

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	Continuous speed, max.			Speed, max. ¹⁾			Rated power for duty type (in accordance with IEC 60034-1)			1PH4 asynchronous motor with solid shaft Water cooling Standard type
SH	n_{rated}	$n_{S1\ cont.}^{2)}$	$n_{S1\ cont.}^{3)}$	$n_{S1\ cont.}^{4)}$	$n_{max}^{2)}$	$n_{max}^{3)}$	$n_{max}^{4)}$	P_{rated}			
	rpm	rpm	rpm	rpm	rpm	rpm	rpm	S1 kW (HP)	S6-60 % kW (HP)	S6-40 % kW (HP)	
100	1 500	5 600	6 500	10 000	7 500	9 000	12 000	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	1 500	5 200	6 000	9 250	6 700	8 000	10 000	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	1 500	4 000	4 500	7 000	5 300	6 500	8 000	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} 2 048 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	K18¹⁰⁾
Vibration magnitude in accordance with EN 60034-14 (IEC 60034-14) (standard = vibration magnitude grade R, duplex bearing) • Grade S with duplex bearing ⁷⁾ • Grade S with single bearing ⁷⁾ • Grade SR with single bearing ⁷⁾	K05⁸⁾ K02⁸⁾ K03⁸⁾	Brake⁷⁾ • With holding brake mounted on DE	G46
Shaft and flange accuracy in accordance with DIN 42955 (IEC 60072-1) (standard = tolerance N) • Tolerance R	K04⁹⁾	Terminal box location (view DE) (standard = top) • On right side, cable entry from below ⁶⁾ ¹⁴⁾ • On left side, cable entry from below ⁶⁾ ¹⁴⁾ 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°, cable entry from above ¹¹⁾ ¹⁴⁾	K09 K10 K83 K84 K85
Shaft extension (drive end) (standard = full-key balancing with keyway) • Plain shaft • Half-key balancing	K42 L69	Speed¹²⁾ • 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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SH 100 to SH 160

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			SIMODRIVE 611 power module	
							Required rated output current ¹³⁾	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 % $^{2/3} n_{\text{max}}$, 10 % standstill) for a duty cycle time of 10 min. For maintenance intervals for motors and components, see 1PH Motors Configuration Manual.

²⁾ Bearing version for duplex bearing.

³⁾ Bearing version for single bearing.

⁴⁾ Bearing version for maximum speed using option L37.

⁵⁾ Vibration magnitude grades S, SR and mounting position IM V35 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 magnitude grade SR and half-key balancing. The following options are not possible:

- Shaft seal.

¹³⁾ With default setting of the pulse frequency.

¹⁴⁾ Options K09 or K10 cannot be combined with K85.