



*“ Part of your drive ”*

**SERVO MOTORS & DRIVES**  
STOCK CATALOGUE  
EDITION 01



**Panasonic**

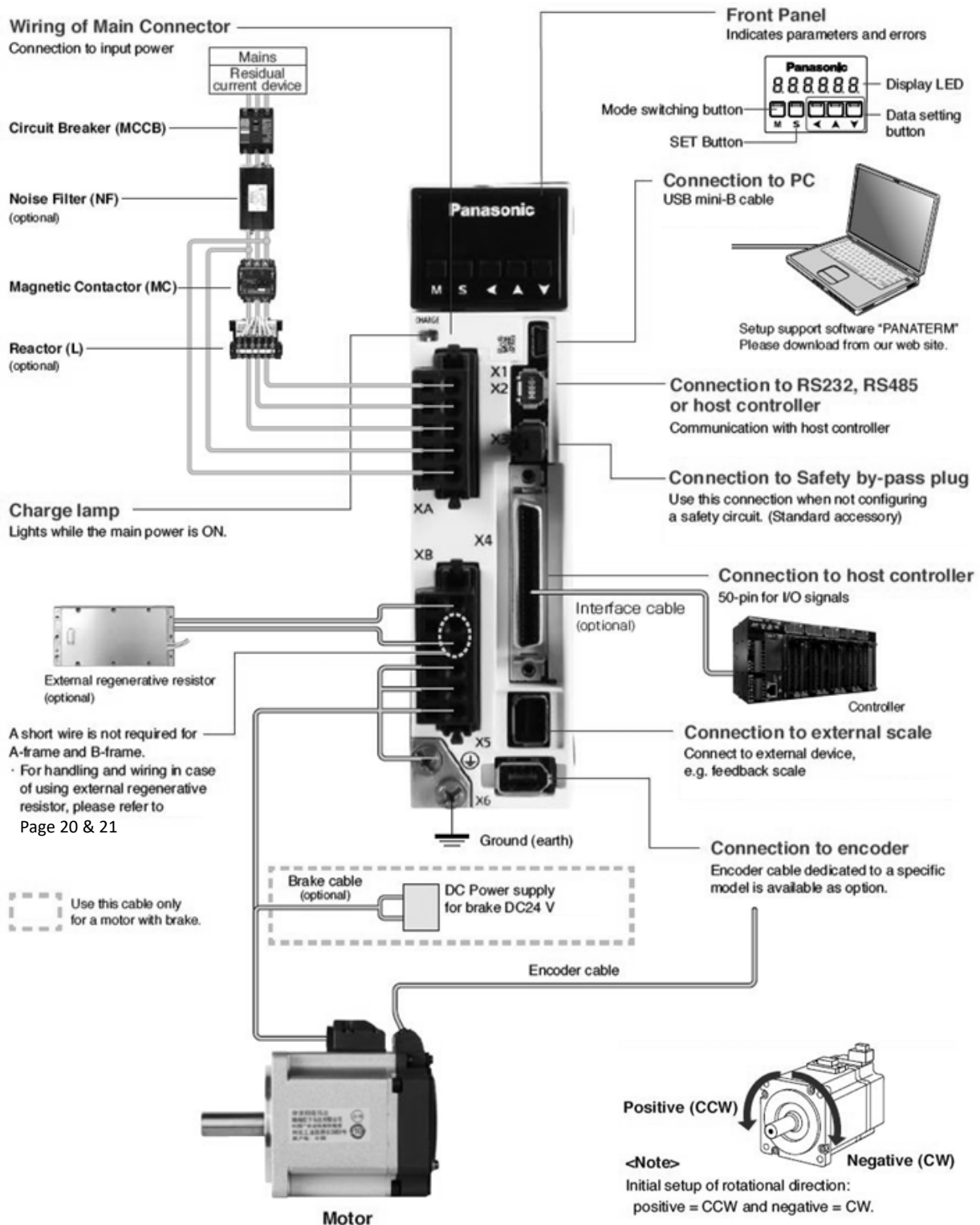
[www.wmh-trans.co.uk](http://www.wmh-trans.co.uk)  
[sales@wmh-trans.co.uk](mailto:sales@wmh-trans.co.uk)

**TEL: 01827 288 122**  
**FAX: 01827 253 390**



# Servo Drive Kit Layout

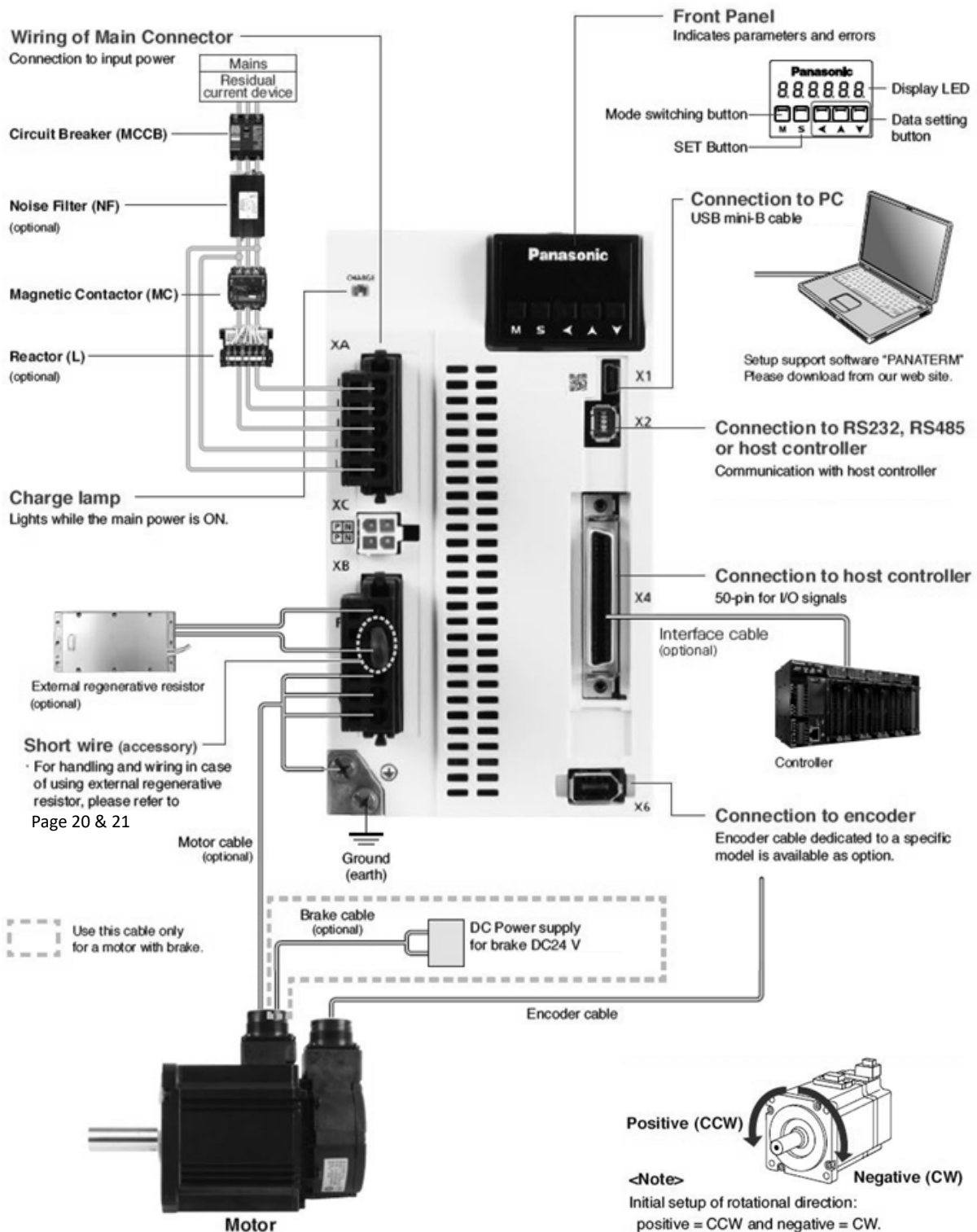
## Frame A, B & C – 200V





# Servo Drive Kit Layout

## Frame D, E & F – 200V

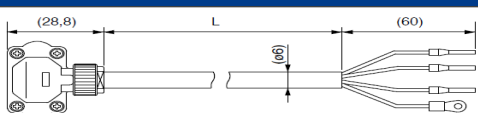
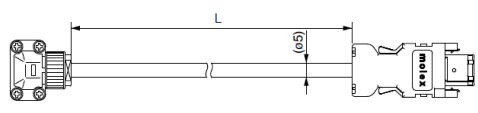
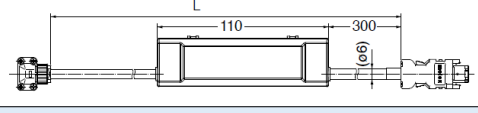
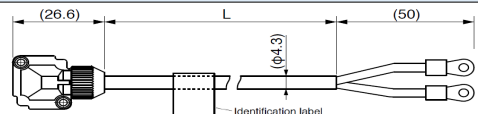






# Servo Motor Kit – 50 W

## Panasonic Minas A6 Series – 23 Bit – 200V

Applicable Motor Kits	Description		Part Number	Product Details
All Kits	Motor Cable	3 Metre	MFMCA0030WJD	 Orange Cable Colour
		5 Metre	MFMCA0050WJD	
		10 Metre	MFMCA0100WJD	
	A-Frame Driver 200V	MADLT05BF		EtherCat – S.T.O – 200~240V (+10% -15%) 50/60Hz
	Programming Cable	CABMINIUSB5D		USB A – Mini USB x 1.8m
	Ferrite Noise Filter	DV0P1460		
	Substructure Filter		FS21238607	250V AC – For Single Phase Supply Only
Incremental Only	Encoder Cable	3 Metre	MFECA0030WJD	 Green Cable Colour
		5 Metre	MFECA0050WJD	
		10 Metre	MFECA0100WJD	
Absolute Only	Encoder Cable	3 Metre	MFECA0030GJE	 Black Cable Colour
		5 Metre	MFECA0050GJE	
		10 Metre	MFECA0100GJE	
	Encoder Battery (Li)	SB-A11P		
With Brake (Abs. or Inc.)	Brake Cable	3 Metre	MFMCB0030PJT	 Black Cable Colour
		5 Metre	MFMCB0050PJT	
		10 Metre	MFMCB0100PJT	
	100Ω Brake Resistor	BWD250100		
	24V Power Supply		999-200-012	UK Plug 0.5 Ah Lead Acid

Kit Part Number	Positioning		Cable Length (m)			Brake		Shaft Key	
	Abs	Inc	3	5	10	Yes	No	Yes	No
P50W-23-EA-3M-BK	X		X			X		X	
P50W-23-EA-3M-B	X		X			X			X
P50W-23-EA-3M-K	X		X				X	X	
P50W-23-EA-3M	X		X				X		X
P50W-23-EI-3M-BK		X	X			X		X	
P50W-23-EI-3M-B		X	X			X			X
P50W-23-EI-3M-K		X	X				X	X	
P50W-23-EI-3M		X	X				X		X
P50W-23-EA-5M-BK	X			X		X		X	
P50W-23-EA-5M-B	X			X		X			X
P50W-23-EA-5M-K	X			X			X	X	
P50W-23-EA-5M	X			X			X		X
P50W-23-EI-5M-BK		X		X		X		X	
P50W-23-EI-5M-B		X		X		X			X
P50W-23-EI-5M-K		X		X			X	X	
P50W-23-EI-5M		X		X			X		X
P50W-23-EA-10M-BK	X				X	X		X	
P50W-23-EA-10M-B	X				X	X			X
P50W-23-EA-10M-K	X				X		X	X	
P50W-23-EA-10M	X				X		X		X
P50W-23-EI-10M-BK		X			X	X		X	
P50W-23-EI-10M-B		X			X	X			X
P50W-23-EI-10M-K		X			X		X	X	
P50W-23-EI-10M		X			X		X		X



# Servo Motor Kit – 100 W

## Panasonic Minas A6 Series – 23 Bit – 200V

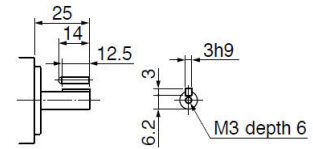
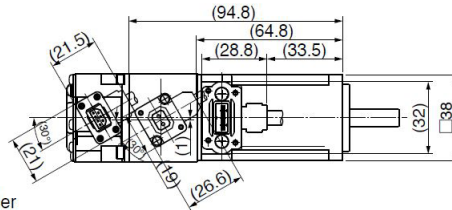
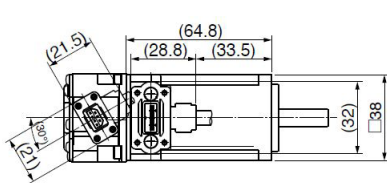
<without brake>

Mass: 0.68 kg

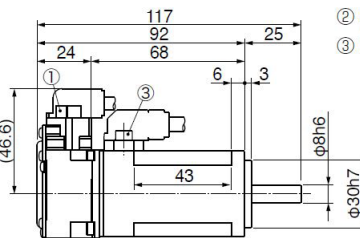
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Mass: 0.47 kg

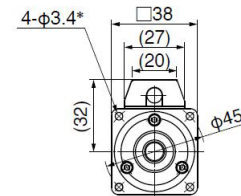
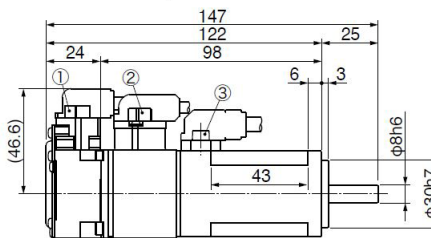
Key way dimensions



[Unit: mm]



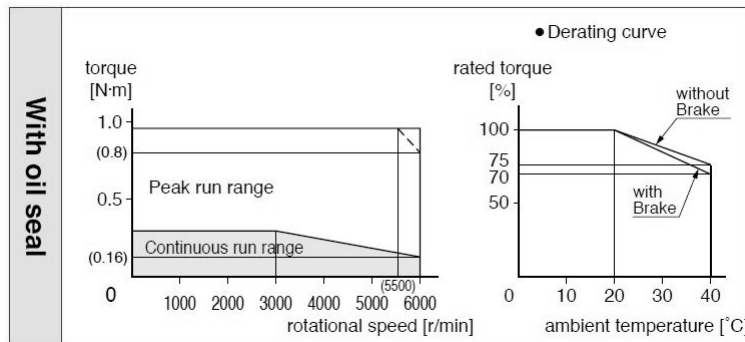
- ① Encoder
- ② Brake
- ③ Motor



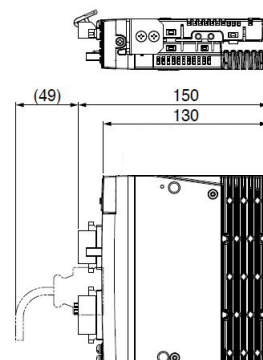
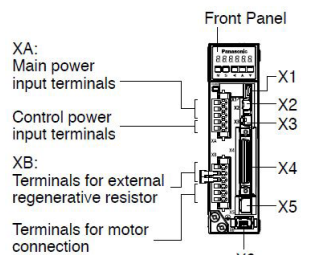
Motor Model	Brake		Shaft Key	
	Yes	No	Yes	No
MSMF012L1V1	X		X	
MSMF012L1D1	X			X
MSMF012L1U1		X	X	
MSMF012L1C1		X		X

Motor Parameter	Value
Rated Output Power (W)	100
Rated Output Torque (Nm)	0.32
Continuous Stall Torque (Nm)	0.32
Momentary Peak Torque (Nm)	0.95
Power Supply Capacity (kVa)	0.5
Rated Current (A rms)	1.1
Maximum Current (A 0-p)	4.7
Rated Output Speed (rpm)	3000
Maximum Output Speed (rpm)	6000
Inertia w/ Brake (x10 <sup>4</sup> kg.m <sup>2</sup> )	0.051
Inertia w/o Brake (x10 <sup>4</sup> kg.m <sup>2</sup> )	0.048
Maximum Load Inertia Ratio	30
Motor Seal Protection Rating	IP67
Encoder Resolution Per Turn	8388608
Max. Radial Output Load (N)	68
Max. Axial Thrust Load (N)	58
Power Supply To Driver (Phase)	1 or 3

Brake Parameter	Value
Min. Static Friction Torque (Nm)	0.294
Max. Engaging Time (ms)	35
Max. Releasing Time (ms)	20
Exciting Current (DC A)	0.3
Min. Releasing Voltage (DC V)	1
Exciting Voltage ± 5% (DC V)	24



- X1: USB connector
- X2: RS232/485 communication connector
- X3: Safety function connector
- X4: Interface connector
- X5: For external scale connection
- X6: For encoder connection



A Frame Driver

Mass: 0.8 kg



# Servo Motor Kit – 100 W

## Panasonic Minas A6 Series – 23 Bit – 200V

Applicable Motor Kits	Description	Part Number	Product Details
All Kits	Motor Cable	3 Metre	MFCA0030WJD
		5 Metre	MFCA0050WJD
		10 Metre	MFCA0100WJD
	A-Frame Driver 200V	MADLT05BF	EtherCat – S.T.O – 200~240V (+10% -15%) 50/60Hz
	Programming Cable	CABMINIUSB5D	USB A – Mini USB x 1.8m
	Ferrite Noise Filter	DV0P1460	250V AC – For Single Phase Supply Only
Substructure Filter	FS21238607		
Incremental Only	Encoder Cable	3 Metre	MFCA0030WJD
		5 Metre	MFCA0050WJD
		10 Metre	MFCA0100WJD
Absolute Only	Encoder Cable	3 Metre	MFCA0030GJE
		5 Metre	MFCA0050GJE
		10 Metre	MFCA0100GJE
	Encoder Battery (Li)	SB-A11P	For Encoder Cable Battery Box
With Brake (Abs. or Inc.)	Brake Cable	3 Metre	MFCA0030PJT
		5 Metre	MFCA0050PJT
		10 Metre	MFCA0100PJT
	100Ω Brake Resistor	BWD250100	110 x 80 x 15 mm
24V Power Supply	999-200-012	UK Plug 0.5 Ah Lead Acid	

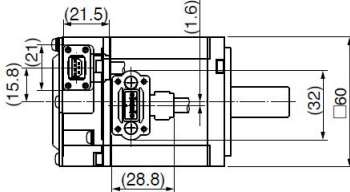
Kit Part Number	Positioning		Cable Length (m)			Brake		Shaft Key	
	Abs	Inc	3	5	10	Yes	No	Yes	No
P100W-23-EA-3M-BK	X		X			X		X	
P100W-23-EA-3M-B	X		X			X			X
P100W-23-EA-3M-K	X		X				X	X	
P100W-23-EA-3M	X		X				X		X
P100W-23-EI-3M-BK		X	X			X		X	
P100W-23-EI-3M-B		X	X			X			X
P100W-23-EI-3M-K		X	X				X	X	
P100W-23-EI-3M		X	X				X		X
P100W-23-EA-5M-BK	X			X		X		X	
P100W-23-EA-5M-B	X			X		X			X
P100W-23-EA-5M-K	X			X			X	X	
P100W-23-EA-5M	X			X			X		X
P100W-23-EI-5M-BK		X		X		X		X	
P100W-23-EI-5M-B		X		X		X			X
P100W-23-EI-5M-K		X		X			X	X	
P100W-23-EI-5M		X		X			X		X
P100W-23-EA-10M-BK	X				X	X		X	
P100W-23-EA-10M-B	X				X	X			X
P100W-23-EA-10M-K	X				X		X	X	
P100W-23-EA-10M	X				X		X		X
P100W-23-EI-10M-BK		X			X	X		X	
P100W-23-EI-10M-B		X			X	X			X
P100W-23-EI-10M-K		X			X		X	X	
P100W-23-EI-10M		X			X		X		X



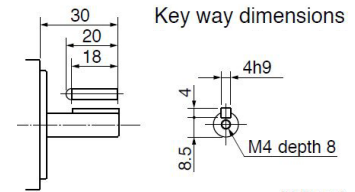
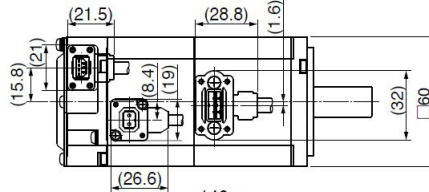
# Servo Motor Kit – 200 W

## Panasonic Minas A6 Series – 23 Bit – 200V

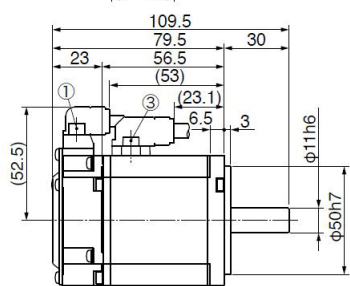
<without brake> Mass: 0.82 kg



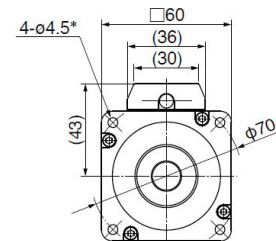
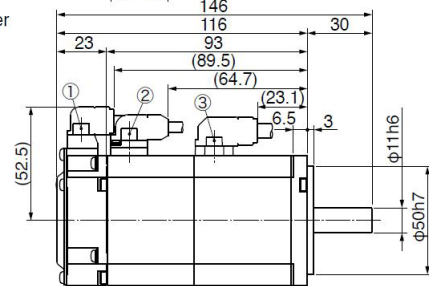
<with brake> Mass: 1.3 kg



[Unit: mm]



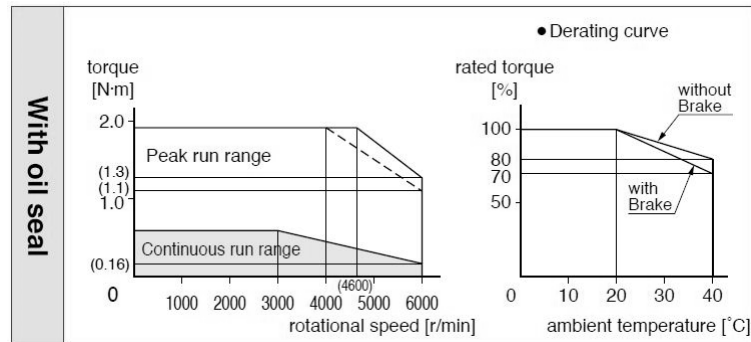
- ① Encoder
- ② Brake
- ③ Motor



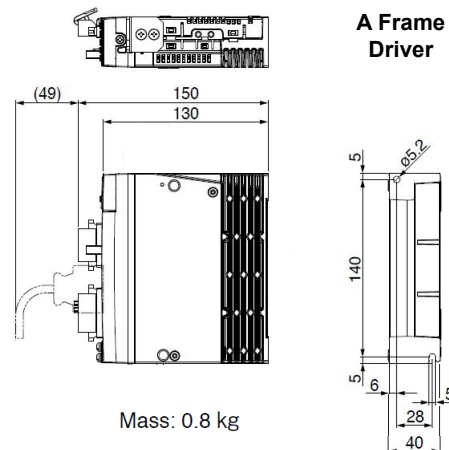
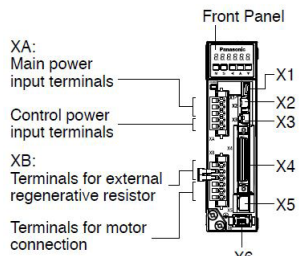
Motor Model	Brake		Shaft Key	
	Yes	No	Yes	No
MSMF022L1V1	X		X	
MSMF022L1D1	X			X
MSMF022L1U1		X	X	
MSMF022L1C1		X		X

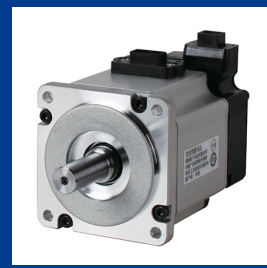
Motor Parameter	Value
Rated Output Power (W)	200
Rated Output Torque (Nm)	0.64
Continuous Stall Torque (Nm)	0.64
Momentary Peak Torque (Nm)	1.91
Power Supply Capacity (kVa)	0.5
Rated Current (A rms)	1.5
Maximum Current (A 0-p)	6.5
Rated Output Speed (rpm)	3000
Maximum Output Speed (rpm)	6000
Inertia w/ Brake (x10 <sup>4</sup> kg.m <sup>2</sup> )	0.17
Inertia w/o Brake (x10 <sup>4</sup> kg.m <sup>2</sup> )	0.14
Maximum Load Inertia Ratio	30
Motor Seal Protection Rating	IP67
Encoder Resolution Per Turn	8388608
Max. Radial Output Load (N)	245
Max. Axial Thrust Load (N)	98
Power Supply To Driver (Phase)	1 or 3

Brake Parameter	Value
Min. Static Friction Torque (Nm)	1.27
Max. Engaging Time (ms)	50
Max. Releasing Time (ms)	15
Exciting Current (DC A)	0.36
Min. Releasing Voltage (DC V)	1
Exciting Voltage ± 5% (DC V)	24



- X1: USB connector
- X2: RS232/485 communication connector
- X3: Safety function connector
- X4: Interface connector
- X5: For external scale connection
- X6: For encoder connection





# Servo Motor Kit – 200 W

## Panasonic Minas A6 Series – 23 Bit – 200V

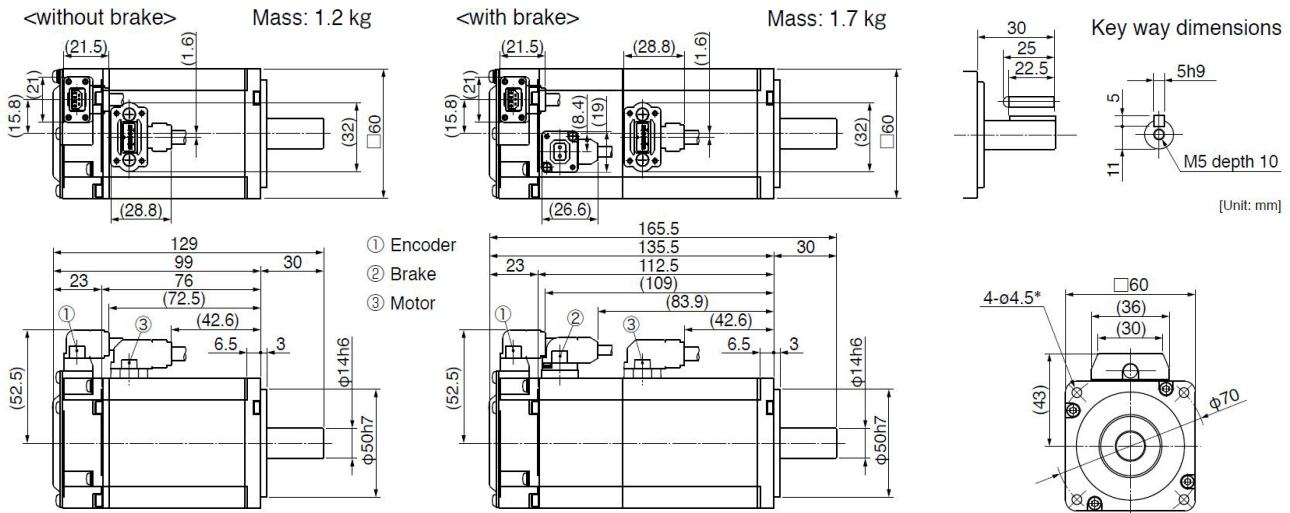
Applicable Motor Kits	Description	Part Number	Product Details
All Kits	Motor Cable	3 Metre	MFCA0030WJD
		5 Metre	MFCA0050WJD
		10 Metre	MFCA0100WJD
	A-Frame Driver 200V	MADLT15BF	EtherCat – S.T.O – 200~240V (+10% -15%) 50/60Hz
	Programming Cable	CABMINIUSB5D	USB A – Mini USB x 1.8m
	Ferrite Noise Filter	DV0P1460	250V AC – For Single Phase Supply Only
Substructure Filter	FS21238607		
Incremental Only	Encoder Cable	3 Metre	MFCA0030WJD
		5 Metre	MFCA0050WJD
		10 Metre	MFCA0100WJD
Absolute Only	Encoder Cable	3 Metre	MFCA0030GJE
		5 Metre	MFCA0050GJE
		10 Metre	MFCA0100GJE
Encoder Battery (Li)	SB-A11P	For Encoder Cable Battery Box	
With Brake (Abs. or Inc.)	Brake Cable	3 Metre	MFCA0030PJT
		5 Metre	MFCA0050PJT
		10 Metre	MFCA0100PJT
	72Ω Brake Resistor	BWD250072	110 x 80 x 15 mm
24V Power Supply	999-200-012	UK Plug 0.5 Ah Lead Acid	

Kit Part Number	Positioning		Cable Length (m)			Brake		Shaft Key	
	Abs	Inc	3	5	10	Yes	No	Yes	No
P200W-23-EA-3M-BK	X		X			X		X	
P200W-23-EA-3M-B	X		X			X			X
P200W-23-EA-3M-K	X		X				X	X	
P200W-23-EA-3M	X		X				X		X
P200W-23-EI-3M-BK		X	X			X		X	
P200W-23-EI-3M-B		X	X			X			X
P200W-23-EI-3M-K		X	X				X	X	
P200W-23-EI-3M		X	X				X		X
P200W-23-EA-5M-BK	X			X		X		X	
P200W-23-EA-5M-B	X			X		X			X
P200W-23-EA-5M-K	X			X			X	X	
P200W-23-EA-5M	X			X			X		X
P200W-23-EI-5M-BK		X		X		X		X	
P200W-23-EI-5M-B		X		X		X			X
P200W-23-EI-5M-K		X		X			X	X	
P200W-23-EI-5M		X		X			X		X
P200W-23-EA-10M-BK	X				X	X		X	
P200W-23-EA-10M-B	X				X	X			X
P200W-23-EA-10M-K	X				X		X	X	
P200W-23-EA-10M	X				X		X		X
P200W-23-EI-10M-BK		X			X	X		X	
P200W-23-EI-10M-B		X			X	X			X
P200W-23-EI-10M-K		X			X		X	X	
P200W-23-EI-10M		X			X		X		X



# Servo Motor Kit – 400 W

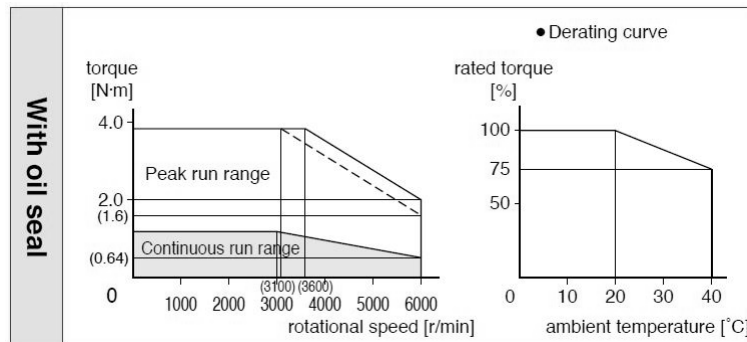
## Panasonic Minas A6 Series – 23 Bit – 200V



Motor Model	Brake		Shaft Key	
	Yes	No	Yes	No
MSMF042L1V1	X		X	
MSMF042L1D1	X			X
MSMF042L1U1		X	X	
MSMF042L1C1		X		X

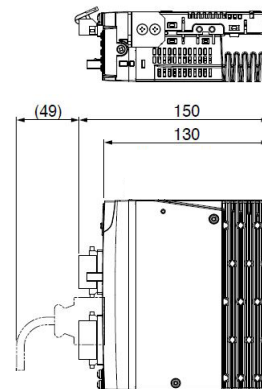
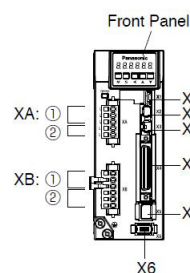
Motor Parameter	Value
Rated Output Power (W)	400
Rated Output Torque (Nm)	1.27
Continuous Stall Torque (Nm)	1.27
Momentary Peak Torque (Nm)	3.82
Power Supply Capacity (kVa)	0.9
Rated Current (A rms)	2.4
Maximum Current (A 0-p)	10.2
Rated Output Speed (rpm)	3000
Maximum Output Speed (rpm)	6000
Inertia w/ Brake ( $\times 10^4$ kg.m <sup>2</sup> )	0.30
Inertia w/o Brake ( $\times 10^4$ kg.m <sup>2</sup> )	0.27
Maximum Load Inertia Ratio	30
Motor Seal Protection Rating	IP67
Encoder Resolution Per Turn	8388608
Max. Radial Output Load (N)	245
Max. Axial Thrust Load (N)	98
Power Supply To Driver (Phase)	1 or 3

Brake Parameter	Value
Min. Static Friction Torque (Nm)	1.27
Max. Engaging Time (ms)	50
Max. Releasing Time (ms)	15
Exciting Current (DC A)	0.36
Min. Releasing Voltage (DC V)	1
Exciting Voltage $\pm$ 5% (DC V)	24



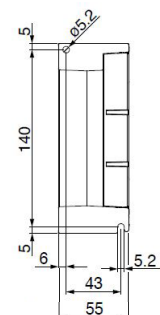
- XA: ① Main power input terminals  
② Control power input terminals
- XB: ① Terminals for external regenerative resistor  
② Terminals for motor connection

- X1: USB connector  
X2: RS232/485 communication connector  
X3: Safety function connector  
X4: Interface connector  
X5: For external scale connection  
X6: For encoder connection



Mass: 1.0 kg

**B Frame Driver**





# Servo Motor Kit – 400 W

## Panasonic Minas A6 Series – 23 Bit – 200V

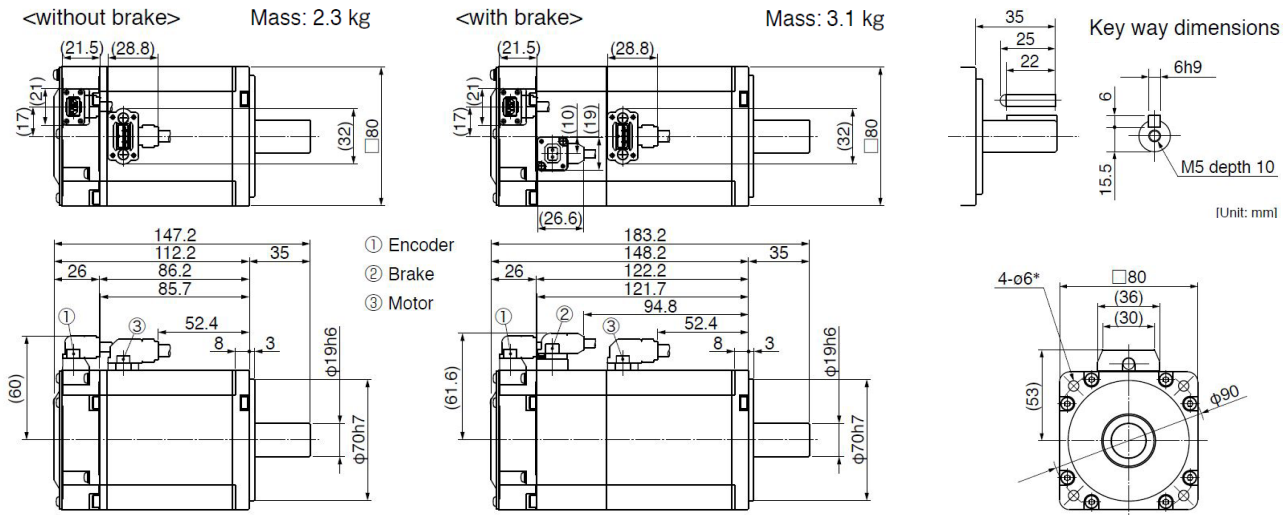
Applicable Motor Kits	Description	Part Number	Product Details
All Kits	Motor Cable	3 Metre	MFMCA0030WJD
		5 Metre	MFMCA0050WJD
		10 Metre	MFMCA0100WJD
	B-Frame Driver 200V	MBDLT25BF	EtherCat – S.T.O – 200~240V (+10% -15%) 50/60Hz
	Programming Cable	CABMINIUSB5D	USB A – Mini USB x 1.8m
	Ferrite Noise Filter	DV0P1460	
	Substructure Filter	FS21238607	250V AC – For Single Phase Supply Only
Incremental Only	Encoder Cable	3 Metre	MFECA0030WJD
		5 Metre	MFECA0050WJD
		10 Metre	MFECA0100WJD
Absolute Only	Encoder Cable	3 Metre	MFECA0030GJE
		5 Metre	MFECA0050GJE
		10 Metre	MFECA0100GJE
	Encoder Battery (Li)	SB-A11P	For Encoder Cable Battery Box
With Brake (Abs. or Inc.)	Brake Cable	3 Metre	MFMCB0030PJT
		5 Metre	MFMCB0050PJT
		10 Metre	MFMCB0100PJT
	72Ω Brake Resistor	BWD250072	110 x 80 x 15 mm
24V Power Supply	999-200-012	UK Plug 0.5 Ah Lead Acid	

Kit Part Number	Positioning		Cable Length (m)			Brake		Shaft Key	
	Abs	Inc	3	5	10	Yes	No	Yes	No
P400W-23-EA-3M-BK	X		X			X		X	
P400W-23-EA-3M-B	X		X			X			X
P400W-23-EA-3M-K	X		X				X	X	
P400W-23-EA-3M	X		X				X		X
P400W-23-EI-3M-BK		X	X			X		X	
P400W-23-EI-3M-B		X	X			X			X
P400W-23-EI-3M-K		X	X				X	X	
P400W-23-EI-3M		X	X				X		X
P400W-23-EA-5M-BK	X			X		X		X	
P400W-23-EA-5M-B	X			X		X			X
P400W-23-EA-5M-K	X			X			X	X	
P400W-23-EA-5M	X			X			X		X
P400W-23-EI-5M-BK		X		X		X		X	
P400W-23-EI-5M-B		X		X		X			X
P400W-23-EI-5M-K		X		X			X	X	
P400W-23-EI-5M		X		X			X		X
P400W-23-EA-10M-BK	X				X	X		X	
P400W-23-EA-10M-B	X				X	X			X
P400W-23-EA-10M-K	X				X		X	X	
P400W-23-EA-10M	X				X		X		X
P400W-23-EI-10M-BK		X			X	X		X	
P400W-23-EI-10M-B		X			X	X			X
P400W-23-EI-10M-K		X			X		X	X	
P400W-23-EI-10M		X			X		X		X



# Servo Motor Kit – 750 W

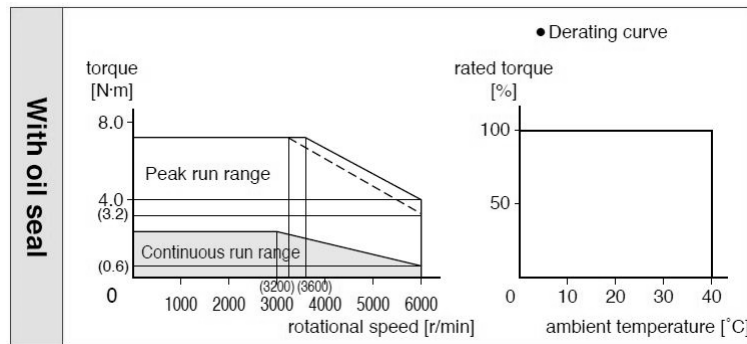
## Panasonic Minas A6 Series – 23 Bit – 200V



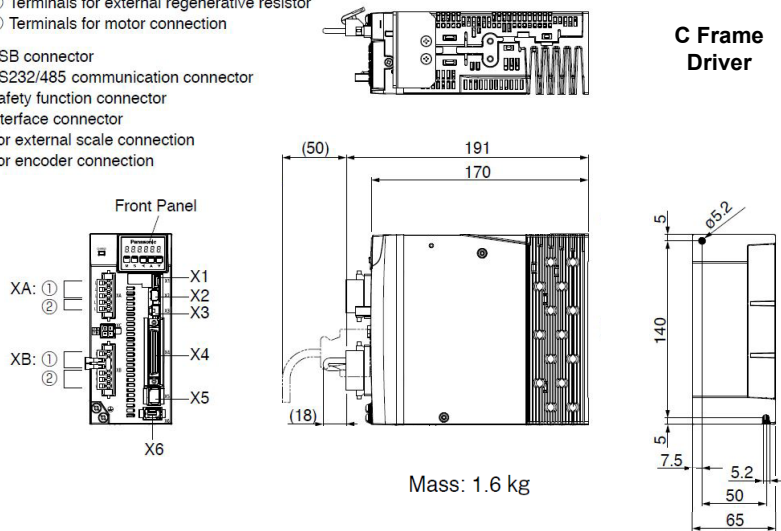
Motor Model	Brake		Shaft Key	
	Yes	No	Yes	No
MSMF082L1V1	X		X	
MSMF082L1D1	X			X
MSMF082L1U1		X	X	
MSMF082L1C1		X		X

Motor Parameter	Value
Rated Output Power (W)	750
Rated Output Torque (Nm)	2.39
Continuous Stall Torque (Nm)	2.39
Momentary Peak Torque (Nm)	7.16
Power Supply Capacity (kVa)	1.3
Rated Current (A rms)	4.1
Maximum Current (A 0-p)	17.4
Rated Output Speed (rpm)	3000
Maximum Output Speed (rpm)	6000
Inertia w/ Brake ( $\times 10^4$ kg.m <sup>2</sup> )	1.06
Inertia w/o Brake ( $\times 10^4$ kg.m <sup>2</sup> )	0.96
Maximum Load Inertia Ratio	20
Motor Seal Protection Rating	IP67
Encoder Resolution Per Turn	8388608
Max. Radial Output Load (N)	392
Max. Axial Thrust Load (N)	147
Power Supply To Driver (Phase)	1 or 3

Brake Parameter	Value
Min. Static Friction Torque (Nm)	2.45
Max. Engaging Time (ms)	70
Max. Releasing Time (ms)	20
Exciting Current (DC A)	0.42
Min. Releasing Voltage (DC V)	1
Exciting Voltage $\pm$ 5% (DC V)	24



- XA: ① Main power input terminals  
 ② Control power input terminals
- XB: ① Terminals for external regenerative resistor  
 ② Terminals for motor connection
- X1: USB connector  
 X2: RS232/485 communication connector  
 X3: Safety function connector  
 X4: Interface connector  
 X5: For external scale connection  
 X6: For encoder connection





# Servo Motor Kit – 750 W

## Panasonic Minas A6 Series – 23 Bit – 200V

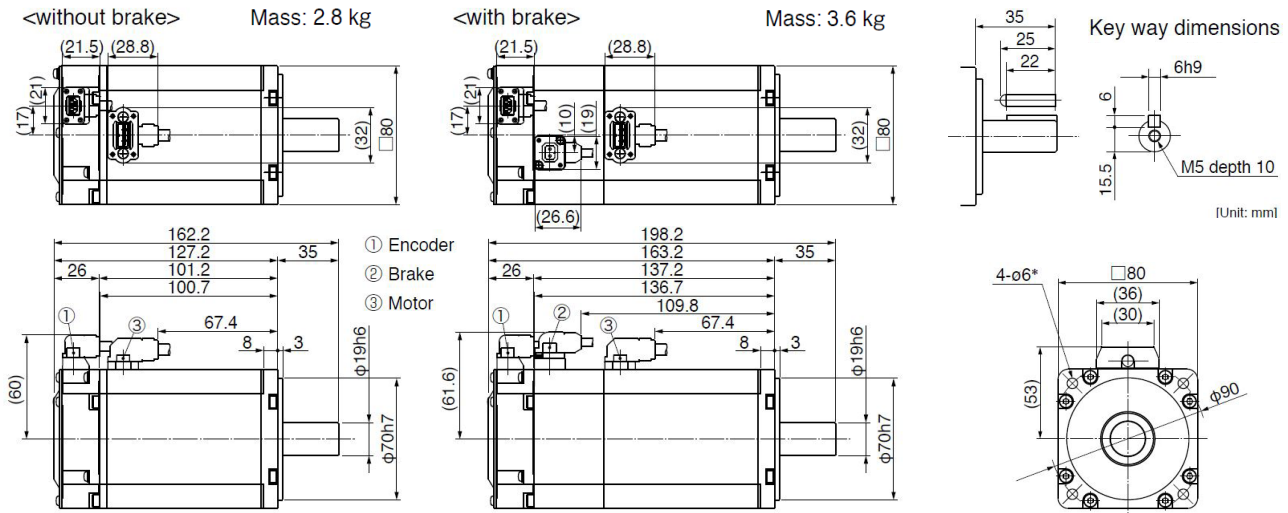
Applicable Motor Kits	Description	Part Number	Product Details
All Kits	Motor Cable	3 Metre	MFCA0030WJD
		5 Metre	MFCA0050WJD
		10 Metre	MFCA0100WJD
	C-Frame Driver 200V	MCDLT35BF	EtherCat – S.T.O – 200~240V (+10% -15%) 50/60Hz
	Programming Cable	CABMINIUSB5D	USB A – Mini USB x 1.8m
	Ferrite Noise Filter	DV0P1460	
	Substructure Filter	FS21238607	250V AC – For Single Phase Supply Only
Incremental Only	Encoder Cable	3 Metre	MFCA0030WJD
		5 Metre	MFCA0050WJD
		10 Metre	MFCA0100WJD
Absolute Only	Encoder Cable	3 Metre	MFCA0030GJE
		5 Metre	MFCA0050GJE
		10 Metre	MFCA0100GJE
	Encoder Battery (Li)	SB-A11P	For Encoder Cable Battery Box
With Brake (Abs. or Inc.)	Brake Cable	3 Metre	MFCA0030PJT
		5 Metre	MFCA0050PJT
		10 Metre	MFCA0100PJT
	72Ω Brake Resistor	BWD250072	110 x 80 x 15 mm
24V Power Supply	999-200-012	UK Plug 0.5 Ah Lead Acid	

Kit Part Number	Positioning		Cable Length (m)			Brake		Shaft Key	
	Abs	Inc	3	5	10	Yes	No	Yes	No
P750W-23-EA-3M-BK	X		X			X		X	
P750W-23-EA-3M-B	X		X			X			X
P750W-23-EA-3M-K	X		X				X	X	
P750W-23-EA-3M	X		X				X		X
P750W-23-EI-3M-BK		X	X			X		X	
P750W-23-EI-3M-B		X	X			X			X
P750W-23-EI-3M-K		X	X				X	X	
P750W-23-EI-3M		X	X				X		X
P750W-23-EA-5M-BK	X			X		X		X	
P750W-23-EA-5M-B	X			X		X			X
P750W-23-EA-5M-K	X			X			X	X	
P750W-23-EA-5M	X			X			X		X
P750W-23-EI-5M-BK		X		X		X		X	
P750W-23-EI-5M-B		X		X		X			X
P750W-23-EI-5M-K		X		X			X	X	
P750W-23-EI-5M		X		X			X		X
P750W-23-EA-10M-BK	X				X	X		X	
P750W-23-EA-10M-B	X				X	X			X
P750W-23-EA-10M-K	X				X		X	X	
P750W-23-EA-10M	X				X		X		X
P750W-23-EI-10M-BK		X			X	X		X	
P750W-23-EI-10M-B		X			X	X			X
P750W-23-EI-10M-K		X			X		X	X	
P750W-23-EI-10M		X			X		X		X



# Servo Motor Kit – 1000 W

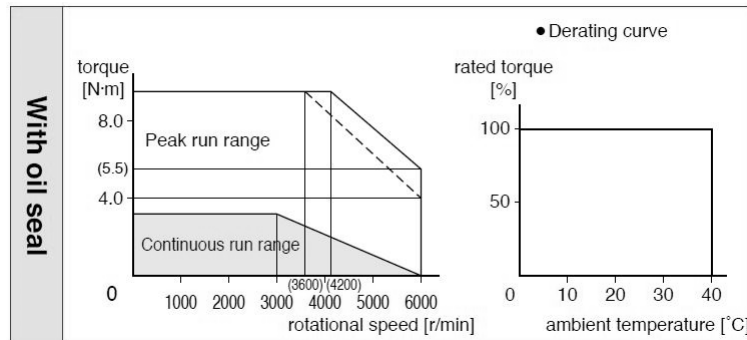
## Panasonic Minas A6 Series – 23 Bit – 200V



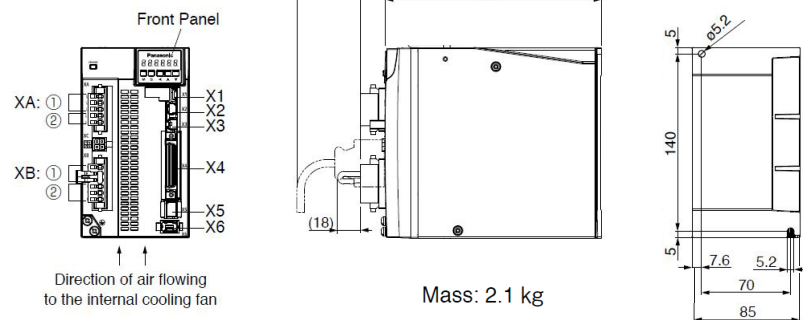
Motor Model	Brake		Shaft Key	
	Yes	No	Yes	No
MSMF092L1V1	X		X	
MSMF092L1D1	X			X
MSMF092L1U1		X	X	
MSMF092L1C1		X		X

Motor Parameter	Value
Rated Output Power (W)	1000
Rated Output Torque (Nm)	3.18
Continuous Stall Torque (Nm)	3.18
Momentary Peak Torque (Nm)	9.55
Power Supply Capacity (kVa)	1.8
Rated Current (A rms)	5.7
Maximum Current (A 0-p)	24.2
Rated Output Speed (rpm)	3000
Maximum Output Speed (rpm)	6000
Inertia w/ Brake ( $\times 10^4$ kg.m <sup>2</sup> )	1.36
Inertia w/o Brake ( $\times 10^4$ kg.m <sup>2</sup> )	1.26
Maximum Load Inertia Ratio	15
Motor Seal Protection Rating	IP67
Encoder Resolution Per Turn	8388608
Max. Radial Output Load (N)	392
Max. Axial Thrust Load (N)	147
Power Supply To Driver (Phase)	1 or 3

Brake Parameter	Value
Min. Static Friction Torque (Nm)	3.80
Max. Engaging Time (ms)	70
Max. Releasing Time (ms)	20
Exciting Current (DC A)	0.42
Min. Releasing Voltage (DC V)	1
Exciting Voltage $\pm$ 5% (DC V)	24



- XA: ① Main power input terminals  
 ② Control power input terminals
- XB: ① Terminals for external regenerative resistor  
 ② Terminals for motor connection
- X1: USB connector  
 X2: RS232/485 communication connector  
 X3: Safety function connector  
 X4: Interface connector  
 X5: For external scale connection  
 X6: For encoder connection





# Servo Motor Kit – 1000 W

## Panasonic Minas A6 Series – 23 Bit – 200V

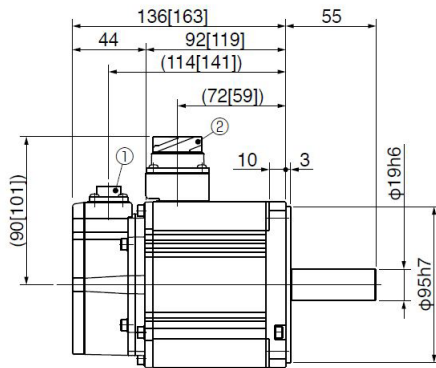
Applicable Motor Kits	Description	Part Number	Product Details
All Kits	Motor Cable	3 Metre	MFMCA0030WJD
		5 Metre	MFMCA0050WJD
		10 Metre	MFMCA0100WJD
	D-Frame Driver 200V	MDDL45BF	EtherCat – S.T.O – 200~240V (+10% -15%) 50/60Hz
	Programming Cable	CABMINIUSB5D	USB A – Mini USB x 1.8m
	Ferrite Noise Filter	DV0P1460	
	Substructure Filter	FN2080-10-06	500V AC – For Single or 3 Phase Supply
Incremental Only	Encoder Cable	3 Metre	MFECA0030WJD
		5 Metre	MFECA0050WJD
		10 Metre	MFECA0100WJD
Absolute Only	Encoder Cable	3 Metre	MFECA0030GJE
		5 Metre	MFECA0050GJE
		10 Metre	MFECA0100GJE
	Encoder Battery (Li)	SB-A11P	For Encoder Cable Battery Box
With Brake (Abs. or Inc.)	Brake Cable	3 Metre	MFMCB0030PJT
		5 Metre	MFMCB0050PJT
		10 Metre	MFMCB0100PJT
	35Ω Brake Resistor	BWD500035	216 x 80 x 15 mm
	24V Power Supply	999-200-012	UK Plug 0.5 Ah Lead Acid

Kit Part Number	Positioning		Cable Length (m)			Brake		Shaft Key	
	Abs	Inc	3	5	10	Yes	No	Yes	No
P1000W-23-EA-3M-BK	X		X			X		X	
P1000W-23-EA-3M-B	X		X			X			X
P1000W-23-EA-3M-K	X		X				X	X	
P1000W-23-EA-3M	X		X				X		X
P1000W-23-EI-3M-BK		X	X			X		X	
P1000W-23-EI-3M-B		X	X			X			X
P1000W-23-EI-3M-K		X	X				X	X	
P1000W-23-EI-3M		X	X				X		X
P1000W-23-EA-5M-BK	X			X		X		X	
P1000W-23-EA-5M-B	X			X		X			X
P1000W-23-EA-5M-K	X			X			X	X	
P1000W-23-EA-5M	X			X			X		X
P1000W-23-EI-5M-BK		X		X		X		X	
P1000W-23-EI-5M-B		X		X		X			X
P1000W-23-EI-5M-K		X		X			X	X	
P1000W-23-EI-5M		X		X			X		X
P1000W-23-EA-10M-BK	X				X	X		X	
P1000W-23-EA-10M-B	X				X	X			X
P1000W-23-EA-10M-K	X				X		X	X	
P1000W-23-EA-10M	X				X		X		X
P1000W-23-EI-10M-BK		X			X	X		X	
P1000W-23-EI-10M-B		X			X	X			X
P1000W-23-EI-10M-K		X			X		X	X	
P1000W-23-EI-10M		X			X		X		X

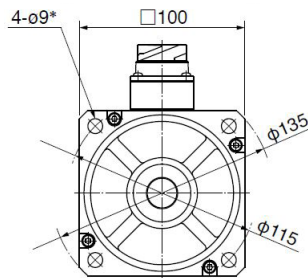


# Servo Motor Kit – 1 kW

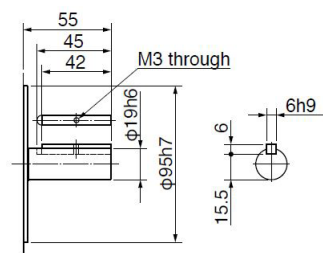
## Panasonic Minas A6 Series – 23 Bit – 200V



Mass: Without brake: 3.6 kg  
With brake: 4.7 kg



Key way dimensions



[Unit: mm]

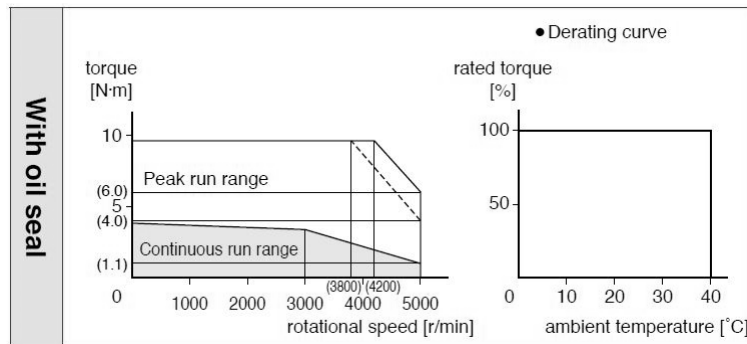
- ① Encoder connector
- ② Motor/Brake connector

• Figures in [ ] represent the dimensions with brake.

Motor Model	Brake		Shaft Key	
	Yes	No	Yes	No
MSMF102L1H5	X		X	
MSMF102L1D5	X			X
MSMF102L1G5		X	X	
MSMF102L1C5		X		X

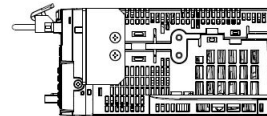
Motor Parameter	Value
Rated Output Power (W)	1000
Rated Output Torque (Nm)	3.18
Continuous Stall Torque (Nm)	3.82
Momentary Peak Torque (Nm)	9.55
Power Supply Capacity (kVa)	2.3
Rated Current (A rms)	6.6
Maximum Current (A 0-p)	28
Rated Output Speed (rpm)	3000
Maximum Output Speed (rpm)	5000
Inertia w/ Brake (x10 <sup>4</sup> kg.m <sup>2</sup> )	2.47
Inertia w/o Brake (x10 <sup>4</sup> kg.m <sup>2</sup> )	2.15
Maximum Load Inertia Ratio	15
Motor Seal Protection Rating	IP67
Encoder Resolution Per Turn	8388608
Max. Radial Output Load (N)	490
Max. Axial Thrust Load (N)	196
Power Supply To Driver (Phase)	1 or 3

Brake Parameter	Value
Min. Static Friction Torque (Nm)	8
Max. Engaging Time (ms)	50
Max. Releasing Time (ms)	15
Exciting Current ± 10% (DC A)	0.81
Min. Releasing Voltage (DC V)	2
Exciting Voltage ± 5% (DC V)	24

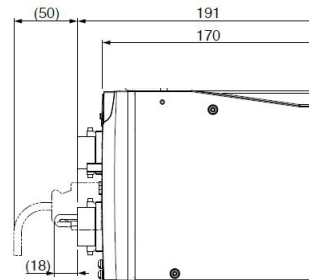
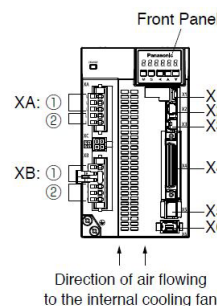


- XA: ① Main power input terminals
- ② Control power input terminals
- XB: ① Terminals for external regenerative resistor
- ② Terminals for motor connection

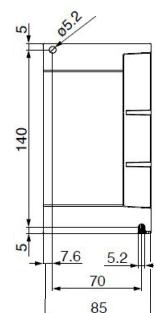
- X1: USB connector
- X2: RS232/485 communication connector
- X3: Safety function connector
- X4: Interface connector
- X5: For external scale connection
- X6: For encoder connection



D Frame Driver



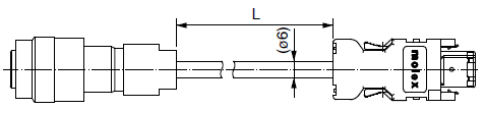
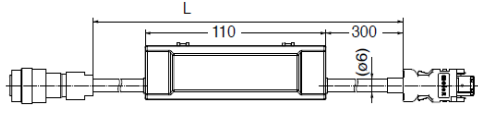
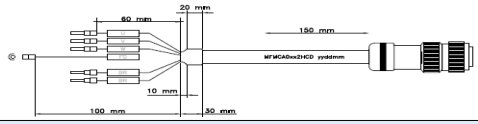
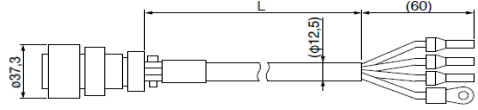
Mass: 2.1 kg





# Servo Motor Kit – 1 kW

## Panasonic Minas A6 Series – 23 Bit – 200V

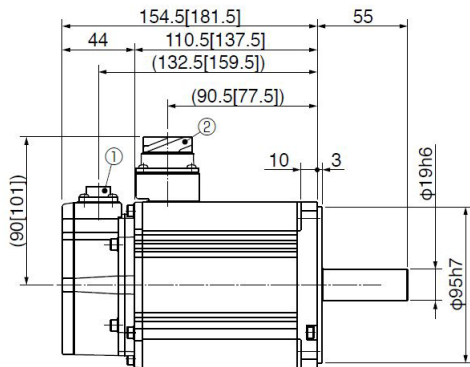
Applicable Motor Kits	Description	Part Number	Product Details	
All Kits	Motor Cable	-	See Brake Option Below	
	D-Frame Driver 200V	MDDLTL55BF	EtherCat – S.T.O – 200~240V (+10% -15%) 50/60Hz	
	Programming Cable	CABMINIUSB5D	USB A – Mini USB x 1.8m	
	Ferrite Noise Filter	DV0P1460		
	Substructure Filter	FN2080-10-06	500V AC – For Single or 3 Phase Supply	
Incremental Only	Encoder Cable	3 Metre	MFECA0030GTD	 Green Cable Colour
		5 Metre	MFECA0050GTD	
		10 Metre	MFECA0100GTD	
Absolute Only	Encoder Cable	3 Metre	MFECA0030GTE	 Black Cable Colour
		5 Metre	MFECA0050GTE	
		10 Metre	MFECA0100GTE	
	Encoder Battery (Li)	SB-A11P	For Encoder Cable Battery Box	
With Brake (Abs. or Inc.)	Motor / Brake Cable	3 Metre	MFMCA0032HCD	 Black Cable Colour
		5 Metre	MFMCA0052HCD	
		10 Metre	MFMCA0102HCD	
	35Ω Brake Resistor	BWD500035	216 x 80 x 15 mm	
No Brake (Abs. or Inc.)	Motor / Brake Cable	3 Metre	MFMCD0032GCD	 Black Cable Colour
		5 Metre	MFMCD0052GCD	
		10 Metre	MFMCD0102GCD	

Kit Part Number	Positioning		Cable Length (m)			Brake		Shaft Key	
	Abs	Inc	3	5	10	Yes	No	Yes	No
P1KW-23-EA-3M-BK	X		X			X		X	
P1KW-23-EA-3M-B	X		X			X			X
P1KW-23-EA-3M-K	X		X				X	X	
P1KW-23-EA-3M	X		X				X		X
P1KW-23-EI-3M-BK		X	X			X		X	
P1KW-23-EI-3M-B		X	X			X			X
P1KW-23-EI-3M-K		X	X				X	X	
P1KW-23-EI-3M		X	X				X		X
P1KW-23-EA-5M-BK	X			X		X		X	
P1KW-23-EA-5M-B	X			X		X			X
P1KW-23-EA-5M-K	X			X			X	X	
P1KW-23-EA-5M	X			X			X		X
P1KW-23-EI-5M-BK		X		X		X		X	
P1KW-23-EI-5M-B		X		X		X			X
P1KW-23-EI-5M-K		X		X			X	X	
P1KW-23-EI-5M		X		X			X		X
P1KW-23-EA-10M-BK	X				X	X		X	
P1KW-23-EA-10M-B	X				X	X			X
P1KW-23-EA-10M-K	X				X		X	X	
P1KW-23-EA-10M	X				X		X		X
P1KW-23-EI-10M-BK		X			X	X		X	
P1KW-23-EI-10M-B		X			X	X			X
P1KW-23-EI-10M-K		X			X		X	X	
P1KW-23-EI-10M		X			X		X		X

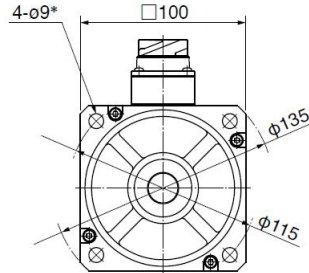


# Servo Motor Kit – 1.5 kW

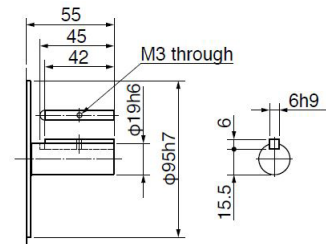
## Panasonic Minas A6 Series – 23 Bit – 200V



Mass: Without brake: 4.6 kg  
With brake: 5.6 kg



Key way dimensions



[Unit: mm]

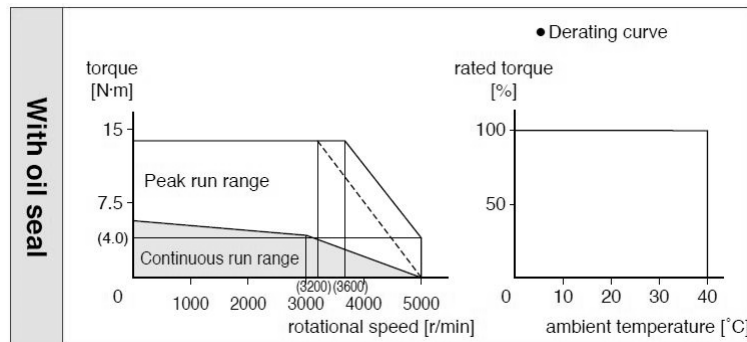
- ① Encoder connector
- ② Motor/Brake connector

• Figures in [ ] represent the dimensions with brake.

Motor Model	Brake		Shaft Key	
	Yes	No	Yes	No
MSMF152L1H5	X		X	
MSMF152L1D5	X			X
MSMF152L1G5		X	X	
MSMF152L1C5		X		X

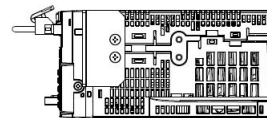
Motor Parameter	Value
Rated Output Power (W)	1500
Rated Output Torque (Nm)	4.77
Continuous Stall Torque (Nm)	5.72
Momentary Peak Torque (Nm)	14.3
Power Supply Capacity (kVa)	2.3
Rated Current (A rms)	8.2
Maximum Current (A 0-p)	35
Rated Output Speed (rpm)	3000
Maximum Output Speed (rpm)	5000
Inertia w/ Brake (x10 <sup>4</sup> kg.m <sup>2</sup> )	3.45
Inertia w/o Brake (x10 <sup>4</sup> kg.m <sup>2</sup> )	3.10
Maximum Load Inertia Ratio	15
Motor Seal Protection Rating	IP67
Encoder Resolution Per Turn	8388608
Max. Radial Output Load (N)	490
Max. Axial Thrust Load (N)	196
Power Supply To Driver (Phase)	1 or 3

Brake Parameter	Value
Min. Static Friction Torque (Nm)	8
Max. Engaging Time (ms)	50
Max. Releasing Time (ms)	15
Exciting Current ± 10% (DC A)	0.81
Min. Releasing Voltage (DC V)	2
Exciting Voltage ± 5% (DC V)	24

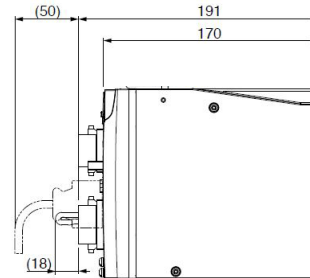
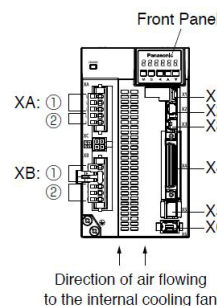


- XA: ① Main power input terminals  
② Control power input terminals  
XB: ① Terminals for external regenerative resistor  
② Terminals for motor connection

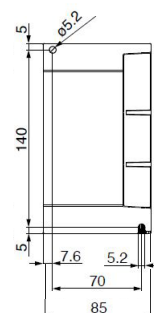
- X1: USB connector  
X2: RS232/485 communication connector  
X3: Safety function connector  
X4: Interface connector  
X5: For external scale connection  
X6: For encoder connection



D Frame Driver



Mass: 2.1 kg

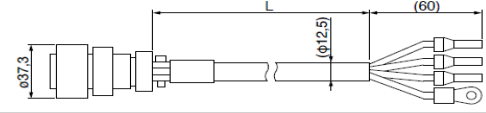
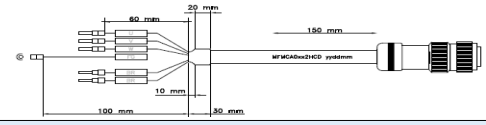
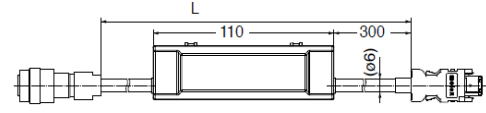
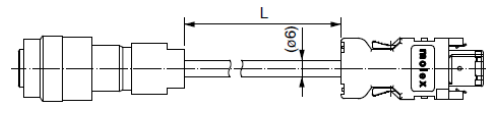




# Servo Motor Kit – 1.5 kW

## Panasonic Minas A6 Series – 23 Bit – 200V

Applicable Motor Kits	Description	Part Number	Product Details
All Kits	Motor Cable	-	See Brake Option Below
	D-Frame Driver 200V	MDDL755BF	EtherCat – S.T.O – 200~240V (+10% -15%) 50/60Hz
	Programming Cable	CABMINIUSB5D	USB A – Mini USB x 1.8m
	Ferrite Noise Filter	DV0P1460	
	Substructure Filter	FN2080-10-06	500V AC – For Single or 3 Phase Supply
Incremental Only	Encoder Cable	3 Metre	MFECA0030GTD
		5 Metre	MFECA0050GTD
		10 Metre	MFECA0100GTD
Absolute Only	Encoder Cable	3 Metre	MFECA0030GTE
		5 Metre	MFECA0050GTE
		10 Metre	MFECA0100GTE
	Encoder Battery (Li)	SB-A11P	For Encoder Cable Battery Box
With Brake (Abs. or Inc.)	Motor / Brake Cable	3 Metre	MFMCA0032HCD
		5 Metre	MFMCA0052HCD
		10 Metre	MFMCA0102HCD
	35Ω Brake Resistor	BWD500035	216 x 80 x 15 mm
No Brake (Abs. or Inc.)	Motor / Brake Cable	3 Metre	MFMCD0032GCD
		5 Metre	MFMCD0052GCD
		10 Metre	MFMCD0102GCD



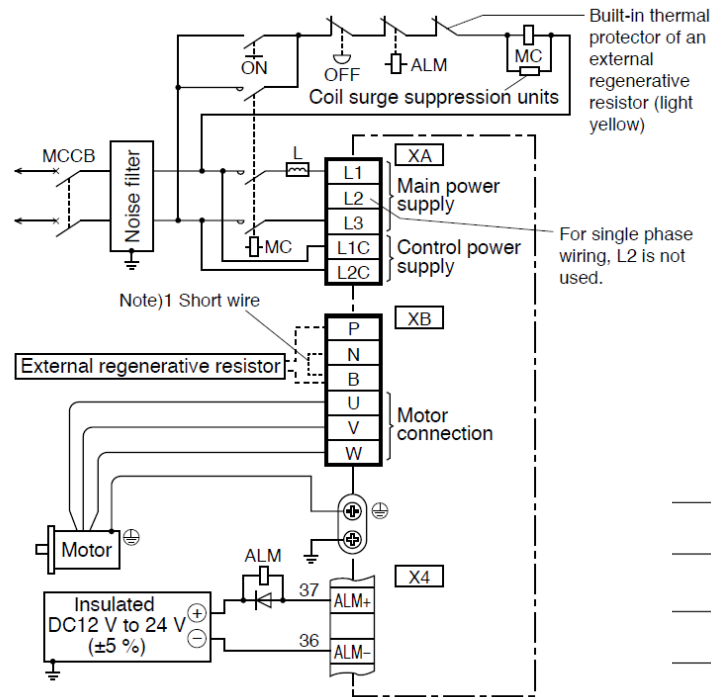
Kit Part Number	Positioning		Cable Length (m)			Brake		Shaft Key	
	Abs	Inc	3	5	10	Yes	No	Yes	No
P1.5KW-23-EA-3M-BK	X		X			X		X	
P1.5KW-23-EA-3M-B	X		X			X			X
P1.5KW-23-EA-3M-K	X		X				X	X	
P1.5KW-23-EA-3M	X		X				X		X
P1.5KW-23-EI-3M-BK		X	X			X		X	
P1.5KW-23-EI-3M-B		X	X			X			X
P1.5KW-23-EI-3M-K		X	X				X	X	
P1.5KW-23-EI-3M		X	X				X		X
P1.5KW-23-EA-5M-BK	X			X		X		X	
P1.5KW-23-EA-5M-B	X			X		X			X
P1.5KW-23-EA-5M-K	X			X			X	X	
P1.5KW-23-EA-5M	X			X			X		X
P1.5KW-23-EI-5M-BK		X		X		X		X	
P1.5KW-23-EI-5M-B		X		X		X			X
P1.5KW-23-EI-5M-K		X		X			X	X	
P1.5KW-23-EI-5M		X		X			X		X
P1.5KW-23-EA-10M-BK	X				X	X		X	
P1.5KW-23-EA-10M-B	X				X	X			X
P1.5KW-23-EA-10M-K	X				X		X	X	
P1.5KW-23-EA-10M	X				X		X		X
P1.5KW-23-EI-10M-BK		X			X	X		X	
P1.5KW-23-EI-10M-B		X			X	X			X
P1.5KW-23-EI-10M-K		X			X		X	X	
P1.5KW-23-EI-10M		X			X		X		X



# Driver Wiring Diagram

## Single Phase – 200V

### A & B Frame



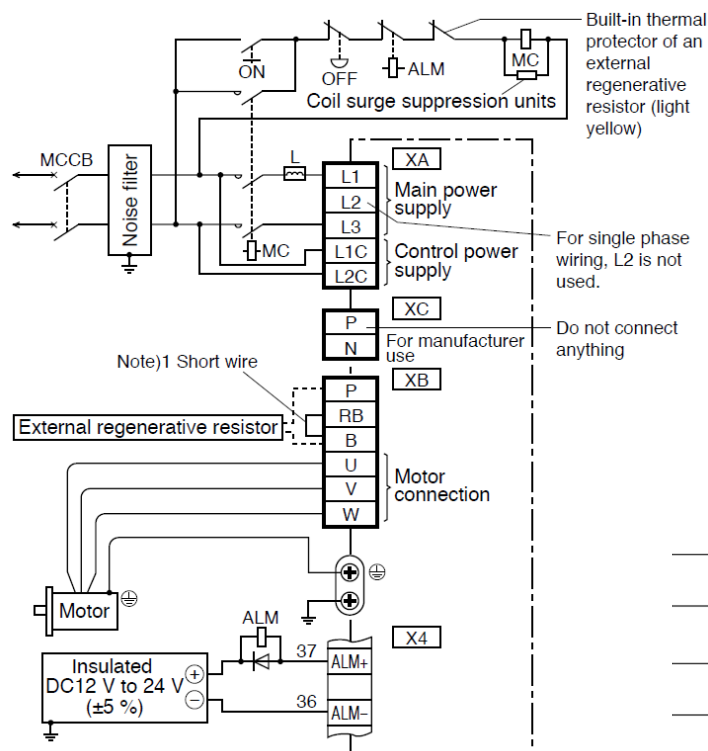
In case of using an external regenerative resistor

- Connect an external regenerative resistor between P-B.

In case of not using an external regenerative resistor

- Always open between P-B.

### C & D Frame



In case of using an external regenerative resistor

- Connect an external regenerative resistor between P-B.

In case of not using an external regenerative resistor

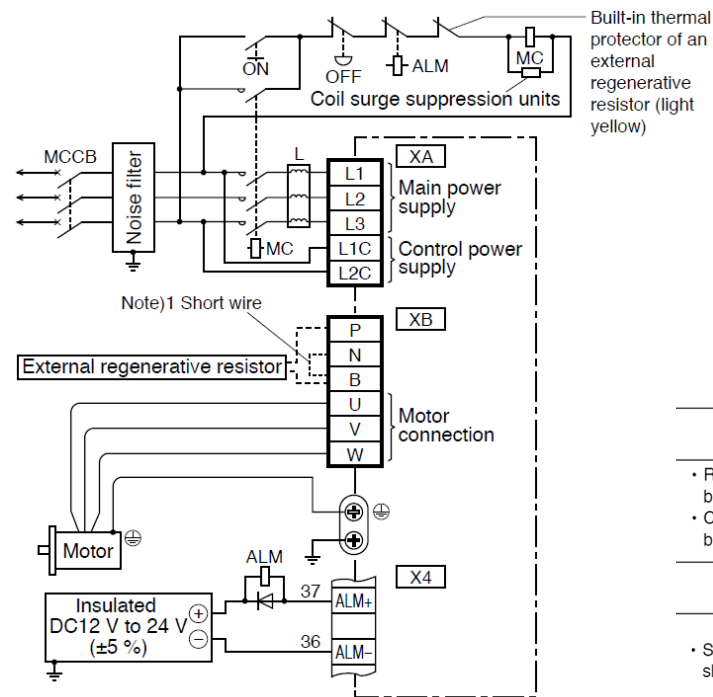
- Always open between P-B.



# Driver Wiring Diagram

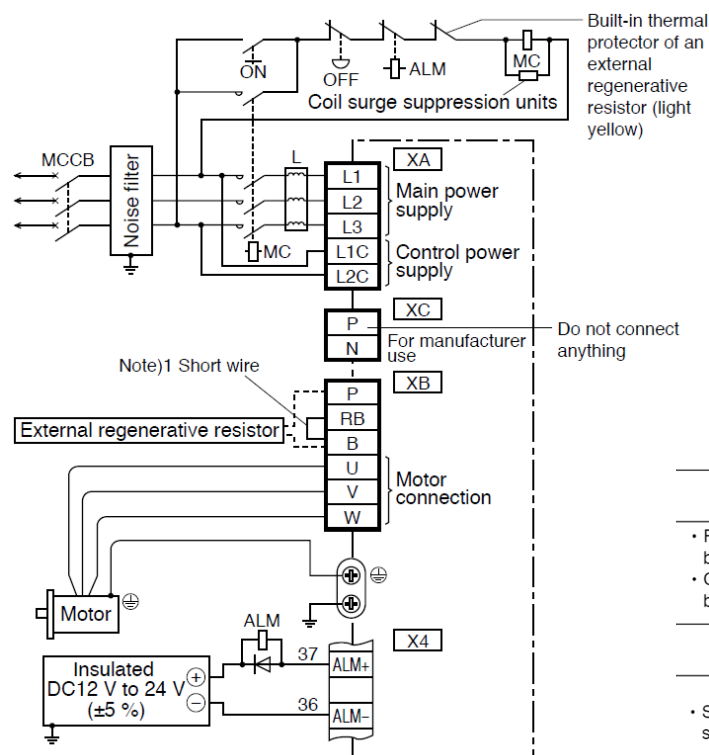
## Three Phase – 200V

### A & B Frame



- |  |
|--|
| In case of using an external regenerative resistor   |
| <ul style="list-style-type: none"> <li>Remove the short wire accessory from between RB-B.</li> <li>Connect an external regenerative resistor between P-B.</li> </ul> |
| In case of not using an external regenerative resistor   |
| <ul style="list-style-type: none"> <li>Shorted between RB-B with an attached short wire</li> </ul>   |

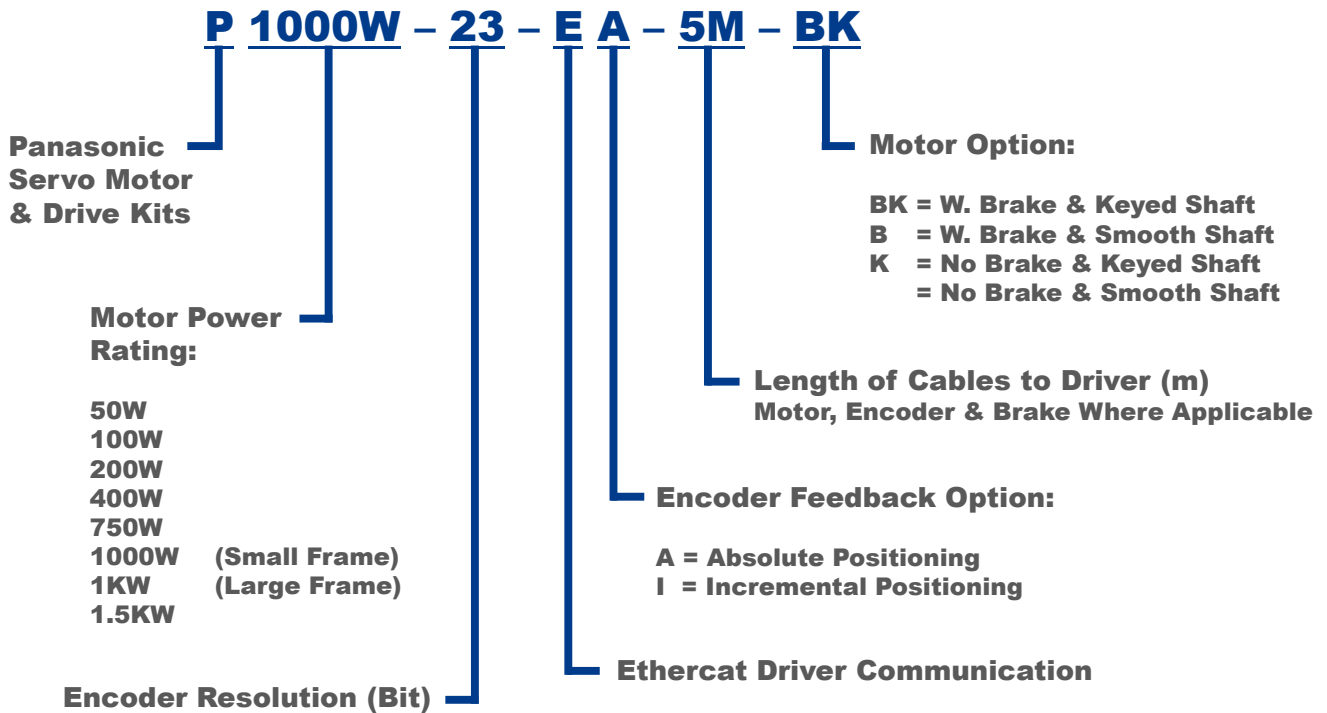
### C & D Frame



- |  |
|--|
| In case of using an external regenerative resistor   |
| <ul style="list-style-type: none"> <li>Remove the short wire accessory from between RB-B.</li> <li>Connect an external regenerative resistor between P-B.</li> </ul> |
| In case of not using an external regenerative resistor   |
| <ul style="list-style-type: none"> <li>Shorted between RB-B with an attached short wire</li> </ul>   |



# Servo Kit Ordering Codes



ALL SERVO DRIVE KITS ARE SUPPLIED WITH 1.8M USB PROGRAMING CABLE AND FEATURE INTEGRATED SAFETY TORQUE OFF FUNCTION AS STANDARD