

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	Voltage code 11th position of the Order No.	Additional identification code with order code and plain text if required	Motor type frame size														
			56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency – Aluminum series 1LA7 and 1LA5																	
			1LA7 (aluminum)										1LA5 (aluminum)				
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		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
230 VΔ (220 ... 240 VΔ); 50 Hz output ¹⁾	9	L1E		○	○	○	○	○	○	○	○	○	○	○			
380 VΔ/660 VY (440 VΔ at 60 Hz) (360 ... 400 VΔ/625 ... 695 VY); 50 Hz output ¹⁾	9	L1L		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
415 VY (395 ... 435 VY); 50 Hz output ¹⁾	9	L1C		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
415 VΔ (395 ... 435 VΔ); 50 Hz output ¹⁾	9	L1D		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
400 VY (380 ... 420 VY); 50 Hz output ¹⁾	9	L1A		○	○	○	○	○	○	○	○	○	○	○			
400 VΔ (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1B		○	○	○	○	○	○	○	○	○	○	○			
400 VΔ (460 VΔ at 60 Hz) (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1U		○	○	○	○	○	○	○	○	○	○	○			
Voltage at 60 Hz																	
220 VΔ/380 VY; 50 Hz output	9	L2A		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
220 VΔ/380 VY; 60 Hz output	9	L2B		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
380 VΔ/660 VY; 50 Hz output	9	L2C		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
380 VΔ/660 VY; 60 Hz output	9	L2D		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
440 VY; 50 Hz output	9	L2Q		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
440 VY; 60 Hz output	9	L2W		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
440 VΔ; 50 Hz output	9	L2R		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
440 VΔ; 60 Hz output	9	L2X		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
460 VY; 50 Hz output	9	L2S		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
460 VY; 60 Hz output	9	L2E		○	○	○	○	○	○	○	○	○	○	○			
460 VΔ; 50 Hz output	9	L2T		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
460 VΔ; 60 Hz output	9	L2F		○	○	○	○	○	○	○	○	○	○	○			
575 VY; 50 Hz output	9	L2U		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
575 VY; 60 Hz output	9	L2L		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
575 VΔ; 50 Hz output	9	L2V		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
575 VΔ; 60 Hz output	9	L2M		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Voltage changeover at 60 Hz																	
230 VYY/460 VY 60 Hz; 50 Hz output, 9 main terminals and electrical design to NEMA ³⁾	9	L3E		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		–	
230 VYY/460 VY 60 Hz; 60 Hz output, 9 main terminals and electrical design to NEMA ³⁾	9	L3F		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		–	
230 VΔΔ/460 VΔ 60 Hz; 50 Hz output, 12 main terminals and electrical design to NEMA	9	L3G		–	–	–	–	–	✓	✓	✓	✓	✓	✓		–	
230 VΔΔ/460 VΔ 60 Hz; 60 Hz output, 12 main terminals and electrical design to NEMA	9	L3H		–	–	–	–	–	✓	✓	✓	✓	✓	✓		–	
Non-standard voltages and/or frequencies																	
Non-standard winding for voltages between 200 and 690 V (voltages outside this range are available on request) ²⁾	9	L1Y •		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			

Special versions	Voltage code 11th position of the Order No.	Additional identification code with order code and plain text if required	Motor type frame size															
			56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated energy-saving motors with improved efficiency in pole-changing version – Aluminum series 1LA7 and 1LA5																		
			1LA7 (aluminum)										1LA5 (aluminum)					
Voltage 60 Hz																		
220 V; 50 Hz output	9	L4A		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
220 V; 60 Hz output	9	L4B		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
380 V; 50 Hz output	9	L4C		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
380 V; 60 Hz output	9	L4D		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
440 V; 50 Hz output	9	L4G		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
440 V; 60 Hz output	9	L4E		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
460 V; 50 Hz output	9	L4J		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
460 V; 60 Hz output	9	L4H		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
575 V; 50 Hz output	9	L4N		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
575 V; 60 Hz output	9	L4M		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Non-standard voltage and/or frequencies																		
Non-standard winding for voltages between 200 and 690 V (voltages outside this range are available on request) ²⁾	9	L1Y •		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Non-standard winding for Y/Δ starting at low speed ²⁾	9	L3Y •		–	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓			

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

¹⁾ With order codes **L1A, L1B, L1C, L1D, L1E, L1L, L1R** and **L1U**, a rated voltage range is also specified on the rating plate.

²⁾ Plain text must be specified in the order: Voltage, frequency, circuit, required rated output in kW.

³⁾ When ordered with option brake (order code **G26**) only 6 motor connection terminals are possible for frame size 56 to 90.

Special versions	Voltage code 11th position of the Order No.	Additional identifica- tion code with order code and plain text if required	Motor type frame size															
			56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated energy-saving motors with high efficiency – Aluminum series 1LA9																		
			1LA9 (aluminum)															
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		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
230 VΔ (220 ... 240 VΔ); 50 Hz output ¹⁾	9	L1E		○	○	○	○	○	○	○	○	○	○	○				
380 VΔ/660 VY (440 VΔ at 60 Hz) (360 ... 400 VΔ/625 ... 695 VY); 50 Hz output ¹⁾	9	L1L		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
415 VY (395 ... 435 VY); 50 Hz output ¹⁾	9	L1C		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
415 VΔ (395 ... 435 VΔ); 50 Hz output ¹⁾	9	L1D		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
400 VY (380 ... 420 VY); 50 Hz output ¹⁾	9	L1A		○	○	○	○	○	○	○	○	○	○	○				
400 VΔ (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1B		○	○	○	○	○	○	○	○	○	○	○				
400 VΔ (460 VΔ at 60 Hz) (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1U		○	○	○	○	○	○	○	○	○	○	○				
Voltage at 60 Hz																		
220 VΔ/380 VY; 50 Hz output	9	L2A		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
220 VΔ/380 VY; 60 Hz output	9	L2B		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
380 VΔ/660 VY; 50 Hz output	9	L2C		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
380 VΔ/660 VY; 60 Hz output	9	L2D		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
440 VY; 50 Hz output	9	L2Q		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
440 VY; 60 Hz output	9	L2W		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
440 VΔ; 50 Hz output	9	L2R		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
440 VΔ; 60 Hz output	9	L2X		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
460 VY; 50 Hz output	9	L2S		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
460 VY; 60 Hz output	9	L2E		○	○	○	○	○	○	○	○	○	○	○				
460 VΔ; 50 Hz output	9	L2T		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
460 VΔ; 60 Hz output	9	L2F		○	○	○	○	○	○	○	○	○	○	○				
575 VY; 50 Hz output	9	L2U		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
575 VY; 60 Hz output	9	L2L		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
575 VΔ; 50 Hz output	9	L2V		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
575 VΔ; 60 Hz output	9	L2M		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Voltage changeover at 60 Hz																		
230 VYY/460 VY 60 Hz; 50 Hz output, 9 main terminals and electrical design to NEMA	9	L3E		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
230 VYY/460 VY 60 Hz; 60 Hz output, 9 main terminals and electrical design to NEMA	9	L3F		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
230 VΔΔ/460 VΔ 60 Hz; 50 Hz output, 12 main terminals and electrical design to NEMA	9	L3G		–	–	–	–	–	✓	✓	✓	✓	✓	✓				
230 VΔΔ/460 VΔ 60 Hz; 60 Hz output, 12 main terminals and electrical design to NEMA	9	L3H		–	–	–	–	–	✓	✓	✓	✓	✓	✓				
Non-standard voltage and/or frequencies																		
Non-standard winding for vol- tages between 200 and 690 V (voltages outside this range are available on request) ²⁾	9	L1Y •		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				

Special versions	Voltage code 11th position of the Order No.	Additional identification code with order code and plain text if required	Motor type frame size															
			56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated motors with increased output – Aluminum series 1LA9																		
			1LA9 (aluminum)															
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		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
230 VΔ (220 ... 240 VΔ); 50 Hz output ¹⁾	9	L1E		○	○	○	○	○	○	○	○	○	○	○				
380 VΔ/660 VY (440 VΔ at 60 Hz) (360 ... 400 VΔ/625 ... 695 VY); 50 Hz output ¹⁾	9	L1L		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
415 VY (395 ... 435 VY); 50 Hz output ¹⁾	9	L1C		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
415 VΔ (395 ... 435 VΔ); 50 Hz output ¹⁾	9	L1D		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
400 VY (380 ... 420 VY); 50 Hz output ¹⁾	9	L1A		○	○	○	○	○	○	○	○	○	○	○				
400 VΔ (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1B		○	○	○	○	○	○	○	○	○	○	○				
400 VΔ (460 VΔ at 60 Hz) (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1U		○	○	○	○	○	○	○	○	○	○	○				
Voltage at 60 Hz																		
220 VΔ/380 VY; 50 Hz output	9	L2A		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
220 VΔ/380 VY; 60 Hz output	9	L2B		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
380 VΔ/660 VY; 50 Hz output	9	L2C		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
380 VΔ/660 VY; 60 Hz output	9	L2D		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
440 VY; 50 Hz output	9	L2Q		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
440 VY; 60 Hz output	9	L2W		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
440 VΔ; 50 Hz output	9	L2R		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
440 VΔ; 60 Hz output	9	L2X		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
460 VY; 50 Hz output	9	L2S		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
460 VY; 60 Hz output	9	L2E		○	○	○	○	○	○	○	○	○	○	○				
460 VΔ; 50 Hz output	9	L2T		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
460 VΔ; 60 Hz output	9	L2F		○	○	○	○	○	○	○	○	○	○	○				
575 VY; 50 Hz output	9	L2U		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
575 VY; 60 Hz output	9	L2L		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
575 VΔ; 50 Hz output	9	L2V		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
575 VΔ; 60 Hz output	9	L2M		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Voltage changeover at 60 Hz																		
230 VYY/460 VY 60 Hz; 50 Hz output, 9 main terminals and electrical design to NEMA	9	L3E		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
230 VYY/460 VY 60 Hz; 60 Hz output, 9 main terminals and electrical design to NEMA	9	L3F		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
230 VΔΔ/460 VΔ 60 Hz; 50 Hz output, 12 main terminals and electrical design to NEMA	9	L3G		–	–	–	–	–	✓	✓	✓	✓	✓	✓				
230 VΔΔ/460 VΔ 60 Hz; 60 Hz output, 12 main terminals and electrical design to NEMA	9	L3H		–	–	–	–	–	✓	✓	✓	✓	✓	✓				
Non-standard voltage and/or frequencies																		
Non-standard winding for voltages between 200 and 690 V (voltages outside this range are available on request) ²⁾	9	L1Y •		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
<div>○ Without additional charge</div> <div>✓ With additional charge</div> <div>– Not possible</div> <div>• This order code only determines the price of the version – Additional plain text is required.</div>																		

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

1) With order codes **L1A, L1B, L1C, L1D, L1E, L1L, L1R** and **L1U**, a rated voltage range is also specified on the rating plate.

2) 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.	Additional identification code with order code and plain text if required	Motor type frame size																315 S/M	315 L
			56	63	71	80	90	100	112	132	160	180	200	225	250	280				
Self-ventilated motors with improved efficiency – Cast-iron series 1LA6 and 1LG4																				
			1LA6 (cast-iron)							1LG4 (cast-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								✓	✓	✓	✓	✓	✓	✓	✓	✓	–	
230 VΔ (220 ... 240 VΔ); 50 Hz output ¹⁾	9	L1E								○	○	○	○	○	○	○	○	○	–	
380 VΔ/660 VY (440 VΔ at 60 Hz) (360 ... 400 VΔ/625 ... 695 VY); 50 Hz output ¹⁾	9	L1L								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
415 VY (395 ... 435 VY); 50 Hz output ¹⁾	9	L1C								✓	✓	✓	✓	✓	✓	✓	✓	✓	–	
415 VΔ (395 ... 435 VΔ); 50 Hz output ¹⁾	9	L1D								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
400 VY (380 ... 420 VY); 50 Hz output ¹⁾	9	L1A								○	○	○	○	○	○	○	○	○	–	
400 VΔ (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1B								○	○	○	○	○	○	○	○	○	○	
400 VΔ (460 VΔ at 60 Hz) (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1U								○	○	○	○	○	○	○	○	○	○	
Voltage at 60 Hz																				
220 VΔ/380 VY; 50 Hz output	9	L2A								✓	✓	✓	✓	✓	✓	✓	✓	✓	–	
220 VΔ/380 VY; 60 Hz output	9	L2B								✓	✓	✓	✓	✓	✓	✓	✓	✓	–	
380 VΔ/660 VY; 50 Hz output	9	L2C								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
380 VΔ/660 VY; 60 Hz output	9	L2D								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
440 VY; 50 Hz output	9	L2Q								✓	✓	✓	✓	✓	✓	✓	✓	✓	–	
440 VY; 60 Hz output	9	L2W								✓	✓	✓	✓	✓	✓	✓	✓	✓	–	
440 VΔ; 50 Hz output	9	L2R								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
440 VΔ; 60 Hz output	9	L2X								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
460 VY; 50 Hz output	9	L2S								✓	✓	✓	✓	✓	✓	✓	✓	✓	–	
460 VY; 60 Hz output	9	L2E								○	○	○	○	○	○	○	○	○	–	
460 VΔ; 50 Hz output	9	L2T								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
460 VΔ; 60 Hz output	9	L2F								○	○	○	○	○	○	○	○	○	○	
575 VY; 50 Hz output	9	L2U								✓	✓	✓	✓	✓	✓	✓	✓	✓	–	
575 VY; 60 Hz output	9	L2L								✓	✓	✓	✓	✓	✓	✓	✓	✓	–	
575 VΔ; 50 Hz output	9	L2V								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
575 VΔ; 60 Hz output	9	L2M								○	○	○	○	○	○	○	○	○	○	
Non-standard voltage and/or frequencies																				
Non-standard winding for vol- tages between 200 and 690 V (voltages outside this range are available on request) ²⁾	9	L1Y •								✓	✓	✓	✓	✓	✓	✓	✓	✓		

○ Without additional charge

✓ With additional charge

– Not possible

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

¹⁾ With order codes **L1A**, **L1B**, **L1C**, **L1D**, **L1E**, **L1L**, **L1R** and **L1U**, a rated voltage range is also specified on the rating plate.

²⁾ 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.	Additional identification code with order code and plain text if required	Motor type frame size														315 S/M	315 L				
			56	63	71	80	90	100	112	132	160	180	200	225	250	280						
Self-ventilated motors with increased output – Cast-iron series 1LG4																						
																	1LG4 (cast-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															✓	✓	✓	✓	✓	
230 VΔ (220 ... 240 VΔ); 50 Hz output ¹⁾	9	L1E															○	○	○	○	○	
380 VΔ/660 VY (440 VΔ at 60 Hz) (360 ... 400 VΔ/625 ... 695 VY); 50 Hz output ¹⁾	9	L1L															✓	✓	✓	✓	✓	
415 VY (395 ... 435 VY); 50 Hz output ¹⁾	9	L1C															✓	✓	✓	✓	✓	
415 VΔ (395 ... 435 VΔ); 50 Hz output ¹⁾	9	L1D															✓	✓	✓	✓	✓	
400 VY (380 ... 420 VY); 50 Hz output ¹⁾	9	L1A															○	○	○	○	○	
400 VΔ (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1B															○	○	○	○	○	
400 VΔ (460 VΔ at 60 Hz) (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1U															○	○	○	○	○	
Voltage at 60 Hz																						
220 VΔ/380 VY; 50 Hz output	9	L2A															✓	✓	✓	✓	✓	
220 VΔ/380 VY; 60 Hz output	9	L2B															✓	✓	✓	✓	✓	
380 VΔ/660 VY; 50 Hz output	9	L2C															✓	✓	✓	✓	✓	
380 VΔ/660 VY; 60 Hz output	9	L2D															✓	✓	✓	✓	✓	
440 VY; 50 Hz output	9	L2Q															✓	✓	✓	✓	✓	
440 VY; 60 Hz output	9	L2W															✓	✓	✓	✓	✓	
440 VΔ; 50 Hz output	9	L2R															✓	✓	✓	✓	✓	
440 VΔ; 60 Hz output	9	L2X															✓	✓	✓	✓	✓	
460 VY; 50 Hz output	9	L2S															✓	✓	✓	✓	✓	
460 VY; 60 Hz output	9	L2E															○	○	○	○	○	
460 VΔ; 50 Hz output	9	L2T															✓	✓	✓	✓	✓	
460 VΔ; 60 Hz output	9	L2F															○	○	○	○	○	
575 VY; 50 Hz output	9	L2U															✓	✓	✓	✓	✓	
575 VY; 60 Hz output	9	L2L															✓	✓	✓	✓	✓	
575 VΔ; 50 Hz output	9	L2V															✓	✓	✓	✓	✓	
575 VΔ; 60 Hz output	9	L2M															○	○	○	○	○	
Non-standard voltage and/or frequencies																						
Non-standard winding for voltages between 200 and 690 V (other voltages are available on request) ²⁾	9	L1Y															✓	✓	✓	✓	✓	

- Without additional charge
✓ With additional charge
– Not possible

¹⁾ With order codes **L1A, L1B, L1C, L1D, L1E, L1L, L1R** and **L1U**, a rated voltage range is also specified on the rating plate.

²⁾ 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.	Additional identifica- tion code with order code and plain text if required	Motor type frame size																315 S/M	315 L					
			56	63	71	80	90	100	112	132	160	180	200	225	250	280									
Self-ventilated energy-saving motors with high efficiency – Cast-iron series 1LG6																									
																			1LG6 (cast-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																	✓	✓	✓	✓	✓	✓	–
230 VΔ (220 ... 240 VΔ); 50 Hz output ¹⁾	9	L1E																	○	○	○	○	○	○	–
380 VΔ/660 VY (440 VΔ at 60 Hz) (360 ... 400 VΔ/625 ... 695 VY); 50 Hz output ¹⁾	9	L1L																	✓	✓	✓	✓	✓	✓	✓
415 VY (395 ... 435 VY); 50 Hz output ¹⁾	9	L1C																	✓	✓	✓	✓	✓	✓	–
415 VΔ (395 ... 435 VΔ); 50 Hz output ¹⁾	9	L1D																	✓	✓	✓	✓	✓	✓	✓
400 VY (380 ... 420 VY); 50 Hz output ¹⁾	9	L1A																	○	○	○	○	○	○	–
400 VΔ (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1B																	○	○	○	○	○	○	○
400 VΔ (460 VΔ at 60 Hz) (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1U																	○	○	○	○	○	○	○
Voltage at 60 Hz																									
220 VΔ/380 VY; 50 Hz output	9	L2A																	✓	✓	✓	✓	✓	✓	–
220 VΔ/380 VY; 60 Hz output	9	L2B																	✓	✓	✓	✓	✓	✓	–
380 VΔ/660 VY; 50 Hz output	9	L2C																	✓	✓	✓	✓	✓	✓	✓
380 VΔ/660 VY; 60 Hz output	9	L2D																	✓	✓	✓	✓	✓	✓	✓
440 VY; 50 Hz output	9	L2Q																	✓	✓	✓	✓	✓	✓	–
440 VY; 60 Hz output	9	L2W																	✓	✓	✓	✓	✓	✓	–
440 VΔ; 50 Hz output	9	L2R																	✓	✓	✓	✓	✓	✓	✓
440 VΔ; 60 Hz output	9	L2X																	✓	✓	✓	✓	✓	✓	✓
460 VY; 50 Hz output	9	L2S																	✓	✓	✓	✓	✓	✓	–
460 VY; 60 Hz output	9	L2E																	○	○	○	○	○	○	–
460 VΔ; 50 Hz output	9	L2T																	✓	✓	✓	✓	✓	✓	✓
460 VΔ; 60 Hz output	9	L2F																	○	○	○	○	○	○	○
575 VY; 50 Hz output	9	L2U																	✓	✓	✓	✓	✓	✓	–
575 VY; 60 Hz output	9	L2L																	✓	✓	✓	✓	✓	✓	–
575 VΔ; 50 Hz output	9	L2V																	✓	✓	✓	✓	✓	✓	✓
575 VΔ; 60 Hz output	9	L2M																	○	○	○	○	○	○	○
Non-standard voltage and/or frequencies																									
Non-standard winding for vol- tages between 200 and 690 V (voltages outside this range are available on request) ²⁾	9	L1Y																	✓	✓	✓	✓	✓	✓	✓

- Without additional charge
✓ With additional charge
– Not possible

¹⁾ With order codes **L1A, L1B, L1C, L1D, L1E, L1L, L1R** and **L1U**, a rated voltage range is also specified on the rating plate.

²⁾ 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.	Additional identification code with order code and plain text if required	Motor type frame size																315 S/M	315 L
			56	63	71	80	90	100	112	132	160	180	200	225	250	280				
Self-cooled motors without external fan – Aluminum series 1LP7 and 1LP5																				
			1LP7 (aluminum)										1LP5 (aluminum)							
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		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
230 VΔ (220 ... 240 VΔ); 50 Hz output ¹⁾	9	L1E		○	○	○	○	○	○	○	○	○	○	○	○					
380 VΔ/660 VY (440 VΔ at 60 Hz) (360 ... 400 VΔ/625 ... 695 VY); 50 Hz output ¹⁾	9	L1L		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
415 VY (395 ... 435 VY); 50 Hz output ¹⁾	9	L1C		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
415 VΔ (395 ... 435 VΔ); 50 Hz output ¹⁾	9	L1D		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
400 VY (380 ... 420 VY); 50 Hz output ¹⁾	9	L1A		○	○	○	○	○	○	○	○	○	○	○	○					
400 VΔ (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1B		○	○	○	○	○	○	○	○	○	○	○	○					
400 VΔ (460 VΔ at 60 Hz) (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1U		○	○	○	○	○	○	○	○	○	○	○	○					
Voltage at 60 Hz																				
220 VΔ/380 VY; 50 Hz output	9	L2A		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
220 VΔ/380 VY; 60 Hz output	9	L2B		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
380 VΔ/660 VY; 50 Hz output	9	L2C		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
380 VΔ/660 VY; 60 Hz output	9	L2D		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
440 VY; 50 Hz output	9	L2Q		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
440 VY; 60 Hz output	9	L2W		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
440 VΔ; 50 Hz output	9	L2R		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
440 VΔ; 60 Hz output	9	L2X		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
460 VY; 50 Hz output	9	L2S		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
460 VY; 60 Hz output	9	L2E		○	○	○	○	○	○	○	○	○	○	○	○	○				
460 VΔ; 50 Hz output	9	L2T		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
460 VΔ; 60 Hz output	9	L2F		○	○	○	○	○	○	○	○	○	○	○	○	○				
575 VY; 50 Hz output	9	L2U		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
575 VY; 60 Hz output	9	L2L		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
575 VΔ; 50 Hz output	9	L2V		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
575 VΔ; 60 Hz output	9	L2M		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Voltage changeover at 60 Hz																				
230 VYY/460 VY 60 Hz; 50 Hz output, 9 main terminals and electrical design to NEMA	9	L3E		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
230 VYY/460 VY 60 Hz; 60 Hz output, 9 main terminals and electrical design to NEMA	9	L3F		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
230 VΔΔ/460 VΔ 60 Hz; 50 Hz output, 12 main terminals and electrical design to NEMA	9	L3G		○	○	○	○	✓	✓	✓	✓	✓	✓	✓	✓	✓				
230 VΔΔ/460 VΔ 60 Hz; 60 Hz output, 12 main terminals and electrical design to NEMA	9	L3H		○	○	○	○	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Non-standard voltage and/or frequencies																				
Non-standard winding for vol- tages between 200 and 690 V (voltages outside this range are available on request) ²⁾	9	L1Y •		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				

Special versions	Voltage code 11th position of the Order No.	Additional identifica- tion code with order code and plain text if required	Motor type frame size																315 S/M	315 L		
			56	63	71	80	90	100	112	132	160	180	200	225	250	280						
Self-cooled motors without external fan – Cast-iron series 1LP4																						
																1LP4 (cast-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														✓	✓	✓	✓	✓	✓	✓
230 VΔ (220 ... 240 VΔ); 50 Hz output ¹⁾	9	L1E														○	○	○	○	○	○	–
380 VΔ/660 VY (440 VΔ at 60 Hz) (360 ... 400 VΔ/625 ... 695 VY); 50 Hz output ¹⁾	9	L1L														✓	✓	✓	✓	✓	✓	✓
415 VY (395 ... 435 VY); 50 Hz output ¹⁾	9	L1C														✓	✓	✓	✓	✓	✓	✓
415 VΔ (395 ... 435 VΔ); 50 Hz output ¹⁾	9	L1D														✓	✓	✓	✓	✓	✓	✓
400 VY (380 ... 420 VY); 50 Hz output ¹⁾	9	L1A														○	○	○	○	○	○	○
400 VΔ (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1B														○	○	○	○	○	○	○
400 VΔ (460 VΔ at 60 Hz) (380 ... 420 VΔ); 50 Hz output ¹⁾	9	L1U														○	○	○	○	○	○	○
Voltage at 60 Hz																						
220 VΔ/380 VY; 50 Hz output	9	L2A														✓	✓	✓	✓	✓	✓	✓
220 VΔ/380 VY; 60 Hz output	9	L2B														✓	✓	✓	✓	✓	✓	✓
380 VΔ/660 VY; 50 Hz output	9	L2C														✓	✓	✓	✓	✓	✓	✓
380 VΔ/660 VY; 60 Hz output	9	L2D														✓	✓	✓	✓	✓	✓	✓
440 VY; 50 Hz output	9	L2Q														✓	✓	✓	✓	✓	✓	✓
440 VY; 60 Hz output	9	L2W														✓	✓	✓	✓	✓	✓	✓
440 VΔ; 50 Hz output	9	L2R														✓	✓	✓	✓	✓	✓	✓
440 VΔ; 60 Hz output	9	L2X														✓	✓	✓	✓	✓	✓	✓
460 VY; 50 Hz output	9	L2S														✓	✓	✓	✓	✓	✓	✓
460 VY; 60 Hz output	9	L2E														○	○	○	○	○	○	✓
460 VΔ; 50 Hz output	9	L2T														✓	✓	✓	✓	✓	✓	✓
460 VΔ; 60 Hz output	9	L2F														○	○	○	○	○	○	○
575 VY; 50 Hz output	9	L2U														✓	✓	✓	✓	✓	✓	✓
575 VY; 60 Hz output	9	L2L														✓	✓	✓	✓	✓	✓	✓
575 VΔ; 50 Hz output	9	L2V														✓	✓	✓	✓	✓	✓	✓
575 VΔ; 60 Hz output	9	L2M														○	○	○	○	○	○	○
Non-standard voltage and/or frequencies																						
Non-standard winding for vol- tages between 200 and 690 V (voltages outside this range are available on request) ²⁾	9	L1Y •														✓	✓	✓	✓	✓	✓	✓

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

¹⁾ With order codes **L1A**, **L1B**, **L1C**, **L1D**, **L1E**, **L1L**, **L1R** and **L1U**, a rated voltage range is also specified on the rating plate.

²⁾ 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 construction code 12th position of the Order No.	Additional identification code with order code and plain text if required	Motor type frame size															
			56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated energy-saving motors with improved efficiency – Aluminum series 1LA7 and 1LA5																		
			1LA7 (aluminum)										1LA5 (aluminum)					
Without flange																		
IM V5 with protective cover ¹⁾	9	M1F	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
With flange																		
IM V3 ²⁾	9	M1G	–	–	–	–	–	–	–	–	–	–	✓	✓	✓			
With standard flange																		
IM V18 with protective cover ¹⁾	9	M2A	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–			
With special flange																		
IM V18 with protective cover ¹⁾	9	M2B	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–			
IM B34	9	M2C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–			
Self-ventilated energy-saving motors with high efficiency – Aluminum series 1LA9																		
Self-ventilated motors with increased output – Aluminum series 1LA9																		
			1LA9 (aluminum)															
Without flange																		
IM V5 with protective cover ¹⁾	9	M1F	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
With flange																		
IM V3	9	M1G	–	–	–	–	–	–	–	–	–	–	✓	✓				
With standard flange																		
IM V18 with protective cover ¹⁾	9	M2A	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–				
With special flange																		
IM V18 with protective cover ¹⁾	9	M2B	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–				
IM B34	9	M2C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–				

✓ With additional charge
– Not possible

¹⁾ The "Second shaft extension" option, order code **K16** is not possible.

²⁾ 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**.

	Type of construction code 12th position of the Order No.	Additional identification code with order code and plain text if required	Motor type frame size																315 S/M	315 L 2-pole	4-, 6-, 8-pole
Self-ventilated energy-saving motors with improved efficiency – Cast-iron series 1LA6 and 1LG4																					
			1LA6 (cast-iron)								1LG4 (cast-iron)										
Without flange																					
IM V5 without protective cover ¹⁾	9	M1D																✓ ²⁾	○		
IM V6 ¹⁾	9	M1E																✓ ²⁾	○		
IM V5 with protective cover ^{1) 3)}	9	M1F																✓ ²⁾	✓		
With flange																					
IM V3 ⁴⁾	9	M1G																			
With standard flange																					
IM V18 with protective cover ³⁾	9	M2A																			
With special flange																					
IM V18 with protective cover ³⁾	9	M2B																			
IM B34	9	M2C																			
Self-ventilated motors with increased output – Cast-iron series 1LG4																					
											1LG4 (cast-iron)										
Without flange																					
IM V5 with protective cover ^{1) 3)}	9	M1F																			
With flange																					
IM V3 ⁴⁾	9	M1G																			
Self-ventilated energy-saving motors with high efficiency – Cast-iron series 1LG6																					
											1LG6 (cast-iron)										
Without flange																					
IM V5 without protective cover ¹⁾	9	M1D																✓ ²⁾	○		
IM V6 ¹⁾	9	M1E																✓ ²⁾	○		
IM V5 with protective cover ^{1) 3)}	9	M1F																✓ ²⁾	✓		
With flange																					
IM V3 ⁴⁾	9	M1G																			
Self-cooled motors without external fan – Aluminum series 1LP7 and 1LP5																					
			1LP7 (aluminum)								1LP5 (aluminum)										
Without flange																					
IM V3 ⁵⁾	9	M1G																			
Special flange																					
IM B34	9	M2C																			
Self-cooled motors without external fan – Cast-iron series 1LP4																					
											1LP4 (cast-iron)										
Without flange																					
IM V5 without protective cover ¹⁾	9	M1D																✓ ²⁾	○		
IM V6 ¹⁾	9	M1E																✓ ²⁾	○		
With flange																					
IM V3 ⁴⁾	9	M1G																			

- Without additional charge
✓ With additional charge
– Not possible

¹⁾ If motors of frame sizes 180 M to 315 L are mounted on the wall, it is recommended that the motor feet are supported.

²⁾ 60 Hz version is possible on request.

³⁾ The "Second shaft extension" option, order code **K16** is not possible.

⁴⁾ 1LG4/1LG6/1LP4 motors of frame sizes 225 S to 315 L are supplied with two screw-in eyebolts in accordance with IM B5, whereby one can be rotated in accordance with IM V1 or IM V3. It is important to note that stress must not be applied perpendicular to the ring plane.

⁵⁾ For frame sizes 180 M to 200 L, the 1LA5 motors can be supplied with two additional eyebolts; state identification code **-Z** and order code **K32**.

Options

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency – Aluminum series 1LA7 and 1LA5																
		1LA7 (aluminum)										1LA5 (aluminum)				
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping ¹⁾	A11		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm ¹⁾	A12		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Motor temperature detection with embedded temperature sensor KTY 84-130 ¹⁾	A23		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 ¹⁾	A25		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Temperature detectors for tripping ¹⁾	A31		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Installation of 3 PT 100 resistance thermometers ¹⁾	A60		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Motor connection and connection box																
ECOFAST motor plug Han-Drive 10e for 230 VΔ/400 VY ²⁾	G55		✓	✓	✓	✓	✓	✓	✓	–	–	–	–			
ECOFAST motor plug EMC Han-Drive 10e for 230 VΔ/400 VY ³⁾	G56		✓	✓	✓	✓	✓	✓	✓	–	–	–	–			
Connection box on RHS	K09		–	–	–	✓	✓	✓	✓	✓	✓	✓	✓			
Connection box on LHS	K10		–	–	–	✓	✓	✓	✓	✓	✓	✓	✓			
One cable gland, metal	K54		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Cable gland, maximum configuration	K55		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Rotation of the connection box through 90°, entry from DE	K83		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Rotation of the connection box through 90°, entry from NDE	K84		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Rotation of connection box through 180°	K85		✓	✓	✓	✓	✓	○	○	○	○	✓	✓	✓		
Next larger connection box	L00		–	–	–	–	–	–	–	–	✓	✓	✓			
External earthing	L13		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
3 cables protruding, 0.5 m long ⁴⁾⁵⁾	L44		✓	✓	✓	✓	✓	✓	✓	✓	✓	O. R.	O. R.	O. R.		
3 cables protruding, 1.5 m long ⁴⁾⁵⁾	L45		✓	✓	✓	✓	✓	✓	✓	✓	✓	O. R.	O. R.	O. R.		
6 cables protruding, 0.5 m long ⁴⁾	L47		✓	✓	✓	✓	✓	✓	✓	✓	✓	O. R.	O. R.	O. R.		
6 cables protruding, 1.5 m long ⁴⁾	L48		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
6 cables protruding, 3 m long ⁴⁾	L49		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Connection box on NDE	M64		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Terminal strip for main and auxiliary terminals	M69		–	✓	✓	✓	✓	–	–	–	–	–	–	–		

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency – Aluminum series 1LA7 and 1LA5																
		1LA7 (aluminum)										1LA5 (aluminum)				
Windings and insulation																
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	C11		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Temperature class 155 (F), used acc. to 155 (F), with increased output	C12		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	C13		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Temperature class 180 (H) at rated output and max. CT 60 °C ⁶⁾	C18		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Increased air humidity/temperature with 30 to 60 g water per m³ of air	C19		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % ⁷⁾	C22		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % ⁷⁾	C23		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % ⁷⁾	C24		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	C25		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Increased air humidity/temperature with 60 to 100 g water per m³ of air	C26		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
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		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Temperature class 155 (F), used acc. to 155 (F), other requirements	Y52 • and specified output, CT .. °C or SA m above sea level		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
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		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
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		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Sea air resistant special finish	M94		O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.		

Special versions	Additional identifica- tion code -Z with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency – Aluminum series 1LA7 and 1LA5																
			1LA7 (aluminum)								1LA5 (aluminum)					
Colors and paint finish (continued)																
Unpainted (only cast iron parts primed)	K23		○	○	○	○	○	○	○	○	○	○	○	○		
Unpainted, only primed	K24		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Modular technology – Basic versions ⁸⁾																
Mounting of separately driven fan	G17		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Mounting of brake ⁹⁾	G26		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Mounting of 1XP8 001-1 (HTL) rotary pulse encoder	H57		–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Mounting of 1XP8 001-2 (TTL) rotary pulse encoder	H58		–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Modular technology – Combinations of basic versions ⁸⁾																
Mounting of separately driven fan and 1XP8 001-1 rotary pulse encoder	H61		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Mounting of brake and 1XP8 001-1 rotary pulse encoder ⁹⁾	H62		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Mounting of brake and separately driven fan ⁹⁾	H63		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Mounting of brake, separately driven fan and 1XP8 001-1 rotary pulse encoder ⁹⁾	H64		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Mounting of separately driven fan and 1XP8 001-2 rotary pulse encoder	H97		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Mounting of brake and 1XP8 001-2 rotary pulse encoder ⁹⁾	H98		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Mounting of brake, separately driven fan and 1XP8 001-2 rotary pulse encoder ⁹⁾	H99		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Modular technology – Additional versions																
Brake supply voltage 24 V DC	C00		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Brake supply voltage 400 V AC	C01		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Brake supply voltage 180 V DC, for operation on MICROMASTER 411-ECOFAST ¹⁰⁾	C02		–	✓	✓	✓	✓	✓	✓	✓	–	–	–	–		
Mechanical manual brake release with lever (no locking)	K82		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Special technology ⁸⁾																
Prepared for mounting MMI ¹¹⁾	H15		O. R.	O. R.	✓	✓	✓	✓	✓	✓	–	–	–	–		
Mounting of LL 861 900 220 rotary pulse encoder	H70		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Mounting of HOG 9 D 1024 I rotary pulse encoder	H72		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Mounting of HOG 10 D 1024 I rotary pulse encoder	H73		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Prepared for mounting LL 861 900 220	H78		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Prepared for mounting HOG 9 D 1024 I	H79		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Prepared for mounting HOG 10 D 1024 I	H80		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency – Aluminum series 1LA7 and 1LA5																
			1LA7 (aluminum)										1LA5 (aluminum)			
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors, oil resistant to 0.1 bar ¹²⁾	K17		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
With two additional eyebolts for IM V1/IM V3	K32		–	–	–	–	–	–	–	–	–	✓	✓	✓		
Low-noise version for 2-pole motors with clockwise direction of rotation ¹⁰⁾	K37		–	–	–	–	–	–	–	✓	✓	✓	✓	✓		
Low-noise version for 2-pole motors with counter-clockwise direction of rotation ¹⁰⁾	K38		–	–	–	–	–	–	–	✓	✓	✓	✓	✓		
IP65 degree of protection ¹³⁾	K50		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
IP56 degree of protection (non-heavy-sea) ¹⁴⁾	K52		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Vibration-proof version	L03		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Condensation drainage holes ¹⁵⁾	L12		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Non-rusting screws (externally)	M27		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Mechanical protection for encoder ¹⁶⁾	M68		–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Coolant temperature and site altitude																
Coolant temperature –40 to +40 °C	D03		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Coolant temperature –30 to +40 °C	D04		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Designs in accordance with standards and specifications																
CCC China Compulsory Certification ¹⁷⁾	D01		✓	✓	✓	✓	✓	–	–	–	–	–	–	–		
Electrical according to NEMA MG1-12	D30		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Design according to UL with “Recognition Mark” ¹⁸⁾	D31		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Canadian regulations (CSA) ¹⁹⁾	D40		✓	✓	✓	✓	✓	○	○	○	○	○	○	○		
PSE Mark Japan ²⁰⁾	D46		✓	✓	✓	✓	✓	✓	✓	✓	–	–	–	–		
VIK version (includes Zone 2 for mains-fed operation, without Ex nA II on rating plate) ²¹⁾	K30		–	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–		
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection ²²⁾	G50		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Bearing design for increased cantilever forces	K20		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Regreasing device ²²⁾	K40		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Located bearing DE	K94		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Located bearing NDE	L04		✓	✓	✓	✓	✓	✓	✓	✓	□	□	□	□		
Balance and vibration quantity																
Vibration quantity A			□	□	□	□	□	□	□	□	□	□	□	□		
Vibration quantity B	K02		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Full key balancing	L68		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Balancing without key	M37		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with improved efficiency – Aluminum series 1LA7 and 1LA5																
			1LA7 (aluminum)								1LA5 (aluminum)					
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors ²³⁾	K04		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Second standard shaft extension	K16		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Shaft extension with standard dimensions without featherkey way	K42		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Standard shaft made of non-rusting steel	M65		–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Non-standard cylindrical shaft extension ²⁴⁾	Y55 • and identification code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Heating and ventilation																
Fan cover for textile industry	H17		–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Metal external fan ²⁵⁾	K35		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Anti-condensation heaters for 230 V	K45		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Anti-condensation heaters for 115 V	K46		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Rating plate and extra rating plates																
Second lubricating plate, supplied loose	B06		–	–	–	–	–	✓	✓	✓	✓	✓	✓	✓		
Second rating plate, loose	K31		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Extra rating plate or rating plate with deviating rating plate data	Y80 • and identification code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Extra rating plate with identification codes	Y82 • and identification code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Additional information on rating plate and on package label (maximum of 20 characters)	Y84 • and identification code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Packaging, safety notes and test certificates																
Without safety and commissioning note. Customer's declaration of renouncement required.	B00		○	○	○	○	○	○	○	○	○	○	○	○		
With one safety and startup guide per box pallet	B01		○	○	○	○	○	○	○	○	○	○	–	–		
Acceptance test certificate 3.1 according to EN 10204	B02		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Operating instructions German/English in print	B23		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Type test with heat run for vertical motors, with acceptance	F83		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Wire-lattice pallet	L99		○	○	○	○	○	○	○	○	○	○	–	–		
Connected in star for dispatch	M32		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Connected in delta for dispatch	M33		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

- Standard version
 ○ Without additional charge
 • This order code only determines the price of the version – Additional plain text is required.
 ○. R. On request
 ✓ With additional charge
 – Not possible

- 1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.
- 2) Not possible for pole-changing motors. Only one sensor (temperature sensor or PTC thermistor) can be connected. Only possibilities are voltage code **1** with voltage of 230 VΔ/400 VY and special voltage with voltage code **9** and order code **L1U** (400 VΔ). The following order codes cannot be used in combination with the ECOFAST plugs, order code **G55: A12, C02, C18, D31, D40, G50, H15, H17, H62, H63, H64, H98, H99, K04, K15, K16, K34, K35, K40, K45, K46, K52, K54, K82, L03, L44, L45, L47, L48, L49, L51, L52.**
- 3) Not possible for pole-changing motors. Only one sensor (temperature sensor or PTC thermistor) can be connected. Only possibilities are voltage code **1** with voltage of 230 VΔ/400 VY and special voltage with voltage code **9** and order code **L1U** (400 VΔ). The following order codes cannot be used in combination with the ECOFAST plugs, order code **G56: A12, A23, A31, C00, C18, D31, D40, G50, H15, H17, K04, K15, K16, K34, K35, K40, K45, K46, K52, K54, K82, L03, L44, L45, L47, L48, L49, L51, L52.** The following order codes can only be used in combination with the ECOFAST plugs, order code **G56** only with order code **C01** (AC 400 V) or **C02** (DC 180 V): **G26, H62, H63, H64, H98, H99.**
- 4) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.
- 5) Not possible for pole-changing motors and/or for voltage codes **1** or **6.**
- 6) Cannot be used for motors in UL version (order code **D31**). Cannot be used for motors according to CSA approval (order code **D40**) for motor series 1LA5 frame size 180 to 225. The grease lifetime specified in Catalog D 81.1 part 0 "Introduction" refers to CT 40 °C. When the coolant temperature rises by 10 K, the grease lifetime or relubrication interval is halved.
- 7) No derating in combination with the following order codes: **L2A, L2C, L2Q, L2R, L2S, L2T, L2U, L2V, L3E** and **L3G.**
- 8) A second shaft extension is not possible. Please inquire for mounted brakes. The order codes listed cannot be combined within the various technologies nor with each other within the same technology system. This applies for:
 - Modular technology
 - Basic versions of "Modular technology"
 - Combination of special versions "Special technology"
- 9) The standard brake supply voltage is 230 V AC, 50/60 Hz. Other brake supply voltages are possible with order codes **C00, C01** and **C02.**
- 10) Not possible in motors in a pole-changing version.
- 11) Converter mounting is possible, if the MICROMASTER DA 51.3 type is specified for 230 VΔ/400 VY.
- 12) Not possible for type of construction IM V3.
- 13) Not possible in combination with rotary pulse encoder HOG 9 D 10241 (order code **H72, H79**) and/or brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).
- 14) Not possible in combination with brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).
- 15) Supplied with the condensation drainage holes 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 cowl.
- 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
 The order code **D01** for frame sizes 100 and 112 is only valid for pole-changing motors 1LA7.
- 18) Possible up to 600 V max. The rated voltage is indicated on the rating plate without voltage range.
- 19) The rated voltage is indicated on the rating plate without voltage range.
- 20) "Small power motors" with a rated output of up to 3 kW which are exported to Japan must bear the PSE marking.
- 21) Not possible for pole-changing motors.
- 22) Not possible when brake is mounted.
- 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**), brake mounting or encoder mounting.
- 24) 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. 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".
- 25) For 1LA5/6/7/9 motors and 1LG with metal external fan, converter-fed operation is permitted. The metal external fan is not possible in combination with the low-noise version – order code **K37** or **K38**.

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated energy-saving motors with high efficiency – Aluminum series 1LA9																	
		1LA9 (aluminum)															
Motor protection																	
Motor protection with PTC ther- mistors with 3 embedded tempe- rature sensors for tripping ¹⁾	A11		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Motor protection with PTC ther- mistors with 6 embedded tempe- rature sensors for tripping and alarm ¹⁾	A12		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Motor temperature detection with embedded temperature sensor KTY 84-130 ¹⁾	A23		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 ¹⁾	A25		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Temperature detectors for tripping ¹⁾	A31		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Installation of 3 PT 100 resistance thermometers ¹⁾	A60		–	–	–	–	–	✓	✓	✓	✓	✓	✓				
Motor connection and connection box																	
ECOFAST motor plug Han-Drive 10e for 230 VΔ/400 VY ²⁾	G55		✓	✓	✓	✓	✓	✓	✓	✓	–	–	–				
ECOFAST motor plug EMC Han- Drive 10e for 230 VΔ/400VY ³⁾	G56		✓	✓	✓	✓	✓	✓	✓	✓	–	–	–				
Connection box on RHS	K09		–	–	–	✓	✓	✓	✓	✓	✓	✓	✓				
Connection box on LHS	K10		–	–	–	✓	✓	✓	✓	✓	✓	✓	✓				
One cable gland, metal	K54		–	–	–	–	–	✓	✓	✓	✓	–	–				
Cable gland, maximum configuration	K55		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Rotation of the connection box through 90°, entry from DE	K83		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Rotation of the connection box through 90°, entry from NDE	K84		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Rotation of connection box through 180°	K85		✓	✓	✓	✓	✓	○	○	○	○	✓	✓				
Next larger connection box	L00		–	–	–	–	–	–	–	–	–	✓	✓				
External earthing	L13		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
3 cables protruding, 0.5 m long ⁴⁾⁵⁾	L44		✓	✓	✓	✓	✓	✓	✓	✓	✓	O. R.	O. R.				
3 cables protruding, 1.5 m long ⁴⁾⁵⁾	L45		✓	✓	✓	✓	✓	✓	✓	✓	✓	O. R.	O. R.				
6 cables protruding, 0.5 m long ⁴⁾	L47		✓	✓	✓	✓	✓	✓	✓	✓	✓	O. R.	O. R.				
6 cables protruding, 1.5 m long ⁴⁾	L48		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
6 cables protruding, 3 m long ⁴⁾	L49		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Connection box on NDE	M64		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Windings and insulation																	
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	C11		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Temperature class 155 (F), used acc. to 155 (F), with increased out- put	C12		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	C13		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Increased air humidity/tempe- rature with 30 to 60 g water per m ³ of air	C19		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Temperature class 155 (F), used acc. to 130 (B), coolant tempe- rature 45 °C, derating approx. 4 % ⁶⁾	C22		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated energy-saving motors with high efficiency – Aluminum series 1LA9																	
		1LA9 (aluminum)															
Windings and insulation (continued)																	
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % ⁶⁾	C23		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % ⁶⁾	C24		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	C25		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Increased air humidity/temperature with 60 to 100 g water per m³ of air	C26		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
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		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Temperature class 155 (F), used acc. to 155 (F), other requirements	Y52 • and specified output, CT ... °C or SA m above sea level		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
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		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
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		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Sea air resistant special finish	M94		O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				
Unpainted (only cast iron parts primed)	K23		○	○	○	○	○	○	○	○	○	○	○				
Unpainted, only primed	K24		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Mechanical design and degrees of protection																	
Drive-end seal for flange-mounting motors, oil-resistant to 0.1 bar Not possible for IM V3 type of construction.	K17		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Low-noise version for 2-pole motors with clockwise direction of rotation	K37		–	–	–	–	–	–	–	–	–	✓	✓				
Low-noise version for 2-pole motors with counter-clockwise direction of rotation	K38		–	–	–	–	–	–	–	–	–	✓	✓				
IP65 degree of protection	K50		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
IP56 degree of protection (non-heavy-sea)	K52		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Vibration-proof version	L03		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Condensation drainage holes ⁷⁾	L12		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Non-rusting screws (externally)	M27		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				

Special versions	Additional identifica- tion code -Z with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated energy-saving motors with high efficiency – Aluminum series 1LA9																
		1LA9 (aluminum)														
Coolant temperature and site altitude																
Coolant temperature –40 to +40 °C	D03		–	–	–	✓	✓	✓	✓	✓	✓	–	–			
Coolant temperature –30 to +40 °C	D04		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Designs in accordance with standards and specifications																
CCC China Compulsory Certification ⁸⁾	D01		✓	✓	✓	✓	✓	–	–	–	–	–	–			
Electrical according to NEMA MG1-12 ⁹⁾	D30		□	□	□	□	□	□	□	□	□	□	□			
Design according to UL with "Recognition Mark" ¹⁰⁾	D31		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Certified for Korea according to KS C4202 ¹¹⁾	D33		–	–	–	✓	✓	✓	✓	✓	✓	✓	✓			
Canadian regulations (CSA) ¹²⁾	D40		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
PSE Mark Japan ¹³⁾	D46		✓	✓	✓	✓	✓	✓	✓	✓	–	–	–			
VIK version (includes Zone 2 for mains-fed operation, without Ex nA II on rating plate)	K30		–	✓	✓	✓	✓	✓	✓	✓	✓	–	–			
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	G50		–	–	–	–	–	✓	✓	✓	✓	✓	✓			
Bearing design for increased cantilever forces	K20		–	–	–	–	–	✓	✓	✓	✓	✓	✓			
Regreasing device	K40		–	–	–	–	–	✓	✓	✓ ¹⁴⁾	✓	✓	✓			
Located bearing DE	K94		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Located bearing NDE	L04		✓	✓	✓	✓	✓	✓	✓	✓	□	□	□			
Balance and vibration quantity																
Vibration quantity A			□	□	□	□	□	□	□	□	□	□	□			
Vibration quantity B	K02		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Full key balancing	L68		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Balancing without key	M37		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Shaft and rotor																
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors ¹⁵⁾	K04		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Second standard shaft extension	K16		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Shaft extension with normal dimensions without featherkey way	K42		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Non-standard cylindrical shaft extension ¹⁶⁾	Y55 • and identification code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Heating and ventilation																
Fan cover for textile industry	H17		–	–	–	–	–	–	✓	✓	–	–	–			
Metal external fan ¹⁷⁾	K35		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Anti-condensation heaters for 230 V	K45		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Anti-condensation heaters for 115 V	K46		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Rating plate and extra rating plates																
Second lubricating plate, supplied loose	B06		–	–	–	–	–	✓	✓	✓	✓	✓	✓			
Second rating plate, loose	K31		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Extra rating plate or rating plate with deviating rating plate data	Y80 • and identification code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Extra rating plate with identification codes	Y82 • and identification code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Additional information on rating plate and on package label (maximum of 20 characters)	Y84 • and identification code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			

Options or order codes (supplement -Z is required)

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated motors with increased output – Aluminum series 1LA9																	
		1LA9 (aluminum)															
Motor protection																	
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping ¹⁾	A11		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm ¹⁾	A12		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
Motor temperature detection with embedded temperature sensor KTY 84-130 ¹⁾	A23		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 ¹⁾	A25		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
Temperature detectors for tripping ¹⁾	A31		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
Installation of 3 PT 100 resistance thermometers ¹⁾	A60		–	–	–	–	–	✓	✓	✓	✓	✓					
Motor connection and connection box																	
ECOFAST motor plug Han-Drive 10e for 230 VΔ/400 VY ²⁾	G55		✓	✓	✓	✓	✓	✓	✓	–	–	–	–				
Connection box on RHS	K09		–	–	–	✓	✓	✓	✓	✓	✓	✓	✓				
Connection box on LHS	K10		–	–	–	✓	✓	✓	✓	✓	✓	✓	✓				
One cable gland, metal	K54		–	–	–	–	–	✓	✓	✓	✓	–	–				
Cable gland, maximum configuration	K55		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Rotation of the connection box through 90°, entry from DE	K83		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Rotation of the connection box through 90°, entry from NDE	K84		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Rotation of connection box through 180°	K85		✓	✓	✓	✓	✓	○	○	○	○	✓	✓				
Next larger connection box	L00		–	–	–	–	–	–	–	–	–	✓	✓				
External earthing	L13		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
3 cables protruding, 0.5 m long ³⁾⁴⁾	L44		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	O. R.	O. R.			
3 cables protruding, 1.5 m long ³⁾⁴⁾	L45		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	O. R.	O. R.			
6 cables protruding, 0.5 m long ³⁾	L47		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	O. R.	O. R.			
6 cables protruding, 1.5 m long ³⁾	L48		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
6 cables protruding, 3 m long ³⁾	L49		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Connection box on NDE	M64		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Windings and insulation																	
Increased air humidity/temperature with 30 to 60 g water per m³ of air	C19		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Increased air humidity/temperature with 60 to 100 g water per m³ of air	C26		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-ventilated motors with increased output – Aluminum series 1LA9																
		1LA9 (aluminum)														
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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Sea air resistant special finish	M94	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.				
Unpainted (only cast iron parts primed)	K23	○	○	○	○	○	○	○	○	○	○	○				
Unpainted, only primed	K24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Mechanical design and degrees 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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Low-noise version for 2-pole motors with clockwise direction of rotation	K37	–	–	–	–	–	–	–	–	–	✓	✓				
Low-noise version for 2-pole motors with counter-clockwise direction of rotation	K38	–	–	–	–	–	–	–	–	–	✓	✓				
IP65 degree of protection	K50	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
IP56 degree of protection (non-heavy-sea)	K52	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Vibration-proof version	L03	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Condensation drainage holes	L12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Non-rusting screws (externally)	M27	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Coolant temperature and site altitude																
Coolant temperature –40 to +40 °C	D03	–	–	–	✓	✓	✓	✓	✓	✓	–	–				
Coolant temperature –30 to +40 °C	D04	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Designs in accordance with standards and specifications																
CCC China Compulsory Certification ⁵⁾	D01	✓	✓	✓	✓	✓	–	–	–	–	–	–				
Electrical according to NEMA MG1-12 ⁶⁾	D30	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Design according to UL with “Recognition Mark” ⁷⁾	D31	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Canadian regulations (CSA) ⁸⁾	D40	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
PSE Mark Japan ⁹⁾	D46	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–				
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	G50	–	–	–	–	–	✓	✓	✓	✓	✓	✓				
Bearing design for increased cantilever forces	K20	–	–	–	–	–	✓	✓	✓	✓	✓	✓				
Regreasing device	K40	–	–	–	–	–	✓	✓	✓	✓	✓	✓				
Located bearing DE	K94	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Located bearing NDE	L04	✓	✓	✓	✓	✓	✓	✓	✓	□	□	□				
Balance and vibration quantity																
Vibration quantity A		□	□	□	□	□	□	□	□	□	□	□				
Full key balancing	L68	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Balancing without key	M37	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size												225	250	280	315
		56	63	71	80	90	100	112	132	160	180	200					
Self-ventilated motors with increased output – Aluminum series 1LA9																	
		1LA9 (aluminum)															
Shaft and rotor																	
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors ¹⁰⁾	K04		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Second standard shaft extension	K16		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Shaft extension with normal dimensions without featherkey way	K42		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Non-standard cylindrical shaft extension ¹¹⁾	Y55 • and identification code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Heating and ventilation																	
Fan cover for textile industry	H17		–	–	–	–	–	–	✓	✓	–	–	–				
Metal external fan ¹²⁾	K35		–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Anti-condensation heaters for 230 V	K45		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Anti-condensation heaters for 115 V	K46		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Rating plate and extra rating plates																	
Second lubricating plate, supplied loose	B06		–	–	–	–	–	✓	✓	✓	✓	✓	✓				
Second rating plate, loose	K31		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Extra rating plate or rating plate with deviating rating plate data	Y80 • and identification code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Extra rating plate with identification codes	Y82 • and identification code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Additional information on rating plate and on package label (maximum of 20 characters)	Y84 • and identification code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Packaging, safety notes, documentation and test certificates																	
Without safety and commissioning note. Customer's declaration of renouncement required.	B00		○	○	○	○	○	○	○	○	○	○	○				
With one safety and startup guide per box pallet	B01		○	○	○	○	○	○	○	○	○	○	–				
Acceptance test certificate 3.1 according to EN 10204	B02		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Operating instructions German/English in print	B23		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Type test with heat run for vertical motors, with acceptance	F83		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Wire-lattice pallet	L99		○	○	○	○	○	○	○	○	○	○	–				
Connected in star for dispatch	M32		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Connected in delta for dispatch	M33		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				

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

- 1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.
- 2) Only one sensor (temperature sensor or PTC thermistor) can be connected. Only possibilities are voltage code **1** with voltage of 230 VΔ/400 VY and special voltage with voltage code and order code **L1U** (400 VΔ). The following order codes cannot be used in combination with the ECOFAST plugs, order code **G55: A12, C02, C18, D31, D40, G26, G50, H15, H17, H62, H63, H64, H98, H99, K04, K15, K16, K34, K35, K40, K45, K46, K52, K54, K82, L03, L44, L45, L47, L48, L49, L51, L52**.
- 3) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.
- 4) Not possible for voltage codes **1** or **6**.
- 5) 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
- 6) Possible up to 600 V max. For EPACT version or UL standard version (no order code necessary).
- 7) Possible up to 600 V max. The rated voltage is indicated on the rating plate without voltage range.
- 8) The rated voltage is indicated on the rating plate without voltage range.
- 9) "Small power motors" with a rated output of up to 3 kW which are exported to Japan must bear the PSE marking.
- 10) 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**), brake mounting or encoder mounting.
- 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 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".
- 12) For 1LA5/6/7/9 motors and 1LG with metal external fan, converter-fed operation is permitted. The metal external fan is not possible in combination with the low-noise version – order code **K37** or **K38**.

Options or order codes (supplement -Z is required)

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated energy-saving motors with improved efficiency – Cast-iron series 1LA6 and 1LG4																	
							1LA6 (cast-iron)				1LG4 (cast-iron)						
Motor protection																	
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping ¹⁾	A11						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm ¹⁾	A12						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Motor temperature detection with embedded temperature sensor KTY 84-130 ¹⁾	A23						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 ¹⁾	A25						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Temperature detectors for tripping ¹⁾	A31						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Installation of 3 PT 100 resistance thermometers ¹⁾	A60						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Installation of 6 PT 100 resistance thermometers in stator winding ¹⁾	A61						–	–	–	–	✓	✓	✓	✓	✓	✓	✓
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings ¹⁾	A72						–	–	–	–	✓	✓	✓	✓	✓	✓	✓
Installation of 2 PT100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings ¹⁾	A78						–	–	–	–	✓	✓	✓	✓	✓	✓	✓
Installation of 2 PT 100 double screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings ¹⁾	A80						–	–	–	–	✓	✓	✓	✓	✓	✓	✓
Motor connection and connection box																	
Two-part plate on connection box	K06						–	–	–	–	–	✓	✓	✓	✓	✓	✓
Connection box on RHS	K09						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Connection box on LHS	K10						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Connection box on top, feet screwed on	K11						–	–	–	–	✓	✓	✓	✓	✓	✓	✓
Connection box in cast-iron version	K15						□	□	□	□	✓	✓	✓	□	□	□	□
One cable gland, metal	K54						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cable gland, maximum configuration	K55						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rotation of the connection box through 90°, entry from DE	K83						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rotation of the connection box through 90°, entry from NDE	K84						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rotation of connection box through 180°	K85						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Next larger connection box	L00						–	–	–	–	✓	✓	✓	✓	✓	✓	✓
External earthing	L13						✓	✓	✓	✓	□	□	□	□	□	□	□

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size												180	200	225	250	280	315
		56	63	71	80	90	100	112	132	160									
Self-ventilated energy-saving motors with improved efficiency – Cast-iron series 1LA6 and 1LG4																			
			1LA6 (cast-iron)				1LG4 (cast-iron)												
Motor connection and connection box (continued)																			
Undrilled entry plate	L01						–	–	–	–		○	○	○	○	○	○	○	○
6 cables protruding, 1.5 m long ²⁾	L48						–	–	–	–		✓	✓	✓	O. R.	O. R.	O. R.	O. R.	O. R.
6 cables protruding, 3 m long ²⁾	L49						–	–	–	–		✓	✓	✓	O. R.	O. R.	O. R.	O. R.	O. R.
Protruding cable ends – right side ³⁾	L51						–	–	–	–		O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Protruding cable ends – left side ³⁾	L52						–	–	–	–		O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Auxiliary connection box 1XB3 020	L97						–	–	–	–		✓	✓	✓	✓	✓	✓	✓	✓
Stud terminal for cable connection, accessories pack (3 items)	M46						–	–	–	–		–	–	–	✓	✓	✓	✓	✓
Saddle terminal for connection without cable lug, accessories pack (6 items)	M47						–	–	–	–		–	–	–	✓	✓	✓	✓	✓
Windings and insulation																			
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	C11						✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Temperature class 155 (F), used acc. to 155 (F), with increased output	C12						✓	✓	✓	✓		✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	C13						✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Temperature class 180 (H) at rated output and max. CT 60 °C ⁵⁾	C18						✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Increased air humidity/temperature with 30 to 60 g water per m³ of air	C19						✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	C22						✓	✓	✓	✓		✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	C23						✓	✓	✓	✓		✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	C24						✓	✓	✓	✓		✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	C25						✓	✓	✓	✓		✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾	✓ ⁴⁾
Increased air humidity/temperature with 60 to 100 g water per m³ of air	C26						✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
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						✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Temperature class 155 (F), used acc. to 155 (F), other requirements	Y52 • and specified output, CT ... °C or SA m above sea level						✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size																
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315		
Self-ventilated energy-saving motors with improved efficiency – Cast-iron series 1LA6 and 1LG4																		
			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		–	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Special finish in RAL 7030 stone gray ⁶⁾	K26		☐	☐	☐	☐	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
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, 9002, 9005	Y54 • and special finish RAL		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
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		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Offshore special finish	M91		O. R.	O. R.	O. R.	O. R.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Sea air resistant special finish	M94		O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	
Unpainted (only cast iron parts primed)	K23		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Unpainted, only primed	K24		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Modular technology – Basic versions ⁷⁾																		
Mounting of separately driven fan ⁸⁾	G17		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mounting of brake ^{8) 9)}	G26		–	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mounting of 1XP8 001-1 (HTL) rotary pulse encoder	H57		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mounting of 1XP8 001-2 (TTL) rotary pulse encoder	H58		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Modular technology – Combinations of basic versions ⁷⁾																		
Mounting of separately driven fan and 1XP8 001-1 rotary pulse encoder	H61		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mounting of brake and 1XP8 001-1 rotary pulse encoder ⁹⁾	H62		–	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mounting of brake and separately driven fan ^{8) 9)}	H63		–	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mounting of brake, separately driven fan and 1XP8 001-1 rotary pulse encoder ⁹⁾	H64		–	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mounting of separately driven fan and 1XP8 001-2 rotary pulse encoder	H97		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mounting of brake and 1XP8 001-2 rotary pulse encoder ⁹⁾	H98		–	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mounting of brake, separately driven fan and 1XP8 001-2 rotary pulse encoder ⁹⁾	H99		–	–	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated energy-saving motors with improved efficiency – Cast-iron series 1LA6 and 1LG4																	
			1LA6 (cast-iron)				1LG4 (cast-iron)										
Modular technology – Additional versions																	
Brake supply voltage 24 V DC	C00						–	–	–	–	✓	✓	✓	✓	✓	✓	
Brake supply voltage 400 V AC	C01						–	–	–	–	✓	✓	✓	✓	✓	✓	
Mechanical manual brake release with lever (no locking)	K82						–	–	–	–	✓	✓	✓	✓	✓	✓	
Special technology ⁷⁾																	
Mounting of LL 861 900 220 rotary pulse encoder	H70						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mounting of HOG 9 D 1024 I rotary pulse encoder	H72						O. R.	O. R.	O. R.	O. R.	✓	✓	✓	✓	✓	✓	
Mounting of HOG 10 D 1024 I rotary pulse encoder	H73						–	–	–	–	✓	✓	✓	✓	✓	✓	
Prepared for mounting LL 861 900 220	H78						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Prepared for mounting HOG 9 D 1024 I	H79						O. R.	O. R.	O. R.	O. R.	✓	✓	✓	✓	✓	✓	
Prepared for mounting HOG 10 D 1024 I	H80						–	–	–	–	✓	✓	✓	✓	✓	✓	
Mounting of explosion-proof rotary pulse encoder HOG 10 DN 1024 I, connection box protection against moisture	J15						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mounting of explosion-proof rotary pulse encoder HOG 10 DN 1024 I, connection box protection against dust	J16						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Mounting of rotary pulse encoder HOG 10 DN 1024 I + FSL, (speed rpm), connection box protection against moisture	Y74 • and specified speed rpm						–	–	–	–	✓	✓	✓	✓	✓	✓	
Mounting of rotary pulse encoder HOG 10 DN 1024 I + FSL, (speed rpm), connection box protection against dust	Y76 • and specified speed rpm						–	–	–	–	✓	✓	✓	✓	✓	✓	
Mounting of rotary pulse encoder HOG 10 DN 1024 I + ESL 93, (speed rpm), connection box protection against dust	Y79 • and specified speed (max. 3) rpm						–	–	–	–	✓	✓	✓	✓	✓	✓	
Mechanical design and degrees 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 ¹⁰⁾	K17						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Low-noise version for 2-pole motors with clockwise direction of rotation ¹¹⁾	K37						–	–	✓	✓	✓	✓	✓	✓	✓	✓	
Low-noise version for 2-pole motors with counter-clockwise direction of rotation ¹¹⁾	K38						–	–	✓	✓	✓	✓	✓	✓	✓	✓	
IP65 degree of protection ¹²⁾	K50						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
IP56 degree of protection (non-heavy-sea) ¹³⁾	K52						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Vibration-proof version	L03						✓	✓	✓	✓	–	–	–	–	–	–	
Condensation drainage holes ¹⁴⁾	L12						✓	✓	✓	✓	▣	▣	▣	▣	▣	▣	
Non-rusting screws (externally)	M27						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Earth brushes for converter-fed operation	M44						–	–	–	–	–	–	–	–	O. R.	O. R.	
Mechanical protection for encoder ¹⁵⁾	M68						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size																	
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315			
Self-ventilated energy-saving motors with improved efficiency – Cast-iron series 1LA6 and 1LG4																			
		1LA6 (cast-iron)								1LG4 (cast-iron)									
Coolant temperature and site altitude																			
Coolant temperature –50 to +40 °C	D02									–	–	–	–	✓	✓	✓	✓	✓	✓
Coolant temperature –40 to +40 °C	D03									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Coolant temperature –30 to +40 °C	D04									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Designs in accordance with standards and specifications																			
Electrical according to NEMA MG1-12	D30									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Design according to IJL with “Recognition Mark” ¹⁶⁾	D31									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Canadian regulations (CSA) ¹⁷⁾	D40									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PSE Mark Japan ¹⁸⁾	D46									✓	✓	✓	–	–	–	–	–	–	–
VIK version (includes Zone 2 for mains-fed operation, without Ex nA II on rating plate)	K30									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bearings and lubrication																			
Measuring nipple for SPM shock pulse measurement for bearing inspection	G50									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bearing design for increased cantilever forces ¹⁹⁾	K20									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Special bearing for DE and NDE, bearing size	K36									–	–	–	–	✓	✓	✓	✓	✓ ²⁰⁾	✓ ²⁰⁾
Regreasing device	K40									✓	✓	✓	✓	✓	✓	✓	✓	□	□
Located bearing DE	K94									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Located bearing NDE	L04									✓	✓	✓	□	□	□	□	□	□	□
Insulated bearing cartridge	L27									–	–	–	–	–	–	✓	✓	✓	✓
Balance and vibration quantity																			
Vibration quantity A										□	□	□	□	□	□	□	□	□	□
Vibration quantity B	K02									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Full key balancing	L68									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Balancing without key	M37									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shaft and rotor																			
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors ²¹⁾	K04									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Second standard shaft extension ²²⁾	K16									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Shaft extension with normal dimensions without featherkey way	K42									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Standard shaft made of non-rusting steel	M65									✓	✓	✓	✓	–	–	–	–	–	–
Non-standard cylindrical shaft extension ²³⁾	Y55 • and identification code									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Heating and ventilation																			
Fan cover for textile industry	H17									✓	✓	✓	✓	–	–	–	–	–	–
Metal external fan ²⁴⁾	K35									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Anti-condensation heaters for 230 V	K45									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Anti-condensation heaters for 115 V	K46									✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sheet metal fan cover	L36									–	–	–	–	✓	✓	✓	✓	✓	✓
Separately driven fan with non-standard voltage and/or frequency	Y81 • and identification code									–	–	–	–	–	–	✓	✓	✓	✓

- 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) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.
- 2) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.
- 3) Possible in combination with order code **L44** to **L49** or length specification in plain text.
- 4) Only the 50 Hz data are indicated on the rating plate.
- 5) Cannot be used for motors in UL version (order code **D31**). Cannot be used for motors according to CSA approval (order code **D40**) for motor series 1LG4. The grease lifetime specified in Catalog D 81.1 part 0 "Introduction" refers to CT 40 °C. When the coolant temperature rises by 10K, the grease lifetime or relubrication interval is halved.
- 6) For frame sizes 100 to 160, do not specify an order code. Order code is only necessary for frame sizes 180 to 315.
- 7) A second shaft extension is not possible. Please inquire for mounted brakes. The order codes listed cannot be combined within the various technologies nor with each other within the same technology system. This applies for:
 - Modular technology
 - Basic versions of "Modular technology"
 - Combination of special versions "Special technology"
- 8) For 1LG4/1LG6 motors, order codes **G17**, **G26** and **H63** frame size 225 and above can also be combined with all rotary pulse encoders in the "Special technology" range.
- 9) The standard brake supply voltage is 230 V AC, 50/60 Hz. Other brake supply voltages are possible with order codes **C00** and **C01**.
- 10) Not possible for motor series 1LG4 for 2-pole motors.
- 11) For 1LG4 motors in low-noise version a second shaft extension and/or mounting of an encoder are not possible.)
- 12) Not possible in combination with rotary pulse encoder HOG 9 D 10241 (order code **H72**, **H79**) and/or brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).
- 13) Not possible in combination with brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).
- 14) Supplied with the condensation drainage holes 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.
- 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 cowl.
- 16) Possible up to 600 V max. Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.
- 17) Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.
- 18) "Small power motors" with a rated output of up to 3 kW which are exported to Japan must bear the PSE marking.
- 19) 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 A 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**.
- 20) Additional charge for 2-pole motors. With 4-pole to 8-pole motors, standard version.
- 21) 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**), brake mounting or encoder mounting.
- 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 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. 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".
- 24) For 1LA5/6/7/9 motors and 1LG with metal external fan, converter-fed operation is permitted. The metal external fan is not possible in combination with the low-noise version – order code **K37** or **K38**.

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size																	
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315			
Self-ventilated motors with increased output – Cast-iron series 1LG4																			
														1LG4 (cast-iron)					
Motor protection																			
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping ¹⁾	A11													✓	✓	✓	✓	✓	
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm ¹⁾	A12													✓	✓	✓	✓	✓	
Motor temperature detection with embedded temperature sensor KTY 84-130 ¹⁾	A23													✓	✓	✓	✓	✓	
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 ¹⁾	A25													✓	✓	✓	✓	✓	
Temperature detectors for tripping ¹⁾	A31													✓	✓	✓	✓	✓	
Installation of 3 PT 100 resistance thermometers ¹⁾	A60													✓	✓	✓	✓	✓	
Installation of 6 PT 100 resistance thermometers in stator winding ¹⁾	A61													✓	✓	✓	✓	✓	
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings ¹⁾	A72													✓	✓	✓	✓	✓	
Installation of 2 PT 100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings ¹⁾	A78													✓	✓	✓	✓	✓	
Installation of 2 PT 100 double screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings ¹⁾	A80													✓	✓	✓	✓	✓	
Motor connection and connection box																			
Two-part plate on connection box	K06													–	✓	✓	✓	✓	
Connection box on RHS	K09													✓	✓	✓	✓	✓	
Connection box on LHS	K10													✓	✓	✓	✓	✓	
Connection box on top, feet screwed on	K11													✓	✓	✓	✓	✓	
Connection box in cast-iron version	K15													✓	✓	✓	□	□	
One cable gland, metal	K54													✓	✓	✓	✓	✓	
Cable gland, maximum configuration	K55													✓	✓	✓	✓	✓	
Rotation of the connection box through 90°, entry from DE	K83													✓	✓	✓	✓	✓	
Rotation of the connection box through 90°, entry from NDE	K84													✓	✓	✓	✓	✓	
Rotation of connection box through 180°	K85													✓	✓	✓	✓	✓	
Next larger connection box	L00													✓	✓	✓	✓	✓	
Undrilled entry plate	L01													○	○	○	○	○	
External earthing	L13													□	□	□	□	□	
6 cables protruding, 1.5 m long ²⁾	L48													✓	✓	✓	O. R.	O. R.	
6 cables protruding, 3 m long ²⁾	L49													✓	✓	✓	O. R.	O. R.	
Protruding cable ends – right side ³⁾	L51													O. R.	O. R.	O. R.	O. R.	O. R.	
Protruding cable ends – left side ³⁾	L52													O. R.	O. R.	O. R.	O. R.	O. R.	
Auxiliary connection box 1XB3 020	L97													✓	✓	✓	✓	✓	

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated motors with increased output – Cast-iron series 1LG4																	
												1LG4 (cast-iron)					
Motor connection and connection box (continued)																	
Stud terminal for cable connection, accessories pack (3 items)	M46											–	–	–	✓	✓	
Saddle terminal for connection without cable lug, accessories pack (6 items)	M47											–	–	–	✓	✓	
Windings and insulation																	
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	C11											✓	✓	✓	✓	✓	
Temperature class 155 (F), used acc. to 155 (F), with increased output ⁵⁾	C12											✓	✓	✓	✓	✓	
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	C13											✓	✓	✓	✓	✓	
Increased air humidity/temperature with 30 to 60 g water per m³ of air	C19											✓	✓	✓	✓	✓	
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % ⁴⁾	C22											✓	✓	✓	✓	✓	
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % ⁴⁾	C23											✓	✓	✓	✓	✓	
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % ⁴⁾	C24											✓	✓	✓	✓	✓	
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 % ⁴⁾	C25											✓	✓	✓	✓	✓	
Increased air humidity/temperature with 60 to 100 g water per m³ of air	C26											✓	✓	✓	✓	✓	
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											✓	✓	✓	✓	✓	
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											✓	✓	✓	✓	✓	
Special finish in RAL 7030 stone gray	K26											✓	✓	✓	✓	✓	
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											✓	✓	✓	✓	✓	

Special versions	Additional identifica- tion code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated motors with increased output – Cast-iron series 1LG4																	
												1LG4 (cast-iron)					
Colors and paint finish (continued)																	
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											✓	✓	✓	✓	✓	
Offshore special finish	M91											✓	✓	✓	✓	✓	
Sea air resistant special finish	M94											O. R.	O. R.	O. R.	O. R.	O. R.	
Unpainted (only cast iron parts primed)	K23											○	○	○	○	○	
Unpainted, only primed	K24											✓	✓	✓	✓	✓	
Modular technology – Basic versions ⁵⁾																	
Mounting of separately driven fan ⁶⁾	G17											✓	✓	✓	✓	✓	
Mounting of brake ^{6) 7)}	G26											✓	✓	✓	✓	✓	
Mounting of 1XP8 001-1 (HTL) rotary pulse encoder	H57											✓	✓	✓	✓	✓	
Mounting of 1XP8 001-2 (TTL) rotary pulse encoder	H58											✓	✓	✓	✓	✓	
Modular technology – Combinations of basic versions ⁶⁾																	
Mounting of separately driven fan and 1XP8 001-1 rotary pulse encoder	H61											✓	✓	✓	✓	✓	
Mounting of brake and 1XP8 001-1 rotary pulse encoder ⁷⁾	H62											✓	✓	✓	✓	✓	
Mounting of brake and separately driven fan ^{6) 7)}	H63											✓	✓	✓	✓	✓	
Mounting of brake, separately driven fan and 1XP8 001-1 rotary pulse encoder ⁷⁾	H64											✓	✓	✓	✓	✓	
Mounting of separately driven fan and 1XP8 001-2 rotary pulse encoder	H97											✓	✓	✓	✓	✓	
Mounting of brake and 1XP8 001-2 rotary pulse encoder ⁷⁾	H98											✓	✓	✓	✓	✓	
Mounting of brake, separately driven fan and 1XP8 001-2 rotary pulse encoder ⁷⁾	H99											✓	✓	✓	✓	✓	
Modular technology – Additional versions																	
Brake supply voltage 24 V DC	C00											✓	✓	✓	✓	✓	
Brake supply voltage 400 V AC	C01											✓	✓	✓	✓	✓	
Mechanical manual brake release with lever (no locking)	K82											✓	✓	✓	✓	✓	
Special technology ⁵⁾																	
Mounting of LL 861 900 220 rotary pulse encoder	H70											✓	✓	✓	✓	✓	
Mounting of HOG 9 D 1024 I rotary pulse encoder	H72											✓	✓	✓	✓	✓	
Mounting of HOG 10 D 1024 I rotary pulse encoder	H73											✓	✓	✓	✓	✓	
Prepared for mounting LL 861 900 220	H78											✓	✓	✓	✓	✓	
Prepared for mounting HOG 9 D 1024 I	H79											✓	✓	✓	✓	✓	
Prepared for mounting HOG 10 D 1024 I	H80											✓	✓	✓	✓	✓	
Mounting of explosion-proof rotary pulse encoder HOG 10 DN 1024 I, connection box protection against moisture	J15											✓	✓	✓	✓	✓	
Mounting of explosion-proof rotary pulse encoder HOG 10 DN 1024 I, connection box protection against dust	J16											✓	✓	✓	✓	✓	

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size																		
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315				
Self-ventilated motors with increased output – Cast-iron series 1LG4																				
																1LG4 (cast-iron)				
Special technology ⁵⁾ (continued)																				
Mounting of rotary pulse encoder HOG 10 DN 1024 I + FSL, (speed rpm), connection box protection against moisture	Y74 • and specified speed rpm															✓	✓	✓	✓	✓
Mounting of rotary pulse encoder HOG 10 DN 1024 I + FSL, (speed rpm), connection box protection against dust	Y76 • and specified speed rpm															✓	✓	✓	✓	✓
Mounting of rotary pulse encoder HOG 10 DN 1024 I + ESL 93, (speed rpm), connection box protection against dust	Y79 • and specified speed (max. 3) rpm															✓	✓	✓	✓	✓
Mechanical design and degrees 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 ⁸⁾	K17															✓	✓	✓	✓	✓
Low-noise version for 2-pole motors with clockwise direction of rotation ⁹⁾	K37															✓	✓	✓	✓	✓
Low-noise version for 2-pole motors with counter-clockwise direction of rotation ⁹⁾	K38															✓	✓	✓	✓	✓
IP65 degree of protection ¹⁰⁾	K50															✓	✓	✓	✓	✓
IP56 degree of protection (non-heavy-sea) ¹¹⁾	K52															✓	✓	✓	✓	✓
Condensation drainage holes ¹²⁾	L12															□	□	□	□	□
Non-rusting screws (externally)	M27															✓	✓	✓	✓	✓
Earth brushes for converter-fed operation	M44															–	–	–	–	O. R.
Mechanical protection for encoder ¹³⁾	M68															✓	✓	✓	✓	✓
Coolant temperature and site altitude																				
Coolant temperature –50 to +40 °C	D02															✓	✓	✓	✓	✓
Coolant temperature –40 to +40 °C	D03															✓	✓	✓	✓	✓
Coolant temperature –30 to +40 °C	D04															✓	✓	✓	✓	✓
Designs in accordance with standards and specifications																				
Electrical according to NEMA MG1-12	D30															✓	✓	✓	✓	✓
Design according to UL with "Recognition Mark" ¹⁴⁾	D31															✓	✓	✓	✓	✓
Canadian regulations (CSA) ¹⁵⁾	D40															✓	✓	✓	✓	✓
Bearings and lubrication																				
Measuring nipple for SPM shock pulse measurement for bearing inspection	G50															✓	✓	✓	✓	✓
Bearing design for increased cantilever forces ¹⁶⁾	K20															✓	✓	✓	✓	✓
Special bearing for DE and NDE, bearing size	K36															✓	✓	✓	✓	✓ ¹⁷⁾
Regreasing device	K40															✓	✓	✓	✓	□
Located bearing DE	K94															✓	✓	✓	✓	✓
Located bearing NDE	L04															□	□	□	□	□
Insulated bearing cartridge	L27															–	–	✓	✓	✓
Balance and vibration quantity																				
Vibration quantity A																□	□	□	□	□
Vibration quantity B	K02															✓	✓	✓	✓	✓
Full key balancing	L68															✓	✓	✓	✓	✓
Balancing without key	M37															✓	✓	✓	✓	✓

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size																	
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315			
Self-ventilated motors with increased output – Cast-iron series 1LG4																			
														1LG4 (cast-iron)					
Shaft and rotor																			
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors ¹⁸⁾	K04													✓	✓	✓	✓	✓	
Second standard shaft extension ¹⁹⁾	K16													✓	✓	✓	✓	✓	
Shaft extension with normal dimensions without featherkey way	K42													✓	✓	✓	✓	✓	
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39													✓	✓	✓	✓	✓	
Non-standard cylindrical shaft extension ²⁰⁾	Y55 • and identification code													✓	✓	✓	✓	✓	
Heating and ventilation																			
Metal external fan ²¹⁾	K35													✓	✓	✓	✓	✓	
Anti-condensation heaters for 230 V	K45													✓	✓	✓	✓	✓	
Anti-condensation heaters for 115 V	K46													✓	✓	✓	✓	✓	
Sheet metal fan cover	L36													✓	✓	✓	✓	✓	
Separately driven fan with non-standard voltage and/or frequency	Y81 • and identification code													–	–	✓	✓	✓	
Rating plate and extra rating plates																			
Second lubricating plate, supplied loose	B06													✓	✓	✓	✓	✓	
Second rating plate, loose	K31													✓	✓	✓	✓	✓	
Extra rating plate or rating plate with deviating rating plate data	Y80 • and identification code													✓	✓	✓	✓	✓	
Extra rating plate with identification codes	Y82 • and identification code													✓	✓	✓	✓	✓	
Additional information on rating plate and on package label (maximum of 20 characters)	Y84 • and identification code													✓	✓	✓	✓	✓	
Packaging, safety notes, documentation and test certificates																			
Acceptance test certificate 3.1 according to EN 10204	B02													✓	✓	✓	✓	✓	
Operating instructions German/English enclosed in print	B23													✓	✓	✓	✓	✓	
Type test with heat run for horizontal motors, with acceptance	F83													✓	✓	✓	✓	✓	
Connected in star for dispatch	M32													✓	✓	✓	✓	✓	
Connected in delta for dispatch	M33													✓	✓	□	□	□	

- 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) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.
- 2) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.
- 3) Possible in combination with order code **L44** to **L49** or length specification in plain text.
- 4) Only the 50 Hz data are indicated on the rating plate.
- 5) A second shaft extension is not possible. Please inquire for mounted brakes. The order codes listed cannot be combined within the various technologies nor with each other within the same technology system. This applies for:
 - Modular technology
 - Basic versions of "Modular technology"
 - Combination of special versions "Special technology"
- 6) For 1LG4/1LG6 motors, order codes **G17**, **G26** and **H63** frame size 225 and above can also be combined with all rotary pulse encoders in the "Special technology" range.
- 7) The standard brake supply voltage is 230 V AC, 50/60 Hz. Other brake supply voltages are possible with order codes **C00** and **C01**.
- 8) Not possible for motor series 1LG4 for 2-pole motors.
- 9) For 1LG4 motors in low-noise version a second shaft extension and/or mounting of an encoder are not possible.)
- 10) Not possible in combination with rotary pulse encoder HOG 9 D 10241 (order code **H72**, **H79**) and/or brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).
- 11) Not possible in combination with brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).
- 12) Supplied with the condensation drainage holes 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.
- 13) 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.
- 14) Possible up to 600 V max. Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.
- 15) Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.
- 16) 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 A 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**.
- 17) Extra charge for 2-pole motors. With 4-pole to 8-pole motors, standard version.
- 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**), brake mounting or encoder mounting.
- 19) 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.
- 20) 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. 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 extensionFor an explanation of the order codes, see Catalog D 81.1 part 0 "Introduction".
- 21) For 1LA5/6/7/9 motors and 1LG with metal external fan, converter-fed operation is permitted. The metal external fan is not possible in combination with the low-noise version – order code **K37** or **K38**.

Options or order codes (supplement -Z is required)

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated energy-saving motors with high efficiency – Cast-iron series 1LG6																	
												1LG6 (cast-iron)					
Motor protection																	
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping ¹⁾	A11											✓	✓	✓	✓	✓	✓
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm ¹⁾	A12											✓	✓	✓	✓	✓	✓
Motor temperature detection with embedded temperature sensor KTY 84-130 ¹⁾	A23											✓	✓	✓	✓	✓	✓
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 ¹⁾	A25											✓	✓	✓	✓	✓	✓
Temperature detectors for tripping ¹⁾	A31											✓	✓	✓	✓	✓	✓
Installation of 3 PT 100 resistance thermometers ¹⁾	A60											✓	✓	✓	✓	✓	✓
Installation of 6 PT 100 resistance thermometers in stator winding ¹⁾	A61											✓	✓	✓	✓	✓	✓
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings ¹⁾	A72											✓	✓	✓	✓	✓	✓
Installation of 2 PT100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings ¹⁾	A78											✓	✓	✓	✓	✓	✓
Installation of 2 PT 100 double screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings ¹⁾	A80											✓	✓	✓	✓	✓	✓
Motor connection and connection box																	
Two-part plate on connection box	K06											–	✓	✓	✓	✓	✓
Connection box on RHS	K09											✓	✓	✓	✓	✓	✓
Connection box on LHS	K10											✓	✓	✓	✓	✓	✓
Connection box on top, feet screwed on	K11											✓	✓	✓	✓	✓	✓
Connection box in cast-iron version	K15											✓	✓	✓	□	□	□
One cable gland, metal	K54											✓	✓	✓	✓	✓	✓
Cable gland, maximum configuration	K55											✓	✓	✓	✓	✓	✓
Rotation of the connection box through 90°, entry from DE	K83											✓	✓	✓	✓	✓	✓
Rotation of the connection box through 90°, entry from NDE	K84											✓	✓	✓	✓	✓	✓
Rotation of connection box through 180°	K85											✓	✓	✓	✓	✓	✓
Next larger connection box	L00											✓	✓	✓	✓	✓	✓
Undrilled entry plate	L01											○	○	○	○	○	○
External earthing	L13											□	□	□	□	□	□

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated energy-saving motors with high efficiency – Cast-iron series 1LG6																	
												1LG6 (cast-iron)					
Motor connection and connection box (continued)																	
6 cables protruding, 1.5 m long ²⁾	L48											✓	✓	✓	O. R.	O. R.	O. R.
6 cables protruding, 3 m long ²⁾	L49											✓	✓	✓	O. R.	O. R.	O. R.
Protruding cable ends – right side ³⁾	L51											O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Protruding cable ends – left side ³⁾	L52											O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Auxiliary connection box 1XB3 020	L97											✓	✓	✓	✓	✓	✓
Stud terminal for cable connection, accessories pack (3 items)	M46											–	–	–	✓	✓	✓
Saddle terminal for connection without cable lug, accessories pack (6 items)	M47											–	–	–	✓	✓	✓
Windings and insulation																	
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	C11											✓	✓	✓	✓	✓	✓
Temperature class 155 (F), used acc. to 155 (F), with increased output ⁴⁾	C12											✓	✓	✓	✓	✓	✓
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	C13											✓	✓	✓	✓	✓	✓
Increased air humidity/temperature, with 30 to 60 g water per m ³ of air	C19											✓	✓	✓	✓	✓	✓
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 % ⁴⁾	C22											✓	✓	✓	✓	✓	✓
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 % ⁴⁾	C23											✓	✓	✓	✓	✓	✓
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 % ⁴⁾	C24											✓	✓	✓	✓	✓	✓
Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 % ⁴⁾	C25											✓	✓	✓	✓	✓	✓
Increased air humidity/temperature, with 60 to 100 g water per m ³ of air	C26											✓	✓	✓	✓	✓	✓
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											✓	✓	✓	✓	✓	✓
Temperature class 155 (F), used acc. to 155 (F), other requirements	Y52 • and specified output, CT... °C or SA m above sea level											✓	✓	✓	✓	✓	✓

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size																
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315		
Self-ventilated energy-saving motors with high efficiency – Cast-iron series 1LG6																		
												1LG6 (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											✓	✓	✓	✓	✓	✓	✓
Special finish in RAL 7030 stone gray	K26											✓	✓	✓	✓	✓	✓	✓
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											✓	✓	✓	✓	✓	✓	✓
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											✓	✓	✓	✓	✓	✓	✓
Offshore special finish	M91											✓	✓	✓	✓	✓	✓	✓
Sea air resistant special finish	M94											O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	K23											○	○	○	○	○	○	○
Unpainted, only primed	K24											✓	✓	✓	✓	✓	✓	✓
Modular technology – Basic versions ⁵⁾																		
Mounting of separately driven fan ⁶⁾	G17											✓	✓	✓	✓	✓	✓	✓
Mounting of brake ^{6) 7)}	G26											✓	✓	✓	✓	✓	✓	✓
Mounting of 1XP8 001-1 (HTL) rotary pulse encoder	H57											✓	✓	✓	✓	✓	✓	✓
Mounting of 1XP8 001-2 (TTL) rotary pulse encoder	H58											✓	✓	✓	✓	✓	✓	✓
Modular technology – Combinations of basic versions ⁵⁾																		
Mounting of separately driven fan and 1XP8 001-1 rotary pulse encoder	H61											✓	✓	✓	✓	✓	✓	✓
Mounting of brake and 1XP8 001-1 rotary pulse encoder ⁷⁾	H62											✓	✓	✓	✓	✓	✓	✓
Mounting of brake and separately driven fan ^{6) 7)}	H63											✓	✓	✓	✓	✓	✓	✓
Mounting of brake, separately driven fan and 1XP8 001-1 rotary pulse encoder ⁷⁾	H64											✓	✓	✓	✓	✓	✓	✓
Mounting of separately driven fan and 1XP8 001-2 rotary pulse encoder	H97											✓	✓	✓	✓	✓	✓	✓
Mounting of brake and 1XP8 001-2 rotary pulse encoder ⁷⁾	H98											✓	✓	✓	✓	✓	✓	✓
Mounting of brake, separately driven fan and 1XP8 001-2 rotary pulse encoder ⁷⁾	H99											✓	✓	✓	✓	✓	✓	✓

Special versions	Additional identifica- tion code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated energy-saving motors with high efficiency – Cast-iron series 1LG6																	
												1LG6 (cast-iron)					
Modular technology – Additional versions																	
Brake supply voltage 24 V DC	C00											✓	✓	✓	✓	✓	✓
Brake supply voltage 400 V AC	C01											✓	✓	✓	✓	✓	✓
Mechanical manual brake release with lever (no locking)	K82											✓	✓	✓	✓	✓	✓
Special technology ⁵⁾																	
Mounting of LL 861 900 220 rotary pulse encoder	H70											✓	✓	✓	✓	✓	✓
Mounting of HOG 9 D 1024 I rotary pulse encoder	H72											✓	✓	✓	✓	✓	✓
Mounting of HOG 10 D 1024 I rotary pulse encoder	H73											✓	✓	✓	✓	✓	✓
Prepared for mounting LL 861 900 220	H78											✓	✓	✓	✓	✓	✓
Prepared for mounting HOG 9 D 1024 I	H79											✓	✓	✓	✓	✓	✓
Prepared for mounting HOG 10 D 1024 I	H80											✓	✓	✓	✓	✓	✓
Mounting of explosion-proof rotary pulse encoder HOG 10 DN 1024 I, connection box protection against moisture	J15											✓	✓	✓	✓	✓	✓
Mounting of explosion-proof rotary pulse encoder HOG 10 DN 1024 I, connection box protection against dust	J16											✓	✓	✓	✓	✓	✓
Mounting of rotary pulse encoder HOG 10 DN 1024 I + FSL, (speed rpm), connection box protection against moisture	Y74 • and specified speed rpm											✓	✓	✓	✓	✓	✓
Mounting of rotary pulse encoder HOG 10 DN 1024 I + FSL, (speed rpm), connection box protection against dust	Y76 • and specified speed rpm											✓	✓	✓	✓	✓	✓
Mounting of rotary pulse encoder HOG 10 DN 1024 I + ESL 93, (speed rpm), connection box protection against dust	Y79 • and specified speed (max. 3) rpm											✓	✓	✓	✓	✓	✓
Mechanical design and degrees 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 and 2-pole motors ⁸⁾	K17											✓	✓	✓	✓	✓	✓
Low-noise version for 2-pole motors with clockwise direction of rotation ⁹⁾	K37											–	–	–	–	–	–
Low-noise version for 2-pole motors with clockwise direction of rotation ⁹⁾	K38											–	–	–	–	–	–
IP65 degree of protection ¹⁰⁾	K50											✓	✓	✓	✓	✓	✓
IP56 degree of protection (non-heavy-sea) ¹¹⁾	K52											✓	✓	✓	✓	✓	✓
Condensation drainage holes ¹²⁾	L12											□	□	□	□	□	□
Non-rusting screws (externally)	M27											✓	✓	✓	✓	✓	✓
Earth brushes for converter-fed operation	M44											–	–	–	–	O. R.	O. R.
Mechanical protection for encoder ¹³⁾	M68											✓	✓	✓	✓	✓	✓

Special versions	Additional identifica- tion code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-ventilated energy-saving motors with high efficiency – Cast-iron series 1LG6																	
												1LG6 (cast-iron)					
Coolant temperature and site altitude																	
Coolant temperature –50 to +40 °C	D02											✓	✓	✓	✓	✓	✓
Coolant temperature –40 to +40 °C	D03											✓	✓	✓	✓	✓	✓
Coolant temperature –30 to +40 °C	D04											✓	✓	✓	✓	✓	✓
Designs in accordance with standards and specifications																	
Premium efficiency class IE3 ²⁴⁾	D25	New!										–	–	–	–	–	✓
Electrical according to NEMA MG1-12 ¹⁴⁾	D30											□	□	□	□	□	□
Design according to UL with “Recognition Mark” ¹⁵⁾	D31											✓	✓	✓	✓	✓	✓
Certified for Korea according to KS C4202 ¹⁶⁾	D33											✓	✓	✓	✓	✓	✓
Canadian regulations (CSA) ¹⁷⁾	D40											✓	✓	✓	✓	✓	✓
VIK version (includes Zone 2 for mains-fed operation, without Ex nA II on rating plate)	K30											✓	✓	✓	✓	✓	✓
Bearings and lubrication																	
Measuring nipple for SPM shock pulse measurement for bearing inspection	G50											✓	✓	✓	✓	✓	✓
Bearing design for increased cantilever forces ¹⁸⁾	K20											✓	✓	✓	✓	✓	✓
Special bearing for DE and NDE, bearing size 63	K36											✓	✓	✓	✓	✓ ¹⁹⁾	✓ ¹⁹⁾
Regreasing device	K40											✓	✓	✓	✓	□	□
Located bearing DE	K94											✓	✓	✓	✓	✓	✓
Located bearing NDE	L04											□	□	□	□	□	□
Insulated bearing cartridge	L27											–	–	✓	✓	✓	✓
Balance and vibration quantity																	
Vibration quantity A												□	□	□	□	□	□
Vibration quantity B	K02											✓	✓	✓	✓	✓	✓
Full key balancing	L68											✓	✓	✓	✓	✓	✓
Balancing without key	M37											✓	✓	✓	✓	✓	✓
Shaft and rotor																	
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors ²⁰⁾	K04											✓	✓	✓	✓	✓	✓
Second standard shaft extension ²¹⁾	K16											✓	✓	✓	✓	✓	✓
Shaft extension with normal dimensions without featherkey way	K42											✓	✓	✓	✓	✓	✓
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39											✓	✓	✓	✓	✓	✓
Non-standard cylindrical shaft extension ²²⁾	Y55 • and identifica- tion code											✓	✓	✓	✓	✓	✓
Heating and ventilation																	
Metal external fan ²³⁾	K35											✓	✓	✓	✓	✓	✓
Anti-condensation heaters for 230 V	K45											✓	✓	✓	✓	✓	✓
Anti-condensation heaters for 115 V	K46											✓	✓	✓	✓	✓	✓
Sheet metal fan cover	L36											✓	✓	✓	✓	✓	✓
Separately driven fan with non- standard voltage and/or fre- quency	Y81 • and identifica- tion code											–	–	✓	✓	✓	✓

Special versions	Additional identifica- tion code -Z with order code and plain text if required	Motor type frame size																
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315		
Self-ventilated energy-saving motors with high efficiency – Cast-iron series 1LG6																		
												1LG6 (cast-iron)						
Rating plate and extra rating plates																		
Second lubricating plate, supplied loose	B06											✓	✓	✓	✓	✓	✓	✓
Second rating plate, loose	K31											✓	✓	✓	✓	✓	✓	✓
Extra rating plate or rating plate with deviating rating plate data	Y80 • and identifica- tion codes											✓	✓	✓	✓	✓	✓	✓
Extra rating plate with identification codes	Y82 • and identifica- tion code											✓	✓	✓	✓	✓	✓	✓
Additional information on rating plate and on package label (maximum of 20 characters)	Y84 • and identifica- tion code											✓	✓	✓	✓	✓	✓	✓
Packaging, safety notes and test certificates																		
Acceptance test certificate 3.1 according to EN 10204	B02											✓	✓	✓	✓	✓	✓	✓
Operating instructions German/English enclosed in print	B23											✓	✓	✓	✓	✓	✓	✓
Type test with heat run for vertical motors, with acceptance	F83											✓	✓	✓	✓	✓	✓	✓
Connected in star for dispatch	M32											✓	✓	✓	✓	✓	✓	✓
Connected in delta for dispatch	M33											✓	✓	□	□	□	□	□

- Standard version

○

Without additional charge

•

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

○, R.

Possible on request

✓

With additional charge

–

Not possible

- 1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.
- 2) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.
- 3) Possible in combination with order code **L44** to **L49** or length specification in plain text.
- 4) Only the 50 Hz data are indicated on the rating plate.
- 5) A second shaft extension is not possible. Please inquire for mounted brakes. The order codes listed cannot be combined within the various technologies nor with each other within the same technology system. This applies for:
 - Modular technology
 - Basic versions of "Modular technology"
 - Combination of special versionsException: For frame size 225 and above, the options for mounting a brake (order code **G26**), separately driven fan (order code **G17**) or brake and separately driven fan (order code **H63**) can be combined with the options or rotary pulse encoders of the "Special technology" range.
- 6) For 1LG4/1LG6 motors, order codes **G17**, **G26** and **H63** frame size 225 and above can also be combined with all rotary pulse encoders in the "Special technology" range.
- 7) The standard brake supply voltage is 230 V AC, 50/60 Hz. Other brake supply voltages are possible with order codes **C00** and **C01**.
- 8) Not possible for motor series 1LG6 for 2-pole motors.
- 9) Not necessary for 1LG6 motors because these motors are already noise optimized.
- 10) Not possible in combination with rotary pulse encoder HOG 9 D 1024I (order code **H72**, **H79**) and/or brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).
- 11) Not possible in combination with brake 2LM8 (used for motors up to and including frame size 225, order code **G26**).
- 12) Supplied with the condensation drainage holes 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.
- 13) 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.
- 14) For the EPACT standard version (no order code required).
- 15) Possible up to 600 V max. Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.
- 16) For Korea are certified:
 - 2-pole motors ≤ 0.75 kW
 - 4-pole motors ≤ 0.75 kW
 - 6-pole motors ≤ 0.75 kW
- 17) Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.
- 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) Extra 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 in combination with parallel roller bearings (e.g. bearings for increased cantilever forces, order code **K20**), brake mounting or encoder mounting.
- 21) 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.
- 22) 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. 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 $\leq 2 \times$ length E (normal) of the shaft extensionFor an explanation of the order codes, see Catalog D 81.1 part 0 "Introduction".
- 23) For 1LA5/6/7/9 motors and 1LG with metal external fan, converter-fed operation is permitted. The metal external fan is not possible in combination with the low-noise version – order code **K37** or **K38**.
- 24) Not possible for motor series 1LG6, 8-pole version.

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-cooled motors without external fan – Aluminum series 1LP7 and 1LP5																
			1LP7 (aluminum)										1LP5 (aluminum)			
Motor protection																
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping ¹⁾	A11		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm ¹⁾	A12		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Motor temperature detection with embedded temperature sensor KTY 84-130 ¹⁾	A23		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 ¹⁾	A25		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Temperature detectors for tripping ¹⁾	A31		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Installation of 3 PT 100 resistance thermometers ¹⁾	A60		–	–	–	–	✓	✓	✓	✓	✓	✓				
Motor connection and connection box																
ECOFAST motor plug Han-Drive 10e for 230 VΔ/400 VY ²⁾	G55		✓	✓	✓	✓	✓	✓	✓	–	–	–				
ECOFAST motor plug EMC Han-Drive 10e for 230 VΔ/400 VY ³⁾	G56		✓	✓	✓	✓	✓	✓	✓	–	–	–				
Connection box on RHS	K09		–	–	✓	✓	✓	✓	✓	✓	✓	✓				
Connection box on LHS	K10		–	–	✓	✓	✓	✓	✓	✓	✓	✓				
One cable gland, metal	K54		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Cable gland, maximum configuration	K55		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Rotation of the connection box through 90°, entry from DE	K83		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Rotation of the connection box through 90°, entry from NDE	K84		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Rotation of connection box through 180°	K85		✓	✓	✓	✓	○	○	○	○	✓	✓				
Next larger connection box	L00		–	–	–	–	–	–	–	–	✓	✓				
External earthing	L13		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
3 cables protruding, 0.5 m long ⁴⁾	L44		✓	✓	✓	✓	✓	✓	✓	✓		O. R.	O. R.			
3 cables protruding, 1.5 m long ⁴⁾	L45		✓	✓	✓	✓	✓	✓	✓	✓		O. R.	O. R.			
6 cables protruding, 0.5 m long ⁴⁾	L47		✓	✓	✓	✓	✓	✓	✓	✓		O. R.	O. R.			
6 cables protruding, 1.5 m long ⁴⁾	L48		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓			
6 cables protruding, 3 m long ⁴⁾	L49		–	–	–	–	–	–	–	–		–	–			
Connection box on NDE	M64		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓			
Terminal strip for main and auxiliary terminals	M69		✓	✓	✓	✓	–	–	–	–		–	–			
Windings and insulation																
Increased air humidity/temperature with 30 to 60 g water per m³ of air	C19		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Increased air humidity/temperature with 60 to 100 g water per m³ of air	C26		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			

Special versions	Additional identifica- tion code -Z with order code and plain text if required	Motor type frame size														
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
Self-cooled motors without external fan – Aluminum series 1LP7 and 1LP5																
			1LP7 (aluminum)										1LP5 (aluminum)			
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		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
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		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
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		–	–	–	–	–	–	–	–	–	–	–			
Sea air resistant special finish	M94		O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	O. R.			
Unpainted (only cast iron parts primed)	K23		○	○	○	○	○	○	○	○	○	○	○			
Unpainted, only primed	K24		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Mechanical design and degrees of protection																
Drive-end seal for flange-mounting motors with an oil-tightness of up to 0.1 bar ⁵⁾	K17		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
With two additional eyebolts for IM V1/IM V3	K32		–	–	–	–	–	–	–	–	–	✓	✓			
IP65 degree of protection	K50		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
IP56 degree of protection (non-heavy-sea)	K52		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Vibration-proof version	L03		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Condensation drainage holes ⁶⁾	L12		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Non-rusting screws (externally)	M27		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Coolant temperature and site altitude																
Coolant temperature –40 to +40 °C	D03		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Coolant temperature –30 to +40 °C	D04		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Designs in accordance with standards and specifications																
Design according to UL with "Recognition Mark" ⁷⁾	D31		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Canadian regulations (CSA) ⁸⁾	D40		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
PSE Mark Japan ⁹⁾	D46		✓	✓	✓	✓	✓	✓	✓	✓	–	–	–			
Bearings and lubrication																
Measuring nipple for SPM shock pulse measurement for bearing inspection	G50		–	–	–	–	✓	✓	✓	✓	✓	✓	✓			
Bearing design for increased cantilever forces	K20		–	–	–	–	✓	✓	✓	✓	✓	✓	✓			
Regreasing device	K40		–	–	–	–	✓	✓	✓	✓	✓	✓	✓			
Located bearing DE	K94		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Located bearing NDE	L04		✓	✓	✓	✓	✓	✓	✓	✓	□	□	□			

Special versions	Additional identifica- tion code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-cooled motors without external fan – Aluminum series 1LP7 and 1LP5																	
			1LP7 (aluminum)										1LP5 (aluminum)				
Balance and vibration quantity																	
Vibration quantity A			□	□	□	□	□	□	□	□	□	□	□				
Vibration quantity B	K02		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Full key balancing	L68		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Balancing without key	M37		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Shaft and rotor																	
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors ¹⁰⁾	K04		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Second standard shaft extension	K16		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Shaft extension with normal dimensions without featherkey way	K42		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Standard shaft made of non-rusting steel	M65		–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Non-standard cylindrical shaft extension ¹¹⁾	Y55 • and identifica- tion code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Heating and ventilation																	
Anti-condensation heaters for 230 V	K45		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Anti-condensation heaters for 115 V	K46		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Rating plate and extra rating plates																	
Second lubricating plate, supplied loose	B06		–	–	–	–	✓	✓	✓	✓	✓	✓	✓				
Second rating plate, loose	K31		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Extra rating plate or rating plate with deviating rating plate data	Y80 • and identifica- tion code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Extra rating plate with identifi- cation codes	Y82 • and identifica- tion code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Additional information on rating plate and on package label (maximum of 20 characters)	Y84 • and identifica- tion code		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Packaging, safety notes and test certificates																	
Without safety and commissioning note. Customer's declaration of renouncement required.	B00		–	○	○	○	○	○	○	○	○	–	–				
With one safety and startup guide per box pallet	B01		–	○	○	○	○	○	○	○	○	–	–				
Acceptance test certificate 3.1 according to EN 10204	B02		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Operating instructions German/English in print	B23		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Type test with heat run for verti- cal motors, with acceptance	F83		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Wire-lattice pallet	L99		○	○	○	○	○	○	○	○	○	○	–				
Connected in star for dispatch	M32		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
Connected in delta for dispatch	M33		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				

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

- 1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.
- 2) Only one sensor (temperature sensor or PTC thermistor) can be connected. Only possibilities are voltage code **1** with voltage of 230 VΔ/400 VY and special voltage with voltage code **9** and order code **L1U** (400 VΔ). The following order codes cannot be used in combination with the ECOFAST plugs, order code **G55**: **A12, C18, D31, D40, G50, H15, H17, H62, H63, H64, H98, H99, K04, K15, K16, K34, K35, K40, K45, K46, K52, K54, K82, L03, L44, L45, L47, L48, L49, L51, L52**.
- 3) Only one sensor (temperature sensor or PTC thermistor) can be connected. Only possibilities are voltage code **1** with voltage of 230 VΔ/400 VY and special voltage with voltage code **9** and order code **L1U** (400 VΔ). The following order codes cannot be used in combination with the ECOFAST plugs, order code **G56**: **A12, A23, A31, C00, C18, D31, D40, G50, H15, H17, H90, H91, H92, H93, H94, H95, K04, K15, K16, K34, K35, K40, K45, K46, K52, K54, K82, L03, L44, L45, L47, L48, L49, L51, L52**.
- 4) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.
- 5) Not possible for type of construction IM V3.
- 6) Supplied with the condensation drainage holes 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.
- 7) Possible up to 600 V max. The rated voltage is indicated on the rating plate without voltage range.
- 8) The rated voltage is indicated on the rating plate without voltage range.
- 9) "Small power motors" with a rated output of up to 3 kW which are exported to Japan must bear the PSE marking.
- 10) 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**).
- 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 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 extensionFor an explanation of the order codes, see Catalog D 81.1 part 0 "Introduction".

Options or order codes (supplement **-Z** is required)

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size																
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315		
Self-cooled motors without external fan – Cast-iron series 1LP4																		
												1LP4 (cast-iron)						
Motor protection																		
Motor protection with PTC thermistors with 3 embedded temperature sensors for tripping ¹⁾	A11											✓	✓	✓	✓	✓	✓	
Motor protection with PTC thermistors with 6 embedded temperature sensors for tripping and alarm ¹⁾	A12											✓	✓	✓	✓	✓	✓	
Motor temperature detection with embedded temperature sensor KTY 84-130 ¹⁾	A23											✓	✓	✓	✓	✓	✓	
Motor temperature detection with embedded temperature sensors 2 x KTY 84-130 ¹⁾	A25											✓	✓	✓	✓	✓	✓	
Temperature detectors for tripping ¹⁾	A31											✓	✓	✓	✓	✓	✓	
Installation of 3 PT 100 resistance thermometers ¹⁾	A60											✓	✓	✓	✓	✓	✓	
Installation of 6 PT 100 resistance thermometers in stator winding ¹⁾	A61											✓	✓	✓	✓	✓	✓	
Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings ¹⁾	A72											✓	✓	✓	✓	✓	✓	
Installation of 2 PT100 screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings ¹⁾	A78											✓	✓	✓	✓	✓	✓	
Installation of 2 PT 100 double screw-in resistance thermometers (3-wire circuit) for rolling-contact bearings ¹⁾	A80											✓	✓	✓	✓	✓	✓	
Motor connection and connection box																		
Two-part plate on connection box	K06											–	✓	✓	✓	✓	✓	✓
Connection box on RHS	K09											✓	✓	✓	✓	✓	✓	✓
Connection box on LHS	K10											✓	✓	✓	✓	✓	✓	✓
Connection box on top, feet screwed on	K11											✓	✓	✓	✓	✓	✓	✓
One cable gland, metal	K54											✓	✓	✓	✓	✓	✓	✓
Cable gland, maximum configuration	K55											✓	✓	✓	✓	✓	✓	✓
Rotation of the connection box through 90°, entry from DE	K83											✓	✓	✓	✓	✓	✓	✓
Rotation of the connection box through 90°, entry from NDE	K84											✓	✓	✓	✓	✓	✓	✓
Rotation of connection box through 180°	K85											✓	✓	✓	✓	✓	✓	✓
Next larger connection box	L00											✓	✓	✓	✓	✓	✓	✓
External earthing	L13											□	□	□	□	□	□	□
6 cables protruding, 1.5 m long ²⁾	L48											✓	✓	✓	O. R.	O. R.	O. R.	
6 cables protruding, 3 m long ²⁾	L49											✓	✓	✓	O. R.	O. R.	O. R.	
Protruding cable ends – right side ³⁾	L51											O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	
Protruding cable ends – left side ³⁾	L52											O. R.	O. R.	O. R.	O. R.	O. R.	O. R.	
Auxiliary connection box 1XB3 020	L97											✓	✓	✓	✓	✓	✓	✓

Special versions	Additional identification code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-cooled motors without external fan – Cast-iron series 1LP4																	
												1LP4 (cast-iron)					
Motor connection and connection box (continued)																	
Stud terminal for cable connection, accessories pack (3 items)	M46											–	–	–	✓	✓	✓
Saddle terminal for connection without cable lug, accessories pack (6 items)	M47											–	–	–	✓	✓	✓
Windings and insulation																	
Temperature class 155 (F), used acc. to 155 (F), with service factor (SF)	C11											✓	✓	✓	✓	✓	✓
Temperature class 155 (F), used acc. to 155 (F), with increased output 4)	C12											✓	✓	✓	✓	✓	✓
Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature	C13											✓	✓	✓	✓	✓	✓
Increased air humidity/temperature with 30 to 60 g water per m³ of air	C19											✓	✓	✓	✓	✓	✓
Increased air humidity/temperature with 60 to 100 g water per m³ of air	C26											✓	✓	✓	✓	✓	✓
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											✓	✓	✓	✓	✓	✓
Temperature class 155 (F), used acc. to 155 (F), other requirements	Y52 • and specified output, CT... °C or SA m above sea level											✓	✓	✓	✓	✓	✓
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											✓	✓	✓	✓	✓	✓
Special finish in RAL 7030 stone gray	K26											✓	✓	✓	✓	✓	✓
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											✓	✓	✓	✓	✓	✓
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											✓	✓	✓	✓	✓	✓
Offshore special finish	M91											✓	✓	✓	✓	✓	✓
Sea air resistant special finish	M94											O. R.	O. R.	O. R.	O. R.	O. R.	O. R.
Unpainted (only cast iron parts primed)	K23											○	○	○	○	○	○
Unpainted, only primed	K24											✓	✓	✓	✓	✓	✓

Special versions	Additional identifica- tion code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-cooled motors without external fan – Cast-iron series 1LP4																	
												1LP4 (cast-iron)					
Mechanical design and degrees 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 ⁵⁾	K17											✓	✓	✓	✓	✓	✓
IP65 degree of protection	K50											✓	✓	✓	✓	✓	✓
IP56 degree of protection (non-heavy-sea)	K52											✓	✓	✓	✓	✓	✓
Condensation drainage holes ⁶⁾	L12											□	□	□	□	□	□
Non-rusting screws (externally)	M27											✓	✓	✓	✓	✓	✓
Coolant temperature and site altitude																	
Coolant temperature –50 to +40 °C	D02											✓	✓	✓	✓	✓	✓
Coolant temperature –40 to +40 °C	D03											✓	✓	✓	✓	✓	✓
Coolant temperature –30 to +40 °C	D04											✓	✓	✓	✓	✓	✓
Designs in accordance with standards and specifications																	
Design according to UL with “Recognition Mark” ⁷⁾	D31											✓	✓	✓	✓	✓	✓
Canadian regulations (CSA) ⁸⁾	D40											✓	✓	✓	✓	✓	✓
Bearings and lubrication																	
Measuring nipple for SPM shock pulse measurement for bearing inspection	G50											✓	✓	✓	✓	✓	✓
Bearing design for increased cantilever forces ⁹⁾	K20											✓	✓	✓	✓	✓	✓
Special bearing for DE and NDE, bearing size	K36											✓	✓	✓	✓	✓ ¹⁰⁾	✓ ¹⁰⁾
Regreasing device	K40											✓	✓	✓	✓	□	□
Located bearing DE	K94											✓	✓	✓	✓	✓	✓
Located bearing NDE	L04											□	□	□	□	□	□
Insulated bearing cartridge	L27											–	–	✓	✓	✓	✓
Balance and vibration quantity																	
Vibration quantity A												□	□	□	□	□	□
Vibration quantity B	K02											✓	✓	✓	✓	✓	✓
Full key balancing	L68											✓	✓	✓	✓	✓	✓
Balancing without key	M37											✓	✓	✓	✓	✓	✓
Shaft and rotor																	
Concentricity of shaft extension, coaxiality and linear movement in accordance with DIN 42955 Tolerance R for flange-mounting motors ¹¹⁾	K04											✓	✓	✓	✓	✓	✓
Second standard shaft extension ¹²⁾	K16											✓	✓	✓	✓	✓	✓
Shaft extension with normal dimensions without featherkey way	K42											✓	✓	✓	✓	✓	✓
Concentricity of shaft extension in accordance with DIN 42955 Tolerance R	L39											✓	✓	✓	✓	✓	✓
Non-standard cylindrical shaft extension ¹³⁾	Y55 • and identifica- tion code											✓	✓	✓	✓	✓	✓
Heating and ventilation																	
Anti-condensation heaters for 230 V	K45											✓	✓	✓	✓	✓	✓
Anti-condensation heaters for 115 V	K46											✓	✓	✓	✓	✓	✓

Special versions	Additional identifica- tion code -Z with order code and plain text if required	Motor type frame size															
		56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	
Self-cooled motors without external fan – Cast-iron series 1LP4																	
												1LP4 (cast-iron)					
Rating plate and extra rating plates																	
Second lubricating plate, supplied loose	B06											✓	✓	✓	✓	✓	✓
Second rating plate, loose	K31											✓	✓	✓	✓	✓	✓
Extra rating plate or rating plate with deviating rating plate data	Y80 • and identifica- tion code											✓	✓	✓	✓	✓	✓
Extra rating plate with identification codes	Y82 • and identifica- tion code											✓	✓	✓	✓	✓	✓
Additional information on rating plate and on package label (maximum of 20 charac- ters)	Y84 • and identifica- tion code											✓	✓	✓	✓	✓	✓
Packaging, safety notes, documentation and test certificates																	
Acceptance test certificate 3.1 according to EN 10204	B02											✓	✓	✓	✓	✓	✓
Type test with heat run for verti- cal motors, with acceptance	F83											✓	✓	✓	✓	✓	✓
Connected in star for dispatch	M32											✓	✓	✓	✓	✓	✓
Connected in delta for dispatch	M33											✓	✓	□	□	□	□

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

1) Evaluation with appropriate tripping unit (see Catalog LV 1) is recommended.

2) In combination with the PTC thermistor option or anti-condensation heating option, please inquire before ordering.

3) Possible in combination with order code **L44** to **L49** or length specification in plain text.

4) Only the 50 Hz data are indicated on the rating plate.

5) Not possible for motor series 1LP4 for 2-pole motors.

6) Supplied with the condensation drainage holes 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.

7) Possible up to 600 V max. Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

8) Order with voltage code **9** and order code for voltage and frequency. The rated voltage is indicated on the rating plate.

9) Not possible for 2-pole 1LP4 motors, frame size 315 L in vertical types of construction; bearings for increased cantilever forces at vibration quantity level B available on request for 1LP4 motors. Not possible for 1LP4 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**.

10) Extra charge for 2-pole motors. With 4-pole to 8-pole motors, standard version.

11) 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**).

12) 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.

13) 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. 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".