FX . 002-5 . G23-....	–	<b>6FX</b> 002-5 <b>X</b> 28-....
–	4 × 25+2 × 1.5	3 <sup>1)</sup>	6FX . 002-5DG33-....	6FX . 002-5DG33-....	<b>6FX</b> 002-5 <b>D</b> X38-....
–	4 × 35+2 × 1.5	3 <sup>1)</sup>	6FX . 002-5DG43-....	6FX . 002-5DG43-....	<b>6FX</b> 002-5 <b>D</b> X48-....
–	4 × 50+2 × 1.5	3 <sup>1)</sup>	6FX . 002-5DG53-....	6FX . 002-5DG53-....	<b>6FX</b> 002-5 <b>D</b> X58-....

MOTION-CONNECT 500

5

MOTION-CONNECT 800PLUS

8

Without brake cores

C

With brake cores

D

Length code

....

The maximum specified cable length (basic cable and extensions) must not be exceeded. The total maximum length of power cables with brake cores is reduced by 2 m (6.56 ft) for each interruption point.

<sup>1)</sup> Motor-end connector with full thread only.

<sup>2)</sup> For mounting, remove the O-ring at the outer thread of the coupling.

## MOTION-CONNECT connection systems

### Power cables for SINAMICS S120

#### Power cables for SIMOTICS M-1PH8 motors with terminal box

#### Selection and ordering data

For SIMOTICS M-1PH808/M-1PH810/M-1PH813/M-1PH816 motors with terminal box on SINAMICS S120 Motor Modules

Motor	Thread	No. of cores × cross-section	Connection method Motor Module end	Pre-assembled cable	Cable sold by the meter <sup>1)</sup>	$D_{max}$	Weight (without gland)	Smallest bending radius <sup>2)</sup>
SIMOTICS		mm <sup>2</sup>		Article No.	Article No.	mm (in)	kg/m (lb/ft)	mm (in)
M-1PH808	M25	4 × 2.5	Connector <sup>3)</sup>	6FX802-5CP17-....	6FX8008-1BB21-....	11.0 (0.43)	0.20 (0.13)	90 (3.54)
		4 × 4		6FX802-5CP27-....	6FX8008-1BB31-....	12.3 (0.48)	0.27 (0.18)	100 (3.94)
M-1PH810	M32	4 × 2.5	Connector <sup>3)</sup>	6FX802-5CP16-....	6FX8008-1BB21-....	11.0 (0.43)	0.20 (0.13)	90 (3.54)
		4 × 4		6FX802-5CP26-....	6FX8008-1BB31-....	12.3 (0.48)	0.27 (0.18)	100 (3.94)
		4 × 10		6FX802-5CP46-....	6FX8008-1BB51-....	18.2 (0.72)	0.62 (0.42)	140 (5.51)
		4 × 10	Exposed core ends <sup>4)</sup>	6FX8002-5CR41-....				
M-1PH813	M40	4 × 10	Connector <sup>3)</sup>	6FX802-5CP47-....	6FX8008-1BB51-....	18.2 (0.72)	0.62 (0.42)	140 (5.51)
			Exposed core ends <sup>4)</sup>	6FX8002-5CR42-....				
	M50	4 × 10	Connector <sup>3)</sup>	6FX802-5CP45-....	6FX8008-1BB51-....	18.2 (0.72)	0.62 (0.42)	140 (5.51)
			Exposed core ends <sup>4)</sup>	6FX8002-5CR43-....				
	M40	4 × 16	Exposed core ends <sup>4)</sup>	6FX8002-5CR52-....	6FX8008-1BB61-....	22.3 (0.88)	1.01 (0.68)	170 (6.69)
				6FX8002-5CR53-....				
	M50	4 × 16	Exposed core ends <sup>4)</sup>	6FX5002-5CR73-....	6FX5008-1BB35-....	31.5 (1.24)	1.93 (1.30)	570 (22.44)
				NEW	6FX8008-1BA35-....	31.9 (1.26)	2.00 (1.34)	320 (12.6)
6FX5002-5CR83-....				6FX5008-1BB50-....	38.0 (1.50)	3.04 (2.04)	685 (26.97)	
NEW				6FX8008-1BA50-....	35.0 (1.38)	2.56 (1.72)	350 (13.78)	
M-1PH816	M50	4 × 16	Exposed core ends <sup>4)</sup>	6FX8002-5CR53-....	6FX8008-1BB61-....	22.3 (0.88)	1.01 (0.68)	170 (6.69)
				6FX5008-1BB61-....	24.2 (0.95)	1.10 (0.74)	440 (17.32)	
				6FX5002-5CR73-....	6FX5008-1BB35-....	31.5 (1.24)	1.93 (1.30)	570 (22.44)
				6FX8008-1BA35-....	31.9 (1.26)	2.00 (1.34)	320 (12.6)	
				6FX5002-5CR83-....	6FX5008-1BB50-....	38.0 (1.50)	3.04 (2.04)	685 (26.97)
				6FX8008-1BA50-....	35.0 (1.38)	2.56 (1.72)	350 (13.78)	
	M63	4 × 25	Exposed core ends <sup>4)</sup>	6FX5008-1BB25-....	6FX5008-1BB25-....	28.0 (1.10)	1.62 (1.09)	505 (19.88)
				6FX8008-1BA25-....	27.6 (1.09)	1.51 (1.01)	280 (11.02)	
				6FX5008-1BB35-....	6FX5008-1BB35-....	31.5 (1.24)	1.93 (1.30)	570 (22.44)
				6FX8008-1BA35-....	31.9 (1.26)	2.00 (1.34)	320 (12.6)	
				6FX5008-1BB50-....	6FX5008-1BB50-....	38.0 (1.50)	3.04 (2.04)	685 (26.97)
				6FX8008-1BA50-....	35.0 (1.38)	2.56 (1.72)	350 (13.78)	
		4 × 35	Exposed core ends <sup>4)</sup>	6FX5008-1BB70-....	6FX5008-1BB70-....	42.6 (1.68)	3.96 (2.66)	770 (30.31)

MOTION-CONNECT 500	5			5
MOTION-CONNECT 800PLUS	8			8
<b>Power cable</b>				
Pre-assembled	0			
Connector at module end supplied separately	1			
Connector at module end not supplied	2			
Length code		....		....

<sup>1)</sup> Note type of delivery.

<sup>2)</sup> Valid for installation in a cable carrier.

<sup>3)</sup> For Motor Modules in booksize format C/D types, 3 A to 30 A

<sup>4)</sup> For Motor Modules in booksize format C type, 45 A and 60 A and booksize format from 85 A. Length of core ends 300 mm (11.81 in). 5 M8 cable lugs and 5 M6 cable lugs are also included in the scope of supply of the cables.

# MOTION-CONNECT connection systems

Article number code

## Power cables

### Overview

#### Power cables, pre-assembled

Data position in Article No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>MOTION-CONNECT 500</b>	6	F	X	5	0	■	2	-	5	■	■	■	-	.	.	.
<b>MOTION-CONNECT 800PLUS</b>	6	F	X	8	0	■	2	-	5	■	■	■	-	.	.	.
Pre-assembled at motor and module ends					0											
Pre-assembled at motor end, connector at module end supplied separately					1											
Pre-assembled at motor end, connector at module end not supplied					2											
Connector at motor end supplied separately, pre-assembled at module end					4											
Without brake cores									C							
With brake cores									D							
<u>Basic cable between</u>																
<u>and</u>																
SINAMICS S120 Motor Module C/D type, booksize format, up to 30 A									D	A	2	7				
Motor connector, full-thread, size 0.5										S		6				
Motor connector, full-thread, size 1 or 1.5										S	1	7				
Motor connector, full-thread, size 3										W		2				
Motor with terminal box (exposed core ends)									D	N	2	7				
Motor connector, SPEED-CONNECT, size 0.5										N		6				
Motor connector, SPEED-CONNECT, size 1 or 1.5										S		4				
SINAMICS S120 Motor Module, booksize format, 45 A or higher										S	2	3				
Motor connector, full-thread, size 1 or 1.5										N		4				
Motor connector, full-thread, size 3																
Motor connector, SPEED-CONNECT, size 1 or 1.5									D	A	3	0				
SINAMICS S120 Power Module/Motor Module, booksize compact format										G		1				
Motor connector, full-thread, size 0.5										G		3				
Motor connector, full-thread, size 1 or 1.5																
Motor connector, full-thread, size 3									D	N	3	0				
Motor connector, SPEED-CONNECT, size 0.5										G	1					
Motor connector, SPEED-CONNECT, size 1										G	2					
Motor connector, SPEED-CONNECT, size 1.5										F						
SINAMICS S120 Combi Power Module <sup>1)</sup>																
Motor connector, SPEED-CONNECT, size 1 or 1.5									C	R						
SINAMICS S120 Power Module/Motor Module, booksize format																
SIMOTICS M-1PH8 with terminal box									C	E						
SINAMICS S120 Combi Power Module <sup>1)</sup>																
SIMOTICS M-1PH8 with terminal box																
<u>Extension between basic cable with connector</u>																
<u>and motor connector</u>																
Full-thread, size 0.5									M	E	0	5				
Full-thread, size 1										A		5				
Full-thread, size 1.5										A		8				
Full-thread, size 3										X		8				
SPEED-CONNECT, size 0.5									M	N	0	5				
SPEED-CONNECT, size 1										N <sup>2)</sup>		5				
SPEED-CONNECT, size 1										Q <sup>3)</sup>		5				
SPEED-CONNECT, size 1.5										Q		8				
Adapter cable for SIMOTICS L-1FN3	6	F	X	7	0	0	2	-	5	L	M	.	.	-	.	.
Cross-section												.	.			
<b>Length code</b>																
Units of 10 cm (3.94 in) or 1 meter (3.28 ft) or in fixed lengths													.	.	.	.

<sup>1)</sup> See Industry Mall for MOTION-CONNECT connection system for SINAMICS S120 Combi.

<sup>2)</sup> Cable cross-section, 1.5 mm<sup>2</sup>

<sup>3)</sup> Cable cross-section, 2.5 mm<sup>2</sup>

**Overview** (continued)

**Power cables, sold by the meter**

Data position in Article No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>MOTION-CONNECT 500</b>	6	F	X	5	0	0	8	-	1	B	■	.	.	-	.	.
<b>MOTION-CONNECT 800PLUS</b>	6	F	X	8	0	0	8	-	1	B	■	.	.	-	.	.

Power cable with brake cores, sold by the meter	A															
Power cable without brake cores, sold by the meter	B															

No. of cores and cross-sections	.	.														
---------------------------------	---	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**Length code**

Units of 10 cm (3.94 in) or 1 meter (3.28 ft) or in fixed lengths	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Length code

**Overview**

Description	Article No. supplement
<b>Length code for pre-assembled cables</b>	
	6FX.0.2-.....- ■ ■ ■ ■
0 m	1
100 m (328 ft)	2
200 m (656 ft)	3
0 m	A
10 m (32.8 ft)	B
20 m (65.6 ft)	C
30 m (98.4 ft)	D
40 m (131 ft)	E
50 m (164 ft)	F
60 m (197 ft)	G
70 m (230 ft)	H
80 m (262 ft)	J
90 m (295 ft)	K
0 m	A
1 m (3.28 ft)	B
2 m (6.56 ft)	C
3 m (9.84 ft)	D
4 m (13.1 ft)	E
5 m (16.4 ft)	F
6 m (19.7 ft)	G
7 m (23.0 ft)	H
8 m (26.2 ft)	J
9 m (29.5 ft)	K
0 m	0
0.1 m (3.94 in)	1
0.2 m (7.87 in)	2
0.3 m (11.8 in)	3
0.4 m (15.7 in)	4
0.5 m (19.7 in)	5
0.6 m (23.6 in)	6
0.7 m (27.6 in)	7
0.8 m (31.5 in)	8
Examples:	1.0 m (3.28 ft): 1 A B 0
	2.2 m (7.22 ft): 1 A C 2
	8.0 m (26.2 ft): 1 A J 0
	299.0 m (981 ft): 3 K K 0

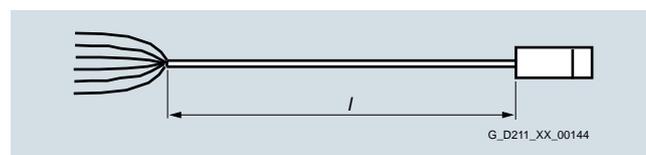
Description	Article No. supplement
<b>Length code for power and signal cables, sold by the meter</b> <sup>1)</sup>	
	6FX.008-.....- ■ ■ ■ A 0
50 m (164 ft)	1 F
100 m (328 ft)	2 A
200 m (656 ft)	3 A
500 m (1641 ft)	6 A

**Note:**

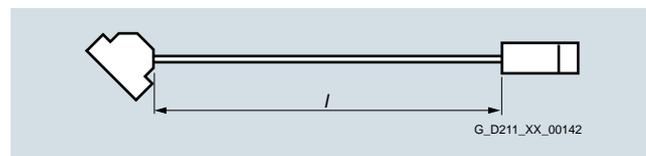
Pre-assembled cables with a length of 0 m (...-1AA0) can **not** be ordered!

**More information**

**Definition of lengths for pre-assembled cables**



Cable with exposed core ends and pre-assembled connector



Cable with pre-assembled connectors at both ends

**Tolerance:**

- Cable lengths up to 10 m (32.8 ft): ± 2%
- Cable lengths of 10 m (32.8 ft) and longer: ± 1%

<sup>1)</sup> Note type of delivery. Cables with a core cross-section as of 4 × 4 mm<sup>2</sup> or 4 × 4 mm<sup>2</sup> with brake cores can be delivered at exact length in meters.

## MOTION-CONNECT connection systems

Accessories for power and signal cables

### Power connectors

#### Overview



Power connector with screw terminal for Motor Modules, C/D type  
3 A to 30 A



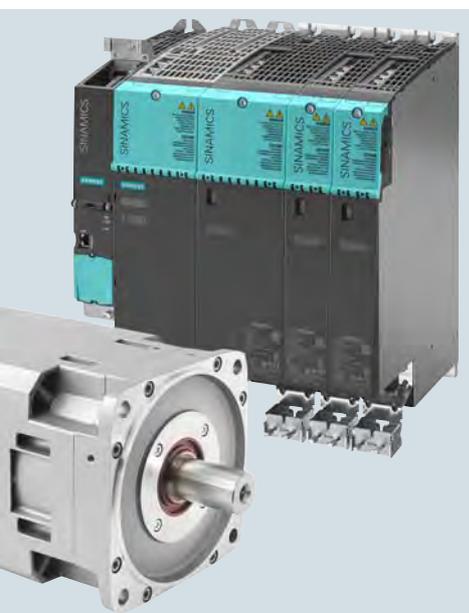
Power connector with push-in connection with snap-in actuators for  
Motor Modules, C/D type, 3 A to 30 A

Power connectors can also be ordered separately, e.g. for applications where installation of the motor cable would be difficult if a power connector were attached.

#### Selection and ordering data

Description	Article No.
<b>Power connector screw terminal</b> For 3 ... 30 A Motor Modules SINAMICS S120 booksize, C/D type with screw terminal for cable cross-sections up to 6 mm <sup>2</sup>	<b>6SL3162-2MA00-0AC0</b>
<b>Power connector push-in connection</b> For 3 ... 30 A Motor Modules SINAMICS S120 booksize, C/D type push-in connection with snap-in actuators for cable cross-sections up to 6 mm <sup>2</sup>	<b>6SL3162-2MB00-0AC0</b>

## Appendix



### 16/2 Conditions of sale and delivery

The glossary for the SINAMICS S120 drive system can be found in the Internet under:  
<https://mall.industry.siemens.com/mall/en/Catalog/Products/10314535>

## Appendix

### Conditions of sale and delivery

#### 1. General Provisions

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For customers with a seat or registered office in Germany, the following applies subordinate to the T&C:

- the "General Terms of Payment" <sup>1)</sup> and,
- for software products, the "General License Conditions for Software Products for Automation and Drives for Customers with a Seat or Registered Office in Germany" <sup>1)</sup> and,
- for other supplies and services, the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry" <sup>1)</sup>.

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For customers with a seat or registered office outside Germany, the following applies subordinate to the T&C:

- the "General Terms of Payment" <sup>1)</sup> and,
- for software products, the "General License Conditions for Software Products for Automation and Drives for Customers with a Seat or Registered Office outside of Germany" <sup>1)</sup> and
- for other supplies and/or services, the "General Conditions for Supplies of Siemens Industry for Customers with a Seat or Registered Office outside of Germany" <sup>1)</sup>.

#### 2. Prices

The prices are in € (Euro) ex point of delivery, exclusive of packaging.

The sales tax (value added tax) is not included in the prices. It shall be charged separately at the respective rate according to the applicable statutory legal regulations.

Prices are subject to change without prior notice. We will charge the prices valid at the time of delivery.

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The metal factor of a product indicates the basic official price (for those raw materials concerned) as of which the surcharges on the price of the product are applied, and with what method of calculation.

You will find a detailed explanation of the metal factor on the page headed "Metal surcharges".

To calculate the surcharge (except in the cases of dysprosium and neodym), the official price from the day prior to that on which the order was received or the release order was effected is used.

To calculate the surcharge applicable to dysprosium and neodym ("rare earths"), the corresponding three-month basic average price in the quarter prior to that in which the order was received or the release order was effected is used with a one-month buffer (details on the calculation can be found in the explanation of the metal factor).

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