

Asynchronous motors

Main spindle motors for SIMODRIVE 611

1PM4/1PM6 standard type motors
SH 100/SH 132

Selection and Ordering Data

Shaft height	Rated speed		Max. continuous speed	Max. speed ¹⁾	Rated power for star $n_{ratedY} = 1500 \text{ rpm}$		Rated power for delta $n_{rated\Delta} = 4000 \text{ rpm}$		1PM4 asynchronous motor with hollow shaft	1PM6 asynchronous motor with hollow shaft
SH	star	delta	$n_{S1cont.}$	n_{max}	P_{rated}	S6-40%	P_{rated}	S6-40%	Order No.	Order No.
	rpm	rpm	rpm	rpm	kW (HP)	kW (HP)	kW (HP)	kW (HP)	Standard type	Standard type

Oil cooling ²⁾									Forced ventilation	
100	1500	4000	12000	12000	3.7 (5)	5.25 (7.04)	3.7 (5)	6 (8)	1PM4101 - 2LF86 - 1 ■ S1	1PM6101 - 2LF8 ■ - 1 ■ ■1
	1500	4000	18000	18000	3.7 (5)	5.25 (7.04)	3.7 (5)	6 (8)	1PM4101 - 2LF86 - 1 ■ S1 ³⁾	1PM6101 - 2LF8 ■ - 1 ■ ■1 ³⁾
	1500	4000	12000	12000	7.5 (10.1)	11 (15)	7.5 (10.1)	13 (17)	1PM4105 - 2LF86 - 1 ■ S1	1PM6105 - 2LF8 ■ - 1 ■ ■1
	1500	4000	18000	18000	7.5 (10.1)	11 (15)	7.5 (10.1)	13 (17)	1PM4105 - 2LF86 - 1 ■ S1 ³⁾	1PM6105 - 2LF8 ■ - 1 ■ ■1 ³⁾
132	1500	4000	10000	10500	11 (15)	16.5 (22.1)	11 (15)	19.5 (26.2)	1PM4133 - 2LF86 - 1 ■ S1	1PM6133 - 2LF8 ■ - 1 ■ ■1
	1500	4000	15000	15000	11 (15)	16.5 (22.1)	11 (15)	19.5 (26.2)	1PM4133 - 2LF86 - 1 ■ S1 ³⁾	1PM6133 - 2LF8 ■ - 1 ■ ■1 ³⁾
	1500	4000	10000	10500	18.5 (24.8)	28 (38)	18.5 (24.8)	32 (43)	1PM4137 - 2LF86 - 1 ■ S1	1PM6137 - 2LF8 ■ - 1 ■ ■1
	1500	4000	12000	12000	18.5 (24.8)	28 (38)	18.5 (24.8)	32 (43)	1PM4137 - 2LF86 - 1 ■ S1 ³⁾	1PM6137 - 2LF8 ■ - 1 ■ ■1 ³⁾
	1500	4000	10000	10500	22 (30)	33 (44)	22 (30)	39 (52)	—	1PM6138 - 2LF8 ■ - 1 ■ ■1
	1500	4000	11000	11000	22 (30)	33 (44)	22 (30)	39 (52)	—	1PM6138 - 2LF8 ■ - 1 ■ ■1 ³⁾
	1500	4000	10000	10500	22 (30)	33 (44)	22 (30)	39 (52)	—	—

Water cooling ⁴⁾										
100	1500		12000	12000	5 (7)	6.5 (8.7)	—	—	1PM4101 - 2LW26 - 1 ■ S1	
	1500		18000	18000	5 (7)	6.5 (8.7)	—	—	1PM4101 - 2LW26 - 1 ■ S1 ³⁾	
	1500		12000	12000	11 (15)	14.75 (19.78)	—	—	1PM4105 - 2LW26 - 1 ■ S1	
	1500		18000	18000	11 (15)	14.75 (19.78)	—	—	1PM4105 - 2LW26 - 1 ■ S1 ³⁾	
132	1500		10000	10500	15 (20)	21 (28)	—	—	1PM4133 - 2LW26 - 1 ■ S1	
	1500		15000	15000	15 (20)	21 (28)	—	—	1PM4133 - 2LW26 - 1 ■ S1 ³⁾	
	1500		10000	10500	27 (36)	38 (51)	—	—	1PM4137 - 2LW26 - 1 ■ S1	
	1500		12000	12000	27 (36)	38 (51)	—	—	1PM4137 - 2LW26 - 1 ■ S1 ³⁾	

Type:	IM B35, IM V15, IM V36		IM B5 IM V1 IM V3	1 4 5	
Fans:		A B C D			
Without fan combined	Top/right				
with terminal box/metric	Top/DE				
cable entry	Top/NDE				
	Top/left				
<u>Axial fan/Blow-out direction below/Direction of air flow DE → NDE</u> combined with terminal box/metric cable entry			Top/right Top/DE Top/NDE Top/left	A R B R C R D R	
<u>Radial fan/Blow-out direction NDE/Direction of air flow DE → NDE</u> combined with terminal box/metric cable entry			Right side/below Right side/DE Right side/NDE 7) Right side/above	E D F D G D H D	

For type, see "Selection guide".

¹⁾ For continuous duty (with 30% n_{max} , 60% $\frac{2}{3} n_{max}$, 10% standstill) for a duty cycle time of 10 min.

For maintenance intervals for motors and components, see 1PM Motors Planning Guide.

²⁾ Star/delta changeover.

³⁾ With option **L37**: Version for increased maximum speed.

⁴⁾ Only star connection possible.

⁵⁾ Version for increased maximum speeds includes vibration severity grade SR. The following options are not possible:

- ZF gearbox mounting prepared
- Shaft seal.

⁶⁾ With default setting of the pulse frequency.

⁷⁾ 1PM6101 and 1PM6105 only.

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Selection and Ordering Data

Motor type (continued)	Rated torque for star		Rated torque for delta		Moment of inertia	Weight, approx.		Rated current for star		SIMODRIVE 611 power module	
						1PM4	1PM6			Required rated output current ⁶⁾	Order No.
	M_{rated}		M_{rated}			m	m			I_{rated}	
	S1	S6-40%	S1	S6-40%						S1	
	Nm (lb _f -ft)	Nm (lb _f -ft)	Nm (lb _f -ft)	Nm (lb _f -ft)	kgm ² (lb _f -in-s ²)	kg (lb)	kg (lb)	A	A	A	

1PM .101- ...	24 (18)	33 (24)	9 (7)	14 (10)	0.011 (0.097)	42 (93)	45 (99)	13	17.5	24	For ordering data, see "Converter systems".
1PM .101- ... ³⁾	24 (18)	33 (24)	9 (7)	14 (10)	0.011 (0.097)	42 (93)	45 (99)	13	17.5	24	
1PM .105- ...	48 (35)	70 (52)	18 (13)	31 (23)	0.024 (0.212)	67 (148)	70 (154)	23	31	24	
1PM .105- ... ³⁾	48 (35)	70 (52)	18 (13)	31 (23)	0.024 (0.212)	67 (148)	70 (154)	23	31	24	
1PM .133- ...	70 (52)	105 (77)	26 (19)	47 (35)	0.046 (0.407)	90 (198)	94 (207)	41	58	45	
1PM .133- ... ³⁾	70 (52)	105 (77)	26 (19)	47 (35)	0.046 (0.407)	90 (198)	94 (207)	41	58	45	
1PM .137- ...	118 (87)	178 (131)	44 (32)	76 (56)	0.085 (0.752)	130 (287)	135 (298)	56	79	60	
1PM .137- ... ³⁾	118 (87)	178 (131)	44 (32)	76 (56)	0.085 (0.752)	130 (287)	135 (298)	56	79	60	
1PM6138- ...	140 (103)	210 (155)	53 (39)	93 (69)	0.104 (0.920)	–	156 (344)	58	80	60	
1PM6138- ... ³⁾	140 (103)	210 (155)	53 (39)	93 (69)	0.104 (0.920)	–	156 (344)	58	80	60	

1PM4101- ...	32 (24)	41 (30)	–	–	0.011 (0.097)	42 (93)	–	18	22.5	24	For ordering data, see "Converter systems".
1PM4101- ... ³⁾	32 (24)	41 (30)	–	–	0.011 (0.097)	42 (93)	–	18	22.5	24	
1PM4105- ...	70 (52)	94 (69)	–	–	0.024 (0.212)	67 (148)	–	38	47	45	
1PM4105- ... ³⁾	70 (52)	94 (69)	–	–	0.024 (0.212)	67 (148)	–	38	47	45	
1PM4133- ...	95 (70)	134 (99)	–	–	0.046 (0.407)	90 (198)	–	55	74	60	
1PM4133- ... ³⁾	95 (70)	134 (99)	–	–	0.046 (0.407)	90 (198)	–	55	74	60	
1PM4137- ...	172 (127)	242 (178)	–	–	0.085 (0.752)	130 (287)	–	85	114	85	
1PM4137- ... ³⁾	172 (127)	242 (178)	–	–	0.085 (0.752)	130 (287)	–	85	114	85	

Options

Designation	Order code
Speed ⁵⁾	
• With increased maximum speed	L37

When ordering a motor with options, "**-Z**" should be added to the order number and the order code should also be specified for each additional required version.

Order codes must not be repeated in plain text in the order.

Order No. **1PM4101-2LF86-1AS1-Z**

Order code **L37**



1PM6 motor (radial fan),
1PM6 motor (axial fan) and 1PM4 motor (liquid-cooled)