Motor Information

Naming conventions

OM	S	1	401	N	2	S	A	**
1-2	3	4	5-7	8	9	10	11	12-13

OM — Product series (1-2)

Symbols	Type
OM	Ω series servo motor

S — Inertia type (3)

Symbols	Type
S	Low inertia
M/D	Medium inertia
G/H	High inertia

1 — Internal coding (4)

Symbols	Type
1	OM1 series motor
2	OM2 series motor

401 — Motor power (5-7)

Symbols	Type
500	50W
101	100W
201	200W
401	400W
751	750W
951	1.0kW
102	1.0kW
152	1.5kW
202	2.0kW
302	3.0kW
851	850W
132	1.3kW
182	1.8kW

N — Brake (8)

Symbols	Type
N	Without brake
A	With brake

2 — Voltage class (9)

Symbols	Type
2	220V

S — Shaft/oil seal (10)

Symbols	Type
S	Direct-axis motor without oil seal
K	Spline shaft motor without oil seal
T	Direct-axis motor with oil seal
L	Spline shaft motor with oil seal

A — Encoder type (11)

Symbols	Type
N	17-digit incremental type
A	17-digit absolute value
D	23-digit incremental type
F	23-digit absolute value

****** — Special specifications (12-13)

Symbols	Type
Vacancy	Standard motor

Parameters and characteristics of OM1 series motor:

1. Low inertia of OMS1201/OMS1401/OMS1751/OMS1951

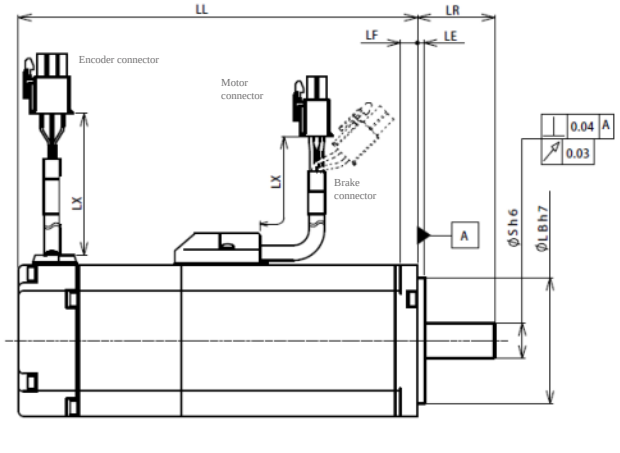
Parameter list

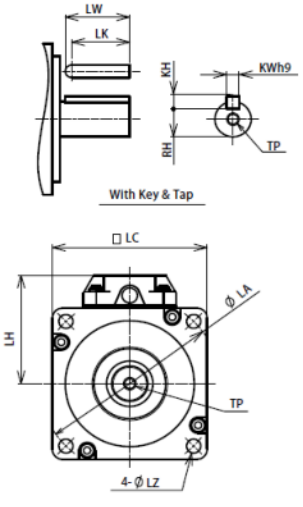
Items	Unit	Specifications			
Motor model	-	OMS1201	OMS1401	OMS1751	OMS1951
Rated output	W	200	400	750	1000
Voltage	V(AC)	220	220	220	220
Rated torque	N·m	0.64	1.27	2.39	3.18
Maximum torque	N·m	1.91	3.82	7.1	9.55
Rated current	A	1.7	2.7	4.2	5.2
Maximum current	A	5.2	8.5	12.2	15.2
Rated speed	r/min	3000	3000	3000	3000
Maximum speed	r/min	6000	6000	6000	6000
Torque constant	N · m/A	0.409	0.490	0.63	0.65
Reverse potential constant	mV/(r/min)	14.3	17.1	21.9	22.9
Rotor inertia					
Without brake	$\times10^{-4}$kg · m^2	0.14	0.23	0.74	1.12
With brake	$\times10^{-4}$kg · m^2	0.17	0.26	0.94	1.29

Outline dimension

Unit: mm

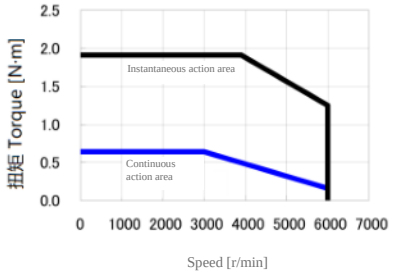
Motor model	OMS1201 □ 2	OMS1201 □ 2 □□ 01	OMS1401	OMS1751	OMS1951
LC	60	60	60	80	80
LL					
Without brake	76.5	76.5	93.5	107.3	127.3
With brake	113	113	130	144.3	164.3
LR	30	30	30	35	35
S	14	11	14	19	19
LA	70	70	70	90	90
LB	50	50	50	70	70
LE	3	3	3	3	3
LF	6.5	6.5	6.5	8	8
LH	43	43	43	53	53
LX	210	210	210	210	210
LZ	5.5	5.5	5.5	6.6	6.6
Shaft end with keys					
LW	25	20	25	25	25
LK	22.5	18	22.5	22	22
KW	5	4	5	6	6
KH	5	4	5	6	6
RH	11	8.5	11	15.5	15.5
TP	M5 depth 10	M4 depth 8	M5 depth 10	M5 depth 10	M5 depth 10





Torque characteristics

OMS1201



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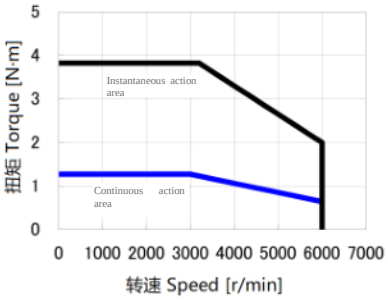
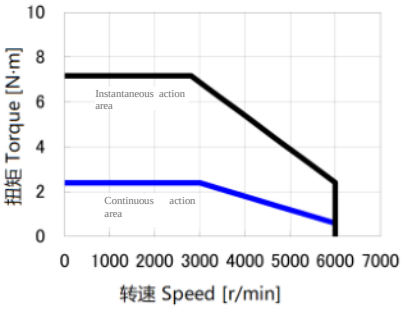
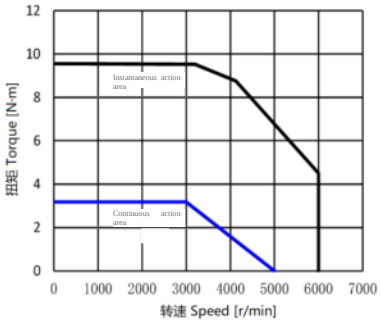


OMS1751



OMS1951



2. Low inertia of OMS1102/OMS1152/OMS1202

Parameter list

Items	Unit	Specifications		
Motor model	-	OMS1102	OMS1152	OMS1202
Rated output	kW	1.0	1.5	2.0
Voltage	V(AC)	220	220	220
Rated torque	N·m	3.18	4.77	6.37
Maximum torque	N·m	9.55	14.3	19.1
Rated current	A	6.8	7.6	10.6
Maximum current	A	19.9	24.9	33.9
Rated speed	r/min	3000	3000	3000
Maximum speed	r/min	5000	5000	5000
Torque constant	N · m/A	0.52	0.64	0.62
Reverse potential constant	mV/(r/min)	18.15	22.27	21.68
Rotor inertia				
Without brake	$\times10^{-4}$kg · m^2	1.94	2.81	3.68
With brake	$\times10^{-4}$kg · m^2	2.35	3.25	4.09

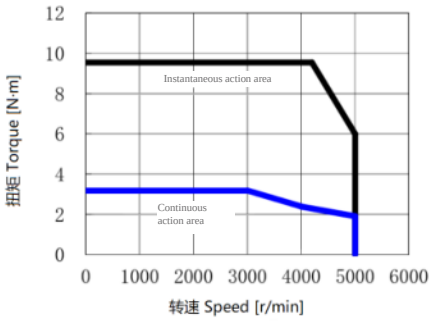
Outline dimension

Unit: mm

Motor model	OMS1102	OMS1152	OMS1202
LC	100	100	100
LL			
Without brake	132	151	170
With brake	162	181	200
LM			
Without brake	108	127	146
With brake	138	157	176
LR	55	55	55
S	19	19	19
LA	115	115	115
LB	95	95	95
LE	3	3	3
LF	10	10	10
LZ	9	9	9
KB1	78	97	116
KB2			
Without brake	120	97	116
With brake	150	139	158
KB3			
Without brake	--	--	--
With brake	119.3	138.3	157.3
Shaft end with keys			
LW	45	45	45
LK	42	42	42
KW	6	6	6
KH	6	6	6
RH	15.5	15.5	15.5
TP	M5 depth 10	M5 depth 10	M5 depth 10

Torque characteristics

OMS1102



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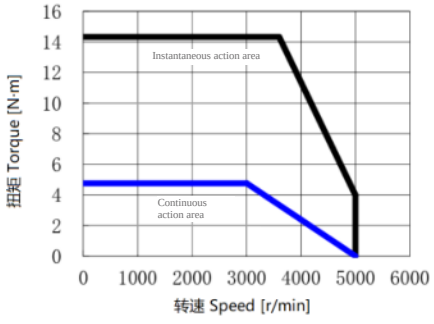
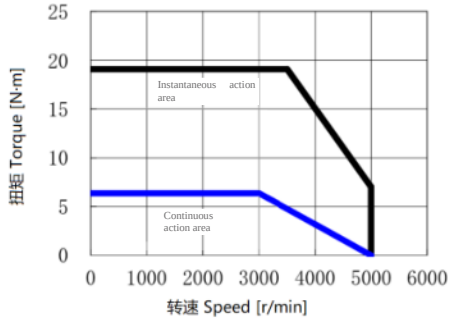
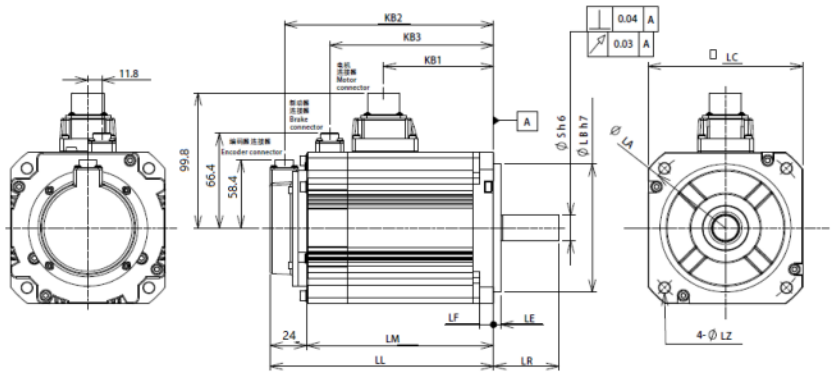
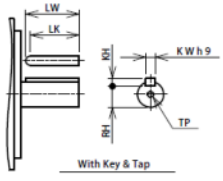


OMS1202







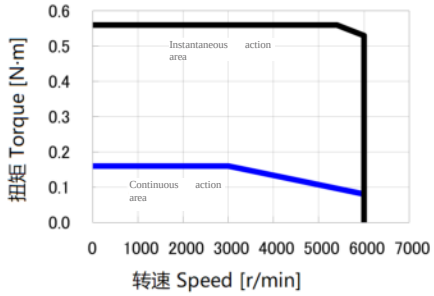
3. Medium inertia of OMM1500/OMM1101

Parameter list

Items	Unit	Specifications	
Motor model	-	OMM1500	OMM1101
Rated output	W	50	100
Voltage	V(AC)	220	220
Rated torque	N·m	0.16	0.32
Maximum torque	N·m	0.56	1.12
Rated current	A	0.68	0.97
Maximum current	A	2.4	3.3
Rated speed	r/min	3000	3000
Maximum speed	r/min	6000	6000
Torque constant	N · m/A	0.25	0.35
Reverse potential constant	mV/(r/min)	8.8	12.3
Rotor inertia			
Without brake	$\times 10^{-4}$kg · m^2	0.039	0.061
With brake	$\times 10^{-4}$kg · m^2	0.047	0.069

Torque characteristics

OMM1500



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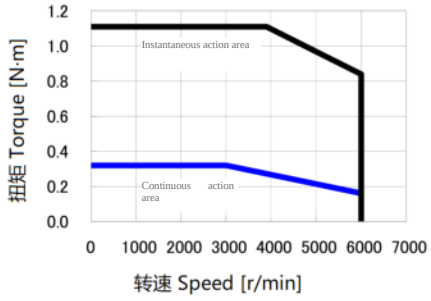
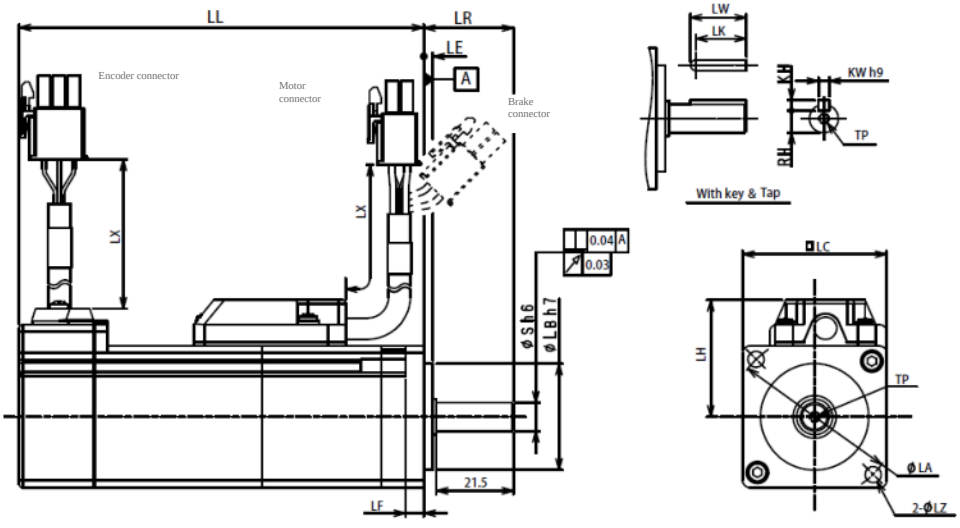


Outline dimension

Unit: mm

Motor model	OMM1500 □ 2S OMM1500 □ 2K	OMM1500 □ 2T OMM1500 □ 2L	OMM1101 □ 2S OMM1101 □ 2K	OMM1101 □ 2T OMM1101 □ 2L
LC	40	40	40	40
LL				
Without brake	66.4	72	82.4	88
With brake	106.8	112.4	122.8	128.4
LR	25	25	25	25
S	8	8	8	8
LA	46	46	46	46
LB	30	30	30	30
LE	2.5	2.5	2.5	2.5
LF	5	5	5	5
LH	33	33	33	33
LX	210	210	210	210
LZ	4.5	4.5	4.5	4.5
Shaft end with keys				
LW	15.5	15.5	15.5	15.5
LK	14	14	14	14
KW	3	3	3	3
KH	3	3	3	3
RH	6.2	6.2	6.2	6.2
TP	M3 depth 6	M3 depth 6	M3 depth 6	M3 depth 6



4. Medium inertia of OMM1102/OMM1152/OMM1202

Parameter list

Items	Unit	Specifications		
Motor model	-	OMM1102	OMM1152	OMM1202
Rated output	kW	1.0	1.5	2.0
Voltage	V(AC)	220	220	220
Rated torque	N·m	4.77	7.16	9.55
Maximum torque	N·m	14.3	21.5	28.6
Rated current	A	5.6	9.0	11.9
Maximum current	A	16.8	27	35.7
Rated speed	r/min	2000	2000	2000
Maximum speed	r/min	3000	3000	3000
Torque constant	N · m/A	0.88	0.81	0.85
Reverse potential constant	mV/(r/min)	30.9	28.4	29.6
Rotor inertia				
Without brake	$\times 10^{-4}$kg · m^2	4.56	6.67	8.70
With brake	$\times 10^{-4}$kg · m^2	6.24	8.35	10.38

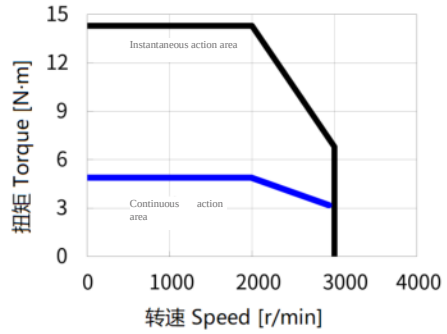
Outline dimension

Unit: mm

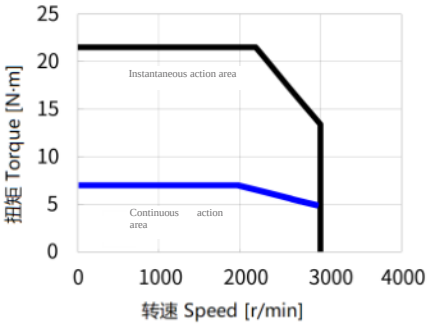
Motor model	OMM1102	OMM1152	OMM1202
LC	130	130	130
LL			
Without brake	128	145.5	163
With brake	153	170.5	188
LM			
Without brake	97	114.5	132
With brake	122	139.5	157
LR	55	55	55
S	22	22	22
LA	145	145	145
LB	110	110	110
LE	6	6	6
LF	12	12	12
LZ	9	9	9
KB1	57.5	75	92.5
KB2			
Without brake	116	133.5	151
With brake	141	158.5	176
KB3			
Without brake	--	--	--
With brake	102.8	120.3	137.8
Shaft end with keys			
LW	45	45	45
LK	41	41	41
KW	8	8	8
KH	7	7	7
RH	18	18	18
TP	M6 depth 20	M6 depth 20	M6 depth 20

Torque characteristics

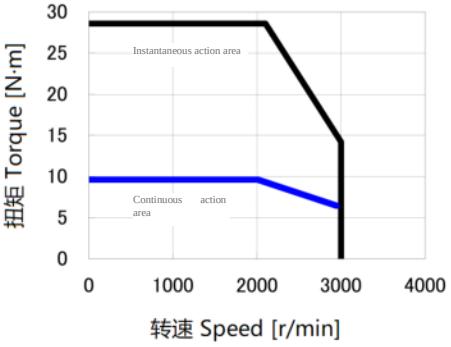
OMM1102

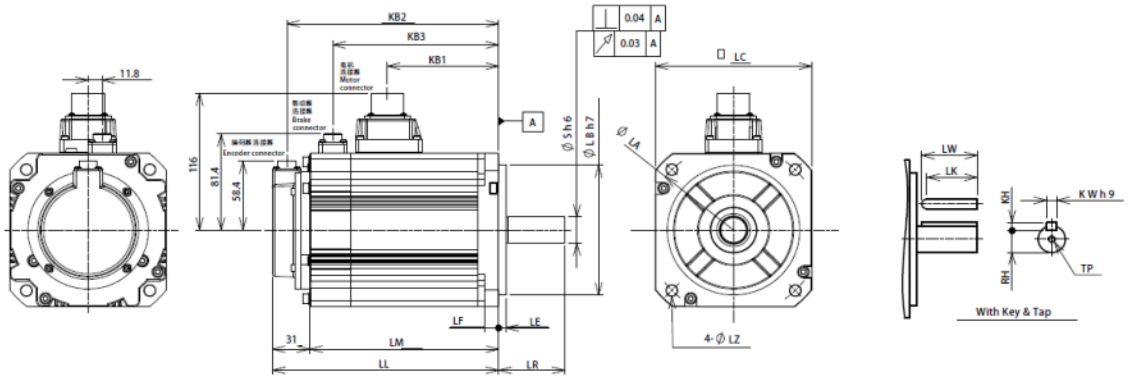


OMM1152



OMM1202





5. Medium inertia of OMD1500/OMD1101/OMD1201/OMD1401

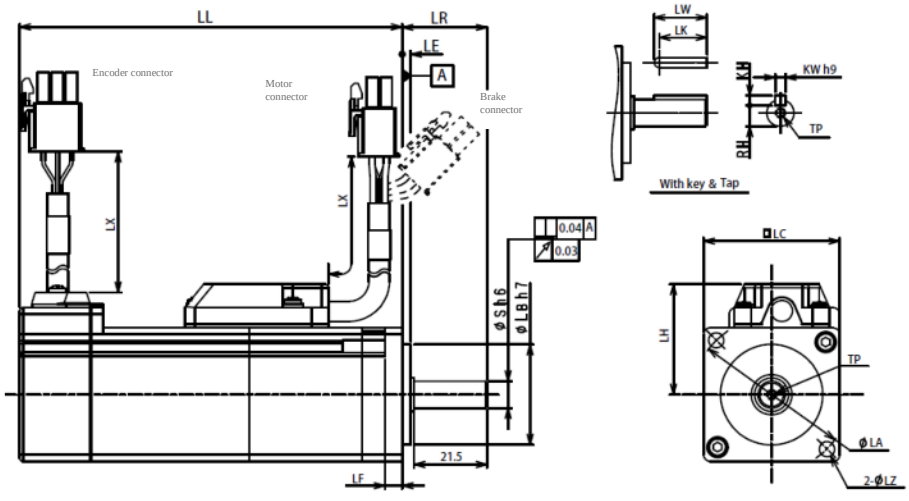
Parameter list

Items	Unit	Specifications			
Motor model	-	OMD1500	OMD1101	OMD1201	OMD1401
Rated output	W	50	100	200	400
Voltage	V(AC)	220	220	220	220
Rated torque	N·m	0.16	0.32	0.64	1.27
Maximum torque	N·m	0.56	1.12	1.91	3.82
Rated current	A	0.71	0.99	1.7	2.7
Maximum current	A	2.4	3.4	5.2	8.5
Rated speed	r/min	3000	3000	3000	3000
Maximum speed	r/min	6000	6000	6000	6000
Torque constant	N · m/A	0.25	0.37	0.409	0.490
Reverse potential constant	mV/(r/min)	8.7	12.7	14.3	17.1
Rotor inertia					
Without brake	$\times10^{-4}$kg · m^2	0.039	0.064	0.255	0.481
With brake	$\times10^{-4}$kg · m^2	0.047	0.072	0.279	0.504

Outline dimension

Unit: mm

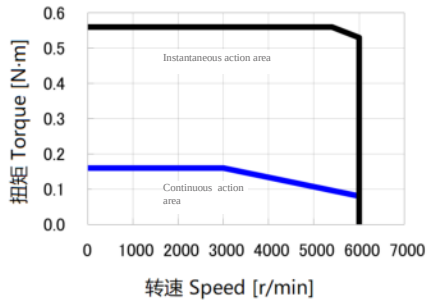
Motor model	OMD1500 □ 2S OMD1500 □ 2K	OMD1500 □ 2T OMD1500 □ 2L	OMD1101 □ 2S OMD1101 □ 2K	OMD1101 □ 2S OMD1101 □ 2K	OMD1201	OMD1401
LC	40	40	40	40	60	60
LL						
Without brake	57.1	64.7	70.7	78.3	78.5	98
With brake	89.1	97.1	103.1	110.7	104.5	124.5
LR	25	25	25	25	30	30
S	8	8	8	8	14	14
LA	46	46	46	46	70	70
LB	30	30	30	30	50	50
LE	2.5	2.5	2.5	2.5	3	3
LF	5	5	5	5	6.5	6.5
LH	33	33	33	33	43	43
LX	210	210	210	210	210	210
LZ	4.5	4.5	4.5	4.5	5.5	5.5
Shaft end with keys						
LW	15.5	15.5	15.5	15.5	25	25
LK	14	14	14	14	22.5	22.5
KW	3	3	3	3	5	5
KH	3	3	3	3	5	5
RH	6.2	6.2	6.2	6.2	11	11
TP	M3 depth 6	M3 depth 6	M3 depth 6	M3 depth 6	M5 depth 10	M5 depth 10



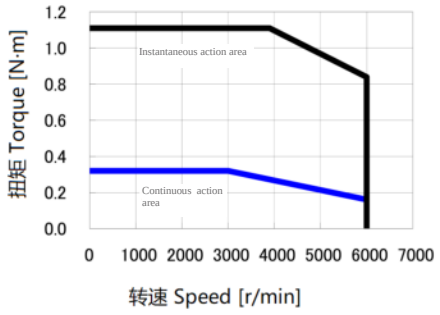
注：200W/400W 电机含 4 个固定螺母孔。

Torque characteristics

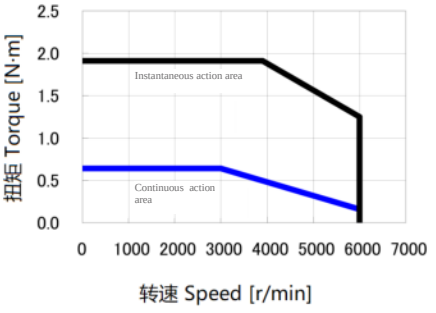
OMD1500



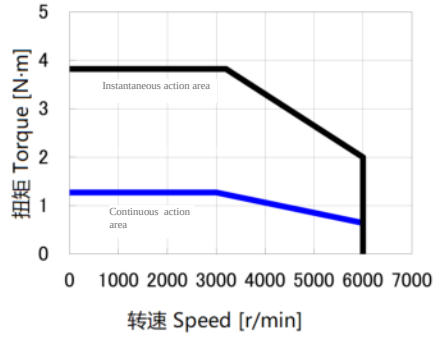
OMD1101



OMD1201



OMD1401



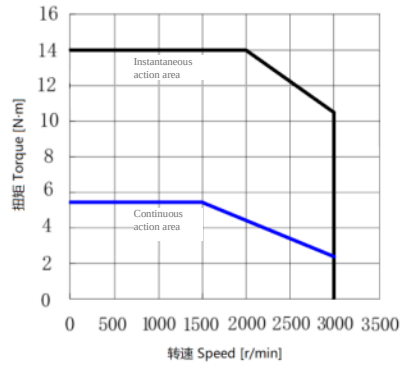
6. High inertia of OMG1851/OMG1132

Parameter list

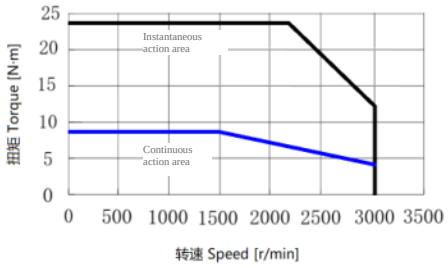
Items	Unit	Specifications	
Motor model	-	OMG1851	OMG1132
Rated output	W	850	1300
Voltage	V(AC)	220	220
Rated torque	N·m	5.39	8.34
Maximum torque	N·m	14.2	23.3
Rated current	A	6.9	10.7
Maximum current	A	17	28
Rated speed	r/min	1500	1500
Maximum speed	r/min	3000	3000
Torque constant	N · m/A	0.828	0.853
Reverse potential constant	mV/(r/min)	28.9	29.8
Rotor inertia			
Without brake	$\times10^{-4}$kg · m^2	13.9	19.8
With brake	$\times10^{-4}$kg · m^2	16.0	21.9

Torque characteristics

OMG1851



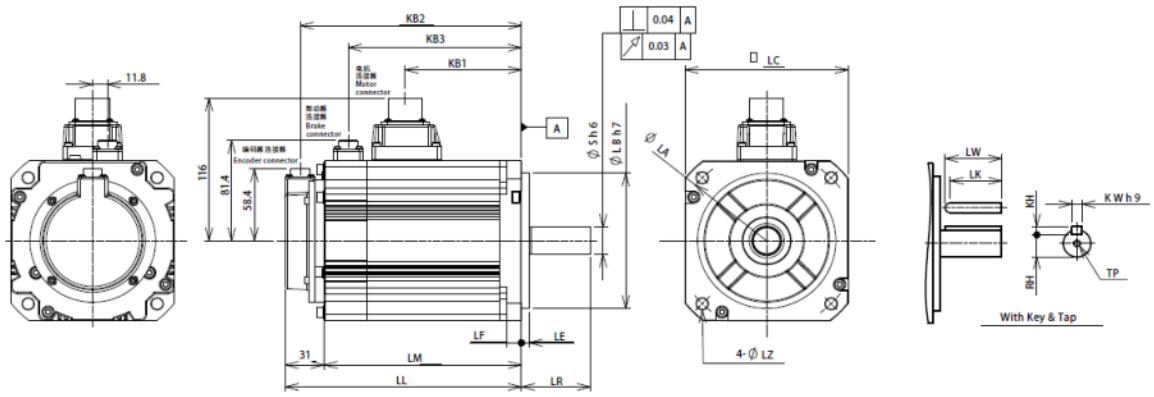
OMG1132



Outline dimension

Unit: mm

Motor model	OMG1851	OMG1132
LC	130	130
LL		
Without brake	128	145.5
With brake	162	179.5
LM		
Without brake	97	114.5
With brake	131	148.5
LR	58	58
S	19	22
LA	145	145
LB	110	110
LE	6	6
LF	12	12
LZ	9	9
KB1	70	87.5
KB2		
Without brake	116	133.5
With brake	150	167.5
KB3		
Without brake	--	--
With brake	109	126
Shaft end with keys		
LW	28	28
LK	25	25
KW	5	6
KH	5	6
RH	16	19
TP	M5 depth 12	M5 depth 12



7. High inertia of OMH1201/OMH1401/OMH1751

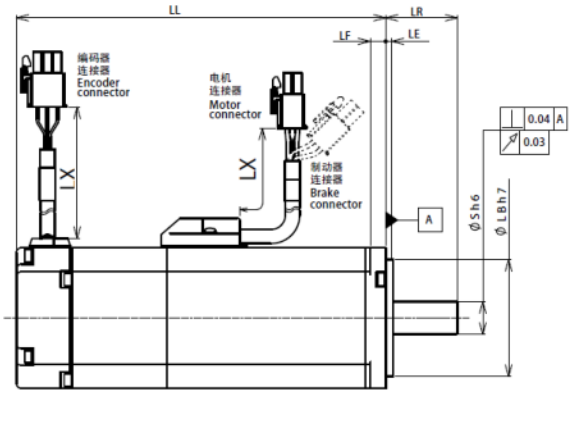
Parameter list

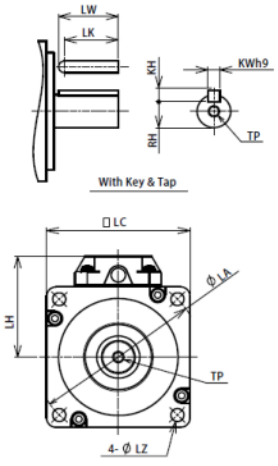
Items	Unit	Specifications		
Motor model	-	OMH1201	OMH1401	OMH1751
Rated output	W	200	400	750
Voltage	V(AC)	220	220	220
Rated torque	N·m	0.64	1.27	2.39
Maximum torque	N·m	1.91	3.82	7.1
Rated current	A	1.7	2.7	4.2
Maximum current	A	5.2	8.5	12.2
Rated speed	r/min	3000	3000	3000
Maximum speed	r/min	6000	6000	6000
Torque constant	N · m/A	0.409	0.490	0.63
Reverse potential constant	mV/(r/min)	14.3	17.1	21.9
Rotor inertia				
Without brake	$\times 10^{-4}$kg · m^2	0.44	0.71	1.61
With brake	$\times 10^{-4}$kg · m^2	0.47	0.73	1.81

Outline dimension

Unit: mm

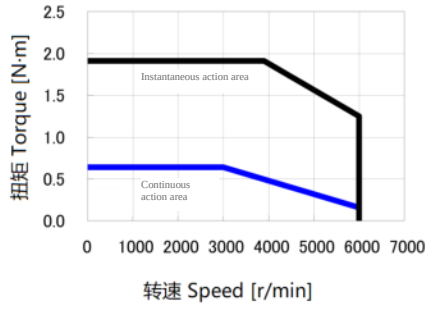
Motor model	OMH1201 □ 2	O□M2H□12□0101	OMH1401	OMH1751
LC	60	60	60	60
LL				
Without brake	93.5	93.5	110.5	122.3
With brake	130	130	147	159.3
LR	30	30	30	35
S	14	11	14	19
LA	70	70	70	90
LB	50	50	50	70
LE	3	3	3	3
LF	6.5	6.5	6.5	8
LH	43	43	43	53
LX	210	43	210	210
LZ	5.5	5.5	5.5	6.6
Shaft end with keys				
LW	25	20	25	25
LK	22.5	18	22.5	22
KW	5	4	5	6
KH	5	4	5	6
RH	11	8.5	11	15.5
TP	M5 depth 10	M4 depth 8	M5 depth 10	M5 depth 10



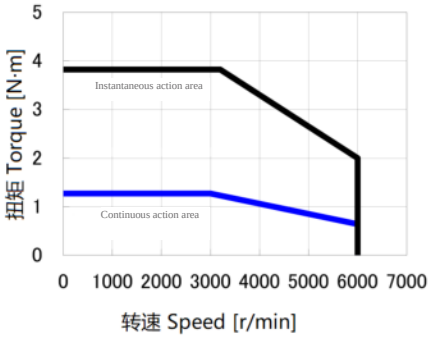


Torque characteristics

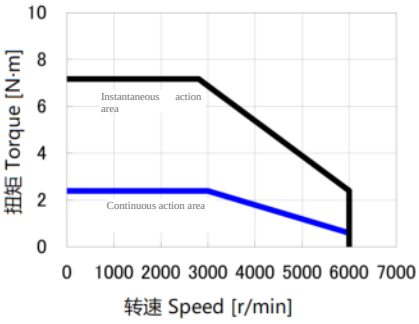
OMH1201



OMH1401



OMH1751



8. High inertia of OMH1102/OMH1152

Parameter list

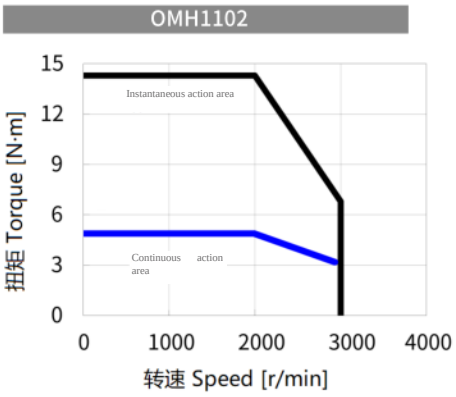
Items	Unit	Specifications	
Motor model	-	OMH1102	OMH1152
Rated output	kW	1.0	1.5
Voltage	V(AC)	220	220
Rated torque	N·m	4.77	7.16
Maximum torque	N·m	14.3	21.5
Rated current	A	5.6	9.0
Maximum current	A	16.8	27
Rated speed	r/min	2000	2000
Maximum speed	r/min	3000	3000
Torque constant	N · m/A	0.88	0.81
Reverse potential constant	mV/(r/min)	30.9	28.4
Rotor inertia			
Without brake	$\times10^{-4}$kg · m^2	24.9	37.12
With brake	$\times10^{-4}$kg · m^2	26.4	38.65

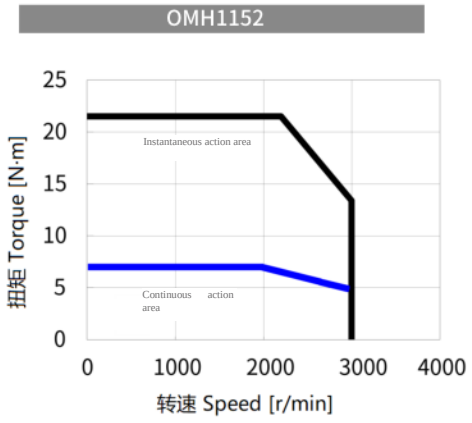
Outline dimension

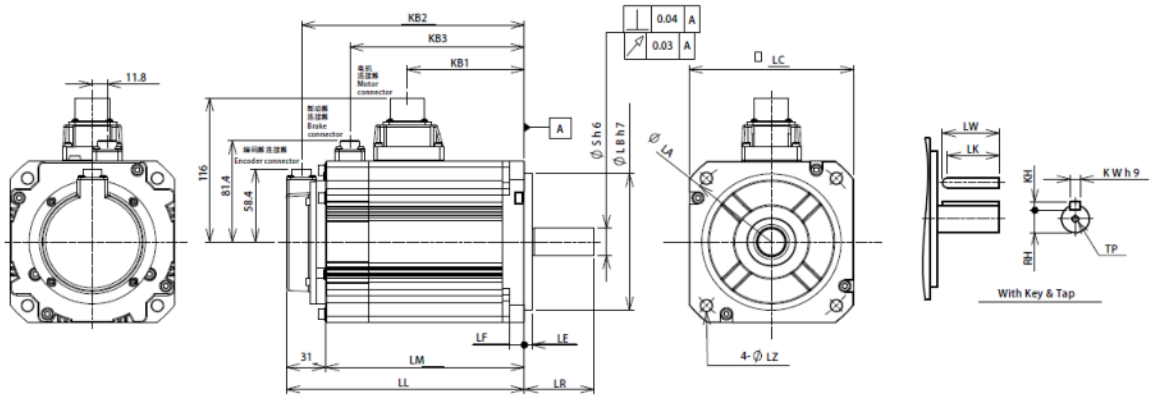
Unit: mm

Motor model	OMH1102	OMH1152
LC	130	130
LL		
Without brake	163	180.5
With brake	188	205.5
LM		
Without brake	132	149.5
With brake	157	174.5
LR	70	70
S	22	22
LA	145	145
LB	110	110
LE	6	6
LF	12	12
LZ	9	9
KB1	92.5	110
KB2		
Without brake	151	168.5
With brake	176	193.5
KB3		
Without brake	--	--
With brake	137.8	155.3
Shaft end with keys		
LW	45	45
LK	41	41
KW	8	8
KH	7	7
RH	18	18
TP	M6 depth 20	M6 depth 20

Torque characteristics





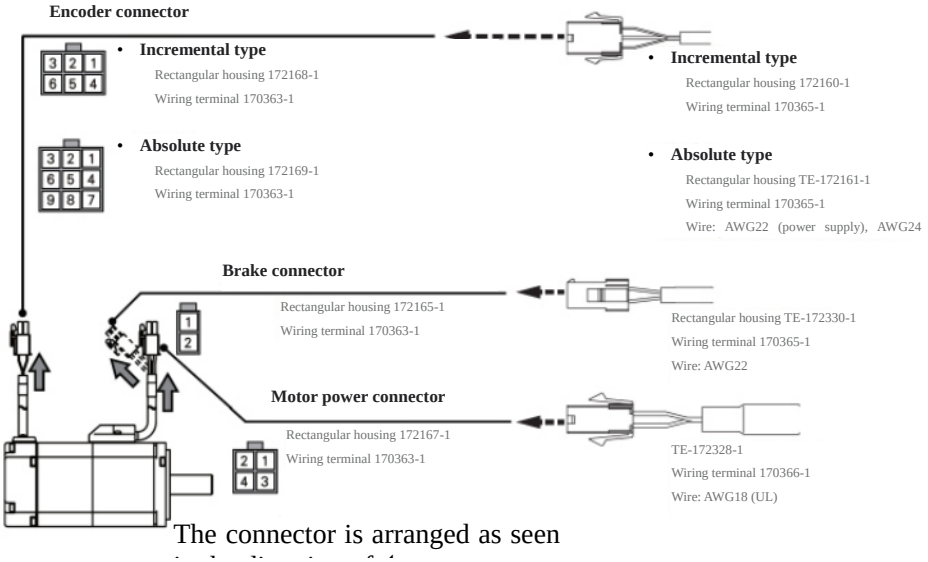


OM1 motor brake specifications

Motor series	Motor power	Purpose	Rated voltage (V)	Rated current (A)	Static friction torque (N·m)	Pull up time (ms)	Release time (ms)	Release voltage (V)
OMS1	200W、400W	For holding	DC24 V ±10%	0.3	Above 1.27	50	15	Above DC1V
	750W	For holding	DC24 V ±10%	0.4	Above 2.39	70	20	Above DC1V
	1.0kW(□ 80)	For holding	DC24 V ±10%	0.47	Above 3.18	70	20	Above DC1V
	1.0kW(□ 100)	For holding	DC24 V ±10%	1	Above 7.8	120	30	Above DC1V
	1.5kW、2.0kW	For holding	DC24 V ±10%	1	Above 7.8	120	30	Above DC1V
OMM1	50W	For holding	DC24 V ±10%	0.25	Above 0.16	35	20	Above DC1V
	100W	For holding	DC24 V ±10%	0.25	Above 0.32	35	20	Above DC1V
	1.0kW、1.5kW、2.0kW	For holding	DC24 V ±10%	1	Above 9.55	120	30	Above DC1V
OMD1	50W	For holding	DC24 V ±10%	0.25	Above 0.16	35	20	Above DC1V
	100W	For holding	DC24 V ±10%	0.25	Above 0.32	35	20	Above DC1V
	200W、400W	For holding	DC24 V ±10%	0.3	Above 1.27	50	20	Above DC1V
OMG1	850W	For holding	DC24 V ±10%	0.41	Above 12.7	100	60	Above DC1V
	1.3kW	For holding	DC24 V ±10%	0.41	Above 19.6	100	60	Above DC1V
OMH1	200W、400W	For holding	DC24 V ±10%	0.3	Above 1.27	50	15	Above DC1V
	750W	For holding	DC24 V ±10%	0.4	Above 2.39	70	20	Above DC1V
	1.0kW、1.5kW	For holding	DC24 V ±10%	1	Above 9.55	120	30	Above DC1V

OM1 motor wiring diagram

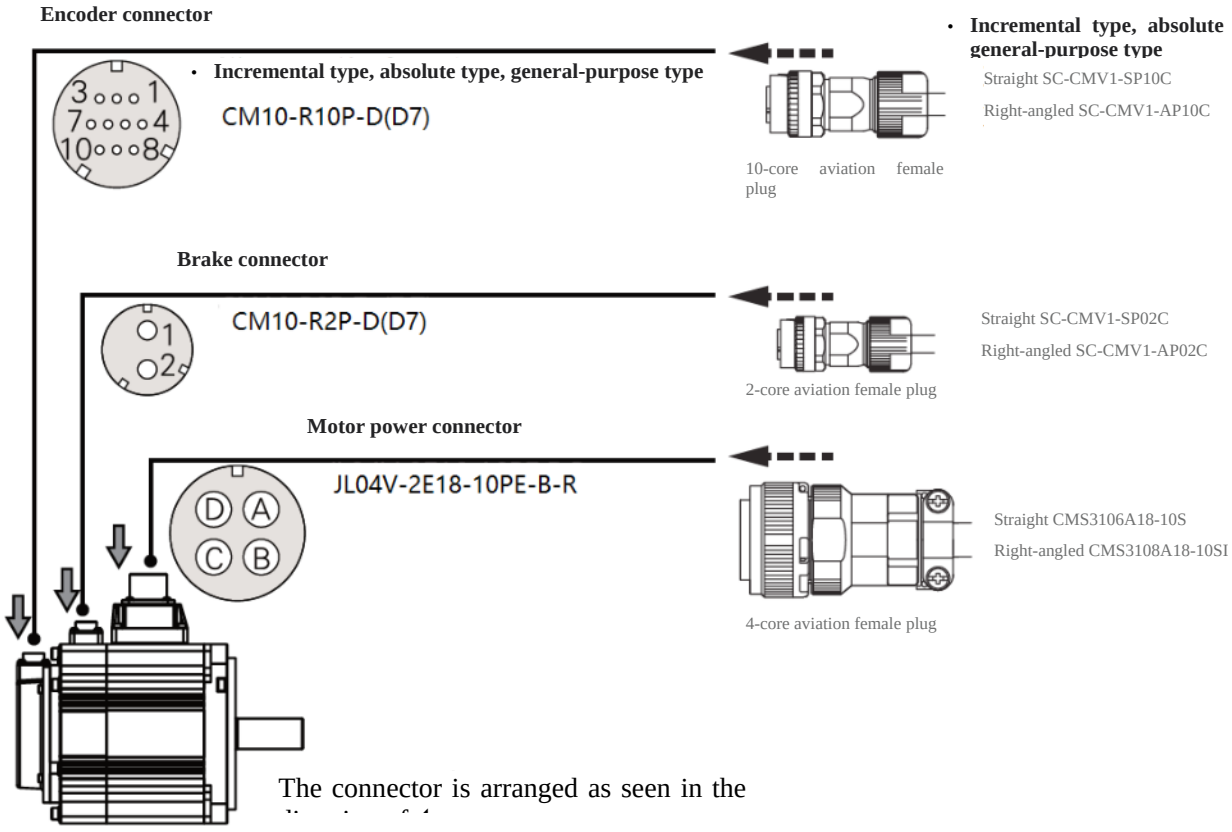
1. 50W~1.0kW (□ 80), excluding 850W



The connector is arranged as seen

Name	Pin NO.	Signal Name	Contents
Motor power connector	1	U	Phase U of motor power
	2	V	Phase V of motor power
	3	W	Phase W of motor power
	4	地线	Motor housing grounding
Brake connector	1	BRK+	Brake power supply DC24V
	2	BRK-	Brake power supply GND
Encoder connector (incremental type)	1	NC	Do not connect any device
	2	PS	Encoder signal data +
	3	$\overline{PS}$	Encoder signal data -
	4	E5V	Encoder power supply +5V
	5	E0V	Encoder power source
	6	FG（屏蔽）	Shielding
Encoder connector (absolute type)	1	BAT+	Battery BAT+
	2	NC	Do not connect any device
	3	FG（屏蔽）	Shielding
	4	PS	Encoder signal data +
	5	PS	Encoder signal data -
	6	$\overline{NC}$	Do not connect any device
	7	E5V	Encoder power supply +5V
	8	E0V/BAT-	Encoder power source/battery BAT-
	9	NC	Do not connect any device

2. 850W~2.0kW, excluding 1.0kW(□ 80)



The connector is arranged as seen in the

Name	Pin NO.	Signal Name	Contents
Motor power connector	A	U	Phase U of motor power
	B	V	Phase V of motor power
	C	W	Phase W of motor power
	D	Ground wire	Motor housing grounding
Brake connector	1	BRK+	Brake power supply DC24V
	2	BRK-	Brake power supply GND
Encoder connector (incremental type)	1	E5V	Encoder power source +5V
	2	E0V	Encoder power source
	3	NC	Do not connect any device
	4	NC	Do not connect any device
	5	PS	Encoder signal data +
	6	PS	Encoder signal data -
	7	~~NC~~	Do not connect any device
	8	NC	Do not connect any device
	9	NC	Do not connect any device
	10	FG (shielded)	Shielding
Encoder connector (absolute type)	1	E5V	Encoder power source +5V
	2	E0V	Encoder power source
	3	NC	Do not connect any device
	4	BAT+	Battery BAT+
	5	PS	Encoder signal data +
	6	PS	Encoder signal data -
	7	NC	Do not connect any device
	8	~~NC~~	Do not connect any device
	9	BAT-	Battery BAT-
	10	FG (shielded)	Shielding