

SINAMICS S120 drive system

Line Modules and line-side components

Basic Line Modules in booksize format

Overview



Basic Line Modules in booksize format

Basic Line Modules are used for applications in which no energy is returned to the supply or where the energy exchange between motor and generator axes takes place in the DC link. Basic Line Modules can only feed energy from the supply system into the DC link, energy cannot be fed back into the supply system. The DC link voltage is directly derived from the 3-phase line voltage via a 6-pulse bridge circuit. Basic Line Modules are designed for connection to grounded, star TN/TT systems and non-grounded, symmetrical IT systems. The connected Motor Modules are pre-charged over the integrated pre-charging resistors (20 kW and 40 kW) or through activation of the thyristors (100 kW).

The 20 kW and 40 kW Basic Line Modules are equipped with an integrated brake chopper. With the addition of an external braking resistor, they can be used for applications with intermittent regenerative operation such as stopping.

A Braking Module is required with a 100 kW Basic Line Module in addition to an external braking resistor for regenerative operation.

Design

The Basic Line Modules in booksize format feature the following connections and interfaces as standard:

- 1 power connection
- 1 connection for the 24 V DC electronics power supply
- 1 DC link connection
- 3 DRIVE-CLiQ sockets
- 1 connection for braking resistor (20 kW and 40 kW Basic Line Modules only)
- 1 temperature sensor input

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

The scope of supply of the Basic Line Modules includes:

- DRIVE-CLiQ cable for connection to the adjacent Control Unit on the left for drive control, length 0.11 m (4.33 in)
- DRIVE-CLiQ cable (length depends on module width) to connect Basic Line Module to adjacent Motor Module, length = width of Basic Line Module + 0.11 m (4.33 in)
- Jumper for connecting the 24 V DC busbar to the adjacent Motor Module
- 24 V terminal adapter (X24)
- Connector X21
- 2 blanking plugs for sealing unused DRIVE-CLiQ sockets
- 1 set of warning signs in 30 languages
- 1 heat conducting foil (for Basic Line Modules with cold plate cooling only)

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Selection and ordering data

Description	Basic Line Module in booksize format Order No.
Line voltage 380 ... 480 V 3 AC	
Internal air cooling	
Rated supply power:	
20 kW (25 HP)	6SL3130-1TE22-0AA0
40 kW (50 HP)	6SL3130-1TE24-0AA0
100 kW (125 HP)	6SL3130-1TE31-0AA0
Cold plate cooling	
Rated supply power:	
20 kW (25 HP)	6SL3136-1TE22-0AA0
40 kW (50 HP)	6SL3136-1TE24-0AA0
100 kW (125 HP)	6SL3136-1TE31-0AA0

Description	Order No.
Accessories	
Shield connection plate	
For Line Modules and Motor Modules in booksize format	
<ul style="list-style-type: none"> • 150 mm (5.91 in) wide for internal air cooling 	6SL3162-1AF00-0AA1
<ul style="list-style-type: none"> • 150 mm (5.91 in) wide for cold plate cooling 	6SL3162-1AF00-0BA1
<ul style="list-style-type: none"> • 200 mm (7.87 in) wide for internal air cooling 	6SL3162-1AH01-0AA0
<ul style="list-style-type: none"> • 200 mm (7.87 in) wide for cold plate cooling 	6SL3162-1AH01-0BA0
DC link rectifier adapter	
For direct infeed of DC link voltage	
<ul style="list-style-type: none"> • Screw-type terminals 0.5 ... 10 mm² for Line Modules and Motor Modules in booksize format with a width of 50 mm (1.97 in) or 100 mm (3.94 in) 	6SL3162-2BD00-0AA0
<ul style="list-style-type: none"> • Screw-type terminals 35 ... 95 mm² For Line Modules and Motor Modules in booksize format with a width of 150 mm, 200 mm and 300 mm (5.91 in, 7.87 in and 11.81 in) 	6SL3162-2BM00-0AA0
DC link adapters (2 units)	
For multi-tier configuration Screw-type terminals 35 ... 95 mm ² For all Line Modules and Motor Modules in booksize format	6SL3162-2BM01-0AA0
Accessories for re-ordering	
24 V terminal adapter	
For all Line Modules and Motor Modules in booksize format	6SL3162-2AA00-0AA0
24 V jumper	
For connection of the 24 V busbars (for booksize format)	6SL3162-2AA01-0AA0
Warning labels in 30 languages	
This set of foreign language warning labels can be placed on top of the standard German or English signs. A set of labels is supplied with the units. 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
Accessories pack (plug-in terminals, DRIVE-CLiQ jumper, dust-proof blanking plugs) For DRIVE-CLiQ port	
<ul style="list-style-type: none"> • For Basic Line Modules with a width of 100 mm (3.94 in) 	6SL3163-8LD00-0AA0
SINAMICS/SINUMERIK/SIMOTION dust-proof blanking plugs (50 units)	
For DRIVE-CLiQ port	6SL3066-4CA00-0AA0

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Smart Line Modules in booksize format
Selection and ordering data

Description	Smart Line Module in booksize format Order No.
Line voltage 380 ... 480 V 3 AC	
Internal air cooling	
Rated power:	
5 kW (5 HP)	6SL3130-6AE15-0AB1
10 kW (10 HP)	6SL3130-6AE21-0AB1
16 kW (18 HP)	6SL3130-6TE21-6AA3
36 kW (40 HP)	6SL3130-6TE23-6AA3
55 kW (60 HP)	6SL3130-6TE25-5AA3
External air cooling	
Rated power:	
5 kW (5 HP)	6SL3131-6AE15-0AA1
10 kW (10 HP)	6SL3131-6AE21-0AA1
16 kW (18 HP)	6SL3131-6TE21-6AA3
36 kW (40 HP)	6SL3131-6TE23-6AA3
55 kW (60 HP)	6SL3131-6TE25-5AA3
Cold plate cooling	
Rated power:	
5 kW (5 HP)	6SL3136-6AE15-0AA1
10 kW (10 HP)	6SL3136-6AE21-0AA1

Description	Order No.
Accessories	
Shield connection kit For Line/Motor Modules in booksize format with a width of 150 mm (5.91 in)	6SL3162-1AF00-0AA1
DC link rectifier adapter For direct infeed of DC link voltage	
<ul style="list-style-type: none"> Screw-type terminals 0.5 ... 10 mm² For Line Modules and Motor Modules in booksize format with a width of 50 mm (1.97 in) or 100 mm (3.94 in) 	6SL3162-2BD00-0AA0
<ul style="list-style-type: none"> Screw-type terminals 35 ... 95 mm² For Line Modules and Motor Modules in booksize format with a width of 150 mm, 200 mm and 300 mm (5.91 in, 7.87 in and 11.81 in) 	6SL3162-2BM00-0AA0
DC link adapter (2 units) For multi-tier configuration Screw-type terminals 35 ... 95 mm ² For all Line Modules and Motor Modules in booksize format	6SL3162-2BM01-0AA0
Accessories for re-ordering	
24 V terminal adapter For all Line Modules and Motor Modules in booksize format	6SL3162-2AA00-0AA0
24 V jumper For connection of the 24 V busbars (for booksize format)	6SL3162-2AA01-0AA0
Warning labels in 30 languages This set of foreign language warning labels can be placed on top of the standard German or English signs. A set of labels is supplied with the units. 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
Accessories pack (plug-in terminals, DRIVE-CLiQ jumper (length = module width + 60 mm (2.36 in)), dust-proof blanking plugs) For DRIVE-CLiQ port	
<ul style="list-style-type: none"> For modules with a width of 50 mm/100 mm (1.97 in/3.94 in) 	6SL3163-8KB00-0AA0
<ul style="list-style-type: none"> For modules with a width of 100 mm (3.94 in) 	6SL3163-8FD00-0AA0
<ul style="list-style-type: none"> For modules with a width of 150 mm (5.91 in) 	6SL3163-8GF00-0AA0
SINAMICS/SINUMERIK/SIMOTION dust-proof blanking plugs (50 units) For DRIVE-CLiQ port	6SL3066-4CA00-0AA0

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