Voltages

Additional order codes for other voltages or voltage codes (without -Z supplement)

For some non-standard voltages at 50 or 60 Hz, order codes are specified. They are ordered by specifying the code digit **9** for voltage in the 11th position of the Order No. and the appropriate order code.

Special versions				or type			0.0	100	110	100	100	100	000	0.05	05.0	000	045	0.15
		plain text if required	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315 S/M	315 L
Self-ventilated motors in	Zone 1 wit	th type of p	protection		_			ies 1	MA7									
				1MA	.7 (alı	uminu	m)											
Voltage at 50 Hz 220 V∆/380 VY	9	L1R		1	1	1	1	1	1	1	1							
(209 231 VA/361 399 VY); 50 Hz output ¹)	3	LIII		·	v	v	v	v	·	v	·							
230 VΔ (218 242 VΔ); 50 Hz output ¹⁾	9	L1E		0	0	0	0	0	0	0	0							
380 V∆/660 VY (361 399 V∆/627 693 VY); 50 Hz output ¹)	9	L1L		-	1	1	1	1	1	1	1							
415 VY (394 436 VY); 50 Hz output ¹⁾	9	L1C		✓ ²⁾	1	1	1	1	1	1	1							
415 VΔ (394 436 VΔ); 50 Hz output ¹⁾	9	L1D		-	1	1	1	1	1	1	1							
Voltage at 60 Hz 3)																		
220 VΔ/380 VY; 50 Hz output	9	L2A		1	1	1	1	1	1	1	1							
380 V∆/660 VY; 50 Hz output	9	L2C		✓ ⁴⁾	1	1	1	1	1	1	1							
440 VY; 50 Hz output	9	L2Q		1	1	1	1	1	1	1	1							
440 VΔ; 50 Hz output	9	L2R		- 2)	1	1	1	1	1	1	1							
460 VY; 50 Hz output	9	L2S		✓ ²⁾		/	V	/			/							
460 V∆; 50 Hz output	9	L2T		-	<u> /</u>	<i>\</i>	<u> </u>	<i>\</i>	<u>\</u>	<u> /</u>	<u>\</u>							
575 VY; 50 Hz output	9	L2U L2V		✓ -+)	\ \ \	/ /	<u> </u>	<u>\</u>	✓ ✓	<u> /</u>	<u>\</u>							
575 V∆; 50 Hz output Non-standard voltage and/or				-	~	~	1	~	~	1	1							
Non-standard winding for vol- tages between 200 and 690 V	9	L1Y •		1	1	1	1	1	1	~	1							
(voltages outside this range are available on request) ⁵⁾																		
Self-ventilated motors in	Zone 1 wit	th type of p	protection	"e" –	Cas	t-iron	serie				,							
Voltage at 50 Hz								1MA	6 (cas	st-iror	1)							
Voltage at 50 Hz	9	L1R						1	1	1	1	1	1	1	1	1	/	
								•	•	v	•	•	•	~	v .	•	•	-
220 VΔ/380 VY (209 231 VΔ/361 399 VY); 50 Hz output ¹)	9																	
(209 231 VA/361 399 VY)	9	L1E						0	0	0	0	0	0	0	0	0	0	-
(209 231 V ₄ /361 399 VY); 50 Hz output ¹⁾								○ ✓	0 ✓	0 ✓	o ✓	○ ✓	○ ✓	o ✓	○ ✓	○ ✓	0 ✓	-
(209 231 V ₄ /361 399 VY); 50 Hz output ¹) 230 VA (218 242 VA); 50 Hz output ¹) 380 VA/660 VY	9	L1E								○ ✓ ✓	○ ✓	○ ✓	○ ✓	○ ✓	○ ✓ ✓	○ ✓ ✓	○ ✓	-
(209 231 V ₄ /361 399 VY); 50 Hz output ¹) 230 V ₄ (218 242 V ₄); 50 Hz output ¹) 380 V ₄ /660 VY (361 399 V ₄ /627 693 VY); 50 Hz output ¹)	9	L1E L1L						√	1	0 1 1 1	0 1 1 1	1	0 1 1 1	1	1	○ ✓ ✓ ✓	○ ✓ ✓ ✓	- - -
(209 231 V ₄ /361 399 VY); 50 Hz output ¹) 230 V ₄ (218 242 V ₄); 50 Hz output ¹) 380 V ₄ /660 VY (361 399 V ₄ /627 693 VY); 50 Hz output ¹) 415 VY (394 436 VY); 50 Hz output ¹)	9 9 9	L1E L1L L1C						J J	1	0 <i>I</i> <i>I</i> <i>I</i>	0 1 1 1	1	0 1 1 1	1	1	○ ✓ ✓	0 1 1 1	- / /
(209 231 V ₄ /361 399 VY); 50 Hz output ¹) 230 VA (218 242 VA); 50 Hz output ¹) 380 V ₄ /660 VY (361 399 V ₄ /627 693 VY); 50 Hz output ¹) 415 VY (394 436 VY); 50 Hz output ¹) 415 VA (394 436 VA); 50 Hz output ¹)	9 9 9	L1E L1L L1C						J J	1	○ ✓ ✓ ✓	• • • •	1	○ ✓ ✓ ✓	1	1	○ ✓ ✓ ✓	○ ✓ ✓ ✓	- - - -
(209 231 V _Δ /361 399 VY); 50 Hz output ¹) 230 VΔ (218 242 VΔ); 50 Hz output ¹) 380 VΔ/660 VY (361 399 VΔ/627 693 VY); 50 Hz output ¹) 415 VY (394 436 VΔ); 50 Hz output ¹) Voltage at 60 Hz ³) 220 VΔ/380 VY; 50 Hz output 380 VΔ/660 VY; 50 Hz output	9 9 9 9 9 9 9 9	L1E L1L L1C L1D L2A L2C						J J J	J J J	J J J	۲ ۲ ۲	✓ ✓ ✓	٠ ٠ ٠	۲ ۲ ۲	J J J	J J J	✓ ✓ ✓	
(209 231 V ₄ /361 399 VY); 50 Hz output ¹) 230 VΔ (218 242 VΔ); 50 Hz output ¹) 380 VΔ/660 VY (361 399 VΔ/627 693 VY); 50 Hz output ¹) 415 VY (394 436 VΔ); 50 Hz output ¹) 415 VΔ (394 436 VΔ); 50 Hz output ¹) Voltage at 60 Hz ³) 220 VΔ/380 VY; 50 Hz output 380 VΔ/660 VY; 50 Hz output 440 VY; 50 Hz output	9 9 9 9 9 9 9 9 9 9 9 9	L1E L1L L1C L1D L2A L2C L2Q						J J J J J J J	J J J J J J	J J J J J J	J J J J J J	J J J J J	J J J J J	J J J J J J	J J J J J J	J J J J J J	✓ ✓ ✓ ✓ ✓ ✓ ✓	- - -
(209 231 V _Δ /361 399 VY); 50 Hz output ¹) 230 VΔ (218 242 VΔ); 50 Hz output ¹) 380 VΔ/660 VY (361 399 VΔ/627 693 VY); 50 Hz output ¹) 415 VY (394 436 VΔ); 50 Hz output ¹) 415 VΔ (394 436 VΔ); 50 Hz output ¹) Voltage at 60 Hz ³⁾ 220 VΔ/380 VY; 50 Hz output 380 VΔ/660 VY; 50 Hz output 440 VY; 50 Hz output	9 9 9 9 9 9 9 9 9 9 9 9 9 9	L1E L1L L1C L1D L1D L2A L2C L2Q L2R						J J J J J J J J	J J J J J J J J		J J J J J J J J	J J J J J J J	J J J J J J J			J J J J J J J J	J J J J J J J J J J	-
(209 231 V _Δ /361 399 VY); 50 Hz output ¹) 230 VΔ (218 242 VΔ); 50 Hz output ¹) 380 VΔ/660 VY (361 399 VΔ/627 693 VY); 50 Hz output ¹) 415 VY (394 436 VΔ); 50 Hz output ¹) Voltage at 60 Hz ³) 220 VΔ/380 VY; 50 Hz output 380 VΔ/660 VY; 50 Hz output 440 VY; 50 Hz output 440 VΔ; 50 Hz output	9 9 9 9 9 9 9 9 9 9 9 9 9 9	L1E L1L L1C L1D L1D L2A L2C L2Q L2Q L2R L2S						J J J J J J J J J J		5 5 5 5 5 5 5 5 5		J J J J J J J J J		 ✓ ✓<	・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・	・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・ ・	 <	- - - -
(209 231 V ₄ /361 399 VY); 50 Hz output ¹) 230 VΔ (218 242 VΔ); 50 Hz output ¹) 380 VΔ/660 VY (361 399 V ₄ /627 693 VY); 50 Hz output ¹) 415 VY (394 436 VΔ); 50 Hz output ¹) Voltage at 60 Hz ³) 220 VΔ/380 VY; 50 Hz output 380 VΔ/660 VY; 50 Hz output 440 VY; 50 Hz output 440 VΔ; 50 Hz output 460 VY; 50 Hz output	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	L1E L1L L1C L1D L1D L2A L2C L2Q L2R L2S L2T								5 5 5 5 5 5 5 5 5 5 5 5		5 5 5 5 5 5 5 5 5 5 5 5		 ✓ ✓<	 ✓ ✓<	 ✓ ✓<	 <	- - - - 0
(209 231 V ₄ /361 399 VY); 50 Hz output ¹) 230 VΔ (218 242 VΔ); 50 Hz output ¹) 380 VΔ/660 VY (361 399 V ₄ /627 693 VY); 50 Hz output ¹) 415 VY (394 436 VY); 50 Hz output ¹) Voltage at 60 Hz ³⁾ 220 VΔ/380 VY; 50 Hz output 380 VΔ/660 VY; 50 Hz output 440 VY; 50 Hz output 440 VΔ; 50 Hz output 460 VΔ; 50 Hz output 575 VY; 50 Hz output	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	L1E L1L L1C L1D L2A L2C L2Q L2Q L2R L2S L2T L2U						J J J J J J J J J J J J J J J J J J J	J J J J J J J J J J J J J J J J	5 5 5 5 5 5 5 5 5		J J J J J J J J J		 ✓ ✓<	 ✓ ✓<	 <	 <	- - - - - 0 -
(209 231 V _Δ /361 399 VY); 50 Hz output ¹) 230 VΔ (218 242 VΔ); 50 Hz output ¹) 380 VΔ/660 VY (361 399 VΔ/627 693 VY); 50 Hz output ¹) 415 VY (394 436 VΔ); 50 Hz output ¹) Voltage at 60 Hz ³) 220 VΔ/380 VY; 50 Hz output 380 VΔ/660 VY; 50 Hz output 440 VY; 50 Hz output 440 VY; 50 Hz output 440 VΔ; 50 Hz output 460 VY; 50 Hz output 460 VΔ; 50 Hz output 575 VY; 50 Hz output 575 VΔ; 50 Hz output	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	L1E L1L L1C L1D L1D L2A L2C L2Q L2Q L2R L2S L2T L2U L2U L2V								5 5 5 5 5 5 5 5 5 5 5 5		5 5 5 5 5 5 5 5 5 5 5 5		 ✓ ✓<	 ✓ ✓<	 ✓ ✓<	 <	- - - - 0
(209 231 V ₄ /361 399 VY); 50 Hz output ¹) 230 VA (218 242 VA); 50 Hz output ¹) 380 VA/660 VY (361 399 V ₄ /627 693 VY); 50 Hz output ¹) 415 VY (394 436 VY); 50 Hz output ¹) 415 VA (394 436 VA); 50 Hz output ¹) Voltage at 60 Hz ³) 220 VA/380 VY; 50 Hz output 380 VA/660 VY; 50 Hz output 440 VY; 50 Hz output 440 VY; 50 Hz output 440 VY; 50 Hz output 440 VX; 50 Hz output 460 VY; 50 Hz output 575 VY; 50 Hz output 575 VA; 50 Hz output Non-standard voltage and/or Non-standard voltage 00 v/	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	L1E L1L L1C L1D L1D L2A L2C L2Q L2Q L2R L2S L2T L2U L2U L2V						J J J J J J J J J J J J J J J J J J J	J J J J J J J J J J J J J J J J	5 5 5 5 5 5 5 5 5 5 5 5		5 5 5 5 5 5 5 5 5 5 5 5		 ✓ ✓<	 ✓ ✓<	 <	 <	- - - - - 0 -
(209 231 V ₄ /361 399 VY); 50 Hz output ¹) 230 VA (218 242 VA); 50 Hz output ¹) 380 VA/660 VY (361 399 V ₄ /627 693 VY); 50 Hz output ¹) 415 VY (394 436 VY); 50 Hz output ¹) Voltage at 60 Hz ³) 220 VA/380 VY; 50 Hz output 380 VA/660 VY; 50 Hz output 440 VY; 50 Hz output 440 VY; 50 Hz output 440 VY; 50 Hz output 440 VA; 50 Hz output 460 VY; 50 Hz output 575 VA; 50 Hz output Non-standard voltage and/or Non-standard winding for vol-	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	L1E L1L L1C L1D L2A L2C L2Q L2Q L2R L2S L2T L2U L2U L2V L2V						 J J					J J J J J J J J J J J J J J J J J J J	 ✓ ✓<	 ✓ ✓<	 <	 ✓ ✓<	- - - - 0 -
(209 231 V ₄ /361 399 VY); 50 Hz output ¹) 230 VΔ (218 242 VΔ); 50 Hz output ¹) 380 VΔ/660 VY (361 399 V ₄ /627 693 VY); 50 Hz output ¹) 415 VY (394 436 VY); 50 Hz output ¹) Voltage at 60 Hz ³) 220 VΔ/380 VY; 50 Hz output 380 VΔ/660 VY; 50 Hz output 440 VY; 50 Hz output 440 VY; 50 Hz output 440 VY; 50 Hz output 440 VX; 50 Hz output 440 VX; 50 Hz output 440 VX; 50 Hz output 440 VX; 50 Hz output 575 VY; 50 Hz output 575 VX; 50 Hz output Non-standard voltage and/or Non-standard voltage 00 V	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	L1E L1L L1C L1D L2A L2C L2Q L2Q L2R L2S L2T L2U L2U L2V L2V					Thi	 ✓ ✓	 ✓ ✓	 J J		J J	 I I	 ✓ ✓<	 ✓ ✓<	 <	 ✓ ✓<	- - - - 0 -

Special versions	tion of the	Additional identifica- tion code with order	Mo	otor typ	e fram	e size												
	Order No.	code and plain text if required	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315 S/M	315 L
Self-ventilated motors in 2	Zone 1 wit	h type of p	protection	า "de"	– Ca	st-iro	n sei	ries 1	MJ6	and 1	MJ7							
					1M.	J6 (ca	st-iror	ı)						1MJ	7 (cas	t-iron)	
Voltage at 50 Hz																		
220 V∆/380 VY (210 230 V∆/360 400 VY); 50 Hz output ¹)	9	L1R			1	1	~	1	1	~	1	1	1	1	1	1	1	-
230 VΔ (220 240 VΔ); 50 Hz output ¹)	9	L1E			0	0	0	0	0	0	0	0	0	0	0	0	0	-
380 V∆/660 VY (360 400 V∆/625 695 VY); 50 Hz output ¹⁾	9	L1L			~	1	1	1	1	1	1	1	1	1	1	1	1	-
415 VY (395 435 VY); 50 Hz output ¹⁾	9	L1C			~	1	~	1	~	1	1	~	~	1	1	~	~	-
415 VΔ (395 435 VΔ); 50 Hz output ¹⁾	9	L1D			1	1	1	1	1	1	1	~	1	1	1	1	1	-
Voltage at 60 Hz																		
220 VΔ/380 VY; 50 Hz output	9	L2A			1	1	1	1	1	1	1	1	1	1	1	1	1	-
220 VΔ/380 VY; 60 Hz output	9	L2B			1	1	1	1	1	1	1	1	1	1	1	1	1	-
380 VΔ/660 VY; 50 Hz output	9	L2C			1	1	1	1	1	1	1	1	1	1	1	1	1	-
380 VΔ/660 VY; 60 Hz output	9	L2D			1	1	1	1	1	1	1	1	1	1	1	1	1	-
440 VY; 50 Hz output	9	L2Q			1	1	1	1	1	1	1	1	1	1	1	1	1	-
440 VY; 60 Hz output	9	L2W			1	1	1	1	1	1	1	1	1	1	1	1	1	-
440 VΔ; 50 Hz output	9	L2R			1	1	1	1	1	1	1	1	1	1	1	1	1	-
440 VΔ; 60 Hz output	9	L2X			1	1	1	1	1	1	1	1	1	1	1	1	1	-
460 VY; 50 Hz output	9	L2S			1	1	1	1	1	1	1	1	1	1	1	1	1	-
460 VY; 60 Hz output	9	L2E			1	1	1	1	1	1	1	1	1	0	0	0	0	-
460 VΔ; 50 Hz output	9	L2T			1	1	1	1	1	1	1	1	1	1	1	1	1	-
460 VΔ; 60 Hz output	9	L2F			1	1	1	1	1	1	1	1	1	0	0	0	0	_
575 VY; 50 Hz output	9	L2U			1	1	1	1	1	1	1	1	1	1	1	1	1	-
575 VY; 60 Hz output	9	L2L			1	1	1	1	1	1	1	1	1	1	1	1	1	-
575 V∆; 50 Hz output	9	L2V			1	1	1	1	1	1	1	1	1	1	1	1	1	-
575 VA; 60 Hz output	9	L2M			1	1	1	1	1	1	1	1	1	0	0	0	0	-
Non-standard voltage and/or f	requencies	;																
Non-standard winding for vol- tages between 200 and 690 V (voltages outside this range are available on request) ⁵⁾	9	L1Y •			1	1	1	1	1	1	1	1	1	1	1	1	1	

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- _
- Without additional charge With additional charge Not possible This order code only determines the price of the version Additional plain text is required.

- For order codes **L1C**, **L1D**, **L1E**, **L1L**, **L1R**, **L1U** and **L1A** a rated voltage range is also marked on the rating plate. 1)
- 2) For motors 1MA7 060-4 (motor series 1MA7 frame size 63, 4-pole) not possible.
- 3) Special certification is required for 60 Hz.

- ⁴⁾ For motors 1MA7 060-2, 1MA7 060-4 and 1MA7 063-4 (motor series 1MA7 frame size 63, 2- and 4-pole) not possible.
- ⁵⁾ Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

Special versions

Voltage code 11th position of the Order No. Code and plain text if required

Motor type frame size

required 56 63 71 80 90 100 112 132 160 180 200 225 250 280 315 Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions – Aluminum series 1LA7 and 1LA5

Aluminum series TLAT an			1LA	7 (alu	minu	n) ¹⁾						1LA	\5	_	
						<i>'</i>						(alu	minu	n) ¹⁾	
Voltage at 50 Hz															
220 VΔ/380 VY (440 VY at 60 Hz) (210 230 VΔ/360 400 VY); 50 Hz output ²	9	L1R	1	1	1	1	1	1	1	1	1	1	1	1	
230 VΔ (220 240 VΔ); 50 Hz output ²⁾	9	L1E	0	0	0	0	0	0	0	0	0	0	0	0	
380 V∆/660 VY (440 V∆ at 60 Hz) (360 400 V∆/625 695 VY); 50 Hz output ²⁾	9	L1L	1	1	1	1	1	1	1	1	1	1	1	1	
415 VY (395 435 VY); 50 Hz output ²⁾	9	L1C	~	1	~	1	~	1	1	~	1	~	1	1	
415 VΔ (395 435 VΔ); 50 Hz output ²⁾	9	L1D	~	~	~	~	~	1	~	~	1	~	1	1	
400 VY (380 420 VY); 50 Hz output ²⁾	9	L1A	0	0	0	0	0	0	0	0	0	0	0	0	
400 VΔ (380	9	L1B	0	0	0	0	0	0	0	0	0	0	0	0	
400 V∆ (460 V∆ bei 60 Hz) (380 420 V∆); 50 Hz output ²)	9	L1U	0	0	0	0	0	0	0	0	0	0	0	0	
400 VΔ 87 Hz output (4-pole to 8-pole only) ³⁾	9	L3A	0	0	0	0	0	0	0	0	0	0	0	0	
Voltage at 60 Hz															
220 VΔ/380 VY; 50 Hz output	9	L2A	1	1	1	1	1	1	1	1	1	1	1	1	
220 VΔ/380 VY; 60 Hz output	9	L2B	1	1	1	1	1	1	1	1	1	1	1	1	
380 VΔ/660 VY; 50 Hz output	9	L2C	✓	1	1	1	1	1	1	1	1	1	1	1	
380 V∆/660 VY; 60 Hz output	9	L2D	1	1	1	1	1	1	1	1	1	1	1	1	
440 VY; 50 Hz output	9	L2Q	1	1	1	1	1	1	1	1	1	1	1	1	
440 VY; 60 Hz output	9	L2W	1	1	1	1	1	1	1	1	1	1	1	1	
440 V∆; 50 Hz output	9	L2R	1	1	1	1	1	1	1	1	1	1	1	1	
440 VΔ; 60 Hz output	9	L2X	1	1	1	1	1	1	1	1	1	1	1	1	
460 VY; 50 Hz output	9	L2S	1	1	1	1	1	1	1	1	1	1	1	1	
460 VY; 60 Hz output	9	L2E	0	0	0	0	0	0	0	0	0	0	0	0	
460 V∆; 50 Hz output	9	L2T	1	1	1	1	1	1	1	1	1	1	1	1	
460 VΔ; 60 Hz output	9	L2F	0	0	0	0	0	0	0	0	0	0	0	0	
575 VY; 50 Hz output	9	L2U	1	1	1	1	1	1	1	1	1	1	1	1	
575 VY; 60 Hz output	9	L2L	1	1	1	1	1	1	1	1	1	1	1	1	
575 V∆; 50 Hz output	9	L2V	1	1	1	1	1	1	1	1	1	1	1	1	
575 V∆; 60 Hz output	9	L2M	1	1	1	1	1	1	1	1	1	1	1	1	
Non-standard voltage and/or t	frequ	uencies													
Non-standard winding for vol- tages between 200 V and 690 V (voltages outside this range are available on request) ⁴⁾	9	L1Y •	1	~	1	~	1	1	1	1	1	1	1	1	

- Without additional charge
- ✓ With additional charge
- This order code only determines the price of the version Additional plain text is required.
- Zone 2 is not possible for motor series 1LA5 and motor series 1LA7 for frame size 56.
- ²⁾ For Zones 21 and 22, for order codes L1C, L1D, L1E, L1L, L1R, L1U, L1B and L1A a rated voltage range is also marked on the rating plate.
- ³⁾ The rating data for converter-fed operation is also provided in a table on the rating plate.
- ⁴⁾ Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

Special versions

Voltage Additional code identifica-11th posi-tion of the with order Order No. code and plain text if Motor type frame size

required	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zones 2, 21 and 22 with type	of pro	otect	ion "r	n" or	prote	ection	agai	nst d	ust ex	kplos	sions				
Aluminum series 1LA9															

Aluminum series TEA9			 41.4	0 / - 1									_	
Valtage at 50 Hz			ILA	A9 (alu	minui	m)								
Voltage at 50 Hz	•	145			,			,	,	,	,	,	,	
220 V∆/380 VY (440 VY at 60 Hz) (210 230 V∆/360 400 VY); 50 Hz output ¹)	9	L1R	~	1	~	~	~	1	1	1	1	1	1	
230 VΔ (220, 240 VΔ); 50 Hz output ¹)	9	L1E	0	0	0	0	0	0	0	0	0	0	0	
380 V∆/660 VY (440 V∆ at 60 Hz) (360 400 V∆/625 695 VY); 50 Hz output ¹)	9	L1L	5	1	1	1	1	1	1	1	1	1	1	
415 VY (395, 435 VY); 50 Hz output ¹⁾	9	L1C	~	~	~	~	~	1	1	1	~	1	1	
415 VΔ (395 435 VΔ); 50 Hz output ¹⁾	9	L1D	1	1	1	1	1	1	1	1	1	1	1	
400 VY (380, 420 VY); 50 Hz output ¹)	9	L1A	0	0	0	0	0	0	0	0	0	0	0	
400 VΔ (380 420 VΔ); 50 Hz output ¹)	9	L1B	0	0	0	0	0	0	0	0	0	0	0	
400 VΔ (460 VΔ bei 60 Hz) (380 420 VΔ); 50 Hz output ¹⁾	9	L1U	0	0	0	0	0	0	0	0	0	0	0	
400 V Δ 87 Hz output (4-pole to 8-pole only) ²⁾	9	L3A	0	0	0	0	0	0	0	0	0	0	0	
Voltage at 60 Hz														
220 VA/380 VY; 50 Hz output	9	L2A	1	1	1	1	1	1	1	1	1	1	1	
220 VA/380 VY; 60 Hz output	9	L2B	1	1	1	1	1	1	1	1	1	1	1	
380 V∆/660 VY; 50 Hz output	9	L2C	1	1	1	1	1	1	1	1	1	1	1	
380 V∆/660 VY; 60 Hz output	9	L2D	1	1	1	1	1	1	1	1	1	1	1	
440 VY; 50 Hz output	9	L2Q	1	1	1	1	1	1	1	1	1	1	1	
440 VY; 60 Hz output	9	L2W	1	1	1	1	1	1	1	1	1	1	1	
440 VΔ; 50 Hz output	9	L2R	1	1	1	1	1	1	1	1	1	1	1	
440 VΔ; 60 Hz output	9	L2X	1	1	1	1	1	1	1	1	1	1	1	
460 VY; 50 Hz output	9	L2S	1	1	1	1	1	1	1	1	1	1	1	
460 VY; 60 Hz output	9	L2E	0	0	0	0	0	0	0	0	0	0	0	
460 VΔ; 50 Hz output	9	L2T	1	1	1	1	1	1	1	1	1	1	1	
460 VΔ; 60 Hz output	9	L2F	0	0	0	0	0	0	0	0	0	0	0	
575 VY; 50 Hz output	9	L2U	1	1	1	1	1	1	1	1	1	1	1	
575 VY; 60 Hz output	9	L2L	1	1	1	1	1	1	1	1	1	1	1	
575 V∆; 50 Hz output	9	L2V	1	1	1	1	1	1	1	1	1	1	1	
575 VΔ; 60 Hz output	9	L2M	1	1	1	1	1	1	1	1	1	1	1	
Non-standard voltage and/or f	freq	uencies												
Non-standard winding for vol- tages between 200 and 690 V (voltages outside this range are available on request) ³⁾	9	L1Y •	1	1	1	1	1	1	1	1	1	1	1	

Without additional charge With additional charge 0

1

This order code only determines the price of the version – Additional plain text is required.

- ¹⁾ For Zones 21 and 22, for order codes L1C, L1D, L1E, L1L, L1R, L1U, L1B and L1A a rated voltage range is also marked on the rating plate.
- 2) The rating data for converter-fed operation is also provided in a table on the rating plate.
- 3) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

Special versions	Voltage	Additional		Mot	or type	e fran	ne size	9											
	code 11th posi-	identifica- tion code																	
	tion of the	with order																	
	Order No.	code and plain text if		56	63	71	00	90	100	110	100	160	100	200	225	250	280	315	315
		required		50	03	71	80	90	100	112	132	100	100	200	225	200	200	S/M	L
Self-ventilated motors in 2	Zones 2, 2 [.]	1, 22 with ty	ype of p	rote	ction	"n" (or pro	otecti	on a	gain	st du	st exp	olosio	ons –					
Cast-iron series 1LA6 and	1LG4								_										
									1LA	.6 (ca	st-iro	n)	1LG	4 (cas	t-iron))			
Voltage at 50 Hz									_										
220 V∆/380 VY (440 VY at 60 Hz)	9	L1R							~	~	1	1	1	~	~	1	~	1	-
(210 230 VA/360 400 VY); 50 Hz output ¹⁾																			
230 V∆ (220 240 V∆); 50 Hz output ¹⁾	9	L1E							0	0	0	0	0	0	0	0	0	0	-
380 VΔ/660 VY	9	L1L							1	1	1	1	1	1	1	1	1	1	1
(440 VA at 60 Hz)	•									•	•	•	•	•	•	•	•	•	•
(360 400 V∆/625 695 VY); 50 Hz output ¹⁾																			
	9	L1C							1	1	1	1	1	1	1	1	1	1	_
415 VY (395 435 VY); 50 Hz output ¹⁾	-												·	-	-	-			
415 V∆ (395 435 V∆); 50 Hz output ¹⁾	9	L1D							~	1	1	1	1	1	1	1	1	1	1
	9	L1A							0	0	0	0	0	0	0	0	0	0	
400 VY (380 420 VY); 50 Hz output ¹⁾	-								0	0									_
400 V∆ (380 420 V∆); 50 Hz output ¹⁾	9	L1B							0	0	0	0	0	0	0	0	0	0	0
400 VΔ (460 VΔ bei 60 Hz)	9	L1U							0	0	0	0	0	0	0	0	0	0	0
(380 420 V <u>4</u>); 50 Hz output ¹⁾																			
400 VΔ	9	L3A							0	0	0	0	O. R	. O. R.	0. R.	. O. R	. O. R	. O. R	. –
87 Hz output																			
(2-pole to 4-pole only) ²⁾																			
Voltage at 60 Hz	9	L2A							1	1	1	1	1	1	1	1	1	1	
220 V∆/380 VY; 50 Hz output 220 V∆/380 VY; 60 Hz output	9	L2A L2B							✓ ✓	✓ ✓	✓ ✓	<u> </u>	<i>v</i> <i>v</i>	<u> </u>	✓ ✓	<u> </u>	<u> </u>	✓ ✓	_
380 VΔ/660 VY; 50 Hz output	9	L2D L2C							✓ ✓	✓ ✓	<i>v</i> ✓	<i>v</i> <i>v</i>	✓ ✓	✓ ✓	<i>v</i> <i>v</i>	<i>v</i> <i>v</i>	✓ ✓	<i>v</i> <i>v</i>	-
380 V∆/660 VY; 60 Hz output	9	L2D							· ✓	~	· ·	· ·	• •	· ·	· ·	· ·	✓ ✓	✓ ✓	v
440 VY; 50 Hz output	9	L2Q							· ✓	~	· ·	/		· ·	· ·	· ·	· ·	· ·	-
440 VY; 60 Hz output	9	L2W							✓	· /	· /	· /	✓	· ✓	· ✓	· ✓	/	/	_
440 V∆; 50 Hz output	9	L2R							✓	· ·	· /	· /	✓	· ·	· ·	· ✓	· ·	· /	1
440 VΔ; 60 Hz output	9	L2X							✓	1	1	· /	1	· ✓	· ·	/	· ·	· ·	· ·
460 VY; 50 Hz output	9	L2S							1	1	1	/	1	1	1	1	· ·	1	_
460 VY; 60 Hz output	9	L2E							0	0	0	0	0	0	0	0	0	0	-
460 V∆; 50 Hz output	9	L2T							1	1	1	1	1	1	1	1	1	1	1
460 V∆; 60 Hz output	9	L2F							0	0	0	0	0	0	0	0	0	0	0
575 VY; 50 Hz output	9	L2U							1	1	1	1	1	1	1	1	1	1	-
575 VY; 60 Hz output	9	L2L							✓	1	1	1	1	1	1	1	1	1	-
575 VA; 50 Hz output	9	L2V							✓	1	1	1	1	1	1	1	1	1	1
575 V∆; 60 Hz output	9	L2M							0	0	0	0	0	0	0	0	0	0	0
Non-standard voltage and/or																			
Non-standard winding for vol-	9	L1Y •							1	1	1	1	1	1	1	1	1	1	1
tages between 200 and 690 V (voltages outside this range are available on request) ³⁾																			
are available on request) ³⁾																			

Without additional charge With additional charge 0

1

O. R. Possible on request

Not possible

This order code only determines the price of the version – Additional plain text is required. •

- For Zones 21 and 22, for order codes L1C, L1D, L1E, L1L, L1R, L1U, L1B and L1A a rated voltage range is also marked on the rating plate. 1)
- 2) The rating data for converter-fed operation is also provided in a table on the rating plate.
- 3) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

Special versions	Voltage code 11th posi- tion of the Order No.	Additional identifica- tion code with order code and plain text if required			r type 63	e fram 71	e size 80	90	100	11	2 13	2 160	180	200	225	250	280	315 S/M	
Self-ventilated motors in 2	Zones 2. 2		vith type	of pr	otec	tion	"n"	or pr	otect	lion	adai	inst dı	ıst ex	nlosi	ions -	_		0,101	-
Cast-iron series 1LG6				01 p1	0100			or pr	01001		ugu	inot at							
V													1LG	6 (cas	t-iron))			
Voltage at 50 Hz																			
220 VΔ/380 VY (440 VY at 60 Hz) (210 230 VΔ/360 400 VY); 50 Hz output ¹	9	L1R											/	<i>,</i>	/	/	/	1	_
230 VΔ (220 240 VΔ); 50 Hz output ¹⁾	9	L1E											0	0	0	0	0	0	-
380 V∆/660 VY (440 V∆ at 60 Hz) (360 400 V∆/625 695 VY); 50 Hz output ¹)	9	L1L											1	1	1	1	1	1	1
415 VY (395 435 VY); 50 Hz output ¹⁾	9	L1C											~	1	1	1	1	~	-
415 VΔ (395 435 VΔ); 50 Hz output ¹⁾	9	L1D											~	1	1	1	1	1	1
400 VY (380 420 VY); 50 Hz output ¹⁾	9	L1A											0	0	0	0	0	0	-
400 V∆ (380 420 V∆); 50 Hz output ¹⁾	9	L1B											0	0	0	0	0	0	0
400 V∆ (460 V∆ bei 60 Hz) (380 420 V∆); 50 Hz output ¹)	9	L1U											0	0	0	0	0	0	0
400 VΔ 87 Hz output (4-pole to 8-pole only) ²⁾	9	L3A											0. R	. O. R.	0. R	. O. R	. O. R	. O. F	l. —
Voltage at 60 Hz																			
220 VΔ/380 VY; 50 Hz output	9	L2A											✓	1	1	1	1	1	-
220 VΔ/380 VY; 60 Hz output	9	L2B											1	1	1	1	1	1	-
380 V∆/660 VY; 50 Hz output	9	L2C											✓	1	1	1	1	1	1
380 V∆/660 VY; 60 Hz output	9	L2D											✓	1	1	1	1	1	1
440 VY; 50 Hz output	9	L2Q											✓	1	1	1	1	1	-
440 VY; 60 Hz output	9	L2W											1	✓ 	✓ 			1	-
440 VΔ; 50 Hz output	9	L2R											✓ ✓	✓ ✓	✓ ✓	V	V	1	✓ ✓
440 V∆; 60 Hz output	9	L2X											1	1	1	1	1	1	✓
460 VY; 50 Hz output	9	L2S											1	✓ 	<u> /</u>	/	/	/	-
460 VY; 60 Hz output	9	L2E											0	0	0	0	0	0	-
460 V∆; 50 Hz output	9	L2T											✓ ○	1	1	✓ 	✓ 	/	1
460 V∆; 60 Hz output	9	L2F											0	0	0	0	0	0	0
575 VY; 50 Hz output	9	L2U											٧ ١	✓ ✓	<u> </u>	V	V	<u> </u>	-
575 VY; 60 Hz output	9	L2L											۲ ۲	✓ ✓	<u>\</u>	1	1	<i>\</i>	-
575 V∆; 50 Hz output	9	L2V											✓ ○	✓ ○	<u> </u>	✓ ○	✓ ○	✓ ○	✓ ○
575 V∆; 60 Hz output	9	L2M											0	0	0	0	0	0	0
Non-standard voltage and/or f														,					,
Non-standard winding for vol- tages between 200 and 690 V (voltages outside this range are available on request) ³⁾	9	L1Y•																	

0

Without additional charge With additional charge

✓ With additional charg O. R. Possible on request

Not possible

This order code only determines the price of the version – Additional plain text is required. •

- ¹⁾ For Zones 21 and 22, for order codes L1C, L1D, L1E, L1L, L1R, L1U, L1B and L1A a rated voltage range is also marked on the rating plate.
- 2) The rating data for converter-fed operation is also provided in a table on the rating plate.
- 3) Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

Types of construction

Additional order codes for other types of construction or type of construction codes (without -Z supplement)

Order codes have been defined for some special types of construction. They are ordered by specifying the code digit **9** for the type of construction in the 12th position of the Order No. and the appropriate order code.

Special versions	Type of construc-	Additional identifica-		Motor	r typ	e fra	me s	ize												
	tion code 12th posi- tion of the	tion code with order		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315 S/M	315 L 2- pole	4-, 6-, 8- pole
Self-ventilated motors in Zor	ne 1 with t	ype of prot	ection	"e" -	- Al	umi	num	seri	ies 1	MA7										100.0
					1MA	17 (al	lumir	num)												
Without flange																				
IM V5 with protective cover 1) 2)	9	M1F			/	1	1	1	1	1	1	1								
With standard flange																				
IM V18 with protective cover ^{1) 2)}	9	M2A			/	✓	1	1	1	1	1	1								
With special flange																				
IM V18 with protective cover 1) 2)	9	M2B			/	1	1	1	1	1	1	1								
IM B34	9	M2C			/	✓	1	1	1	1	1	✓								
Self-ventilated motors in Zor	ne 1 with t	ype of prot	ection	• "e" -	- Ca	ast-i	ron	serie	_											
									1M/	46 (ca	ast-ir	on)								
Without flange																			0	
IM V6 ^{1) 3)}	9	M1E							-	-	-	-	-	-	-	-	-	-	✓ ⁴⁾	0
IM V5 with protective cover ^{1) 2) 3)}	9	M1F							1	1	1	1	1	1	1	1	1	1	✓ ⁴⁾	1
With flange																				
IM V3 ^{1) 5)}	9	M1G							-	-	-	-	1	1	1	1	1	1	-	-
With special flange																				
IM V18 with protective cover ^{1) 2)}	9	M2B							1	1	1	1	-	-	-	-	-	-	-	-
IM B34	9	M2C							1	1	1	1	-	-	-	-	-	-	-	-

O Without additional charge

With additional charge

Not possible

- ¹⁾ The following applies for explosion-proof motors: In the case of the types of construction with shaft extension down, the version "with protective cover" is required. For types of construction with shaft extension pointing upwards, a suitable cover must be implemented to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0). The cover must not block the cooling air-flow.
- ²⁾ The "Second shaft extension" option, order code **K16** is not possible.
- ³⁾ If motors of frame sizes 180 M to 315 L are mounted on the wall, it is recommended that the motor feet are supported.
- ⁴⁾ 60 Hz version is possible on request.
- ⁵⁾ 1MA6 motors of frame sizes 225 S to 315 M are supplied with two screw-in eyebolts in accordance with IM B5, whereby one can be relocated in accordance with IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.

Special versions	Type of construc- tion code 12th posi- tion of the Order No.	Additional identifica- tion code with order code and plain text if required		Moto	or type 63	e frame 71	size	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zor	ne 1 with t		tection			ast-ir			1MJ6	and	1MJ7							
						1MJ	6 (cas	t-iron)						1MJ	7 (cas	t-iron))
Without flange																		
IM V5 with protective cover 1) 2) 3)	9	M1F				1	1	1	1	1	1	1	1	1	1	1	1	1
With flange																		
IM V3 ^{1) 4)}	9	M1G				_	-	_	-	_	_	_	1	1	1	1	1	1
With standard flange																		
IM V18 with protective cover 1) 2)	9	M2A				1	1	1	-	-	-	-	-	-	-	-	-	-
With special flange																		
IM V18 with protective cover 1) 2)	9	M2B				1	1	-	-	-	-	-	-	-	-	-	-	-
IM B34	9	M2C				1	1	-	-	-	-	-	-	-	-	-	-	-

With additional charge

Not possible

- ¹⁾ The following applies for explosion-proof motors: In the case of the types of construction with shaft extension down, the version "with protective cover" is required. For types of construction with shaft extension pointing upwards, a suitable cover must be implemented to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0). The cover must not block the cooling air-flow.
- ²⁾ The "Second shaft extension" option, order code **K16** is not possible.
- ³⁾ If motors of frame sizes 180 M to 315 M are mounted on the wall, it is recommended that the motor feet are supported.
- ⁴⁾ 1MJ7 motors of frame sizes 225 S to 315 M are supplied with two screw-in eyebolts in accordance with IM B5, whereby one can be relocated in accordance with IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.

Special versions	Type of	Additional	Мо	tor tvr	oe fra	ime s	ize												
	construc-	identifica-			50		20												
	tion code	tion code with order	56	63	71	80	90	100) 112	132	160	180	200	225	250	280		315 L	-
	tion of the	code and															S/N		
	Order No.	plain text if																2- pole	4-, 6-
		required																pole	8-
							_	_		_					_	_	_	_	pole
Self-ventilated motors in Zo Aluminum series 1LA7 and	nes 2, 21 a	and 22 with typ	e of p	rote	ctior	n "n'	or p	orote	ectio	n ag	ains	t du	st exp	olosi	ons				
Aluminum series TLA7 and	ILAJ		41.4	7/-1		um)	1)					41.4	F						
			11/	47 (ai	umin	ium)	.,					1LA (alu	minu	m) ¹⁾					
Without flange														<i>`</i>					
IM V5 with protective cover ^{2) 3)}	9	M1F	-	1	1	1	1	1	1	1	1	1	1	1					
With flange	·			•	•	•	•	•	•	•	•	•	•						
IM V3 ^{2) 4)}	9	M1G	-	_	_	_	_	_	_	_	_	1	1	1					
With standard flange																			
IM V18 with protective cover ^{2) 3)}	9	M2A	-	1	1	1	1	1	1	1	1	-	_	_					
With special flange	-								-										
IM V18 with protective cover ^{2) 3)}	9	M2B	_	1	1	1	1	1	1	1	1	_	_	_					
IM B34	9	M2C	1		· /	1	· /	1	1	· /	1	_	_	_					
Self-ventilated motors in Zo	•		e of r	rote	ctior	n "n'	' or I	arote	ectio	n ad	ains	t due	st exr	olosi	ons	_			
Aluminum series 1LA9	1100 2, 210			1010	01101		01	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.000	n ug	unio	L GG		1001	0110				
			1L/	49 (al	umin	um)													
Without flange																			
IM V5 with protective cover $^{2)3)}$	9	M1F	_	1	1	1	1	1	1	1	1	1	1						
With flange	•			•	•	•	•	•	•	•	•	•	•						
IM V3	9	M1G	-	_	_	_	_	_	_	_	_	1	1						
With standard flange	J	MITC										•	•						
IM V18 with protective cover ^{2) 3)}	9	M2A		1	1	1	1	1	1	1	1	_	_						
With special flange	J	MI2A		•	•	•	•	•	•	•	•								
IM V18 with protective cover ^{2) 3)}	9	M2B		1	1	1	1	1	1	1	1								
IM B34	9	M2C	-	v /	v /	v /	v /	v /	v /	v /	v /	_	-						
Self-ventilated motors in Zo	•		v of r	v	v ctior	• • "n'	° or I	v	v	v n ad	v	– t duu	- et ovr	olosi	one	_			
Cast-iron series 1LA6 and 1	LG4		e oi p	1010	Clioi			51010	-0110	n ay	anis	Luu	SI CAL	51051	0115				
								1L/	A6 (ca	ast-ir	on)	11.0	4 (ca	st-iro	n)	_	_	_	
Without flange															<i>`</i>				
IM V6 ^{2) 6)}	9	M1E						_	_	_	_	-	_	_	_	_	_	✓ ⁵⁾	0
IM V5 with protective cover ^{2) 3) 6)}	9	M1F						1	1	1	1	1	1	1	1	1	1	✓ ⁵⁾	1
With flange																			
IM V3 ^{2) 7)}	9	M1G						_	_	_	_	1	1	1	1	1	1	_	_
With standard flange																			
IM V18 with protective cover $^{2)3)}$	9	M2A						1	1	1	1	_	_	_	_	_	_	_	_
With special flange																			
IM V18 with protective cover $^{2)3)}$	9	M2B						1	./	./	1	_	_	_	_	_	_	_	_
IM B34	9	M2C						•	•	•	• ./	_	_	_	_	_	_	_	_
Self-ventilated motors in Zo	-		e of r	rote	ctior	ո "n'	' or I	arote	ectio	n ad	ains	t due	st exr	olosi	ons	- Ca	ast-ir	'on se	ries
1LG6	1103 2, 21			1010	clioi			51010		n ay	anis	L uu		1031	0113	- 00	191-11	011 30	1103
												11.0	6 (ca	st-iro	n)				
Without flange															,				
IM V6 ⁶⁾	9	M1E										-	_	_	_	_	_	√ ⁵⁾	0
IM V5 with protective cover ^{2) 3) 6)}		M1F										1	1	1	1	1	1	✓ ⁵⁾	1
With flange												•							
IM V3 ^{2) 7)}	9	M1G										1	1	1	1	1	1		
		inte										•	•	•	•		•		
 Without additional cha 	rge																		

1 With additional charge

Not possible

- 1) Zone 2 is not possible for motor series 1LA5 and motor series 1LA7 for frame size 56.
- 2) The following applies for explosion-proof motors: In the case of the types of construction with shaft extension down, the version "with protective over is required. For types of construction with shaft extension pointing upwards, a suitable cover must be implemented to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0). The cover must not block the cooling air-flow.
- 3) The "Second shaft extension" option, order code K16 is not possible.
- 4) For frame sizes 180 M to 225 M, the 1LA5 motors can be supplied with two additional eyebolts; state identification code "-Z" and order code K32.

⁵⁾ 60 Hz version is possible on request.

- 6) If motors of frame sizes 180 M to 315 L are mounted on the wall, it is recommended that the motor feet are supported.
- ⁷⁾ 1LG4/1LG6 motors of frame sizes 225 S to 315 M are supplied with two screw-in eyebolts in accordance with IM B5, whereby one can be relocated in accordance with IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.

Options

Options or order codes (supplement -Z is required)

Options or order codes (supp	lement -Z is	s required)														
Special versions	Additional identifica- tion code -Z with order	Motor	type f	rame s	ize											
	code and plain text if															
	required	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zon	ne 1 with typ	be of protect	ion "	e" – A	lumin	um se	eries 1	MA7								
			1MA7	7 (alum	ninum)											
Design for Zones 1, 2, 21 and 22 a	_	ATEX														
T1/T2 on rating plate 1)	C30		-	-	-	-	-	-	0	0						
Motor protection Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping ²)	A11		1	1	1	1	1	1	1	1						
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping ²⁾	A12		1	1	1	1	1	1	1	1						
Motor connection and connection	n box															
Connection box on RHS	K09		-	-	1	1	1	1	1	1						
Connection box on LHS	K10		-	-	✓	1	1	✓	✓	1						
Rotation of the connection box through 90°, entry from DE	K83		1	1	1	1	1	1	1	1						
Rotation of the connection box through 90°, entry from NDE	K84		1	1	1	1	1	1	1	1						
Rotation of connection box through 180°	K85		1	1	1	1	0	0	0	0						
Windings and insulation																
Increased air humidity/tempera- ture with 30 to 60 g water per m ³ of air	C19		1	1	1	1	1	1	1	1						
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. $4 \%^{3}$	C22		1	1	1	1	1	1	1	1						
Temperature class 155 (F), used acc. to 130 (B), coolant tem- perature 50 °C, derating approx. 8 $\%^{3)}$	C23		1	1	1	1	1	1	1	1						
Temperature class 155 (F), used acc. to 130 (B), coolant tem- perature 55 °C, derating approx. 13 % ³⁾	C24		1	1	1	1	1	1	1	1						
Temperature class 155 (F), used acc. to 130 (B), coolant tem- perature 60 °C, derating approx. 18 % ³⁾	C25		1	1	1	1	1	1	1	1						
Increased air humidity/tempera- ture with 60 to 100 g water per m ³ of air	C26		1	1	1	1	~	1	1	1						
Colors and paint finish																
Special finish in RAL 7030 stone gray																
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005	Y54 ● and special finish RAL		~	1	1	1	1	1	1	1						
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors" on Catalog D 81.1 part 0	Y51 • and special finish RAL		1	1	1	1	1	1	1	1						
Offshore special finish	M91		0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.						
Unpainted	K23		0	0	0	0	0	0	0	0						
(only cast iron parts primed)	KOA				(((((
Unpainted, only primed	K24		1	1	1	1	1	1	1	1						

Special versions	Additional identifica- tion code -Z	Motor	r type	frame s	size											
	with order code and plain text if															
	required	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zon	e 1 with typ	be of protect				um s	eries									
	6		1MA	7 (alun	ninum)											
Mechanical design and degrees of			1		,	,	,	1	1	1						
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of			~	•	•	v	•	V	V	•						
construction																
Low-noise version for 2-pole motors with clockwise direction of rotation ⁴)	K37		-	-	-	-	-	-	1	1						
Low-noise version for 2-pole motors with counter-clockwise direction of rotation ⁴⁾	K38		-	-	-	-	-	-	1	1						
IP65 degree of protection	K50		1	1	1	1	1	1	1	1						
IP56 degree of protection (non-heavy-sea)	K52		~	1	~	1	1	1	1	1						
Vibration-proof version	L03		1	1	1	1	1	1	1	1						
Condensation drainage holes 5)	L12		✓	1	1	1	1	1	1	1						
Rust-resistant screws (externally)	M27		-	-	1	1	1	1	1	1						
Coolant temperature and site altit																
Coolant temperature –40 °C to +40 °C for EX motors ⁶⁾	D19		~	1	1	1	1	1	1	1						
Designs in accordance with stand	-	ecifications														
CCC China Compulsory Certification ⁷⁾	D01		~	1	1	1	-	-	-	-						
VIK version	K30		1	1	1	1	1	1	1	1						
Bearings and lubrication																
Bearing design for increased cantilever forces	K20		-	-	-	-	1	1	1	1						
Regreasing device	K40		-	-	-	-	<u> /</u>	/	/	/						
Located bearing DE	K94		✓ ✓	/	/	/		/	/	<u> </u>						
Located bearing NDE	L04		~	1	1	1	1	1	1							
Balance and vibration quantity			_	_	_	_	_	_	_	_						
Vibration quantity A	1/00															
Vibration quantity B	K02		۲ ۲	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>						
Full key balancing	L68 M37		√ √	<u> </u>		✓ ✓	<u> </u>	✓ ✓	<u> </u>	<u> </u>						
Balancing without key Shaft and rotor	WI37		V	~	~	~	~	~	~	V						
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955	К04		~	1	1	1	1	1	~	1						
Tolerance R for flange-mounting motors ⁸⁾																
Second standard shaft extension 9)	K16		1	1	1	1	1	1	1	1						
Shaft extension with standard dimensions without featherkey way	K42		~	1	1	~	1	1	1	1						
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39		1	1	1	1	1	1	1	1						
Non-standard cylindrical shaft extension ¹⁰⁾	Y55 • and identifica-tion code		1	1	1	1	1	1	1	1						

Special versions	Additional identifica- tion code -Z with order code and plain text if required	Motor 56	r type 1 63	frame s 71	size 80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zor	ne 1 with type of p	rotec	tion "	e" – /	Alumin	ium s	eries [·]	1MA7								

Cell Ventilated motors in Eon	e i mai type of proteou		<u> </u>	- TGITT						
		1MA	7 (aluı	ninum)					
Heating and ventilation										
Metal external fan	K35	-	-	-	-	1	1	1	1	
Rating plate and extra rating plate	es									
Second lubricating plate, supplied loose	B06	-	-	-	-	1	1	1	1	
Second rating plate, loose	K31	1	1	1	1	1	1	1	1	
Extra rating plate or rating plate with deviating rating plate data	Y80 • and identifica-tion code	~	1	1	1	1	1	1	1	
Extra rating plate with identification code	Y82 • and identification code	1	1	1	1	1	1	1	1	
Additional information on rating plate and on package label (maximum of 20 characters)	Y84 • and identifica-tion code	~	1	1	1	1	1	1	1	
Packaging, safety notes, docume	ntation and test certificate	s								
Acceptance test certificate 3.1 according to EN 10204	B02	1	1	1	1	1	1	1	1	
Operating instructions German/ English enclosed in print	B23									
Wire-lattice pallet	L99	0	0	0	0	0	0	0	0	

Standard version

Without additional charge

 This order code only determines the price of the version – Additional plain text is required.

O. R. Possible on request

With additional charge

Not possible

- 2-pole motors 1 MA frame sizes 132 to 160 are designed with double rating plate (T1/T2 and T3) as standard. For motor versions with order codes A11/A12 or with voltage code "9" T3-output is then stamped on the rating plate as standard. Alternatively, "T1/T2-output on the rating plate" can be stamped order code C30
- ²⁾ Evaluation with associated 3RN1 tripping unit (see Catalog LV 1) is recommended. When used in hazardous areas, a certified tripping unit is required. Motor protection by means of PTC thermistor as sole protection available on request.
- ³⁾ The maximum certified output will be supplied.
- ⁴⁾ 1MA7 motors are up to 80 mm longer than normal. A second shaft extension is not possible.
- ⁵⁾ Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.
- ⁶⁾ Not possible in combination with vibration-proof version, order code L03.

- 7) CCC certification is required for
 - 2-pole motors ≤2.2 kW
 - 4-pole motors ≤1.1 kW
 - 6-pole motors ≤0.75 kW
 - 8-pole motors ≤0.55 kW
- ⁸⁾ Can be combined with deep-groove bearings of series 60.., 62.. and 63... Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).
- ⁹⁾ Not possible for low-noise version (2-pole) for frame sizes 132 S to 160 L. Version with protective cover not possible.
- ¹⁰⁾ When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. Extra cyder codes V55 and V16.
 - For order codes **Y55** and **K16**:
 - Dimensions D and DA \leq internal diameter of roller bearing (see dimension tables under "Dimensions")

– Dimensions E and EA ≤2 x length E (normal) of the shaft extension For an explanation of the order codes, see Catalog D 81.1 part 0 "Introduction".

Special versions	Additional identifica- tion code -Z with order code and plain text if		or type													
Calf ventileted meters in Zer	required	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zor	ie i with type	or prote	cuon	е –	Cast-I	ron se			ires)							
Design for Zones 1, 2, 21 and 22	according to A	rev					TWA	6 (cast	-iron)							
T1/T2 on rating plate $^{1)}$	C30						_	_	0	0	_	_	_	_	_	
Motor protection	0.50							-	U	U	-	-	-	-	-	-
Motor protection with PTC	A11						1	1	/	1	1	1	1	1	1	1
thermistors with 3 embedded temperature sensors for tripping ²⁾	AII						v	•	v	•	•	•	•	•	•	v
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping ²⁾	A12						1	1	1	1	1	1	1	1	1	1
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings ²)	A72						-	-	-	-	-	-	0. R.	0. R.	0. R.	0. R.
Installation of 2 PT100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings 2)	A78						-	-	-	-	-	-	0. R.	0. R.	0. R.	0. R.
Motor connection and connectio	n box															
Connection box on RHS	K09						1	1	1	1	1	1	1	1	1	1
Connection box on LHS	K10						1	1	1	1	1	1	1	1	1	1
Connection box in cast-iron version	K15										1	1				
Rotation of the connection box through 90°, entry from DE	K83						~	1	1	1	1	1	1	1	1	1
Rotation of the connection box through 90°, entry from NDE	K84						~	~	~	1	~	~	1	1	1	1
Rotation of connection box through 180°	K85						1	1	1	1	1	1	1	1	1	1
Next larger connection box	L00						-	-	-	-	1	1	1	✓	✓	1
Auxiliary connection box 1XB3 020	L97						-	-	-	-	-	-	1	1	1	1
Windings and insulation																
Increased air humidity/temperature with 30 to 60 g water per m ³ of air	C19						1	1	1	1	1	1	5	1	1	1
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % ³⁾	C22						1	1	1	1	1	1	1	1	1	1
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % ³⁾	C23						1	1	1	1	1	1	1	1	1	1
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % ³⁾	C24						1	1	1	1	1	1	1	1	1	1
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 % ³⁾	C25						1	1	1	1	1	1	1	1	1	1
Increased air humidity/temperature with 60 to 100 g water per m ³ of air	C26						1	1	1	1	1	1	1	1	1	1

Special versions	Additional identifica- tion code -Z with order code and plain text if		Motor				00	100	110	100	100	100	000	005	050	000	015
Self-ventilated motors in Zor	required		56 otoot	63 ion '	71 'o"	80 Cast-i	90	100 rios 1	112 MA6	132	160	180	200	225	250	280	315
Sell-ventilated motors in 201		pe or pr	Oleci	.1011	e –	Gast-I	UII Se		6 (cast	iron)							
Colors and paint finish								TIMA	(0031	nony							
Standard finish in RAL 7030 stone gray								-	-	-	-	-	-				
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005	Y53 • and standard finish RAL							-	-	-	-	-	-	1	1	1	V
Special finish in RAL 7030 stone gray 4)	K26													~	1	1	1
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005	Y54 ● and special finish RAL							1	1	1	J	1	1	1	1	1	J
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors" on Catalog D 81.1 part 0	Y51 ● and special fin- ish RAL							1	1	1	1	1	1	1	1	1	1
Offshore special finish	M91							O. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.
Sea air resistant special finish	M94							0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.
Unpainted	K23							0	0	0	0	0	0	0	0	0	0
(only cast iron parts primed) Unpainted, only primed	K24							1	1	1	1	1	1	1	1	1	1
Mechanical design and degrees								•	•		•	•	•		•	•	·
Drive-end seal for flange-mount- ing motors with an oil-tightness of up to 0.1 bar Not possible for type of construc- tion IM V3; with frame size 180 M and above, only possible for 4-pole to 6-pole motors	K17							1	1	1	1	1	1	1	1	1	1
Low-noise version for 2-pole motors with clockwise direction of rotation ⁵⁾	К37							-	-	1	1	1	1	1	1	1	1
Low-noise version for 2-pole motors with counter-clockwise direction of rotation ⁵⁾	K38							-	-	1	1	1	1	1	1	1	1
IP65 degree of protection	K50							✓	1	✓	1	1	1	1	1	✓	1
IP56 degree of protection (non-heavy-sea)	K52							1	1	1	1	1	1	1	1	1	1
Vibration-proof version	L03							1	1	1	1	-	-	-	-	-	-
Condensation drainage holes ⁶⁾	L12							1	1	1	1	1	1	-	-	-	-
Rust-resistant screws (externally)	M27							✓	1	1	1	1	1	1	1	1	1
Coolant temperature and site alti																	
Coolant temperature -40 °C to +40 °C for EX motor ⁷)	D19							1	1	1	1	1	1	1	1	1	1
Designs in accordance with stan		ecíficati	ons														
VIK version	K30							~	/	/	/	1		1	1	1	
Bearings and lubrication Measuring nipple for SPM shock pulse measurement for bearing inspection	G50							-	-	-	-	1	1	1	1	1	1
Bearing design for increased cantilever forces ⁸⁾	K20							1	1	1	1	1	1	1	1	1	1
Regreasing device	K40							1	1	1	1	1	1	1	1		
Located bearing DE	K94							1	1	1	1	1	1	-	-	-	-
Located bearing NDE	L04							1	1	1		-	-	-	-	-	-

Special versions	Additional identifica- tion code -Z with order code and	Moto	r type	frame	size											
	plain text if required	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zo	ne 1 with type of r	oroted	tion '	"e" –	Cast-i	ron se	eries 1	MA6								

			1MA	6 (cas	t-iron)							
Balance and vibration quantity												
Vibration quantity A												
Vibration quantity B	K02		1	1	1	1	1	1	✓ ⁹⁾	✓ ⁹⁾	✓ ⁹⁾	✓ ⁹⁾
Full key balancing	L68		1	1	1	1	1	1	1	1	1	1
Balancing without key	M37		1	1	1	1	1	1	1	1	1	1
Shaft and rotor												
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors ⁹⁾	К04		1	1	1	1	1	1	1	1	1	1
Second standard shaft extension ¹⁰⁾	K16		1	1	1	1	1	1	1	1	1	1
Shaft extension with standard dimensions without featherkey way	K42		1	1	1	1	1	1	1	1	1	1
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39		1	1	1	1	1	1	1	1	1	1
Non-standard cylindrical shaft extension ¹¹⁾	Y55 • and identifica-tion code		1	1	1	1	1	1	1	1	1	1
Heating and ventilation												
Cast-iron fan cover	К34		-	-	-	-	-	-	1	1	1	1
Metal external fan	K35		1	1	1	1	1	1	1	1	1	1
Anti-condensation heaters for 230 V	K45		-	-	-	-	-	-	~	1	1	~
Anti-condensation heaters for 115 V	K46		-	-	-	-	-	-	1	1	1	1
Rating plate and extra rating plat	es											
Second lubricating plate, supplied loose	B06		1	1	1	1	1	1	1	1	1	1
Second rating plate, loose	K31		1	1	1	1	1	1	1	1	1	1
Extra rating plate or rating plate with deviating rating plate data	Y80 • and identifica- tion code		1	1	1	1	1	1	1	1	1	1
Extra rating plate with identification code	Y82 • and identifica- tion code		1	1	1	1	1	1	1	1	1	1
Additional information on rating plate and on package label (maximum of 20 characters)	Y84 • and identifica- tion code		1	1	1	1	1	1	1	1	1	1
Packaging, safety notes, docume	entation and	test certificates										
Acceptance test certificate 3.1 according to EN 10204	B02		1	1	1	1	1	1	1	1	1	1
Operating instructions German/ English enclosed in print	B23											
Wire-lattice pallet	L99		0	0	0	0	0	0	-	-	-	-
- 0, , , ;												

Standard version

Statidate version
 Without additional charge
 This order code only determines the price of the version – Additional plain text is required.
 O. R. Possible on request
 With additional charge
 Not possible

- ¹⁾ 2-pole motors 1MA frame sizes 132 to 160 are designed with double rating plate (T1/T2 and T3) as standard. For motor versions with order codes A11/A12 or with voltage code "9" T3-output is then stamped on the rating plate as standard. Alternatively, "T1/T2-output on the rating plate" can be stamped order code C30
- ²⁾ Evaluation with associated 3RN1 tripping unit (see Catalog LV 1) is recommended. When used in hazardous areas, a certified tripping unit is required. Motor protection with PTC thermistors is available as sole protection up to frame size 160 L on request. With frame size 180 M and above, it is not permitted as sole protection; motor protection switch is required.
- ³⁾ The maximum certified output will be supplied.
- ⁴⁾ For frame sizes 100 to 200, do not specify an order code. Order code is only necessary for frame sizes 225 to 315.
- ⁵⁾ 1MA6 motors are up to 80 mm longer than normal. A second shaft extension is not possible.
- ⁶⁾ Supplied with the condensation drainage holes sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.
- ⁷⁾ Not possible in combination with vibration-proof version, order code L03.

- ⁸⁾ Not possible for 2-pole 1MA6 motors, frame size 315 L in vertical type of construction; bearings for increased cantilever forces for vibration quantity level B are available on request for 1MA6 motors of frame size 225 M and above. Not possible for 1MA6 motors of frame size 225 M and above in combination with concentricity of shaft extension, coaxiality and linear movement according to DIN 42955 tolerance R for flange-mounting types.
- ⁹⁾ Can be combined with deep-groove bearings of series 60.., 62.. and 63... Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).
- ¹⁰⁾ For motors of frame size 180 M and above in vertical type of construction in version with second shaft extension on request. Not possible for lownoise version (2-pole) for frame sizes 132 S to 160 L. Version with protective cover not possible.
- ¹¹⁾ When motors are ordered that have a longer or shorter shaft extension than normal, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not applicable for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **K16**:
 - Dimensions D and DA ≤ Inner diameter of roller bearing (see tables under "Dimensions")
 - Dimensions E and EA ≤2 × Length E (normal) of the shaft extension For explanation of the order codes, see Catalog D 81.1 part 0 "Introduction"

Special versions	Additional identifica- tion code -Z with order code and plain text if	Motor	type fram	ie size											
	required	56	63 71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone	1 with type	of protectio	n "de" –	Cast-i	ron se	eries ⁻	1 MJ 6	and 1	MJ7						
			1N	/J6 (cas	t-iron)							1MJ7	/ (cast	-iron)	
Design for Zones 1, 2, 21 and 22 acc	cording to AT	EX													
Design for Zones 1 and 21, as well as for Zone 22 for conducting dust (IP65), for mains-fed operation ¹⁾	M76		5	1	1	1	1	1	1	1	1	1	1	1	1
Design for Zones 1 and 21, as well as for Zone 22 for conducting dust (IP65), for converter-fed operation, derating ¹⁾	M77		~	1	1	1	1	1	1	1	1	1	1	1	1
Motor protection															
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping $^{(2)}$ 3)	A11		1	1	1	1	1	1	1	1	1	1	1	1	1
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping $^{2(3)}$ $^{4)}$	A12		1	1	1	1	1	1	1	1	1	1	1	1	1
Motor protection with PTC thermistors for converter-fed operation with 4 embedded temperature sensors for tripping ^{2) 3)}	A15		1	1	1	1	1	1	1	1	1	1	1	1	1
Motor protection with PTC thermistors for converter-fed operation with 8 embedded temperature sensors for alarm and tripping ⁽²⁾ ⁽³⁾ ⁽⁴⁾	A16		1	1	1	1	1	1	1	1	1	1	1	1	1
Installation of 2 PT 100 screw-in resis- tance thermometers (basic circuit) for rolling-contact bearings ²⁾	A72		-	-	-	-	-	-	-	-	-	0. R.	0. R.	0. R.	0. R.
Installation of 2 PT100 screw-in resis- tance thermometers (3-wire circuit) for rolling-contact bearings ²⁾	A78		-	-	-	-	-	-	-	-	-	0. R.	0. R.	0. R.	0. R.
Motor connection and connection b	ох														
Connection box on RHS	K09		-	-	1	1	1	1	1	1	1	1	1	1	✓
Connection box on LHS	K10		-	-	1	1	1	1	1	1	1	1	1	1	✓
Connection box in cast-iron version	K15		1	1	1	1	1	1	✓ ⁵⁾	1	1	1			
Explosion-proof connection box, Ex d IIC type of protection ⁶⁾	K53		1	1	1	1	1	1	1	1	1	1	1	1	~
Rotation of the connection box through 90°, entry from DE	K83		1	1	1	1	1	1	1	1	1	1	1	1	1
Rotation of the connection box through 90°, entry from NDE	K84		1	1	1	1	1	1	1	1	1	1	1	1	1
Rotation of connection box through 180°	K85		0	0	0	0	0	0	0	0	0	0	0	0	0
Auxiliary connection box 1XB3020 ⁷⁾	L97		-	-	-	-	-	-	-	-	-	1	1	1	✓
Saddle terminal for connection without cable lug, accessories pack (3 items of high saddle terminals)	M47		-	-	-	-	-	-	-	-	-	-	1	1	1

Special versions	Additional identifica- tion code -Z with order code and plain text if	Motor type fr	ame s	ize											
	required	56 63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone	1 with type of pro	tection "de				ies 11	MJ6 a	nd 1N	IJ7			444.17	<i>(</i>	• • •	
Windings and insulation			1MJ6	(cast-	iron)							1MJ7	(cast-	iron)	
Increased air humidity/temperature	C19		1	1		1	1	1	1	1	./	1	1	1	1
with 30 to 60 g water per m ³ of air			•	•	•	•	•	• ·	•	•	•	•	•	•	
Temperature class 155 (F), used acc. to 130 (B), coolant tempe- rature 45 °C, derating approx. 4 % ⁸⁾	C22		/	1	1	1	1	1	1	1	1	1	1	<i>✓</i>	1
Temperature class 155 (F), used acc. to 130 (B), coolant tempe- rature 50 °C, derating approx. 8 % ⁸⁾	C23		1	1	1	1	1	1	1	1	1	1	1	1	1
Temperature class 155 (F), used acc. to 130 (B), coolant tempe- rature 55 °C, derating approx. 13 % ⁸ /	C24		1	1	1	1	1	1	1	1	1	1	1	1	1
Temperature class 155 (F), used acc. to 130 (B), coolant tempe- rature 60 °C, derating approx. 18 %	C25		1	1	1	1	1	1	1	1	1	1	1	1	1
Increased air humidity/temperature with 60 to 100 g water per m ³ of air	C26		1	1	1	1	1	1	1	1	1	1	1	1	1
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	Y50 ● and specified output, CT °C or SA m above sea level		√	1	√	5	1	5	5	1	1	1	1	1	1
Colors and paint finish															
Standard finish in RAL 7030 stone gray			-	-	-	-	-	-	-	-	-				
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005	Y53 • and standard finish RAL 		-	-	-	-	-	-	-	-	-	1	1	1	1
Special finish in RAL 7030 stone gray ⁹⁾	K26											1	1	1	1
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005	Y54 • and special fin- ish RAL		1	1	1	1	1	1	1	1	1	1	1	1	1
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors" on Catalog D 81.1 part 0	Y51 • and special finish RAL		1	1	1	1	1	1	1	1	1	1	1	1	1
Offshore special finish	M91		0. R.												0. R.
Sea air resistant special finish	M94		0. R.												0. R.
Unpainted (only cast iron parts primed)	К23		0	0	0	0	0	0	0	0	0	0	0	0	0
Unpainted, only primed	K24		1	1	1	1	1	1	1	1	1	1	1	✓	✓
Special technology															
Mounting of the explosion-proof rotary pulse encoder for use on Ex d/de motors in Zone 1 ¹⁰⁾	H87		-	-	1	1	1	1	1	1	1	1	1	1	1
Mounting of the explosion-proof Ex de separately driven fan for use in Zone 1 ¹¹⁾	M98		-	-	-	-	-	-	-	-	-	1	1	1	1

For legend and footnotes, see Page 20.

Special versions	Additional identifica- tion code -Z with order code and plain text if required	Motor type	e frame 71	e size 80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone										100	200	225	230	200	313
				J6 (cas								1MJ7	7 (cast	-iron)	
Mechanical design and degrees of	protection			00 (000	c non)								(0000	ii oii)	
Drive-end seal for flange-mounting	K17		1	1	1	1	1	1	1	1	1	1	1	1	1
motors with an oil-tightness of up to 0.1 bar Not possible for type of construction IM V3; with frame size 180 M and above, only possible for 4-pole to 8-pole motors													-		
Low-noise version for 2-pole motors with clockwise direction of rotation ¹²)	K37		-	-	-	-	-	~	1	1	1	1	1	1	1
Low-noise version for 2-pole motors with counter-clockwise direction of rotation ¹²⁾	K38		-	-	-	-	-	1	1	1	1	1	1	1	1
IP65 degree of protection ¹³⁾	K50		1	1	1	1	1	1	1	1	1	1	1	1	1
IP56 degree of protection (non-heavy-sea)	K52		1	1	1	1	1	1	1	1	1	1	1	1	1
Vibration-proof version	L03		1	1	1	1	1	1	1	_	_	-	_	_	_
Mechanical protection for encoder ¹⁵	⁾ M68		_	-	_	-	-	-	-	1	1	1	1	1	1
Designs in accordance with standa		ifications													
CCC China Compulsory Certification ¹⁶⁾	D01		~	1	1	-	-	-	-	-	-	-	-	-	-
VIK version	K30		1	1	1	1	1	1	1	1	1	1	1	1	1
Ex certification for China	D32		1	1	1	1	1	1	1	1	1	1	1	1	1
Bearings and lubrication															
Measuring nipple for SPM shock pulse measurement for bearing inspection	G50		-	-	-	-	-	-	-	~	1	1	1	1	1
Bearing design for increased cantilever forces ¹⁷⁾	K20		-	-	-	-	-	-	-	1	1	1	1	-	-
Regreasing device	K40		-	-	-	-	-	-	-	1	1	1	1		
Insulated bearing cartridge	L27		-	-	-	-	-	-	-	-	-	1	1	1	1
Balance and vibration quantity															
Vibration quantity A															
Vibration quantity B	K02		1	1	1	1	1	1	1	1	1	1	1	1	1
Full key balancing	L68		1	✓ ✓	<i>\</i>	✓ ✓	<u> </u>	✓	<u> </u>	✓	1	1	1	✓	1
Balancing without key	M37		1	1	~	1	1	1	1	1	1	1	1	1	1
Shaft and rotor Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors ¹⁸)	К04		-	-	-	-	-	-	-	1	1	1	1	1	1
	K16		1	1	1	1	1	1	1	1	1	1	1	1	1
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39		-	-	-	-	-	-	-	1	1	1	1	1	1
Non-standard cylindrical shaft extension ²⁰⁾	Y55 • and identifica-tion code		-	-	-	-	-	-	-	-	-	0. R.	0. R.	0. R.	0. R.
Heating and ventilation															
Metal external fan	K35		-	-	-	1	1	1	1	1	1	1	1	1	1
Anti-condensation heaters for 230 V 21)22)	K45		~	1	1	1	1	1	1	1	1	1	1	1	1
Anti-condensation heaters for 115 V 21)22)	K46		~	1	1	1	1	1	1	1	1	1	1	1	1
Separately driven fan with non-stan- dard voltage and/or frequency	Y81 • and identifica-tion code		-	-	-	-	-	-	-	-	-	1	1	1	1

Special versions	Additional identifica- tion code -Z with order code and plain text if required	Moto	r type	frame : 71	size 80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zone	1 with type of pro	tectio	on "de	e" – C	ast-ir	on se	ries 1	MJ6 a	nd 1N	IJ7						

			1MJ	6 (cast	-iron)							1MJ	7 (cast	t-iron)	
Rating plate and extra rating plates															
Second lubricating plate, supplied loose	B06		-	-	-	-	-	-	-	1	1	1	1	1	1
Second rating plate, loose	K31		✓	1	1	1	1	1	1	1	1	1	1	1	1
Extra rating plate or rating plate with deviating rating plate data	Y80 • and identifica- tion code		1	1	1	1	1	1	1	1	1	1	1	1	1
Extra rating plate with identification code	Y82 • and identifica- tion code		1	1	1	1	1	1	1	1	1	1	1	1	1
Additional information on rating plate and on package label (maximum of 20 characters)	Y84 • and identifica- tion code		1	1	1	1	1	1	1	1	1	1	1	1	1
Packaging, safety notes, documenta	ation and tes	t certificates													
Acceptance test certificate 3.1 according to EN 10204	B02		~	1	1	1	1	1	1	1	1	1	1	1	~
Operating instructions German/ English enclosed in print	B23														
Wire-lattice pallet	L99		0	0	0	0	0	0	0	0	0	-	-	-	-

- Standard version
- Without additional charge
- This order code only determines the price of the version Additional plain text is required.
- O. R. Possible on request
- With additional charge
- Not possible
- In combination with order codes K30 and M98 please inquire. Not possible in combination with order codes D32, K50 and K52.
- ²⁾ Evaluation with appropriate 3RN1 tripping unit (see Catalog LV 1) is recommended. When used in hazardous areas, a certified tripping unit is required.
- ³⁾ For 1MJ6 motors, for a version with PTC thermistors, an anti-condensation heater (order code K45, K46) up to frame size 160 L is not possible.
- ⁴⁾ For 1MJ6 motors frame sizes 180 to 200 and 1MJ7 motors, for a version with PTC thermistors, an anti-condensation heater (order code K45, K46) is not possible. Exception: 1MJ7 frame size 315.
- ⁵⁾ For 1MJ6 motors frame size 160 L standard version.
- 6) Drilled holes for the cable glands are sealed with Exd plugs for 1MJ motors as standard.

On request, the Exd cable entries can be supplied for 1MJ7 motors. When ordering, the number of cables and outer diameters must be specified so that the appropriate cable glands can be supplied.

- ⁷⁾ Not possible in combination with order code **K53**, since the auxiliary connection box has been approved only for Ex de.
- ⁸⁾ Derating does not apply in combination with order codes L2A, L2C, L2Q, L2R, L2S, L2T, L2U and L2V.
- 9) For frame sizes 71 to 200, do not specify an order code. Order code is only necessary for frame sizes 225 to 315.
- ¹⁰⁾ In combination with order codes C19, C26, L27 and M98 please inquire. Not possible in combination with order codes C22 to C25 (frame sizes 90 to 160), D19, K16, K50, M77.

Furthermore a combination with protective cover is not possible. Therefore a suitable cover must be implemented by the end user in vertical mounting position to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0).

- ¹¹⁾ In combination with order codes C19, C22 to C26, D19, H87, K50, K52, M76 and M77 please inquire.
- Not possible in combination with order code K16.
- ¹²⁾ The motors are up to 80 mm longer than normal. A second shaft extension is not possible.
- ¹³⁾ Order code K50 (protective cover IP65) can be ordered only for Zone 1. For Zone 21, IP65 degree of protection is standard. Not possible for Zone 22, because only IP55 degree of protection is required.

- ¹⁴⁾ A combination of order code K52 degree of protection IP56 (non-heavysea) with M76 or M77 is not permissible.
- ¹⁵⁾ 1MJ6 motors of frame size 90 to 160 have a rugged flanged. Ex OG9 rotary pulse encoder, which offers alone a high mechanical protection. The mechanical protection for the encoder is not necessary when a rotary pulse encoder is combined with a separately driven fan because in this case the rotary pulse encoder is installed under the fan cowl.
- ¹⁶⁾ CCC certification is required for
 - 2-pole motors ≤2.2 kW
 - 4-pole motors ≤1.1 kW
 - 6-pole motors ≤0.75 kW
 - 8-pole motors ≤0.55 kW
- ¹⁷⁾ Bearings for increased cantilever forces at vibration quantity level B on request.
- ¹⁸⁾ Can be combined with deep-groove bearings of series 60.., 62.. and 63... Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).
- ¹⁹⁾ For 1MJ6/1MJ7 motors of frame size 180 M and above in vertical type of construction in version with second shaft extension on request. Not possible for low-noise version (2-pole). Version with protective cover not possible.
- ²⁰⁾ When motors which have a longer or shorter shaft extension than normal are ordered, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case. For order codes **Y55** and **K16**:
 - Dimensions D and DA \leq internal diameter of roller bearing
 - (see dimesnion tables under "Dimensions")
 - Dimensions E and EA ≤2 x length E (normal) of the shaft extension For an explanation of the order codes, see Catalog D 81.1 part 0 "Introduction".
- ²¹⁾ For 1MJ6 motors, version with 3, 4 PTC thermistors (order codes A11, A15) is not possible up to frame size 160 L.
- ²²⁾ Not possible for version with 6, 8 PTC thermistors (order codes A12, A16). Exception: 1MJ7 frame size 315.

Special versions

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on code -Z
ith order
ode and
lain text if
equired

 Special versions
 Additional identification code -Z with order code and plain text if required
 Motor type frame size

 Self-ventilated motors in Zones 2, 21, 22 with type of protection "n" or protection against dust explosions –
 Additional identification code -Z

Aluminum series TLA7 and TLA:		11.4	A7 (alu	minum	a) 1)						1LA	E		
		12/	ar (aiu	minun	'						(alu	5 minun	n) ²⁾	
Design for Zones 1, 2, 21 and 22 acco	ording to ATEX 3)													
Design for Zone 2 for mains-fed operation Ex nA II T3 to IEC/EN 60079-15 ⁴⁾	M72	-	1	1	1	1	1	1	1	1	-	-	-	
Design for Zone 2 for converter-fed operation, reduced output Ex nA II T3 to IEC/EN 60079-15 ⁽⁴⁾⁽⁵⁾⁽⁶⁾	M73	-	1	1	1	1	1	1	1	1	-	-	-	
Design for Zones 2 and 22, for non- conducting dust (IP55), for mains-fed operation ⁷⁾	M74	-	1	1	1	1	1	1	1	1	-	-	-	
Design for Zones 2 and 22, for non- conducting dust (IP55), for converter- fed operation, derating ⁵⁾⁶⁾⁷⁾	M75	-	1	1	1	1	1	1	1	1	-	-	-	
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for mains- fed operation ⁸⁾	M34	1	1	1	1	1	1	1	1	1	1	1	1	
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for con- verter-fed operation, derating ^{4) 6) 8)}	M38	1	1	1	1	1	1	1	1	1	1	1	5	
Design for Zone 22 for non-conducting dust (IP55) for mains-fed operation	M35	1	1	1	1	1	1	1	1	1	~	1	1	
Design for Zone 22 for conducting dust (IP55) for converter-fed operation, derating ^{4) 6)}	M39	1	1	1	1	1	1	1	1	1	1	1	1	
VIK design (comprises Zone 2 for mains-fed operation, without Ex nA II marking on rating plate)	К30	-	1	1	1	1	1	1	1	1	-	-	-	
Ex nA II on VIK rating plate	C27	-	1	1	1	1	1	1	1	1	-	-	-	
Alternative converter (SIMOVERT MASTERDRIVES, SINAMICS G110, SINAMICS S120 or ET 200S FC)	Y68 • and converter type	0	0	0	0	0	0	0	0	0	0	0	0	
Motor protection														
With PTC thermistors for alarm for converter-fed operation in Zones 2, 21, 22 ⁹⁾	A10	1	1	1	1	1	1	1	1	1	-	-	-	
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping $^{9)} $	A11	1	1	1	1	1	1	1	1	1	~	1	1	
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping ⁹⁾	A12	1	1	1	1	1	1	1	1	1	1	1	1	
Motor temperature detection with embedded temperature sensor KTY 84-130 ⁹⁾	A23	1	1	1	1	1	1	1	1	1	1	1	1	
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 ⁹⁾	A25	1	1	1	1	1	1	1	1	1	1	1	5	
Installation of 3 PT 100 resistance thermometers 9)	A60	-	-	-	-	-	1	1	1	1	1	1	1	

Special versions	Additional identifica-	Moto	or type	frame	size											
	tion code -Z with order code and															
	plain text if required	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315

Self-ventilated motors in Zones 2, 21, 22 with type of protection "n" or protection against dust explosions – Aluminum series 1LA7 and 1LA5

		11	.A7 (a	alumi	num)	1)						1LA5 (alun	inum)	2)	
Motor connection and connection bo	x														
Connection box on RHS	К09	-	_		-	1	1	1	1	1	1	1	1	1	
Connection box on LHS	K10	-	-		-	1	1	1	1	1	1	1	1	1	
One cable gland, metal ¹⁰⁾	K54	1	~	/	✓	1	1	1	✓	1	1	1	1	1	
Cable gland, maximum configuration	K55	0.	R. C). R.	0. R.	0. R.	0. R	. O. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	
Rotation of the connection box through 90°, entry from DE	K83	1	~	′	~	1	~	1	1	1	1	1	1	1	
Rotation of the connection box through 90°, entry from NDE	K84	1	~	'	~	~	1	1	1	1	1	1	1	1	
Rotation of connection box through 180°	K85	1	~	^	1	1	1	0	0	0	0	1	1	1	
Next larger connection box	L00	-	_		-	-	-	-	_	-	-	1	1	1	
External earthing	L13		C	3											
Windings and insulation															
ncreased air humidity/temperature with 30 to 60 g water per m ³ of air	C19	-	~	1	1	~	1	1	1	1	1	1	1	1	
Temperature class 155 (F), used acc. to 130 (B), coolant tempera- ture 45 °C, derating approx. 4 % ¹¹⁾	C22	5	1	·	1	1	1	1	1	1	1	1	1	1	
Temperature class 155 (F), used acc. to 130 (B), coolant tempera- ure 50 °C, derating approx. 8 % ¹¹⁾	C23	5	~	•	1	1	1	1	1	1	1	1	1	1	
Temperature class 155 (F), used acc. to 130 (B), coolant tempera- ture 55 °C, derating approx. 13 % ¹¹⁾	C24	1	~	1	1	1	1	1	1	1	1	1	1	1	
Temperature class 155 (F), used acc. to 130 (B), coolant tempera- ture 60 °C, derating approx. 18 %	C25	1	~	/	1	1	1	1	1	1	1	1	1	1	
Increased air humidity/temperature with 60 to 100 g water per m ³ of air	C26	-	V	1	~	1	1	1	1	1	1	1	1	1	
Temperature class 155 (F), used acc. to 130 (B), with increased coolant temperature and/or site altitude	Y50 ● and specified output, CT °C or SA m above sea level	J			✓ ✓	V	J	1	V	1	1	1	1		

Additional identifica- tion code -Z with order	WOLC	r type	frame	SIZE											
code and plain text if required	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
					prote	ection	again	st du	st exp	olosio	ons –				
	identifica- tion code -Z with order code and plain text if required	identifica- tion code - Z with order code and plain text if required 56 2, 21, 22 with type of p 5	identifica- tion code - Z with order code and plain text if required 56 63 2, 21, 22 with type of protec 5	identifica- tion code -Z with order code and plain text if required 56 63 71 2, 21, 22 with type of protection ' 5	identifica- tion code - Z with order code and plain text if required 56 63 71 80 2, 21, 22 with type of protection "n" or	identifica- tion code -Z with order code and plain text if required 56 63 71 80 90 2, 21, 22 with type of protection "n" or prote 5	identifica- tion code -Z with order code and plain text if required 56 63 71 80 90 100 2, 21, 22 with type of protection "n" or protection 5	identifica- tion code -Z with order code and plain text if required 56 63 71 80 90 100 112 2, 21, 22 with type of protection "n" or protection again 5	identifica- tion code -Z with order code and plain text if required 56 63 71 80 90 100 112 132 2, 21, 22 with type of protection "n" or protection against du 5	identifica- tion code -Z with order code and plain text if required 56 63 71 80 90 100 112 132 160 2, 21, 22 with type of protection "n" or protection against dust exp 5	identifica- tion code -Z with order code and plain text if required 56 63 71 80 90 100 112 132 160 180 2, 21, 22 with type of protection "n" or protection against dust explosic 5	identifica- tion code -Z with order code and plain text if required 56 63 71 80 90 100 112 132 160 180 200 2, 21, 22 with type of protection "n" or protection against dust explosions – 5	identifica- tion code -Z with order code and plain text if required 56 63 71 80 90 100 112 132 160 180 200 225 2, 21, 22 with type of protection "n" or protection against dust explosions – 5	identifica- tion code - Z with order code and plain text if required 56 63 71 80 90 100 112 132 160 180 200 225 250 2, 21, 22 with type of protection "n" or protection against dust explosions – 5	identifica- tion code - Z with order code and plain text if required 56 63 71 80 90 100 112 132 160 180 200 225 250 280 2, 21, 22 with type of protection "n" or protection against dust explosions – 5

		1LA7	(alum	inum)	1)						1LA5 (alun	; ninum)	2)	
Colors and paint finish														
Special finish in RAL 7030 stone gray														
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005	Y54 • and special finish RAL	1	5	5	1	1	1	1	1	1	1	1	1	
Special finish in special RAL colors: For RAL colors, see "Special finish in spe- cial RAL colors" on Catalog D 81.1 part 0	Y51 ● and special finish RAL	1	1	1	1	1	1	1	1	1	1	1	1	
Sea air resistant special finish	M94	O. R.	0. R.	0. R.	0. R.									
Unpainted (only cast iron parts primed)	K23	0	0	0	0	0	0	0	0	0	0	0	0	
Unpainted, only primed	K24	1	1	1	1	1	1	1	1	1	1	1	1	
Special technology														
Mounting of explosion-proof rotary pulse encoder for use in Zones 2, 21, 22 ¹²⁾	H86	-	-	-	-	-	1	1	1	1	1	1	1	
Mounting of explosion-proof separately driven fan II 3D for use in Zone 22 13)	M97	-	-	-	-	-	1	1	1	1	1	1	1	
Mechanical design and degrees of pr	otection													
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of construction	K17	1	1	1	1	1	1	1	1	1	1	1	1	
With two additional eyebolts for IM V1/IM V3	K32	-	-	-	-	-	-	-	-	-	1	1	1	
Low-noise version for 2-pole motors with clockwise direction of rotation	K37	-	-	-	-	-	-	-	1	1	1	1	1	
Low-noise version for 2-pole motors with counter-clockwise direction of rotation	K38	-	-	-	-	-	-	-	1	1	1	1	1	
IP65 degree of protection ¹⁴⁾	K50	1	1	1	1	1	1	1	1	1	1	1	1	
IP56 degree of protection (non-heavy-sea) ¹⁵⁾	K52	1	1	1	1	1	1	1	1	1	1	1	1	
Vibration-proof version	L03	1	1	1	1	1	1	1	1	1	1	1	1	
Condensation drainage holes ¹⁶⁾	L12	1	1	1	1	1	1	1	1	1	1	1	1	
Rust-resistant screws (externally)	M27	 1	1	1	1	1	1	1	1	1	1	1	1	
Mechanical protection for encoder ¹⁷⁾	M68	_	_	_	1	1	1	1	1	1	1	1	1	

Special versions	Additional identifica- tion code -Z with order code and plain text if required	Moto	or type 63	frame 71	size 80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zones Aluminum series 1LA7 and 1LA		e of p	rotec	tion "	n" or	prote	ection	agaiı	nst du	st ex	olosio	ons –				

			1LA7	7 (alur	ninum) ¹⁾						1LA5 (alun	; ninum)	2)	
Coolant temperature and site altitude	•														
Coolant temperature –40 °C to +40 °C for EX motor ¹⁸⁾	D19		1	~	1	1	1	1	1	1	1	1	1	1	
Designs in accordance with standard	is and specifi	cations													
CCC China Compulsory Certification ¹⁹⁾	D01		1	1	1	1	1	1	1	-	-	-	-	-	
Electrical according to NEMA MG1-12	D30		1	1	1	1	1	1	1	1	1	1	1	1	
Ex-certification for China (only valid for Zone 2)	D32		-	~	1	1	1	1	~	1	1	-	-	-	
Bearings and lubrication															
Measuring nipple for SPM shock pulse measurement for bearing inspection	G50		-	-	-	-	-	1	~	1	1	1	1	1	
Bearing design for increased cantilever forces	K20		-	-	-	-	-	1	1	1	1	1	1	1	
Regreasing device	K40		-	-	-	-	-	1	1	1	1	1	1	1	
Located bearing DE	K94		1	1	1	1	1	1	1	1	1	1	1	1	
Located bearing NDE	L04		1	1	1	1	1	1	1	1					
Balance and vibration quantity															
Vibration quantity A															
Vibration quantity B	K02		1	1	1	1	1	1	1	1	1	1	1	1	
Full key balancing	L68		1	1	1	1	1	1	1	1	1	1	1	1	
Balancing without key	M37		1	1	1	1	1	1	1	1	1	1	1	1	
Shaft and rotor															
Concentricity of shaft extension, coaxiality and linear movement n accordance with DIN 42955 Tolerance R for flange-mounting motors ²⁰⁾	К04		1	1	1	1	1	1	1	1	1	1	1	1	
Second standard shaft extension	K16		1	1	1	1	1	1	1	1	1	1	1	1	
Shaft extension with standard dimen- sions without featherkey way	K42		1	1	1	1	1	1	1	1	1	1	1	~	
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39		1	1	1	1	1	1	1	1	1	1	1	1	
Standard shaft made of rust-resistant steel	M65		-	-	-	1	1	1	1	1	1	1	1	~	
Non-standard cylindrical shaft extension ²¹⁾	Y55 • and identifica-tion code		1	1	1	1	1	1	1	1	1	1	1	1	
Heating and ventilation															
Fan cover for textile industry	H17		-	-	-	1	1	1	1	1	1	1	1	1	
Metal external fan ²²⁾	K35		-	1	1	1	1	1	1	1	1	1	1	1	
Anti-condensation heater, Ex. 230 V	M15		-	-	-	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	
Anti-condensation heater, Ex. 115 V	M14		_	_	_	0 R	O. R.	O B	O R	0 R	OR	O B	0 B	0 R	

Special versions	Additional identifica- tion code -Z with order code and plain text if	Moto	or type	frame	size											
	required	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zones Aluminum series 1LA7 and 1LA		ofp	rotec	tion '	ʻn" or	prote	ction	again	ist du	st exp	olosio	ons –				
			- / -		v (1)											

			1LA	7 (aluı	minum	i) ¹⁾						1LA (alu	.5 minun	1) ²⁾	
Rating plate and extra rating plates															
Second lubricating plate, supplied loose	B06		-	-	-	-	-	1	1	1	1	1	1	1	
Second rating plate, loose	K31		1	1	1	1	1	1	1	1	1	1	1	1	
Extra rating plate or rating plate with deviating rating plate data	Y80 • and identifica- tion code		1	1	1	1	1	1	1	1	1	1	1	1	
Extra rating plate with identification code	Y82 • and identifica- tion code		1	1	1	1	1	1	1	1	1	1	1	1	
Additional information on rating plate and on package label (maximum of 20 characters)	Y84 • and identifica- tion code		1	1	1	1	1	1	1	1	1	1	1	1	
Packaging, safety notes, documentat	ion and test	certifica	ites												
Acceptance test certificate 3.1 according to EN 10204	B02		1	1	1	1	1	1	~	1	1	1	1	1	
Operating instructions German/English enclosed in print	B23														
Type test with heat run for vertical motors, with acceptance	F83		1	1	1	1	1	1	1	1	1	1	1	1	
Wire-lattice pallet	L99		0	0	0	0	0	0	0	0	0	0	-	-	
Connected in star for dispatch	M32		1	1	1	1	1	1	1	1	1	1	1	1	
Connected in delta for dispatch	M33		1	1	1	1	1	1	1	1	1	1	1	1	

Standard version
 Without additional charge
 This order code only determines the price of the version – Additional plain text is required.
 O. R. Possible on request
 With additional charge
 Not possible

- 1) Zone 2 for motor series 1LA7 only frame size 63 and above.
- ²⁾ Zone 2 is not possible for motor series 1LA5. For Zone 2, instead of 1LA5 motors, 1LG4 motors are used.
- ³⁾ Anti-condensation heater up to frame size 71 M not possible.
- ⁴⁾ These motors do not have a rated voltage range stamped on the rating plate.
- ⁵⁾ According to the standard, the motor and converter must be tested as a unit. A "Manufacturer test certificate" is available for a defined spectrum of Siemens motors (frame sizes 63 M to 315 L)/converter. Please inquire in the case of a non-Siemens converter (additional charge).
- ⁶⁾ With this option, PTC thermistors for temperature class 130 (B) are included. For compliance with temperature class 130 (B), derating is necessary in the case of converter-fed operation in Zones 2, 21 and 22. The operating data for the MICROMASTER converter series from Siemens are specified on the rating plate as standard. Derating information is available on request. For converter-fed operation only voltage codes/order codes with only one voltage are permitted, see also "Overview" Page 2.
- ⁷⁾ In combination with order codes D19, K30 and M97 please inquire. Not possible in combination with order codes D32, K50 and K52.
- ⁸⁾ Zone 21 takes into account conducting and non-conducting dust.
- ⁹⁾ Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended. When used in hazardous areas, a certified tripping unit is required. KTY 84-130 and PT 100 are not permitted as sole protection. Full motor protection for mains-fed operation implemented only with PTC thermistors, please inquire.
- ¹⁰⁾ For 1LA7 and 1LA5 motors additional charge only applies to Zone 22. Designs for Zones 2 and 21 already have a certified metal cable gland in the standard version.
- ¹¹⁾ Derating does not apply in combination with order codes L2A, L2C, L2Q, L2R, L2S, L2T, L2U and L2V.
- ¹²⁾ In combination with order codes C19, C26, L27 and M97 please inquire. Not possible in combination with order code K16. Furthermore a combination with protective cover is not possible. Therefore a suitable cover must be implemented by the end user in vertical mounting position to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0).
- ¹³⁾ In combination with order codes C19, C22, C23, C24, C25, C26, D19, H86, K50 and K52 please inquire. Not possible in combination with order codes C27, K16, K30, M72, M73, M34, M38, M74 and M75.
- ¹⁴⁾ Order code K50 (IP65 degree of protection) can only be ordered for Zone 2. For Zone 21, IP65 degree of protection is standard. Not possible for Zone 22, because only IP55 degree of protection is required.
- ¹⁵⁾ Order code K52 IP56 degree of protection (non-heavy-sea) is only possible for Zone 2. Not admissible for Zone 21 (IP65 degree of protection) and Zone 22 (IP55 degree of protection).

- ¹⁶⁾ When supplied the condensation drainage holes are sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and nondrive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.
- ¹⁷⁾ Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cover.
- ¹⁸⁾ Not possible in combination with order code L03. The mechanical limit speed of 1LA5 2-pole motors in the design for Zones 21/22 from frame size 180 has been reduced compared to the values in part "Motors operating with frequency converters":

Frame size	2 pole <i>n_{max}</i> in rpm	f _{max} in Hz
180	3300	55
200	3100	51
225	3000	50

This is particularly important to be observed for converter-fed operation and operation on 60 Hz line supplies. Option: 1LG4 motors in the design for Zones 21/22.

- ¹⁹⁾ CCC certification is required for
 - 2-pole motors: ≤2.2 kW
 - 4-pole motors: ≤1.1 kW
 - 6-pole motors: ≤0.75 kW
 - 8-pole motors: ≤0.55 kW
- ²⁰⁾ Can be combined with deep-groove bearings of series 60.., 62.. and 63... Not possible with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).
- ²¹⁾ When motors which have a longer or shorter shaft extension than normal are ordered, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case.
 - For order codes Y55 and K16:
 - Dimensions D and DA ≤ internal diameter of roller bearing (see dimension tables under "Dimensions")
 - Dimensions E and EA ≤2 x length E (normal) of the shaft extension
 - For an explanation of the order codes, see Catalog D 81.1 part 0 "Introduction".
- ²²⁾ For 1LA5/6/7/9 motors and 1LG with metal external fan, converter-fed operation is permitted. The metal external fan is standard for these motors in the version for Zone 21/22. The metal external fan is not possible in combination with the low-noise version – order code K37 or K38.

Special	versions	

Motor type frame size

Additional identification code **-Z**

with order code and

plain text if required 56 63 71 80 90 100 112 132 160 180 200 225 250 280 315 Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions – Aluminum series 1LA9

Aluminum series TLA9														
			1LA9) (alun	ninum)									
Design for Zones 1, 2, 21 and 22	according to A	TEX 1)												
Design for Zone 2 for mains-fed operation Ex nA II T3 to IEC/EN 60079-15 ²⁾	M72		_	1	1	1	1	1	1	1	1	-	-	
Design for Zone 2 for converter-fed operation, reduced output Ex nA II T3 to IEC/EN 60079-15 2) 3) 4)	M73		-	1	1	1	1	1	1	1	1	-	-	
Design for Zones 2 and 22, for non-conducting dust (IP55), for mains-fed operation ⁵⁾	M74		-	1	1	1	1	1	1	1	1	-	-	
Design for Zones 2 and 22, for non-conducting dust (IP55), for converter-fed operation, derating ³⁾⁴⁾⁵⁾	M75		-	1	1	1	1	1	1	1	1	-	-	
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for mains-fed operation ⁶⁾	M34		1	1	1	1	1	1	1	1	1	1	1	
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for converter-fed operation, derating ^{2) 4) 6}	M38		1	1	1	1	1	1	1	1	1	1	1	
Design for Zone 22 for non-con- ducting dust (IP55) for mains-fed operation	M35		1	1	1	1	1	1	1	1	1	1	1	
Design for Zone 22 for non-con- ducting dust (IP55) for converter- fed operation, derating ^{2) 4)}	M39		1	1	1	1	1	1	1	1	1	1	1	
VIK design (comprises Zone 2 for mains-fed operation, without Ex nA II marking on rating plate)	К30		-	1	1	1	1	1	1	1	1	-	-	
Ex nA II on VIK rating plate	C27		-	1	1	1	1	1	1	1	1	-	-	
Alternative converter (SIMOVERT MASTERDRIVES, SINAMICS G110, SINAMICS S120 or ET 200S FC)	Y68 • and converter type		0	0	0	0	0	0	0	0	0	0	0	
Motor protection														
With PTC thermistors for alarm for converter-fed operation in Zones 2, 21, 22 ⁷⁾	A10		1	1	1	1	1	1	1	1	1	1	1	
Motor protection with PTC ther- mistors with 3 embedded tem- perature sensors for tripping ⁷⁾	A11		1	1	1	1	1	1	1	1	1	1	1	
Motor protection with PTC ther- mistors with 6 embedded tem- perature sensors for alarm and tripping ⁷	A12		1	1	1	1	1	1	1	1	1	1	1	
Motor temperature detection with embedded temperature sensor KTY 84-130 ⁷⁾	A23		1	1	1	1	1	1	1	1	1	1	1	
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 ⁷	A25		1	1	1	1	1	1	1	1	1	1	1	
Installation of 3 PT 100 resistance thermometers 7)	A60		-	-	-	-	-	1	1	1	1	1	1	

For legend, see Page 30, for footnotes, see Page 31.

Special versions	Additional identifica- tion code - Z with order code and plain toxt if	Motor type frame size

		1LA9	(alumi	inum)	_	_	_	_	_	_	_	_	
Motor connection and connection	n box												
Connection box on RHS	K09	_	_	_	1	1	1	1	1	1	1	1	
Connection box on LHS	K10	-	-	-	1	1	1	1	1	1	1	1	
One cable gland, metal ⁸⁾	K54	-	-	-	-	-	1	1	1	1	-	-	
Cable gland, maximum configuration	K55	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	
Rotation of the connection box through 90°, entry from DE	K83	1	1	1	1	1	1	1	1	1	1	1	
Rotation of the connection box through 90°, entry from NDE	K84	1	1	1	1	1	1	1	1	1	1	1	
Rotation of connection box through 180°	K85	~	1	1	1	1	0	0	0	0	1	1	
Next larger connection box	L00	-	-	-	-	-	-	-	-	-	1	1	
External earthing	L13												
Windings and insulation													
Increased air humidity/temperature with 30 to 60 g water per m ³ of air	C19	-	1	1	1	1	1	1	1	1	1	1	
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % ⁹⁾	C22	5	1	1	1	1	1	1	1	1	1	1	
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % ⁹⁾	C23	1	1	1	1	1	1	1	1	1	1	1	
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % ⁹⁾	C24	5	1	1	1	1	1	1	1	1	1	1	
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	C25	1	1	1	1	1	1	1	1	1	1	1	
Increased air humidity/temperature with 60 to 100 g water per m ³ of air		-	1	~	1	1	1	1	1	1	~	1	
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	Y50 ● and specified output, CT °C or SA m above sea level	V	1	1	1	1	1	1	1	1	1	1	
Colors and paint finish													
Special finish in RAL 7030 stone gray													
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7033, 7035, 9001, 9002, 9005	Y54 ● and special fin- ish RAL	V	1	1	1	1	1	1	1	1	1	1	
Special finish in special RAL colors: For RAL colors, see "Spe- cial finish in special RAL colors" on Catalog D 81.1 part 0	Y51 ● and special fin- ish RAL	1	1	1	1	1	1	1	1	1	1	1	
Sea air resistant special finish	M94	O. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	
Unpainted (only cast iron parts primed)	K23	0	0	0	0	0	0	0	0	0	0	0	
Unpainted, only primed	K24	1	1	1	1	1	1	1	1	1	1	1	

Special versions Self-ventilated motors in Zor	Additional identifica- tion code - Z with order code and plain text if required nes 2, 21 an	d 22 w	56	63	frame 71 f prote	80	90 "n" o	100 pr prote	112 ection	132 agair	160 nst du	180 st exp	200 plosio	225 ns –	250	280	315
Aluminum series 1LA9																	
			1LA) (alun	ninum)												
Special technology																	
Mounting of explosion-proof rotary pulse encoder for use in Zones 2, 21, 22 ¹⁰	H86		-	-	-	-	-	1	1	1	1	1	1				
M II F I I F	1107							,					,				

2, 21, 22 ¹⁰⁾								_	_	_	_	_		
Mounting of explosion-proof separately driven fan II 3D for use in Zone 22 11)	M97		-	-	-	-	-	1	1	1	1	1	1	
Mechanical design and degrees of	of protection													
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of construction.	K17		/	1	1	1	1	1	1	1	1	1	1	
Low-noise version for 2-pole motors with clockwise direction of rotation	К37		-	-	-	-	-	-	-	-	-	1	1	
Low-noise version for 2-pole motors with counter-clockwise direction of rotation	K38		-	-	-	-	-	-	-	-	-	1	1	
IP65 degree of protection ¹²⁾	K50		/	1	1	1	1	1	1	1	1	1	1	
IP56 degree of protection (non-heavy-sea) ¹³⁾	K52	·	/	~	1	1	1	1	1	1	1	1	1	
Vibration-proof version	L03		/	1	1	1	1	1	1	1	1	1	1	
Condensation drainage holes 14)	L12		/	1	1	1	1	1	1	1	1	1	1	
Rust-resistant screws (externally)	M27		/	1	1	1	1	1	1	1	1	1	1	
Mechanical protection for encoder 15)	M68		-	-	-	-	1	1	1	1	1	1	1	
Coolant temperature and site alti	tude													
Coolant temperature -40 °C to +40 °C for EX motor ¹⁶)	D19		/	~	1	1	1	1	1	1	1	1	1	
Designs in accordance with stan	dards and sp	pecificatio	ons											
CCC China Compulsory Certification ¹⁷⁾	D01		/	1	1	1	1	-	-	-	-	-	-	
Electrical according to NEMA MG1-12	D30		-	~	1	1	1	1	1	1	1	1	1	
Ex-certification for China (only valid for Zone 2)	D32		-	~	1	1	1	1	1	1	1	-	-	
Bearings and lubrication														
Measuring nipple for SPM shock pulse measurement for bearing inspection	G50		-	-	-	-	-	1	1	1	1	1	1	
Bearing design for increased cantilever forces	K20		-	-	-	-	-	1	1	1	1	1	1	
Regreasing device	K40		-	-	-	-	-	1	1	1	1	1	1	
Located bearing DE	K94		/	1	1	1	1	1	1	1	1	1	1	
Located bearing NDE	L04		/	1	1	1	1	1	1	1				
Balance and vibration quantity														
Vibration quantity A														
Vibration quantity B	K02		/	1	1	1	1	1	1	1	1	1	1	
Full key balancing	L68		/	1	1	1	1	1	1	1	1	1	1	
Balancing without key	M37		/	1	1	1	1	1	1	1	1	1	1	

Special versions	Additional identifica- tion code -Z with order code and	Moto	r type f	rame s	ize											
	plain text if required	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zon Aluminum series 1LA9	nes 2, 21 and 22 v	vith ty	pe of	prote	ction '	ʻn" or	prote	ection	again	ist du	st exp	losio	ns –			
		1LA9	(alum	inum)												
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors ¹⁸)	К04	1	1	1	1	1	1	1	1	1	1	1				
Second standard shaft extension	K16	1	1	1	1	1	1	1	1	1	1	1				
Shaft extension with standard dimensions without featherkey way	K42	~	1	1	1	1	1	1	1	1	1	1				
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39	1	1	1	1	1	1	1	1	1	1	1				
Non-standard cylindrical shaft extension ¹⁹⁾	Y55 • and identifica-tion code	1	1	1	1	1	1	1	1	1	1	1				
Heating and ventilation																
Fan cover for textile industry	H17	-	-	-	-	-	-	1	1	-	-	-				
Metal external fan ²⁰⁾	K35	-	1	1	1	1	1	1	1	1	1	1				
Anti-condensation heater, Ex. 230 V	M15	-	-	-	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.				
Anti-condensation heater, Ex. 115 V	M14	-	-	-	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.				
Rating plate and extra rating plat	tes															
Second lubricating plate, supplied loose	B06	-	-	-	-	-	1	1	1	1	1	1				
Second rating plate, loose	K31	✓	1	1	1	1	1	1	1	1	1	1				
Extra rating plate or rating plate with deviating rating plate data	Y80 • and identifica-tion code	1	1	1	1	1	1	1	1	1	1	1				
Extra rating plate with identification code	Y82 • and identifica-tion code	1	1	1	1	1	1	1	1	1	1	1				
Additional information on rating plate and on package label (maximum of 20 characters)	Y84 • and identifica-tion code	1	1	1	1	1	1	1	1	1	1	1				
Packaging, safety notes, docume	entation and test cer	tificate	es													
Acceptance test certificate 3.1 according to EN 10204	B02	1	1	1	1	1	1	1	1	1	1	1				
Operating instructions German/ English enclosed in print	B23															
Type test with heat run for vertical motors, with acceptance	F83	1	1	1	1	1	1	1	1	1	1	1				
Wire-lattice pallet	L99	0	0	0	0	0	0	0	0	0	0	_				
Connected in star for dispatch	M32	1	1	1	1	1	1	1	1	1	1	1				
Connected in delta for dispatch	M33	1	1	1	1	1	1	1	1	1	1	1				

Standard version
 Without additional charge
 This order code only determines the price of the version – Additional plain text is required.
 O. R. Possible on request
 With additional charge
 Not possible

- ¹⁾ Anti-condensation heater up to frame size 71 M not possible.
- 2) These motors do not have a rated voltage range stamped on the rating plate.
- ³⁾ According to the standard, the motor and converter must be tested as a unit. A "Manufacturer test certificate" is available for a defined spectrum of Siemens motors (frame sizes 63 M to 315 L)/converter. Please inquire in the case of a non-Siemens converter (additional charge).
- ⁴⁾ With this option, PTC thermistors for temperature class 130 (B) are included. For compliance with temperature class 130 (B), derating is necessary in the case of converter-fed operation in Zones 2, 21 and 22. The operating data for the MICROMASTER converter series from Siemens are specified on the rating plate as standard. Derating information is available on request. For converter-fed operation only voltage codes/order codes with only one voltage are permitted, see also "Overwiew" on Page 2.
- ⁵⁾ In combination with order codes D19, K30 and M97 please inquire. Not possible in combination with order codes D32, K50 and K52.
- 6) Zone 21 takes into account conducting and non-conducting dust.
- ⁷⁾ Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended. When used in hazardous areas, a certified tripping unit is required. KTY 84-130 and PT 100 are not permitted as sole protection. Full motor protection for mains-fed operation implemented only with PTC thermistors, please inquire.
- ⁸⁾ For 1LA9 motors additional charge only applies to Zone 22. Designs for Zones 2 and 21 already have a certified metal cable gland in the standard version.
- ⁹⁾ Derating does not apply in combination with order codes L2A, L2C, L2Q, L2R, L2S, L2T, L2U and L2V.
- ¹⁰⁾ In combination with order codes C19, C26, L27 and M97 please inquire. Not possible in combination with order code K16. Furthermore a combination with protective cover is not possible. Therefore a suitable cover must be implemented by the end user in vertical mounting position to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0).
- In combination with order codes C19, C22, C23, C24, C25, C26, C27, D19, H86, K30, K50 and K52 please inquire. Not possible in combination with order codes C27, K16, K30, M72, M73, M34, M38, M74 and M75.
- ¹²⁾ Order code K50 (IP65 degree of protection) can only be ordered for Zone 2. For Zone 21, IP65 degree of protection is standard. Not possible for Zone 22, because only IP55 degree of protection is required.
- ¹³⁾ Order code K52 IP56 degree of protection (non-heavy-sea) is only possible for Zone 2. Not admissible for Zone 21 (IP65 degree of protection) and Zone 22 (IP55 degree of protection).

- ¹⁴⁾ When supplied the condensation drainage holes are sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and nondrive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.
- ¹⁵⁾ Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cover.
- ¹⁶⁾ Not possible in combination with order code **L03**.

The mechanical limit speed of 1LA9 2-pole motors in the design for Zones 21/22 from frame size 180 has been reduced compared to the values in part "Motors operating with frequency converters":

Frame size	2 pole n _{max} in rpm	f _{max} in Hz
180	3300	55
200	3100	51

This is particularly important to be observed for converter-fed operation and operation on 60 Hz line supplies. Option: 1LG6 motors in the design for Zones 21/22.

- ¹⁷⁾ CCC certification is required for
 - 2-pole motors ≤2.2 kW
 - 4-pole motors ≤1.1 kW
 - 6-pole motors ≤0.75 kW
 - 8-pole motors ≤0.55 kW
- ¹⁸⁾ Can be combined with deep-groove bearings of series 60.., 62.. and 63... Not possible with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).
- ¹⁹⁾ When motors which have a longer or shorter shaft extension are ordered, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case.
 - For order codes Y55 and K16:
 - Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
 - Dimensions E and EA $\leq 2 \times$ length E (normal) of the shaft extension
 - For an explanation of the order codes, see Catalog D 81.1 part 0 "Introduction".
- ²⁰⁾ For 1LA5/6/7/9 motors and 1LG with metal external fan, converter-fed operation is permitted. The metal external fan is standard for these motors in the version for Zone 21/22. The metal external fan is not possible in combination with a low-noise version – order code K37 or K38.

Special versions	Additional identifica-	Moto	r type fra	ame size											
	tion code -Z with order code and														
	plain text if required	56	63	71 80) 90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zor Cast-iron series 1LA6 and 1		with type of	of prote	ection "	n" or p	otecti	on ag	ainst	dust e	xplos	ions -	-			
						1LA	6 (cast	-iron)		1LG	4 (cast	iron)			
Design for Zones 1, 2, 21 and 22	-	ATEX ''				1	,	,	,	1	,	,	,	,	
Design for Zone 2 for mains-fed operation Ex nA II T3 to IEC/EN 60079-15 ²⁾	M72					~		<i>•</i>	~	~	~	<i>•</i>	/	/	<i>✓</i>
Design for Zone 2 for converter-fed operation, reduced output Ex nA II T3 to IEC/EN 60079-15 2) 3) 4)	M73					1	1	1	1	1	1	1	1	1	1
Design for Zones 2 and 22, for non-conducting dust (IP55), for mains-fed operation ⁵⁾	M74					1	1	1	1	1	1	1	1	1	1
Design for Zones 2 and 22, for non-conducting dust (IP55), for converter-fed operation, derating 3)4)5)	M75					1	1	1	1	1	1	1	1	1	1
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for mains-fed operation ⁶⁾	M34					-	-	-	-	1	1	1	1	1	1
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for converter-fed operation, derating ^{2) 4) 6)}	M38					_	-	-	-	1	1	1	1	1	1
Design for Zone 22 for non-con- ducting dust (IP55) for mains-fed operation	M35					1	1	1	1	1	1	1	1	1	1
Design for Zone 22 for non-con- ducting dust (IP55) for converter- fed operation, derating ^{2) 4)}	M39					1	1	1	1	1	1	1	1	1	1
VIK design (comprises Zone 2 for mains-fed operation, without Ex nA II marking on rating plate)	К30					1	1	1	1	1	1	1	1	1	1
Ex nA II on VIK rating plate	C27					1	1	1	1	1	1	1	1	1	1
Alternative converter (SIMOVERT MASTERDRIVES, SINAMICS G110, SINAMICS S120 or ET 200S FC)	Y68 • and converter type					0	0	0	0	0	0	0	0	0	0
Motor protection															
With PTC thermistors for alarm for converter-fed operation in Zones 2, 21, 22 ⁷)	A10					1	1	1	1	1	1	1	1	1	1
Motor protection with PTC ther- mistors with 3 embedded tem- perature sensors for tripping ⁷	A11					~	1	1	1	1	1	1	1	1	1
Motor protection with PTC ther- mistors with 6 embedded tem- perature sensors for alarm and tripping ⁷	A12					1	1	1	1	1	1	1	1	1	1
Motor temperature detection with embedded temperature sensor KTY 84-130 ⁷	A23					1	1	1	1	1	1	1	1	1	1
Motor temperature detection with embedded temperature sensors $2 \times \text{KTY} 84-130^{7}$	A25					1	1	1	1	1	1	1	1	1	1
Installation of 3 PT 100 resistance thermometers ⁷⁾	A60					1	1	1	1	1	1	1	1	1	1
Installation of 6 PT 100 resistance thermometers in stator winding 7)	A61					-	-	-	-	1	1	1	1	1	1

Special versions	Additional identifica- tion code -Z with order code and	1	Motor	type f	rame si	ize											
	plain text if required	Ę	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zor Cast-iron series 1LA6 and 1		with ty	vpe o	f prot	tectio	n "n"	or pro	tectio	on aga	inst d	ust ex	cplosi	ons –				
								1LA6	(cast-i	iron)		1LG4	(cast-	iron)			
Motor protection (continued) Installation of 2 PT 100 screw-in	4.70													,			
resistance thermometers (basic circuit) for rolling-contact bearings 7)	A72							-	-	-	-	<i>.</i>	<i>,</i>	~	•	V	~
Installation of 2 PT 100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings 7)	A78							-	-	-	-	1	1	1	1	1	1
Installation of 2 PT 100 double screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings ⁷)	A80							-	-	-	-	1	1	1	1	1	1
Motor connection and connectio																	
Two-part plate on connection box	K06							-	-	-	-	-	1	1	/	/	<u>۲</u>
Connection box on RHS Connection box on LHS	K09 K10							√ √	✓ ✓	✓ ✓	✓ ✓	√ √	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
Connection box on top, feet	K10							-	-	-	-	✓ ✓	✓ ✓	<i>v</i>	✓ ✓	✓ ✓	✓ ✓
screwed on Connection box in cast-iron	K15							_	_	_	_	1	1	1			
version																	
One cable gland, metal ⁸⁾	K54 K55								✓ 0. R.	✓ 0. R.	✓ 0. R.						
Cable gland, maximum configuration ⁸⁾								0. R.									
Rotation of the connection box through 90°, entry from DE	K83							~	1	1	1	1	1	1	1	~	1
Rotation of the connection box through 90°, entry from NDE	K84							1	1	1	1	1	1	1	1	1	~
Rotation of connection box through 180°	K85							1	1	1	1	1	1	1	1	1	1
Next larger connection box	L00							-	-	-	-	1	1	1	1	1	✓
External earthing	L13																
Auxiliary connection box 1XB3 020								-	-	-	-	1	1	1			✓ ())
Saddle terminal for connection without cable lug, accessories pack (6 items)	M47							-	-	-	-	-	-	_	✓ ⁹⁾	✓ ⁹⁾	✓ ⁹⁾
Windings and insulation																	
Increased air humidity/temperature with 30 to 60 g water per m ³ of air	C19							1	~	~	1	~	1	1	1	1	1
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	C22							1	1	1	1	1	1	1	1	1	1
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	C23							1	1	1	1	1	1	1	1	1	1
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	C24							1	1	1	1	1	1	1	1	1	1
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	C25							1	1	1	1	1	1	1	1	1	1
Increased air humidity/temperature with 60 to 100 g water per m ³ of air								1	1	1	1	1	1	1	1	1	1
Temperature class 155 (F), used acc. to 130 (B), with increased coolant temperature and/or site altitude	Y50 • and specified output, CT °C or SA m above sea level							V	1	1	1	V	J	1	1	1	1

Special versions	Additional identifica- tion code - Z with order code and plain text if				frame s		00	100	110	100	100	100	000	005	050	000	015
Self-ventilated motors in Zor Cast-iron series 1LA6 and 1		2 with t	56 type o	63 of pro	71 tectio	80 n "n"	90 or pro	100 tectio	112 on aga	132 ainst c	160 lust e	180 xplos	200 ions –	225	250	280	315
Cust non series reno and n								1LA6	(cast-	iron)		1LG4	(cast-	iron)			
Colors and paint finish																	
Standard finish in RAL 7030 stone gray								-	-	-	-						
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005	Y53 ● and standard finish RAL 							-	-	-	-	1	1	✓	1	✓	J
Special finish in RAL 7030 stone gray ¹⁰⁾	K26											1	1	1	1	1	1
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005	Y54 ● and special finish RAL							~	1	1	1	1	1	1	1	1	1
Special finish in special RAL col- ors: For RAL colors, see "Special finish in special RAL colors" on Catalog D 81.1 part 0	Y51 • and special fin- ish RAL							1	1	1	1	1	1	1	1	1	1
Offshore special finish	M91							O. R.	0. R.	0. R.	0. R.	1	1	1	1	1	1
Sea air resistant special finish	M94							O. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.
Unpainted (only cast iron parts primed)	K23							0	0	0	0	0	0	0	0	0	0
Unpainted, only primed	K24							1	1	1	1	1	1	1	1	1	1
Special technology																	
Mounting of explosion-proof rotary pulse encoder for use in Zones 2, 21, 22 ¹¹⁾	H86							1	1	1	1	1	1	1	1	1	1
Mounting of explosion-proof separately driven fan Ex nA for use in Zone 2 ¹²⁾	M95							-	-	-	-	-	-	1	1	1	1
Mounting of explosion-proof separately driven fan II 2D for use in Zone 21 ¹²⁾	M96							-	-	-	-	-	-	1	1	1	1
Mounting of explosion-proof separately driven fan II 3D for use in Zone 22 ¹²⁾	M97							1	1	1	1	1	1	1	1	1	1
Mechanical design and degrees																	
Drive-end seal for flange- mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of construction ¹³⁾	K17							1	5	1	5	1	1	1	1	1	1
Low-noise version for 2-pole motors with clockwise direction of rotation ¹⁴⁾	K37							-	-	1	1	1	1	1	1	1	1
Low-noise version for 2-pole motors with counter-clockwise direction of rotation ¹⁴⁾	K38							-	-	1	1	1	1	1	1	1	1
IP65 degree of protection ¹⁵⁾	K50							1	1	1	1	1	1	1	1	1	1
IP56 degree of protection (non-heavy-sea) ¹⁶⁾	K52						_	1	1	1	1	1	1	1	1	1	1
Vibration-proof version	L03							1	1	1	1	-	_	-	-	_	-
Condensation drainage holes ¹⁷⁾	L12							1	1	1	1						
Rust-resistant screws (externally)	M27							1	1	1	1	1	1	1	1	1	√
Mechanical protection for encoder 18)	M68							1	1	1	1	1	1	1	1	1	1

Special versions	Additional identifica- tion code -Z with order code and plain text if	Moto	r type fra	ame size											
Calf wantilated materia in Zar	required	56	63	71 80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors in Zor Cast-iron series 1LA6 and 1L		2 with type o	of prote	ection "r	r or pro		Ű		ust e>	·					
Coolant temperature and site alti	tude					ILAO	(cast-i	1011)		TLG4	(cast-	11011)			
Coolant temperature –40 °C to +40 °C for EX motor ¹⁹⁾	D19					1	1	1	1	1	1	1	1	1	✓
Designs in accordance with stan	dards and sp	ecifications													
Electrical according to NEMA MG1-12	D30					1	1	1	1	1	~	~	~	~	1
Ex certification for China (only valid for Zone 2)	D32					1	1	1	1	1	1	1	1	1	1
Bearings and lubrication															
Measuring nipple for SPM shock pulse measurement for bearing inspection	G50					1	1	1	1	1	1	1	1	1	1
Bearing design for increased cantilever forces ²⁰⁾	K20					1	1	1	1	1	1	1	1	1	1
Special bearing for DE and NDE, bearing size	K36					-	-	-	-	1	1	1	1	✓ ²¹⁾	✓ ²¹⁾
Regreasing device	K40					1	1	1	1	1	1	1	1		
Located bearing DE	K94					✓	1	1	1	1	1	1	1	1	✓
Located bearing NDE	L04					✓	1	✓							
Insulated bearing cartridge	L27					-	-	-	-	-	-	1	1	1	1
Balance and vibration quantity						-	-	_	-	-	_	_	_	-	_
Vibration quantity A Vibration quantity B ²²⁾	K02									□ ✓					
Full key balancing	L68					✓ ✓	<u> </u>	<u> </u>	<u> </u>	✓ ✓	<u> </u>	<u> </u>	<u> </u>	<u> </u>	✓ ✓
Balancing without key	M37					v ./	<i>v</i> <i>v</i>	<u> </u>	v ./	✓ ✓	<i>v</i> <i>v</i>	v ./	v ./	× ✓	<i>v</i> <i>v</i>
Shaft and rotor	inor					•	•	•	•	•	•	•	•	•	
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors ²³⁾	K04					1	1	1	1	1	1	1	1	1	1
Second standard shaft extension ²⁴⁾	K16					1	1	1	1	1	1	1	1	1	1
Shaft extension with standard dimensions without featherkey way	K42					~	1	1	1	1	1	1	1	1	1
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39					1	1	1	1	1	1	1	1	1	1
Standard shaft made of rust-resis- tant steel	M65					1	1	1	1	-	-	-	-	-	-
Non-standard cylindrical shaft extension ²⁵⁾	Y55 • and identifica-tion code					1	1	1	1	1	1	1	1	1	1
Heating and ventilation															
Fan cover for textile industry	H17					1	1	1	1	-	-	-	-	-	-
Metal external fan ²⁶⁾	K35					1	1	✓	1	1	1	1	1	1	✓
Anti-condensation heater, Ex. 230 V	M15						_		0. R.	-	-	_	-	-	-
Anti-condensation heater, Ex. 115 V	M14					0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.	0. R.
Separately driven fan with non- standard voltage and/or frequency	Y81 ● and identifica- tion code					-	-	-	-	-	-	1	1	1	1
Rating plate and extra rating plat															
Second lubricating plate, supplied loose	B06					1	1	1	1	1	1	~	1	1	1
Second rating plate, loose	K31					✓ ✓	/	/	/	1	/	/	/	✓	✓ ✓
Extra rating plate or rating plate with deviating rating plate data	Y80 ● and identifica- tion code						1	1	1	1	1	~	1	1	1
Extra rating plate with identification code						1	1	1	1	1	1	1	1	1	1
Additional information on rating plate and on package label (maximum of 20 characters)	Y84 • and identifica-tion code					1	1	1	1	1	1	1	1	1	1

For legend and footnotes, see Page 36.

Special versions	Additional identifica- tion code -Z with order code and	Motor	type	frame s	ize											
	plain text if required	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315

Self-ventilated motors in Zones 2, 21, 22 with type of protection "n" or protection against dust explosions – Cast-iron series 1LA6 and 1LG4

			1LA6 (cast-iron)				1LG4 (cast-iron)					
Packaging, safety notes, documentation and test certificates												
Acceptance test certificate 3.1 according to EN 10204	B02		~	1	1	1	1	1	1	1	1	1
Operating instructions German/ English enclosed in print	B23											
Type test with heat run for horizon- tal motors, with acceptance	F83		~	1	1	1	1	1	1	1	1	1
Wire-lattice pallet	L99		0	0	0	0	-	-	-	-	-	-
Connected in star for dispatch	M32		1	1	1	1	1	1	1	1	1	1
Connected in delta for dispatch	M33		✓	1	1	1	1	1				

- Standard version
- Without additional charge
- This order code only determines the price of the version Additional plain text is required.
- O. R. Possible on request
- With additional charge
- Not possible
- ¹⁾ Only permitted for use in accordance with temperature class 130 (B).
- ²⁾ These motors do not have a rated voltage range stamped on the rating plate.
- 3) According to the standard, the motor and converter must be tested as a unit. A "Manufacturer test certificate" is available for a defined spectrum of Siemens motors (frame sizes 63 M to 315 L)/converter. Please inquire in the case of a non-Siemens converter (additional charge).
- ⁴⁾ With this option, PTC thermistors for temperature class 130 (B) are included. For compliance with temperature class 130 (B), derating is necessary in the case of converter-fed operation in Zones 2, 21 and 22. The operating data for the MICROMASTER converter series from Siemens are specified on the rating plate as standard. Derating information is available on request. For converter-fed operation only voltage codes/order codes with only one voltage are permitted, see also "Overview" on Page 2.
- ⁵⁾ In combination with order codes D19, K30, M95, M96 and M97 please inquire. Not possible in combination with order codes D32, K50 and K52.
- ⁶⁾ Zone 21 takes into account conducting and non-conducting dust.
- ⁷⁾ Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended. When used in hazardous areas, a certified tripping unit is required. KTY 84-130 and PT 100 are not permitted as sole protection. Full motor protection for mains-fed operation implemented only with PTC thermistors, please inquire.
- ⁸⁾ For 1LA6 and 1LG6 motors additional charge only applies to Zone 22. Designs for Zones 2 and 21 already have a certified metal cable gland in the standard version. Standard with designs for Zone 2, Zone 21 and VIK.
- 9) Standard with designs for Zone 2, Zone 21 and VIK.
- ¹⁰⁾ For frame sizes 100 to 160, do not specify an order code. Order code is only necessary for frame sizes 180 to 315.
- ¹¹⁾ In combination with order codes C19, C26, L27, M95, M96 and M97 please inquire.

Not possible in combination with order code K16.

Furthermore a combination with protective cover is not possible. Therefore a suitable cover must be implemented by the end user in vertical mounting position to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0).

- ¹²⁾ In combination with order codes C19, C22, C23, C24, C25, C26, C27, D19, H86, K30, K50 and K52 please inquire. Not possible in combination with order code K16. The type of protection of the separately driven fan must correspond to the type of protection of the motor.
- ¹³⁾ Not possible for motor series 1LG4 for 2-pole motors.
- ¹⁴⁾ For 1LG4 motors a second shaft extension is not possible in the low-noise version.
- ¹⁵⁾ Order code K50 (IP65 degree of protection) can only be ordered for Zone 2. For Zone 21, IP65 degree of protection is standard. Not possible for Zone 22, because only IP55 degree of protection is required.

- ¹⁶⁾ Order code K52 IP56 degree of protection (non-heavy-sea) is only possible for Zone 2. Not admissible for Zone 21 (IP65 degree of protection) and Zone 22 (IP55 degree of protection).
- ¹⁷⁾ For 1LA6 motors: When supplied the condensation drainage holes are sealed at the drive end DE and non-drive end NDE for IP55, IP56 and IP65 degrees of protection. If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath.
- ¹⁸⁾ Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cover.
- ¹⁹⁾ Not possible in combination with order code L03.
- ²⁰⁾ Not possible for 2-pole 1LG4 motors, frame size 315 L in vertical types of construction; bearings for increased cantilever forces at vibration quantity level B available on request for 1LG4 motors. Not possible for 1LG4 motors in the combination "Concentricity of the shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors" – order code K04.
- ²¹⁾ Additional charge for 2-pole motors. With 4-pole to 8-pole motors, standard version.
- ²²⁾ Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).
- ²³⁾ Can be combined with deep-groove bearings of series 60.., 62.. and 63... Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**).
- ²⁴⁾ Possible for motors of frame size 315 and above in vertical types of construction or 2-pole for version with second shaft extension on request. Version with protective cover not possible.
- ²⁵⁾ When motors which have a longer or shorter shaft extension than normal are ordered, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case.
 - For order codes Y55 and K16:
 - Dimensions D and DA ≤ internal diameter of roller bearing (see dimesnion tables under "Dimensions")
 - Dimensions E and EA ≤2 x length E (normal) of the shaft extension For an explanation of the order codes, see Catalog D 81.1 part 0 "Introduction".
- ²⁶⁾ For 1LA5/6/7/9 motors and 1LG with metal external fan, converter-fed operation is permitted. The metal external fan is standard for these motors in the version for Zone 21/22. The metal external fan is not possible in combination with the low-noise version – order code K37 or K38.

Additional identification code **-Z** with order code and plain text if required

Motor type frame size

required 56 63 71 80 90 100 112 132 160 180 200 225 250 280 315 Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions – Cast-iron series 1LG6

		1LG	ILG6 (cast-iron)						
Design for Zones 1, 2, 21 and 22 according to	ATEX ¹⁾				-				
Design for Zone 2 for mains-fed operation Ex nA II T3 to IEC/EN 60079-15 ²⁾	M72	1	~	~	~	~	~		
Design for Zone 2 for converter-fed operation, reduced output Ex nA II T3 to IEC/EN 60079-15 ^(2) 3) 4)	M73	~	1	1	1	1	1		
Design for Zones 2 and 22, for non-conducting dust (IP55), for mains-fed operation ⁵⁾	M74	~	~	1	1	1	1		
Design for Zones 2 and 22, for non-conducting dust (IP55), for converter-fed operation, derating (4)5)	M75	1	1	1	1	1	1		
Design for Zone 21, as well as Zone 22 for con- ducting dust (IP65) for mains-fed operation ⁶⁾	M34	~	1	1	1	1	1		
Design for Zone 21, as well as Zone 22 for conducting dust (IP65) for converter-fed operation, derating $^{(2)}$ $^{(4)}$ $^{(6)}$	M38	1	1	1	1	1	1		
Design for Zone 22 for non-conducting dust (IP55) for mains-fed operation	M35	~	1	1	~	1	1		
Design for Zone 22 for non-conducting dust (IP55) for converter-fed operation, derating ²) ⁴)	M39	~	~	~	~	1	1		
VIK design (comprises Zone 2 for mains-fed operation, without Ex nA II marking on rating plate)	K30	1	1	1	1	1	1		
Ex nA II on VIK rating plate	C27	1	1	1	1	1	1		
Alternative converter (SIMOVERT MASTERDRIVES, SIMOVERT S120)	Y68 • and converter type	0	0	0	0	0	0		
Motor protection									
With PTC thermistors for alarm for converter-fed operation in Zones 2, 21, 22 ⁷⁾	A10	1	1	1	1	1	1		
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping ⁷)	A11	~	1	1	1	1	~		
Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping ⁷	A12	1	1	1	1	1	1		
Motor temperature detection with embedded temperature sensor KTY 84-130 ⁷⁾	A23	~	1	1	1	1	1		
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 ⁷)	A25	1	1	1	1	1	1		
Installation of 3 PT 100 resistance thermometers ⁷⁾	A60	1	1	1	1	1	1		
Installation of 6 PT 100 resistance thermometers in stator winding ⁷⁾	A61	~	1	1	1	1	~		
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings ⁷⁾	A72	1	1	1	1	1	1		
Installation of 2 PT 100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings ⁷⁾	A78	1	1	1	1	1	1		
Installation of 2 PT 100 double screw-in resistance thermometers (three-wire circuit) for rolling-contact bearings ⁷⁾	A80	1	1	1	1	1	1		

Additional identification code **-Z** with order code and plain text if required

Motor type frame size

Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions – Cast-iron series 1LG6

Cast-iron series 1LG6	_	11.6	6 (000	st-iron	`		
Motor connection and connection box		ILG	o (cas	st-mon	,		
Two-part plate on connection box	K06	_	1	1	1	1	1
Connection box on RHS	K09	1	· ·	· ✓	· ·	· ✓	✓
Connection box on LHS	K10	1	1	1	1	1	1
Connection box on top, feet screwed on	K11	1	1	1	1	1	1
Connection box in cast-iron version	K15	1	1	1			
One cable gland, metal ⁸⁾	K54	1	1	1	1	1	1
Cable gland, maximum configuration ⁸⁾	K55	O.F	1. O. F	. O. R	. O. R	. O. R	. O. R.
Rotation of the connection box through 90°, entry from DE	K83	~	1	1	1	1	~
Rotation of the connection box through 90°, entry from NDE	K84	1	1	1	1	1	1
Rotation of connection box through 180°	K85	1	1	1	1	1	1
Next larger connection box	L00	1	1	1	1	1	1
Auxiliary connection box	L97	1	1	1	1	1	1
Saddle terminal for connection without cable lug, accessories pack (6 items)	M47	-	-	-	✓ ⁹⁾	✓ ⁹⁾	✓ ⁹⁾
Windings and insulation							
Increased air humidity/temperature with 30 to 60 g water per m ³ of air	C19	~	~	1	~	~	1
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	C22	1	1	1	1	1	1
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	C23	~	1	1	1	1	1
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	C24	1	1	1	1	1	~
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	C25	1	1	1	1	1	1
Increased air humidity/temperature with 60 to 100 g water per per m ³ of air	C26	1	1	1	1	1	1
Temperature class 155 (F), used acc. to 130 (B), with a higher coolant temperature and/or site altitude	Y50 • and specified output, CT °C or SA m above sea level	1	J	1	1	1	1
Colors and paint finish							
Standard finish in RAL 7030 stone gray							
Standard finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005	Y53 • and standard finish RAL	1	1	1	1	1	1
Special finish in RAL 7030 stone gray	K26	 1	1	1	1	1	✓
Special finish in other standard RAL colors: RAL 1002, 1013, 1015, 1019, 2003, 2004, 3000, 3007, 5007, 5009, 5010, 5012, 5015, 5017, 5018, 5019, 6011, 6019, 6021, 7000, 7001, 7004, 7011, 7016, 7022, 7031, 7032, 7033, 7035, 9001, 9002, 9005	Y54 ● and special finish RAL	~	1	1	1	√	1
Special finish in special RAL colors: For RAL colors, see "Special finish in special RAL colors" on Catalog D 81.1 part 0	Y51 • and special finish RAL	1	1	1	1	1	1
Offshore special finish	M91	1	1	1	1	1	1
Sea air resistant special finish	M94	0. F	1. O. F	1. O. R	. O. R	. O. R	. O. R.
Unpainted (only cast-iron parts primed)	K23	0	0	0	0	0	0
Unpainted, only primed	K24	1	1	1	1	1	1

Special versions	Additional identification code -Z with order code and	1	Motor t	type f	frame	size									
	plain text if required					80 90	100		132 160				250	280	315
Self-ventilated motors in Zones 2, 21 an Cast-iron series 1LG6	d 22 with typ	be of pro	otecti	on "	'n" o	r prote	ction	again	st dust	explo	sion	s –			
Special technology										1LG	6 (ca	st-iron)		
Mounting of explosion-proof rotary pulse	H86									1	1	1	1	1	1
encoder for use in Zones 2, 21, 22 ¹⁰⁾ Mounting of explosion-proof separately driven	M95									-	_	1	1	1	1
fan Ex nA for use in Zone 2 ¹¹⁾ Mounting of explosion-proof separately driven fan II 2D for use in Zone 21 ¹¹⁾	M96									-	_	1	~	1	1
Mounting of explosion-proof separately driven	M97									1	1	1	1	1	1
fan II 3D for use in Zone 22 ¹¹⁾															
Mechanical design and degrees of protection	K17									1	1	1		1	1
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar Not possible for IM V3 type of construction and 2-pole motors	KI7									v	v	v	v	v	•
Low-noise version for 2-pole motors with clockwise direction of rotation ¹²)	K37									-	-	-	-	-	-
Low-noise version for 2-pole motors with counter-clockwise direction of rotation ¹²⁾	K38									-	-	-	-	-	-
IP65 degree of protection ¹³⁾	K50									1	1	1	1	1	1
IP56 degree of protection (non-heavy-sea) ¹⁴⁾	K52									1	1	1	1	1	1
Condensation water holes ¹⁵⁾	L12														
Rust-resistant screws (externally)	M27									1	1	1	1	1	1
Mechanical protection for encoder ¹⁶⁾	M68									1	1	1	1	1	1
Coolant temperature and site altitude Coolant temperature -40 °C to +40 °C for EX motor ¹⁷)	D19									1	1	1	1	1	1
Designs in accordance with standards and sp	ecifications														
Electrical according to NEMA MG1-12 (standard version with EPACT)	D30														
Ex certification for China (only valid for Zone 2)	D32									~	1	1	1	~	1
Bearings and lubrication															
Measuring nipple for SPM shock pulse measurement for bearing inspection	G50									~	1	1	1	~	1
Bearing design for increased cantilever forces ¹⁸	K20									~	1	1	1	1	~
Special bearing for DE and NDE, bearing size	K36									1	1	1	1	✓ ¹⁹⁾	✓ ¹⁹⁾
Regreasing device	K40									1	1	1	1		
Located bearing DE	K94									1	1	1	1	1	1
Located bearing NDE	L04														
Insulated bearing cartridge	L27									-	-	1	1	1	1
Balance and vibration quantity															
Vibration quantity A															
Vibration quantity B ²⁰⁾	K02									<i>✓</i>	1	<u> </u>	/	<u> </u>	1
Full key balancing	L68									<i>✓</i>	1	<i>\</i>	<u> </u>	1	<u> </u>
Balancing without key Shaft and rotor	M37									~	1	~	1	~	1
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors ²¹⁾	K04									1	1	1	1	1	1
Second standard shaft extension ²²⁾	K16									1	1	1	1	1	1
Shaft extension with standard dimensions without featherkey way	K42									~	~	1	~	1	1
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39									~	1	1	1	1	~
Non-standard cylindrical shaft extension ²³⁾	Y55 • and identification									1	1	1	1	1	1

Y55 • and identification code

Additional identification code -Z with order code and plain text if required

56 $63 \quad 71 \quad 80 \quad 90 \quad 100 \quad 112 \quad 132 \quad 160 \quad 180 \quad 200 \quad 225 \quad 250 \quad 280 \quad 315$ Self-ventilated motors in Zones 2, 21 and 22 with type of protection "n" or protection against dust explosions -Cast-iron series 1LG6

			1LG	6 (cas	st-iron))		
Heating and ventilation								
Metal external fan 24)	K35		1	1	1	1	1	1
Anti-condensation heater, Ex. 230 V	M15		O. F	1. O. R	. O. R	0. R	0. R	0. R.
Anti-condensation heater, Ex. 115 V	M14		0. F	1. O. R	. O. R	0. R	0. R	0. R.
Separately driven fan with non-standard voltage and/or frequency	Y81 • and identification code		-	-	1	1	1	1
Rating plate and extra rating plates								
Second lubricating plate, supplied loose	B06		1	1	1	1	1	1
Second rating plate, loose	K31		1	1	1	1	1	1
Extra rating plate or rating plate with deviating rating plate data	Y80 • and identification code		1	1	1	1	1	1
Extra rating plate with identification code	Y82 • and identification code		1	1	1	1	1	1
Additional information on rating plate and on package label (maximum of 20 characters)	Y84 • and identification code		1	1	1	1	1	1
Packaging, safety notes, documentation and	test certificate	S						
Acceptance test certificate 3.1 according to EN 10204	B02		1	1	1	1	~	1
Operating instructions German/English enclosed in print	B23							
Type test with heat run for horizontal motors, with acceptance	F83		1	1	1	1	1	1
Connected in star for dispatch	M32		1	1	1	1	1	1
Connected in delta for dispatch	M33		1	1				

Standard version

Statidate version
 Without additional charge
 This order code only determines the price of the version – Additional plain text is required.
 O. R. Possible on request
 With additional charge

Not possible

- 1) Only permitted for use in accordance with temperature class 130 (B).
- 2) These motors do not have a rated voltage range stamped on the rating plate
- 3) According to the standard, the motor and converter must be tested as a unit. A "Manufacturer test certificate" is available for a defined spectrum of Siemens motors (frame sizes 63 M to 315 L)/converter. Please inquire in the case of a non-Siemens converter (additional charge).
- With this option, PTC thermistors for temperature class 130 (B) are included. For compliance with temperature class 130 (B), derating is necessary in the case of converter-fed operation in Zones 2, 21 and 22. Derating information is available on request.
- 5) In combination with order codes D19, K30, M95, M96 and M97 please inquire. Not possible in combination with order codes D32, K50 and K52.
- 6) Zone 21 takes into account conducting and non-conducting dust.
- 7) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended. When used in hazardous areas, a certified tripping unit is required. KTY 84-130 and PT 100 are not permitted as sole protection. Full motor protection for mains-fed operation implemented only with PTC thermistors, please inquire.
- 8) For 1LG6 motors, additional charge only applies to Zone 22. Designs for Zones 2 and 21 already have a cable entry in the standard version.
- 9) Standard with designs for Zone 2, Zone 21 and VIK.
- ¹⁰⁾ In combination with order codes C19, C26, L27, M95, M96 and M97 please inquire.
 - Not possible in combination with order code K16.

Furthermore a combination with protective cover is not possible. Therefore a suitable cover must be implemented by the end user in vertical mounting position to prevent small parts from falling into the fan cover (see the standard IEC/EN 60079-0).

¹¹⁾ In combination with order codes C19, C22, C23, C24, C25, C26, D19, H86, K50 and K52 please inquire.

Not possible in combination with order code K16.

The type of protection of the separately driven fan must correspond to the type of protection of the motor.

- 12) Not necessary for 1LG6 motors because these motors are already noise optimized.
- ¹³⁾ Order code **K50** (IP65 degree of protection) can only be ordered for Zone 2. For Zone 21, IP65 degree of protection is standard. Not possible for Zone 22, because only IP55 degree of protection is required.
- 14) Order code K52 IP56 degree of protection (non-heavy-sea) is only possible for Zone 2. Not admissible for Zone 21 (IP65 degree of protection) and Zone 22 (IP55 degree of protection).

- ¹⁵⁾ When supplied the condensation drainage holes are sealed at the drive end DE and non-drive end NDE (IP55, IP56, IP65). If condensation drainage holes are required in motors of the IM B6, IM B7 or IM B8 type of construction (feet located on side or top), it is necessary to relocate the bearing plates at the drive end (DE) and non-drive end (NDE) so that the condensation drainage holes situated between the feet on delivery are underneath
- ¹⁶⁾ Not necessary when a rotary pulse encoder is combined with a separately driven fan, because in this case the rotary pulse encoder is installed under the fan cover.
- ¹⁷⁾ Not possible in combination with order code **L03**.
- 18) Not possible for 2-pole 1LG6 motors, frame size 315 L in vertical types of construction: bearings for increased cantilever forces at vibration quantity level B available on request for 1LG6 motors. Not possible for 1LG6 motors in the combination "Concentricity of the shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors" - order code K04.
- ¹⁹⁾ Additional charge for 2-pole motors. With 4-pole to 8-pole motors, standard version.
- ²⁰⁾ Can be combined with deep-groove bearings of series 60.., 62.. and 63... Not possible with parallel roller bearings (e.g. bearings for increased cantilever forces, order code K20).
- ²¹⁾ Not possible in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code K20).
- ²²⁾ Possible for motors of frame size 315 and above in vertical types of construction or 2-pole for version with second shaft extension on request. Version with protective cover not possible.
- ²³⁾ When motors which have a longer or shorter shaft extension than normal are ordered, the required position and length of the featherkey way must be specified in a sketch. It must be ensured that only featherkeys in accordance with DIN 6885, Form A are permitted to be used. The featherkey way is positioned centrally on the shaft extension. The length is defined by the manufacturer normatively. Not valid for: Conical shafts, non-standard threaded journals, non-standard shaft tolerances, friction welded journals, extremely "thin" shafts, special geometry dimensions (e.g. square journals), hollow shafts. Valid for non-standard shaft extensions DE or NDE. The featherkeys are supplied in every case.
 - For order codes Y55 and K16:
 - Dimensions D and DA ≤ internal diameter of roller bearing
 - (see dimension tables under "Dimensions") Dimensions E and EA \leq 2 x length E (normal) of the shaft extension
 - For an explanation of the order codes, see Catalog D 81.1 part 0 "Introduction".
- ²⁴⁾ For 1LA5/6/7/9 motors and 1LG with metal external fan, converter-fed operation is permitted. The metal external fan is standard for these motors in the version for Zone 21/22. The metal external fan is not possible in combination with the low-noise version - order code K37 or K38.