

Overview



Braking resistor for blocksize format, frame sizes FSA and FSC

The PM340 Power Modules cannot regenerate into the line supply. For regenerative operation, e.g. the braking of a rotating mass, a braking resistor must be connected to convert the resulting energy into heat.

The braking resistor is connected at terminals DCP/R1 and R2.

The braking resistors can be installed at the side next to the PM340 Power Modules. The braking resistors for the FSA and FSB frame sizes are designed as base components. If the PM340 Power Modules of the FSA or FSB frame size are operated without line reactor, the braking resistors can also be installed under the Power Modules.

The braking resistors for the Power Modules of the FSC to FSF frame sizes should be placed outside the control cabinet or the switchgear room in order to direct the resulting heat loss away from the Power Modules, thereby allowing a corresponding reduction in the level of air conditioning required.

The braking resistors are designed with a temperature switch. The temperature switch must be evaluated to prevent consequential damage if the braking resistor overheats.

Technical specifications

Order No.	6SE6400-4BC05-0AA0
Product name	Braking resistor for Power Modules in blocksize format
DC link voltage	240 ... 360 V DC
Resistor	180 Ω
Rated power P_{DB}	0.05 kW
Peak power P_{max}	1 kW
Degree of protection¹⁾	IP20
Power connections	
• Shielded	3 × 1.5 mm ²
• Length	0.5 m (1.64 ft)
Thermostatic switch (NC contact)	
• Switching capacity	250 V AC/max. 2.5 A
• Conductor cross-section	0.5 ... 2.5 mm ²
Dimensions	
• Width	72 mm (2.83 in)
• Height	230 mm (9.06 in)
• Depth	43.5 mm (1.71 in)
Weight, approx.	1.0 kg (2.21 lb)
Approvals	cURus

¹⁾ With correctly connected load connection cable.

SINAMICS S120 drive system

DC link components

Braking resistors for blocksize format

Technical specifications (continued)

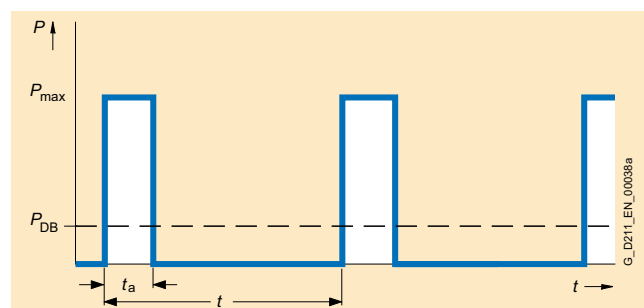
DC link voltage 510 ... 720 V DC

Order No.		6SE6400-4BD11-0AA0	6SL3201-0BE12-0AA0	6SE6400-4BD16-5CA0	6SE6400-4BD21-2DA0	6SE6400-4BD22-2EA0	6SE6400-4BD24-0FA0
Product name		Braking resistors for Power Modules in blocksize format					
Resistor	Ω	390	160	56	27	15	8,2
Rated power P_{DB}	kW	0.1	0.2	0.65	1.2	2.2	4.0
Peak power P_{max}	kW	1.7	4.1	12	24	44	80
Degree of protection¹⁾		IP20	IP20	IP20	IP20	IP20	IP20
Power connections					M6 screw studs	M6 screw studs	M6 screw studs
• Shielded	mm ²	3 × 1.5	3 × 1.5	3 × 1.5			
• Length	m (ft)	0.5 (1.64)	0.5 (1.64)	0.9 (2.95)			
Thermostatic switch (NC contact)							
• Switching capacity		250 V AC/ max. 2.5 A	250 V AC/ max. 2.5 A	250 V AC/ max. 2.5 A	250 V AC/ max. 2.5 A	250 V AC/ max. 2.5 A	250 V AC/ max. 0.2 A
• Conductor cross-section	mm ²	0.5 ... 2.5	0.5 ... 2.5	0.5 ... 2.5	0.5 ... 2.5	0.5 ... 2.5	0.5 ... 2.5
Dimensions							
• Width	mm (in)	72 (2.83)	153 (6.02)	185 (7.28)	270 (10.63)	270 (10.63)	400 (15.75)
• Height	mm (in)	230 (9.05)	329 (12.95)	285 (11.22)	515 (20.28)	645 (25.9)	650 (25.59)
• Depth	mm (in)	43.5 (1.71)	43.5 (1.71)	150 (5.9)	175 (6.89)	175 (6.89)	315 (12.4)
Weight, approx.	kg (lb)	1.0 (2)	1.6 (3)	3.8 (8)	7.4 (16)	10.6 (23)	16.7 (37)
Approvals		cURus	cURus	cURus	cURus	cURus	cURus

Selection and Ordering Data

Designation	Suitable for Power Module in blocksize format	Order No.
DC link voltage 240 ... 360 V DC (line voltage 200 ... 240 V 1 AC)		
Braking resistor		
180 Ω	Frame size FSA	6SE6400-4BC05-0AA0
DC link voltage 510 ... 720 V DC (line voltage 380 ... 480 V 3 AC)		
Braking resistor		
390 Ω	Frame size FSA	6SE6400-4BD11-0AA0
160 Ω	Frame size FSB	6SL3201-0BE12-0AA0
56 Ω	Frame size FSC	6SE6400-4BD16-5CA0
27 Ω	Frame size FSD	6SE6400-4BD21-2DA0
15 Ω	Frame size FSE	6SE6400-4BD22-2EA0
8.2 Ω	Frame size FSF	6SE6400-4BD24-0FA0

Characteristic curves



Load diagram for braking resistors in blocksize format

 $t_a = 12$ s $t = 240$ s

¹⁾ With correctly connected load connection cable.