SIEMENS

MICROMASTER 420/440 Inverters
0.12 kW to 90 kW

Catalog DA 51.2 · 2001

STANDARD DRIVES

Catalogs of the Business Unit Standard Drives„Standard Drives“

MICROMASTER 420/440 Inverters — **DA 51.2**

Order No.:
German: E86060-K5151-A121-A2
English: E86060-K5151-A121-A2-7600

COMBIMASTER 411/MICROMASTER 411 — DA 51.3
(in preparation)

Order No.:
German: E86060-K5151-A131-A1
English: E86060-K5151-A131-A1-7600

MICROMASTER, MICROMASTER Vector MIDIMASTER Vector, COMBIMASTER — DA 64

Order No.:
German: E20002-K4064-A101-A2
English: E20002-K4064-A101-A2-7600

Wechsel- und Drehstromsteller SIVOLT A/V — DA 68
(available only in German)

Order No.:
German: E20002-K4068-A101-A1

Kommutierungsdrosseln — DA 93.1
(available only in German)

Order No.:
German: E20002-K4093-A111-A3

Glättungsdrosseln — DA 93.2
(available only in German)

Order No.:
German: E20002-K4093-A121-A2

Dreiphasen-Netzdrosseln — DA 93.3
(available only in German)

Order No.:
German: E20002-K4093-A131-A1

Semiconductor-Protection Fuses SITOR — DA 94.1

Order No.:
German: E20002-K4094-A111-A3
English: E20002-K4094-A111-A2-7600

Low-Voltage Motors — M 11

Order No.:
German: E86060-K1711-A101-A1
English: E86060-K1711-A101-A1-7600

Automation & Drives — CA 01

Order No.:
German: E86060-D4001-A100-B5
English: E86060-D4001-A110-B4-7600

Trademarks / Internet

Visit the Automation & Drives Group in the Internet under the following address:
http://www.siemens.de/automation

Catalogs of the Automation and Drives Group (A&D)

Further information can be obtained from our branch offices listed in the appendix of this catalog

Automation & Drives	*Catalog*
Interactive catalogs on CD-ROM	
• Components for Automation & Drives	CA 01
• Electrical Installation Technology	ET 01

Analysis Systems	
Gas Analysis Equipment for the Process Industry	PA 10
Process Analysis, Components for Sample Preparation	PA 11
SIPAN Liquid Analysis	PA 20

Drive Systems	
Variable-Speed Drives	
DC Motors	DA 12
DC Drives Preferred Series up to 500 kW	DA 12.1
DC Drives Preferred Series 215 kW to 1500 kW	DA 12.2
SIMOREG Chassis Converters	DA 21
SIMOREG Converter Cabinet Units	DA 22
SIMOVERT PM Modular Converter Systems	DA 45
SIEMOSYN Motors	DA 48
MICROMASTER 420/440 Inverters	DA 51.2
COMBIMASTER 411/MICROMASTER 411	DA 51.3
SIMOVERT A Current-Source DC Link Converters	DA 62
SIMOVERT MV Medium-Voltage Drives	DA 63
MICROMASTER, MIDIMASTER	DA 64
Low-Voltage Motors for Variable-Speed Drives	DA 65.3
SIMOVERT MASTERDRIVES Vector Control	DA 65.10
SIMOVERT MASTERDRIVES Motion Control	DA 65.11
SIMADYN D Control System	DA 99
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• AC Main Spindle Motors 1FE1, 1PH2, 1PH3, 1PH4, 1PH7	
• AC Servomotors 1FK6, 1FT5, 1FT6	
• AC Linear motors 1FN1, 1FN3	
• Converter System SIMODRIVE 611	
• Converter Systems SIMODRIVE POSMO A/CD/CA/SI	
Low-Voltage Three-Phase-Motors	
• Project Manual	M 10
• Squirrel-Cage Motors, Totally Enclosed, Fan-Cooled	M 11
Drive and Control Components for Hoisting Equipment	HE 1

Automation Systems for Machine Tools	
SINUMERIK & SIMODRIVE	NC 60
Cables, Connectors and System Components	NC Z

Human Machine Interface Products/Systems SIMATIC HMI	ST 80

SIMATIC Industrial Automation Systems	
SIMATIC PCS Process Control System	ST 45
SIMATIC S5/PC/505 Automation Systems	ST 50
Components for Totally Integrated Automation	ST 70
Supplementary Components	ST 71
SIMATIC PCS 7 Process Control System	ST PCS 7

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Protective Switching and Fuse Systems	I 2.1
Building Management Systems with *instabus EIB*	
Program Overview Modular Devices	I 2.11
STAB Wall-Mounting Distribution Boards	I 2.31
SIKUS Floor-Mounting Distribution Boards	I 2.32
8PU Busway System	I 2.36

Systems Engineering	*Catalog*
Power supplies SITOP power	KT 10.1
System cables SIMATIC TOP connect	KT 10.2
MOBY Identification Systems	KT 21
Industrial Microcomputers SICOMP	KT 51
Printers and Monitors for Automation and Drives	KT 61
Cabinet Packaging System for SIMATIC PCS 7	KT 71

Industrial Communication and Field Devices	IK PI

Low-Voltage Controls and Distribution	
Low-Voltage Controlgear, Switchgear and Systems	NS K
Communication-Capable SIRIUS NET Controlgear, Controlgear, SIGUARD Safety Systems, Control and Signalling Devices, Switchgear, Transformers and DC Power Supplies, Main- and EMERGENCY-STOP Switches, Control Switches, Terminal Blocks	
SIGNUM Metallic 3SB3	
Products and Systems for Low-Voltage Power Distribution	NS PS
SENTRON WL	NS WL

TELEPERM M Process Control System	
AS 235, AS 235H and AS 235K automation systems	PLT 111
AS 388/TM and AS 488/TM automation systems	PLT 112
OS 525 operating and monitoring system	PLT 122
Operating and monitoring with WinCC/TM	PLT 123
CS 275 bus system	PLT 130

Process Engineering	
Field Instruments for Process Automation Measuring Instruments for Pressure, Differential Pressure, Flow, Level and Temperature, Positioners and Liquid Meters	FI 01
SITRANS LR	FI 01
SIWAREX Weighing Systems	KT 30
Process Recorders and Accessories	MP 20
SIPART, Controllers and Software	MP 31

Vacuum Pumps/Compressors	
Oil-Free Vacuum Pumps, Compressors (Blowers), Radial Blowers, Liquid Pumps	PV

Pumps	
Vacuum Pumps and Compressors, System ELMO-F	Cat. Sheets PF
Vacuum Pumps and Compressors, System ELMO-G	Cat. Sheets PG

SIPOS Electric Actuators	
Electric Rotary, Linear and Part-turn Actuators	MP 35
Electric Rotary Actuators for Nuclear Plants	MP 35.1/.2

System Solutions	
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Automation Solutions in the Plastic Industry	
• with SIMATIC S7	SL 10
• with SIMATIC S5	ST 58

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Siemens Aktiengesellschaft

Order No. E86060-K5151-A121-A2-7600

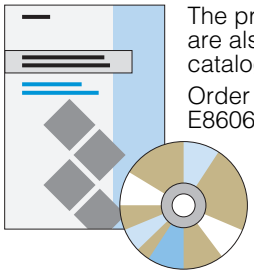
SIEMENS

MICROMASTER 420/440 Inverters

0.12 kW to 90 kW

Catalog DA 51.2 · 2001

Supersedes: Catalog DA 51.2 · 2000



The products contained in this catalog are also included in the CD-ROM catalog CA 01

Order No.:
E86060-D4001-A110-B4-7600

To order, please contact your local Siemens office.

The products and systems referred to in this catalog are manufactured with a DQS-certified quality-management system in accordance with DIN EN ISO 9001 (certificate registration number: FM 25845). The DQS certificate is recognized in all EQ Net countries (reg. number: FM 25845).

1
2
3
A

Overview

Guidelines

	MICROMASTER 420	MICROMASTER 440
Main areas of application	• Pumps • Fans • Conveyor systems	• Pumps • Fans • Conveyor systems • Positioning applications in – crane systems – elevator systems – high-bay warehouse systems – food and drinks industry – packaging industry – textile industry
Power ranges	0.12 kW to 11 kW	0.12 kW to 90 kW
Voltage ranges	200 V to 240 V 1 AC 200 V to 240 V 3 AC 380 V to 480 V 3 AC	200 V to 240 V 1 AC 200 V to 240 V 3 AC 380 V to 480 V 3 AC 500 V to 600 V 3 AC
Control	• *V/f* characteristic • FCC	• *V/f* characteristic • FCC • Vector Control
Process control	Internal PI controller	Internal PID controller (Autotuning)
Inputs	3 digital Inputs 1 analog Input	6 digital Inputs 2 analog Inputs 1 PTC Input
Outputs	1 analog output 1 relay output	2 analog outputs 3 relay outputs
Overload capability	50% overload capability for a period of 60 s within 5 min in relation to the rated output current	50% overload capability for a period of 60 s within 5 min in relation to the rated output current or 100% for 3 s within 5 min
Additional features	–	• 3 selectable drive data sets • Integrated brake chopper • Torque control

MICROMASTER 420

see section 2

The inverters are presented here with option BOP

MICROMASTER 440

see section 3

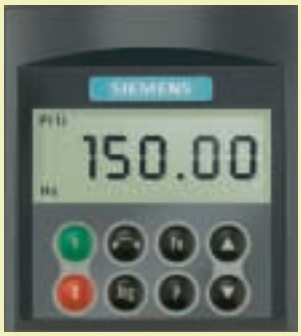
The inverters are presented here with option BOP

Overview

Options

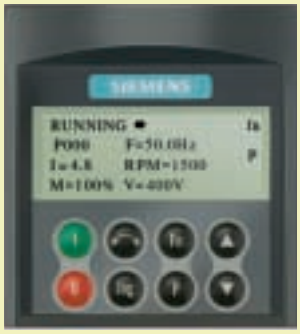
Various options are avaible for both the MICROMASTER 420 and 440 inverters:

- Filters
- Chokes
- Operator panels
- PROFIBUS module
- Gland plates
- Mounting kits, etc.



Basic Operator Panel (BOP)

PROFIBUS module



Advanced Operator Panel (AOP)

Inverter
MICROMASTER 420

2

Description

Applications

The MICROMASTER 420 inverter is suitable for a variety of variable-speed drive applications.

It is especially suitable for applications for pumps, fans and conveyor systems.

It is especially characterized by its customer-oriented performance and ease of use. Its large supply-voltage range enables it to be used all over the world.

Design

The MICROMASTER 420 has a modular design.The operator panels and the PROFIBUS module can be fitted by hand.

Main Characteristics

- Simple commissioning
- Modular construction allows maximum configuration flexibility
- Three fully programmable isolated digital inputs
- One scalable analog input (0 V to 10 V) can also be used as a 4th digital input
- One programmable analog output (0 mA to 20 mA)
- One fully programmable relay output (30 V DC/5 A, resistive 250 V AC/2 A, inductive)
- Silent motor operation is possible when using high switching frequencies
- Complete inverter and motor protection.

Options (Overview)

- EMC filters Class A/B
- Line commutating chokes
- Output chokes
- Gland plates
- BOP basic operator panel for parameterizing an inverter
- AOP advanced operator panel with plain-text and multilingual display
- PROFIBUS-DP communications module
- PC connection kits
- Assembly kits for mounting the operator panels in the control cabinet doors
- PC commissioning tools, running under Windows 95/98 and NT/2000.

International Standard

- MICROMASTER 420 carries the CE mark for both EMC conformity and conformity to the low voltage directive
- UL and cUL listed
- c-tick

Mechanical Features

- Modular design
- Operating temperature: –10 °C to +50 °C
- Side by side mounting is possible, reducing the amount of space required within cabinets.
- Easy cable connection, mains and motor connections are separated for optimum electromagnetic compatibility
- Detachable operator panels
- Screwless control terminals.

Performance Features

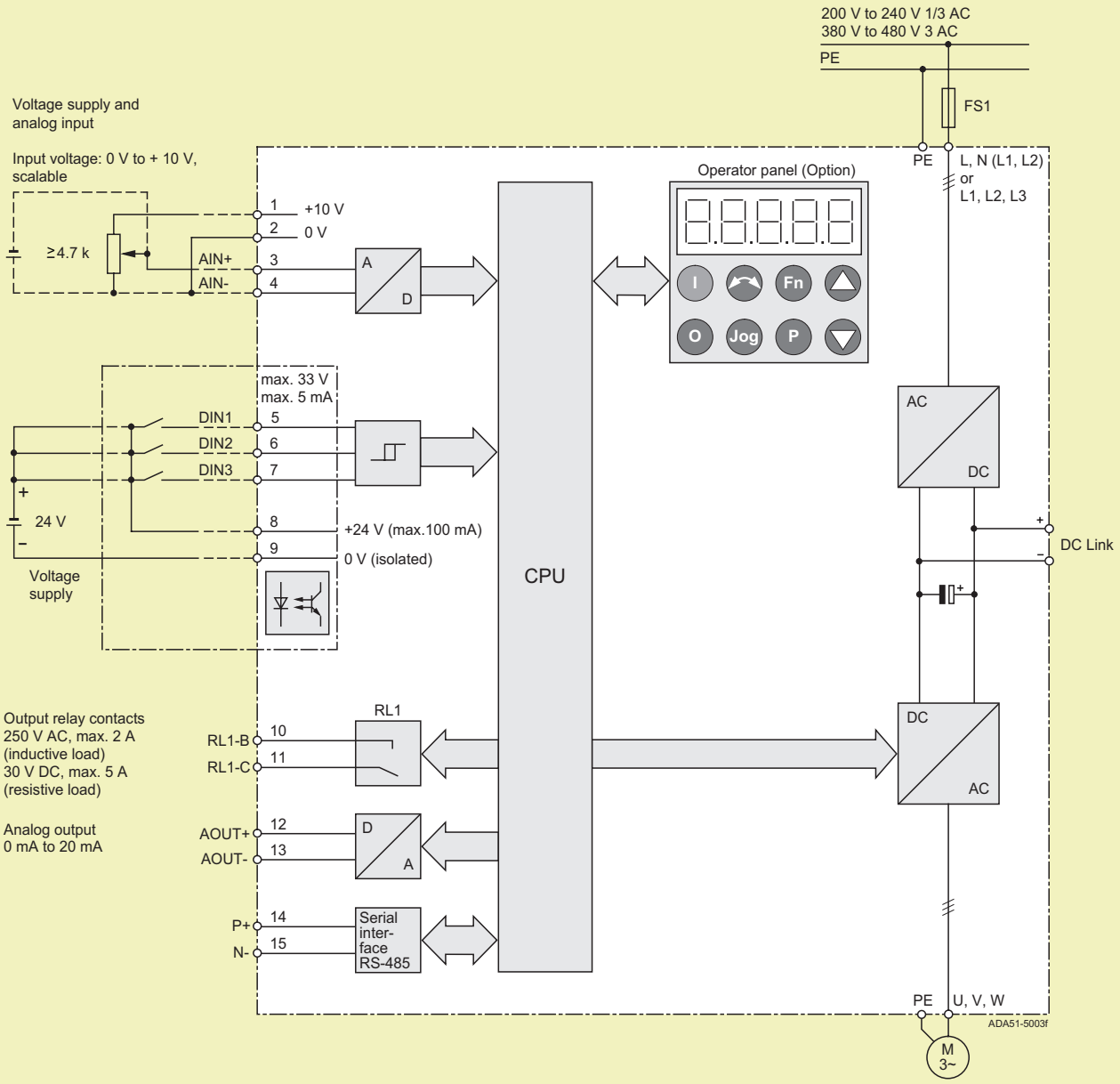
- Latest IGBT technology
- Digital microprocessor control
- Flux current control (FCC) for improved dynamic response and optimized motor control
- Linear *V/f* characteristic
- Parabolic *V/f* characteristic
- Programmable *V/f* characteristic
- Flying restart
- Slip compensation
- Automatic restart facility following power failure or fault
- PI feedback for simple process control
- Programmable acceleration/deceleration, 0 s to 650 s
- Ramp smoothing
- Fast current limit (FCL) for trip free operation
- Fast, repeatable digital input response time
- Fine speed adjustment using a high resolution 10-bit analog input
- Compound braking for rapid controlled braking
- Four skip frequencies
- Removable “Y” capacitor for use on IT mains supplies.

Protection Features

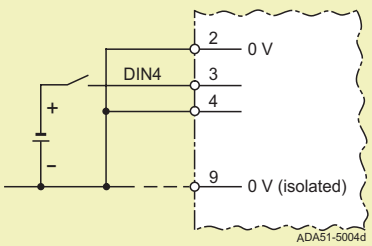
- 50 % overload capability for a period of 60 s within 5 min in relation to the rated output current
- Overvoltage/undervoltage protection
- Inverter overtemperature protection
- Motor protection using PTC via digital input
- Earth fault protection
- Short circuit protection
- I^2t motor thermal protection
- Locked motor protection
- Stall prevention
- Parameter interlock, using PIN number.

Circuit Diagrams

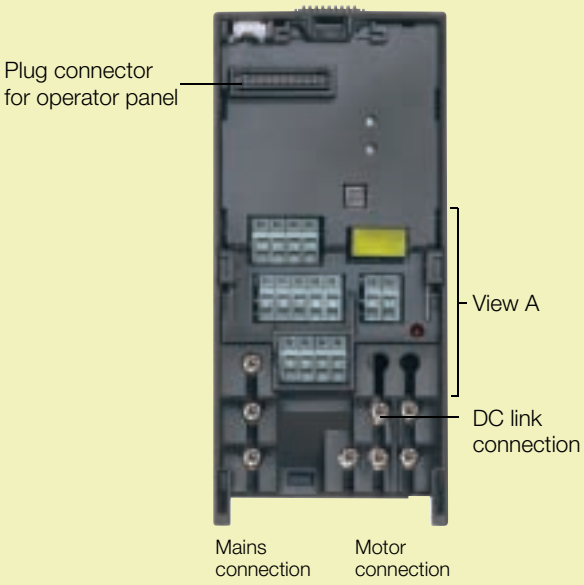
General Circuit Diagram



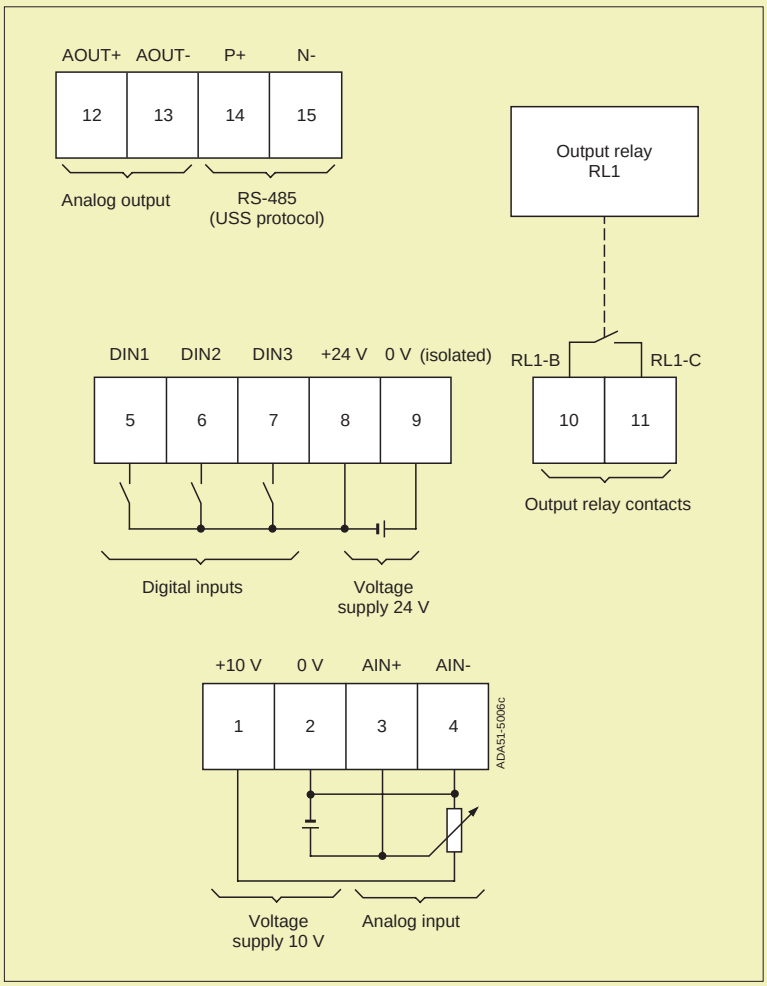
For an additional digital input (DIN4) external connections should be made:



Terminal Connection Diagram



View A



Technical Data

MICROMASTER 420 Inverter

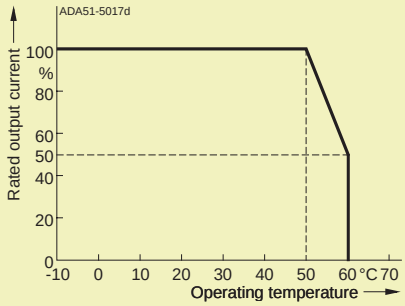
Input voltage and power ranges	200 V to 240 V 1 AC ± 10 % 200 V to 240 V 3 AC ± 10 % 380 V to 480 V 3 AC ± 10 %	0.12 kW to 3 kW 0.12 kW to 5.5 kW 0.37 kW to 11 kW	
Input frequency	47 Hz to 63 Hz		
Output frequency	0 Hz to 650 Hz		
Power factor	≥ 0.7		
Inverter efficiency	96 % to 97 %		
Overload capability	50 % overload capability for a period of 60 s within 5 min in relation to the rated output current		
Inrush current	less than rated input current		
Control method	linear *V/f*; parabolic *V/f* (fan curve); programmable *V/f*; flux current control (FCC)		
PWM frequency	2 kHz to 16 kHz (in 2 kHz steps)		
Fixed frequencies	7, programmable		
Skip frequency bands	4, programmable		
Setpoint resolution	0.01 Hz digital 0.01 Hz serial 10 bit analog		
Digital inputs	3 fully programmable isolated digital inputs; switchable PNP/NPN		
Analog input	1 for setpoint or PI input (0 to 10 V), scalable or for use as 4th digital input)		
Relay output	1 configurable 30 V DC/5 A (resistive), 250 V AC/2 A (inductive)		
Analog output	1, programmable (0 mA to 20 mA)		
Serial interfaces	RS-485, optional RS-232		
Electromagnetic compatibility	Optional EMC filters to EN 55 011, Class A or Class B		
Braking	DC Braking, Compound Braking		
Protection level	IP 20		
Temperature range	–10°C to +50°C		
Storage temperature	–40°C to +70°C		
Humidity	95% RH – non-condensing		
Operational altitudes	up to 1000 m above sea level without derating		
Protection features	• under-voltage • over-voltage • overload • earth faults • short circuits • stall prevention • locked motor • motor over-temperature I^2t, PTC • inverter over-temperature • parameter PIN protection		
Standards	UL, cUL, CE, c-tick		
CE mark	Conformity with EC low voltage directive 73/23/EEC and the electromagnetic compability directive 89/336/EEC		
Dimensions and weights (without gland plate)	Frame size A: B: C:	W x H x D (mm) 73 x 173 x 149 149 x 202 x 172 185 x 245 x 195	Weight (kg) 1.0 3.3 5.0

Derating-Data

Pulse frequency

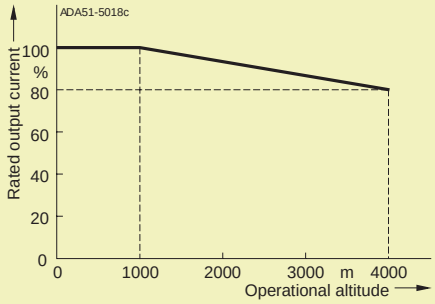
Rated output (for 400 V 3 AC) kW	**Rated output current in A** for a pulse frequency of 4 kHz	6 kHz	8 kHz	10 kHz	12 kHz	14 kHz	16 kHz
0.37	1.2	1.2	1.2	1.2	1.2	1.2	1.1
0.55	1.6	1.6	1.6	1.6	1.6	1.6	1.1
0.75	2.1	2.1	2.1	2.1	1.6	1.6	1.1
1.1	3.0	3.0	2.7	2.7	1.6	1.6	1.1
1.5	4.0	4.0	2.7	2.7	1.6	1.6	1.1
2.2	5.9	5.9	5.1	5.1	3.6	3.6	2.6
3.0	7.7	7.7	5.1	5.1	3.6	3.6	2.6
4.0	10.2	10.2	6.7	6.7	4.8	4.8	3.6
5.5	13.2	13.2	13.2	13.2	9.6	9.6	7.5
7.5	18.4	18.4	13.2	13.2	9.6	9.6	7.5
11	26.0	26.0	17.9	17.9	13.5	13.5	10.4

Operating temperature

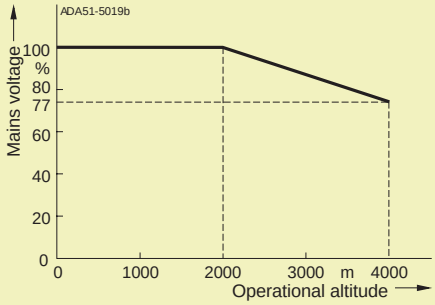


Operational altitude

Permissible output current
in % of the rated output current



Permissible mains voltage
in % of the max. possible mains voltage



Selection and Ordering Data

MICROMASTER 420 Inverter

Rated output		Rated input current	Rated output current	Frame size	Order No.	
kW	hp	A	A		**MICROMASTER 420 without filter**	**MICROMASTER 420 with Class A filter**
Mains operating voltage 200 V to 240 V 1 AC						
0.12	0.16	2.0	0.9	A	**6SE6420-2UC11-2AA0**	**6SE6420-2AB11-2AA0**
0.25	0.33	4.0	1.7	A	**6SE6420-2UC12-5AA0**	**6SE6420-2AB12-5AA0**
0.37	0.50	5.5	2.3	A	**6SE6420-2UC13-7AA0**	**6SE6420-2AB13-7AA0**
0.55	0.75	7.5	3.0	A	**6SE6420-2UC15-5AA0**	**6SE6420-2AB15-5AA0**
0.75	1.0	9.9	3.9	A	**6SE6420-2UC17-5AA0**	**6SE6420-2AB17-5AA0**
1.1	1.5	14.4	5.5	B	**6SE6420-2UC21-1BA0**	**6SE6420-2AB21-1BA0**
1.5	2.0	19.6	7.4	B	**6SE6420-2UC21-5BA0**	**6SE6420-2AB21-5BA0**
2.2	3.0	26.4	10.4	B	**6SE6420-2UC22-2BA0**	**6SE6420-2AB22-2BA0**
3.0	4.0	35.5	13.6	C	**6SE6420-2UC23-0CA0**	**6SE6420-2AB23-0CA0**
Mains operating voltage 200 V to 240 V 3 AC						
0.12	0.16	0.7	0.9	A	**6SE6420-2UC11-2AA0**	–
0.25	0.33	1.7	1.7	A	**6SE6420-2UC12-5AA0**	–
0.37	0.50	2.4	2.3	A	**6SE6420-2UC13-7AA0**	–
0.55	0.75	3.1	3.0	A	**6SE6420-2UC15-5AA0**	–
0.75	1.0	4.3	3.9	A	**6SE6420-2UC17-5AA0**	–
1.1	1.5	6.2	5.5	B	**6SE6420-2UC21-1BA0**	–
1.5	2.0	8.3	7.4	B	**6SE6420-2UC21-5BA0**	–
2.2	3.0	11.3	10.4	B	**6SE6420-2UC22-2BA0**	–
3.0	4.0	15.6	13.6	C	**6SE6420-2UC23-0CA0**	**6SE6420-2AC23-0CA0**
4.0	5.0	19.7	17.5	C	**6SE6420-2UC24-0CA0**	**6SE6420-2AC24-0CA0**
5.5	7.5	26.3	22.0	C	**6SE6420-2UC25-5CA0**	**6SE6420-2AC25-5CA0**
Mains operating voltage 380 V to 480 V 3 AC						
0.37	0.50	1.6	1.2	A	**6SE6420-2UD13-7AA0**	–
0.55	0.75	2.1	1.6	A	**6SE6420-2UD15-5AA0**	–
0.75	1.0	2.8	2.1	A	**6SE6420-2UD17-5AA0**	–
1.1	1.5	4.2	3.0	A	**6SE6420-2UD21-1AA0**	–
1.5	2.0	5.8	4.0	A	**6SE6420-2UD21-5AA0**	–
2.2	3.0	7.5	5.9	B	**6SE6420-2UD22-2BA0**	**6SE6420-2AD22-2BA0**
3.0	4.0	10.0	7.7	B	**6SE6420-2UD23-0BA0**	**6SE6420-2AD23-0BA0**
4.0	5.0	12.8	10.2	B	**6SE6420-2UD24-0BA0**	**6SE6420-2AD24-0BA0**
5.5	7.5	17.3	13.2	C	**6SE6420-2UD25-5CA0**	**6SE6420-2AD25-5CA0**
7.5	10.0	23.1	18.4	C	**6SE6420-2UD27-5CA0**	**6SE6420-2AD27-5CA0**
11	15.0	33.8	26.0	C	**6SE6420-2UD31-1CA0**	**6SE6420-2AD31-1CA0**

All inverters are supplied with a Status Display Panel SDP. A Basic Operator Panel BOP, Advanced Operator Panel AOP or other options have to be ordered additionally (see pages 2/10 to 2/13).

Motors for MICROMASTER 420

Catalog M 11 contains selection and ordering data for motors which are particularly suitable for operation with the MICROMASTER 420 inverters.

Variant Dependent Options

EMC filter, Class A
Filter for inverters without an internal filter, for
- 200 V to 240 V 3 AC, frame sizes A and B
- 380 V to 480 V 3 AC, frame size A.

All other inverters can be supplied with an internal Class A filter.

Low leakage Class B filter
Filter for inverters without an internal filter, for
- 200 V to 240 V 3 AC, frame sizes A and B
- 380 V to 480 V 3 AC, frame size A.

With this filter, the inverter complies with the emission standard EN 55 011, Class B.

Additional EMC filter, Class B
Obtainable for inverters with an internal Class A EMC filter.

With this filter, the inverter complies with the emission standard EN 55 011, Class B.

Class B filter with low discharge currents
EMC filter for 200 V to 240 V 1 AC inverters, frame sizes A and B, without an internal (Class A) EMC filter.

With this filter, the inverter complies with the emission standard EN 55 011, Class B.

The earth-fault currents are reduced to < 3.5 mA.

In plug-in systems, the maximum permissible leakage current is 3.5 mA.

In the case of permanently wired installations, higher leakage currents are permissible. The limitation for operation in conjunction with residual-current-operated circuit-breakers is then applicable. Devices with standard filters can be used with 30 mA residual-current-operated circuit-breakers. If several drives are to be connected with a single residual-current-operated circuit-breaker, Class B filters with low discharge currents may be necessary.

Line commutating choke
Line commutating chokes are used to smoothe voltage peaks or to bridge commutating dips. In addition, line commutating chokes reduce the effects of harmonics on the inverter and the power supply. If the line impedance is < 1 %, a line commutating choke is recommended in order to reduce the current peaks.

Output choke
Output chokes can be supplied for reducing the capacitive currents and d*V*/d*t* in the case of motor cables > 50 m (shielded) or > 100 m (unshielded).

Gland plate
The gland plate enables shielded connection of the power and control cables, ensuring optimum EMC performance. This action ensures compliance with the NEMA directive.

Variant Independent Options

Basic Operator Panel (BOP)
With the BOP, individual parameter settings can be made. Values and units are shown on a 5-digit display.

Basic Operator Panel (BOP)

A BOP can be used for several inverters. It can be directly mounted on the inverter or in a control-cabinet door using a mounting kit.

Advanced Operator Panel (AOP)
The AOP enables parameter sets to be read out of the inverter or to be written into the inverter (upload/download). Up to 10 different parameter sets can be stored in the AOP. It has a plain-text display with the possibility of switching between several languages.

Advanced Operator Panel (AOP)

Up to 31 inverters can be controlled from an AOP via USS protocol. It can be directly plugged into the inverter or built into the control-cabinet door using a mounting kit.

PROFIBUS module
Observation on technical content – PROFIBUS controlled operation is possible up to 12 MBaud/s. The AOP or BOP can be plugged into the PROFIBUS module giving an operation display. The PROFIBUS module can be powered from an external 24 V supply so that the bus is active when power is removed from the inverter.

Connection by means of a 9-pin SUB-D connector (available as an accessory).

PC to inverter connection kit
For controlling an inverter directly from a PC if the appropriate software has been installed (e.g. DriveMonitor) in the PC. Isolated RS 232 adapter board for reliable point-to-point connection to a PC. Includes a Sub-D connector and an RS 232 standard cable (3 m).

PC to AOP connection kit
For connecting a PC to an AOP. Offline programming of inverters and archiving of parameter sets possible. Includes a desktop attachment kit for an AOP, an RS 232 standard cable (3 m) with Sub-D connectors and a universal power supply unit.

BOP/AOP door mounting kit for single converter control
For mounting an operator panel in a control cabinet door. Degree of protection is IP 56. Contains a cable adapter board with screwless terminals for use with the user's own cables.

AOP door mounting kit for multiple inverter control
For mounting an AOP in a control cabinet door. Degree of protection IP 56. The AOP can communicate with several inverters by means of the RS 485 USS protocol. The 4-pin connecting cable from the AOP to the RS 485 terminals of the inverter and to the 24 V user terminal strip is not included.

Commissioning tools
- Starter
  Starter is start-up software for guided commissioning for Siemens MICROMASTER and MASTERDRIVES frequency inverters under Windows NT/2000. Parameter lists can be read out, altered, stored, entered and printed.
- DriveMonitor also for Windows 95/98.

Options

Ordering Data for Variant Dependent Options

The options listed here
- Filters
- Chokes
- Fuses
- Circuit breakers
- Gland plates

are inverter specific.

The inverter and the associated options have the same voltage ratings

All options are certified to UL (except fuses).

	Rated output	Inverter	Order No. of the options		
			EMC filter Class A	**EMC filter Class B**	**Supplemental EMC filter Class B**
	kW				
Mains operating voltage 200 V to 240 V 1 AC					
Inverter without internal filter Class A	0.12	6SE6420-2UC11-2AA0	–	–	–
	0.25	6SE6420-2UC12-5AA0	–	–	–
	0.37	6SE6420-2UC13-7AA0	–	–	–
	0.55	6SE6420-2UC15-5AA0	–	–	–
	0.75	6SE6420-2UC17-5AA0	–	–	–
	1.1	6SE6420-2UC21-1BA0	–	–	–
	1.5	6SE6420-2UC21-5BA0	–	–	–
	2.2	6SE6420-2UC22-2BA0	–	–	–
	3.0	6SE6420-2UC23-0CA0	–	–	–
Inverter with internal filter Class A	0.12	6SE6420-2AB11-2AA0	–	–	**6SE6400-2FS01-0AB0**
	0.25	6SE6420-2AB12-5AA0	–	–	
	0.37	6SE6420-2AB13-7AA0	–	–	
	0.55	6SE6420-2AB15-5AA0	–	–	
	0.75	6SE6420-2AB17-5AA0	–	–	
	1.1	6SE6420-2AB21-1BA0	–	–	**6SE6400-2FS02-6BB0**
	1.5	6SE6420-2AB21-5BA0	–	–	
	2.2	6SE6420-2AB22-2BA0	–	–	
	3.0	6SE6420-2AB23-0CA0	–	–	**6SE6400-2FS03-5CB0**
Mains operating voltage 200 V to 240 V 3 AC					
Inverter without internal filter	0.12	6SE6420-2UC11-2AA0	**6SE6400-2FA00-6AD0**	**6SE6400-2FB00-6AD0**	–
	0.25	6SE6420-2UC12-5AA0			–
	0.37	6SE6420-2UC13-7AA0			–
	0.55	6SE6420-2UC15-5AA0			–
	0.75	6SE6420-2UC17-5AA0			–
	1.1	6SE6420-2UC21-1BA0	**6SE6400-2FA01-4BC0**	**6SE6400-2FB01-4BC0**	–
	1.5	6SE6420-2UC21-5BA0			–
	2.2	6SE6420-2UC22-2BA0			–
	3.0	6SE6420-2UC23-0CA0	–	–	–
	4.0	6SE6420-2UC24-0CA0	–	–	–
	5.5	6SE6420-2UC25-5CA0	–	–	–
Inverter with internal filter Class A	3.0	6SE6420-2AC23-0CA0	–	–	**6SE6400-2FS03-8CD0**
	4.0	6SE6420-2AC24-0CA0	–	–	
	5.5	6SE6420-2AC25-5CA0	–	–	
Mains operating voltage 380 V to 480 V 3 AC					
Inverter without internal filter	0.37	6SE6420-2UD13-7AA0	**6SE6400-2FA00-6AD0**	**6SE6400-2FB00-6AD0**	–
	0.55	6SE6420-2UD15-5AA0			–
	0.75	6SE6420-2UD17-5AA0			–
	1.1	6SE6420-2UD21-1AA0			–
	1.5	6SE6420-2UD21-5AA0			–
	2.2	6SE6420-2UD22-2BA0	–	–	–
	3.0	6SE6420-2UD23-0BA0	–	–	–
	4.0	6SE6420-2UD24-0BA0	–	–	–
	5.5	6SE6420-2UD25-5CA0	–	–	–
	7.5	6SE6420-2UD27-5CA0	–	–	–
	11	6SE6420-2UD31-1CA0	–	–	–
Inverter with internal filter Class A	2.2	6SE6420-2AD22-2BA0	–	–	**6SE6400-2FS01-6BD0**
	3.0	6SE6420-2AD23-0BA0	–	–	
	4.0	6SE6420-2AD24-0BA0	–	–	
	5.5	6SE6420-2AD25-5CA0	–	–	**6SE6400-2FS03-8CD0**
	7.5	6SE6420-2AD27-5CA0	–	–	
	11	6SE6420-2AD31-1CA0	–	–	

Ordering Data for Variant Dependent Options (Continued)

	Rated output	Inverter	Order No. of the options		
	kW		**Low leakage Class B**	**Line commutating choke**	**Output choke**
Mains operating voltage 200 V to 240 V 1 AC					
Inverter without internal filter	0.12	6SE6420-2UC11-2AA0	**6SE6400-2FL01-0AB0**	**6SE6400-3CC00-4AB0**	**6SE6400-3TC00-4AD0**
	0.25	6SE6420-2UC12-5AA0			
	0.37	6SE6420-2UC13-7AA0		**6SE6400-3CC01-0AB0**	
	0.55	6SE6420-2UC15-5AA0			
	0.75	6SE6420-2UC17-5AA0			
	1.1	6SE6420-2UC21-1BA0	**6SE6400-2FL02-6BB0**	**6SE6400-3CC02-6BB0**	**6SE6400-3TC01-0BD0**
	1.5	6SE6420-2UC21-5BA0			
	2.2	6SE6420-2UC22-2BA0			
	3.0	6SE6420-2UC23-0CA0	–	**6SE6400-3CC03-5CB0**	**6SE6400-3TC03-2CD0**
Inverter with internal filter Class A	0.12	6SE6420-2AB11-2AA0	–	**6SE6400-3CC00-4AB0**	**6SE6400-3TC00-4AD0**
	0.25	6SE6420-2AB12-5AA0	–		
	0.37	6SE6420-2AB13-7AA0	–	**6SE6400-3CC01-0AB0**	
	0.55	6SE6420-2AB15-5AA0	–		
	0.75	6SE6420-2AB17-5AA0	–		
	1.1	6SE6420-2AB21-1BA0	–	**6SE6400-3CC02-6BB0**	**6SE6400-3TC01-0BD0**
	1.5	6SE6420-2AB21-5BA0	–		
	2.2	6SE6420-2AB22-2BA0	–		
	3.0	6SE6420-2AB23-0CA0	–	**6SE6400-3CC03-5CB0**	**6SE6400-3TC03-2CD0**
Mains operating voltage 200 V to 240 V 3 AC					
Inverter without internal filter	0.12	6SE6420-2UC11-2AA0	–	**6SE6400-3CC00-3AC0**	**6SE6400-3TC00-4AD0**
	0.25	6SE6420-2UC12-5AA0	–		
	0.37	6SE6420-2UC13-7AA0	–	**6SE6400-3CC00-5AC0**	
	0.55	6SE6420-2UC15-5AA0	–		
	0.75	6SE6420-2UC17-5AA0	–		
	1.1	6SE6420-2UC21-1BA0	–	**6SE6400-3CC00-8BC0**	**6SE6400-3TC01-0BD0**
	1.5	6SE6420-2UC21-5BA0	–	**6SE6400-3CC01-4BD0**	
	2.2	6SE6420-2UC22-2BA0	–		
	3.0	6SE6420-2UC23-0CA0	–	**6SE6400-3CC01-7CC0**	**6SE6400-3TC03-2CD0**
	4.0	6SE6420-2UC24-0CA0	–	**6SE6400-3CC03-5CD0**	
	5.5	6SE6420-2UC25-5CA0	–		
Inverter with internal filter Class A	3.0	6SE6420-2AC23-0CA0	–	**6SE6400-3CC01-7CC0**	**6SE6400-3TC03-2CD0**
	4.0	6SE6420-2AC24-0CA0	–	**6SE6400-3CC03-5CD0**	
	5.5	6SE6420-2AC25-5CA0	–		
Mains operating voltage 380 V to 480 V 3 AC					
Inverter without internal filter	0.37	6SE6420-2UD13-7AA0	–	**6SE6400-3CC00-2AD0**	**6SE6400-3TC00-4AD0**
	0.55	6SE6420-2UD15-5AA0	–		
	0.75	6SE6420-2UD17-5AA0	–	**6SE6400-3CC00-4AD0**	
	1.1	6SE6420-2UD21-1AA0	–		
	1.5	6SE6420-2UD21-5AA0	–	**6SE6400-3CC00-6AD0**	
	2.2	6SE6420-2UD22-2BA0	–	**6SE6400-3CC01-0BD0**	**6SE6400-3TC01-0BD0**
	3.0	6SE6420-2UD23-0BA0	–		
	4.0	6SE6420-2UD24-0BA0	–	**6SE6400-3CC01-4BD0**	
	5.5	6SE6420-2UD25-5CA0	–	**6SE6400-3CC02-2CD0**	**6SE6400-3TC03-2CD0**
	7.5	6SE6420-2UD27-5CA0	–		
	11	6SE6420-2UD31-1CA0	–	**6SE6400-3CC03-5CD0**	
Inverter with internal filter Class A	2.2	6SE6420-2AD22-2BA0	–	**6SE6400-3CC01-0BD0**	**6SE6400-3TC01-0BD0**
	3.0	6SE6420-2AD23-0BA0	–		
	4.0	6SE6420-2AD24-0BA0	–	**6SE6400-3CC01-4BD0**	
	5.5	6SE6420-2AD25-5CA0	–	**6SE6400-3CC02-2CD0**	**6SE6400-3TC03-2CD0**
	7.5	6SE6420-2AD27-5CA0	–		
	11	6SE6420-2AD31-1CA0	–	**6SE6400-3CC03-5CD0**	

Options

Ordering Data for Variant Dependent Options (Continued)

	Rated output kW	Inverter	Order No. of the options **Fuse** (see Catalog NS K)	**Circuit breaker** (see Catalog NS K)	**Gland plate**
Mains operating voltage 200 V to 240 V 1 AC					
Inverter without internal filter	0.12	6SE6420-2UC11-2AA0	**3NA3803**	**3RV1021-1CA10**	**6SE6400-0GP00-0AA0**
	0.25	6SE6420-2UC12-5AA0		**3RV1021-1FA10**	
	0.37	6SE6420-2UC13-7AA0		**3RV1021-1HA10**	
	0.55	6SE6420-2UC15-5AA0		**3RV1021-1JA10**	
	0.75	6SE6420-2UC17-5AA0	**3NA3805**	**3RV1021-1KA10**	
	1.1	6SE6420-2UC21-1BA0	**3NA3807**	**3RV1021-4BA10**	**6SE6400-0GP00-0BA0**
	1.5	6SE6420-2UC21-5BA0		**3RV1021-4DA10**	
	2.2	6SE6420-2UC22-2BA0	**3NA3810**	**3RV1031-4EA10**	
	3.0	6SE6420-2UC23-0CA0	**3NA3812**	**3RV1031-4GA10**	**6SE6400-0GP00-0CA0**
Inverter with internal filter Class A	0.12	6SE6420-2AB11-2AA0	**3NA3803**	**3RV1021-1CA10**	**6SE6400-0GP00-0AA0**
	0.25	6SE6420-2AB12-5AA0		**3RV1021-1FA10**	
	0.37	6SE6420-2AB13-7AA0		**3RV1021-1HA10**	
	0.55	6SE6420-2AB15-5AA0		**3RV1021-1JA10**	
	0.75	6SE6420-2AB17-5AA0	**3NA3805**	**3RV1021-1KA10**	
	1.1	6SE6420-2AB21-1BA0	**3NA3807**	**3RV1021-4BA10**	**6SE6400-0GP00-0BA0**
	1.5	6SE6420-2AB21-5BA0		**3RV1021-4DA10**	
	2.2	6SE6420-2AB22-2BA0	**3NA3810**	**3RV1031-4EA10**	
	3.0	6SE6420-2AB23-0CA0	**3NA3812**	**3RV1031-4GA10**	**6SE6400-0GP00-0CA0**
Mains operating voltage 200 V to 240 V 3 AC					
Inverter without internal filter	0.12	6SE6420-2UC11-2AA0	**3NA3803**	**3RV1021-0JA10**	**6SE6400-0GP00-0AA0**
	0.25	6SE6420-2UC12-5AA0		**3RV1021-1CA10**	
	0.37	6SE6420-2UC13-7AA0		**3RV1021-1DA10**	
	0.55	6SE6420-2UC15-5AA0		**3RV1021-1FA10**	
	0.75	6SE6420-2UC17-5AA0		**3RV1021-1GA10**	
	1.1	6SE6420-2UC21-1BA0	**3NA3805**	**3RV1021-1HA10**	**6SE6400-0GP00-0BA0**
	1.5	6SE6420-2UC21-5BA0		**3RV1021-1JA10**	
	2.2	6SE6420-2UC22-2BA0	**3NA3807**	**3RV1021-4AA10**	
	3.0	6SE6420-2UC23-0CA0	**3NA3810**	**3RV1021-4BA10**	**6SE6400-0GP00-0CA0**
	4.0	6SE6420-2UC24-0CA0	**3NA3812**	**3RV1021-4DA10**	
	5.5	6SE6420-2UC25-5CA0	**3NA3814**	**3RV1031-4FA10**	
Inverter with internal filter Class A	3.0	6SE6420-2AC23-0CA0	**3NA3810**	**3RV1021-4BA10**	**6SE6400-0GP00-0CA0**
	4.0	6SE6420-2AC24-0CA0	**3NA3812**	**3RV1021-4DA10**	
	5.5	6SE6420-2AC25-5CA0	**3NA3814**	**3RV1031-4FA10**	
Mains operating voltage 380 V to 480 V 3 AC					
Inverter without internal filter	0.37	6SE6420-2UD13-7AA0	**3NA3803**	**3RV1021-1CA10**	**6SE6400-0GP00-0AA0**
	0.55	6SE6420-2UD15-5AA0		**3RV1021-1DA10**	
	0.75	6SE6420-2UD17-5AA0		**3RV1021-1EA10**	
	1.1	6SE6420-2UD21-1AA0		**3RV1021-1GA10**	
	1.5	6SE6420-2UD21-5AA0		**3RV1021-1HA10**	
	2.2	6SE6420-2UD22-2BA0	**3NA3805**	**3RV1021-1JA10**	**6SE6400-0GP00-0BA0**
	3.0	6SE6420-2UD23-0BA0		**3RV1021-1KA10**	
	4.0	6SE6420-2UD24-0BA0	**3NA3807**	**3RV1021-4AA10**	
	5.5	6SE6420-2UD25-5CA0		**3RV1021-4CA10**	**6SE6400-0GP00-0CA0**
	7.5	6SE6420-2UD27-5CA0	**3NA3810**	**3RV1031-4EA10**	
	11	6SE6420-2UD31-1CA0	**3NA3814**	**3RV1031-4FA10**	
Inverter with internal filter Class A	2.2	6SE6420-2AD22-2BA0	**3NA3805**	**3RV1021-1JA10**	**6SE6400-0GP00-0BA0**
	3.0	6SE6420-2AD23-0BA0		**3RV1021-1KA10**	
	4.0	6SE6420-2AD24-0BA0	**3NA3807**	**3RV1021-4AA10**	
	5.5	6SE6420-2AD25-5CA0		**3RV1021-4CA10**	**6SE6400-0GP00-0CA0**
	7.5	6SE6420-2AD27-5CA0	**3NA3810**	**3RV1031-4EA10**	
	11	6SE6420-2AD31-1CA0	**3NA3814**	**3RV1031-4FA10**	

Ordering Data for Variant Independent Options

The options listed here are suitable for all MICROMASTER 420 Inverters.

Option	Order No.
BOP basic operator panel	**6SE6400-0BP00-0AA0**
AOP advanced operator panel	**6SE6400-0AP00-0AA0**
PROFIBUS module	**6SE6400-1PB00-0AA0**
PROFIBUS cable connector/PROFIBUS	**6GK1500-0FC00**
PC to inverter connection kit	**6SE6400-1PC00-0AA0**
PC to AOP connection kit	**6SE6400-0PA00-0AA0**
BOP/AOP door mounting kit for single inverter control	**6SE6400-0PM00-0AA0**
AOP door mounting kit for multiple inverter control	**6SE6400-0MD00-0AA0**
Commissioning tools Starter and DriveMonitor (on CD-ROM supplied with each inverter)	

Technical data of the PROFIBUS module 6SE6400-1PB00-0AA0

Size (height x width x depth)		161 mm x 73 mm x 43.5 mm
Degree of pollution		2 to IEC 60664-1 (DIN VDE 0110/T1), no condensation permitted during operation
Mechanical strength		to DIN IEC 60068-2-6 (if module installed correctly)
• Stationary	Deflection	0.15 mm in the frequency range of 10 Hz to 58 Hz
	Acceleration	19.6 m/s^2 in the frequency range 58 Hz to 500 Hz
• Transport	Deflection	3.5 mm in the frequency range of 5 Hz to 9 Hz
	Acceleration	9.8 m/s^2 in the frequency range 9 Hz to 500 Hz
Climatic category (during operation)		3K3 to DIN IEC 60721-3-3
Cooling method		Natural air cooling
Permissible ambient or cooling agent temperature		
• in operation		–10 °C to +50 °C (14 °F to 122 °F)
• during storage and transport		–25 °C to +70 °C (–13 °F to 158 °F)
Relative humidity (permissible humidity rating)		
• in operation		≤85 % RH – non-condensing
• during storage and transport		≤95 %
Supply voltage		6.5 V ± 5 %, max. 300 mA, internal, from basic unit 24 V ± 10 %, max. 350 mA, external
Output voltage		5 V ± 10 %, max. 100 mA, galvanically isolated supply • for terminating the serial interface bus or • for supplying the OLP (Optical Link Plug)
Data transmission rate		max. 12 Mbaud
Electromagnetic compatibility	Emission	to EN 55011 (1991) Class A
	Interference radiation	to IEC 60801-3 and EN 61000-4-3

Documentation

Type of documentation	Language	Order No.
Docu-Pack, supplied with each inverter, containing CD-ROM[1]) and Getting-Started-Guide[2]) (paper version)	Multilanguage	**6SE6400-5AB00-1AP0**
Operating instructions[2]) (paper version)	German	**6SE6400-5AA00-0AP0**
	English	**6SE6400-5AA00-0BP0**
	French	**6SE6400-5AA00-0DP0**
	Italian	**6SE6400-5AA00-0CP0**
	Spanish	**6SE6400-5AA00-0EP0**
Reference manual[2])		–
Parameter list[2])		–

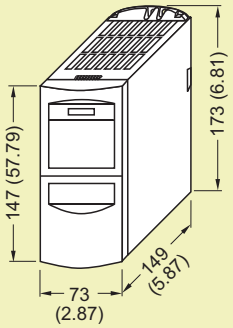
1) The CD-ROM contains operating instructions, reference manual (in preparation), parameter list, commissioning tools Starter and DriveMonitor/SIMOVIS, multilanguage.

2) Available on Internet at http://www.siemens.de/standarddrives

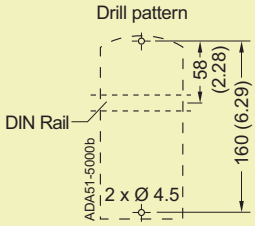
Dimension Drawings

MICROMASTER 420 Inverter

Frame size	200 V to 240 V 1/3 AC	380 V to 480 V 3 AC
A	0.12 kW to 0.75 kW	0.37 kW to 1.5 kW
B	1.1 kW to 2.2 kW	2.2 kW to 4 kW
C	3 kW to 5.5 kW	5.5 kW to 11 kW

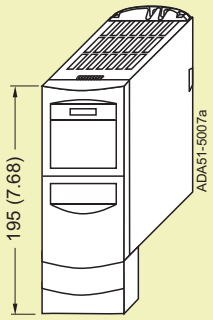


Inverter frame size **A**

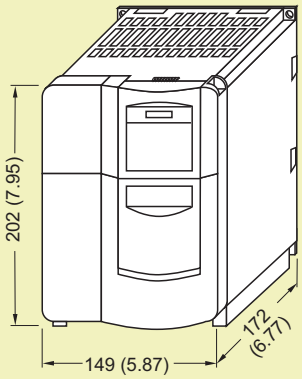


Fixing with
2 bolts M4
2 nuts M4
2 washers M4
or snap on to the DIN rail

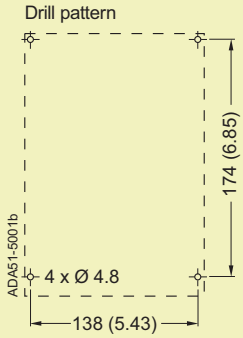
Tightening torque with
washers fitted: 2.5 Nm



Inverter frame size **A**
with gland plate

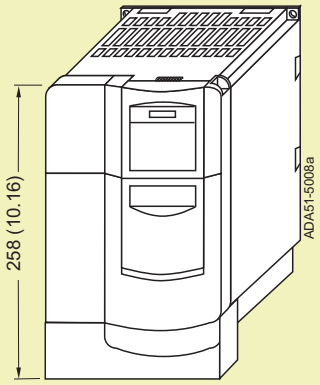


Inverter frame size **B**

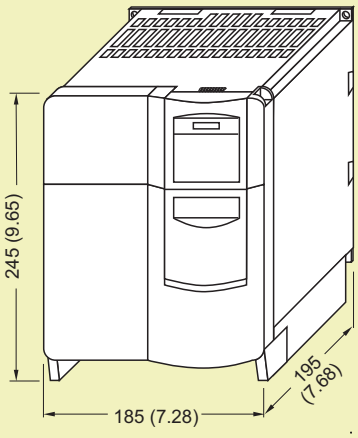


Fixing with
4 bolts M4
4 nuts M4
4 washers M4

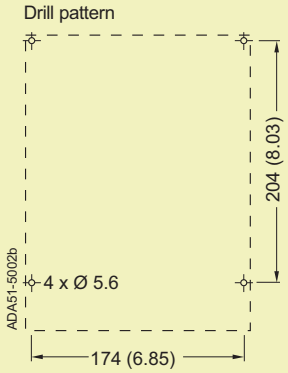
Tightening torque with
washers fitted: 2.5 Nm



Inverter frame size **B**
with gland plate

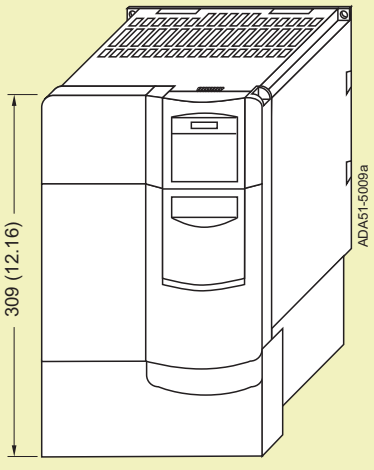


Inverter frame size **C**



Fixing with
4 bolts M5
4 nuts M5
4 washers M5

Tightening torque with
washers fitted: 3.0 Nm

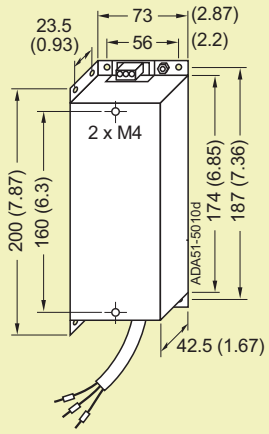


Inverter frame size **C**
with gland plate

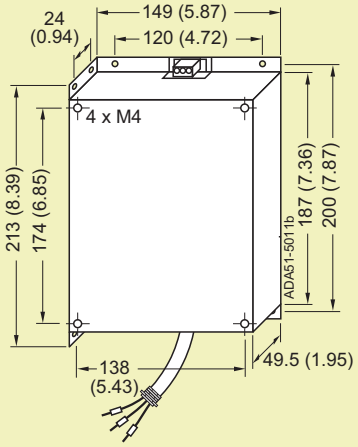
With the PROFIBUS module, the mounting depth increases by 23 mm (0.91 inches).

All dimensions are in mm (values in brackets are in inches)

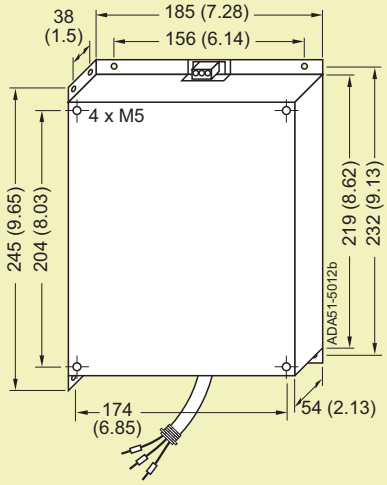
Filters and Chokes



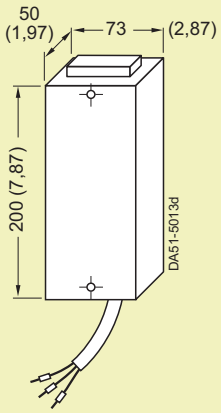
Filter for frame size **A**



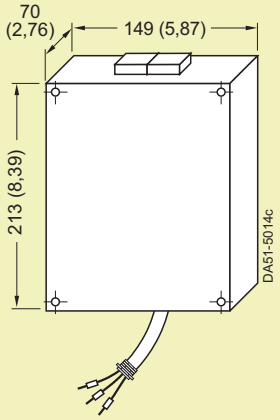
for frame size **B**



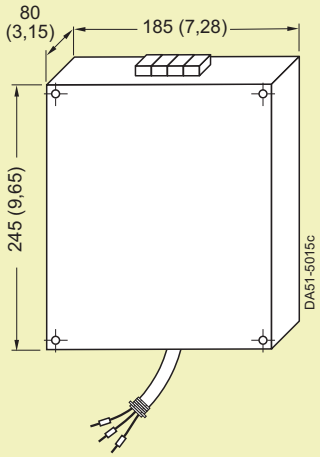
for frame size **C**



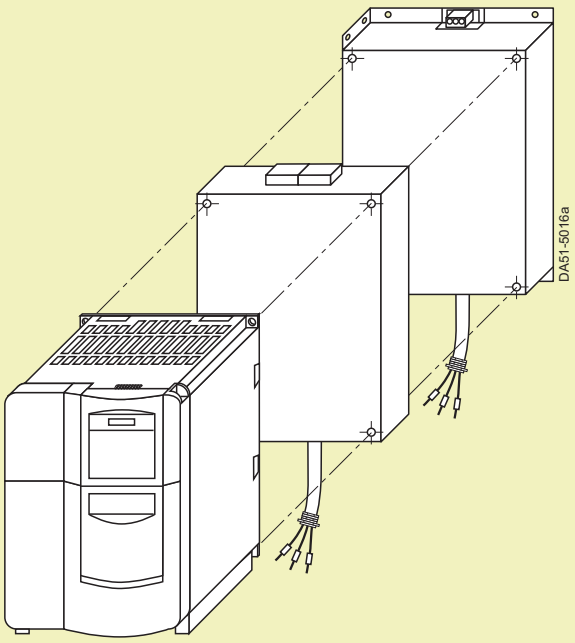
Choke for frame size **A**



for frame size **B**



for frame size **C**



Exemple:
Assembly of inverter, choke and filter

If additional accessories are required, they must be mounted at the side.

All dimensions are in mm (the values in brackets are in inches)

Notes

Inverter
MICROMASTER 440

Description

3

Applications

The MICROMASTER 440 inverter is suitable for a variety of variable-speed drive applications. Its flexibility provides for a wide spectrum of applications.

It is especially suitable for positioning applications in crane systems, high-bay warehouse systems, food and drinks industry, in the packaging industry and in textile industry.

The inverter is especially characterized by its customer-oriented performance and ease of use. Its large supply-voltage range enables it to be used all over the world.

Design

The MICROMASTER 440 has a modular design.The operator panels and the PROFIBUS module can be fitted by hand.

Main Characteristics

- Simple commissioning
- Modular construction allows maximum configuration flexibility
- Six fully programmable isolated digital inputs
- Two scalable analog inputs (0 V to 10 V, 0 mA to 20 mA) can also be used as a 4th digital input
- Two programmable analog outputs (0 mA to 20 mA)
- Three fully programmable relay outputs (30 V DC/5 A, resistive 250 V AC/2 A, inductive)
- Silent motor operation is possible when using high switching frequencies
- Complete inverter and motor protection.

Options (Overview)

- EMC filters Class A/B
- Line commutating chokes
- Output chokes
- Gland plates
- BOP basic operator panel for parameterizing an inverter
- AOP advanced operator panel with plain-text and multilingual display
- PROFIBUS-DP communications module
- PC connection kits
- Assembly kits for mounting the operator panels in the control cabinet doors
- PC commissioning tools, running under Windows 95/98 and NT/2000.

International Standards

- MICROMASTER 440 carries the CE mark for both EMC conformity and conformity to the low voltage directive
- UL and cUL listed
- c-tick

Mechanical Features

- Modular design
- Operating temperature: –10 °C to +50 °C
- Side by side mounting is possible, reducing the amount of space required within cabinets.
- Easy cable connection, mains and motor connections are separated for optimum electromagnetic compatibility
- Detachable operator panels
- Screwless control terminals on detachable I/O-Board.

Performance Features

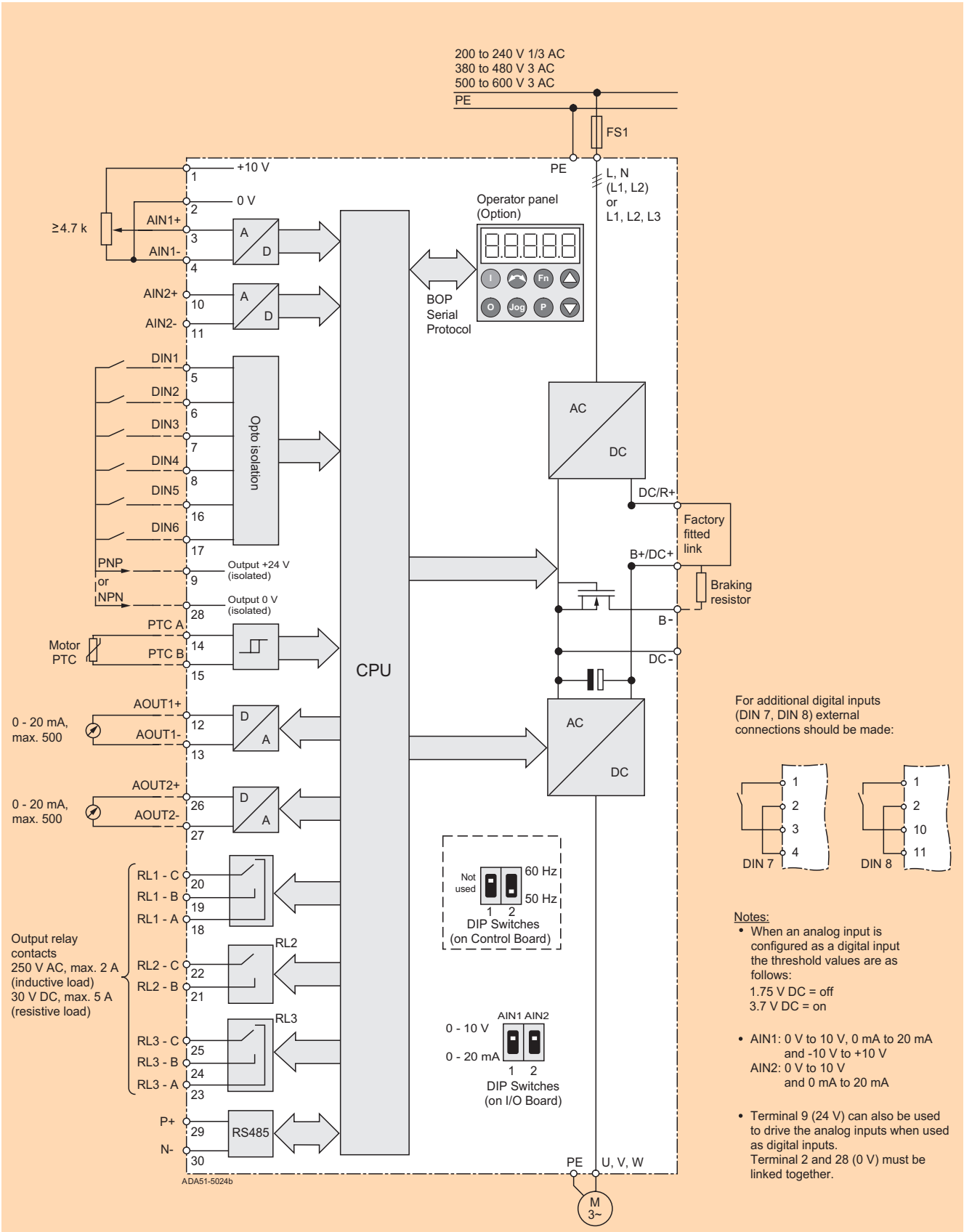
- Latest IGBT technology
- Digital microprocessor control
- High-quality Vector Control System
- Flux current control (FCC) for improved dynamic response and optimized motor control
- Linear *V/f* characteristic
- Quadratic *V/f* characteristic
- Programmable *V/f* characteristic
- Torque control
  – Constant torque, CT
  – Variable torque, VT
- Low-power mode
- Flying restart
- Slip compensation
- Automatic restart facility following power failure or fault
- High-grade PID controller (auto-tuning) for simple process control
- Programmable acceleration/deceleration, 0 s to 650 s
- Ramp smoothing
- Fast current limit (FCL) for trip free operation
- Fast, repeatable digital input response time
- Fine speed adjustment using two high resolution 10-bit analog inputs
- Compound braking for rapid controlled braking
- Integral brake chopper
- Four skip frequencies
- Removable “Y” capacitor for use on IT mains supplies.

Protection Features

- 50 % overload capability for a period of 60 s within 5 min in relation to the rated output current or 50 % for 3 s within 5 min
- Overvoltage/undervoltage protection
- Inverter overtemperature protection
- Motor protection using PTC via digital input
- Earth fault protection
- Short circuit protection
- I^2t motor thermal protection
- Locked motor protection
- Stall prevention
- Parameter interlock, using PIN number.

Circuit Diagrams

General Circuit Diagram



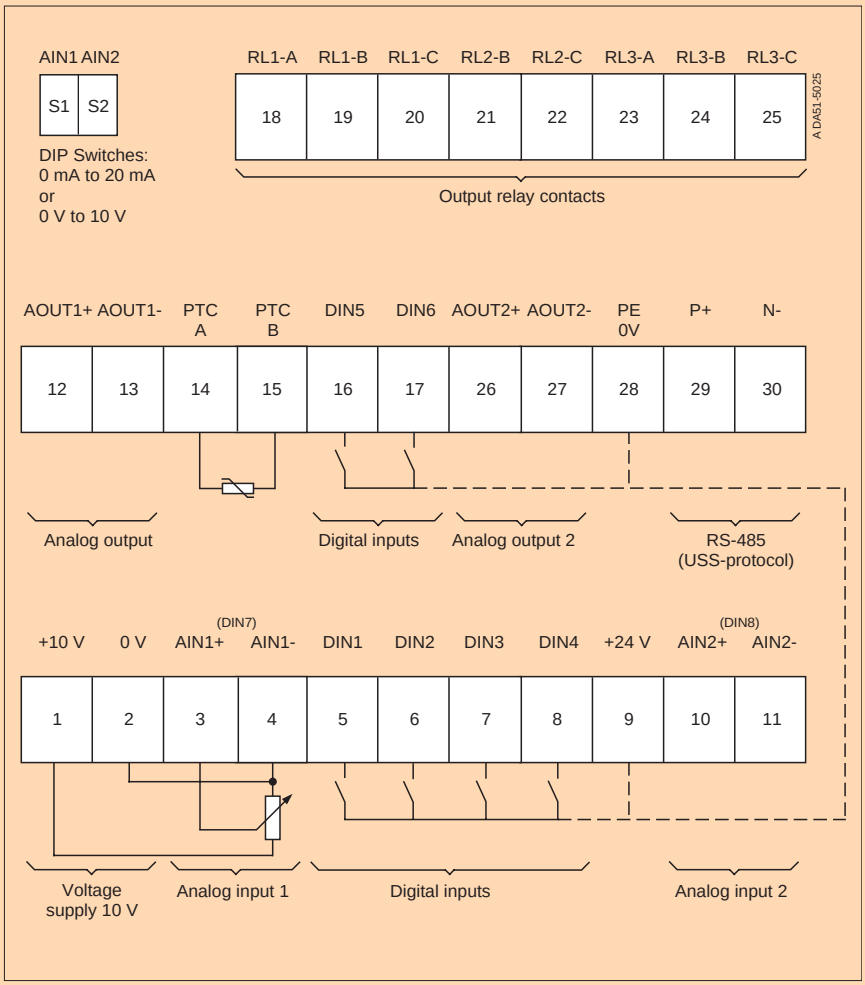
For additional digital inputs (DIN 7, DIN 8) external connections should be made:

Notes:

- When an analog input is configured as a digital input the threshold values are as follows:
  1.75 V DC = off
  3.7 V DC = on
- AIN1: 0 V to 10 V, 0 mA to 20 mA and -10 V to +10 V
  AIN2: 0 V to 10 V and 0 mA to 20 mA
- Terminal 9 (24 V) can also be used to drive the analog inputs when used as digital inputs.
  Terminal 2 and 28 (0 V) must be linked together.

Technical Connection Diagram

View A



3

Technical Data

MICROMASTER 440 Inverter

Input voltage and power ranges		**CT**	**VT**
	200 V to 240 V 1 AC ± 10 %	0.12 kW to 3 kW	0.12 kW to 4 kW
	200 V to 240 V 3 AC ± 10 %	0.12 kW to 45 kW	0.25 kW to 45 kW
	380 V to 480 V 3 AC ± 10 %	0.37 kW to 75 kW	0.55 kW to 90 kW
	500 V to 600 V 3 AC ± 10 %	0.75 kW to 75 kW	1.5 kW to 90 kW
Input frequency	47 Hz to 63 Hz		
Output frequency	0 Hz to 650 Hz		
Power factor	≥ 0.7		
Inverter efficiency	96% to 97%		
Overload capability (CT operation)	50 % overload capability for a period of 60 s within 5 min in relation to the rated output current or 100 % for 3 s within 5 min		
Inrush current	less than rated input current		
Control method	vector control, torque control, linear *V/f*; parabolic *V/f* (fan curve); programmable *V/f*; flux current control (FCC), low-power mode		
PWM frequency	2 kHz to 16 kHz (in 2 kHz steps)		
Fixed frequencies	15, programmable		
Skip frequency bands	4, programmable		
Setpoint resolution	0.01 Hz digital 0.01 Hz serial 10 bit analog		
Digital inputs	6 fully programmable isolated digital inputs; switchable PNP/NPN		
Analog inputs	2 • 0 to 10 V, 0 to 20 mA and –10 to +10 V • 0 to 10 V and 0 to 20 mA		
Relay outputs	3 configurable 30 V DC/5 A (resistive), 250 V AC/2 A (inductive)		
Analog outputs	2, programmable (0/4 mA to 20 mA)		
Serial interfaces	RS-485, optional RS-232		
Electromagnetic compatibility	Optional EMC filters to EN 55 011, Class A or Class B Inverter with internal filter Class A available		
Braking	DC Braking, Compound Braking, dynamic braking, integral brake chopper		
Protection level	IP 20		
Temperature range	CT –10°C to +50°C VT –10°C to +40°C		
Storage temperature	–40°C to +70°C		
Humidity	95% RH – non-condensing		
Operational altitudes	up to 1000 m above sea level without derating		
Protection features	• under-voltage • over-voltage • overload • earth faults • short circuits • stall prevention • locked motor • motor over-temperature I^2t, PTC • inverter over-temperature • parameter PIN protection		
Standards	UL, cUL, CE, c-tick		
CE mark	Conformity with EC low voltage directive 73/23/EEC and the electromagnetic compability directive 89/336/EEC		
Dimensions and weights (without gland plate)	Frame size	W x H x D, max. (mm)	Weight, max. (kg)
	A:	73 x 173 x 149	1.3
	B:	149 x 202 x 172	3.4
	C:	185 x 245 x 195	5.7
	D:	275 x 520 x 245	17
	E:	275 x 650 x 245	22
	F without filter:	350 x 850 x 320	56
	F with filter:	350 x 1150 x 320	75

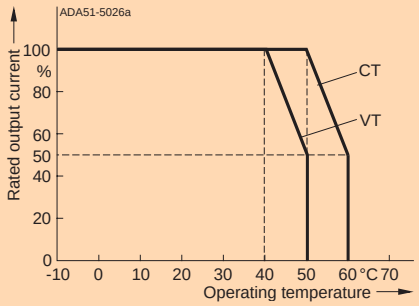
Derating Data

Puls frequency

Rated output (for 400 V 3 AC)		**Rated output current in A** for a pulse frequency of						
kW	hp	4 kHz	6 kHz	8 kHz	10 kHz	12 kHz	14 kHz	16 kHz
0.37	0.5	1.2	1.2	1.2	1.2	1.2	1.2	1.1
0.55	0.75	1.6	1.6	1.6	1.6	1.6	1.6	1.1
0.75	1.0	2.1	2.1	2.1	2.1	1.6	1.6	1.1
1.1	1.5	3.0	3.0	2.7	2.7	1.6	1.6	1.1
1.5	2.0	4.0	4.0	2.7	2.7	1.6	1.6	1.1
2.2	3.0	5.9	5.9	5.1	5.1	3.6	3.6	2.6
3.0	4.0	7.7	7.7	5.1	5.1	3.6	3.6	2.6
4.0	5.0	10.2	10.2	6.7	6.7	4.8	4.8	3.6
5.5	7.5	13.2	13.2	13.2	13.2	9.6	9.6	7.5
7.5	10	18.4	18.4	13.2	13.2	9.6	9.6	7.5
11.0	15	26.0	26.0	17.9	17.9	13.5	13.5	10.4
15.0	20	in preparation						
18.5	25							
22	30							
30	40							
37	50							
45	60							
55	75							
75	100							

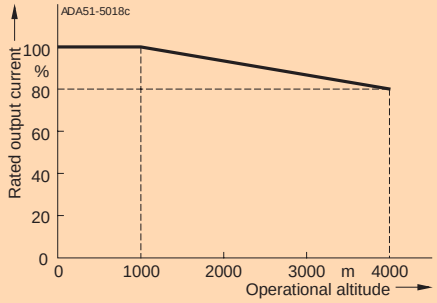
Rated output (for 500 V 3 AC)		**Rated output current in A** for a pulse frequency of						
kW	hp	4 kHz	6 kHz	8 kHz	10 kHz	12 kHz	14 kHz	16 kHz
0.75	1.0	in preparation						
1.5	2.0							
2.2	3.0							
4.0	5.0							
5.5	7.5							
7.5	10							
11.0	15							
15.0	20							
18.5	25							
22	30							
30	40							
37	50							
45	60							
55	75							
75	100							

Operating temperature

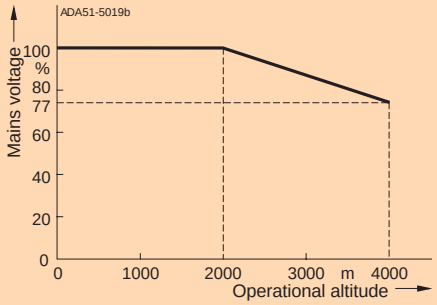


Operational altitude

Permissible output current
in % of the rated output current



Permissible mains voltage
in % of the max. possible mains voltage



3

Selection and Ordering Data

MICROMASTER 440 Inverter without filter

CT (constant torque)				VT (variable torque)				MICROMASTER 440 without filter		
Rated output		Rated input current	Rated output current	Rated output		Rated input current	Rated output current	Frame size	weight approx.	Order No.
kW	hp	A	A	kW	hp	A	A	(FS)	kg	
Mains operating voltage 200 V to 240 V 1 AC										
0.12	0.16	1.4	0.9	–	–	–	–	A	1.3	**6SE6440-2UC11-2AA0**
0.25	0.33	2.7	1.7	–	–	–	–	A	1.3	**6SE6440-2UC12-5AA0**
0.37	0.50	3.7	2.3	–	–	–	–	A	1.3	**6SE6440-2UC13-7AA0**
0.55	0.75	5.0	3	–	–	–	–	A	1.3	**6SE6440-2UC15-5AA0**
0.75	1.0	6.6	3.9	–	–	–	–	A	1.3	**6SE6440-2UC17-5AA0**
1.1	1.5	9.6	5.5	–	–	–	–	B	3.3	**6SE6440-2UC21-1BA0**
1.5	2	13.0	7.4	–	–	–	–	B	3.3	**6SE6440-2UC21-5BA0**
2.2	3	17.6	10.4	–	–	–	–	B	3.3	**6SE6440-2UC22-2BA0**
3	4	23.7	13.6	–	–	–	–	C	5.5	**6SE6440-2UC23-0CA0**
Mains operating voltage 200 V to 240 V 3 AC										
0.12	0.16	0.6	0.9	–	–	–	–	A	1.3	**6SE6440-2UC11-2AA0**
0.25	0.33	1.1	1.7	–	–	–	–	A	1.3	**6SE6440-2UC12-5AA0**
0.37	0.50	1.6	2.3	–	–	–	–	A	1.3	**6SE6440-2UC13-7AA0**
0.55	0.75	2.1	3	–	–	–	–	A	1.3	**6SE6440-2UC15-5AA0**
0.75	1.0	2.9	3.9	–	–	–	–	A	1.3	**6SE6440-2UC17-5AA0**
1.1	1.5	4.1	5.5	–	–	–	–	B	3.3	**6SE6440-2UC21-1BA0**
1.5	2.0	5.6	7.4	–	–	–	–	B	3.3	**6SE6440-2UC21-5BA0**
2.2	3.0	7.6	10.4	–	–	–	–	B	3.3	**6SE6440-2UC22-2BA0**
3.0	4.0	10.5	13.6	–	–	–	–	C	5.5	**6SE6440-2UC23-0CA0**
4.0	5.0	13.1	17.5	**5.5**	7.5	17.6	22	C	5.5	**6SE6440-2UC24-0CA0**
5.5	7.5	17.5	22	**7.5**	10	26.5	28	C	5.5	**6SE6440-2UC25-5CA0**
7.5	10	25.3	28	**11.0**	15	38.4	42	D	17	**6SE6440-2UC27-5DA0**
11.0	15	37.0	42	**15.0**	20	50.3	54	D	16	**6SE6440-2UC31-1DA0**
15.0	20	48.8	54	**18.5**	25	61.5	68	D	16	**6SE6440-2UC31-5DA0**
18.5	25	61.0	68	**22**	30	70.8	80	E	20	**6SE6440-2UC31-8EA0**
22	30	69.4	80	**30**	40	96.2	104	E	20	**6SE6440-2UC32-2EA0**
30	40	94.1	104	**37**	50	114.1	130	F	55	**6SE6440-2UC33-0FA0**
37	50	110.6	130	**45**	60	134.9	154	F	55	**6SE6440-2UC33-7FA0**
45	60	134.9	154	–	–	–	–	F	55	**6SE6440-2UC34-5FA0**
Mains operating voltage 380 V to 480 V 3 AC										
0.37	0.5	1.1	1.2	–	–	–	–	A	1.3	**6SE6440-2UD13-7AA0**
0.55	0.8	1.4	1.6	–	–	–	–	A	1.3	**6SE6440-2UD15-5AA0**
0.75	1.0	1.9	2.1	–	–	–	–	A	1.3	**6SE6440-2UD17-5AA0**
1.1	1.5	2.8	3.0	–	–	–	–	A	1.3	**6SE6440-2UD21-1AA0**
1.5	2.0	3.9	4.0	–	–	–	–	A	1.3	**6SE6440-2UD21-5AA0**
2.2	3.0	5.0	5.9	–	–	–	–	B	3.3	**6SE6440-2UD22-2BA0**
3	4.0	6.7	7.7	–	–	–	–	B	3.3	**6SE6440-2UD23-0BA0**
4	5.0	8.5	10.2	–	–	–	–	B	3.3	**6SE6440-2UD24-0BA0**
5.5	7.5	11.6	13.2	**7.5**	10	16.0	18.4	C	5.5	**6SE6440-2UD25-5CA0**
7.5	10	15.4	18.4	**11.0**	15	22.5	26	C	5.5	**6SE6440-2UD27-5CA0**
11	15	22.5	26	**15.0**	20	30.5	32	C	5.5	**6SE6440-2UD31-1CA0**
15	20	30	32	**18.5**	25	37.2	38	D	16	**6SE6440-2UD31-5DA0**
18.5	25	36.6	38	**22**	30	43.3	45	D	16	**6SE6440-2UD31-8DA0**
22	30	43.1	45	**30**	40	59.3	62	D	16	**6SE6440-2UD32-2DA0**
30	40	58.7	62	**37**	50	71.7	75	E	20	**6SE6440-2UD33-0EA0**
37	50	71.2	75	**45**	60	86.6	90	E	20	**6SE6440-2UD33-7EA0**
45	60	85.6	90	**55**	75	103.6	110	F	56	**6SE6440-2UD34-5FA0**
55	75	103.6	110	**75**	100	138.5	145	F	56	**6SE6440-2UD35-5FA0**
75	100	138.5	145	**90**	120	168.5	178	F	56	**6SE6440-2UD37-5FA0**
Mains operating voltage 500 V to 600 V 3 AC										
0.75	1.0	2.0	1.4	**1.5**	2.0	3.2	2.7	C	5.5	**6SE6440-2UE17-5CA0**
1.5	2.0	3.2	2.7	**2.2**	3.0	4.4	3.9	C	5.5	**6SE6440-2UE21-5CA0**
2.2	3.0	4.4	3.9	**4.0**	5.0	6.9	6.1	C	5.5	**6SE6440-2UE22-2CA0**
4	5.0	6.9	6.1	**5.5**	7.5	9.4	9	C	5.5	**6SE6440-2UE24-0CA0**
5.5	7.5	9.4	9	**7.5**	10	12.6	11	C	5.5	**6SE6440-2UE25-5CA0**
7.5	10	12.3	11	**11.0**	15	18.1	17	C	5.5	**6SE6440-2UE27-5CA0**
11	15	18.1	17	**15.0**	20	24.9	22	C	5.5	**6SE6440-2UE31-1CA0**
15	20	24.2	22	**18.5**	25	29.8	27	D	16	**6SE6440-2UE31-5DA0**
18.5	25	29.5	27	**22**	30	35.1	32	D	16	**6SE6440-2UE31-8DA0**
22	30	34.7	32	**30**	40	47.5	41	D	16	**6SE6440-2UE32-2DA0**
30	40	47.2	41	**37**	50	57.9	52	E	20	**6SE6440-2UE33-0EA0**
37	50	57.3	52	**45**	60	69.4	62	E	20	**6SE6440-2UE33-7EA0**
45	60	69.0	62	**55**	75	83.6	77	F	56	**6SE6440-2UE34-5FA0**
55	75	82.9	77	**75**	100	113.4	99	F	56	**6SE6440-2UE35-5FA0**
75	100	113.4	99	**90**	120	137.6	125	F	56	**6SE6440-2UE37-5FA0**

MICROMASTER 440 Inverter with internal filter Class A

CT (constant torque)				*VT (variable torque)*				MICROMASTER 440 with filter Class A		
Rated output		Rated input current	Rated output current	Rated output		Rated input current	Rated output current	Frame size	weight approx.	Order No.
kW	hp	A	A	kW	hp	A	A	(FS)	kg	
Mains operating voltage 200 V to 240 V 1 AC										
0.12	0.16	1.4	0.9	–	–	–	–	A	1.3	**6SE6440-2AB11-2AA0**
0.25	0.33	2.7	1.7	–	–	–	–	A	1.3	**6SE6440-2AB12-5AA0**
0.37	0.50	3.7	2.3	–	–	–	–	A	1.3	**6SE6440-2AB13-7AA0**
0.55	0.75	5.0	3	–	–	–	–	A	1.3	**6SE6440-2AB15-5AA0**
0.75	1.0	6.6	3.9	–	–	–	–	A	1.3	**6SE6440-2AB17-5AA0**
1.1	1.5	9.6	5.5	–	–	–	–	B	3.4	**6SE6440-2AB21-1BA0**
1.5	2	13.0	7.4	–	–	–	–	B	3.4	**6SE6440-2AB21-5BA0**
2.2	3	17.6	10.4	–	–	–	–	B	3.4	**6SE6440-2AB22-2BA0**
3	4	23.7	13.6	–	–	–	–	C	5.7	**6SE6440-2AB23-0CA0**
Mains operating voltage 200 V to 240 V 3 AC										
3.0	4.0	10.5	13.6	**4.0**	5.0	13.1	17.5	C	5.7	**6SE6440-2AC23-0CA0**
4.0	5.0	13.1	17.5	**5.5**	7.5	17.6	22	C	5.7	**6SE6440-2AC24-0CA0**
5.5	7.5	17.5	22.0	**7.5**	10.0	26.5	28	C	5.7	**6SE6440-2AC25-5CA0**
Mains operating voltage 380 V to 480 V 3 AC										
2.2	3.0	5.0	5.9	–	–	–	–	B	3.4	**6SE6440-2AD22-2BA0**
3.0	4.0	6.7	7.7	–	–	–	–	B	3.4	**6SE6440-2AD23-0BA0**
4.0	5.0	8.5	10.2	–	–	–	–	B	3.4	**6SE6440-2AD24-0BA0**
5.5	7.5	11.6	13.2	**7.5**	10	16.0	18.4	C	5.7	**6SE6440-2AD25-5CA0**
7.5	10	15.4	18.4	**11.0**	15	22.5	26	C	5.7	**6SE6440-2AD27-5CA0**
11.0	15	22.5	26	**15.0**	20	30.5	32	C	5.7	**6SE6440-2AD31-1CA0**
15.0	20	30.0	32	**18.5**	25	37.2	38	D	17	**6SE6440-2AD31-5DA0**
18.5	25	36.6	38	**22**	30	43.3	45	D	17	**6SE6440-2AD31-8DA0**
22	30	43.1	45	**30**	40	59.3	62	D	17	**6SE6440-2AD32-2DA0**
30	40	58.7	62	**37**	50	71.7	75	E	22	**6SE6440-2AD33-0EA0**
37	50	71.2	75	**45**	60	86.6	90	E	22	**6SE6440-2AD33-7EA0**
45	60	85.6	90	**55**	75	103.6	110	F	75	**6SE6440-2AD34-5FA0**
55	75	103.6	110	**75**	100	138.5	145	F	75	**6SE6440-2AD35-5FA0**
75	100	138.5	145	**90**	120	168.5	178	F	75	**6SE6440-2AD37-5FA0**

All inverters are supplied with a Status Display Panel SDP. A Basic Operator Panel BOP, Advanced Operator Panel AOP or other options have to be ordered additionally (see pages 3/11 to 3/15).

Motors for MICROMASTER 440

Catalog M 11 contains selection and ordering data for motors which are particularly suitable for operation with the MICROMASTER 440 inverters.

Options

Variant Dependent Options

EMC filter, Class A
Filter for inverters without an internal filter, for
- 200 V to 240 V 3 AC, frame sizes A and B
- 380 V to 480 V 3 AC, frame size A.

All other inverters can be supplied with an internal filter Class A.

Low leakage Class B filter
Filter for inverters without an internal filter, for
- 200 V to 240 V 3 AC, frame sizes A and B
- 380 V to 480 V 3 AC, frame size A.

With this filter, the inverter complies with the emission standard EN 55 011, Class B.

Additional EMC filter, Class B
Obtainable for inverters with an internal EMC filter Class A, frame sizes A, B, C.

With this filter, the inverter complies with the emission standard EN 55 011, Class B.

Class B filter with low discharge currents
EMC filter for 200 V to 240 V 1 AC inverters, frame sizes A and B, without an internal EMC filter Class A.

With this filter, the inverter complies with the emission standard EN 55 011, Class B.

The earth-fault currents are reduced to < 3.5 mA.

In plug-in systems, the maximum permissible leakage current is 3.5 mA.

In the case of permanently wired installations, higher leakage currents are permissible. The limitation for operation in conjunction with residual-current-operated circuit-breakers is then applicable. Devices with standard filters can be used with 30 mA residual-current-operated circuit-breakers. If several drives are to be connected with a single residual-current-operated circuit-breaker, Class B filters with low discharge currents may be necessary.

Line commutating choke
Line commutating chokes are used to smoothe voltage peaks or to bridge commutating dips. In addition, line commutating chokes reduce the effects of harmonics on the inverter and the power supply. If the line impedance is < 1 %, a line commutating choke is recommended in order to reduce the current peaks.

Output choke
Output chokes can be supplied for reducing the capacitive currents and d*V*/d*t* in the case of motor cables > 50 m (shielded) or > 100 m (unshielded).

Gland plate
Grand plates are available for inverters with frame sizes A, B and C. In frame sizes D, E and F, the gland plates are integrated.

The gland plate enables shielded connection of the power and control cables, ensuring optimum EMC performance. This action ensures compliance with the NEMA directive.

Variant Independent Options

Basic Operator Panel (BOP)
With the BOP, individual parameter settings can be made. Values and units are shown on a 5-digit display.

Basic Operator Panel (BOP)

A BOP can be used for several inverters. It can be directly mounted on the inverter or in a control-cabinet door using a mounting kit.

Advanced Operator Panel (AOP)
The AOP enables parameter sets to be read out of the inverter or to be written into the inverter (upload/download). Up to 10 different parameter sets can be stored in the AOP. It has a plain-text display with the possibility of switching between several languages.

Advanced Operator Panel (AOP)

Up to 31 inverters can be controlled from an AOP via USS protocol. It can be directly plugged into the inverter or built into the control-cabinet door using a mounting kit.

PROFIBUS module
Observation on technical content – PROFIBUS controlled operation is possible up to 12 MBaud/s. The AOP or BOP can be plugged into the PROFIBUS module giving an operation display. The PROFIBUS module can be powered from an external 24 V supply so that the bus is active when power is removed from the inverter.

Connection by means of a 9-pin SUB-D connector (available as an accessory).

PC to inverter connection kit
For controlling an inverter directly from a PC if the appropriate software has been installed (e.g. DriveMonitor) in the PC. Isolated RS 232 adapter board for reliable point-to-point connection to a PC. Includes a Sub-D connector and an RS 232 standard cable (3 m).

PC to AOP connection kit
For connecting a PC to an AOP. Offline programming of inverters and archiving of parameter sets possible. Includes a desktop attachment kit for an AOP, an RS 232 standard cable (3 m) with Sub-D connectors and a universal power supply unit.

BOP/AOP door mounting kit for single converter control
For mounting an operator panel in a control cabinet door. Degree of protection is IP 56. Contains a cable adapter board with screwless terminals for use with the user's own cables.

AOP door mounting kit for multiple inverter control
For mounting an AOP in a control cabinet door. Degree of protection IP 56. The AOP can communicate with several inverters by means of the RS 485 USS protocol. The 4-pin connecting cable from the AOP to the RS 485 terminals of the inverter and to the 24 V user terminal strip is not included.

Commissioning tools
- Starter
  Starter is start-up software for guided commissioning for Siemens MICROMASTER and MASTERDRIVES frequency inverters under Windows NT/2000. Parameter lists can be read out, altered, stored, entered and printed.
- DriveMonitor also for Windows 95/98.

Ordering Data for Variant Dependent Options

The options listed here

- Filters
- Chokes
- Fuses
- Circuit breakers
- Gland plates

are inverter specific.

The inverter and the associated options have the same voltage ratings.

All options are certified to ᵁᴸ (except fuses).

Rated output kW	Inverter without filter	Order No. of the options EMC-filter Class A	EMC-filter Class B	Low leakage Class B
Mains operating voltage 200 V to 240 V 1 AC				
0.12	6SE6440-2UC11-2AA0	–	–	**6SE6400-2FL01-0AB0**
0.25	6SE6440-2UC12-5AA0	–	–	
0.37	6SE6440-2UC13-7AA0	–	–	
0.55	6SE6440-2UC15-5AA0	–	–	
0.75	6SE6440-2UC17-5AA0	–	–	
1.1	6SE6440-2UC21-1BA0	–	–	**6SE6400-2FL02-6BB0**
1.5	6SE6440-2UC21-5BA0	–	–	
2.2	6SE6440-2UC22-2BA0	–	–	
3.0	6SE6440-2UC23-0CA0	–	–	–
Mains operating voltage 200 V to 240 V 3 AC				
0.12	6SE6440-2UC11-2AA0	**6SE6400-2FA00-6AD0**	**6SE6400-2FB00-6AD0**	–
0.25	6SE6440-2UC12-5AA0			–
0.37	6SE6440-2UC13-7AA0			–
0.55	6SE6440-2UC15-5AA0			–
0.75	6SE6440-2UC17-5AA0			–
1.1	6SE6440-2UC21-1BA0	**6SE6400-2FA01-4BC0**	**6SE6400-2FB01-4BC0**	–
1.5	6SE6440-2UC21-5BA0			–
2.2	6SE6440-2UC22-2BA0			–
3.0	6SE6440-2UC23-0CA0	–	–	–
4.0	6SE6440-2UC24-0CA0	–	–	–
5.5	6SE6440-2UC25-5CA0	–	–	–
7.5	6SE6440-2UC27-5DA0	–	–	–
11.0	6SE6440-2UC31-1DA0	–	–	–
15.0	6SE6440-2UC31-5DA0	–	–	–
18.5	6SE6440-2UC31-8EA0	–	–	–
22	6SE6440-2UC32-2EA0	–	–	–
30	6SE6440-2UC33-0FA0	–	–	–
37	6SE6440-2UC33-7FA0	–	–	–
45	6SE6440-2UC34-5FA0	–	–	–
Mains operating voltage 380 V to 480 V 3 AC				
0.37	6SE6440-2UD13-7AA0	**6SE6400-2FA00-6AD0**	**6SE6400-2FB00-6AD0**	–
0.55	6SE6440-2UD15-5AA0			–
0.75	6SE6440-2UD17-5AA0			–
1.1	6SE6440-2UD21-1AA0			–
1.5	6SE6440-2UD21-5AA0			–
2.2	6SE6440-2UD22-2BA0	–	–	–
3.0	6SE6440-2UD23-0BA0	–	–	–
4.0	6SE6440-2UD24-0BA0	–	–	–
5.5	6SE6440-2UD25-5CA0	–	–	–
7.5	6SE6440-2UD27-5CA0	–	–	–
11.0	6SE6440-2UD31-1CA0	–	–	–
15.0	6SE6440-2UD31-5DA0	–	–	–
18.5	6SE6440-2UD31-8DA0	–	–	–
22	6SE6440-2UD32-2DA0	–	–	–
30	6SE6440-2UD33-0EA0	–	–	–
37	6SE6440-2UD33-7EA0	–	–	–
45	6SE6440-2UD34-5FA0	–	–	–
55	6SE6440-2UD35-5FA0	–	–	–
75	6SE6440-2UD37-5FA0	–	–	–
Mains operating voltage 500 V to 600 V 3 AC				
0.75	6SE6440-2UE17-5CA0	–	–	–
1.5	6SE6440-2UE21-5CA0	–	–	–
2.2	6SE6440-2UE22-2CA0	–	–	–
4.0	6SE6440-2UE24-0CA0	–	–	–
5.5	6SE6440-2UE25-5CA0	–	–	–
7.5	6SE6440-2UE27-5CA0	–	–	–
11.0	6SE6440-2UE31-1CA0	–	–	–
15.0	6SE6440-2UE31-5DA0	–	–	–
18.5	6SE6440-2UE31-8DA0	–	–	–
22	6SE6440-2UE32-2DA0	–	–	–
30	6SE6440-2UE33-0EA0	–	–	–
37	6SE6440-2UE33-7EA0	–	–	–
45	6SE6440-2UE34-5FA0	–	–	–
55	6SE6440-2UE35-5FA0	–	–	–
75	6SE6440-2UE37-5FA0	–	–	–

Options

Ordering Data for Variant Dependent Options (Continued)

Rated output kW	Inverter without filter	Order No. of the options Line commutating choke	Output Choke
Mains operating voltage 200 V to 240 V 1 AC			
0.12	6SE6440-2UC11-2AA0	**6SE6400-3CC00-4AB0**	**6SE6400-3TC00-4AD0**
0.25	6SE6440-2UC12-5AA0		
0.37	6SE6440-2UC13-7AA0	**6SE6400-3CC01-0AB0**	
0.55	6SE6440-2UC15-5AA0		
0.75	6SE6440-2UC17-5AA0		
1.1	6SE6440-2UC21-1BA0	**6SE6400-3CC02-6BB0**	**6SE6400-3TC01-0BD0**
1.5	6SE6440-2UC21-5BA0		
2.2	6SE6440-2UC22-2BA0		
3.0	6SE6440-2UC23-0CA0	**6SE6400-3CC03-5CB0**	**6SE6400-3TC03-2CD0**
Mains operating voltage 200 V to 240 V 3 AC			
0.12	6SE6440-2UC11-2AA0	**6SE6400-3CC00-3AC0**	**6SE6400-3TC00-4AD0**
0.25	6SE6440-2UC12-5AA0		
0.37	6SE6440-2UC13-7AA0	**6SE6400-3CC00-5AC0**	
0.55	6SE6440-2UC15-5AA0		
0.75	6SE6440-2UC17-5AA0		
1.1	6SE6440-2UC21-1BA0	**6SE6400-3CC00-8BC0**	**6SE6400-3TC01-0BD0**
1.5	6SE6440-2UC21-5BA0	**6SE6400-3CC01-4BD0**	
2.2	6SE6440-2UC22-2BA0		
3.0	6SE6440-2UC23-0CA0	**6SE6400-3CC01-7CC0**	**6SE6400-3TC03-2CD0**
4.0	6SE6440-2UC24-0CA0	**6SE6400-3CC03-5CD0**	
5.5	6SE6440-2UC25-5CA0		
7.5	6SE6440-2UC27-5DA0	in preparation	in preparation
11.0	6SE6440-2UC31-1DA0		
15.0	6SE6440-2UC31-5DA0		
18.5	6SE6440-2UC31-8EA0		
22	6SE6440-2UC32-2EA0		
30	6SE6440-2UC33-0FA0		
37	6SE6440-2UC33-7FA0		
45	6SE6440-2UC34-5FA0		
Mains operating voltage 380 V to 480 V 3 AC			
0.37	6SE6440-2UD13-7AA0	**6SE6400-3CC00-2AD0**	**6SE6400-3TC00-4AD0**
0.55	6SE6440-2UD15-5AA0		
0.75	6SE6440-2UD17-5AA0	**6SE6400-3CC00-4AD0**	
1.1	6SE6440-2UD21-1AA0		
1.5	6SE6440-2UD21-5AA0	**6SE6400-3CC00-6AD0**	
2.2	6SE6440-2UD22-2BA0	**6SE6400-3CC01-0BD0**	**6SE6400-3TC01-0BD0**
3.0	6SE6440-2UD23-0BA0		
4.0	6SE6440-2UD24-0BA0	**6SE6400-3CC01-4BD0**	
5.5	6SE6440-2UD25-5CA0	**6SE6400-3CC02-2CD0**	**6SE6400-3TC03-2CD0**
7.5	6SE6440-2UD27-5CA0		
11.0	6SE6440-2UD31-1CA0	**6SE6400-3CC03-5CD0**	
15.0	6SE6440-2UD31-5DA0	in preparation	in preparation
18.5	6SE6440-2UD31-8DA0		
22	6SE6440-2UD32-2DA0		
30	6SE6440-2UD33-0EA0		
37	6SE6440-2UD33-7EA0		
45	6SE6440-2UD34-5FA0		
55	6SE6440-2UD35-5FA0		
75	6SE6440-2UD37-5FA0		
Mains operating voltage 500 V to 600 V 3 AC			
0.75	6SE6440-2UE17-5CA0	in preparation	in preparation
1.5	6SE6440-2UE21-5CA0		
2.2	6SE6440-2UE22-2CA0		
4.0	6SE6440-2UE24-0CA0		
5.5	6SE6440-2UE25-5CA0		
7.5	6SE6440-2UE27-5CA0		
11.0	6SE6440-2UE31-1CA0		
15.0	6SE6440-2UE31-5DA0		
18.5	6SE6440-2UE31-8DA0		
22	6SE6440-2UE32-2DA0		
30	6SE6440-2UE33-0EA0		
37	6SE6440-2UE33-7EA0		
45	6SE6440-2UE34-5FA0		
55	6SE6440-2UE35-5FA0		
75	6SE6440-2UE37-5FA0		

Ordering Data for Variant Dependent Options (Continued)

Rated output kW	Inverter without filter	Order No. of the options Fuse (see Catalog NS K)	Circuit breaker	Gland plate
Mains operating voltage 200 V to 240 V 1 AC				
0.12	6SE6440-2UC11-2AA0	**3NA3803**	in preparation	**6SE6400-0GP00-0AA0**
0.25	6SE6440-2UC12-5AA0			
0.37	6SE6440-2UC13-7AA0			
0.55	6SE6440-2UC15-5AA0	**3NA3805**		
0.75	6SE6440-2UC17-5AA0			
1.1	6SE6440-2UC21-1BA0	**3NA3807**		**6SE6400-0GP00-0BA0**
1.5	6SE6440-2UC21-5BA0			
2.2	6SE6440-2UC22-2BA0	**3NA3810**		
3.0	6SE6440-2UC23-0CA0	**3NA3812**		**6SE6400-0GP00-0CA0**
Mains operating voltage 200 V to 240 V 3 AC				
0.12	6SE6440-2UC11-2AA0	**3NA3803**	in preparation	**6SE6400-0GP00-0AA0**
0.25	6SE6440-2UC12-5AA0			
0.37	6SE6440-2UC13-7AA0			
0.55	6SE6440-2UC15-5AA0	**3NA3805**		
0.75	6SE6440-2UC17-5AA0			
1.1	6SE6440-2UC21-1BA0	**3NA3807**		**6SE6400-0GP00-0BA0**
1.5	6SE6440-2UC21-5BA0			
2.2	6SE6440-2UC22-2BA0	**3NA3810**		
3.0	6SE6440-2UC23-0CA0	**3NA3812**		**6SE6400-0GP00-0CA0**
4.0	6SE6440-2UC24-0CA0	**3NA3810**		
5.5	6SE6440-2UC25-5CA0	**3NA3814**		
7.5	6SE6440-2UC27-5DA0	**3NA3820**		–
11.0	6SE6440-2UC31-1DA0	**3NA3824**		–
15.0	6SE6440-2UC31-5DA0			–
18.5	6SE6440-2UC31-8EA0	**3NA3830**		–
22	6SE6440-2UC32-2EA0			–
30	6SE6440-2UC33-0FA0	**3NA3836**		–
37	6SE6440-2UC33-7FA0	**3NA3140**		–
45	6SE6440-2UC34-5FA0			–
Mains operating voltage 380 V to 480 V 3 AC				
0.37	6SE6440-2UD13-7AA0	**3NA3003**	in preparation	**6SE6400-0GP00-0AA0**
0.55	6SE6440-2UD15-5AA0			
0.75	6SE6440-2UD17-5AA0			
1.1	6SE6440-2UD21-1AA0			
1.5	6SE6440-2UD21-5AA0			
2.2	6SE6440-2UD22-2BA0	**3NA3005**		**6SE6400-0GP00-0BA0**
3.0	6SE6440-2UD23-0BA0			
4.0	6SE6440-2UD24-0BA0	**3NA3007**		
5.5	6SE6440-2UD25-5CA0			**6SE6400-0GP00-0CA0**
7.5	6SE6440-2UD27-5CA0	**3NA3012**		
11.0	6SE6440-2UD31-1CA0	**3NA3014**		
15.0	6SE6440-2UD31-5DA0	**3NA3020**		–
18.5	6SE6440-2UD31-8DA0	**3NA3022**		–
22	6SE6440-2UD32-2DA0	**3NA3024**		–
30	6SE6440-2UD33-0EA0	**3NA3030**		–
37	6SE6440-2UD33-7EA0	**3NA3032**		–
45	6SE6440-2UD34-5FA0	**3NA3036**		–
55	6SE6440-2UD35-5FA0			–
75	6SE6440-2UD37-5FA0	**3NA3140**		–
Mains operating voltage 500 V to 600 V 3 AC				
0.75	6SE6440-2UE17-5CA0	**3NA3803-6**	in preparation	**6SE6400-0GP00-0CA0**
1.5	6SE6440-2UE21-5CA0			
2.2	6SE6440-2UE22-2CA0			
4.0	6SE6440-2UE24-0CA0			
5.5	6SE6440-2UE25-5CA0	**3NA3805-6**		
7.5	6SE6440-2UE27-5CA0	**3NA3810-6**		
11.0	6SE6440-2UE31-1CA0	**3NA3812-6**		
15.0	6SE6440-2UE31-5DA0	**3NA3814-6**		–
18.5	6SE6440-2UE31-8DA0	**3NA3820-6**		–
22	6SE6440-2UE32-2DA0	**3NA3822-6**		–
30	6SE6440-2UE33-0EA0	**3NA3824-6**		–
37	6SE6440-2UE33-7EA0			–
45	6SE6440-2UE34-5FA0	**3NA3132-6**		–
55	6SE6440-2UE35-5FA0			–
75	6SE6440-2UE37-5FA0	**3NA3136-6**		–

Ordering Data for Variant Dependent Options (Continued)

Rated output kW	Inverter with internal filter Class A	Order No. of the options **Supplemental EMC filter Class B**	**Line commutating choke**	**Output Choke**
Mains operating voltage 200 V to 240 V 1 AC				
0.12	6SE6440-2AB11-2AA0	**6SE6400-2FS01-0AB0**	**6SE6400-3CC00-4AB0**	**6SE6400-3TC00-4AD0**
0.25	6SE6440-2AB12-5AA0			
0.37	6SE6440-2AB13-7AA0		**6SE6400-3CC01-0AB0**	
0.55	6SE6440-2AB15-5AA0			
0.75	6SE6440-2AB17-5AA0			
1.1	6SE6440-2AB21-1BA0	**6SE6400-2FS02-6BB0**	**6SE6400-3CC02-6BB0**	**6SE6400-3TC01-0BD0**
1.5	6SE6440-2AB21-5BA0			
2.2	6SE6440-2AB22-2BA0			
3.0	6SE6440-2AB23-0CA0	**6SE6400-2FS03-5CB0**	**6SE6400-3CC03-5CB0**	**6SE6400-3TC03-2CD0**
Mains operating voltage 200 V to 240 V 3 AC				
3.0	6SE6440-2AC23-0CA0	**6SE6400-2FS03-8CD0**	**6SE6400-3CC01-7CC0**	**6SE6400-3TC03-2CD0**
4.0	6SE6440-2AC24-0CA0		**6SE6400-3CC03-5CD0**	
5.5	6SE6440-2AC25-5CA0			
Mains operating voltage 380 V to 480 V 3 AC				
2.2	6SE6440-2AD22-2BA0	**6SE6400-2FS01-6BD0**	**6SE6400-3CC01-0BD0**	**6SE6400-3TC01-0BD0**
3.0	6SE6440-2AD23-0BA0			
4.0	6SE6440-2AD24-0BA0		**6SE6400-3CC01-4BD0**	
5.5	6SE6440-2AD25-5CA0	**6SE6400-2FS03-8CD0**	**6SE6400-3CC02-2CD0**	**6SE6400-3TC03-2CD0**
7.5	6SE6440-2AD27-5CA0			
11.0	6SE6440-2AD31-1CA0		**6SE6400-3CC03-5CD0**	
15.0	6SE6440-2AD31-5DA0	–	in preparation	in preparation
18.5	6SE6440-2AD31-8DA0	–		
22	6SE6440-2AD32-2DA0	–		
30	6SE6440-2AD33-0EA0	–		
37	6SE6440-2AD33-7EA0	–		
45	6SE6440-2AD34-5FA0	–		
55	6SE6440-2AD35-5FA0	–		
75	6SE6440-2AD37-5FA0	–		

Rated output kW	Inverter with internal filter Class A	Order No. of the options **Fuse** (see Catalog NS K)	**Circuit breaker**	**Gland plate**
Mains operating voltage 200 V to 240 V 1 AC				
0.12	6SE6440-2AB11-2AA0	**3NA3803**	in preparation	**6SE6400-0GP00-0AA0**
0.25	6SE6440-2AB12-5AA0			
0.37	6SE6440-2AB13-7AA0			
0.55	6SE6440-2AB15-5AA0	**3NA3805**		
0.75	6SE6440-2AB17-5AA0			
1.1	6SE6440-2AB21-1BA0	**3NA3807**		**6SE6400-0GP00-0BA0**
1.5	6SE6440-2AB21-5BA0			
2.2	6SE6440-2AB22-2BA0	**3NA3810**		
3.0	6SE6440-2AB23-0CA0	**3NA3812**		**6SE6400-0GP00-0CA0**
Mains operating voltage 200 V to 240 V 3 AC				
3.0	6SE6440-2AC23-0CA0	**3NA3807**	in preparation	**6SE6400-0GP00-0CA0**
4.0	6SE6440-2AC24-0CA0	**3NA3810**		
5.5	6SE6440-2AC25-5CA0	**3NA3814**		
Mains operating voltage 380 V to 480 V 3 AC				
2.2	6SE6440-2AD22-2BA0	**3NA3005**	in preparation	**6SE6400-0GP00-0BA0**
3.0	6SE6440-2AD23-0BA0			
4.0	6SE6440-2AD24-0BA0	**3NA3007**		
5.5	6SE6440-2AD25-5CA0			**6SE6400-0GP00-0CA0**
7.5	6SE6440-2AD27-5CA0	**3NA3012**		
11.0	6SE6440-2AD31-1CA0	**3NA3014**		
15.0	6SE6440-2AD31-5DA0	**3NA3020**		–
18.5	6SE6440-2AD31-8DA0	**3NA3022**		–
22	6SE6440-2AD32-2DA0	**3NA3024**		–
30	6SE6440-2AD33-0EA0	**3NA3030**		–
37	6SE6440-2AD33-7EA0	**3NA3032**		–
45	6SE6440-2AD34-5FA0	**3NA3036**		–
55	6SE6440-2AD35-5FA0			–
75	6SE6440-2AD37-5FA0	**3NA3140**		–

Ordering Data for Variant Independent Options

The options listed here are suitable for all MICROMASTER 440 Inverters.

Option	Order No.
BOP basic operator panel	**6SE6400-0BP00-0AA0**
AOP advanced operator panel	**6SE6400-0AP00-0AA0**
PROFIBUS module	**6SE6400-1PB00-0AA0**
PROFIBUS cable connector/PROFIBUS	**6GK1500-0FC00**
PC to inverter connection kit	**6SE6400-1PC00-0AA0**
PC to AOP connection kit	**6SE6400-0PA00-0AA0**
BOP/AOP door mounting kit for single inverter control	**6SE6400-0PM00-0AA0**
AOP door mounting kit for multiple inverter control	**6SE6400-0MD00-0AA0**
Commissioning tools Starter and DriveMonitor (on CD-ROM supplied with each inverter)	

Technical data of the PROFIBUS module 6SE6400-1PB00-0AA0

Size (height x width x depth)		161 mm x 73 mm x 43.5 mm
Degree of pollution		2 to IEC 60664-1 (DIN VDE 0110/T1), no condensation permitted during operation
Mechanical strength		to DIN IEC 60068-2-6 (if module installed correctly)
• Stationary	Deflection	0.15 mm in the frequency range of 10 Hz to 58 Hz
	Acceleration	19.6 m/s^2 in the frequency range 58 Hz to 500 Hz
• Transport	Deflection	3.5 mm in the frequency range of 5 Hz to 9 Hz
	Acceleration	9.8 m/s^2 in the frequency range 9 Hz to 500 Hz
Climatic category (during operation)		3K3 to DIN IEC 60721-3-3
Cooling method		Natural air cooling
Permissible ambient or cooling agent temperature • in operation • during storage and transport		 –10 °C to +50 °C (14 °F to 122 °F) –25 °C to +70 °C (–13 °F to 158 °F)
Relative humidity (permissible humidity rating) • in operation • during storage and transport		 ≤85 % RH – non-condensing ≤95 %
Supply voltage		6.5 V ± 5 %, max. 300 mA, internal, from basic unit 24 V ± 10 %, max. 350 mA, external
Output voltage		5 V ± 10 %, max. 100 mA, galvanically isolated supply • for terminating the serial interface bus or • for supplying the OLP (Optical Link Plug)
Data transmission rate		max. 12 Mbaud
Electromagnetic compatibility	Emission	to EN 55011 (1991) Class A
	Interference radiation	to IEC 60801-3 and EN 61000-4-3

Documentation

Type of documentation	Language	Order No.
Docu-Pack, supplied with each inverter, containing CD-ROM[1]) and Getting-Started-Guide[2]) (paper version)	Multilanguage	**6SE6400-5AD00-1AP0**
Operating instructions[2]) (paper version)	German	**6SE6400-5AC00-0AP0**
	English	**6SE6400-5AC00-0BP0**
	French	**6SE6400-5AC00-0DP0**
	Italian	**6SE6400-5AC00-0CP0**
	Spanish	**6SE6400-5AC00-0EP0**
Reference manual[2])		–
Parameter list[2])		–

1) The CD-ROM contains operating instructions, reference manual (in preparation), parameter list, commissioning tools Starter and DriveMonitor, multilanguage.

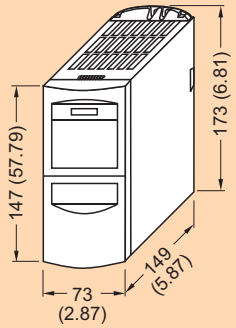
2) Available on Internet at http://www.siemens.de/standarddrives

Dimension Drawings

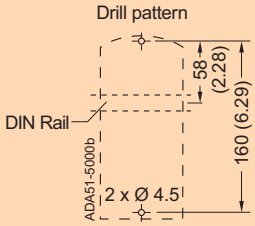
MICROMASTER 440 Inverter

Frame size	200 V to 240 V 1/3 AC	380 V to 480 V 3 AC	500 V to 600 V 3 AC
A	0.12 kW to 0.75 kW	0.37 kW to 1.5 kW	–
B	1.1 kW to 2.2 kW	2.2 kW to 4 kW	–
C	3 kW to 5.5 kW	5.5 kW to 11 kW	0.75 kW to 11 kW

The quoted outputs are valid for CT operation.

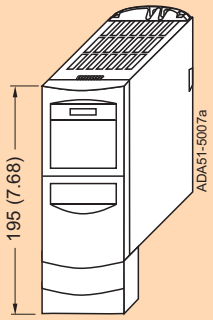


Inverter frame size **A**

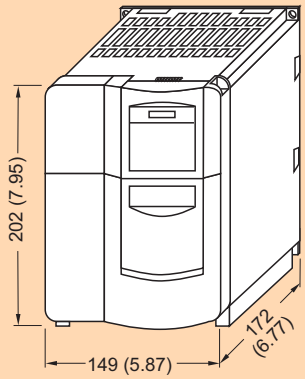


Fixing with
2 bolts M4
2 nuts M4
2 washers M4
or snap on to the DIN rail

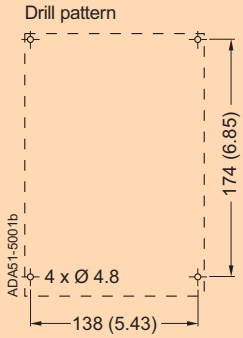
Tightening torque with washers fitted: 2.5 Nm



Inverter frame size **A** with gland plate

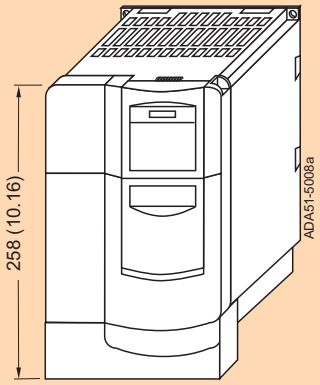


Inverter frame size **B**

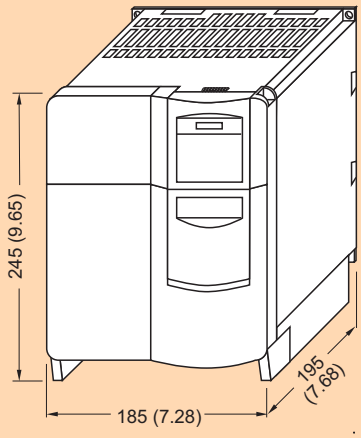


Fixing with
4 bolts M4
4 nuts M4
4 washers M4

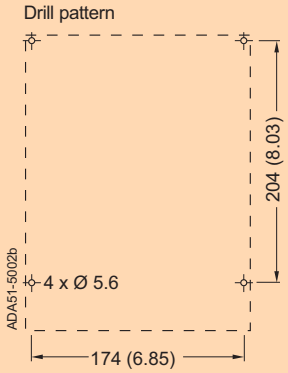
Tightening torque with washers fitted: 2.5 Nm



Inverter frame size **B** with gland plate

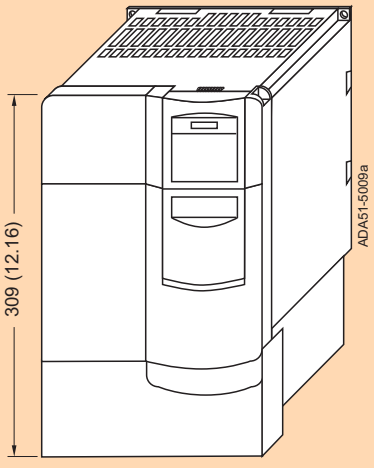


Inverter frame size **C**



Fixing with
4 bolts M5
4 nuts M5
4 washers M5

Tightening torque with washers fitted: 3.0 Nm



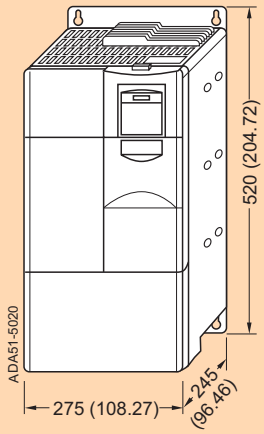
Inverter frame size **C** with gland plate

With the PROFIBUS module, the mounting depth increases by 23 mm (0.91 inches).

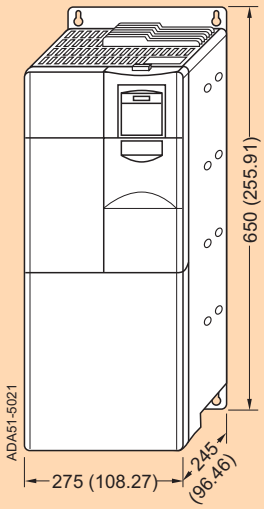
All dimensions are in mm (values in brackets are in inches)

Frame size	200 V to 240 V 3 AC	380 V to 480 V 3 AC	500 V to 600 V 3 AC
D	7.5 kW to 15 kW	15 kW to 22 kW	15 kW to 22 kW
E	18.5 kW to 22 kW	30 kW to 37 kW	30 kW to 37 kW
F	37 kW to 45 kW	45 kW to 75 kW	45 kW to 75 kW

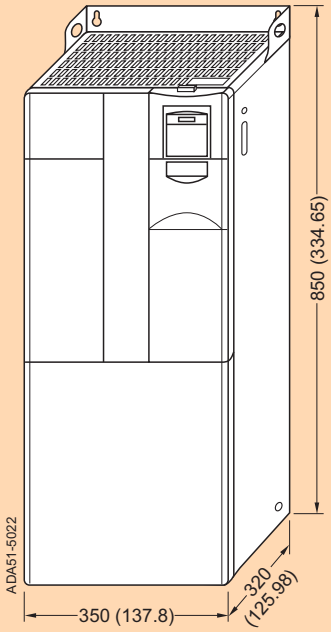
The quoted outputs are valid for CT operation.



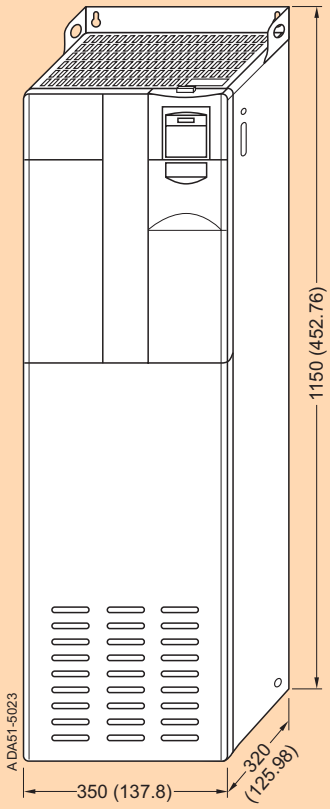
Inverter frame size **D**



Inverter frame size **E**



Inverter frame size **F** without filter

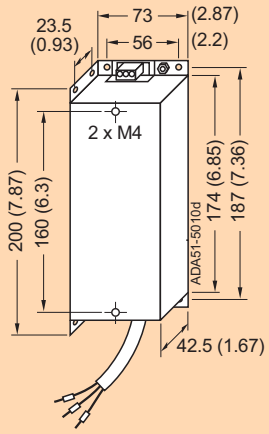


Inverter frame size **F** with internal filter

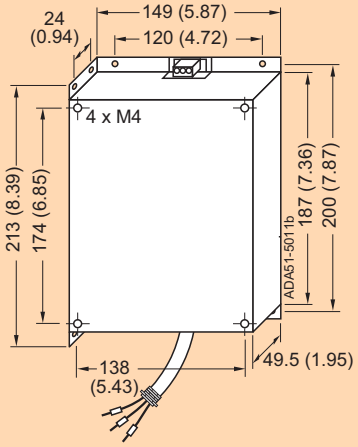
All dimensions are in mm (the values in brackets are in inches)

Dimension Drawings

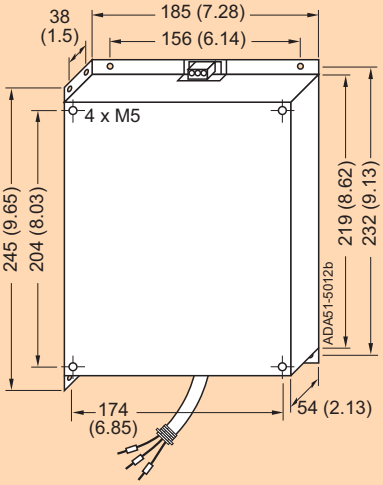
Filters and Chokes



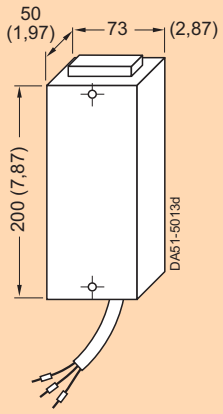
Filter for frame size **A**



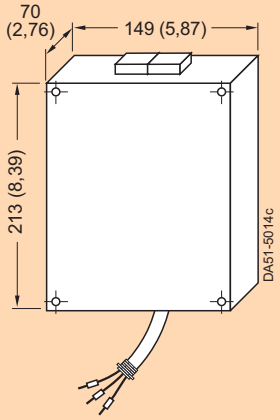
for frame size **B**



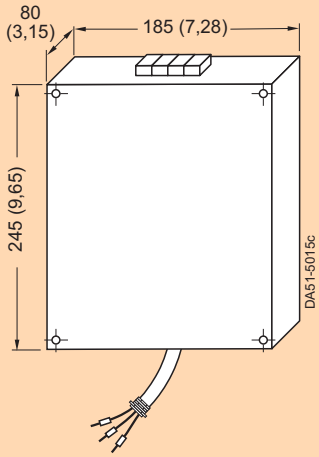
for frame size **C**



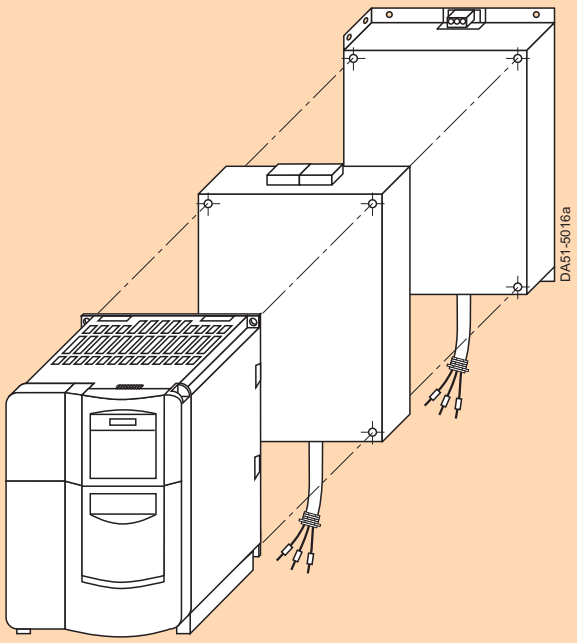
Choke for frame size **A**



for frame size **B**



for frame size **C**



Exemple:
Assembly of inverter, choke and filter

If additional accessories are required, they must be mounted at the side.

All dimensions are in mm (the values in brackets are in inches)

Filter and chokes for frame sizes D, E, F in preparation

Braking resistors

Braking resistors in preparation

MICROMASTER 420/440

Appendix

A

Appendix

Environment, Resources and Recycling

Siemens AG feels a responsibility to play a role in protecting our environment and saving our valuable natural resources. This is true for both our production and our products.

Even during development, we consider any possible environment impact of future products/systems. Our aim is to prevent harmful environment effects, or at least to reduce them to an absolute minimum – beyond present regulations and legislation.

The most important activities for protecting our environment are as follows:

- We are constantly endeavouring to reduce the environmental impact of our products, as well as their consumption of energy and resources, over and above the statutory environmental protection regulations.
- We take every possible step to prevent damage to the environment.
- Environmental impact is assessed and considered at the earliest possible stage of product and process planning.
- Our optimized environmental management strategy ensures that our environment policy is put into practice effectively. The necessary technical and organizational procedures are reviewed at regular intervals and continuously updated.
- An awareness for environmental problems is expected of all our employees. Establishing and furthering a sense of responsibility for the environment on all levels represents a permanent challenge for the corporate management.
- We urge our business partners to act according to the same environmental principles as ourselves. We cooperate with the responsible public authorities.
- We inform interested members of the public about the consiquences of our corporate policies for the environment as well as our achievements to the benefit of the environment.
- Our complete documentation is printed on chlorine-free bleached paper.

Certificates ISO 9001

A

Standards

CE Mark

EUROPEAN LOW-VOLTAGE DIRECTIVE

EMC DIRECTIVE

The MICROMASTER 420/440 inverters comply with the requirements of the low-voltage directive, 73/23/EEC. The CE mark on the units demonstrates this conformity. A declaration of conformity can be issued. The units are certified to comply with the following standards:

Low-voltage directive

- **EN 60 146-1-1**
  General requirements for semiconductor converters and line commutated converters
- **EN 60 204**
  Safety of machinery, electrical equipment or machines
- **EN 50 178**
  Electronic equipment in electrical power installations

EMC Directive

- **EN 61 800-3**
  Adjustable speed electrical power drive systems
  Part 3: EMC product standard with testing instructions

Electromagnetic Compatibility

The MICROMASTER 420/440 inverters will, when correctly installed and put to their intended use, satisfy the requirements of the EEC directive 89/336/EEC concerning electromagnetic compatibility. If the guidelines on installation to reduce the effects of electromagnetic interference are followed, the devices are suitable for installation in machines. According to the machinery directive, these machines must be separately certified.

The table below lists the measured results for emissions of and immunity to interference for MICROMASTER 420/440 inverters. The inverters were installed according to the guidelines with shielded motor cables and shielded control cables.

Test/Standard	Measurement	Test value	Limit value
RFI emissions EN 55 011	Conducted via mains cable	150 kHz to 30 MHz	Unfiltered – not tested Internal/external filter – Class A – Class B (dependent on filter type)
	Emitted by the drive	30 MHz to 1 GHz	All devices – Class A
ESD immunity IEC 61 000-4-2	ESD through air ESD through direct contact	Level 3 Level 3	8 kV 6 kV
Electrical fields immunity IEC 61 000-4-3	Electrical field applied to unit	Level 4 26 MHz to 1 GHz	10 V/m
Burst interference immunity IEC 61 000-4-4	Applied to all cable terminations	Level 4	4 kV
Surge immunity IEC 61 000-4-5	Applied to all mains cables	Level 3	2 kV
Immunity to RFI emissions, conducted IEC 61 000-4-6	Applied to mains, motor and control cables	Level 4 0.15 MHz to 80 MHz 80% AM (1 kHz)	10 V

UL Listing

c UL

UL and c UL listed power conversion equipment type 5B33 in accordance with UL508C.

For use in pollution degree 2 environment.

A

Appendix

Siemens European Companies and Representatives

Albania
BINDI sh. p. k.
Tirana

Armenia
Representative of Siemens AG
Yerevan

Austria
Siemens AG Österreich
Vienna
Bregenz
Deutschlandsberg
Eisenstadt
Graz
Innsbruck
Klagenfurt
Klosterneuburg
Linz
Salzburg
St. Pölten
Villach

Azerbaijan
Representative of SIMKO AS
Baku

Belarus
Representative of Siemens AG
Minsk

Belgium
Siemens S. A.
Brussels
Antwerpen
Boussu
Colfontaine
Dilsen-Stokkem
Gent
Haasrode
Herentals
Huizingen
Liège
Namur
Oostkamp
Zaventem

Bulgaria
Siemens AG Representative in Bulgaria
Sofia

Croatia
Siemens d.d.
Zagreb

Cyprus
GEVO Ltd.
Nicosia

Czech Republic
Siemens s.r.o.
Prague
Brno
Děčín
Stříbro
Trutnov

Denmark
Siemens A/S
Ballerup
Alborg
Brønshøj
Esbjerg
Hedensted
Højbjerg
Odense
Skensved
Tåstrup
Vejle

Eire (Ireland)
Siemens Ltd.
Dublin

Estonia
AS Siemens
Tallinn

Finland
Siemens
Osakeyhtiö
Espoo
Helsinki

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Siemens S. A. S.
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Bihorel
Caluire-et-Cuire
Cesson Sévigné
Dijon
Haguenau
La Garenne Colombes
La-Suze-sur-Sarthe
Lesquin
Les Ulis
Lissess
Lormont
Marseille
Mérignac
Metz
Montrouge
Molsheim
Nanterre
Nantes
Nice
Pantin
Paris La Défense
Reims
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Saint-Quentin
Strasbourg
Toulouse

Georgia
Representative of Siemens AG
Tbilisi

Great Britain
Siemens plc
Bracknell
Beeston
Belfast
Bellshill
Birmingham
Bristol
Camberley
Cambridge
Chessington
Christchurch
Clevedon
Corby
Congleton
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Glasgow
Hemel Hempstead
Hounslow
Ilford
Isle of Wight
London
Luton
Manchester
Milton Keynes
Newcastle-upon-Tyne
Oldham
Oxford
Poole
Purley
Romsey
Telford
Wellingborough
Wembley

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Athen, Amaroussio
Acharnes
Thessaloniki
Vassiliko Evias

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Siemens Rt.
Budapest
Bicske
Cegled
Szombathely

Iceland
Smith & Nordland HF
Reykjavik

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Siemens S. p. A.
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Bari
Bologna
Brescia
Cagliari
Casoria
Cassina de Pecchi
Fanglia
Firenze
Genova
Napoli
Padova
Palermo
Pescara
Roma
Torino
Verona

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Siemens S/A
Riga

Lithuania
Lietuvos ELTIKA
Vilnius
Klaipeda

Luxembourg
Siemens S. A.
Luxembourg-Hamm

Macedonia
SITAI d.o.o.
Skopje

Malta
J.R.D. SYSTEMS Ltd.
Harun

Moldavia
Siemens s.r.l.
Chisinau

Netherlands
Siemens Nederland N. V.
Den Haag
Alphen a/d Rijn
Zoetermeer

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Siemens A/S
Oslo
Fyllingsdalen
Trondheim

Poland
Siemens Sp.z.o.o.
Warsaw
Gdañsk-Wrzeszcz
Katowice
Kratów
Poznań
Wroclaw

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Amadora
Albufeira
Carnaxide
Coimbra
Evora
Loures
Matosinhos Codex
Mem Martins
Seixal

Romania
Siemens birou de consultaţii tehnice
Bucharest
Slatina

Russia
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Moscow
Barnaul
Jakutsk
Yekaterinburg
Irkutsk
Yshewsk
Kaluga
Krasnodar
Novosibirsk
Perm
St. Petersburg
Tbilissi
Tjumen
Tomsk
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Bratislava
Dolný Kubin
Horná Streda
Michalovce
Nitra
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Trnava

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Siemens d.o.o.
Ljubljana
Kranj
Maribor

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Siemens S. A.
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Gijoñ
La Coruña
Las Palmas de Gran Canaria
León
Málaga
Murcia
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Santa Cruz de Tenerife
Sevilla
Tres Cantos (Madrid)
Valencia
Vallodolid
Vigo
Zaragoza

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Siemens AB
Upplands Väsby
Göteborg
Haninge
Jönköping
Kista
Malmö
Solna
Sundsvall

Switzerland
Siemens Schweiz AG
Zürich
Adliswil
Basel
Bioggio
Bronschhofen
Dietikon-Fahrweid
Fahrweid
Winterthur-Töss

Turkey
SIMKO Ticaret ve Sanayi A.S.
Findikli Istanbul
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Wuxi
Xi'an
Xiaogan City
Zibo

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Cebu
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Doha

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Milton
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Perth
Silverwater
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Sydney

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Siemens (NZ) Limited
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A&D in the WWW

A detailed knowledge of the range of products and services available is essential when planning and configuring automation systems. It goes without saying that this information must always be fully up-to-date.

The Siemens Automation and Drives Group (A&D) has therefore built up a comprehensive range of information in the World Wide Web, which offers quick and easy access to all data required.

Under the address

http://www.siemens.de/automation

you will find everything you need to know about products, systems and services.

Product selection using the interactive Catalogs

Detailed information together with convenient interactive functions:
The interactive catalogs CA 01 and ET 01 cover more than 80,000 products and thus provide a full summary of the Siemens Automation and Drives product base.

Here you will find everything that you need to solve tasks in the fields of automation, switchgear, installation and drives.
All information is linked into a user interface which is easy to work with and intuitive.

After selecting the product of your choice you can order at the press of a button, by fax or by online link.

Information on the interactive catalogs can be found in the Internet under

http://www.siemens.de/automation/ca01

or on CD-ROM.

Automation and Drives, CA 01
Order No.:
E86060-D4001-A110-B4-7600

Electrical installation technology, ET 01
Order No.:
E86060-D8200-A107-A2-7600

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The Siemens Mall is the virtual department store of Siemens AG in the Internet. Here you have access to a huge range of products presented in electronic catalogs in an informative and attractive way.

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Numerous functions are available to support you.

For example, powerful search functions make it easy to find the required products, which can be immediately checked for availability. Customer-specific discounts and preparation of quotes can be carried out online as well as order tracking and tracing.

Please visit the Siemens Mall on the Internet under:

http://www.siemens.de/automation/mall

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Appendix

Customer Support Automation & Drives

Whether you need a service expert or a spare part, a product specialist for advice, or if you just have a query, then the Customer Support is the address for you – the team that meets all your needs!

Helpline for Service and Support

You need help but do not know who to address. We take care that help is on the way quickly.

The helplines ensure that the right specialist in your vicinity will be of skilled assistance to you. The Helpline e.g. for Germany helps in German & English 24 hours/day, 365 days/year.

Tel.: 0180 50 50 111

Online Support

Our Online Support guarantees quick and efficient assistance – around the clock, worldwide and in five languages.

The Online Support offers all technical information:

- FAQ's, tips and hints, downloads
- Free manuals
- Useful programs and software – payment through SIMATIC Card

http://www.siemens.de/automation/support

Field Service

Your system is installed and now you need quick on-site help. We have the specialists with the know-how you require, worldwide and at hand.

Thanks to our comprehensive service network, we are able to realize short response times – with competence, reliability, and speed.

You can request an expert in Germany 24 hours/day and 365 days/year.

Tel.: 0180 50 50 444

Of course we offer also service contracts customized to your requirements. Your Siemens Office is always at your disposal.

Spare Parts and Repairs

Our worldwide network of local spare parts stocks and repair centers react with speed and reliable logistics.

For requests about repairs or spare parts please call the following telephone number (in Germany):

Tel.: 0180 50 50 446

Outside the office hours and on weekends, dial this number for our spare parts stand-by service.

Technical Support

Technical advice for implementation of products, systems and solutions in automation and drive technology is provided in german and english.

Competent, qualified and experienced specialists offer teleservice and video conferencing for specific problems.

Free Contact – the way to the free Technical Support.

- in Europe (headquarter)

Tel.: +49 (0)180 50 50 222
Fax: +49 (0)180 50 50 223
E-mail: techsupport@ad.siemens.de

- in the United States

Tel.: +1 423 461-2522
Fax: +1 423 461 2231
E-mail: simatic.hotline@sea.siemens.com

- in Asia

Tel.: +65 740-7000
Fax: +65 740 7001
E-mail: simatic@singnet.com.sg

Our network of dependencies in Germany, the U.S. and Singapore offers support around the clock according to the "follow the sun" principle via Fast Contact – the fast way to the Technical Support:

- Return call within two hours guaranteed
- around the clock
- payment with SIMATIC card

Tel.: +49 (0)911 895 7777
Fax: +49 (0)911 895 7001

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Subject to the General Conditions of Supply and Delivery for Products and Services of the Electrical and Electronic Industry and to any other conditions agreed upon with the recipients of catalogs.

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Important note:

The technical data is intended for general information. Please note the operating instructions and the references indicated on the products for installation, operation and maintenance.

Appendix

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