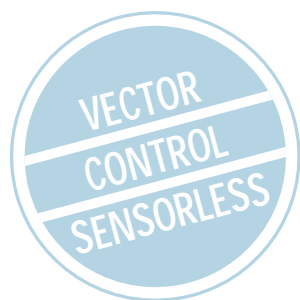


# SIEMENS

MICRO MASTER  
MICRO MASTER Vector  
MIDI MASTER Vector

Standard Drives  
120 W to 75 kW



# MICRO MASTER, MICRO MASTER Vector and MIDI MASTER Vector: The facts about the favourites



Wherever the MICRO MASTER, MICRO MASTER Vector, and MIDI MASTER Vector frequency converters step up to the starting line they are the favourites. Design, components, technology, and workmanship are of the finest quality. Compact and safe and can be used anywhere – worldwide.

Some of the most important facts about the favourites

- Excellent price/performance ratio resulting from an increased number of standard features.
- Now available with Sensorless Control
- Control offering overload capabilities of 200% for 3 seconds

## General Technical Information

	MICRO MASTER	MICRO MASTER Vector	MIDI MASTER Vector
Output Frequency (Hz)	0-400	0-650	0-650 (37 kW) 0-200 (75kW)
Frequency Resolution	0.05	0.01	0.01
Overload Capability	150% for 60 secs	200% for 3 secs 200% for 3 secs	150% for 60 secs 150% for 60 secs
Ambient Temperature		0-50°C	
Degree of Protection	IP20	IP20	IP20/IP56

- Worldwide voltage ranges for a global product
 

1/3 phase	208 - 230 V AC	15%
3 phase	400 - 500 V AC	10%
3 phase	500 - 575 V AC	10%
- Greater space saving resulting from:
  - compact design and integrated footprint filter
  - ability to mount inverters side by side. Clearances (including filter) are not required
- High Reliability by: maintaining the important international quality standards, such as VDE, DIN or DIN ISO 9001, UL, Canadian UL, CE
- Simple operator control for the complete range using:
  - standard 7-key membrane keypad to control the units
  - optional plug-in clear text operator control panel with RS232 interface (standard for MIDI MASTER)
- Optional PROFIBUS module up to 12 Mbaud for compatibility with PROFIBUS-DP
- FCL (fast current limit) for reliable trip-free operation
- Extended temperature range of 0-50° as standard without derating
- Built-in PID control

## Extended Application Range

The new MICRO MASTER generation now covers powers from 120W (0.16HP) to 7.5kW (10HP)

The MIDI MASTER range has been extended to 75kW (100HP) for constant torque and 90kW for variable torque applications

## Smaller even and easier to use

- Standard Class A built-in filter for single phase units
- Optional footprint filters for Class A and B compliance for complete power range
- Side by side mounting maximizes space usage
- Ease of commissioning through auto-tuning and common parameter set across the complete range
- Silent motor operation due to ultrasonic switching frequency
- High reliability using selected quality components
- State-of-the art IGBT technology in the integrated power module for low loss operation

## Performance features

### MICRO MASTER

- FCL (Fast Current Limit)
- Programmable accel/decel, 0.1s to 650s, with selectable ramp smoothing
- Fine speed adjustment using a high resolution 10-bit analog setpoint channel
- Selectable automatic or programmable boost for optimum starting
- COMPOUND BRAKING™ for rapid controlled braking without the need for an external resistor

### MICRO MASTER Vector/ MIDI MASTER Vector

- Sensorless Vector Control with adoptive motor model for high dynamic performance and very high starting torque under all conditions
- Overload capability of 200% for 3 secs
- Optimal dynamic response time achieved with fast custom-built ASIC design
- Dual motor parameter sets

## I/O-Features

### MICRO MASTER

- 3 fully programmable binary outputs for applicator flexibility (e.g. fixed frequencies, fixed setpoints, motorized potentiometer, inching...)
- 1 programmable relay output
- Setpoint input via analog input (0/2 to 10V), fixed setpoint or combinations of both
- RS485 interface
- 15V supply for PID sensor

### MICRO MASTER Vector/ MIDI MASTER Vector

- 6 programmable binary inputs with fast response time
- 2 analog inputs (unipole or bipolar - switch selectable)
- 1 analog output (2 for MIDI MASTER) - 10 bit resolution
- 2 mains rated, programmable relay outputs
- IP56 (NEMA 4) Protection

## Inverter Protection Features

- Overvoltage/undervoltage
- General Fault
- Short Circuit
- Overtemperature





### Motor Protection Feature

- I<sup>2</sup>t motor thermal protection
  - Motor PTC input
  - Locked motor protection
- Thus, complete inverter and motor protection is ensured

### Options

- Plain text operator control panel (OP) standard with MIDI MASTER Vector – up to 31 standard inverters may be simultaneously addressed through the operator control panel. Built-in RS232 interface allows simple connection to a PC
- Footprint Radio interference suppression filters for MICRO MASTER and MICRO MASTER Vector available to meet Class A and Class B levels for all powers
- Radio interference suppression filters for MIDI MASTER Vector available in Class A or Class B levels
- Range of braking for MICRO MASTER Vector
- SIMOVIS PC Program running under Windows
- Sinusoidal Filter
- Output chokes
- PROFIBUS DP module running at 12 Mbaud

### MICRO MASTER/MICRO MASTER Vector

MICRO MASTER	MICRO MASTER Vector	Motor Power kW (HP)	Rated output Current (A)		Cont. output Current (A)	Input Current (l rms)	Dimensions WxHxD (mm)	Weight kg (lbs)	Optional external filter		Inverter Order Number MICRO MASTER	Inverter Order Number MICRO MASTER Vector
			400V (500V)	400V (500V)					Class A	ClassB		
1ph 230V ± 15% with built-in filter (Class A)												
MM12	MMV12	0.12 (1/6)	0.8 (0/7)	0.9 (0/8)	1.8	73x147x141	0.85 (1.9)	not required	6SE3290-0BA87-0FB0	6SE9210-7BA40	6SE3210-7BA40	
MM25	MMV25	0.25 (1/3)	1.5 (1/3)	1.7 (1/5)	3.2		0.85 (1.9)	not required	6SE3290-0BA87-0FB0	6SE9211-5BA40	6SE3211-5BA40	
MM37	MMV37	0.37 (1/2)	2.1 (1/85)	2.3 (2/0)	4.6		0.85 (1.9)	not required	6SE3290-0BA87-0FB2	6SE9212-1BA40	6SE3212-1BA40	
MM55	MMV55	0.55 (3/4)	2.6 (2/3)	2.9 (2/5)	6.2		0.85 (1.9)	not required	6SE3290-0BA87-0FB2	6SE9212-8BA40	6SE3212-8BA40	
MM75	MMV75	0.75 (1.0)	3.5 (3.1)	3.9 (3.4)	8.2		0.85 (1.9)	not required	6SE3290-0BA87-0FB2	6SE9213-6BA40	6SE3213-6BA40	
MM110	MMV110	1.1 (1.5)	4.8 (4.2)	5.3 (4.7)	11	149x184x172	2.6 (5.7)	not required	6SE3290-0BB87-0FB4	6SE9215-2BA40	6SE3215-2BB40	
MM150	MMV150	1.5 (2.0)	7.4 (6.5)	7.0 (6.2)	14.4		2.6 (5.7)	not required	6SE3290-0BB87-0FB4	6SE9216-8BA40	6SE3216-8BB40	
MM220	MMV220	2.2 (3.0)	9.0 (7.9)	10.0 (8.8)	20.2	185x215x195	5.0 (11)	not required	6SE3290-0BC87-0FB4	6SE9221-0BA40	6SE3221-0BC40	
MM300	MMV300	3.0 (4.0)	11.8 (10.4)	13.0 (11.4)	28.3		5.0 (11)	not required	6SE3290-0BC87-0FB4	6SE9221-3BA40	6SE3221-3BC40	
1ph/3ph 230V ± 15% (unfiltered)												
MM12/2	MMV12/2	0.12 (1/6)	0.8 (0/7)	0.9 (0.8)	1.8/1.1	73x147x141	0.75 (1.7)	not available	not available	6SE9210-7CA40	6SE3210-7CA40	
MM25/2	MMV25/2	0.25 (1/3)	1.5 (1/3)	1.7 (1.5)	3.2/1.9		0.75 (1.7)	not available	not available	6SE9211-5CA40	6SE3211-5CA40	
MM37/2	MMV37/2	0.37 (1/2)	2.1 (1/85)	2.3 (2.0)	4.6/2.7		0.75 (1.7)	not available	not available	6SE9211-1CA40	6SE3211-1CA40	
MM55/2	MMV55/2	0.55 (3/4)	2.6 (2/3)	2.9 (2.5)	6.2/3.6		0.75 (1.7)	not available	not available	6SE9212-8CA40	6SE3212-8CA40	
MM75/2	MMV75/2	0.75 (1.0)	3.5 (3.1)	3.9 (3.4)	8.2/4.7		0.75 (1.7)	not available	not available	6SE9213-6CA40	6SE3213-6CA40	
MM110/2	MMV110/2	1.1 (1.5)	4.8 (4.2)	5.3 (4.7)	11/6.4	149x184x172	2.4 (5.3)	not available	not available	6SE9215-2CB40	6SE3215-2CB40	
MM150/2	MMV150/2	1.5 (2.0)	7.4 (6.5)	7.0 (6.2)	14.4/8.3		2.4 (5.3)	not available	not available	6SE9216-8CB40	6SE3216-8CB40	
MM220/2	MMV220/2	2.2 (3.0)	9.0 (7.9)	10.0 (8.8)	20.2/11.7	185x215x195	4.8 (10.5)	not available	not available	6SE9221-0CC40	6SE3221-0CC40	
MM300/2	MMV300/2	3.0 (4.0)	11.8 (10.4)	13.0 (11.4)	28.3/16.3		4.8 (10.5)	not available	not available	6SE9221-3CC40	6SE3221-3CC40	
MM400/2	MMV400/2	4.0 (5.0)	15.9 (14.0)	17.5 (15.4)	21.1		4.8 (10.5)	not available	not available	6SE9221-8CC40	6SE3221-8CC13	
(3ph only) (3ph only)												
3ph 400-500V ± 10%												
MM37/3	MMV37/3	0.37 (1/2)	1.2 (1.06)	1.3 (1.1)	2.2	73x147x141	0.75 (1.7)	6SE3290-0DA87-0FA1	6SE3290-0DA87-0FB1	6SE9211-1DA40	6SE3211-1DA40	
MM55/3	MMV55/3	0.55 (3/4)	1.5 (1.3)	1.7 (1.5)	2.8		0.75 (1.7)	6SE3290-0DA87-0FA1	6SE3290-0DA87-0FB1	6SE9211-4DA40	6SE3211-4DA40	
MM75/3	MMV75/3	0.75 (1.0)	2.0 (1.8)	2.2 (1.9)	3.7		0.75 (1.7)	6SE3290-0DA87-0FA1	6SE3290-0DA87-0FB1	6SE9211-0DA40	6SE3211-0DA40	
MM110/3	MMV110/3	1.1 (1.5)	2.8 (2.5)	3.1 (2.7)	4.9		0.75 (1.7)	6SE3290-0DA87-0FA1	6SE3290-0DA87-0FB1	6SE9211-7DA40	6SE3211-7DA40	
MM150/3	MMV150/3	1.5 (2.0)	3.7 (3.3)	4.1 (3.6)	5.9		0.75 (1.7)	6SE3290-0DA87-0FA1	6SE3290-0DA87-0FB1	6SE9224-0DA40	6SE3224-0DA40	
MM220/3	MMV220/3	2.2 (3.0)	5.2 (4.6)	5.7 (5.0)	8.8	149x184x172	2.4 (5.3)	6SE3290-0DB87-0FA3	6SE3290-0DB87-0FB3	6SE9215-8DB40	6SE3215-8DB40	
MM300/3	MMV300/3	3.0 (4.0)	6.8 (6.0)	7.5 (6.6)	11.1		2.4 (5.3)	6SE3290-0DB87-0FA3	6SE3290-0DB87-0FB3	6SE3217-3DB40	6SE3217-3DB40	
MM400/3	MMV400/3	4.0 (5.0)	9.2 (8.1)	10.1 (8.9)	13.6	185x215x195	4.8 (10.5)	6SE3290-0DC87-0FA4	6SE3290-0DC87-0FB4	6SE9221-0DC40	6SE3221-0DC40	
MM550/3	MMV550/3	5.5 (7.5)	11.8 (10.4)	13.0 (11.4)	17.1		4.8 (10.5)	6SE3290-0DC87-0FA4	6SE3290-0DC87-0FB4	6SE921-3DC40	6SE321-3DC40	
MM750/3	MMV750/3	7.5 (10.0)	15.8 (13.9)	17.4 (15.3)	22.1		4.8 (10.5)	6SE3290-0DC87-0FA4	6SE3290-0DC87-0FB4	6SE921-5DC40	6SE321-5DC40	



**MIDI MASTER Vector**

Type	Rated Supply Voltage (V)	Rated Inverter Output Current (A) Constant Torque Loads	Rated Inverter Output Current (A) Variable Torque Loads	Motor Rating Shaft Output				IP21 Standard Inverter		
				Constant Torque Load (conveyor & mixers, etc.)	Variable Torque Load (fans & pumps, etc.)	Order Number	Dimensions HxWxD (mm)	Weight kg (lbs)		
		Overload Capacity: 150% for 60 seconds	Continuous Current without Overload Capacity	kW	HP	kW	HP			
<b>MDV 550/2</b>	208-230V ± 15% 3PH	22	28	5.5	7.5	7.5	10	6SE3222-3CG40	450x275x210	20 (44)
<b>MDV 750/2</b>		28	42	7.5	10	11	15	6SE3223-1CG40	550x275x210	24 (53)
<b>MDV1100/2</b>		42	54	11	15	–	–	6SE3224-2CH40	550x275x210	25 (55)
<b>MDV1500/2</b>		54	68	15	20	18.5	25	6SE3255-4CH40	650x275x285	28 (62)
<b>MDV1850/2</b>		68	80	18.5	25	22	30	6SE3226-8CJ40	650x275x285	30 (66)
<b>MDV2200/2</b>		80	90	22	30	27	40	6SE3227-5CJ40	650x275x285	32 (70)
<b>MDV3000/2</b>		104	130	30	40	37	50	6SE3231-0CK40	850x420x310	70 (154)
<b>MDV3700/2</b>		130	154	37	50	45	60	6SE3231-3CK40	850x420x310	75 (165)
<b>MDV4500/2</b>		154	170**	45	60	55	75	6SE3231-5CK40	850x420x310	80 (176)
<b>MDV1100/3***</b>	380-500V ± 10% 3PH	26 (21)*	30 (27)*	11	15	15	20	6SE3222-4DG40	450x275x210	20 (44)
<b>MDV1500/3</b>		32 (27)*	37 (34)*	15	20	18.5	25	6SE3223-0DH40	550x275x210	24 (53)
<b>MDV1850/3</b>		38 (34)*	43.5 (40)*	18.5	25	22	30	6SE3223-5DH40	550x275x210	25 (55)
<b>MDV2200/3</b>		45 (40)*	58 (52)*	22	30	30	40	6SE3224-2DJ40	650x275x285	28 (62)
<b>MDV3000/3</b>		58 (52)*	71 (65)*	30	40	37	50	6SE3225-5DJ40	650x275x285	30 (66)
<b>MDV3700/3</b>		71 (65)*	84 (77)*	37	50	45	60	6SE3226-8DJ40	650x275x285	32 (70)
<b>MDV4500/3</b>		84 (77)*	102 (96)*	45	60	55	75	6SE3228-4DK40	850x420x310	70 (154)
<b>MDV5500/3</b>		102 (96)*	138 (124)*	55	75	75	100	6SE3231-0DK40	850x420x310	75 (165)
<b>MDV7500/3</b>		138 (124)*	168 (156)*	75	100	90	120	6SE3231-4DK40	850x420x310	80 (176)
<b>MDV 220/4</b>	525-575V ± 10% 3PH	3.9	6.1	2.2	3	4	5	6SE3213-9FG40	450x275x210	17 (37)
<b>MDV 400/4</b>		6.1	9	4	5	5.5	7.5	6SE3216-1FG40	450x275x210	18 (40)
<b>MDV 550/4</b>		9	11	5.5	7.5	7.5	10	6SE3219-0FG40	450x275x210	19 (42)
<b>MDV 750/4</b>		11	17	7.5	10	11	15	6SE3221-1FG40	450x275x210	19 (42)
<b>MDV1100/4</b>		17	22	11	15	15	20	6SE3221-7FG40	450x275x210	20 (44)
<b>MDV1500/4</b>		22	27	15	20	18.5	25	6SE3222-2FH40	550x275x210	24 (53)
<b>MDV1850/4</b>		27	32	18.5	25	22	30	6SE3222-7FH40	550x275x210	25 (55)
<b>MDV2200/4</b>		32	41	22	30	30	40	6SE3223-2FJ40	650x275x285	28 (62)
<b>MDV3000/4</b>		41	52	30	40	37	50	6SE3224-1FJ40	650x275x285	30 (66)
<b>MDV3700/4</b>		52	62	37	50	45	60	6SE3225-2FJ40	650x275x285	32 (70)

Please check to ensure that Rated Inverter Output Current is greater than Name Plate Motor Current

\*) The rated inverter output current shown within the ( ) is for motors with nominal rated voltages between 460V to 500V.

\*\*\*) 7.5 kW Midi Master Vector available in IP56 only.

**MIDI MASTER Vector**

Type	IP20 Inverter with intergal class A filter			IP56 Protected Inverter**			Optional External Filter Class A	Optional External Filter Class B
	Order Number	Dimensions HxWxD (mm)	Weight kg (lbs)	Order Number	Dimensions HxWxD (mm)	Weight kg (lbs)		
<b>MDV 550/2</b>	6SE3222-3CG50	700x275x210	30 (66)	6SE3222-3CS45	675x360x351	30 (66)	6SE3290-ODG87-0FA4	6SE2100-1FC20
<b>MDV 750/2</b>	6SE3223-1CG50	800x275x210	34 (75)	6SE3223-1CS45	775x360x422	39 (86)	6SE3290-ODH87-0FA5	6SE2100-1FC20
<b>MDV1100/2</b>	6SE3224-2CH50	800x275x210	35 (77)	6SE3224-2CS45	775x360x422	40 (88)	6SE3290-ODJ87-0FA6	6SE2100-1FC21
<b>MDV1500/2</b>	6SE3255-4CH50	950x275x285	38 (84)	6SE3255-4CS45	875x360x483	50 (110)	6SE3290-ODJ87-0FA6	6SE2100-1FC21
<b>MDV1850/2</b>	6SE3226-8CJ50	950x275x285	45 (99)	6SE3226-8CS45	875x360x483	52 (114)	6SE3290-ODJ87-0FA6	6SE2100-1FC21
<b>MDV2200/2</b>	6SE3227-5CJ50	950x275x285	47 (103)	6SE3227-5CS45	875x360x483	54 (119)	6SE3290-ODJ87-0FA6	–
<b>MDV3000/2</b>	6SE3231-0CK50	1350x420x310	100 (220)	6SE3231-0CS45	1150x500x450	100 (220)	6SE3290-ODK87-0FA7	–
<b>MDV3700/2</b>	6SE3231-3CK50	1350x420x310	105 (231)	6SE3231-3CS45	1150x500x450	105 (231)	6SE3290-ODK87-0FA7	–
<b>MDV4500/2</b>	6SE3231-5CK50	1350x420x310	110 (242)	6SE3231-5CS45	1150x500x450	110 (242)	6SE3290-ODK87-0FA7	–
<b>MDV 750/3</b>	–	–	–	6SE3221-7DS45	675x360x351	29 (64)	6SE3290-ODG87-0FA4	6SE2100-1FC20
<b>MDV1100/3</b>	6SE3222-4DG50	700x275x210	30 (66)	6SE3222-4DS45	675x360x351	30 (66)	6SE3290-ODG87-0FA5	6SE2100-1FC20
<b>MDV1500/3</b>	6SE3223-0DH50	800x275x210	34 (75)	6SE3223-0DS45	775x360x422	39 (86)	6SE3290-ODG87-0FA5	6SE2100-1FC20
<b>MDV1850/3</b>	6SE3223-5DH50	800x275x210	35 (77)	6SE3223-5DS45	775x360x422	40 (88)	6SE3290-ODG87-0FA5	6SE2100-1FC20
<b>MDV2200/3</b>	6SE3224-2DJ50	950x275x285	38 (84)	6SE3224-2DS45	875x360x483	50 (110)	6SE3290-ODJ87-0FA6	6SE2100-1FC21
<b>MDV3000/3</b>	6SE3225-5DJ50	950x275x285	40 (89)	6SE3225-5DS45	875x360x483	52 (114)	6SE3290-ODJ87-0FA6	6SE2100-1FC21
<b>MDV3700/3</b>	6SE3226-8DJ50	950x275x285	47 (103)	6SE3226-8DS45	875x360x483	54 (119)	6SE3290-ODJ87-0FA6	6SE2100-1FC21
<b>MDV4500/3</b>	6SE3228-4DK50	1350x420x310	100 (220)	6SE3228-4DS45	1150x500x450	100 (220)	6SE3290-ODK87-0FA7	–
<b>MDV5500/3</b>	6SE3231-0DK50	1350x420x310	105 (231)	6SE3231-0DS45	1150x500x450	105 (231)	6SE3290-ODK87-0FA7	–
<b>MDV7500/3</b>	6SE3231-4DK50	1350x420x310	110 (242)	6SE3231-4DS45	1150x500x450	110 (242)	6SE3290-ODK87-0FA7	–
<b>MDV 220/4</b>	–	–	–	6SE3213-9FS45	675x360x351	22 (48)	–	–
<b>MDV 400/4</b>	–	–	–	6SE3216-1FS45	675x360x351	24 (53)	–	–
<b>MDV 550/4</b>	–	–	–	6SE3219-0FS45	675x360x351	26 (57)	–	–
<b>MDV 750/4</b>	–	–	–	6SE3221-1FS45	675x360x351	29 (64)	–	–
<b>MDV1100/4</b>	–	–	–	6SE3221-7FS45	675x360x351	30 (66)	–	–
<b>MDV1500/4</b>	–	–	–	6SE3222-2FS45	775x360x422	39 (86)	–	–
<b>MDV1850/4</b>	–	–	–	6SE3222-7FS45	775x360x422	40 (88)	–	–
<b>MDV2200/4</b>	–	–	–	6SE3223-2FS45	875x360x483	50 (110)	–	–
<b>MDV3000/4</b>	–	–	–	6SE3224-1FS45	875x360x483	52 (114)	–	–
<b>MDV3700/4</b>	–	–	–	6SE3225-2FS45	875x360x483	54 (119)	–	–

\*\*\*) Class A filters may be fitted within the IP56 enclosure

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Standard Drives Subdivision  
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Siemens Aktiengesellschaft

Subject to change without prior notice

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