Catalog DA 48 • 2003/2004

motion control
SIEMOSYN MOTORS

Permanent Magnet Excited
Synchronous Motors
0.31 kW to 22.9 kW

SIEMENS

Related Catalogs

MICROMASTER 411/COMBIMASTER 411 DA 51.3
0.37 kW to 3 kW

Order No.:
German: E86060-K5251-A131-A2
English: E86060-K5251-A131-A2-7600

SIMOVERT MASTERDRIVES VC DA 65.10
0.55 kW to 2300 kW

Order No.:
German: E86060-K5165-A101-A3
English: E86060-K5165-A101-A3-7600

SIMOVERT MASTERDRIVES MC DA 65.11
0.55 kW to 250 kW

Order No.:
German: E86060-K5165-A111-A3
English: E86060-K5165-A111-A3-7600

Synchronous and asynchronous servomotors for SIMOVERT MASTERDRIVES DA 65.3

Order No.:
German: E86060-K5465-A301-A1
English: E86060-K5465-A301-A1-7600

Low-Voltage Motors M 11

Order No.:
German: E86060-K1711-A101-A2
English: E86060-K1711-A101-A2-7600

Getriebemotoren M 15

Order No.:
German: E86060-K1715-A101-A3

Components for automation CA 01

Order No.:
German: E86060-D4001-A100-C1
English: E86060-D4001-A110-B9-7600

A&D Mall

Internet:
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SIEMOSYN Motors
Permanent Magnet Excited Synchronous Motors 0.31 kW to 22.9 kW

Catalog DA 48 · 2003/2004

Supersedes:
Catalog DA 48 · 1999/2000

The products and systems described in this catalog are manufactured under application of a certified quality management system in accordance with DIN EN ISO 9001 (Reg. No. DE-000357 QM). The certificate is recognized in all IQNet countries.

SIEMENS

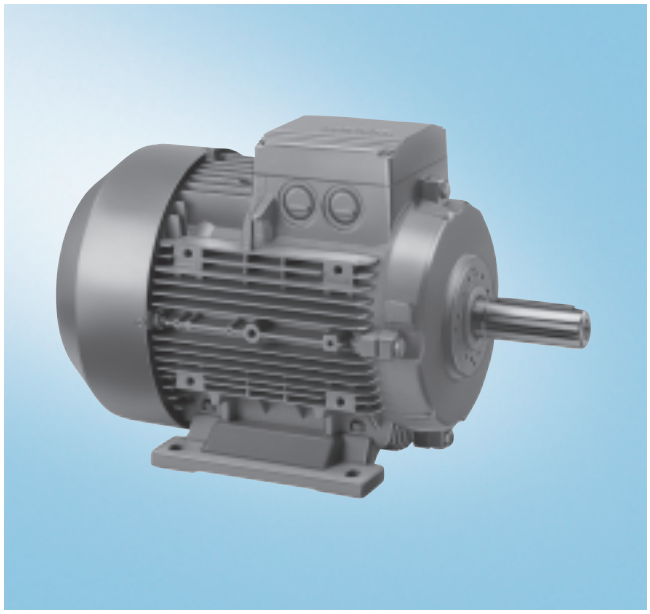
Welcome to Automation and Drives

We would like to welcome you to Automation and Drives and our comprehensive range of products, systems, solutions and services for production and process automation and building technology worldwide.

With integrated automation blocks, powerful engineering tools and innovative concepts such as Totally Integrated Automation and Totally Integrated Power, we deliver solution platforms based on standards that offer you a considerable savings potential.

Discover the world of our technology now. If you need more detailed information, please contact one of your regional Siemens partners.
They will be glad to assist you.

Overview



The SIEMOSYN® 1FU8 motors are permanent magnet excited synchronous motors with a squirrel-cage winding for asynchronous self-starting. They can be operated as constant-speed drives on the mains, or as variable-speed single-motor or multi-motor drives on the inverter.

For preference, the SIEMOSYN 1FU8 motors are supplied with the SIMOVERT® MASTERDRIVES, or SINAMICS® ranges of converters, or with MICROMASTER® inverters.

The mechanical design (size, housing, end plates, shaft dimensions, etc.) is identical to that of the 1LA7 three-phase conventional motors (IEC standard).

The motors are available as standard up to a speed of 15,000 min^{-1}. A constant drive torque is available within a large frequency/speed range.

Benefits

- The motors do not require speed encoders so there is no need for speed encoder feedback (lower component/installation/assembly/cabling costs).
- The speed accuracy of single-motor and multi-motor drives is directly proportional to the frequency of the power supply system of the inverter.
- The motors in multi-motor drives run synchronously without additional electronic overhead.
- This principle results in low losses of the rotor and excitation, and this leads to a high level of efficiency comparable with other motors, and savings on operating and energy costs.
- Constant torque in the defined frequency range
- Load-independent speed over the frequency range
- Electrical braking, holding torque at standstill possible with DC
- Demagnetization-proof motor design
- High degree of protection

Application

The SIEMOSYN 1FU8 motors are used where in general high demands are made with regard to speed stability and the synchronous operation of several interconnected motors.

Whether used as single-motor or multi-motor drives, they are suitable for applications where load-independent speeds or synchronous operation are required under strict observance of defined speed relations within a large frequency range, such as in the:

- Chemical fiber industry (spinning pumps, godets, drive rollers)
- Texturing plants (draw godets)
- Rolling mills (roller table motors)
- Transport systems (conveyor belts)
- Glass industry (transport belts)

Technical data

Machine type	Self-starting permanent magnet excited synchronous motor
Magnet material	Rare-earth/ferrite magnet material
Insulation of the stator winding in accordance with EN 60034-1 (IEC 60034-1)	Temperature class F for a winding temperature of up to 105 K at an ambient temperature of 40 °C
Operating voltage	Unrestricted operation on the mains or frequency converter according to rating plate
Standards and regulations	The motors comply with the appropriate standards and regulations, especially IEC 60034
Type of construction	In accordance with EN 60034-7 (IEC 60034-7), see types of construction
Terminal box arrangement (view onto DE)	Top
Terminal box connection type	Terminals in the terminal box for motor connection and PTC thermistor
Degree of protection in accordance with EN 60034-5 (IEC 60034-5)	IP54 for 2-pole motors IP55 for 4-pole and 6-pole motors
Permissible ambient temperature	–20 °C to +40 °C
Cooling	Self-cooling
Temperature monitoring	Motor protection through PTC thermistor with 3 built-in temperature sensors for shutdown
Paint finish	RAL 7030, stone gray
Shaft end on the drive end in accordance with DIN 748-3 (IEC 60072-1)	Shaft end on the drive end with featherkey and featherkey way (half-key balancing)
Radial eccentricity, concentricity, and axial eccentricity in accordance with DIN 42955 (IEC 60072-1)	Tolerance N (normal)
Vibration severity in accordance with EN 60034-14 (IEC 60034-14)	Grade N (normal)
Options	• Vibration severity grade R or S • Reduced radial eccentricity grade R • Cast iron enclosure • Location bearing DE or NDE • Radial shaft sealing ring for gear attachment • Metal fan • Textile fan cover • D-end bearings for increased cantilever forces • Regreasing device • Forced ventilation • Terminal box located on left or right • Modular built-on brake • Gear attachment • Connected modular frequency converter with or without gear

Selection and ordering data

Structure of order number

	1	2	3	4	5	6	7	8	9	10	11	12	
Order number	**1**	**F**	**U**	**8**	**0**	**8**	**3**	**-**	**4**	**T**	**A**	**3**	**1**	**-**	**Z**

1st to 4th position	SIEMOSYN 1FU8 motor
5th and 6th position	Motor frame size, coded from 71M to 160L
7th position	Length
8th position (number)	Number of poles
9th position	Ventilation **T** = self-cooled **W** = non ventilated
10th position	Power range **A** = power range 7 **B** = power range 5 **C** = special application **D** = power range 7 for frame sizes 132 and 160 **E** = power range 5 for frame sizes 132 and 160
11th position	Voltage characteristic number/winding design **1** = 80 V/50 Hz **2** = 100 V/50 Hz **3** = 125 V/50 Hz **6** = 200 V/50 Hz **8** = 400 V/50 Hz
12th position	Type of construction
-Z	Special versions only in conjunction with order code and plaintext where applicable

Order example

Three-phase motor IP55, speed range 600 to 4800 min^{-1}

M = constant = 5 Nm in the speed range

Type of construction IM B5

Special version:

- PTC thermistor for warning and shutdown
- Radial shaft sealing ring for gear installation

Order no. according to selection table	**1FU8 083-4TA3□ (A11, standard)**
Type of construction IM B5	**1**
Special version	**-Z**
PTC thermistor for warning and shutdown	**A12**
Radial shaft sealing ring DE	**K17**
Specify when ordering	**1FU8 083-4TA31-Z A12 + K17**

Permanent Magnet Excited Synchronous Motors

1FU8 motors, 2-pole, 50 Hz/3000 min^{-1}
M = constant for 20 to 250 Hz/1200 to 15000 min^{-1}

Selection and ordering data

***M* = constant for 20 Hz to f_{max}**	**Values at 50 Hz**			**Values at max. frequency**						
Rated load torque	Rated power	Rated current	Inrush current	Rated power	Rated current	Inrush current	Frame size	Order no.	Max. external moment of inertia	Weight for type of construction IM B5
M_N Nm	P_N kW	I_N A	I_1 A	P_N kW	I_N A	I_1 A			J_{ext} kgm^2	approx. kg
max. frequency 50 Hz at U_N = 400 V/50 Hz, max. speed 3000 min^{-1}										
1.3	0.41	2.0	7.3	–	–	–	80	**1FU8 080-2TA8□**	0.023	9
2.2	0.7	2.9	11.8	–	–	–	80	**1FU8 083-2TA8□**	0.035	11
2.9	0.9	3.8	17.5	–	–	–	80	**1FU8 086-2TA8□**	0.045	12
7.3	2.3	6.8	43	–	–	–	112	**1FU8 113-2TA8□**	0.3	29
max. frequency 100 Hz at U_N = 200 V/50 Hz, max. speed 6000 min^{-1}										
1.3	0.41	4.1	14.6	0.82	4.2	21.7	80	**1FU8 080-2TA6□**	0.023	9
2.2	0.7	5.8	23.5	1.4	6.0	34.6	80	**1FU8 083-2TA6□**	0.035	11
2.9	0.9	7.2	33	1.8	7.5	48	80	**1FU8 086-2TA6□**	0.045	12
7.3	2.3	13.5	85	4.6	14.1	130	112	**1FU8 113-2TA6□**	0.25	29
max. frequency 160 Hz at U_N = 125 V/50 Hz, max. speed 9600 min^{-1}										
1.3	0.41	5.5	18.8	1.31	5.8	33	80	**1FU8 080-2TA3□**	0.023	12
2.2	0.7	8.5	30.6	2.24	9.1	52.4	80	**1FU8 083-2TA3□**	0.035	14
2.9	0.9	13	58	2.92	13.5	100	80	**1FU8 086-2TA3□**	0.045	15
7.3	2.3	22	140	7.3	24.5	240	112	**1FU8 113-2TA3□**	0.2	35
max. frequency 200 Hz at U_N = 100 V/50 Hz, max. speed 12000 min^{-1}										
1.3	0.41	7.9	29.2	1.63	9.0	55.3	80	**1FU8 080-2TA2□**	0.02	12
2.2	0.7	10.2	40.5	2.8	11.2	74	80	**1FU8 083-2TA2□**	0.03	14
2.7	0.85	14.2	66.3	3.5	15.2	121	80	**1FU8 086-2TA2□**	0.04	15
6.5	2,04	21	130	8.2	22	225	112	**1FU8 113-2TA2□**	0.2	35
max. frequency 250 Hz at U_N = 80 V/50 Hz, max. speed 15000 min^{-1}										
1.3	0.41	9.0	33.6	2.04	11	66.6	80	**1FU8 080-2TA1□**	0.017	12
2.2	0.7	13	44	3.46	14	83.5	80	**1FU8 083-2TA1□**	0.025	14
2.4	0.75	14.5	83	3.8	16.7	140	80	**1FU8 086-2TA1□**	0.033	15

Type of construction, see page 10

When ordering options, an encrypted order code must additionally be specified for each design desired (plaintext where applicable). Order codes must not be repeated in plaintext.

Order No.: **1FU8□□□-□T□□□-Z**

Order code(s) □□□ + □□□ + □□□

1FU8 motors, 4-pole, 50 Hz/1500 min^{-1}
***M* = constant for 20 to 200 Hz/600 to 6000 min^{-1}**

Selection and ordering data

***M* = constant for 20 Hz to f_{max}**	**Values at 50 Hz**			**Values at max. frequency**						
Rated load torque	Rated power	Rated current	Inrush current	Rated power	Rated current	Inrush current	Frame size	Order no.	Max. external moment of inertia	Weight for type of construction IM B5
M_N Nm	P_N kW	I_N A	I_1 A	P_N kW	I_N A	I_1 A			J_{ext} kgm^2	approx. kg
max. frequency 50 Hz at U_N = 400 V/50 Hz, max. speed 1500 min^{-1}										
2	0.31	0.7	2.4	–	–	–	71	**1FU8 073-4TA8□**	0.006	6
2.6	0.41	0.9	3.2	–	–	–	71	**1FU8 076-4TA8□**	0.008	7
3.5	0.55	1.2	3.9	–	–	–	80	**1FU8 080-4TA8□**	0.007	9
5	0.79	1.7	5.7	–	–	–	80	**1FU8 083-4TA8□**	0.01	10
7	1.1	2.3	9.2	–	–	–	80	**1FU8 086-4TA8□**	0.013	12
8.5	1.33	3.1	14.3	–	–	–	90	**1FU8 096-4TA8□**	0.07	16
9.7	1.52	3.2	15.8	–	–	–	90	**1FU8 098-4TA8□**	0.08	18
18	2.83	6.7	33.7	–	–	–	112	**1FU8 113-4TA8□**	0.15	31
max. frequency 100 Hz at U_N = 200 V/50 Hz, max. speed 3000 min^{-1}										
2	0.31	1.4	4.8	0.62	1.5	7.7	71	**1FU8 073-4TA6□**	0.012	6
2.6	0.41	1.7	6.3	0.82	1.8	9.9	71	**1FU8 076-4TA6□**	0.015	7
3.5	0.55	2.4	7.8	1.1	2.4	13	80	**1FU8 080-4TA6□**	0.015	9
5	0.79	3.4	11.4	1.57	3.3	19	80	**1FU8 083-4TA6□**	0.025	10
7	1.1	4.5	18.4	2.2	4.5	30.3	80	**1FU8 086-4TA6□**	0.03	12
8.5	1.33	6.1	28.5	2.67	6.2	42.9	90	**1FU8 096-4TA6□**	0.13	16
9.7	1.52	6.4	31.6	3.05	6.4	45.8	90	**1FU8 098-4TA6□**	0.15	18
18	2.83	13.1	66.8	5.65	13.4	95.2	112	**1FU8 113-4TA6□**	0.4	31
max. frequency 160 Hz at U_N = 125 V/50 Hz, max. speed 4800 min^{-1}										
2	0.31	2.2	8.2	1.0	2.5	17	71	**1FU8 073-4TA3□**	0.012	6
2.6	0.41	2.7	10.0	1.31	2.9	19.7	71	**1FU8 076-4TA3□**	0.015	7
3.5	0.55	3.8	12.2	1.76	3.8	26.5	80	**1FU8 080-4TA3□**	0.015	9
5	0.79	5.3	19.3	2.51	5.3	42.3	80	**1FU8 083-4TA3□**	0.025	10
7	1.1	7.2	29.4	3.52	7.2	63.8	80	**1FU8 086-4TA3□**	0.03	12
8.5	1.33	9.7	50	4.27	10.0	93.3	90	**1FU8 096-4TA3□**	0.15	16
9.7	1.52	10.3	52.3	4.88	10.3	90.5	90	**1FU8 098-4TA3□**	0.18	18
18	2.83	22.4	117	9.05	23.5	211	112	**1FU8 113-4TA3□**	0.4	31
max. frequency 200 Hz at U_N = 100 V/50 Hz, max. speed 6000 min^{-1}										
2	0.31	2.7	9.5	1.26	3.0	21.4	71	**1FU8 073-4TA2□**	0.012	6
2.6	0.41	3.5	12.7	1.63	3.7	27.7	71	**1FU8 076-4TA2□**	0.015	7
3.5	0.55	4.8	15.6	2.2	4.9	37.7	80	**1FU8 080-4TA2□**	0.015	9
5	0.79	6.7	25	3.14	6.7	61.5	80	**1FU8 083-4TA2□**	0.025	10
7	1.1	9.0	36.8	4.4	9.0	88.7	80	**1FU8 086-4TA2□**	0.03	12
8.5	1.33	12.1	57	5.34	12.9	113	90	**1FU8 096-4TA2□**	0.15	16
9.7	1.52	12.7	63.3	6.1	12.7	115	90	**1FU8 098-4TA2□**	0.18	18
18	2.83	26.2	134	11.3	27.3	251	112	**1FU8 113-4TA2□**	0.4	31

Type of construction, see page 10

When ordering options, an encrypted order code must additionally be specified for each design desired (plaintext where applicable). Order codes must not be repeated in plaintext.

Order No.: **1FU8 □□□-□T□□□- Z**

Order code(s) □□□ + □□□ + □□□

Permanent Magnet Excited Synchronous Motors

1FU8 motors, 4-pole, 50 Hz/1500 min^{-1}
M = constant for 13.3 to 200 Hz/400 to 6000 min^{-1}

Selection and ordering data

***M* = constant for 13.3 Hz to f_{max}**	**Values at 50 Hz**			**Values at max. frequency**						
Rated load torque	Rated power	Rated current	Inrush current	Rated power	Rated current	Inrush current	Frame size	Order no.	Max. external moment of inertia	Weight for type of construction IM B5
M_N Nm	P_N kW	I_N A	I_1 A	P_N kW	I_N A	I_1 A			J_{ext} kgm^2	approx. kg
max. frequency 50 Hz at U_N = 400 V/50 Hz, max. speed 1500 min^{-1}										
2.5	0.38	1.0	3.9	–	–	–	80	**1FU8 080-4TA8□**	0.005	9
5.2	0.82	1.7	9.2	–	–	–	80	**1FU8 086-4TA8□**	0.01	12
8	1.26	2.7	15.8	–	–	–	90	**1FU8 098-4TA8□**	0.06	18
16	2.51	6.0	33.7	–	–	–	112	**1FU8 113-4TA8□**	0.11	31
max. frequency 100 Hz at U_N = 200 V/50 Hz, max. speed 3000 min^{-1}										
2.5	0.38	2.0	7.8	0.79	2.0	13	80	**1FU8 080-4TA6□**	0.011	9
5.2	0.82	3.4	18.4	1.63	3.4	30.3	80	**1FU8 086-4TA6□**	0.022	12
8	1.26	5.5	31.6	2.51	5.5	45.8	90	**1FU8 098-4TA6□**	0.11	18
16	2.51	12.0	66.8	5.03	12.3	95.2	112	**1FU8 113-4TA6□**	0.33	31
max. frequency 160 Hz at U_N = 125 V/50 Hz, max. speed 4800 min^{-1}										
2.5	0.38	2.8	12.2	1.26	2.9	26.5	80	**1FU8 080-4TA3□**	0.011	9
5.2	0.82	5.3	29.4	2.61	5.3	63.8	80	**1FU8 086-4TA3□**	0.022	12
8	1.26	8.8	52.3	4.02	9.0	90.5	90	**1FU8 098-4TA3□**	0.13	18
16	2.51	20.7	117	8.04	21.8	211	112	**1FU8 113-4TA3□**	0.33	31
max. frequency 200 Hz at U_N = 100 V/50 Hz, max. speed 6000 min^{-1}										
2.5	0.38	4.1	15.6	1.57	4.1	37.7	80	**1FU8 080-4TA2□**	0.011	9
5.2	0.82	6.7	36.8	3.27	6.8	88.7	80	**1FU8 086-4TA2□**	0.022	12
8	1.26	10.9	63.3	5.03	11.1	115	90	**1FU8 098-4TA2□**	0.13	18
16	2.51	23.9	134	10.1	25.1	251	112	**1FU8 113-4TA2□**	0.33	31

Type of construction, see page 10

When ordering options, an encrypted order code must additionally be specified for each design desired (plaintext where applicable). Order codes must not be repeated in plaintext.

Order No.: **1FU8□□□-□T□□□-Z**

Order code(s) □□□ + □□□ + □□□

1FU8 motors, 6-pole, 50 Hz/1000 min^{-1}
***M* = constant for 20 to 200 Hz/400 to 4000 min^{-1}**

Selection and ordering data

***M* = constant for 20 Hz to f_{max}**	**Values at 50 Hz**			**Values at max. frequency**						
Rated load torque	Rated power	Rated current	Inrush current	Rated power	Rated current	Inrush current	Frame size	Order no.	Max. external moment of inertia	Weight for type of construction IM B5
M_N Nm	P_N kW	I_N A	I_1 A	P_N kW	I_N A	I_1 A			J_{ext} kgm^2	approx. kg
max. frequency 50 Hz at U_N = 400 V/50 Hz, max. speed 1000 min^{-1}										
34	3.6	8.1	36	–	–	–	132	**1FU8 134-6TD8□**	1.3	58
59.6	6.24	13.5	73	–	–	–	160	**1FU8 167-6TD8□**	2	109
max. frequency 100 Hz at U_N = 200 V/50 Hz, max. speed 2000 min^{-1}										
34	3.6	16.2	70	7.2	17.1	93	132	**1FU8 134-6TD6□**	1.3	58
59.6	6.24	26.8	146	12.48	28	188	160	**1FU8 167-6TD6□**	2	109
max. frequency 160 Hz at U_N = 125 V/50 Hz, max. speed 3200 min^{-1}										
28.9	3	28	111	9.7	31.2	160	132	**1FU8 134-6TD3□**	1.3	58
54.6	5.7	52	231	18.3	58	333	160	**1FU8 167-6TD3□**	2	109
max. frequency 200 Hz at U_N = 100 V/50 Hz, max. speed 4000 min^{-1}										
28.9	3	35.1	140	12.1	42	203	132	**1FU8 134-6TD2□**	1.3	58
54.6	5.7	65.5	290	22.9	78	437	160	**1FU8 167-6TD2□**	1.5	109

Type of construction, see page 10

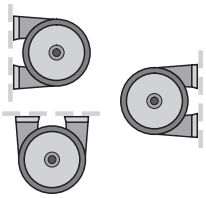
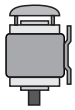
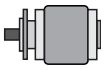
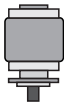
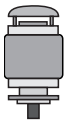
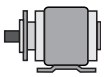
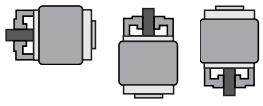
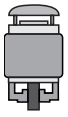
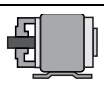
When ordering options, an encrypted order code must additionally be specified for each design desired (plaintext where applicable). Order codes must not be repeated in plaintext.

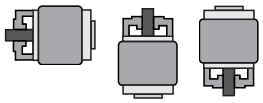
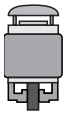
Order No.: **1FU8□□□-□T□□□-Z**

Order code(s) □□□ + □□□ + □□□

Selection and ordering data

Order no. supplement, 12th position of the order no., type of construction

12th Order no. position, type of construction in accordance with DIN EN 60034-7 Size 71M to 160L	Code 12th position	Order code
IM B3 	**0**	–
IM B6/IM 1051, IM B7/IM 1061, IM B8/IM 1071 	**0**	–
IM V5/IM 1011 without protective cover 	**0** **9**	– **M1D**
IM V6/IM 1031 	**0** **9**	– **M1E**
IM V5/IM 1011 with protective cover 	**9** [1]	**M1F**
Flange		
IM B5/IM 3001 	**1**	–
IM V5/IM 3011 without protective cover 	**1** **8**	–
IM V1/IM 3011 with protective cover 	**4** [1]	–
IM V3/IM 3031 	**1** **9**	– **M1G**
IM B35/IM 2001 	**6**	–
Standard flange		
IM B14/IM 3601, IM V19/IM 3631, IM V18/IM 3611 without protective cover 	**2**	–
IM V18/IM 3611 with protective cover 	**9** [1]	**M2A**
IM B34/IM 2101 	**7**	–

12th Order no. position, type of construction in accordance with DIN EN 60034-7 Size 71M to 160L	Code 12th position	Order code
Special flange		
IM B14/IM 3601, IM V19/IM 3631, IM V18/IM 3611 without protective cover 	**3**	–
IM V18/IM 3611 with protective cover 	**9** [1]	**M2B**
IM B34/IM 2101 	**9**	**M2C**

The flanges are assigned to the frame sizes in DIN EN 50347 as FF with through-holes.
A flanges in accordance with DIN 42948 continue to be valid.

The standard flanges are assigned to the frame sizes in DIN EN 50347 as FT with threaded holes.
C flanges in accordance with DIN 42948 continue to be valid.

The special flange was assigned as a large flange in the previous DIN 42677.

The dimensions of the following types of construction are identical:
IM B3, IM B6, IM B7, IM B8, IM V5 and IM V6
IM B5, IM V1 and IM V3
IM B14, IM V18 and IM V19

The motors in the standard power range are available in the standard types of construction IM B3, IM B5 or IM B14, and can be operated in mounting positions IM B6, IM B7, IM B8, IM V5, IM V6, IM V1, IM V3 (up to frame size 160L) or IM V18 and IM V19. Eyebolts are available for transport and installation in a horizontal position. In conjunction with the eyebolts, for the purpose of stabilizing the position when the motor is arranged vertically, additional lifting straps (DIN EN 1492-1) and/or clamping bands (DIN EN 12195-2) must be used. If mounting position IM V1 is ordered, eyebolts are supplied for vertical mounting.

For this reason, they are normally designated only with the basic type of construction on the rating plate.

In the case of all types of construction with shaft end down, the version "with protective cover" is recommended.

1) Second shaft end **K16** not possible.

Options

Order codes

Order no.:

1FU8□□□-□T□□□-Z

Order codes:
□□□ + □□□ +...

Overview of "special versions"

Order code	Special versions
Winding and motor protection	
Standard	Motor protection through PTC thermistor with 3 built-in temperature sensors for shutdown
A12	Motor protection through PTC thermistor with 6 built-in temperature sensors for warning and shutdown
A23	Motor temperature monitoring using built-in temperature sensor KTY 84-130
A25	Motor temperature monitoring using built-in temperature sensors 2 x KTY 84-130
Paint finish	
Standard	Special finish in RAL 7030 stone gray
K23	Without paint finish (cast iron, with primer)
K24	Without paint finish, but with primer
K27	Special finish in RAL 6011 reseda green
K28	Special finish in RAL 7031 blue gray
L42	Special finish in RAL 7032 pebble gray
L43	Special finish in RAL 9005 jet black
M16	Special finish in RAL 1002 sand yellow
M17	Special finish in RAL 1013 pearl white
M18	Special finish in RAL 3000 flame red
M19	Special finish in RAL 6021 pale green
M20	Special finish in RAL 7001 silver gray
M21	Special finish in RAL 7035 light gray
M22	Special finish in RAL 9001 cream
M23	Special finish in RAL 9002 gray white
Y54	Special paint finish in other colors: RAL ....
Modular technology	
C00	Brake supply voltage 24 V DC
C01	Brake supply voltage 2 AC 400 V, 50 Hz
G17	Mounting of separately driven fan
G26	Mounting of brake 1 AC 230 V, 50/60 Hz
K82	Manual brake release with lever

Order code	Special versions
Inverter installation	
H96	Prepared for mounting of the MICROMASTER 411 to 1FU8
Mechanical design	
K01	Vibration severity grade R
K02	Vibration severity grade S
K04	Reduced radial eccentricity tolerance L = 0.025mm
K09	Terminal box on RHS (view onto DE)
K10	Terminal box on LHS (view onto DE)
K16	Second standard shaft end
K17	Radial shaft sealing ring with hardened shaft
K20	Bearing for increased cantilever forces from frame size 112
K35	Version with metal fan
K40	Regreasing device from frame size 112
K83	Rotation of the terminal box through 90°, cable entry from DE
K84	Rotation of the terminal box through 90°, cable entry from NDE
K85	Rotation of terminal box through 180°
K94	Location bearing DE
L04	Location bearing NDE
L13	External earthing
L68	Full-key balancing
L71	Cast-iron end shield DE
L99	Wire-lattice pallet
M07	Cast-iron end shield NDE
M28	Cast-iron housing for frame sizes 112-160
Y58	Non-standard shaft end: plaintext + drawing (DE shaft end)
Y82	Additional rating plate
Safety and startup guide/certification	
B00	Without safety and startup guide. A waiver is required from the customer.
B01	With one safety and startup guide per box pallet
B02	Works test certificate 2.3 in accordance with EN 10 204

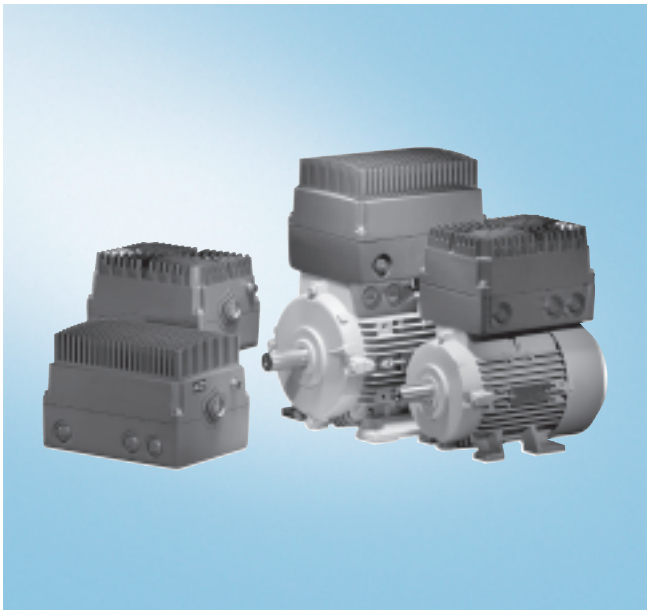
More information

SIEMOSYN 1FU8 motors with integral MICROMASTER 411 inverter

SIEMOSYN motors with integral inverters form a variable-speed drive with a superior control response. These variable-speed drives are used wherever there is no space for an inverter/control cabinet.

Here, the SIEMOSYN 1FU8 motor and the MICROMASTER 411 inverter are designed to be connected to each other, and where otherwise both components are physically separate (the motor at the work machine, the inverter in the control cabinet) they merge into one compact unit. The following advantages are added to the benefits of the SIEMOSYN motor:

- The versatile and communications-enabled inverter electronics with links to bus systems make a significant contribution toward minimizing energy costs within the scope of the automation solution.
- Significant time and cost benefits over conventional solutions:
  - Reductions in control cabinet requirements (no need for control cabinet, inverter is attached to the motor)
  - Reductions in mounting and installation overhead (motor and inverter are supplied ready-mounted, no wiring between the two components)
  - Reduced noise emissions (EMC) since the connection between the motor and the inverter is only a few centimeters within the housing. There are consequently no cable length problems, so savings are made on inverter output components (long cables).
  - Savings in configuring and engineering overhead since the motor and inverter units are optimally matched according to customer requirements and are supplied as a complete, ready-mounted drive unit.
  - Offloading of the controller thanks to integral monitoring functions of the frequency inverter.
  - Integrated communication from the control level right down to the field level guarantees transparent access to all components of the system.
  - Service-friendly thanks to a new adapter concept that enables easy separation of motor and inverter.
  - Problem-free replacement of constant-speed motors with variable-speed inverter motors since the SIEMOSYN motors have the same mechanical dimensions as the conventional asynchronous motors.
- Decentralization of several units:
  In the control cabinet, heat losses are channeled to the outside and necessary air conditioning can be minimized.
  Space is saved in the control cabinet, and the integration of the MICROMASTER 411 into the motor increases space requirements only negligibly.
- Simple and problem-free wiring and installation enable easy retrofitting of speed-controlled compact drives in existing plants.
- The MICROMASTER 411 can either be installed on the motor or wall-mounted in the immediate vicinity of the motor.



MICROMASTER 411

The frequency inverter is contained in the DA 51.3 Catalog that includes the entire product range with ordering data, technical specifications and explanations.

The modular design makes it possible to individualize MICROMASTER 411 orders, including accessories, for example:

- Basic operator panel (BOP) for parameterizing the inverter
- Advanced operator panel (AOP) with multi-language display
- PROFIBUS module
- ASI module
- DeviceNet module
- Combination module consisting of brake resistor and electromechanical brake control
- Electromechanical brake control module
- PC connection kit
- PC startup programs

Inverter data

- 0.37 to 3 kW, 3 AC 400 V
- Degree of protection IP66, natural ventilation
- Galvanic isolation between the electronics and the connection terminals
- Parameter sets for fast startup and cost savings
- Operation without operator panel possible (using jumpers and/or control potentiometer)
- Integrated control potentiometer accessible from outside
- *U/f* characteristic (freely configurable)

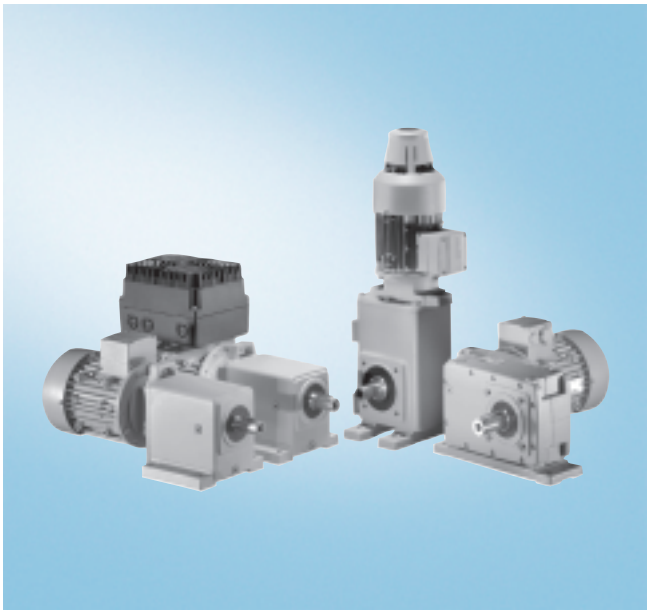
If desired, the motors with integral inverter are optimally matched, mounted, tested, and parameterized in accordance with customer requirements.

More information

SIEMOSYN 1FU8 motors with/without integral MICROMASTER 411 inverter, with integral gears

The 1FU8 motors can also be supplied as geared motors with/without integral frequency inverter. The gears are identical with the gears described in Catalog M15. Instead of the 1LA7 squirrel-cage motor, the permanent magnet excited SIEMOSYN 1FU8 synchronous motor is used.

Siemens geared motors enable individual solutions for diverse tasks in drive engineering. The host of possible combinations makes optimal adaptation to the many drive situations possible. Depending on design, the gears are available for a transfer range of 2.78 to 485 and a maximum output torque of 80 to 12000 Nm at a drive power rating up to 7.5 kW.



Technical data

Gears		Helical gears	Offset shaft gears	Angular gears
Output torque	Nm	80 to 5800	130 to 11500	120 to 12000
Transfer		2.78 to 259	3.69 to 297	4.85 to 485

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At

http://www.siemens.com/automation/partner

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E-Mail: adsupport@siemens.com

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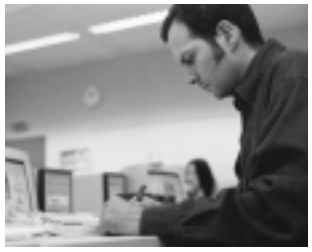

Support in configuring and developing with customer-oriented services from actual configuration to implementation of the automation project. [1])

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In Canada, call:
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Technical content:
Siemens AG, A&D MC PM 1

General editing:
Siemens AG, A&D PT 5, Erlangen

Siemens AG
Automation & Drives
Motion Control Systems
Postfach 31 80
D-91050 Erlangen
Germany

Order No.: **E86060-K5448-A101-A1-7600**
Printed in Germany
KG K 0903 3.0 E 16 En/322340

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SIMOVERT PM Modular Converter Systems	DA 45
SIEMOSYN Motors	DA 48
MICROMASTER 410/420/430/440 Inverters	DA 51.2
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