SIEMENS

SINAMICS V20

The cost-effective, reliable and easy-to-use inverter for basic applications

Drives

siemens.com/sinamics-v20

SINAMICS V20

The perfect solution for basic applications

SINAMICS V20, the versatile inverter for basic demands

Today, in an increasing number of applications in plant and machinery construction, individual automation and drive solutions are demanded that automate simple motion sequences with low associated requirements.

With its compact SINAMICS V20, the basic performance inverter, Siemens offers a simple and cost-effective drive solution for these types of applications. SINAMICS V20 sets itself apart with its quick commissioning times, ease of operation, robustness and cost-efficiency.

With five frame sizes, it covers a power range extending from 0.12 kW up to 30 kW (1/6 hp up to 40 hp).

Minimize your costs

Engineering, commissioning and operating costs as well as those in operation must be kept as low as possible. You have precisely the right answer with our SINAMICS V20. To increase energy efficiency, the inverter is equipped with a control technique to achieve optimum energy efficiency through automatic flux reduction. Not only this, it displays the actual energy consumption and has additional, integrated energy-saving functions. This allows energy consumption to be slashed drastically.

Highlights
Easy to install
• Push-through and wall mounting – side-by-side possible for both
• USS and Modbus RTU at terminals
• Integrated braking chopper for 7.5 kW to 30 kW (10 hp up to 40 hp)
Easy to use
• Parameter loading without power supply
• Integrated application and connection macros
• Keep Running Mode for uninterrupted operation
• Wide voltage range, advanced cooling design and coated PCBs increase robustness
Easy to save money
• ECO mode for V/f, V²/f
• Hibernation mode
• DC coupling
• High overload and low overload mode for FSE

Power range	0.12 kW to 30 kW (1/6 hp up to 40 hp)
Voltage range	1AC 200 V ... 240 V (–10% / +10%) 3AC 380 V ... 480 V (–15% / +10%)
Control modes	V/f V²/f FCC V/f multi-point

Typical applications

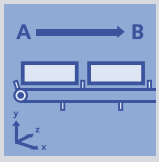
Pumping, ventilating and compressing

- **Centrifugal pumps**
- **Radial/axial fans**
- **Compressors**

Additional advantages:

- High availability through automatic restart and flying restart after power failures
- Broken belt detection by monitoring the load torque
- Pump protection against cavitation
- Hammer start and blockage clearing modes for clogged pumps
- PID controller for process values (e.g. temperature, pressure, level, flow)
- PID auto tuning to optimize controller parameters
- Hibernation mode stops the motor when demand is low
- Motor staging extends the flow range by adding two more fixed-speed drives (cascade)
- Frost and condensation protection prevents moisture in motors under extreme environmental conditions

Moving

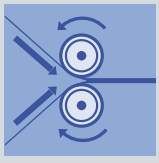


- **Belt conveyors**
- **Roller conveyors**
- **Chain conveyors**

Additional advantages:

- Soft, jerk-free acceleration reduces the stress on the gear units, bearings, drums and rollers
- Super torque start for conveyor belts with high breakaway torque
- Dynamic behavior by using braking resistor or DC braking
- Direct control of mechanical holding brake
- Broken belt detection by monitoring the load torque
- Precise stopping with Quick Stop (switch-off positioning) independently from the control cycle

Processing



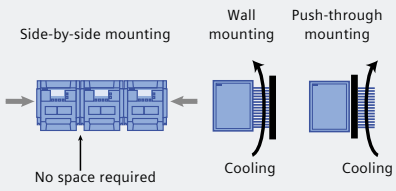
- **Single drives in the process industry** such as mills, mixers, kneaders, crushers, agitators, centrifuges
- **Main drives in machines with mechanically coupled axes** such as ring spinning machines, braiding machines for textile, ropes and wire

Additional advantages:

- Frost and condensation protection prevents moisture in motors under extreme environmental conditions
- Higher productivity with uninterrupted production due to Keep Running Mode
- Exchange of regenerative energy via the DC link
- Super torque start for machines with a high breakaway torque

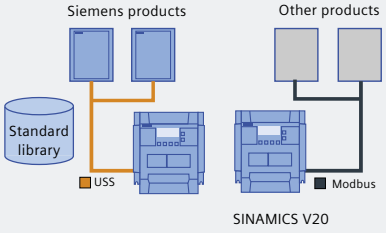
Easy to install

Installation



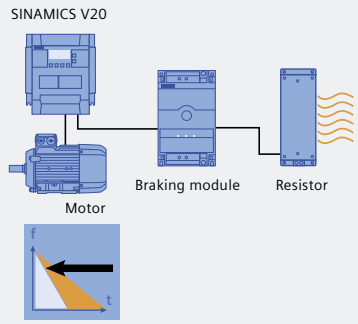
SINAMICS V20 feature	Your benefits
Compact design, side-by-side mounting and flexible device installation for both wall mounting and push-through mounting. Operation without additional option modules possible.	• Compact installation allows smaller cabinets to be used • Push-through mounting allows the cabinet to be cooled more easily • Can be run “out-of-the-box” without other options • Basic operator actions at a built-in BOP (Basic Operator Panel)

Communication



SINAMICS V20 feature	Your benefits
The communication port is available at the terminals. The preset parameters of the USS and Modbus RTU are defined in the connection macro.	• Easy integration into existing systems • Easy integration into micro automation systems • Easier commissioning through standard libraries and connection macros • Full flexibility of Modbus RTU settings widen to communicate with controller

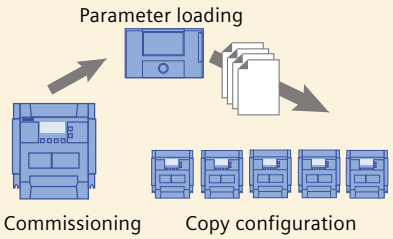
Braking module



SINAMICS V20 feature	Your benefits
The dynamic energy is dissipated as heat in a braking resistor with an adjustable duty cycle of between 5% and 100%.	• Possible to use dynamic braking to increase braking performance • Inverters ≥ 7.5 kW have an integrated braking module. In this case, the braking resistor can be directly connected.

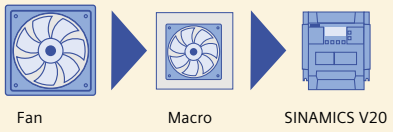
Easy to use

Parameter cloning



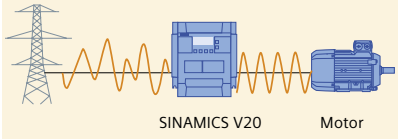
SINAMICS V20 feature	Your benefits
Parameter settings can be easily transferred from one unit to another even without power supply by using the parameter loader.	• Less technical support required • Short commissioning time • The product is delivered to the customer already preset

Macro approach



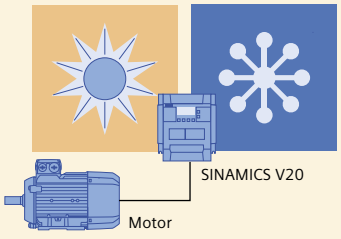
SINAMICS V20 feature	Your benefits
Connection and application macros to simplify I/O configuration and make the appropriate settings.	• Shorter training and commissioning time • Integrated and optimized application setting • Simple connection and application macros can be selected instead of configuring long complicated parameter lists • Errors caused by wrong parameter settings can be avoided

Keep Running Mode



SINAMICS V20 feature	Your benefits
The function provides higher productivity in production by automatic adaptation in the case of unstable line supplies.	• Stable operation under difficult line supply conditions • Higher productivity through prevention of interruptions of the production line • Adaptation to application-relevant reactions through flexible definition in case of fault/alarm

Robustness



SINAMICS V20 feature	Your benefits
Wider voltage range, better cooling design and coated PCB increase robustness of the drive in difficult environments.	• Operation possible when the line supply voltage fluctuates • Reliable operation for line voltages: – 1AC 200 V ... 240 V (–10% / +10%) – 3AC 380 V ... 480 V (–15% / +10%) • Operation up to an ambient temperature of 60 °C

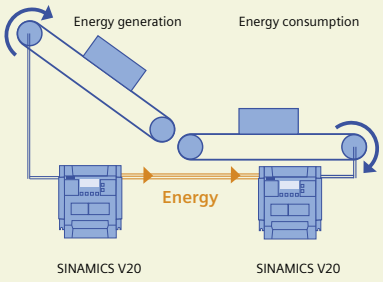
Easy to save money

Energy reduction during operation

[1)]

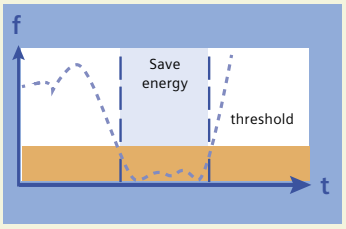
SINAMICS V20 feature	Your benefits
Integrated ECO mode for V/f and V^2/f automatically adapts the flux to save energy. The energy consumption can be shown in kWh, CO_2 or even in the local currency.	• Energy saving during low dynamic load cycles • If the setpoint changes, the ECO mode is automatically deactivated • Tells end users the actual energy that has been saved

Energy reduction during operation – DC coupling



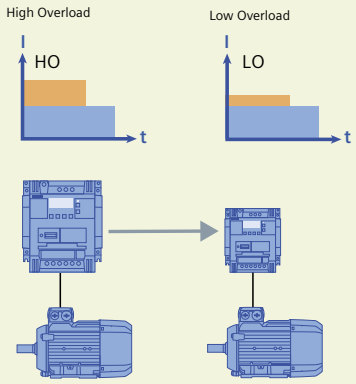
SINAMICS V20 feature	Your benefits
Applications that use SINAMICS V20 drives with the same power rating can share a common DC bus to reuse the regenerative energy.	• Generate and save energy in applications that use coupled motors • Pairs of identical inverters can optimally share resources • Reduce the need for dynamic braking and external components

Energy reduction during standby – hibernation mode



SINAMICS V20 feature	Your benefits
Inverter and motor only operate when the plant or machine requires them to. Hibernation mode will be activated automatically when the frequency demand or the feedback from a sensor drops below a specific threshold.	• Smart hibernation saves energy • Extended lifetime of motor • Reduced pump wear at low speed • Less time to program PLC code for pump/fan applications (PLC)

Cost saving at low overload application

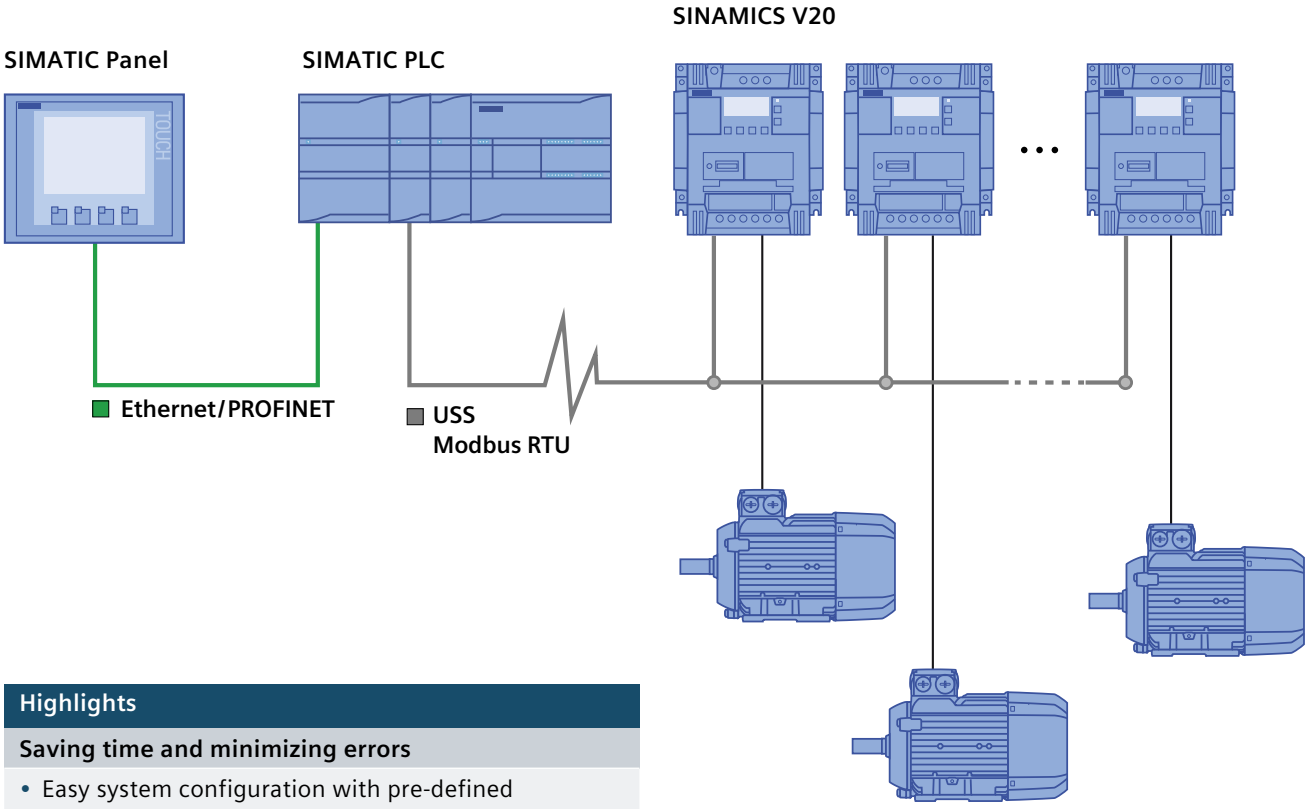


SINAMICS V20 feature	Your benefits
SINAMICS V20 FSE (22 kW and 30 kW) integrated two different load cycles. • Low Overload (LO): 110% I_L[2)] for 60 s (cycle time: 300 s) • High Overload (HO): 150% I_H[3)] for 60 s (cycle time: 300 s)	• With low overload cycle, the inverter can reach a higher output current and power. A smaller inverter can be used. • Optimally designed for variable applications: – Low Overload for applications with a low dynamic response (continuous duty) – High Overload for applications with a high dynamic response (cyclic duty)

[1)] Application and machine-type dependent.
[2)] The output current I_L is based on the duty cycle for low overload (LO).
[3)] The output current I_H is based on the duty cycle for high overload (HO).

Easy automation system

Combining SIMATIC PLC with SINAMICS V20



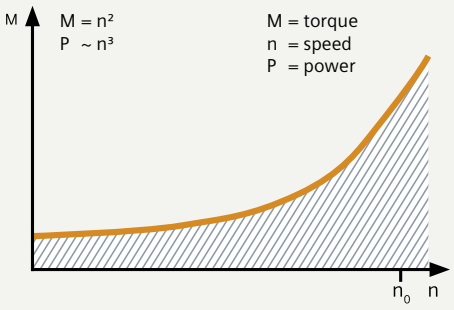
Highlights

Saving time and minimizing errors

- Easy system configuration with pre-defined macros in the inverter and pre-built Totally Integrated Automation Portal function blocks for quick connection to SIMATIC S7-1200**
- One cable to connect SINAMICS V20 with USS or Modbus RTU
- Integrated communication interface

** Application example with function blocks can be downloaded from Siemens Industry Online Support under: **http://support.automation.siemens.com/WW/view/en/63696870**

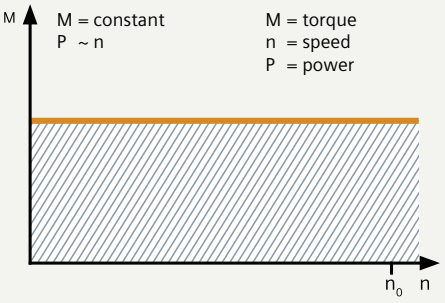
Overload capability characteristics



Low Overload (LO) is generally used for applications demanding a low level of dynamic performance (continuous duty), square-law torque characteristic with low breakaway torque and low speed precision.

For example: centrifugal pumps, radial/axial fans, reciprocating blowers, radial compressors, vacuum pumps, agitators, ...

Overload capability	
Low overload (LO)	110% I_L[1)] for 60 s within a cycle time of 300 s



High Overload (HO) is generally used for applications demanding a higher dynamic performance (cyclic duty) as well as constant torque characteristics with a high breakaway torque.

For example: conveyor belts, geared pumps, eccentric worm pumps, mills, mixers, crushers, vertical conveying equipment, centrifuges, ...

Overload capability	
High overload (HO)	150% I_H[2)] for 60 s within a cycle time of 300 s

[1)] The output current I_L is based on the duty cycle for low overload (LO).
[2)] The output current I_H is based on the duty cycle for high overload (HO).

SINAMICS V20 service

SINAMICS V20 service is integrated into our well-established global model.

- Global hotline support
- Comprehensive service network of factory-trained repair specialists
- Multiple language web-based support and FAQs

Online Support

The comprehensive online information platform supports you in all aspects of our service & support at any time and from any location in the world.

siemens.com/automation/service&support

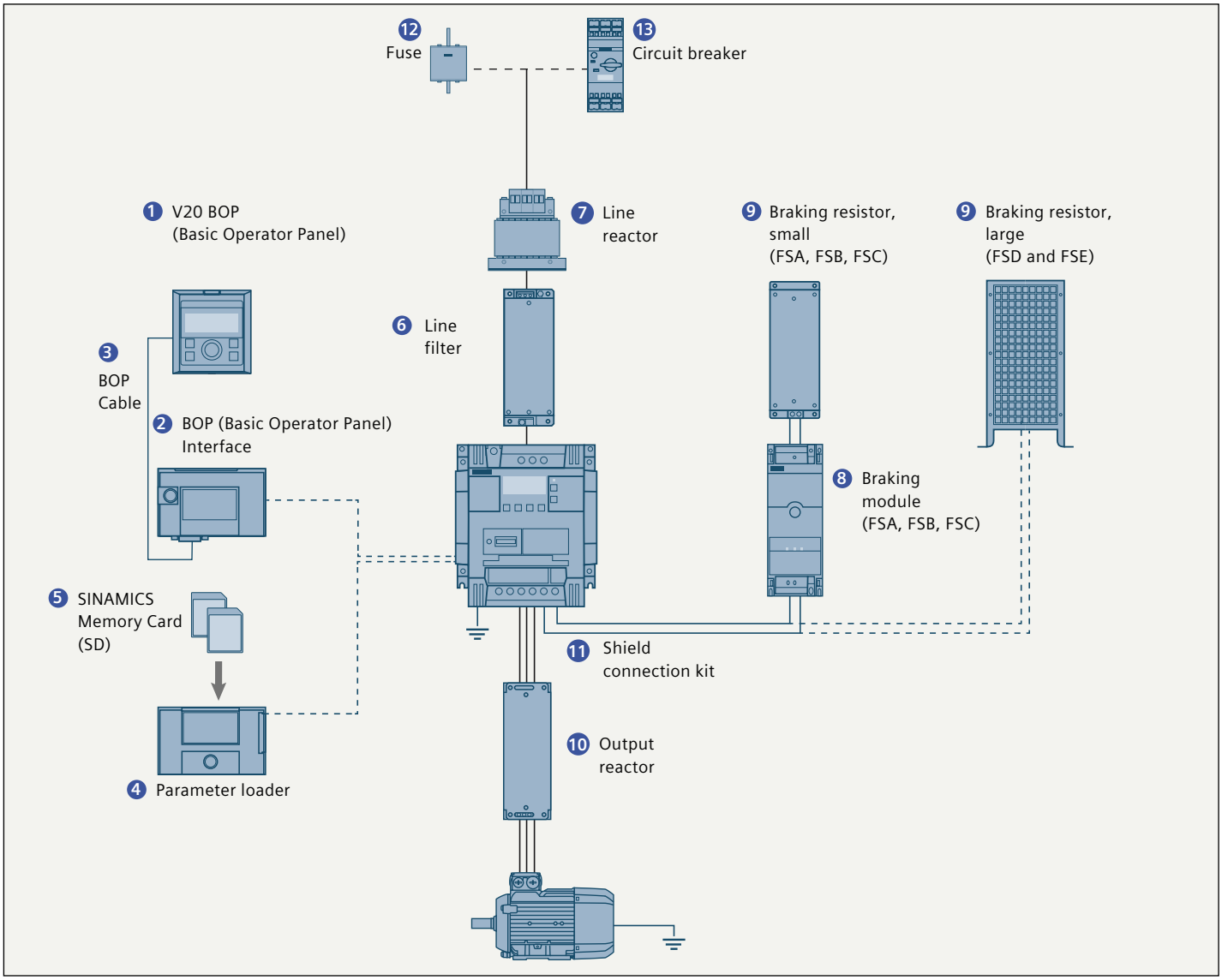
Technical support

Expert advice on technical questions with a wide range of demand-optimized services for all our products and systems.

Country	Hotline
China	+86 400 810 4288
Germany	+49 911 895 7222
India	+91 22 2760 0150
USA	+1 423 262 5710 / +1 800 333 7421
Further service contact information: Support contacts siemens.com/automation/support-request	

Full range of options

Everything you need...



	Options	
1	V20 BOP	Same function as the integrated BOP (Basic Operator Panel), but can be used for remote mounting. The value and setpoint are changed by rotating the wheel.
2	BOP interface	• Connection between inverter and BOP
3	BOP cable	3 m cable with connectors
4	Parameter loader	Up to 100 parameter sets with parameter settings can be written from the memory card to the inverter or saved from the inverter to the memory card without connecting the inverter to the line supply.
5	SINAMICS Memory Card (SD)	Memory card (512 MB)
6	Line filter	• Improved EMC performance • Longer motor cable for FSA

	Options	
7	Line reactor	• Reduces the harmonic current • Improves the power factor • Recommended if input current (RMS value) is higher than the rated current of the inverter
8	Braking module	• Shortens the deceleration ramp time • Suitable for 1AC 230 V and 3AC 400 V • Adjustable duty cycle from 5% to 100% • FSD and FSE already have an integrated braking unit
9	Braking resistor	• Dissipates regenerative energy as heat • 5% duty cycle as default setting
10	Output reactor	Longer motor cable: • 3AC 400 V shielded and unshielded cable: 150 m • 1AC 230 V shielded and unshielded cable: 200 m
11	Shield connection kit	• Shield connection • Strain relief
12	Fuse	Recommended fuse corresponding to the IEC/UL standard
13	Circuit breaker	Recommended circuit breaker corresponding to the IEC/UL standard

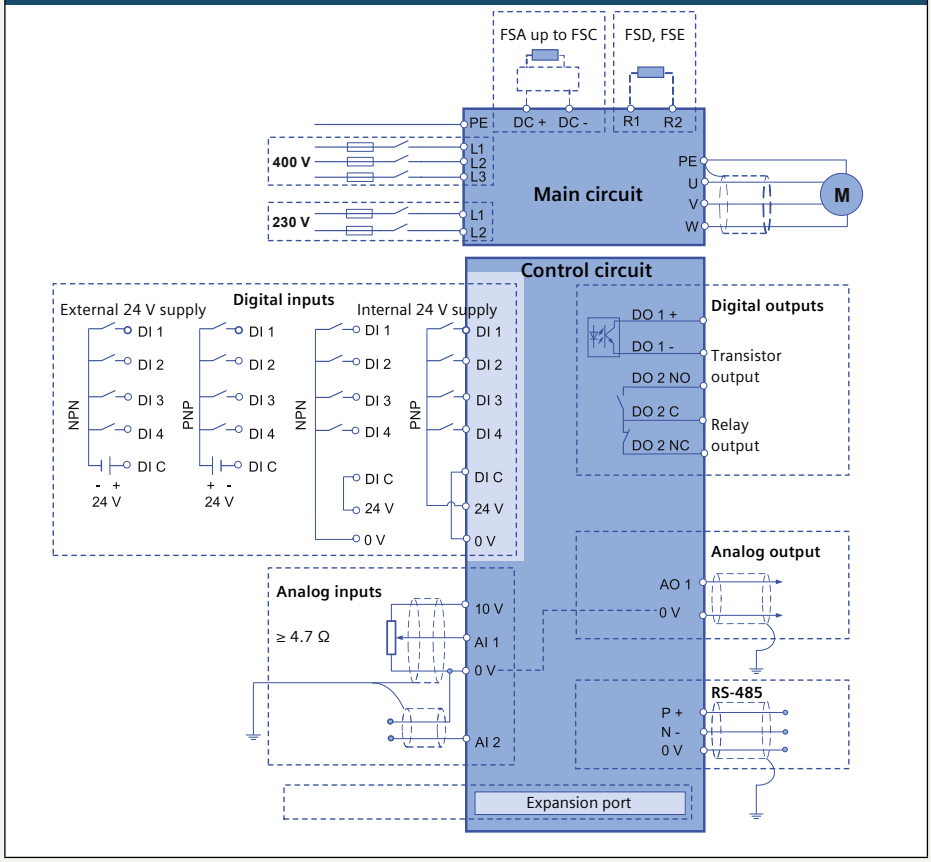
Technical data

Power and control	
Voltage	**1AC 230 V: 1AC 200 V ... 240 V (–10% ... +10%)** **3AC 400 V: 3AC 380 V ... 480 V (–15% ... +10%)**
Maximum output voltage	100% of input voltage
Supply frequency	50 / 60 Hz
Line supply type	TN, TT, TT earthed line, IT[1)]
Power range	1AC 230 V 0.12 ... 3.0 kW (1/6 ... 4 hp) 3AC 400 V 0.37 ... 30 kW (1/2 ... 40 hp)
cos φ / Power factor	≥ 0.95 / 0.72
Overload capability	up to 15 kW: High Overload (HO): 150% I_H for 60 s within a cycle time of 300 s from 18.5 kW: Low Overload (LO): 110% I_L for 60 s within a cycle time of 300 s High Overload (HO): 150% I_H for 60 s within a cycle time of 300 s
Output frequency	0 ... 550 Hz resolution: 0.01 Hz
Efficiency factor	98%
Control modes	Voltage / frequency control mode: linear V/f, square law V/f, multi-point V/f Flux current control mode: FCC
Standards	
Standards	CE, cULus, C-tick, KC
EMC standards, radiated emissions and disturbance voltage (conducted emissions)	**EN61800-3 category C2, 1st environment (domestic premises):** • 1AC 230 V with integrated line filter, shielded cables ≤ 25 m (FSA ≤ 10 m [2)]) • 3AC 400 V without integrated line filter with external line filter, shielded cables FSA up to FSE ≤ 25 m **EN61800-3 category C3, 2nd environment (industrial premises):** • 3AC 400 V with integrated line filter, shielded cables FSA ≤ 10 m, FSB up to FSE ≤ 25 m
Features	
Energy saving	• ECO mode • Hibernation mode • Energy consumption monitoring
Ease of use	• Connection and application macro • Parameter cloning • Keep Running Mode • USS/Modbus RTU communication • Customized default value • List of modified parameters • Inverter status at fault • Automatic restart • Flying start • DC-link voltage control • Imax control
Application	• PID controller • BICO function • Hammer start • Super torque mode • Blockage clearing mode • Motor staging • Flexible boost control • Wobble function • Slip compensation • Dual ramp • Adjustable PWM modulation
Protection	• Frost protection • Condensation protection • Cavitation protection • Kinetic buffering • Load failure detection

[1)] Only 3AC 400 V unfiltered devices can be operated at IT Network.
[2)] To achieve 25 m shielded motor cable length also with FSA, unfiltered devices with external filter have to be used.

Signal inputs and outputs	
Analog inputs	AI1: bipolar current / voltage mode AI2: unipolar current / voltage mode Can be used as digital inputs
Analog outputs	A01: 0 ... 20 mA
Digital inputs	DI1–DI4, optically isolated PNP/NPN selectable by terminal
Digital outputs	DO1: transistor output DO2: relay output – 250 V AC 0.5 A with resistive load – 30 V DC 0.5 A with resistive load

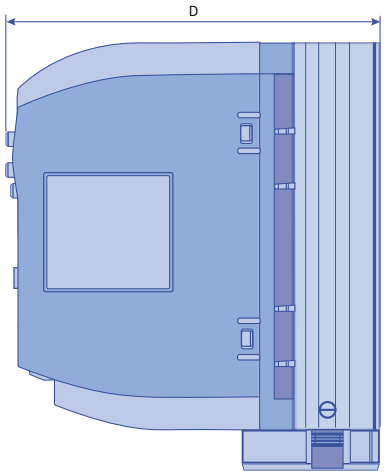
Connection diagram

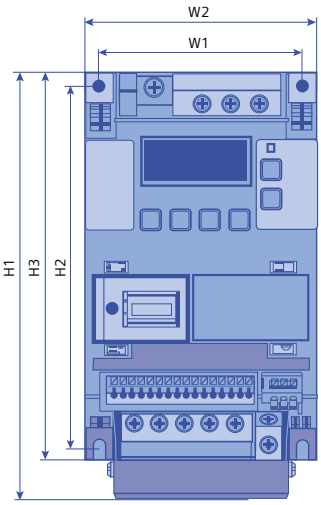


Mounting and environment	
Degree of protection	IP20
Mounting	Wall mounting, side-by-side mounting, push-through mounting for FSB, FSC, FSD and FSE
Cooling	• FSA up to 0.75 kW: convection cooling • FSA up to FSE: power electronics cooled using heat sinks with external fan
Ambient temperature	In operation • –10 ... 60 °C (14 ... 140 °F) • 40 ... 60 °C (104 ... 140 °F) with derating In storage • –40 ... 70 °C (–40 ... 158 °F)
Relative humidity	95% (non-condensing)
Altitude	• Up to 4000 m above sea level • 1000 ... 4000 m: output current derating • 2000 ... 4000 m: supply voltage derating
Motor cable length	• Unshielded cable: 50 m for FSA up to FSD, 100 m for FSE • Shielded cable: 25 m for FSA up to FSD, 50 m for FSE • Longer motor cables possible with output reactor (see options)
Dynamic braking	Option module for FSA, FSB and FSC; integrated for FSD and FSE

Dimensions

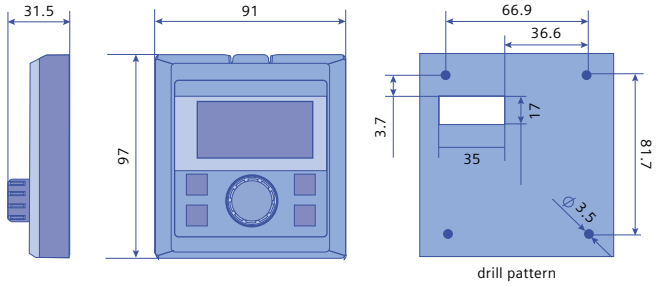
SINAMICS V20 device



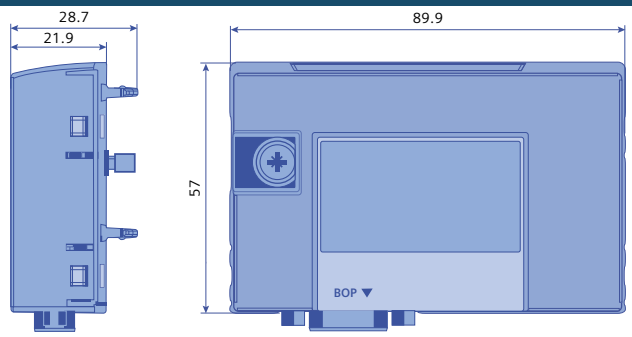


	Width (mm)		Height (mm)			Depth (mm)	Weight (kg)
Frame size	W1	W2	H1	H2	H3	D	WT approx.
FSA without fan	79	90	–	140	150	145.5	1
FSA	79	90	166	140	150	145.5	1.05
FSB	127	140	160	135	–	164.5	1.8
FSC	170	184	182	140	–	169	2.6
FSD	223	240	206.5	166	–	172.5	4.3
FSE	228	245	264.5	206	–	209	6.6

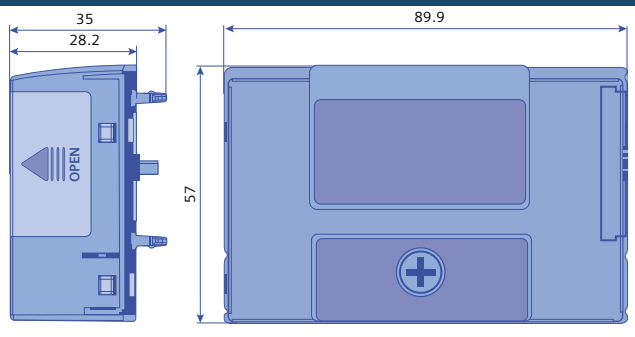
V20 BOP (Basic Operator Panel)



BOP (Basic Operator Panel) interface



Parameter loader



Dimensions

1AC 230 V options

		Braking resistors				Line reactors				Output reactors				Braking module				Line filter class B			
P_{rated} (HO) kW 1AC 230 V	FS	W	H	D	WT	W	H	D	WT	W	H	D	WT	W	H	D	WT	W	H	D	WT
0.12	A	72	230	43.5	1	75.5	200	50	1.4	75	200	50	1.3	90	150	88	0.71	73	200	43.5	0.5
0.25																					
0.37																					
0.55																					
0.75																					
1.1	B	149	239		1.6	150	213		2.2	150	213	80	4.1					149	213	50.5	1
1.5																					
2.2	C																				
3		185	285	150	3.8	185	245		5.1	185	245		6.6					–			

3AC 400 V options

		Braking resistors				Line reactors				Output reactors				Braking module				Line filter class B			
P_{rated} (LO) kW 3AC 400 V	FS	W	H	D	WT	W	H	D	WT	W	H	D	WT	W	H	D	WT	W	H	D	WT
0.37	A	105	295	100	1.48	125	120	71	1.1	207	175	73	3.4	90	150	80	0.71	73	202	65	1.75
0.55																					
0.75																					
1.1																					
1.5																					
2.2		105	345	100	1.80	125	140	71	2.1												
3	B									207	180	73	3.9								
4																		100	297	85	4
5.5	C	175	345	100	2.73	125	145	91	2.95	247	215	100	10.1								
7.5	D					190	220	91	7.8	257	235	115	11.2								
11		250	490	140	6.20									integrated				140	359	95	7.3
15																					
22	E	270	515	175	7.4	300	620	85	9.5	250	280	250	11.3					260	180	600	7.3
30						320	800	95	17									335	200	175	7.5

FS = frame size, WT = weight in kg, W = width in mm, H = height in mm, D = depth in mm

Simple entry using the DT Configurator

The DT Configurator supports you with:

- Selecting the drive based on the application
- The subsequent ordering process

DT Configurator supplies you with

- A drive that is optimally tailored to your requirements
- 2D/3D models
- Operating instructions
- Data sheets

You can directly order the selected components through the Industry Mall – the Siemens e-commerce website – and without having to duplicate entries. In order to avoid making ordering mistakes, the order number is checked to ensure that it is correct. **siemens.com/dt-configurator**

SINAMICS SELECTOR App – find article numbers quickly and easily

Scan the QR code and download the SINAMICS SELECTOR App free of charge

Ordering data

1AC 230 V device

Rated data						
P_{rated} (HO)		I_H	Article number		Fans	Frame size
kW	hp	A				
0.12	1/6	0.9	6SL3210-5BB11-2	V0	–	FSA
0.25	1/3	1.7	6SL3210-5BB12-5	V0	–	
0.37	1/2	2.3	6SL3210-5BB13-7	V0	–	
0.55	3/4	3.2	6SL3210-5BB15-5	V0	–	
0.75	3/4	3.9	6SL3210-5BB17-5	V0	–	
0.75	1	4.2	6SL3210-5BB18-0	V0	1	
1.1	1–1/2	6	6SL3210-5BB21-1	V0	1	FSB
1.5	2	7.8	6SL3210-5BB21-5	V0	1	
2.2	3	11	6SL3210-5BB22-2	V0	1	FSC
3	4	13.6	6SL3210-5BB23-0	V0	1	

EMC Standards	
With integrated line filter category C2[6]	A
Without integrated filter	U

[6] EN61800-3 Category C2, 1st environment (residential domestic)

3AC 400 V device

Rated data							
P_{rated} (LO)		I_L 400 V[1]	I_L 480 V	P_{rated} (HO)		I_H 400 V[2]	I_H 480 V
kW	hp	A	A	kW	hp	A	A
0.37	1/2	1.3	1.3	0.37	1/2	1.3	1.3
0.55	3/4	1.7	1.7	0.55	3/4	1.7	1.7
0.75	1	2.2	2.2	0.75	1	2.2	2.2
1.1	1–1/2	3.1	3.1	1.1	1–1/2	3.1	3.1
1.5	2	4.1	4.1	1.5	2	4.1	4.1
2.2	3	5.6	4.8	2.2	3	5.6	4.8
3	4	7.3	7.3	3	4	7.3	7.3
4	5	8.8	8.24	4	5	8.8	8.24
5.5	7–1/2	12.5	11	5.5	7–1/2	12.5	11
7.5	10	16.5	16.5	7.5	10	16.5	16.5
11	15	25	21	11	15	25	21
15	20	31	31	15	20	31	31
22	30	45	40	18.5	25	38	34
30	40	60	52	22	30	45	40

EMC Standards
With integrated line filter category C3[7]
Without integrated filter

[1] The output current I_L is based on the duty cycle for low overload (LO).
[2] The output current I_H is based on the duty cycle for high overload (HO).
[7] EN61800-3 Category C3, 2nd environment (industry)

1AC 230 V options

FS	P_{rated} (HO) kW	Braking resistor 6SE6400-...	Line reactor 6SE6400-...	Output reactor 6SE6400-...	Shield connection kit 6SL3266-...	Line filter class B[3] 6SE6400-...	Corresponding to the IEC standard		
							Standard fuse[4]		Circuit breaker[4]
							Current in A	Article No.	Article No.
A	0.12	4BC05-0AA0	3CC00-4AB3	3TC00-4AD3	1AA00-0VA0	2FL01-0AB0	10	3NA3803	3RV2011-1DA10
	0.25						10	3NA3803	3RV2011-1FA10
	0.37		3CC01-0AB3				10	3NA3803	3RV2011-1HA10
	0.55						10	3NA3803	3RV2011-1JA10
	0.75						16	3NA3805	3RV2011-1KA10
B	1.1	4BC11-2BA0	3CC02-6BB3	3TC01-0BD3	1AB00-0VA0	–	20	3NA3807	3RV2021-4BA10
	1.5						32	3NA3812	3RV2021-4CA10
C	2.2				1AC00-0VA0		35	3NA3814	3RV2021-4EA10
	3	4BC12-5CA0	3CC03-5CB3	3TC03-2CD3			50	3NA3820	3RV1031-4FA10

3AC 400 V options

FS	P_{rated} (LO) kW	P_{rated} (HO) kW	Braking resistor 6SL3201-...	Line reactor 6SL3203-...	Output reactor 6SL3202-...	Shield connection kit 6SL3266-...	Line filter class B[3] 6SL3203-...	Corresponding to the IEC standard		
								Standard fuse[4]		Circuit breaker[4]
								Current in A	Article No.	Article No.
FSA	0.37	0.37	0BE14-3AA0	0CE13-2AA0	0AE16-1CA0	1AA00-0VA0	0BE17-7BA0	6	3NA3801	3RV2011-1CA10
	0.55	0.55						6	3NA3801	3RV2011-1DA10
	0.75	0.75						6	3NA3801	3RV2011-1EA10
	1.1	1.1						6	3NA3801	3RV2011-1FA10
	1.5	1.5		0CE21-0AA0				10	3NA3803	3RV2011-1HA10
	2.2	2.2	0BE21-0AA0		0AE18-8CA0			16	3NA3805	3RV2011-1JA10
FSB	3	3				1AB00-0VA0	0BE21-8BA0	16	3NA3805	3RV2011-1KA10
	4	4			0AE21-8CA0			20	3NA3807	3RV2021-4AA10
FSC	5.5	5.5	0BE21-8AA0	0CE21-8AA0		1AC00-0VA0		32	3NA3812	3RV2021-4BA10
FSD	7.5	7.5			0AE23-8CA0	1AD00-0VA0	0BE23-8BA0	–	–	3VL1103-1KM30-0AA0
	11	11	0BE23-8AA0	0CE23-8AA0				–	–	3VL1104-1KM30-0AA0
	15	15						–	–	3VL1105-1KM30-0AA0
			6SE6400-...	6SL3203-...	6SE6400-...	6SL3266-...	6SL3203-...			
FSE	22	18.5	4BD21-2DA0	0CJ24-5AA0	3TC05-4DD0	1AE00-0VA0	0BE23-8BA0	63	3NA3022	3VL1108-1KM30-0AA0
	30	22		0CD25-3AA0			0BE27-5BA0	80	3NA3024	3VL1108-1KM30-0AA0

[3] See specification of EMC standards, page 10
[4] Additional information about the listed fuses and circuit breakers can be found in Catalogs LV 10, IC 10 and IC 10 AO siemens.com/drives/infocenter

Article number			Fans	Frame size
6SL3210-5BE13-7	V0		–	FSA
6SL3210-5BE15-5	V0		–	
6SL3210-5BE17-5	V0		–	
6SL3210-5BE21-1	V0		1	
6SL3210-5BE21-5	V0		1	
6SL3210-5BE22-2	V0		1	
6SL3210-5BE23-0	V0		1	FSB
6SL3210-5BE24-0	V0		1	
6SL3210-5BE25-5	V0		1	FSC
6SL3210-5BE27-5	V0		2	FSD
6SL3210-5BE31-1	V0		2	
6SL3210-5BE31-5	V0		2	
6SL3210-5BE31-8	V0	New	2	FSE
6SL3210-5BE32-2	V0	New	2	

C

U

Spare parts

Frame size	Article number
Replacement fan	
FSA	6SL3200-0UF01-0AA0
FSB	6SL3200-0UF02-0AA0
FSC	6SL3200-0UF03-0AA0
FSD	6SL3200-0UF04-0AA0
FSE	6SL3200-0UF05-0AA0

Accessories

Name	Article number
Parameter loader	6SL3255-0VE00-0UA0
BOP (Basic Operator Panel) interface	6SL3255-0VA00-2AA0
Braking module 1AC 230 V: 8 A 3AC 400 V: 7 A	6SL3201-2AD20-8VA0
V20 BOP (Basic Operator Panel)	6SL3255-0VA00-4BA0
BOP cable 3 m incl. 4 mounting screws	6SL3256-0VP00-0VA0
SINAMICS Memory Card (512 MB)	6SL3054-4AG00-2AA0
RS485 Terminators (Content 50 Pieces)	6SL3255-0VC00-0HA0
SINAMICS V20 Training case	6AG1067-2AA00-0AB6
DIN Rail Mounting Kit	FSA: 6SL3261-1BA00-0AA0[5)] FSB: 6SL3261-1BB00-0AA0

[5)] Installation of FSA with fan pls. refer to SINAMICS V20 manual.

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