

SIEMENS



SINAMICS S120

Motor Modules in booksize format C/D type

SINAMICS Drives

Brochure

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Single Motor Modules in booksize format C/D type

Single Motor Module in booksize format C/D type



Single Motor Module in booksize format C/D type

The Single Motor Modules in booksize format C/D type 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 busbars
- 3 DRIVE-CLiQ sockets
- 1 motor connection (plug connector X1 not included in the scope of delivery)
- 1 safe standstill input (enable pulses)
- 1 safe motor brake control
- 1 temperature sensor input
- 1 PE/protective conductor connection

Two multi-color LEDs indicate the status of the Motor Modules. The shield is integrated in the housing, which results in an improved shield connection.

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

Rated current	3 A	5 A	9 A	18 A	30 A
	D types				
Single Motor Modules	3 A / 9 A 50 mm	5 A / 15 A 50 mm	9 A / 27 A 50 mm	18 A / 54 A 50 mm	30 A / 90 A 100 mm
Double Motor Modules	2 x 3 A / 2 x 9 A 50 mm	2 x 5 A / 2 x 15 A 50 mm	2 x 9 A / 2 x 27 A 50 mm	2 x 18 A / 2 x 54 A 100 mm	–
	C types				
				18 A / 36 A 50 mm	30 A / 56 A 100 mm
				2 x 18 A / 2 x 36 A 100 mm	–
Rated current/maximum current in A widths 50 mm or 100 mm					

Overview of the available Motor Modules in booksize format C/D type

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

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

The Motor Modules in booksize format C/D type have been developed to be fully compatible with the book-size series regarding spare parts. The advantages of this new product include:

- 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 fans can be simply replaced without having to remove the Motor Module

The signal cable shield can be connected to the Motor Module using a shield connection terminal, e.g. Weidmüller type KLBÜ 3-8 SC.

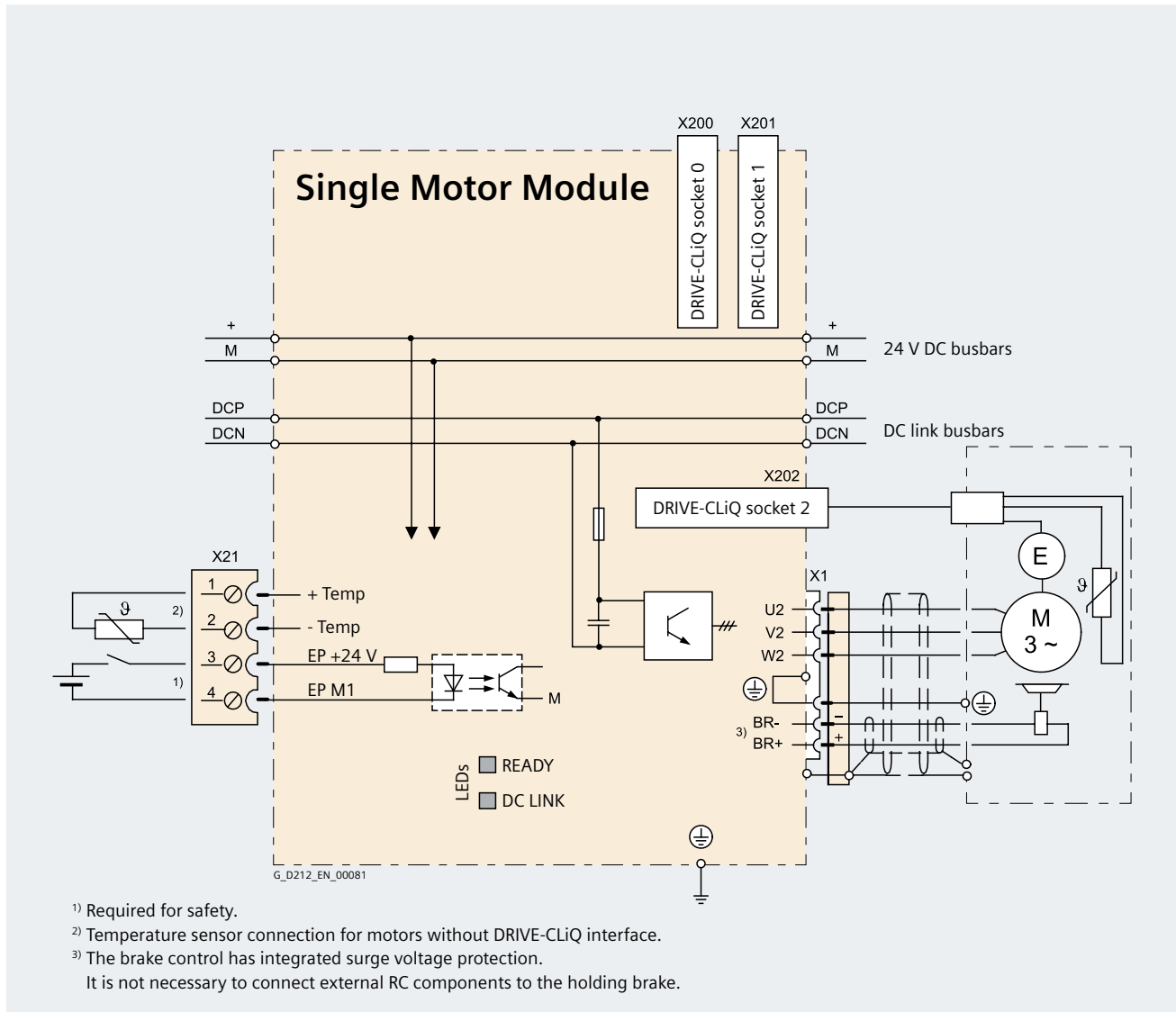
The Motor Module scope of delivery includes:

- DRIVE-CLiQ cable corresponding to the width of the Motor Module for connection to the adjacent Motor Module, length = width of Motor Module + 0.06 m
- Jumper for connecting the 24 V DC busbar to the adjacent Motor Module
- Plug connector X21
- 2 blanking plugs for sealing unused DRIVE-CLiQ sockets
- 1 set of warning labels in 30 languages
- 1 shield connection terminal

Single Motor Modules in booksize format C/D type

Integration

Single Motor Modules communicate with the Control Unit via DRIVE-CLiQ.



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

Single Motor Modules in booksize format C/D type

Technical specifications

Single Motor Module in booksize format C/D type	
DC link voltage (up to 2000 m above sea level)	510 ... 720 V DC (line voltage 380 ... 480 V 3 AC)
Output frequency <ul style="list-style-type: none"> • Servo control mode • Vector control mode • U/f control mode 	0 ... 650 Hz ^{1) 2) 3)} 0 ... 300 Hz ²⁾ 0 ... 600 Hz ^{2) 3)}
Electronics power supply	24 V DC -15 %/+20 %
Cooling method	Internal air cooling, power units with forced air cooling using an integrated fan
Permissible ambient and coolant temperature (air) during operation for line-side components, Line Modules and Motor Modules	0 ... 40 °C without derating, > 40 ... 55 °C, see derating characteristics
Installation altitude	Up to 1000 m above sea level without derating, > 1000 ... 4000 m above sea level, see derating characteristics
Declarations of Conformity	CE (Low Voltage and EMC Directive)
Certificate of suitability	cULus
Safety Integrated	Safety Integrity Level 2 (SIL 2) according to IEC 61508, Performance Level d (PL d) and Category 3 acc. to EN ISO 13849-1

¹⁾ At rated output current

(max. output frequency 1300 Hz for 62.5 µs current controller cycle, 8 kHz pulse frequency, 60 % permissible output current).

²⁾ Note the correlation between max. output frequency, pulse frequency and current derating.

³⁾ The output frequency is currently limited to 550 Hz. The specified values apply to systems with license for high output frequency.

For additional information, see <https://support.industry.siemens.com/cs/document/104020669>

Single Motor Modules in booksize format C/D type

Technical specifications

DC link voltage 510 ... 720 V DC		Single Motor Module in booksize format C/D type				
Internal air cooling C type	6SL3120-...	–	–	–	1TE21-8ACO	1TE23-0ACO
Internal air cooling D type	6SL3120-...	1TE13-0AD0	1TE15-0AD0	1TE21-0AD0	1TE21-8AD0	1TE23-0AD0
Output current						
• Rated current I_{rated}	A	3	5	9	18	30
• Base-load current I_H	A	2.6	4.3	7.7	15.3	25.5
• For S6 duty (40 %) I_{S6}						
– C type	A	–	–	–	24	40
– D type	A	4	6.7	13	24	40
• I_{max}						
– C type	A	–	–	–	36	56
– D type	A	9	15	27	54	90
Type rating ¹⁾						
• Based on I_{rated}	kW	1.6	2.7	4.8	9.7	16
• Based on I_H	kW	1.4	2.3	4.1	8.2	13.7
Rated pulse frequency	kHz	4	4	4	4	4
DC link current I_d ²⁾	A	3.6	6	11	22	36
Current carrying capacity						
• DC link busbars	A	100 ³⁾	100 ³⁾	100 ³⁾	100 ³⁾	100 ³⁾
• 24 V DC busbars ⁴⁾	A	20	20	20	20	20
DC link capacitance	µF	110	110	110	220	705
Current demand At 24 V DC, max.	A	0.75	0.75	0.75	0.75	0.8
Internal air cooling						
• Power loss ⁵⁾						
– Maximum losses	kW	0.05	0.07	0.1	0.19	0.31
– Typical losses ⁶⁾	kW	0.03	0.04	0.06	0.14	0.26
• Cooling air requirement	m ³ /s	0.009	0.009	0.009	0.009	0.0155
• Sound press. level L_{pA} (1 m)	dB	<60	<60	<60	<60	<60
Motor connection U2, V2, W2		Plug connector (X1) ⁷⁾ 1.5 ... 6 mm ²	Plug connector (X1) ⁷⁾ 1.5 ... 6 mm ²	Plug connector (X1) ⁷⁾ 1.5 ... 6 mm ²	Plug connector (X1) ⁷⁾ 1.5 ... 6 mm ²	Plug connector (X1) ⁷⁾ 1.5 ... 6 mm ²
PE connection		M5 screw	M5 screw	M5 screw	M5 screw	M5 screw
Motor brake connection		Integrated in the motor plug connector (X1), 24 V DC, 2 A	Integrated in the motor plug connector (X1), 24 V DC, 2 A	Integrated in the motor plug connector (X1), 24 V DC, 2 A	Integrated in the motor plug connector (X1), 24 V DC, 2 A	Integrated in the motor plug connector (X1), 24 V DC, 2 A
Motor cable length, max.						
• Shielded	m	50	50	50	70	100
• Unshielded	m	75	75	75	100	150
Degree of protection		IP20	IP20	IP20	IP20	IP20
Dimensions						
• Width	mm	50	50	50	50	100
• Height	mm	380	380	380	380	380
• Depth	mm	270	270	270	270	270
Weight, approx.	kg	4.6	4.6	4.6	4.6	7.9

¹⁾ Rated power of a typical standard induction motor at 400 V 3 AC.

²⁾ Rated DC link current for dimensioning an external DC connection.

³⁾ With reinforced DC link busbar set, 150 A is possible (accessories).

⁴⁾ If the current carrying capacity exceeds 20 A as several Line Modules and Motor Modules are mounted side-by-side, an additional 24 V DC connection using a 24 V terminal adapter is required (max. cross-section 6 mm², max. fuse protection 20 A).

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

⁶⁾ At the max. motor cable length 30 m, pulse frequency 4 kHz and DC link voltage 540 ... 600 V.

⁷⁾ Plug connector not included in scope of delivery, see [Accessories](#).

Single Motor Modules in booksize format C/D type

Selection and ordering data

Rated output current	Type rating	Single Motor Module in booksize format C/D type	
A	kW	C type Internal air cooling Article No.	D type Internal air cooling Article No.
DC link voltage 510 ... 720 V DC			
3	1.6	–	6SL3120-1TE13-0AD0
5	2.7	–	6SL3120-1TE15-0AD0
9	4.8	–	6SL3120-1TE21-0AD0
18	9.7	6SL3120-1TE21-8AC0	6SL3120-1TE21-8AD0
30	16	6SL3120-1TE23-0AC0	6SL3120-1TE23-0AD0

Description	Article No.
Accessories	
Power connector (X1) with screw connection NEW At the Motor Module end, with 1.5 ... 6 mm ² screw-type terminals For Motor Modules in booksize format C/D type with rated output current 3 ... 30 A	6SL3162-2MA00-0AC0
Power connector (X1) with push-in connection NEW At the Motor Module end, with 1.5 ... 6 mm ² spring-type terminals For Motor Modules in booksize format C/D type with rated output current 3 ... 30 A	6SL3162-2MB00-0AC0
DC link rectifier adapter To directly connect the DC link voltage, 0.5 ... 10 mm ² screw-type terminals For Line Modules and Motor Modules in booksize format with widths of 50 mm and 100 mm	6SL3162-2BD00-0AA0
DC link adapter (2 adapters) For multi-tier configurations 35 ... 95 mm ² screw-type terminals For all Line Modules and Motor Modules in booksize format	6SL3162-2BM01-0AA0
24 V terminal adapter For all Line Modules and Motor Modules in booksize format	6SL3162-2AA00-0AA0
Reinforced DC link busbar set For replacing DC link busbars for 5 modules in booksize format with a width of <ul style="list-style-type: none"> • 50 mm • 100 mm 	6SL3162-2DB00-0AA0 6SL3162-2DD00-0AA0

Double Motor Modules in booksize format C/D type

Double Motor Module in booksize format C/D type



Double Motor Module in booksize format C/D type

The Double Motor Modules in booksize format C/D type 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 plug connector (not included in the scope of delivery)
- 2 safe standstill inputs (1 input per axis)
- 2 safe motor brake controls
- 2 temperature sensor inputs
- 1 PE/protective conductor connection

Two multi-color LEDs indicate the status of the Motor Modules. The shield is integrated in the housing, which results in an improved shield connection.

Motor Modules in booksize format C/D type, 2 x 3 A to 2 x 18 A					
Rated current	3 A	5 A	9 A	18 A	30 A
	D types				
Single Motor Modules	3 A / 9 A 50 mm	5 A / 15 A 50 mm	9 A / 27 A 50 mm	18 A / 54 A 50 mm	30 A / 90 A 100 mm
Double Motor Modules	2 x 3 A / 2 x 9 A 50 mm	2 x 5 A / 2 x 15 A 50 mm	2 x 9 A / 2 x 27 A 50 mm	2 x 18 A / 2 x 54 A 100 mm	–
	C types				
				18 A / 36 A 50 mm	30 A / 56 A 100 mm
				2 x 18 A / 2 x 36 A 100 mm	–
Rated current/maximum current in A widths 50 mm or 100 mm					

Overview of the available Motor Modules in booksize format C/D type

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

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

The Motor Modules in booksize format C/D type have been developed to be fully compatible with the book-size series regarding spare parts. The advantages of this new product include:

- 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 fans can be simply replaced without having to remove the Motor Module

The signal cable shield can be connected to the Motor Module using a shield connection terminal, e.g. Weidmüller type KLBÜ 3-8 SC.

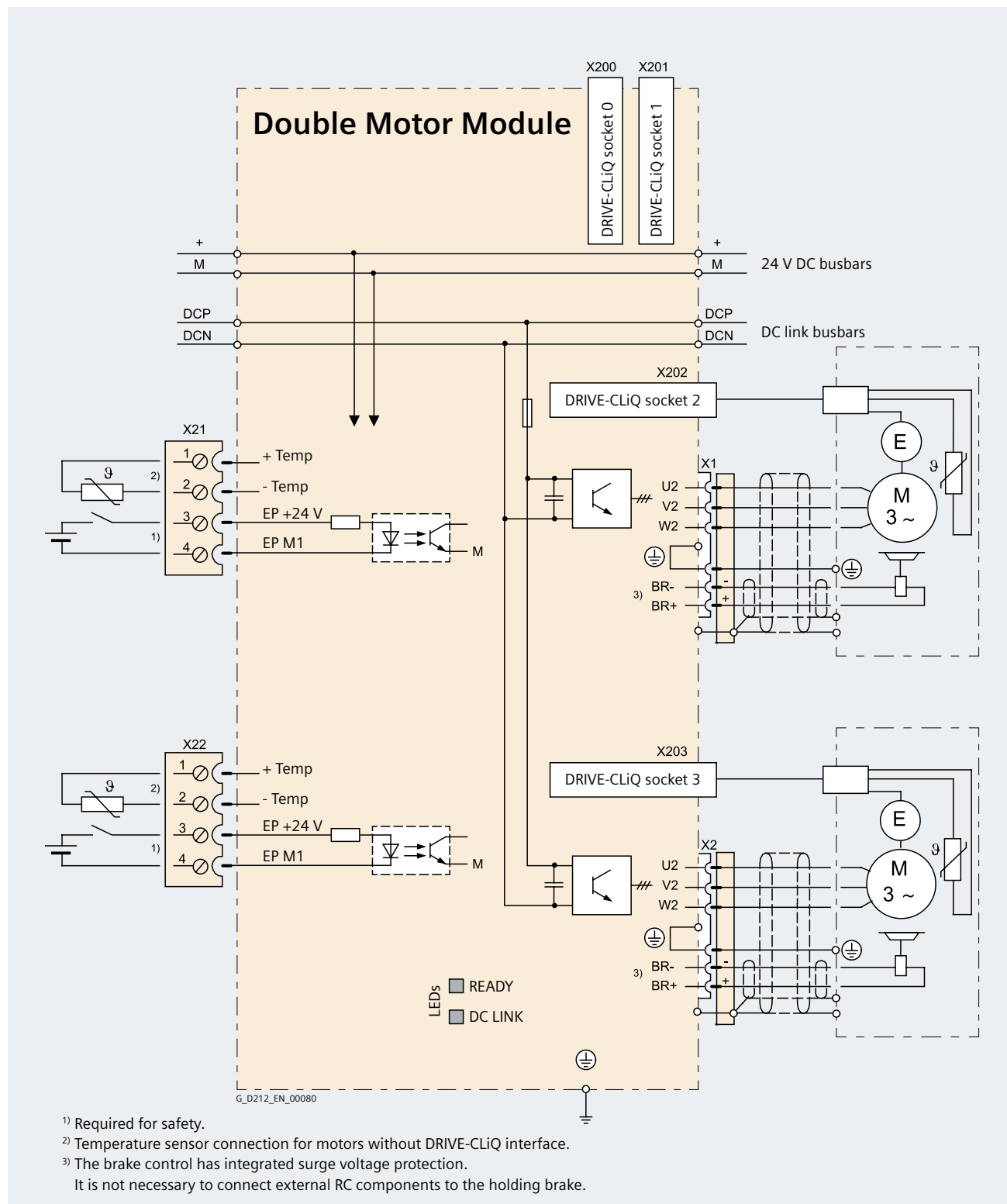
The Motor Module scope of delivery includes:

- DRIVE-CLiQ cable corresponding to the width of the Motor Module for connection to the adjacent Motor Module, length = width of Motor Module + 0.06 m
- 2 blanking plugs for sealing unused DRIVE-CLiQ sockets
- Jumper for connecting the 24 V DC busbar to the adjacent Motor Module
- Plug connectors X21 and X22
- Device fans for cooling the power units, which are operated from the internal voltage levels
- 1 set of warning labels in 30 languages
- 1 shield connection terminal

Double Motor Modules in booksize format C/D type

Integration

Double Motor Modules communicate with the Control Unit via DRIVE-CLiQ.



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

Double Motor Modules in booksize format C/D type

Technical specifications

Double Motor Module in booksize format C/D type	
DC link voltage (up to 2000 m above sea level)	510 ... 720 V DC (line voltage 380 ... 480 V 3 AC)
Output frequency <ul style="list-style-type: none"> • Servo control mode • Vector control mode • U/f control mode 	0 ... 650 Hz ^{1) 2) 3)} 0 ... 300 Hz ²⁾ 0 ... 600 Hz ^{2) 3)}
Electronics power supply	24 V DC -15 %/+20 %
Cooling method	Internal air cooling, power units with forced air cooling using an integrated fan
Permissible ambient and coolant temperature (air) during operation for line-side components, Line Modules and Motor Modules	0 ... 40 °C without derating, > 40 ... 55 °C, see derating characteristics
Installation altitude	Up to 1000 m above sea level without derating, > 1000 ... 4000 m above sea level, see derating characteristics
Declarations of Conformity	CE (Low Voltage and EMC Directive)
Certificate of suitability	cULus
Safety Integrated	Safety Integrity Level 2 (SIL 2) according to IEC 61508, Performance Level d (PL d) and Category 3 acc. to EN ISO 13849-1

¹⁾ At rated output current

(max. output frequency 1300 Hz for 62.5 µs current controller cycle, 8 kHz pulse frequency, 60 % permissible output current).

²⁾ Note the correlation between max. output frequency, pulse frequency and current derating.

³⁾ The output frequency is currently limited to 550 Hz. The specified values apply to systems with license for high output frequency.

For more information, see <https://support.industry.siemens.com/cs/document/104020669>

Double Motor Modules in booksize format C/D type

Technical specifications

DC link voltage 510 ... 720 V DC		Double Motor Module in booksize format C/D type			
Internal air cooling C type	6SL3120-...	–	–	–	2TE21-8AC0
Internal air cooling D type	6SL3120-...	2TE13-0AD0	2TE15-0AD0	2TE21-0AD0	2TE21-8AD0
Output current					
• 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
Type rating ¹⁾					
• Based on I_{rated}	kW	2 × 1.6	2 × 2.7	2 × 4.8	2 × 9.7
• Based on I_H	kW	2 × 1.4	2 × 2.3	2 × 4.1	2 × 8.2
DC link current I_d ²⁾	A	7.2	12	22	43
Current carrying capacity					
• DC link busbars	A	100	100	100	100
• 24 V DC busbars ³⁾	A	20	20	20	20
DC link capacitance	μF	220	220	220	705
Current demand At 24 V DC, max.	A	0.9	0.9	0.9	1.1
Internal air cooling					
• Power loss ⁴⁾					
– Maximum losses	kW	0.1	0.13	0.19	0.35
– Typical losses ⁵⁾	kW	0.05	0.08	0.15	0.28
• Cooling air requirement	m ³ /s	0.009	0.009	0.009	0.0155
• Sound pressure level L_{pA} (1 m)	dB	<60	<60	<60	<60
Motor connection U2, V2, W2		2 × plug connectors (X1, X2) ⁵⁾ , 2 × (1.5 ... 6 mm ²)	2 × plug connectors (X1, X2) ⁵⁾ , 2 × (1.5 ... 6 mm ²)	2 × plug connectors (X1, X2) ⁵⁾ , 2 × (1.5 ... 6 mm ²)	2 × plug connectors (X1, X2) ⁵⁾ , 2 × (1.5 ... 6 mm ²)
PE connection		M5 screw	M5 screw	M5 screw	M5 screw
Motor brake connection		Integrated in the motor plug connector (X1, X2), 24 V DC, 2 A	Integrated in the motor plug connector (X1, X2), 24 V DC, 2 A	Integrated in the motor plug connector (X1, X2), 24 V DC, 2 A	Integrated in the motor plug connector (X1, X2), 24 V DC, 2 A
Motor cable length, max.					
• Shielded	m	50	50	50	70
• Unshielded	m	75	75	75	100
Degree of protection		IP20	IP20	IP20	IP20
Dimensions					
• Width	mm	50	50	50	100
• Height	mm	380	380	380	380
• Depth	mm	270	270	270	270
Weight, approx.	kg	4.7	4.7	4.7	7.7

¹⁾ Rated power of a typical standard induction motor at 400 V 3 AC.

²⁾ Rated DC link current for dimensioning an external DC connection.

³⁾ If the current carrying capacity exceeds 20 A as several Line Modules and Motor Modules are mounted side-by-side, an additional 24 V DC connection using a 24 V terminal adapter is required (max. cross-section 6 mm², max. fuse protection 20 A).

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

⁵⁾ Plug connector not included in scope of delivery, see [Accessories](#).

⁶⁾ At the max. motor cable length 30 m, pulse frequency 4 kHz and DC link voltage 540 ... 600 V.

Double Motor Modules in booksize format C/D type

Selection and ordering data

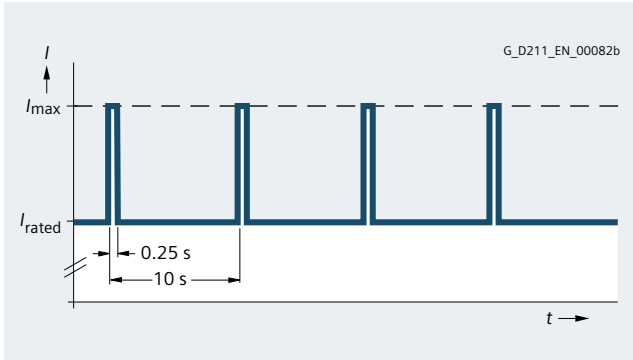
Rated output current	Type rating	Double Motor Module in booksize format C/D type	
A	kW	C type Internal air cooling Article No.	D type Internal air cooling Article No.
DC link voltage 510 ... 720 V DC			
2 × 3	2 × 1.6	–	6SL3120-2TE13-0AD0
2 × 5	2 × 2.7	–	6SL3120-2TE15-0AD0
2 × 9	2 × 4.8	–	6SL3120-2TE21-0AD0
2 × 18	2 × 9.7	6SL3120-2TE21-8AC0	6SL3120-2TE21-8AD0

Description	Article No.
Accessories	
Power connector (X1/X2) with screw connection NEW At the Motor Module end, with 1.5 ... 6 mm ² screw-type terminals For Motor Modules in booksize format C/D type with rated output current 3 ... 30 A	6SL3162-2MA00-0AC0
Power connector (X1/X2) with push-in connection NEW At the Motor Module end, with 1.5 ... 6 mm ² spring-type terminals For Motor Modules in booksize format C/D type with rated output current 3 ... 30 A	6SL3162-2MB00-0AC0
DC link rectifier adapter To directly connect the DC link voltage, 0.5 ... 10 mm ² screw-type terminals For Line Modules and Motor Modules in booksize format with widths of 50 mm and 100 mm	6SL3162-2BD00-0AA0
DC link adapter (2 adapters) For multi-tier configurations 35 ... 95 mm ² screw-type terminals For all Line Modules and Motor Modules in booksize format	6SL3162-2BM01-0AA0
24 V terminal adapter For all Line Modules and Motor Modules in booksize format	6SL3162-2AA00-0AA0
Reinforced DC link busbar set For replacing DC link busbars for 5 modules in booksize format with a width of <ul style="list-style-type: none"> • 50 mm • 100 mm 	6SL3162-2DB00-0AA0 6SL3162-2DD00-0AA0

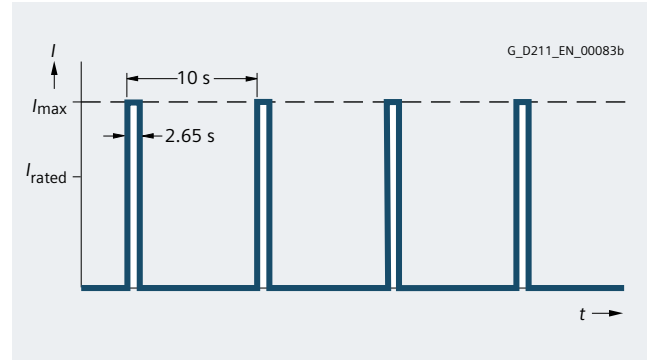
Characteristics for Single/Double Motor Modules in booksize format C type

Characteristics

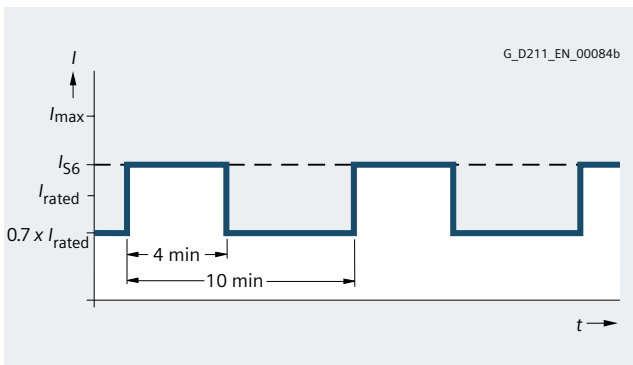
Overload capability for booksize format C type



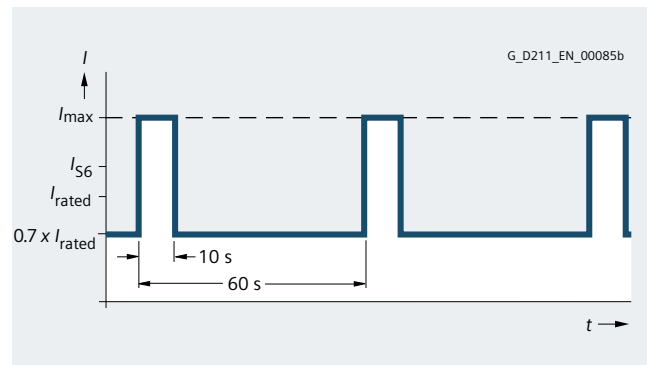
Load cycle with preload



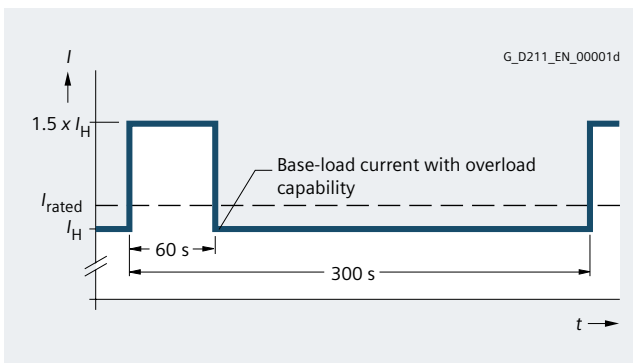
Load cycle without preload



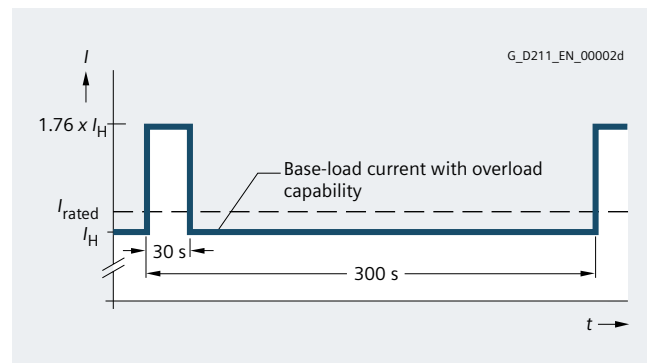
S6 load cycle with preload for a 600 s load cycle duration



S6 load cycle with preload for a 60 s load cycle duration



Load cycle with 60 s overload for a 300 s load cycle duration

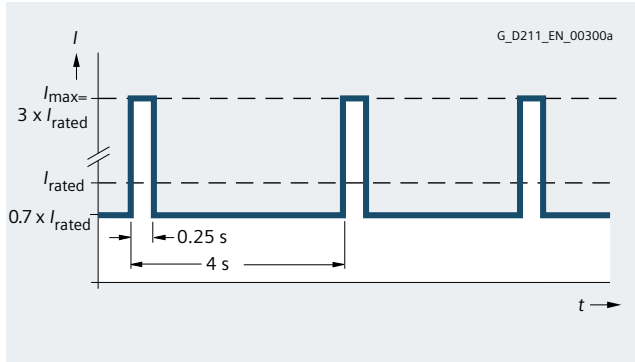


Load cycle with 30 s overload for a 300 s load cycle duration

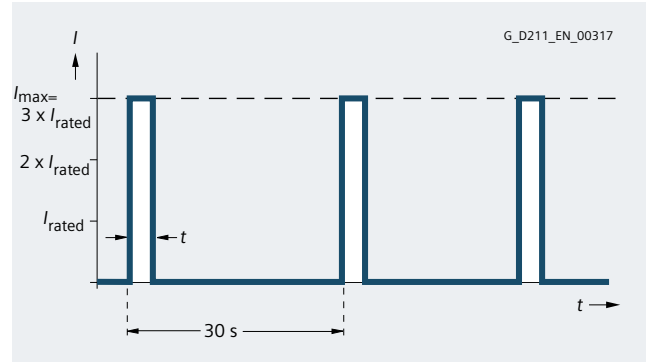
Characteristics for Single/Double Motor Modules in booksize format D type

Characteristics

Overload capability for booksize format D type



Peak current load cycle with preload (300 % overload)



Peak current load cycle without preload (300 % overload)

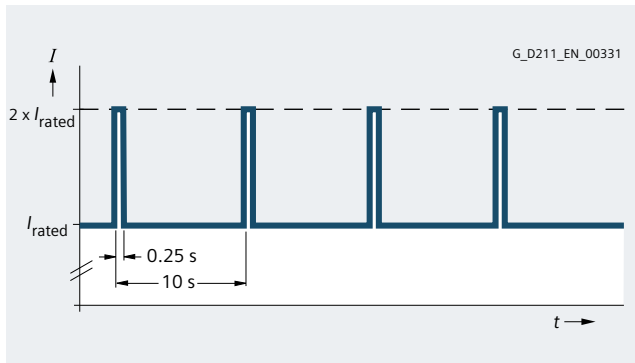
Single Motor Module	Double Motor Module	Time t for I_{max}
3 A	2 × 3 A	0.5 s
5 A	2 × 5 A	0.5 s
9 A	2 × 9 A	0.5 s
18 A	2 × 18 A	1.25 s
30 A	–	3 s

This load cycle is only permissible for pulse frequencies up to 8 kHz. The current must be derated for pulse frequencies $> 4 \text{ kHz}$.

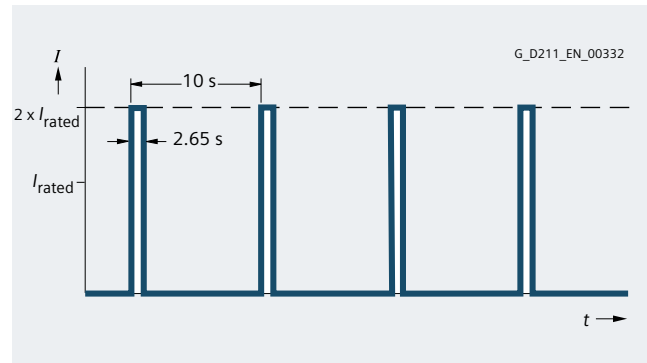
Characteristics for Single/Double Motor Modules in booksize format D type

Characteristics

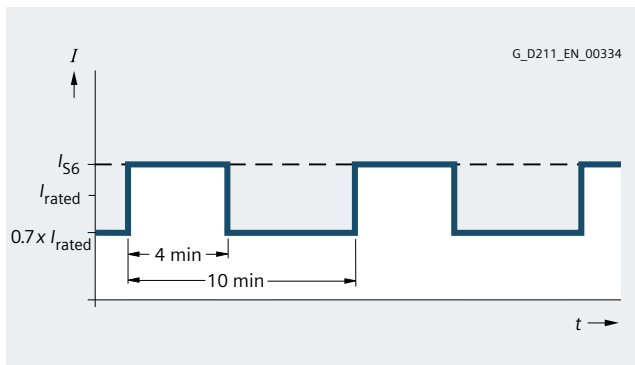
Overload capability for booksize format D type



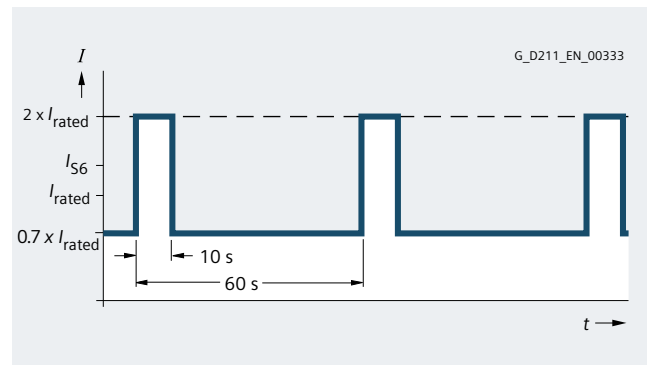
Load cycle with preload



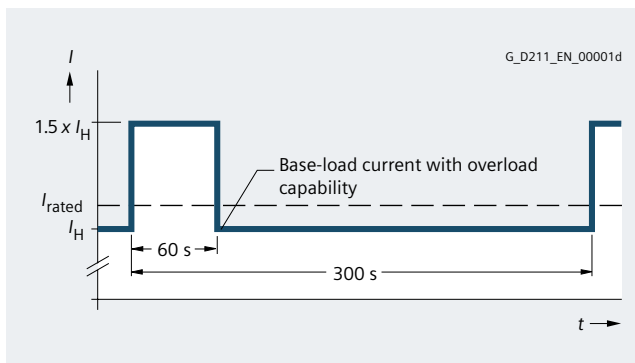
Load cycle without preload



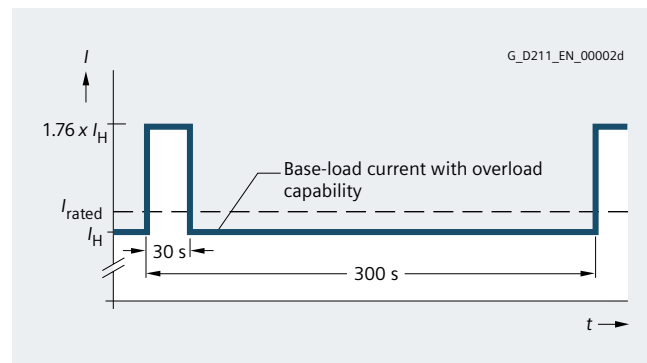
S6 load cycle with preload for a 600 s load cycle duration



S6 load cycle with preload for a 60 s load cycle duration



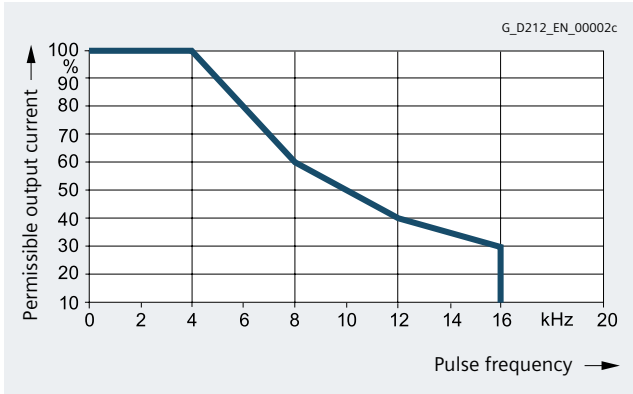
Load cycle with 60 s overload for a 300 s load cycle duration



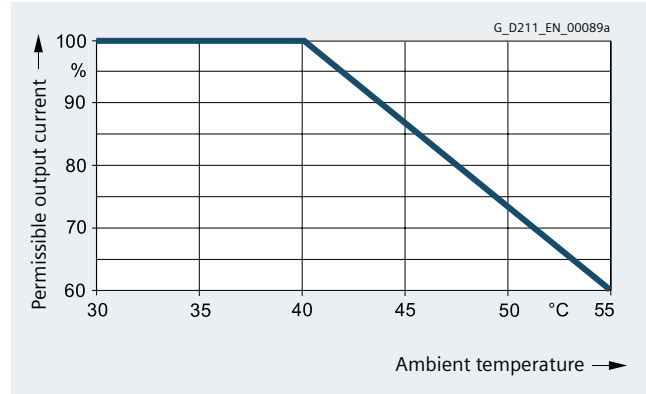
Load cycle with 30 s overload for a 300 s load cycle duration

Characteristics for Single/Double Motor Modules in booksize format C/D type

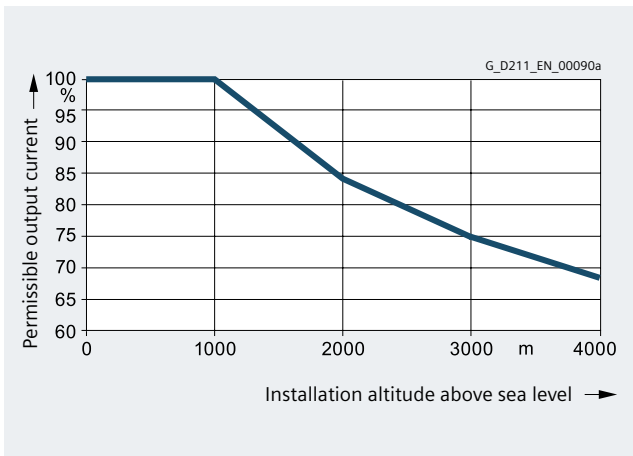
Characteristics Derating characteristics for booksize format C/D type



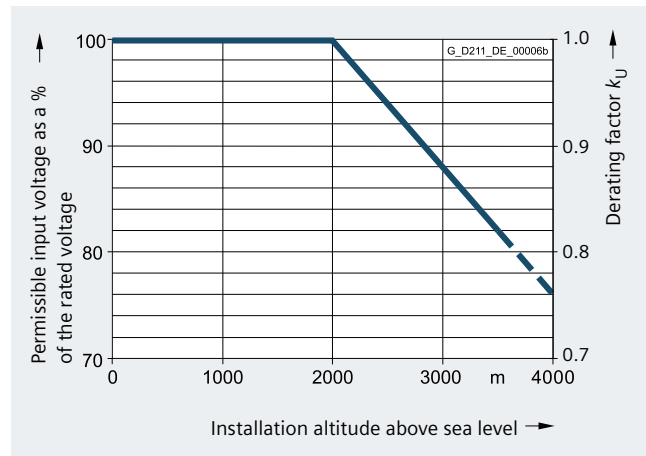
Output current as a function of the pulse frequency



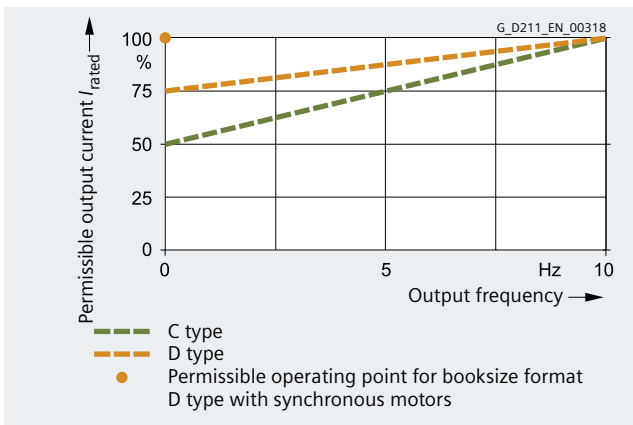
Output current as a function of the ambient temperature



Output current as a function of the installation altitude



Input voltage as a function of the installation altitude



Output current at low output frequencies

MOTION-CONNECT power cables for SINAMICS S120 Motor Modules in booksize format C/D type

The new MOTION-CONNECT power cables are available; these are harmonized with the new SINAMICS S120 Motor Modules in booksize format C/D type – and are used to connect SIMOTICS motors.

They supplement the range of MOTION-CONNECT power cables for connecting SIMOTICS S/M/T/L motors, and have the following features and benefits



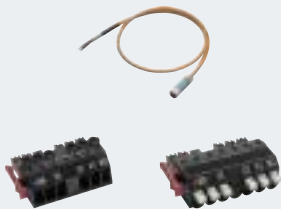




Features:

- Cross-sections 1.5 mm² to 10 mm² with/without brake conductors
- PUR or PVC cable sheath for moving (cable drag) or fixed cable installation
- On the module end, fabricated with a new plug connector or with prepared conductor ends with/without plug connector

- On the motor end with size 0.5 to 3 round connector, screw couplings or free conductor ends
- DESINA color
- Oil resistant acc. to EN 60811-2-1
- Free of CFCs/silicon, halogen-free PUR material
- RoHS conformity

Benefits:

- Optimized usability (PE connection integrated in the plug connector, rugged shield connection)
- Reliability and flexibility through the use of spring-type terminals
- Compact design by optimizing insulation stripping lengths and disturbing contour of the connection system

Power cables for SINAMICS S120 Motor Modules in booksize format C/D type		
Connection options	Description	Article No./type
Module end		
	Prefabricated	6FX.002-.....-.....
	With prepared conductor ends and plug connector with spring-type terminals provided without actuator	6FX.012-.....-.....
	With prepared conductor ends without plug connector And SINAMICS power connector accessories – with screw connection, or – with push-in connection (spring-type terminals with actuator)	6FX.022-.....-..... 6SL3162-2MA00-0ACO 6SL3162-2MB00-0ACO
Motor end		
	Prefabricated	6FX.002-5CS.-..... 6FX.002-5DS.-..... 6FX.002-5CN.-..... 6FX.002-5DN.-.....
	With prepared conductor ends and plug connector provided	6FX.042-5CS.-..... 6FX.042-5DS.-..... 6FX.042-5CN.-..... 6FX.042-5DN.-.....
	With open conductor ends	6FX.002-5CW.-.....
	With screw coupling	6FX.002-5CP.-..... 6FX.002-5CR.-.....

MOTION-CONNECT power cables for SINAMICS S120 Motor Modules in booksize format C/D type

Cable cross-section	Cable with brake conductors	Cable connection at the motor end	Cable use with SIMOTICS	Cable with PVC sheath for SINAMICS S120 Motor Modules in booksize format C/D type	Cable with PUR sheath for SINAMICS S120 Motor Modules in booksize format C/D type
1.5 mm ²	No	Connector size 0.5 SPEED-CONNECT	S	6FX50 ■ 2-5CN27-	6FX80 ■ 2-5CN27-
1.5 mm ²	No	Connector size 1 SPEED-CONNECT	S	6FX50 ■ 2-5CN06-	6FX80 ■ 2-5CN06-
1.5 mm ²	No	Connector size 1.5 SPEED-CONNECT	S/M	6FX50 ■ 2-5CN26-	6FX80 ■ 2-5CN26-
1.5 mm ²	No	Connector size 1 full thread	S	6FX50 ■ 2-5CS06-	6FX80 ■ 2-5CS06-
1.5 mm ²	No	Connector size 1.5 full thread	S/M	6FX50 ■ 2-5CS26-	6FX80 ■ 2-5CS26-
1.5 mm ²	No	Free conductor ends	S/M	6FX50 ■ 2-5CW02-	–
1.5 mm ²	Yes	Connector size 0.5 SPEED-CONNECT	S	6FX50 ■ 2-5DN27-	6FX80 ■ 2-5DN27-
1.5 mm ²	Yes	Connector size 1 SPEED-CONNECT	S	6FX50 ■ 2-5DN06-	6FX80 ■ 2-5DN06-
1.5 mm ²	Yes	Connector size 1.5 SPEED-CONNECT	S	6FX50 ■ 2-5DN26-	6FX80 ■ 2-5DN26-
1.5 mm ²	Yes	Connector size 0.5 full thread	S	6FX50 ■ 2-5DS27-	6FX80 ■ 2-5DS27-
1.5 mm ²	Yes	Connector size 1 full thread	S	6FX50 ■ 2-5DS06-	6FX80 ■ 2-5DS06-
1.5 mm ²	Yes	Connector size 1.5 full thread	S	6FX50 ■ 2-5DS26-	6FX80 ■ 2-5DS26-
2.5 mm ²	No	Connector size 1 SPEED-CONNECT	S/L/T	6FX50 ■ 2-5CN16-	6FX80 ■ 2-5CN16-
2.5 mm ²	No	Connector size 1.5 SPEED-CONNECT	S/M	6FX50 ■ 2-5CN36-	6FX80 ■ 2-5CN36-
2.5 mm ²	No	Connector size 1 full thread	S	6FX50 ■ 2-5CS16-	6FX80 ■ 2-5CS16-
2.5 mm ²	No	Connector size 1.5 full thread	S/M	6FX50 ■ 2-5CS36-	6FX80 ■ 2-5CS36-
2.5 mm ²	No	Free conductor ends	S/M	6FX50 ■ 2-5CW12-	–
2.5 mm ²	No	M25 screw coupling	M	–	6FX80 ■ 2-5CP17-
2.5 mm ²	Yes	Connector size 1 SPEED-CONNECT	S	6FX50 ■ 2-5DN16-	6FX80 ■ 2-5DN16-
2.5 mm ²	Yes	Connector size 1.5 SPEED-CONNECT	S	6FX50 ■ 2-5DN36-	6FX80 ■ 2-5DN36-
2.5 mm ²	Yes	Connector size 1 full thread	S	6FX50 ■ 2-5DS16-	6FX80 ■ 2-5DS16-
2.5 mm ²	Yes	Connector size 1.5 full thread	S	6FX50 ■ 2-5DS36-	6FX80 ■ 2-5DS36-
Cable at module and motor end					
– Prefabricated				0	0
Cable at module end					
– with prepared end with plug connector				1	1
– with prepared end without plug connector				2	2
Cable at motor end with plug connector					
– with prepared end with plug connector				4	4
Length code			

MOTION-CONNECT power cables for SINAMICS S120 Motor Modules in booksize format C/D type

Cable cross-section	Cable with brake conductors	Cable connection at the motor end	Cable use with SIMOTICS	Cable with PVC sheath for SINAMICS S120 Motor Modules in booksize format C/D type	Cable with PUR sheath for SINAMICS S120 Motor Modules in booksize format C/D type
4 mm ²	No	Connector size 1.5 SPEED-CONNECT	S/M/L/T	6FX50 2-5CN46-	6FX80 2-5CN46-
4 mm ²	No	Connector size 1.5 full thread	S/M	6FX50 2-5CS46-	6FX80 2-5CS46-
4 mm ²	No	Free conductor ends	S/M	6FX50 2-5CW42-	–
4 mm ²	No	M25 screw coupling	M	–	6FX80 2-5CP27-
4 mm ²	No	M32 screw coupling	M	–	6FX80 2-5CP26-
4 mm ²	Yes	Connector size 1.5 SPEED-CONNECT	S	6FX50 2-5DN46-	6FX80 2-5DN46-
4 mm ²	Yes	Connector size 1.5 full thread	S	6FX50 2-5DS46-	6FX80 2-5DS46-
6 mm ²	No	Connector size 1.5 SPEED-CONNECT	S/M	6FX50 2-5CN56-	6FX80 2-5CN56-
6 mm ²	No	Connector size 1.5 full thread	S/M	6FX50 2-5CS56-	6FX80 2-5CS56-
6 mm ²	No	Free conductor ends	S/M	6FX50 2-5CW52-	–
6 mm ²	Yes	Connector size 1.5 SPEED-CONNECT	S	6FX50 2-5DN56-	6FX80 2-5DN56-
6 mm ²	Yes	Connector size 1.5 full thread	S	6FX50 2-5DS56-	6FX80 2-5DS56-
10 mm ²	No	Connector size 1.5 SPEED-CONNECT	S/M	6FX50 2-5CN66-	6FX80 2-5CN66-
10 mm ²	No	Connector size 3 full thread	S/M	6FX50 2-5CS17-	6FX80 2-5CS17-
10 mm ²	No	Connector size 1.5 full thread	S/M	6FX50 2-5CS66-	6FX80 2-5CS66-
10 mm ²	No	Free conductor ends	S/M	6FX50 2-5CW62-	–
10 mm ²	No	M32 screw coupling	M	–	6FX80 2-5CP46-
10 mm ²	No	M40 screw coupling	M	–	6FX80 2-5CP47-
10 mm ²	No	M50 screw coupling	M	–	6FX80 2-5CP45-
10 mm ²	Yes	Connector size 1.5 SPEED-CONNECT	S	6FX50 2-5DN66-	6FX80 2-5DN66-
10 mm ²	Yes	Connector size 1.5 full thread	S	6FX50 2-5DS66-	6FX80 2-5DS66-
10 mm ²	Yes	Connector size 3 full thread	S	6FX50 2-5DS17-	6FX80 2-5DS17-
Cable at module and motor end					
– Prefabricated				0	0
Cable at module end					
– with prepared end with plug connector				1	1
– with prepared end without plug connector				2	2
Cable at motor end with plug connector					
– with prepared end with plug connector				4	4
Length code			

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.

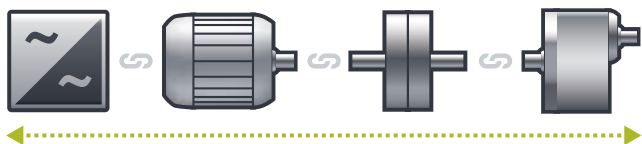
Integrated Drive Systems are Siemens' trendsetting answer to the high degree of complexity that characterizes drive and automation technology today. The world's only true one-stop solution for entire drive systems is characterized in particular by its threefold integration:

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 system 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.



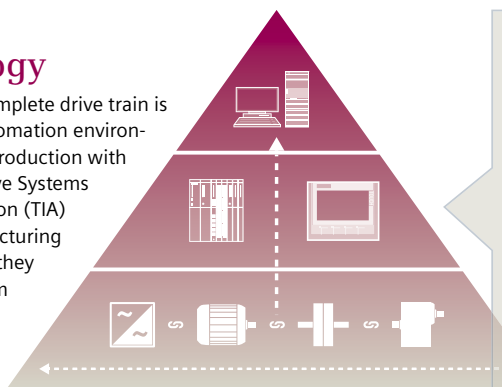
You can boost the availability of your application or plant to up to

99%*

*e.g. for conveyor application

Integration in automation technology

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) – from the field level up to the manufacturing execution system – 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.



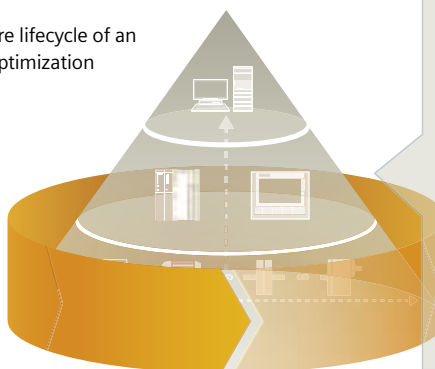
With TIA Portal you can cut your engineering time by up to

30%

Lifecycle integration

Lifecycle integration adds the factor of time: Software and service are available over 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 a shorter time to profit.



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

15%

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**See for yourself how
Integrated Drive
Systems enhance the
competitiveness of
production plants and
entire companies in
every sector.**

The advantages of
Integrated
Drive Systems
at a glance



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