

CATALOG

MINAS A5 SERVO DRIVES



Most important features

MINAS A5 drivers

- Ultra-high response frequency: 2kHz bandwidth
- Command input and pulse output: up to 4Mpps
- Real-time auto-gain tuning
- 4 notch filters: manual/auto
- 4 damping filters: manual/auto
- PANATERM® V5.0 software upgrade with motion simulation
- STO safety function complies with European standards
- Low interference



MINAS A5E drivers

- High performance (same as MINAS A5 standard drives)
- Multifunctional
- Attractive price-performance ratio
- Designed exclusively for positioning control

MINAS A5 motors

- 20 bits/revolution; 1.04 million pulses per revolution
- Max. speed: 6000rpm
- Low cogging torque
- New design; innovative core; high-precision encoder
- IP67 degree of protection for all MSME-type motors



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Overview

MINAS series	Bandwidth	Max. speed	Incremental encoder resolution	Absolute encoder resolution	Command pulse frequency	Positioning control	Velocity control	Torque control	Network	External encoder interface	Expected availability in Europe
A	500Hz	5000	10,000	131,072	500k/s	x	x	x	RS485	x	until March 2009
S	400Hz	5000	10,000	-	500k/s	x	4 fixed settings	-	-	-	until March 2009
A4	1000Hz	5000	10,000	131,072	500k/s	x	x	x	RS485	x	until Dec. 2011
A4P	1000Hz	5000	10,000	131,072	500k/s	x	x	x	RS485	x	available
A4N	1000Hz	5000	10,000	131,072	500k/s	x	x	x	RTEX	x	until Dec. 2011
E	1000Hz	5000	10,000	-	500k/s	x	4 fixed settings	-	-	-	until Dec. 2011
A5	2000Hz	6000	1,040,000	131,072	4000k/s	x	x	x	RS485	x	available
A5E	2000Hz	6000	1,040,000	-	4000k/s	x	-	-	-	x	available
A5N	2000Hz	6000	1,040,000	131,072	4000k/s	x	x	x	RTEX	x	Summer 2011

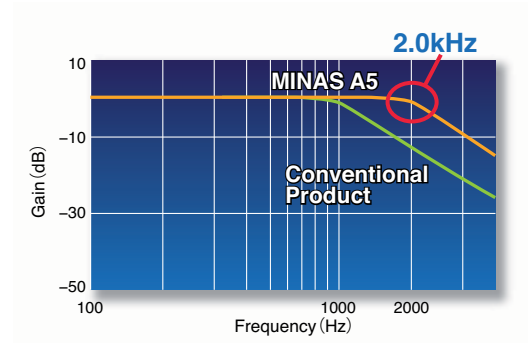


Quick



2kHz response frequency

Achieves 2kHz - the highest response frequency in the industry. In addition to its advanced control functions, the MINAS A5 features an LSI chip architecture that enables ultra-fast system operation. In view of its remarkable speed and superb positioning response, the A5 is suitable for the most demanding systems. Furthermore, its outstanding response times drastically reduce vibration.



20-bit encoder; 1.04 million pulses per revolution

Ensures smoother operation by means of manual/automatic notch filters which significantly reduce vibration at machine stoppage. Enables exceptionally fast and accurate positioning. A new proprietary signal processing technology achieves 1.04 million pulses per revolution with a 20-bit encoder.

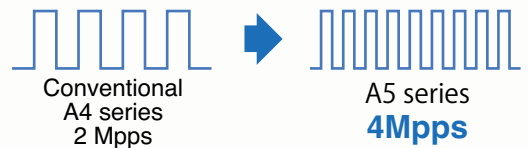
Conventional
A4 series
131,072 p/r
130,000 pulses

A5 series
1,048,576 p/r
[1.04 million pulses]



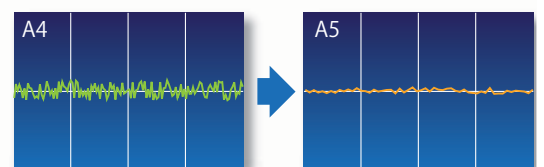
4Mpps input/output pulse

Handles positioning commands via pulse train input - another feature that puts it far ahead of its competitors. Command input and pulse output can both achieve speeds of up to 4Mpps. This enables ultra-fast, high-resolution operation, including the standard full closed control mode.



Low cogging torque

Achieves the industry's most stable speed and lowest cogging torque by minimizing pulse width. This was made possible by a new design featuring a 10-pole rotor for the motor as well as a magnetic field analysis function. With the reduction in torque variation, the MINAS A5's speed, stability, and positioning behavior have been markedly improved.



Vibration reduced to **1/8**

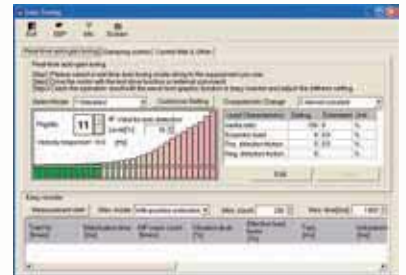


Smart



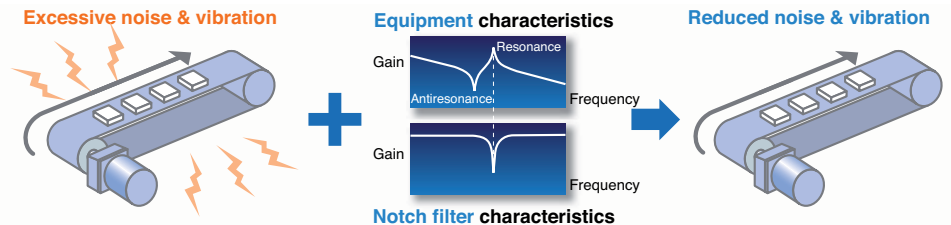
Real-time auto-gain tuning

Incorporates the industry's fastest, high-performance real-time auto-gain tuning system, with a simple setup. After installation, tuning is performed automatically upon completion of several operations. When the response frequency has been adjusted, simple tuning results in a change to a single parameter value, and fine-tuning can be carried out by activating the gain adjustment mode in the setup software. The automatic vibration suppression function minimizes equipment damage. Additional mode and stiffness parameters enable easy response frequency optimization for specific machine types such as vertical axis or high-friction, belt-driven machines.



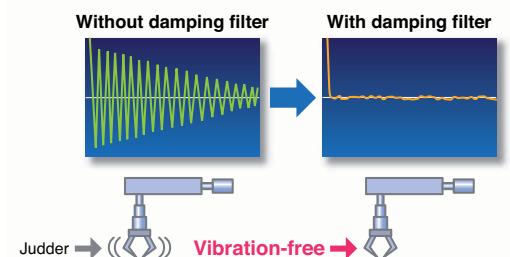
Manual and auto notch filters

Eliminates the need to monitor troublesome vibration frequencies. By automatically detecting vibration and defining a simple auto-gain setting, the MINAS A5's high-response notch filters greatly reduce interference and vibration caused by equipment resonance. For depth adjustment, the A5 features a total of four notch filters - the maximum available in the industry - with a setup frequency range of 50 - 5000Hz. Two of the filters share the auto setup.



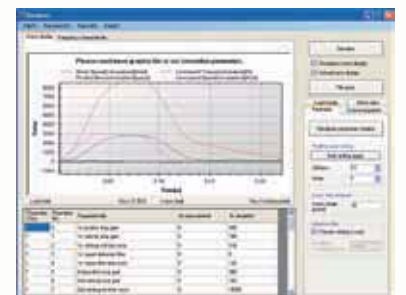
Manual and auto damping filters

Suppresses the natural vibration frequency component of the command input, which greatly reduces axis vibration at machine stoppage. The number of damping filters has been increased to four from the conventional two; of these four, two are for simultaneous use. The available frequency range has been extended significantly from 1 to 200Hz, and the auto setup has been simplified.



Setup software PANATERM® now with motion simulation

Reads response frequency data from the actual machine into a sample general-purpose application. A simplified simulation function allows you to check gain and filter effects without adjusting the actual equipment.





Compact & light

New structure / Innovative core / High-precision encoder
(not featured in the MSMD or MHMD type)

Features a more compact motor that weighs considerably less. Both the large and the compact motor types have been overhauled, and the core has been successfully redesigned and scaled down. The integration of an innovative compact encoder has resulted in a 10% - 25% (1 - 6kg) motor weight reduction in the 1kW-and-larger class compared to conventional motors.



Examples for MSM or MDM motors

Motor type	A4-series	A5-series	Weight reduction
MSM 1kW	4.5kg	3.5kg	1kg
MSM 2kW	6.5kg	5.3kg	1.2kg
MDM 1kW	6.8kg	5.2kg	1.6kg
MDM 2kW	10.6kg	8.0kg	2.6kg



Safe

Complies with European safety standards

Features hardware-based independent redundant circuitry for motor power isolation. This eliminates the need for the magnetic contactors prescribed by European safety standards for low-voltage machine commands. To ensure compliance with the relevant standards, a safety assessment of the entire machine is required.

A5E series drivers are not equipped with safety functionality.

Applicable safety standards

- EN954-1(CAT3)
- ISO13849-1(PL-d)
- EN61508(SIL2)
- EN62061(SIL2)
- EN61800-5-2(STO)
- EC61326-3-1



Low interference

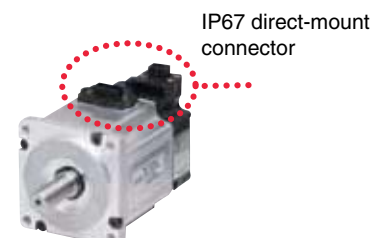
Complies with the applicable European EMC Directive. By incorporating the latest circuit technology, the MINAS A5 achieves a further interference reduction of 3dB compared with the conventional A4 series. The MINAS A4 also features interference suppression and thus also conforms to the EMC Directive.

Sample application: Semiconductor and LCD production equipment, or various types of production machinery for export.



IP67 degree of protection (Not featured in the MSMD, MHMD type)

Features enhanced durability in harsh industrial environments. The MINAS A5's improved motor seals, the direct-mount connectors in the motor power supply, and the encoder input-output areas are contributing factors to this unit's IP67 degree of protection.





Self explanatory and easy, but powerful

PANATERM® setup software (V5.0)

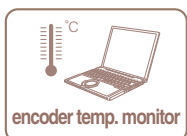
The latest PANATERM® setup software with many added features is available for download at www.panasonic-electric-works.com.



Service life prediction

Monitors the internal temperature of main components such as the fan and condenser. If a temperature exceeds the rated value, an alarm signal is displayed. This prevents unexpected downtimes and facilitates system maintenance planning.

Name	Value	Unit	Status
Power supply on integrated time	106.5	h	
Driver temperature	29	degrees	
Number of times of inruptive resistance	483	times	
Number of times ob DB relay changing	501	times	
Fan operation time	0.0	h	
Fan life time integrated value	0.0	%	
Condenser life time integrated value	0.0	%	
Maker uses	73	-	
Encoder temperature	0	degrees	



Encoder temperature monitor (With 20-bit encoder only)

Measures the encoder temperature in real time - a new feature that was previously difficult to implement. Used to monitor the motor and for diagnostic purposes in the event of a malfunction.



Data logging function

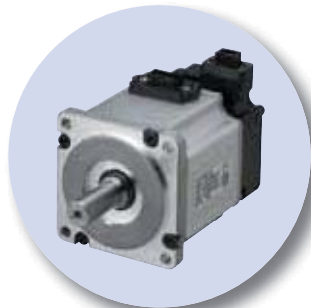
Enables numerical monitoring and graphical representation of a variety of data, and allows you to record this data at intervals of 1, 5, or 10s for analysis.

The data logging function handles a variety of data types.



Rated power	Rated torque [Nm]	Max. torque [Nm]	Rated speed [U/Min.]	Max. speed [U/Min.]	Inertia	Supply voltage	Motor type	Driver
50 W	0.16	0.48	3000	6000	low	240 V AC	MSME5AZ*1*	MADHT1505
100 W	0.32	0.95	3000	6000	low	240 V AC	MSME012*1*	MADHT1505
200 W	0.64	1.91	3000	6000	low	240 V AC	MSME022*1*	MADHT1507
400 W	1.3	3.8	3000	6000	low	240 V AC	MSME042*1*	MBDHT2510
750 W	2.4	7.1	3000	6000	low	240 V AC	MSME082*1*	MCDHT3520
900 W	8.59	19.3	1000	2000	middle	240 V AC	MGME092*1*	MDDHT5540
900 W	8.59	19.3	1000	2000	middle	240 V AC	MGME094*1*	MDDHT3420
1 kW	3.18	9.55	3000	5000	low	240 V AC	MSME102*1*	MDDHT5540
1 kW	3.18	9.55	3000	5000	low	400V 3-phase	MSME104*1*	MDDHT3420
1 kW	4.77	14.3	2000	3000	middle	240 V AC	MDME102*1*	MDDHT3530
1 kW	4.77	14.3	2000	3000	middle	400V 3-phase	MDME104*1*	MDDHT2412
1 kW	4.77	14.3	2000	3000	high	240 V AC	MHME102*1*	MDDHT3530
1 kW	4.77	14.3	2000	3000	high	400V 3-phase	MHME104*1*	MDDHT2412
1.5 kW	4.77	14.3	3000	5000	low	240 V AC	MSME152*1*	MDDHT5540
1.5 kW	4.77	14.3	3000	5000	low	400V 3-phase	MSME154*1*	MDDHT3420
1.5 kW	7.16	21.5	2000	3000	middle	240 V AC	MDME152*1*	MDDHT5540
1.5 kW	7.16	21.5	2000	3000	middle	400V 3-phase	MDME154*1*	MDDHT3420
1.5 kW	7.16	21.5	2000	3000	high	240 V AC	MHME152*1*	MDDHT5540
1.5 kW	7.16	21.5	2000	3000	high	400V 3-phase	MHME154*1*	MDDHT3420
2 kW	6.37	19.1	3000	5000	low	400V 3-phase	MSME204*1*	MEDHT4430
2 kW	9.55	28.6	2000	3000	middle	400V 3-phase	MDME204*1*	MEDHT4430
2 kW	19.1	57.3	1000	2000	middle	400V 3-phase	MGME204*1*	MFDHT5540
2 kW	9.55	28.6	2000	3000	high	400V 3-phase	MHME204*1*	MEDHT4430
3 kW	9.55	28.6	3000	5000	low	400V 3-phase	MSME304*1*	MFDHT5540
3 kW	14.3	43	2000	3000	middle	400V 3-phase	MDME304*1*	MFDHT5540
3 kW	28.7	71.7	1000	2000	middle	400V 3-phase	MGME304*1*	MFDHTA464
3 kW	14.3	43	2000	3000	high	400V 3-phase	MHME304*1*	MFDHT5540
4 kW	12.7	38.2	3000	4500	low	400V 3-phase	MSME404*1*	MFDHTA464
4 kW	19.1	57.3	2000	3000	middle	400V 3-phase	MDME404*1*	MFDHTA464
4 kW	19.1	57.3	2000	3000	high	400V 3-phase	MHME404*1*	MFDHTA464
5 kW	15.9	47.7	3000	4500	low	400V 3-phase	MSME504*1*	MFDHTA464
5 kW	23.9	71.6	2000	3000	middle	400V 3-phase	MDME504*1*	MFDHTA464
5 kW	23.9	71.6	2000	3000	high	400V 3-phase	MHME504*1*	MFDHTA464

MSME motors
50 to 750W
low inertia



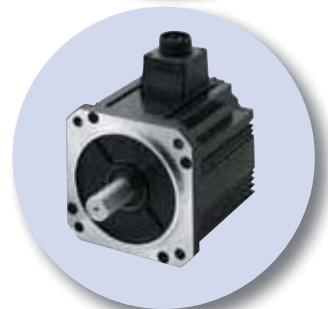
MSME motors
1 to 5 kW



MDME motors
1 to 5 kW
middle inertia
MGME motors
0.9 to 3 kW



MHME motors
1 to 5 kW



Important motor types

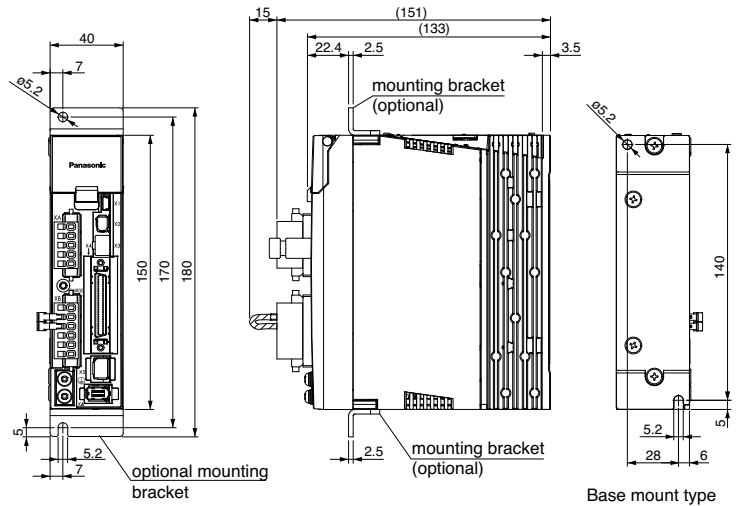
Product number	Motor specification					Oil seal
	Shaft		Holding brake	Encoder		
	round	key		incremental	absolut	
MSME5AZG1A	•			•		
MSME5AZG1U		•		•		•
MSME5AZG1V		•	•	•		•
MSME5AZS1U		•			•	•
MSME5AZS1V		•	•		•	•
MSME012G1C	•			•		•
MSME012G1D	•		•	•		•
MSME012G1U		•		•		•
MSME012G1V		•	•	•		•
MSME012S1U		•			•	•
MSME012S1V		•	•		•	•
MSME022G1C	•			•		•
MSME022G1D	•		•	•		•
MSME022G1U		•		•		•
MSME022G1V		•	•	•		•
MSME022S1U		•			•	•
MSME022S1V		•	•		•	•
MSME042G1C	•			•		•
MSME042G1D	•		•	•		•
MSME042G1U		•		•		•
MSME042G1V		•	•	•		•
MSME042S1U		•			•	•
MSME042S1V		•	•		•	•
MSME082G1C	•			•		•
MSME082G1D	•		•	•		•
MSME082G1U		•		•		•
MSME082G1V		•	•	•		•
MSME082S1U		•			•	•
MSME082S1V		•	•		•	•
MSME102G1G		•		•		•
MSME102G1H		•	•	•		•
MSME104G1G		•		•		•
MSME104G1H		•	•	•		•
MSME152G1G		•		•		•
MSME152G1H		•	•	•		•
MSME154G1G		•		•		•
MSME154G1H		•	•	•		•
MSME204G1G		•		•		•
MSME204G1H		•	•	•		•
MSME304G1G		•		•		•
MSME304G1H		•	•	•		•
MSME404G1G		•		•		•
MSME404G1H		•	•	•		•
MSME504G1G		•		•		•
MSME504G1H		•	•	•		•

Other motor types can be provided from Central European warehouse on request.

All dimensions in mm.

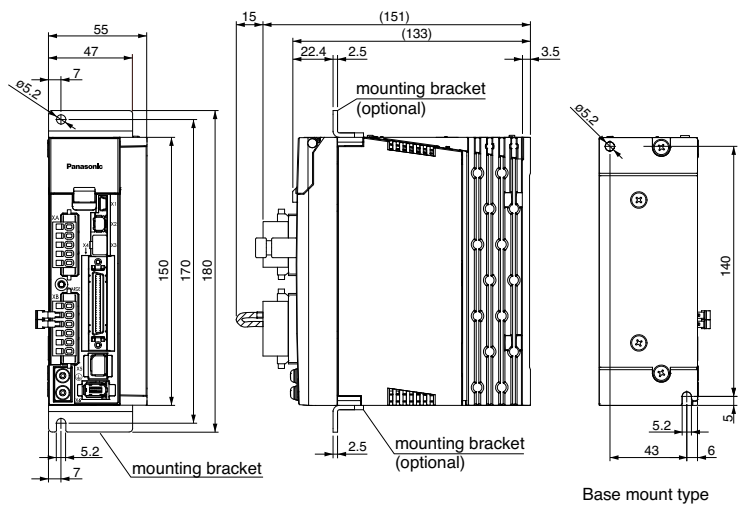
Frame A

Product number	Supply voltage	For motor types	Rated power
MADHT1505	240 V AC	MSME5AZ*1*	50 W
		MSME012*1*	100 W
MADHT1507	240 V AC	MSME022*1*	200 W



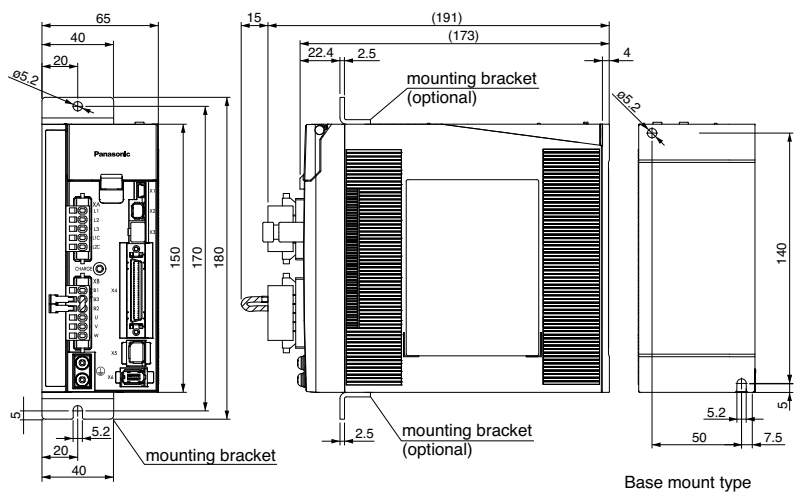
Frame B

Product number	Supply voltage	For motor types	Rated power
MBDHT2510	240 V AC	MSME042*1*	400 W



Frame C

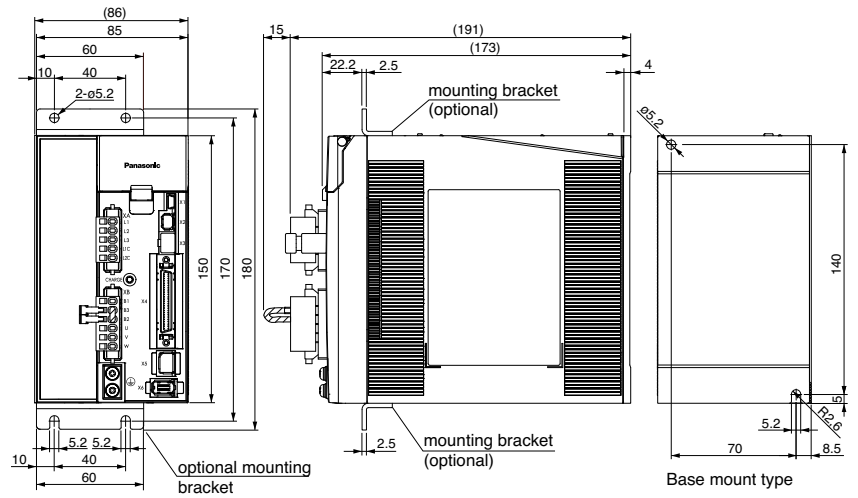
Product number	Supply voltage	For motor types	Rated power
MCDHT3520	240 V AC	MSME082*1*	750 W



All dimensions in mm.

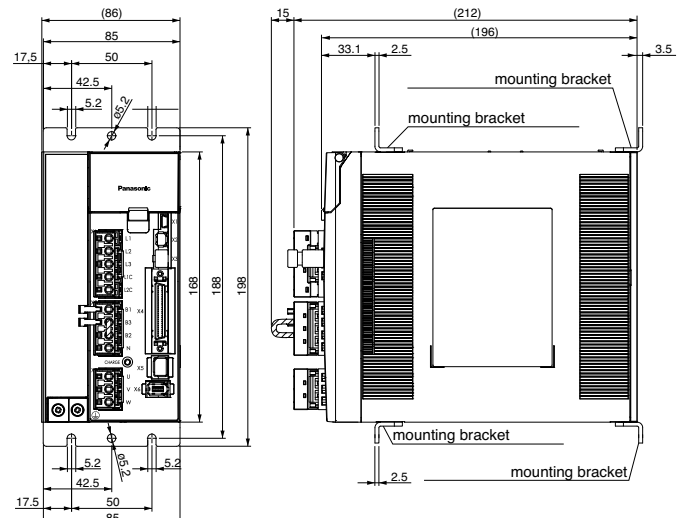
Frame D

Product number	Supply voltage	For motor types	Rated power
MDDHT3530	240V AC	MDME102*1*	1 kW
		MHME102*1*	1 kW
MDDHT5540	240V AC	MGME092*1*	900 W
		MSME102*1*	1 kW
		MSME152*1*	1.5 kW
		MDME152*1*	1.5 kW
MDDHT2412	400V 3-phase	MDME104*1*	1 kW
		MHME104*1*	1 kW
MDDHT3420	400V 3-phase	MGME094*1*	900W
		MSME104*1*	1 kW
		MSME154*1*	1.5 kW
		MDME154*1*	1.5 kW
		MHME154*1*	1.5 kW



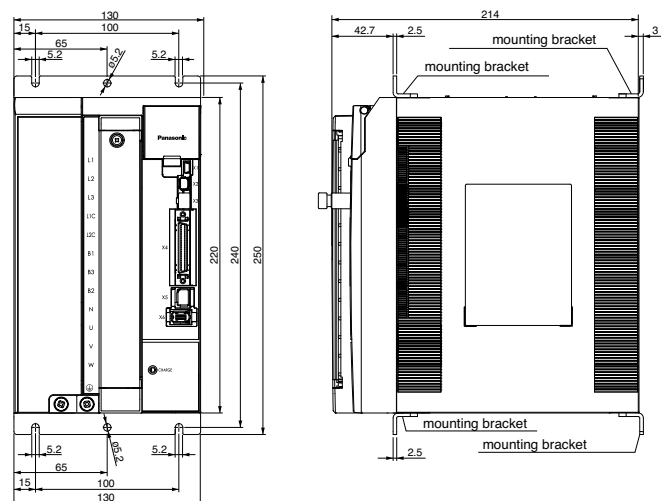
Frame E

Product number	Supply voltage	For motor types	Rated power
MEDHT4430	400V 3-phase	MSME204*1*	2 kW
		MDME204*1*	2 kW
		MHME204*1*	2 kW



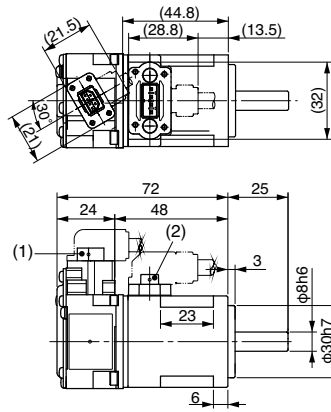
Frame F

Product number	Supply voltage	For motor types	Rated power
MFDHT5540	400V 3-phase	MGME204*1*	2 kW
		MSME304*1*	3 kW
		MDME304*1*	3 kW
		MHME304*1*	3 kW
MFDHTA464	400V 3-phase	MSME404*1*	4 kW
		MSME504*1*	5 kW
		MDME404*1*	4 kW
		MGME304*1*	3 kW
		MHME404*1*	4 kW
		MHME504*1*	5 kW

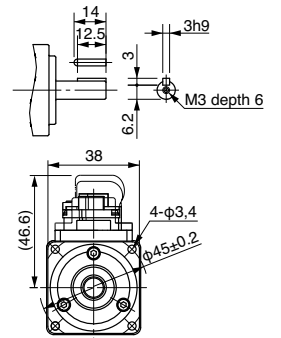


All dimensions in mm.

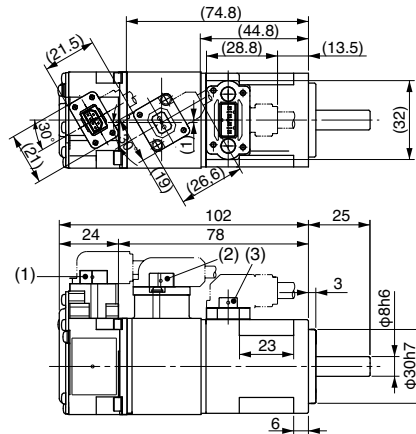
Product number	MSME5AZ*1*
Holding brake	no
Supply voltage	230VAC
Rated power	50 W
Rated torque	0.16 Nm
Inertia	low
Weight	0.32 kg



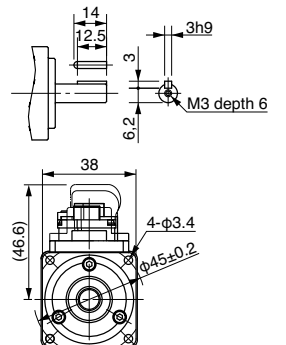
Key way dimensions



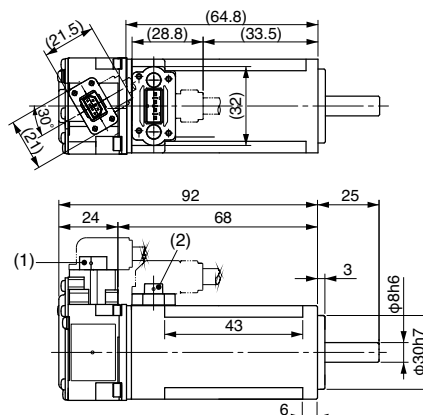
Product number	MSME5AZ*1*
Holding brake	yes
Supply voltage	230VAC
Rated power	50 W
Rated torque	0.16 Nm
Inertia	low
Weight	0.53 kg



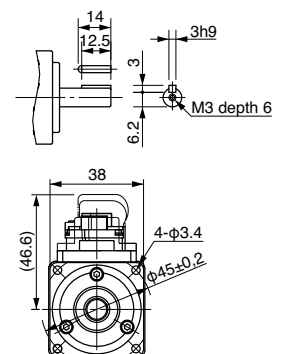
Key way dimensions



Product number	MSME012*1*
Holding brake	no
Supply voltage	230VAC
Rated power	100 W
Rated torque	0.32 Nm
Inertia	low
Weight	0.47 kg

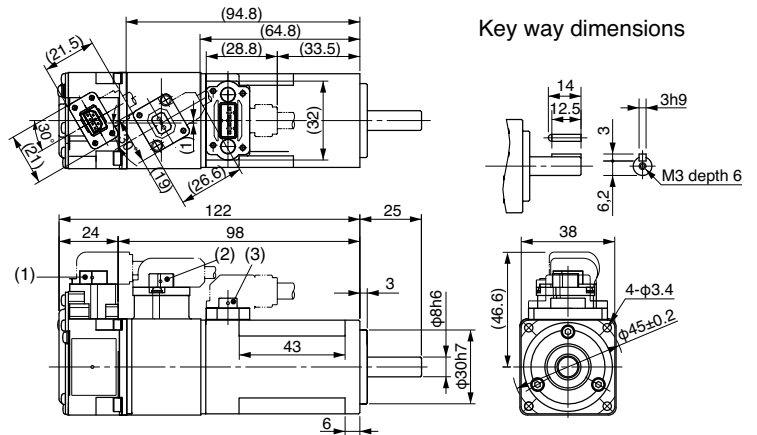


Key way dimensions

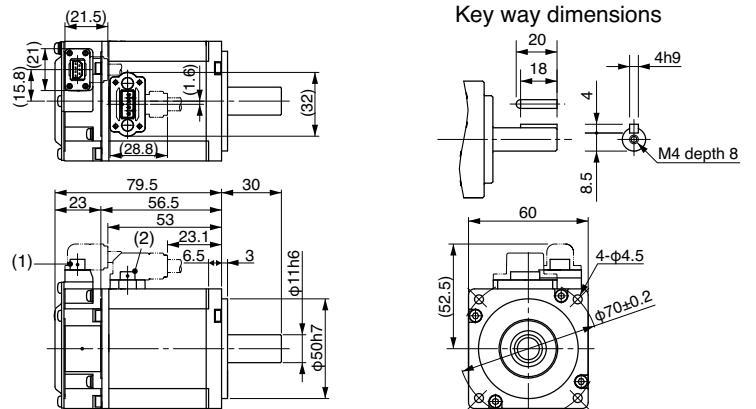


All dimensions in mm.

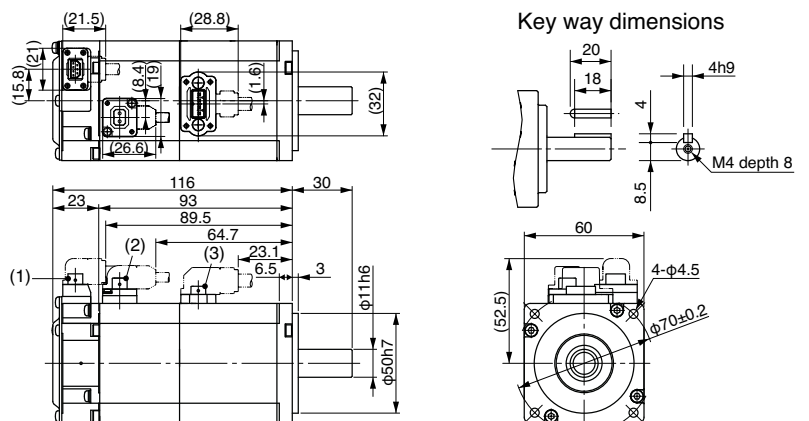
Product number	MSME012*1*
Holding brake	yes
Supply voltage	230VAC
Rated power	100 W
Rated torque	0.32 Nm
Inertia	low
Weight	0.68 kg



Product number	MSME022*1*
Holding brake	no
Supply voltage	230VAC
Rated power	200 W
Rated torque	0.64 Nm
Inertia	low
Weight	0.82 kg

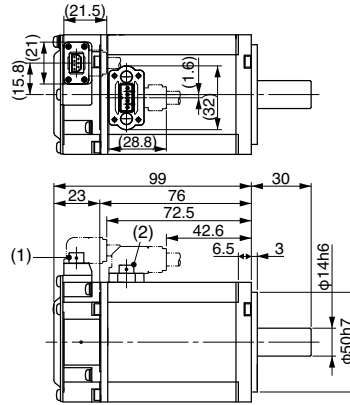


Product number	MSME022*1*
Holding brake	yes
Supply voltage	230VAC
Rated power	200 W
Rated torque	0.64 Nm
Inertia	low
Weight	1.3 kg

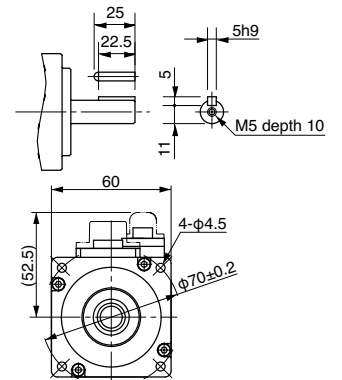


All dimensions in mm.

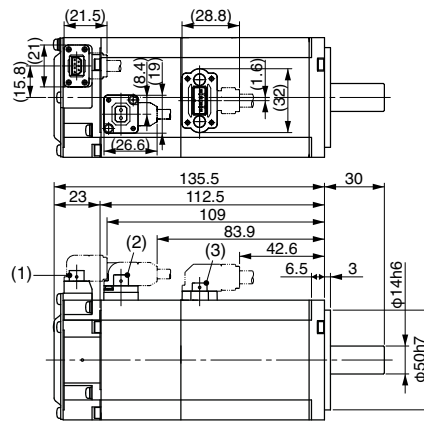
Product number	MSME042*1*
Holding brake	no
Supply voltage	230VAC
Rated power	400 W
Rated torque	1.3 Nm
Inertia	low
Weight	1.2 kg



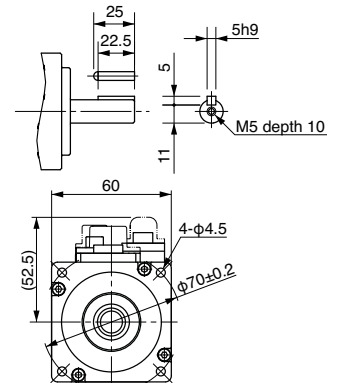
Key way dimensions



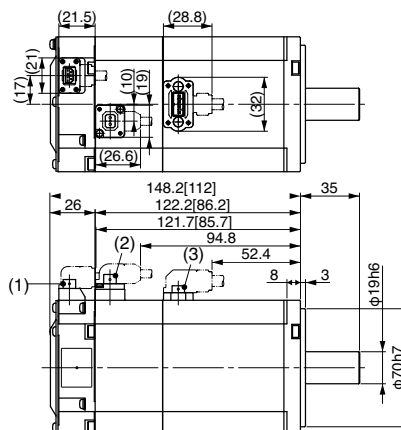
Product number	MSME042*1*
Holding brake	yes
Supply voltage	230VAC
Rated power	400 W
Rated torque	1.3 Nm
Inertia	low
Weight	1.7 kg



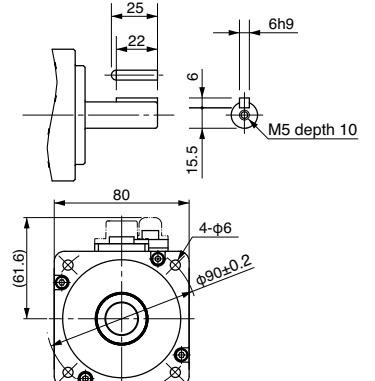
Key way dimensions



Product number	MSME082*1*
Supply voltage	230VAC
Rated power	750 W
Rated torque	2.4 Nm
Inertia	low
Weight	2.3 kg
Weight with holding brake	3.1 kg

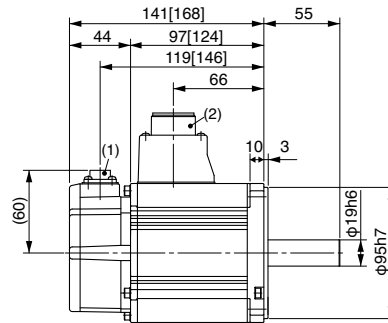


Key way dimensions

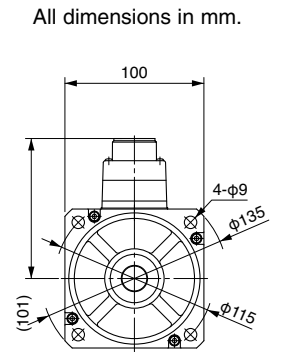


Figures in [] represent the dimensions of motor with brake

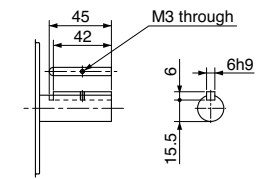
Product number	MSME102*1*	MSME104*1*
Supply voltage	230VAC	400V
Rated power	1 kW	1 kW
Rated torque	3.18 Nm	3.18 Nm
Inertia	low	low
Weight	3.5 kg	3.5 kg
Weight with holding brake	4.5 kg	4.5 kg



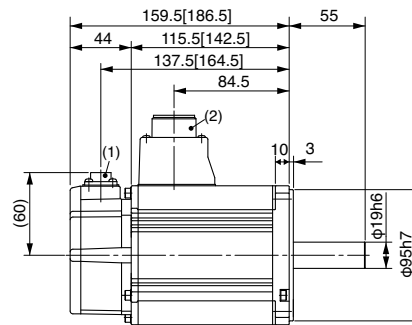
Figures in [] represent the dimensions of motor with brake



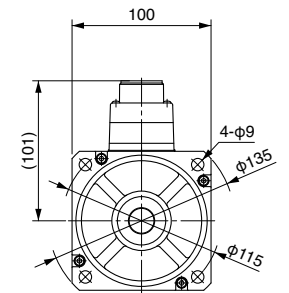
Key way dimensions



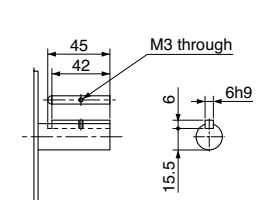
Product number	MSME152*1*	MSME154*1*
Supply voltage	230VAC	400V
Rated power	1.5 kW	1.5 kW
Rated torque	4.77 Nm	4.77 Nm
Inertia	low	low
Weight	4.4 kg	4.4 kg
Weight with holding brake	5.4 kg	5.4 kg



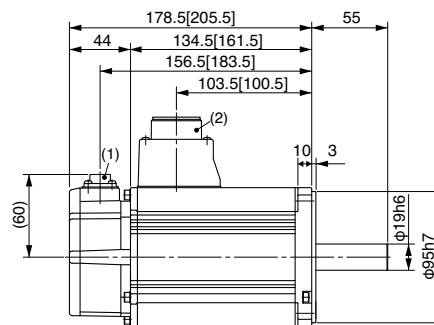
Figures in [] represent the dimensions of motor with brake



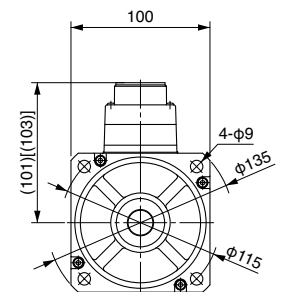
Key way dimensions



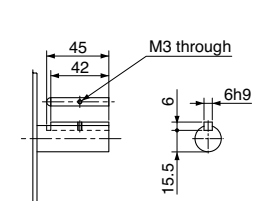
Product number	MSME204*1*
Supply voltage	400V
Rated power	2 kW
Rated torque	6.37 Nm
Inertia	low
Weight	5.3 kg
Weight with holding brake	6.3 kg



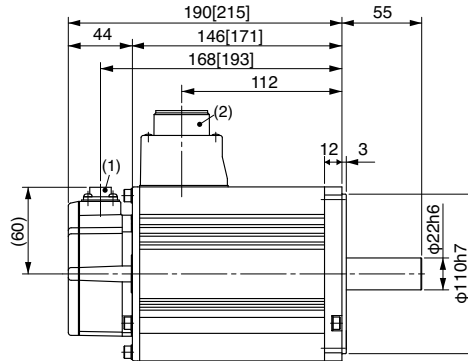
Figures in [] represent the dimensions of motor with brake



Key way dimensions

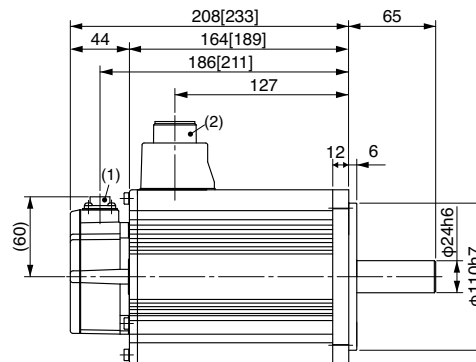


Product number	MSME304*1*
Supply voltage	400V
Rated power	3 kW
Rated torque	9.55 Nm
Inertia	low
Weight	8.3 kg
Weight with holding brake	9.4 kg



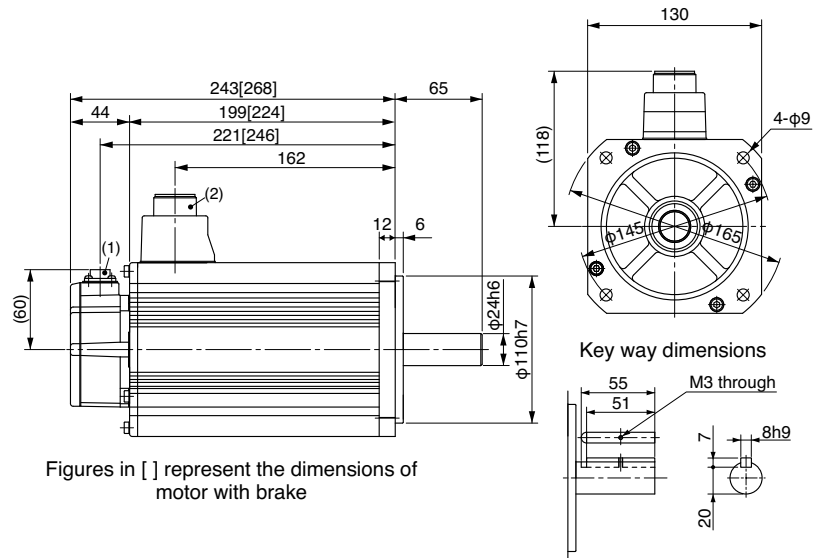
Figures in [] represent the dimensions of motor with brake.

Product number	MSME404*1*
Supply voltage	400V
Rated power	4 kW
Rated torque	12.7 Nm
Inertia	low
Weight	11.0 kg
Weight with holding brake	12.6 kg



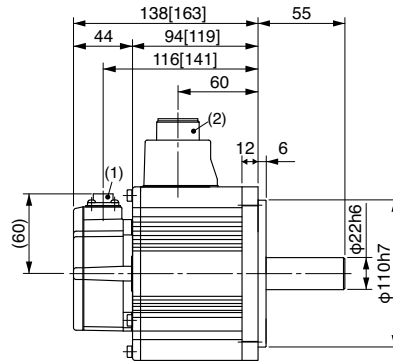
Figures in [] represent the dimensions of motor with brake.

Product number	MSME504*1*
Supply voltage	400V
Rated power	5 kW
Rated torque	15.9 Nm
Inertia	low
Weight	14.0 kg
Weight with holding brake	16.0 kg

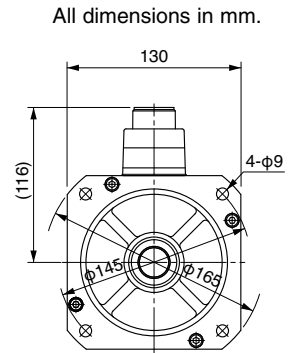


Figures in [] represent the dimensions of motor with brake.

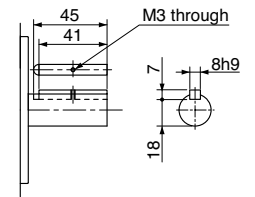
Product number	MDME102*1*	MDME104*1*
Supply voltage	230VAC	400V
Rated power	1 kW	1 kW
Rated torque	4.77 Nm	4.77 Nm
Inertia	middle	middle
Weight	5.2 kg	5.2 kg
Weight with holding brake	6.7 kg	6.7 kg



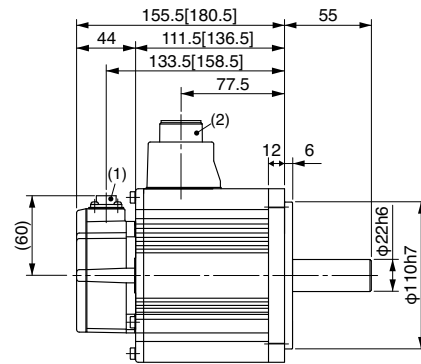
Figures in [] represent the dimensions of motor with brake



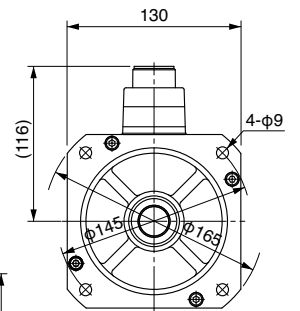
Key way dimensions



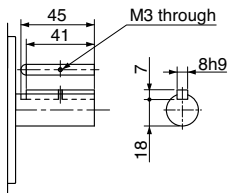
Product number	MDME152*1*	MDME154*1*
Supply voltage	230VAC	400V
Rated power	1.5 kW	1.5 kW
Rated torque	7.16 Nm	7.16 Nm
Inertia	middle	middle
Weight	6.7 kg	6.7 kg
Weight with holding brake	8.2 kg	8.2 kg



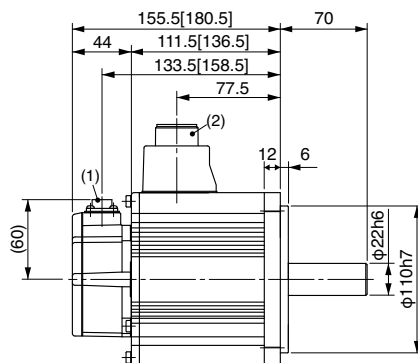
Figures in [] represent the dimensions of motor with brake



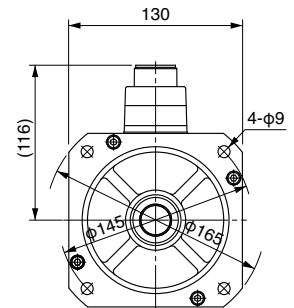
Key way dimensions



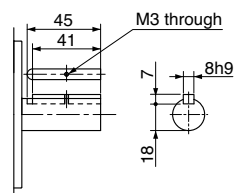
Product number	MGME092*1*	MGME094*1*
Supply voltage	230VAC	400V
Rated power	900 W	900 W
Rated torque	8.59 Nm	8.59 Nm
Inertia	middle	middle
Weight	6.7 kg	6.7 kg
Weight with holding brake	8.2 kg	8.2 kg



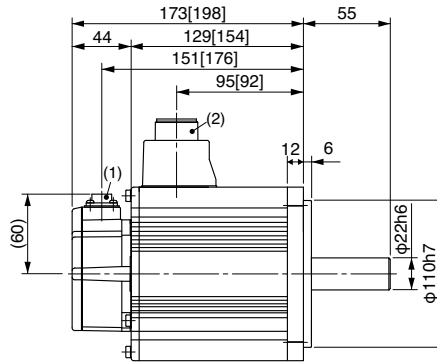
Figures in [] represent the dimensions of motor with brake



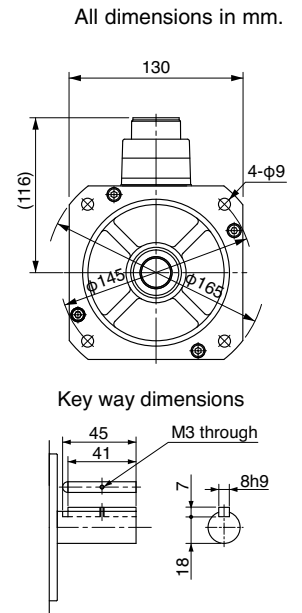
Key way dimensions



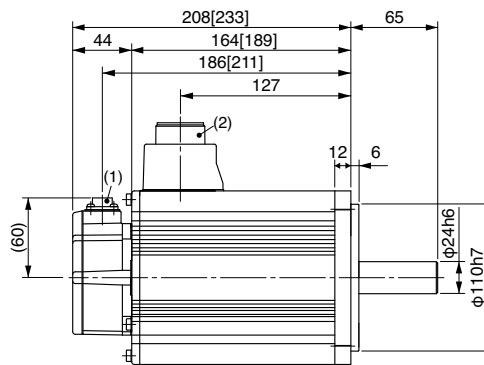
Product number	MDME204*1*
Supply voltage	400V
Rated power	2 kW
Rated torque	9.55 Nm
Inertia	middle
Weight	8.0 kg
Weight with holding brake	9.5 kg



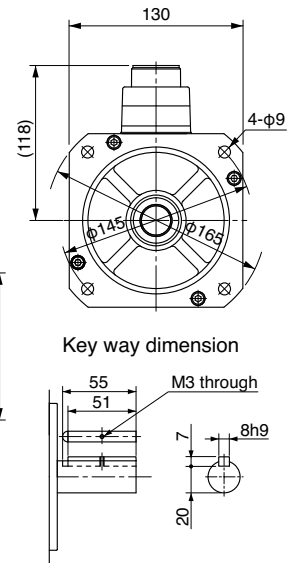
Figures in [] represent the dimensions of motor with brake



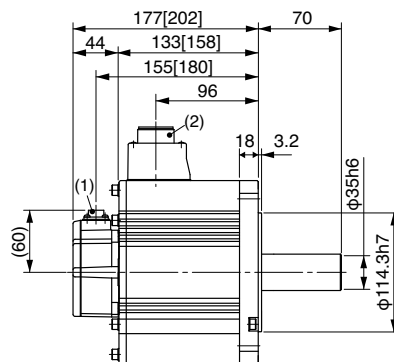
Product number	MDME304*1*
Supply voltage	400V
Rated power	3 kW
Rated torque	14.3 Nm
Inertia	middle
Weight	11.0 kg
Weight with holding brake	12.6 kg



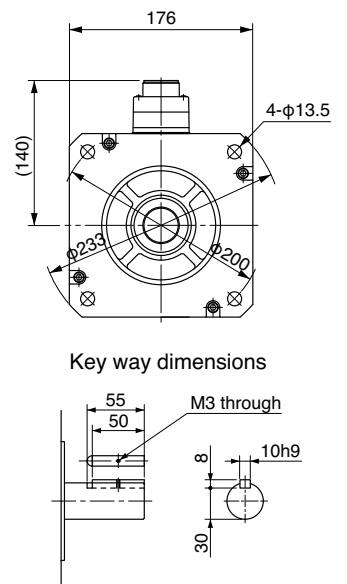
Figures in [] represent the dimensions of motor with brake



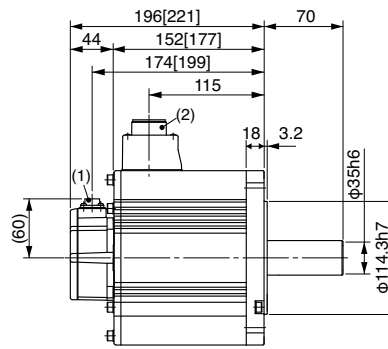
Product number	MDME404*1*
Supply voltage	400V
Rated power	4 kW
Rated torque	19.1 Nm
Inertia	middle
Weight	15.5 kg
Weight with holding brake	18.7 kg



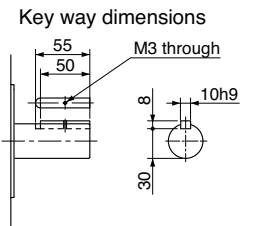
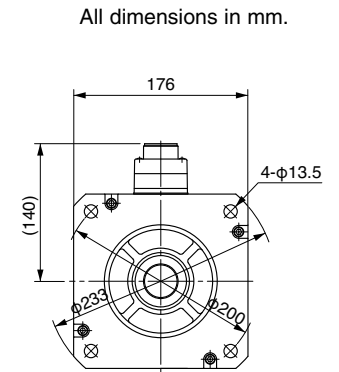
Figures in [] represent the dimensions of motor with brake



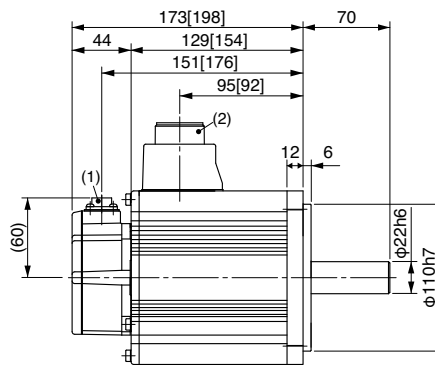
Product number	MDME504*1*
Supply voltage	400V
Rated power	5 kW
Rated torque	23.9 Nm
Inertia	middle
Weight	18.6 kg
Weight with holding brake	21.8 kg



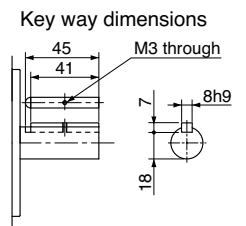
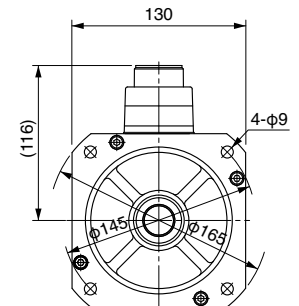
Figures in [] represent the dimensions of motor with brake



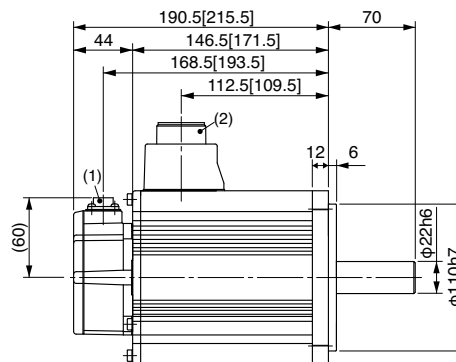
Product number	MHME102*1*	MHME104*1*
Supply voltage	230VAC	400V
Rated power	1 kW	1 kW
Rated torque	4.77 Nm	4.77 Nm
Inertia	high	high
Weight	6.7 kg	6.7 kg
Weight with holding brake	8.1 kg	8.1 kg



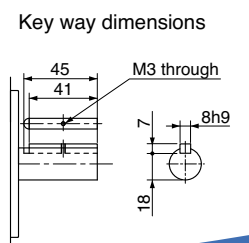
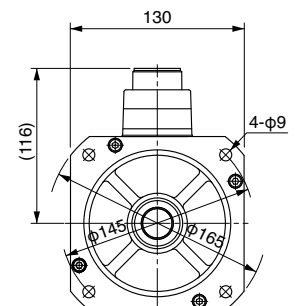
Figures in [] represent the dimensions of motor with brake



Product number	MHME152*1*	MHME154*1*
Supply voltage	230VAC	400V
Rated power	1.5 kW	1.5 kW
Rated torque	7.16 Nm	7.16 Nm
Inertia	high	high
Weight	8.6 kg	8.6 kg
Weight with holding brake	10.1 kg	10.1 kg

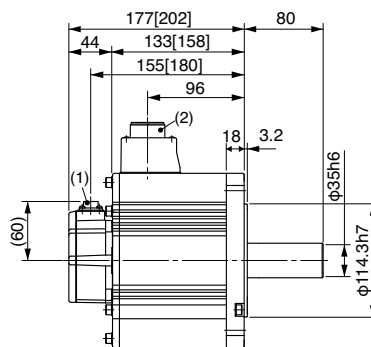


Figures in [] represent the dimensions of motor with brake

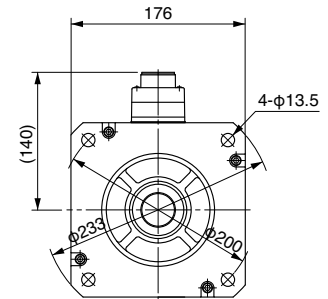


All dimensions in mm.

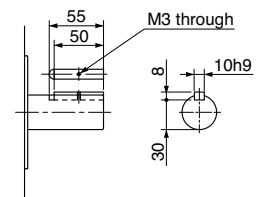
Product number	MHME204*1*
Supply voltage	400V
Rated power	2 kW
Rated torque	9.55 Nm
Inertia	high
Weight	12.2 kg
Weight with holding brake	15.5 kg



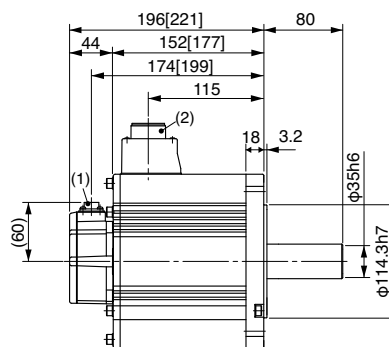
Figures in [] represent the dimensions of motor with brake



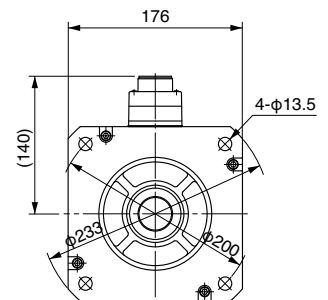
Key way dimensions



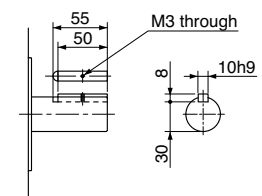
Product number	MHME304*1*
Supply voltage	400V
Rated power	3 kW
Rated torque	14.3 Nm
Inertia	high
Weight	16.0 kg
Weight with holding brake	19.2 kg



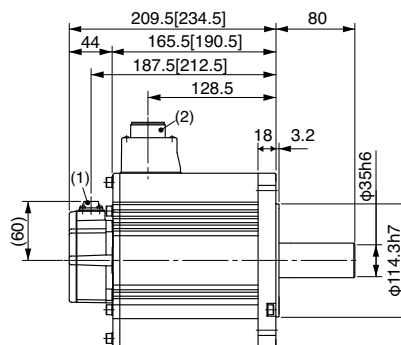
Figures in [] represent the dimensions of motor with brake



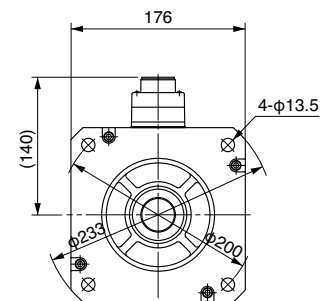
Key way dimensions



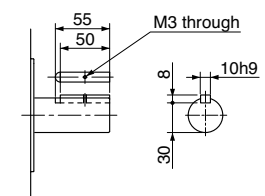
Product number	MHME404*1*
Supply voltage	400V
Rated power	4 kW
Rated torque	19.1 Nm
Inertia	high
Weight	18.6 kg
Weight with holding brake	21.8 kg



Figures in [] represent the dimensions of motor with brake

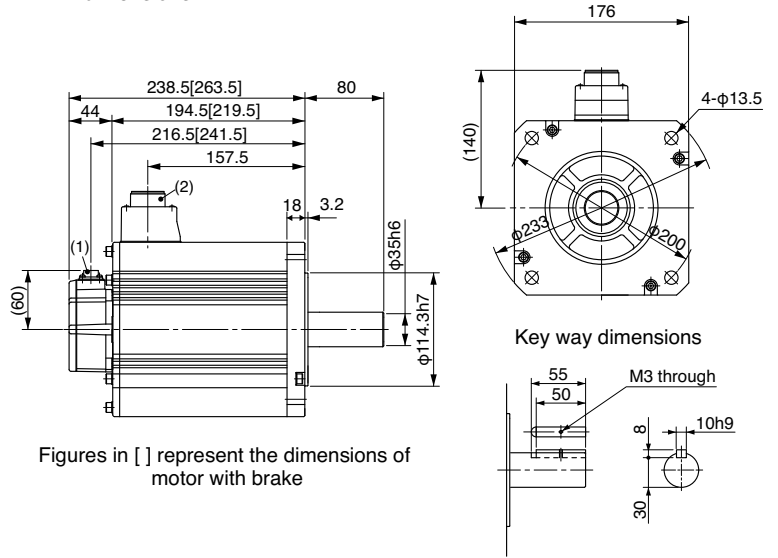


Key way dimensions



All dimensions in mm.

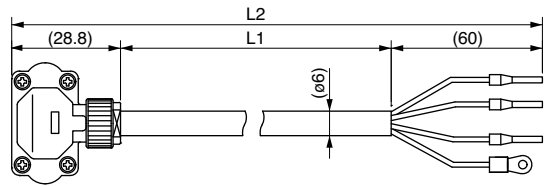
Product number	MHME504*1*
Supply voltage	400V
Rated power	5 kW
Rated torque	23.9 Nm
Inertia	high
Weight	23.0 kg
Weight with holding brake	26.2 kg



Motor cables

MSME motors 50 to 750W

Product number	Length L1
MFMCA0010WJD	1 m
MFMCA0020WJD	2 m
MFMCA0030WJD	3 m
MFMCA0050WJD	5 m
MFMCA0100WJD	10 m
MFMCA0200WJD	20 m



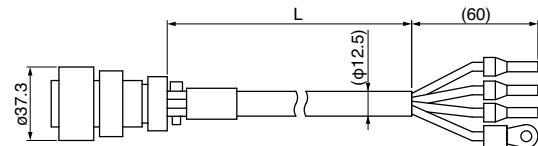
MSME motors 1 to 2kW

MDME motors 1 to 2kW

MGME motors 900W

MHME motors 1 to 1.5kW

Product number	Length L
MFMCD0032GCD	3 m
MFMCD0052GCD	5 m
MFMCD0102GCD	10 m
MFMCD0202GCD	20 m



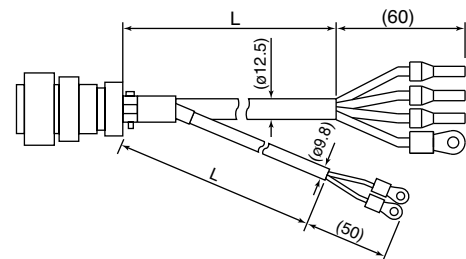
MSME motors 1 to 2kW with brake

MDME motors 1 to 2kW 200V with brake

MGME motors 900W with brake

MHME motors 1 to 1.5kW 200V with brake

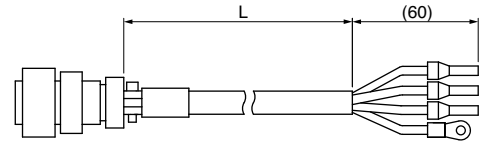
Product number	Length L
MFMCA0032HCD	3 m
MFMCA0052HCD	5 m
MFMCA0102HCD	10 m
MFMCA0202HCD	20 m



All dimensions in mm.

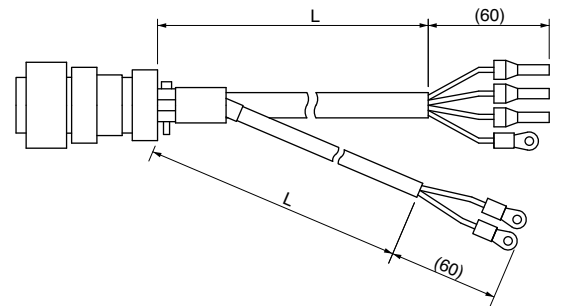
MHME motors 2kW

Product number	Length
MFMCCE0032GCD	3 m
MFMCCE0052GCD	5 m
MFMCCE0102GCD	10 m
MFMCCE0202GCD	20 m



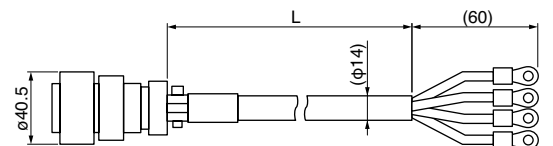
MSME motors 1 to 2kW 400V with brake MDME motors 1 to 2kW 400V with brake MGME motors 900W 400V with brake MHME motors 1 to 2kW 400V with brake

Product number	Length
MFMCCE0032HCD	3 m
MFMCCE0052HCD	5 m
MFMCCE0102HCD	10 m
MFMCCE0202HCD	20 m



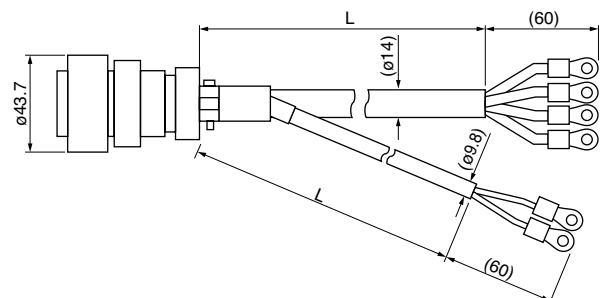
MSME motors 3 to 5kW MDME motors 3 to 5kW MGME motors 2 to 3kW MHME motors 3 to 5kW

Product number	Length
MFMCA0032GCT	3 m
MFMCA0052GCT	5 m
MFMCA0102GCT	10 m
MFMCA0202GCT	20 m



MSME motors 3 to 5kW with brake MDME motors 3 to 5kW with brake MGME motors 2 to 3kW with brake MHME motors 3 to 5kW with brake

Product number	Length
MFMCA0032HCT	3 m
MFMCA0052HCT	5 m
MFMCA0102HCT	10 m
MFMCA0202HCT	20 m

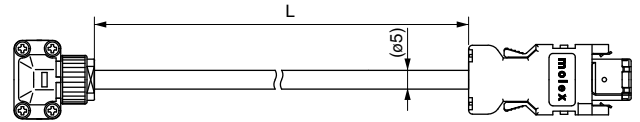


Encoder cables

All dimensions in mm.

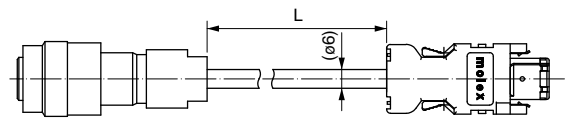
**For MSME motors 50 to 750W
with 20-bit incremental encoder**

Product number	Length
MFECA0010WJD	1 m
MFECA0020WJD	2 m
MFECA0030WJD	3 m
MFECA0050WJD	5 m
MFECA0100WJD	10 m
MFECA0200WJD	20 m



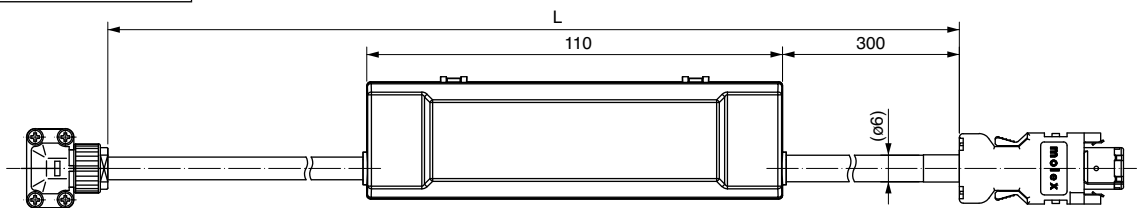
**For MSME, MDME, MGME and MHME motors
900W to 5kW with 20-bit incremental encoder**

Product number	Length
MFECA0030GTD	3 m
MFECA0050GTD	5 m
MFECA0100GTD	10 m
MFECA0200GTD	20 m



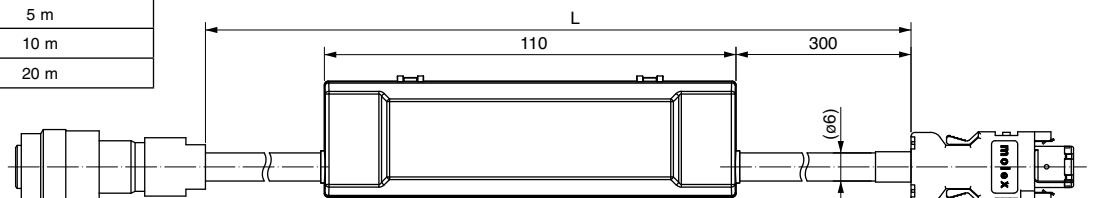
**For MSME motors 50 to 750W with 17-bit absolute
encoder with battery box**

Product number	Length
MFECA0030GJE	3 m
MFECA0050GJE	5 m
MFECA0100GJE	10 m
MFECA0200GJE	20 m



**For MSME, MDME, MGME and MHME motors
900W to 5kW with 17-bit absolute encoder with battery box**

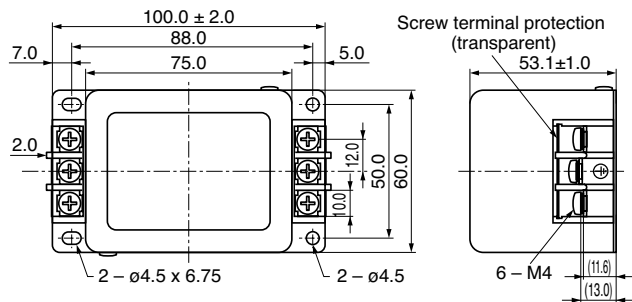
Product number	Length
MFECA0030GTE	3 m
MFECA0050GTE	5 m
MFECA0100GTE	10 m
MFECA0200GTE	20 m



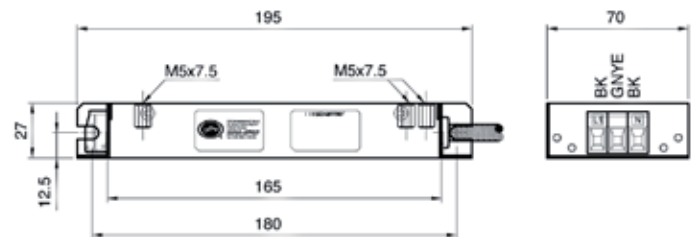
Product number	Description	Suitable for driver type	Rated power
DV0P4170	Single phase 230V	Frame A and B 230V	50W to 400W
FS2138607	Single phase 230V	Frame A, B and C 230V	50W to 750W
DV0P4220	Single phase 230V	Frame D 230V	1kW to 1.5 kW
FN258L-16-07*	3-phase 400V	Frame D and E 400V	1kW to 2kW
FN258L-30-07*	3-phase 400V	Frame F 400V	3kW to 5kW

*see also page 25

Filter DV0P4170

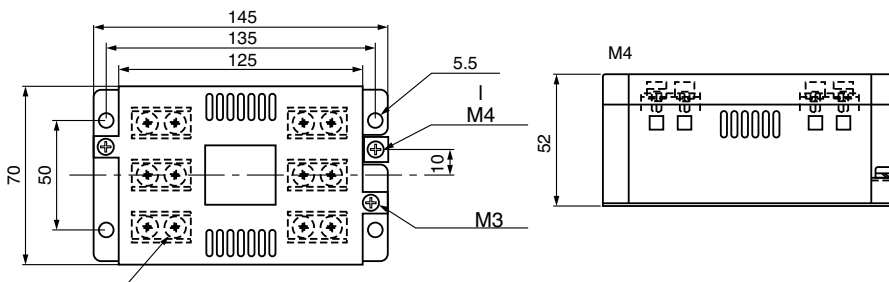


Filter FS2138607



All dimensions in mm.

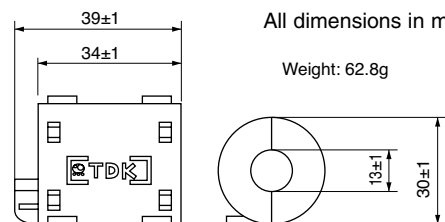
Filter DV0P4220



All dimensions in mm.

Other accessories

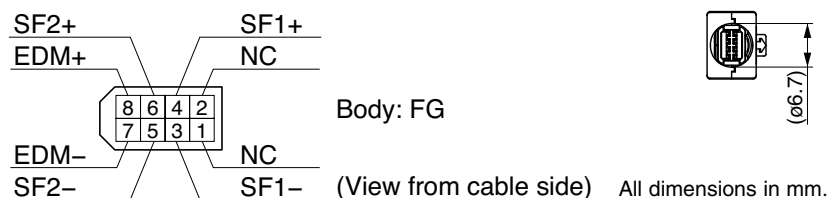
Product number	Description
DV0P1460	Noise filter for signal lines



All dimensions in mm.

Weight: 62.8g

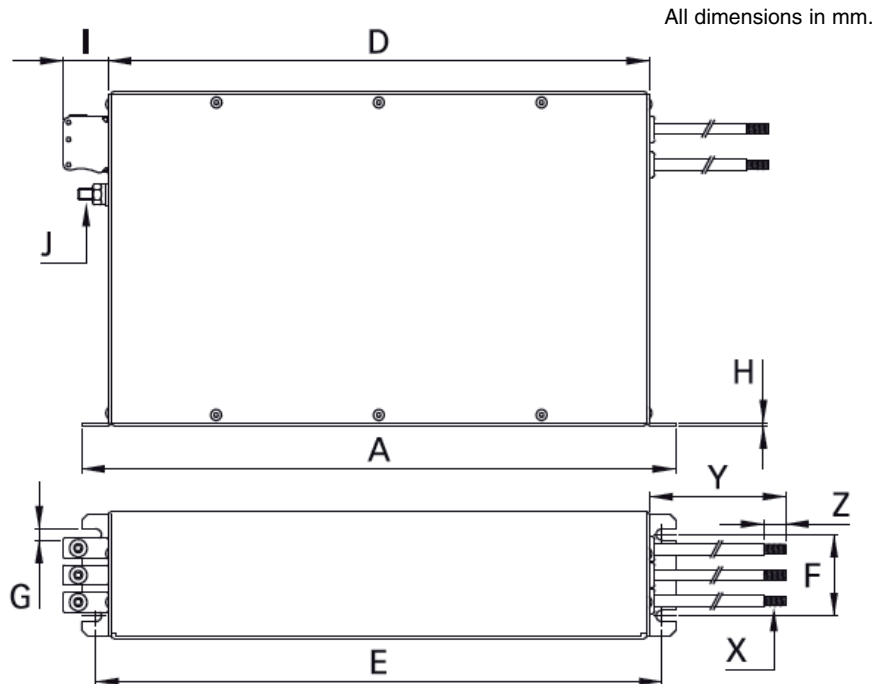
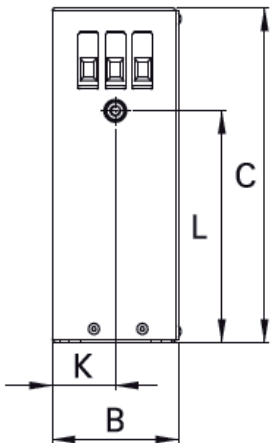
Product number	Description
DV0PM20025	Connector kit for safety – inputs (X3)



Filter 400V 3-phase

Product number	Description	Rated power	Suitable for driver type
FN258L-16-07	3-phase 400V	1 to 2kW	MDDHT and MEDHT* 400V
FN258L-30-07	3-phase 400V	3 to 5kW	MFDHT* 400V

Dimensions	FN258-16-07	FN258-30-07
	16A	30A
A	305	335
B	55	60
C	142	150
D	275	305
E	290	320
F	30	35
G	6.5	6.5
H	1	1
I	10.9	25
J	M5	M5
K	27.5	30
L	100	110
X*	AWG 14	AWG 10
Y*	30 ± 10	400 ± 10
Z*	9	9



All dimensions in mm.

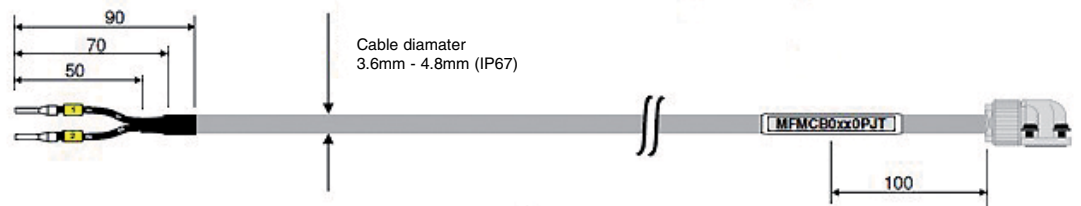
Brake resistors

Driver	Rated power	Product number	Resistance	Weight	Dimensions
			Ohm	kg	mm
MADHT 230V	50 to 100W	BWD250100	100	0.28	110x80x15
MADHT 230V	200W	BWD250072	72	0.28	110x80x15
MBDHT 230V	400W	BWD250072	72	0.28	110x80x15
MCDHT 230V	750W	BWD250072	72	0.28	110x80x15
MDDHT 230V	1 to 1.5kW	BWD500035	35	0.55	216x80x15
MDDHT 400V	1 to 1.5kW	BWD500150	150	0.55	216x80x15
MEDHT 400V	2kW	BWD500100	100	0.55	216x80x15
MFDHT 400V	3 to 5kW	BWD600047	47	1.05	216x80x30



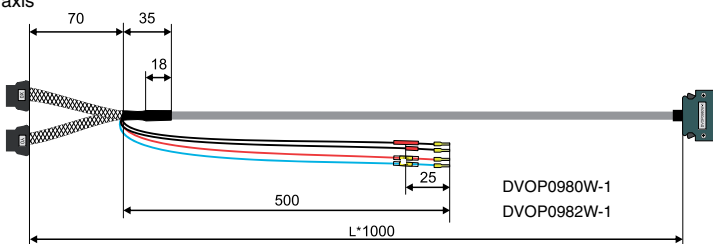
Brake cables

Product number	Length
MFMCB0010PJT	1m
MFMCB0020PJT	2m
MFMCB0030PJT	3m
MFMCB0050PJT	5m
MFMCB0100PJT	10m



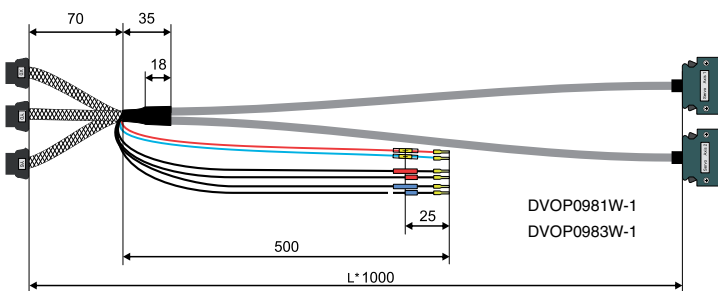
Direct connection to FP-series PLCs

For 1 axis



DVOP0980W-1 FPΣ(Sigma), NPN-types
DVOP0982W-1 FPΣ(Sigma), PNP-types

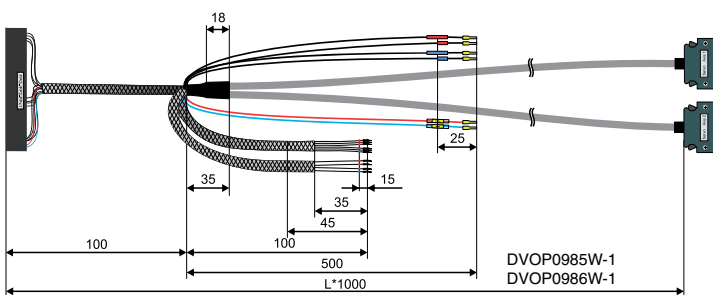
For 2 axes



DVOP0981W-1 FPΣ(Sigma), NPN types
DVOP0983W-1 FPΣ(Sigma), PNP types

For FPΣ (Sigma) / FP2 positioning modules

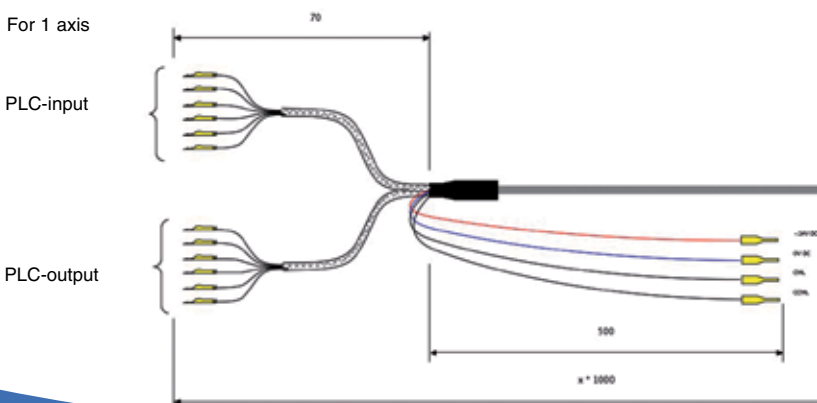
For 2 axes



DVOP0985W-1 FPΣ(Sigma)/FP2
Positioning unit (Transistor), 2 axes
DVOP0986W-1 FPΣ(Sigma)/FP2
Positioning unit (Line Driver), 2 axes

Interface cables for FP-series PLCs

For 1 axis



DVOP0988W-1 FPΣ(Sigma)/FP0R, PNP types
DVOP0989W-1 FPΣ(Sigma)/FP0R, NPN types

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ACD components

Components such as Eco POWER meters, timers/counters, temperature controllers, limit switches and fans round off our wide factory automation product range.



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Programmable controllers from Panasonic represent "control advantages" that pay for themselves right from the start.



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