

Asynchronous motors

Main spindle motors for SIMODRIVE 611

1PH4 standard type motors
SH 100 to SH 160

Selection and Ordering Data

Shaft height	Rated speed	Max. continuous speed			Max. speed ¹⁾			Rated power for duty type (in accordance with IEC 60034-1)			1PH4 asynchronous motor with solid shaft Water cooling
SH	n_{rated}	$n_{S1 \text{ cont.}}^{2)}$	$n_{S1 \text{ cont.}}^{3)}$	$n_{S1 \text{ cont.}}^{4)}$	$n_{max}^{2)}$	$n_{max}^{3)}$	$n_{max}^{4)}$	P_{rated}			
	rpm	rpm	rpm	rpm	rpm	rpm	rpm	S1 kW (HP)	S6-60% kW (HP)	S6-40% kW (HP)	
100	1500	5600	6500	10000	7500	9000	12000	7.5 (10.1)	8.75 (11.73)	10 (13)	1PH4103 - 4NF26
								11 (15)	12.75 (17.1)	14.75 (19.78)	1PH4105 - 4NF26
								14 (19)	16.25 (21.79)	18.75 (25.14)	1PH4107 - 4NF26
132	1500	5200	6000	9250	6700	8000	10000	15 (20)	18 (24)	21 (28)	1PH4133 - 4NF26
								22 (30)	26.5 (36)	31 (42)	1PH4135 - 4NF26
								27 (36)	32.5 (44)	38 (51)	1PH4137 - 4NF26
								30 (40)	36 (48)	42 (56)	1PH4138 - 4NF26
160	1500	4000	4500	7000	5300	6500	8000	37 (50)	45 (60)	52.5 (70.4)	1PH4163 - 4NF26
								46 (62)	55 (74)	65 (87)	1PH4167 - 4NF26
								52 (70)	62.5 (84)	73 (98)	1PH4168 - 4NF26

Encoder system: Incremental encoder sin/cos 1 V_{pp}, 2048 pulses/revolution without C or D track

N

Options

Designation	Order code	Designation	Order code
Bearing version (view drive end) (standard = duplex bearing) • Single bearing for coupling, for low to medium cantilever forces or planetary gear units (e.g. mounting of a ZF gearbox 2LG43... ⁵⁾ ⁶⁾	K00	Shaft seal (DE) • Radial shaft sealing ring, oil-tight, IP65	K18 ¹⁰⁾
Vibration severity in accordance with EN 60034-14 (IEC 60034-14) (standard = vibration severity grade R, duplex bearing) • Grade S with duplex bearing ⁷⁾ • Grade S with single bearing ⁷⁾ • Grade SR with single bearing ⁷⁾	K05 ⁸⁾ K02 ⁸⁾ K03 ⁸⁾	Brake ⁷⁾ • With holding brake mounted on DE	G46
Shaft and flange accuracy in accordance with DIN 42955 (IEC 60072-1) (standard = tolerance N) • Tolerance R	K04 ⁹⁾	Terminal box location (view DE) (standard = top) • On right side ⁶⁾ • On left side ⁶⁾ Rotation of terminal box on its own axis • By 90°, cable entry from drive end ¹¹⁾ • By 90°, cable entry from non-drive end ¹¹⁾ • By 180° ¹¹⁾	K09 K10 K83 K84 K85
Shaft extension (drive end) (standard = full-key balancing with keyway) • Plain shaft • Half-key balancing	K42 L69	Speed ¹²⁾ • With increased maximum speed and half-key balancing	L37
		Other • Second rating plate, separately packed	K31

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. 1PH4135-4NF26-Z

Order code(s) K05 + K09 + K31

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Selection and Ordering Data

Motor type (continued)	Rated torque	Moment of inertia	Weight approx.	Motor rated current for duty type in accordance with IEC 60034-1			Required rated output current ¹³⁾	SIMODRIVE 611 power module Order No.
	M_{rated}	J	m	I_{rated}			I_{rated}	
	Nm (lb _f -ft)	kgm ² (lb _f -in-s ²)	kg (lb)	S1 A	S6-60% A	S6-40% A	S1	
1PH4103 - ...	48 (35)	0.017 (0.150)	52 (115)	26	29	32	30	For ordering data, see "Converter systems"
1PH4105 - ...	70 (52)	0.024 (0.212)	67 (148)	38	42	47	45	
1PH4107 - ...	90 (66)	0.031 (0.274)	80 (176)	46	52	58	60	
1PH4133 - ...	95 (70)	0.046 (0.407)	90 (198)	55	65	74	60	
1PH4135 - ...	140 (103)	0.071 (0.628)	112 (247)	73	86	99	85	
1PH4137 - ...	170 (125)	0.085 (0.752)	130 (287)	85	100	114	85	
1PH4138 - ...	190 (140)	0.097 (0.859)	150 (331)	102	119	136	120	
1PH4163 - ...	235 (173)	0.17 (1.505)	175	107	125	142	120	
1PH4167 - ...	293 (216)	0.206 (1.823)	210	120	138	158	120	
1PH4168 - ...	331 (244)	0.22 (1.947)	240	148	173	197	200	

- 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 1PH Motors Planning Guide.
- 2) Bearing version for duplex bearing.
- 3) Bearing version for single bearing.
- 4) Bearing version for maximum speed using option **L37**.
- 5) Vibration severity grades S, SR and mounting position IM V36 not possible for integrated gearbox. Use order code **K00 + G97** for old ZF gearbox 2LG42... (for selecting gearing, see "Gearboxes").
- 6) Options mutually exclude each other.
- 7) Options mutually exclude each other.
- 8) Automatically includes option **K04**.
- 9) Increased shaft accuracy.
- 10) Only appropriate if the sealing ring is occasionally lubricated with oil spray/mist.
- 11) Options mutually exclude each other.
- 12) Version for increased maximum speed includes vibration severity grade SR and half-key balancing. The following options are not possible:
 - Shaft seal.
- 13) With default setting of the pulse frequency.