

## 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 Order No. | Additional identification code with order code and plain text if required | Motor type frame size |     |     |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------------------------------------|-----------------------|-----|-----|-----|
|                                                                                                                                                 |                                         |                                                                           | 315                   | 355 | 400 | 450 |
| Self-ventilated motors for mains-fed operation – Cast-iron series 1LA8                                                                          |                                         |                                                                           |                       |     |     |     |
| Self-ventilated motors for converter-fed operation – Cast-iron series 1LA8                                                                      |                                         |                                                                           |                       |     |     |     |
|                                                                                                                                                 |                                         |                                                                           | 1LA8                  |     |     |     |
| Voltage at 60 Hz                                                                                                                                |                                         |                                                                           |                       |     |     |     |
| 380 VΔ/660 VY;<br>50 Hz output <sup>1)</sup>                                                                                                    | 9                                       | L2C                                                                       |                       | ✓   | ✓   | ✓   |
| 380 VΔ/660 VY;<br>60 Hz output <sup>1)</sup>                                                                                                    | 9                                       | L2D                                                                       |                       | ✓   | ✓   | ✓   |
| 440 VΔ; 50 Hz output <sup>1)</sup>                                                                                                              | 9                                       | L2R                                                                       |                       | ✓   | ✓   | ✓   |
| 440 VΔ; 60 Hz output <sup>1)</sup>                                                                                                              | 9                                       | L2X                                                                       |                       | ✓   | ✓   | ✓   |
| 460 VΔ; 50 Hz output <sup>1)</sup>                                                                                                              | 9                                       | L2T                                                                       |                       | ✓   | ✓   | ✓   |
| 460 VΔ; 60 Hz output <sup>1)</sup>                                                                                                              | 9                                       | L2F                                                                       |                       | ✓   | ✓   | ✓   |
| 575 VΔ; 50 Hz output                                                                                                                            | 9                                       | L2V                                                                       |                       | ✓   | ✓   | ✓   |
| 575 VΔ; 60 Hz output                                                                                                                            | 9                                       | L2M                                                                       |                       | ✓   | ✓   | ✓   |
| Non-standard voltage and/or frequencies                                                                                                         |                                         |                                                                           |                       |     |     |     |
| Standard winding<br>(winding according to voltage code 0, 4, 5, 6, 7 or 8; rating plate will be stamped in accordance with order) <sup>2)</sup> | 9                                       | L8Y •                                                                     |                       | ✓   | ✓   | ✓   |
| Non-standard winding for voltages between 380 and 690 V (voltages outside this range are available on request) <sup>2)</sup>                    | 9                                       | L1Y •                                                                     |                       | ✓   | ✓   | ✓   |
| Forced-air cooled motors with mounted separately driven fan for converter-fed operation – Cast-iron series 1PQ8                                 |                                         |                                                                           |                       |     |     |     |
|                                                                                                                                                 |                                         |                                                                           | 1PQ8                  |     |     |     |
| Voltage at 60 Hz                                                                                                                                |                                         |                                                                           |                       |     |     |     |
| 380 VΔ/660 VY;<br>50 Hz output <sup>1)</sup>                                                                                                    | 9                                       | L2C                                                                       |                       | ✓   | ✓   | ✓   |
| 380 VΔ/660 VY;<br>60 Hz output <sup>1)</sup>                                                                                                    | 9                                       | L2D                                                                       |                       | ✓   | ✓   | ✓   |
| 440 VΔ; 50 Hz output <sup>1)</sup>                                                                                                              | 9                                       | L2R                                                                       |                       | ✓   | ✓   | ✓   |
| 440 VΔ; 60 Hz output <sup>1)</sup>                                                                                                              | 9                                       | L2X                                                                       |                       | ✓   | ✓   | ✓   |
| 460 VΔ; 50 Hz output <sup>1)</sup>                                                                                                              | 9                                       | L2T                                                                       |                       | ✓   | ✓   | ✓   |
| 460 VΔ; 60 Hz output <sup>1)</sup>                                                                                                              | 9                                       | L2F                                                                       |                       | ✓   | ✓   | ✓   |
| 575 VΔ; 50 Hz output                                                                                                                            | 9                                       | L2V                                                                       |                       | ✓   | ✓   | ✓   |
| 575 VΔ; 60 Hz output                                                                                                                            | 9                                       | L2M                                                                       |                       | ✓   | ✓   | ✓   |
| Non-standard voltage and/or frequencies                                                                                                         |                                         |                                                                           |                       |     |     |     |
| Standard winding<br>(winding according to voltage code 4, 5, 7 or 8; rating plate will be stamped in accordance with order) <sup>2)</sup>       | 9                                       | L8Y •                                                                     |                       | ✓   | ✓   | ✓   |
| Non-standard winding for voltages between 380 and 690 V (voltages outside this range are available on request) <sup>2)</sup>                    | 9                                       | L1Y •                                                                     |                       | ✓   | ✓   | ✓   |

- ✓ With additional charge
- This order code only determines the price of the version – Additional plain text is required.

### Note:

The order codes listed above are only valid for motor series 1PQ8 with forced-air cooled motor.  
The required voltage/frequency according to order code Y81 „Separately driven fan with non-standard voltage/frequency“ must be ordered in plain text with indication of the voltage, frequency and circuit.

<sup>1)</sup> Only possible with rated outputs of up to 630 kW.

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

| Special versions                                                                                                                       | Voltage code 11th position of Order No. | Additional identification code with order code and plain text if required | Motor type frame size |                 |                 |                 |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------------------------------------|-----------------------|-----------------|-----------------|-----------------|
|                                                                                                                                        |                                         |                                                                           | 315                   | 355             | 400             | 450             |
| Self-ventilated motors with through ventilation for mains-fed and converter-fed operation – Cast-iron series 1LL8                      |                                         |                                                                           |                       |                 |                 |                 |
|                                                                                                                                        |                                         |                                                                           | 1LL8                  |                 |                 |                 |
| Voltage at 60 Hz                                                                                                                       |                                         |                                                                           |                       |                 |                 |                 |
| 380 VΔ/660 VY;<br>50 Hz output <sup>1)</sup>                                                                                           | 9                                       | L2C                                                                       |                       | ✓ <sup>3)</sup> | ✓ <sup>3)</sup> | ✓ <sup>3)</sup> |
| 380 VΔ/660 VY;<br>60 Hz output <sup>1)</sup>                                                                                           | 9                                       | L2D                                                                       |                       | ✓               | ✓               | ✓               |
| 440 VΔ; 50 Hz output <sup>1)</sup>                                                                                                     | 9                                       | L2R                                                                       |                       | ✓               | ✓               | ✓               |
| 440 VΔ; 60 Hz output <sup>1)</sup>                                                                                                     | 9                                       | L2X                                                                       |                       | ✓               | ✓               | ✓               |
| 460 VΔ; 50 Hz output <sup>1)</sup>                                                                                                     | 9                                       | L2T                                                                       |                       | ✓               | ✓               | ✓               |
| 460 VΔ; 60 Hz output <sup>1)</sup>                                                                                                     | 9                                       | L2F                                                                       |                       | ✓               | ✓               | ✓               |
| 575 VΔ; 50 Hz output                                                                                                                   | 9                                       | L2V                                                                       |                       | ✓               | ✓               | ✓               |
| 575 VΔ; 60 Hz output                                                                                                                   | 9                                       | L2M                                                                       |                       | ✓               | ✓               | ✓               |
| Non-standard voltage and/or frequencies                                                                                                |                                         |                                                                           |                       |                 |                 |                 |
| Standard winding<br>(winding according to voltage code 0, 5 or 6; rating plate will be stamped in accordance with order) <sup>2)</sup> | 9                                       | L8Y •                                                                     |                       | ✓               | ✓               | ✓               |
| Non-standard winding for voltages between 380 and 690 V (voltages outside this range are available on request) <sup>2)</sup>           | 9                                       | L1Y •                                                                     |                       | ✓               | ✓               | ✓               |

- ✓ With additional charge
- This order code only determines the price of the version – Additional plain text is required.

<sup>1)</sup> Only possible with rated outputs of up to 630 kW.

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

<sup>3)</sup> Not possible for 2-pole motors in 60 Hz version of frame size 355 and above.

## Options

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

| Special versions                                                                                                                                       | Additional identification code<br><b>-Z</b> with order code and plain text if required | Motor type frame size |                             |     |     |     |                                 |     |     |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------|-----------------------------|-----|-----|-----|---------------------------------|-----|-----|---|
|                                                                                                                                                        |                                                                                        | 315                   | 355                         | 400 | 450 | 315 | 355                             | 400 | 450 |   |
| Self-ventilated motors for mains-fed and converter-fed operation 1LA8                                                                                  |                                                                                        |                       |                             |     |     |     |                                 |     |     |   |
|                                                                                                                                                        |                                                                                        |                       | 1LA8<br>Mains-fed operation |     |     |     | 1LA8<br>Converter-fed operation |     |     |   |
| Standardline                                                                                                                                           |                                                                                        |                       |                             |     |     |     |                                 |     |     |   |
| Standardline version <sup>1)</sup>                                                                                                                     | B20                                                                                    |                       | ○                           | ○   | –   | –   | ○                               | ○   | –   | – |
| Motor protection                                                                                                                                       |                                                                                        |                       |                             |     |     |     |                                 |     |     |   |
| Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping <sup>2)</sup>                                         | A12                                                                                    |                       | □                           | □   | □   | □   | □                               | □   | □   | □ |
| Motor temperature detection with embedded temperature sensor KTY 84-130 <sup>3)</sup>                                                                  | A23                                                                                    |                       | ○                           | ○   | ○   | ○   | ○                               | ○   | ○   | ○ |
| Installation of 6 PT 100 resistance thermometers in stator winding <sup>3)</sup>                                                                       | A61                                                                                    |                       | ✓                           | ✓   | ✓   | ✓   | ✓                               | ✓   | ✓   | ✓ |
| Installation of 6 resistance thermometers PT100 in stator winding, 3-wire input from auxiliary terminal box (Option M50 or M88)                        | A64                                                                                    | New!                  | ✓                           | ✓   | ✓   | ✓   | ✓                               | ✓   | ✓   | ✓ |
| Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings                                                 | A72                                                                                    |                       | ✓                           | ✓   | ✓   | ✓   | ✓                               | ✓   | ✓   | ✓ |
| Installation of 2 screw-in resistance thermometers PT100 for rolling-contact bearings, in 3-wire input from auxiliary terminal box (Option M50 or M88) | A78                                                                                    | New!                  | ✓                           | ✓   | ✓   | ✓   | ✓                               | ✓   | ✓   | ✓ |
| 6x PT100 Smart transmitter –40 to +140 °C Rosemount <sup>19)</sup>                                                                                     | M62                                                                                    | New!                  | ✓                           | ✓   | ✓   | ✓   | ✓                               | ✓   | ✓   | ✓ |

## Options

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

| Special versions                                                                                                                              | Additional<br>identification<br>code<br><b>-Z</b> with<br>order<br>code and<br>plain text if<br>required | Motor type frame size |                             |                 |       |       |                                 |                 |       |       |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------|-----------------|-------|-------|---------------------------------|-----------------|-------|-------|
|                                                                                                                                               |                                                                                                          | 315                   | 355                         | 400             | 450   | 315   | 355                             | 400             | 450   |       |
| Self-ventilated motors for mains-fed and converter-fed operation 1LA8                                                                         |                                                                                                          |                       |                             |                 |       |       |                                 |                 |       |       |
|                                                                                                                                               |                                                                                                          |                       | 1LA8<br>Mains-fed operation |                 |       |       | 1LA8<br>Converter-fed operation |                 |       |       |
| Motor connection and connection box                                                                                                           |                                                                                                          |                       |                             |                 |       |       |                                 |                 |       |       |
| Two-part plate on connection box                                                                                                              | K06                                                                                                      |                       | ✓ <sup>4)</sup>             | ✓               | ✓     | ✓     | O. R.                           | O. R.           | O. R. | O. R. |
| Undrilled entry plate                                                                                                                         | L01                                                                                                      |                       | ○ <sup>4)</sup>             | ○               | ○     | ○     | ○ <sup>4)</sup>                 | ○               | ○     | ○     |
| Connection box on RHS                                                                                                                         | K09                                                                                                      |                       | □                           | □               | □     | □     | □                               | □               | □     | □     |
| Connection box on LHS                                                                                                                         | K10                                                                                                      |                       | ○                           | ○               | ○     | ○     | ○                               | ○               | ○     | ○     |
| Connection box above<br>(1XB1 634 connection box) <sup>5)</sup>                                                                               | K11                                                                                                      |                       | ✓                           | ✓               | ✓     | ✓     | ✓                               | ✓               | ✓     | ✓     |
| Cable gland DIN 89280,<br>maximum configuration                                                                                               | K57                                                                                                      |                       | ✓                           | ✓               | ✓     | ✓     | ✓                               | ✓               | ✓     | ✓     |
| Rotation of the connection box through<br>90°, entry from DE                                                                                  | K83                                                                                                      |                       | ○                           | ○               | ○     | ○     | ○                               | ○               | ○     | ○     |
| Rotation of the connection box through<br>90°, entry from NDE                                                                                 | K84                                                                                                      |                       | ○                           | ○               | ○     | ○     | ○                               | ○               | ○     | ○     |
| Rotation of connection box<br>through 180°                                                                                                    | K85                                                                                                      |                       | ○                           | ○               | ○     | ○     | ○                               | ○               | ○     | ○     |
| Auxiliary connection box<br>1XB9 015 (stainless steel)                                                                                        | M51                                                                                                      | <i>New!</i>           | ✓                           | ✓               | ✓     | ✓     | ✓                               | ✓               | ✓     | ✓     |
| Larger connection box<br>(1XB1 621 connection box)                                                                                            | M58                                                                                                      |                       | ✓                           | □ <sup>6)</sup> | –     | –     | ✓                               | □ <sup>6)</sup> | –     | –     |
| Flange version A660 instead<br>of standard version <sup>20)</sup>                                                                             | M61                                                                                                      | <i>New!</i>           | ✓                           | ✓               | –     | –     | ✓                               | ✓               | –     | –     |
| Larger connection box<br>(1XB1 631 connection box)                                                                                            | L00                                                                                                      |                       | ✓                           | ✓ <sup>6)</sup> | □     | □     | ✓                               | ✓ <sup>6)</sup> | □     | □     |
| 6 cables protruding, 1.5 m long                                                                                                               | L48                                                                                                      |                       | O. R.                       | O. R.           | O. R. | O. R. | O. R.                           | O. R.           | O. R. | O. R. |
| 6 cables protruding, 3 m long                                                                                                                 | L49                                                                                                      |                       | O. R.                       | O. R.           | O. R. | O. R. | O. R.                           | O. R.           | O. R. | O. R. |
| Auxiliary connection box 1XB9 016<br>(cast-iron)                                                                                              | M50                                                                                                      |                       | ✓                           | ✓               | ✓     | ✓     | ✓                               | ✓               | ✓     | ✓     |
| Auxiliary connection box<br>1XB3 020 <sup>7)</sup>                                                                                            | L97                                                                                                      |                       | ✓                           | ✓               | ✓     | ✓     | ✓                               | ✓               | ✓     | ✓     |
| Auxiliary connection box 1XB9 014<br>(aluminum)                                                                                               | M88                                                                                                      |                       | ✓                           | ✓               | ✓     | ✓     | ✓                               | ✓               | ✓     | ✓     |
| Connection box on NDE                                                                                                                         | M64                                                                                                      |                       | ✓                           | ✓               | ✓     | ✓     | ✓                               | ✓               | ✓     | ✓     |
| Windings and insulation                                                                                                                       |                                                                                                          |                       |                             |                 |       |       |                                 |                 |       |       |
| Temperature class 155 (F), used<br>acc. to 155 (F), with service factor<br>(SF 1.1, SF 1.05 from frame size 400) <sup>8)</sup>                | C11                                                                                                      |                       | ✓                           | ✓               | ✓     | ✓     | –                               | –               | –     | –     |
| Temperature class 155 (F), used acc.<br>to 155 (F), with increased output<br>(10 %, 5 % from frame size 400) <sup>8)</sup>                    | C12                                                                                                      |                       | ✓                           | ✓               | ✓     | ✓     | –                               | –               | –     | –     |
| Temperature class 155 (F), used<br>acc. to 155 (F), with increased coolant<br>temperature (55 °C, 50 °C from frame<br>size 400) <sup>8)</sup> | C13                                                                                                      |                       | ✓                           | ✓               | ✓     | ✓     | –                               | –               | –     | –     |
| Temperature class 180 (H), used<br>acc. to 155 (F), with service factor<br>(SF 1.1) <sup>8)</sup>                                             | C14                                                                                                      |                       | ✓                           | ✓               | ✓     | ✓     | ✓                               | ✓               | ✓     | ✓     |

| Special versions                                                                 | Additional identification code<br><b>-Z</b> with order code and plain text if required | Motor type frame size |                             |       |       |       |                                 |       |       |       |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------|-----------------------------|-------|-------|-------|---------------------------------|-------|-------|-------|
|                                                                                  |                                                                                        | 315                   | 355                         | 400   | 450   | 315   | 355                             | 400   | 450   |       |
| Self-ventilated motors for mains-fed and converter-fed operation 1LA8            |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
|                                                                                  |                                                                                        |                       | 1LA8<br>Mains-fed operation |       |       |       | 1LA8<br>Converter-fed operation |       |       |       |
| Colors and paint finish                                                          |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| Standard finish in RAL 7030 stone gray                                           |                                                                                        |                       | □                           | □     | □     | □     | □                               | □     | □     | □     |
| Standard paint finish in other colors                                            | Y53 • and standard finish RAL ....                                                     |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Special finish in RAL 7030 stone gray                                            | K26                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Special finish in other colors                                                   | Y54 • and special finish RAL ....                                                      |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Unpainted (only cast iron parts primed)                                          | K23                                                                                    |                       | ○                           | ○     | ○     | ○     | ○                               | ○     | ○     | ○     |
| Special technology                                                               |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| Mounting of brake (incl. brake of Stromag)                                       | H47                                                                                    |                       | O. R.                       | O. R. | O. R. | O. R. | O. R.                           | O. R. | O. R. | O. R. |
| Mounting of LL 861 900 220 rotary pulse encoder                                  | H70                                                                                    |                       | –                           | –     | –     | –     | ✓                               | ✓     | ✓     | ✓     |
| Mounting of HOG 10 D 1024 I rotary pulse encoder                                 | H73                                                                                    |                       | –                           | –     | –     | –     | ✓                               | ✓     | ✓     | ✓     |
| Prepared for mounting LL 861 900 220                                             | H78                                                                                    |                       | –                           | –     | –     | –     | ✓                               | ✓     | ✓     | ✓     |
| Prepared for mounting HOG 10 D 1024 I                                            | H80                                                                                    |                       | –                           | –     | –     | –     | ✓                               | ✓     | ✓     | ✓     |
| Mounting a special type of rotary pulse encoder                                  | Y70 • and encoder designation                                                          |                       | –                           | –     | –     | –     | O. R.                           | O. R. | O. R. | O. R. |
| Mechanical design and degrees of protection                                      |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| 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                                                                                    |                       | ✓                           | ○     | ○     | ○     | ✓                               | ○     | ○     | ○     |
| IP56 degree of protection (non-heavy-sea)                                        | K52                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Non-rusting screws (externally)                                                  | M27                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Coolant temperature and site altitude                                            |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| Coolant temperature –40 to +40 °C                                                | D03                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Coolant temperature –30 to +40 °C                                                | D04                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Coolant temperature 45 °C, derating 4 % <sup>9)</sup>                            | D11                                                                                    |                       | ○                           | ○     | ○     | ○     | ○                               | ○     | ○     | ○     |
| Coolant temperature 50 °C, derating 8 % <sup>9)</sup>                            | D12                                                                                    |                       | ○                           | ○     | ○     | ○     | ○                               | ○     | ○     | ○     |
| Coolant temperature 55 °C, derating 13 % <sup>9)</sup>                           | D13                                                                                    |                       | ○                           | ○     | ○     | ○     | ○                               | ○     | ○     | ○     |
| Coolant temperature 60 °C, derating 18 % <sup>9)</sup>                           | D14                                                                                    |                       | ○                           | ○     | ○     | ○     | ○                               | ○     | ○     | ○     |
| Designs in accordance with standards and specifications                          |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| Electrical according to NEMA MG1-12                                              | D30                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Design according to UL with “Recognition Mark”                                   | D31                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Canadian regulations (CSA)                                                       | D40                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |

| Special versions                                                                                                                    | Additional identification code<br><b>-Z</b> with order code and plain text if required | Motor type frame size |                             |       |       |       |                                 |       |       |       |
|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------|-----------------------------|-------|-------|-------|---------------------------------|-------|-------|-------|
|                                                                                                                                     |                                                                                        | 315                   | 355                         | 400   | 450   | 315   | 355                             | 400   | 450   |       |
| Self-ventilated motors for mains-fed and converter-fed operation 1LA8                                                               |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
|                                                                                                                                     |                                                                                        |                       | 1LA8<br>Mains-fed operation |       |       |       | 1LA8<br>Converter-fed operation |       |       |       |
| Design for Zones 1, 2 and 22 according to ATEX <sup>10)</sup>                                                                       |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| Design for Zone 2 for mains-fed operation Ex nA II T <sub>3</sub> to IEC/EN 60079-15 <sup>11) 12) 13)</sup>                         | M72                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | –                               | –     | –     | –     |
| Design for Zone 2 for converter-fed operation, reduced output Ex nA II T <sub>3</sub> to IEC/EN 60079-15 <sup>11) 12) 13) 14)</sup> | M73                                                                                    |                       | –                           | –     | –     | –     | O. R.                           | O. R. | O. R. | O. R. |
| Design for Zone 22 for non-conducting dust (IP55) for mains-fed operation <sup>13)</sup>                                            | M35                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | –                               | –     | –     | –     |
| Design for Zone 22 for non-conducting dust (IP55) for converter-fed operation <sup>12) 13)</sup>                                    | M39                                                                                    |                       | –                           | –     | –     | –     | ✓                               | ✓     | ✓     | ✓     |
| VIK version <sup>13) 15)</sup>                                                                                                      | K30                                                                                    |                       | ✓                           | ✓     | –     | –     | O. R.                           | O. R. | –     | –     |
| Stamping of Ex nA II on VIK rating plate                                                                                            | C27                                                                                    |                       | ✓                           | ✓     | –     | –     | O. R.                           | O. R. | –     | –     |
| Bearings and lubrication                                                                                                            |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| Measuring nipple for SPM shock pulse measurement for bearing inspection                                                             | G50                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Bearing design for increased cantilever forces <sup>16)</sup>                                                                       | K20                                                                                    |                       | ✓                           | ✓     | –     | –     | ✓                               | ✓     | –     | –     |
| Balance and vibration quantity                                                                                                      |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| Vibration quantity level B                                                                                                          | K02                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Full key balancing                                                                                                                  | L68                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Shaft and rotor                                                                                                                     |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| Second standard shaft extension <sup>17)</sup>                                                                                      | K16                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Shaft extension with standard dimensions, without featherkey way                                                                    | K42                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Non-standard cylindrical shaft extension                                                                                            | Y55 • and identification code                                                          |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Heating and ventilation                                                                                                             |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| Metal external fan                                                                                                                  | K35                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Anti-condensation heaters for 230 V                                                                                                 | K45                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Anti-condensation heaters for 115 V                                                                                                 | K46                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Rating plate and extra rating plates                                                                                                |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| 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 code                                                                                         | Y82 • and identification code                                                          |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Packaging, safety notes, documentation and test certificates <sup>18)</sup>                                                         |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| Document – Electrical data sheet                                                                                                    | B31                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Document – Order dimension drawing                                                                                                  | B32                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Document – Load characteristics                                                                                                     | B37                                                                                    |                       | O. R.                       | O. R. | O. R. | O. R. | O. R.                           | O. R. | O. R. | O. R. |
| Standard test (routine test) with acceptance                                                                                        | F01                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Visual acceptance and report handover with acceptance                                                                               | F03                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Temperature-rise test, without acceptance                                                                                           | F04                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Temperature-rise test, with acceptance                                                                                              | F05                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Noise measurement in no-load operation, no noise analysis, no acceptance                                                            | F28                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Noise measurement in no-load operation, no noise analysis, with acceptance                                                          | F29                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |

|                                                                       |                                                                                        |                       |     |     |     |     |     |     |     |
|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------|-----|-----|-----|-----|-----|-----|-----|
| Special versions                                                      | Additional identification code<br><b>-Z</b> with order code and plain text if required | Motor type frame size |     |     |     |     |     |     |     |
|                                                                       |                                                                                        | 315                   | 355 | 400 | 450 | 315 | 355 | 400 | 450 |
| Self-ventilated motors for mains-fed and converter-fed operation 1LA8 |                                                                                        |                       |     |     |     |     |     |     |     |

|                                                                                                       |     | 1LA8<br>Mains-fed operation | 1LA8<br>Converter-fed operation |
|-------------------------------------------------------------------------------------------------------|-----|-----------------------------|---------------------------------|
| Packaging, safety notes, documentation and test certificates <sup>18)</sup> (continued)               |     |                             |                                 |
| Noise measurement in no-load operation, with noise analysis, without acceptance                       | F62 | ✓                           | ✓                               |
| Noise measurement in no-load operation, with noise analysis, with acceptance                          | F63 | ✓                           | ✓                               |
| Recording of current and torque curves with torque metering shaft during starting, without acceptance | F34 | ✓                           | ✓                               |
| Recording of current and torque curves with torque metering shaft during starting, with acceptance    | F35 | ✓                           | ✓                               |
| Measurement of locked-rotor torque and current, without acceptance                                    | F52 | ✓                           | ✓                               |
| Measurement of locked-rotor torque and current, with acceptance                                       | F53 | ✓                           | ✓                               |
| Type test with heat run for horizontal motors, without acceptance                                     | F82 | ✓                           | ✓                               |
| Type test with heat run for horizontal motors, with acceptance                                        | F83 | ✓                           | ✓                               |
| Type test with heat run for vertical motors, without acceptance                                       | F92 | ✓                           | ✓                               |
| Type test with heat run for vertical motors, with acceptance                                          | F93 | ✓                           | ✓                               |

- 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) For 4-pole version only, type of construction IM B3, 400 VΔ/690 VY or 500 VΔ voltage (no special insulation). Only the following short codes can be ordered in combination with the *Standardline*: **A23, A61, A72, G50, H70, H73, K09, K45, K46, K83, K84, K85, L00, L97, M58** (only frame size 315), **M88, Y53**.

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

3) The standard thermistors are omitted. If PTC thermistors are required as well as KTYs or PT100s, this must be specified in the order in plain text. A combination of **A12** and **A61** or **A12** and **A23** is possible on request for an additional charge.

4) Only possible in combination with the larger connection boxes 1XB1 621 or 1XB1 631 (order codes **M58** or **L00**).

5) A combination with the order codes **M88** and **M50** is not possible. Connection box 1XP1 634 can be rotated through 4 x 90°. Cable entry is from NDE or the delivery position. Dimension drawings available on request.

6) With 1LA8 357-2 and 1LA8 357-4, connection box 1XB1 631 is supplied in the standard version.

7) VIK version is not possible.

8) Use according to temperature class 180 (H) is not possible. All 400 V version are available on request. Due to the rated current, a larger connection box of type 1XB9 600, which is part of order code **C14**, is generally provided for frame sizes 400 (2- and 4-pole) and 450 (all no. of poles).

9) Site altitude up to 1000 m above sea level.

10) Explosion-protected encoders are available on request.

11) Only admissible for use in accordance with temperature class 130 (B). PTC thermistors for temperature class 130 (B) are included. For compliance with temperature class 130 (B), derating is necessary in the case of converter-fed operation in Zones 2 and 22. Derating data are available on request.

12) These motors do not have a rated voltage range stamped on the rating plate.

13) For options **K30, M35, M39, M72, M73** an additional metal external fan order code **K35** must be ordered.

14) In the order, the "Speed range and torque characteristic" must be specified in plain text. A system test is necessary for *M* = constant.

15) The VIK version comprises Zone 2 for mains-fed operation – without Ex nA II marking on rating plate. For 2-pole motors of frame size 315, the low-noise version is also required. Order code **K37** or **K38** and additionally the metal external fan order code **K35**. Note the specified output and dimensions. For 1LA8 353 to 1LA8 357 motors, the connection box cannot be rotated by 4 x 90°.

16) Not possible for 2-pole motors and motors of vertical type of construction.

17) Please inquire in the case of 2-pole motors and motors in vertical type of construction.

18) Type testing is also performed for converter-fed operation.

19) Only possible in combination with the stainless steel auxiliary connection box (order code **M51**).

20) Only possible for 4 and 6-pole 1LA8 or 1PQ8 motors with frame size 315 or 355 in versions IM V1 or IM B35.

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

| Special versions                                                                                                                                       | Additional<br>identifica-<br>tion code<br><b>-Z</b> with<br>order code<br>and plain<br>text if<br>required |      | Motor type frame size   |                 |       |       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------|-------------------------|-----------------|-------|-------|
|                                                                                                                                                        |                                                                                                            |      | 315                     | 355             | 400   | 450   |
| Forced-air cooled motors with mounted separately driven fan for converter-fed operation 1PQ8                                                           |                                                                                                            |      |                         |                 |       |       |
|                                                                                                                                                        |                                                                                                            |      | 1PQ8                    |                 |       |       |
|                                                                                                                                                        |                                                                                                            |      | Converter-fed operation |                 |       |       |
| Standardline                                                                                                                                           |                                                                                                            |      |                         |                 |       |       |
| Standardline version                                                                                                                                   | B20                                                                                                        |      | –                       | –               | –     | –     |
| Motor protection                                                                                                                                       |                                                                                                            |      |                         |                 |       |       |
| Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping <sup>1)</sup>                                         | A12                                                                                                        |      | □                       | □               | □     | □     |
| Motor temperature detection with embedded temperature sensor KTY 84-130 <sup>2)</sup>                                                                  | A23                                                                                                        |      | ○                       | ○               | ○     | ○     |
| Installation of 6 PT 100 resistance thermometers in stator winding <sup>2)</sup>                                                                       | A61                                                                                                        |      | ✓                       | ✓               | ✓     | ✓     |
| Installation of 6 resistance thermometers PT100 in stator winding, 3-wire input from auxiliary terminal box (Option M50 or M88)                        | A64                                                                                                        | New! | ✓                       | ✓               | ✓     | ✓     |
| Installation of 2 screw-in resistance thermometers PT100 for rolling-contact bearings, in 3-wire input from auxiliary terminal box (Option M50 or M88) | A78                                                                                                        | New! | ✓                       | ✓               | ✓     | ✓     |
| Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings                                                 | A72                                                                                                        |      | ✓                       | ✓               | ✓     | ✓     |
| 6x PT100 Smart transmitter –40 to +140 °C Rosemount <sup>17)</sup>                                                                                     | M62                                                                                                        | New! | ✓                       | ✓               | ✓     | ✓     |
| Motor connection and connection box                                                                                                                    |                                                                                                            |      |                         |                 |       |       |
| Two-part plate on connection box                                                                                                                       | K06                                                                                                        |      | O. R.                   | O. R.           | O. R. | O. R. |
| Undrilled entry plate                                                                                                                                  | L01                                                                                                        |      | ○ <sup>3)</sup>         | ○               | ○     | ○     |
| Connection box on RHS                                                                                                                                  | K09                                                                                                        |      | □                       | □               | □     | □     |
| Connection box on LHS                                                                                                                                  | K10                                                                                                        |      | ○                       | ○               | ○     | ○     |
| Connection box above (1XB1 634 connection box) <sup>4)</sup>                                                                                           | K11                                                                                                        |      | ✓                       | ✓               | ✓     | ✓     |
| Cable gland, maximum configuration                                                                                                                     | K57                                                                                                        |      | ✓                       | ✓               | ✓     | ✓     |
| 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                                                                                                        |      | ○                       | ○               | ○     | ○     |
| Larger connection box (1XB1 621 connection box)                                                                                                        | M58                                                                                                        |      | ✓                       | □ <sup>5)</sup> | –     | –     |
| Larger connection box (1XB1 631 connection box)                                                                                                        | L00                                                                                                        |      | ✓                       | ✓ <sup>5)</sup> | □     | □     |
| 6 cables protruding, 1.5 m long                                                                                                                        | L48                                                                                                        |      | O. R.                   | O. R.           | O. R. | O. R. |
| 6 cables protruding, 3 m long                                                                                                                          | L49                                                                                                        |      | O. R.                   | O. R.           | O. R. | O. R. |
| Auxiliary connection box 1XB9 016 (cast-iron)                                                                                                          | M50                                                                                                        |      | ✓                       | ✓               | ✓     | ✓     |
| Auxiliary connection box 1XB3 020                                                                                                                      | L97                                                                                                        |      | ✓                       | ✓               | ✓     | ✓     |
| Auxiliary connection box 1XB9 015 (stainless steel)                                                                                                    | M51                                                                                                        | New! | ✓                       | ✓               | ✓     | ✓     |
| Flange version A660 instead of standard version <sup>18)</sup>                                                                                         | M61                                                                                                        | New! | ✓                       | ✓               | –     | –     |
| Auxiliary connection box 1XB9 014 (aluminum)                                                                                                           | M88                                                                                                        |      | ✓                       | ✓               | ✓     | ✓     |
| Connection box on NDE                                                                                                                                  | M64                                                                                                        |      | ✓                       | ✓               | ✓     | ✓     |



| Special versions                                                                                  | Additional<br>identifica-<br>tion code<br>-Z with<br>order code<br>and plain<br>text if<br>required | Motor type frame size |                                 |       |       |       |
|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|-------|-------|-------|
|                                                                                                   |                                                                                                     | 315                   | 355                             | 400   | 450   |       |
| Forced-air cooled motors with mounted separately driven fan for converter-fed operation 1PQ8      |                                                                                                     |                       |                                 |       |       |       |
|                                                                                                   |                                                                                                     |                       | 1PQ8<br>Converter-fed operation |       |       |       |
| Windings and insulation                                                                           |                                                                                                     |                       |                                 |       |       |       |
| Temperature class 180 (H),<br>used acc. to 155 (F),<br>with service factor (SF 1.1) <sup>6)</sup> | C14                                                                                                 |                       | ✓                               | ✓     | ✓     | ✓     |
| Colors and paint finish                                                                           |                                                                                                     |                       |                                 |       |       |       |
| Standard finish in RAL 7030<br>stone gray                                                         |                                                                                                     |                       | □                               | □     | □     | □     |
| Standard paint finish in other colors                                                             | Y53 • and<br>standard<br>finish<br>RAL ....                                                         |                       | ✓                               | ✓     | ✓     | ✓     |
| Special finish in RAL 7030<br>stone gray                                                          | K26                                                                                                 |                       | ✓                               | ✓     | ✓     | ✓     |
| Special finish in other colors                                                                    | Y54 • and<br>special fin-<br>ish RAL ....                                                           |                       | ✓                               | ✓     | ✓     | ✓     |
| Unpainted (only cast-iron parts primed)                                                           | K23                                                                                                 |                       | ○                               | ○     | ○     | ○     |
| Special technology                                                                                |                                                                                                     |                       |                                 |       |       |       |
| Mounting of brake<br>(incl. brake of Stromag)                                                     | H47                                                                                                 |                       | O. R.                           | O. R. | O. R. | O. R. |
| Mounting of LL 861 900 220 rotary pulse<br>encoder                                                | H70                                                                                                 |                       | ✓                               | ✓     | ✓     | ✓     |
| Mounting of HOG 10 D 1024 I rotary<br>pulse encoder                                               | H73                                                                                                 |                       | ✓                               | ✓     | ✓     | ✓     |
| Prepared for mounting LL 861 900 220                                                              | H78                                                                                                 |                       | ✓                               | ✓     | ✓     | ✓     |
| Prepared for mounting HOG 10 D 1024 I                                                             | H80                                                                                                 |                       | ✓                               | ✓     | ✓     | ✓     |
| Mounting a special type of rotary pulse<br>encoder                                                | Y70 • and<br>encoder<br>designa-<br>tion                                                            |                       | O. R.                           | O. R. | O. R. | O. R. |
| Mechanical design and degrees of protection                                                       |                                                                                                     |                       |                                 |       |       |       |
| Low-noise version for 2-pole<br>motors with clockwise direction<br>of rotation                    | K37                                                                                                 |                       | –                               | –     | –     | –     |
| Low-noise version for 2-pole<br>motors with counter-clockwise direction<br>of rotation            | K38                                                                                                 |                       | –                               | –     | –     | –     |
| IP56 degree of protection<br>(non-heavy-sea)                                                      | K52                                                                                                 |                       | O. R.                           | O. R. | O. R. | O. R. |
| Non-rusting screws (externally) <sup>7)</sup>                                                     | M27                                                                                                 |                       | ✓                               | ✓     | ✓     | ✓     |
| Coolant temperature and site altitude                                                             |                                                                                                     |                       |                                 |       |       |       |
| Coolant temperature –40 to +40 °C                                                                 | D03                                                                                                 |                       | O. R.                           | O. R. | O. R. | O. R. |
| Coolant temperature –30 to +40 °C                                                                 | D04                                                                                                 |                       | O. R.                           | O. R. | O. R. | O. R. |
| Coolant temperature 45 °C,<br>derating 4 % <sup>8)</sup>                                          | D11                                                                                                 |                       | ○                               | ○     | ○     | ○     |
| Coolant temperature 50 °C,<br>derating 8 % <sup>8)</sup>                                          | D12                                                                                                 |                       | ○                               | ○     | ○     | ○     |
| Coolant temperature 55 °C,<br>derating 13 % <sup>8)</sup>                                         | D13                                                                                                 |                       | ○                               | ○     | ○     | ○     |
| Coolant temperature 60 °C,<br>derating 18 % <sup>8)</sup>                                         | D14                                                                                                 |                       | ○                               | ○     | ○     | ○     |

| Special versions                                                                                                          | Additional<br>identification<br>code<br><b>-Z</b> with<br>order code<br>and plain<br>text if<br>required | Motor type frame size |                                 |       |       |       |
|---------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|-------|-------|-------|
|                                                                                                                           |                                                                                                          | 315                   | 355                             | 400   | 450   |       |
| Forced-air cooled motors with mounted separately driven fan for converter-fed operation 1PQ8                              |                                                                                                          |                       |                                 |       |       |       |
|                                                                                                                           |                                                                                                          |                       | 1PQ8<br>Converter-fed operation |       |       |       |
| Designs in accordance with standards and specifications                                                                   |                                                                                                          |                       |                                 |       |       |       |
| Electrical according to NEMA MG1-12 <sup>9)</sup>                                                                         | D30                                                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Design according to UL with<br>“Recognition Mark”                                                                         | D31                                                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Canadian regulations (CSA)                                                                                                | D40                                                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Design for Zones 2 and 22 according to ATEX <sup>10)</sup>                                                                |                                                                                                          |                       |                                 |       |       |       |
| Design for Zone 2 for mains-fed<br>operation Ex nA II T3<br>to IEC/EN 60079-15                                            | M72                                                                                                      |                       | –                               | –     | –     | –     |
| Design for Zone 2 for converter-fed<br>operation, reduced output Ex nA II T3<br>to IEC/EN 60079-15 <sup>11) 12) 13)</sup> | M73                                                                                                      |                       | O. R.                           | O. R. | O. R. | O. R. |
| Design for Zone 22 for non-conducting<br>dust (IP55) for mains-fed operation                                              | M35                                                                                                      |                       | –                               | –     | –     | –     |
| Design for Zone 22 for non-conducting<br>dust (IP55) for converter-fed operation                                          | M39                                                                                                      |                       | –                               | –     | –     | –     |
| VIK version                                                                                                               | K30                                                                                                      |                       | –                               | –     | –     | –     |
| Stamping of Ex nA II on VIK rating plate                                                                                  | C27                                                                                                      |                       | –                               | –     | –     | –     |
| Bearings and lubrication                                                                                                  |                                                                                                          |                       |                                 |       |       |       |
| Measuring nipple for SPM shock pulse<br>measurement for bearing inspection                                                | G50                                                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Bearing design for increased cantilever<br>forces <sup>14)</sup>                                                          | K20                                                                                                      |                       | ✓                               | ✓     | –     | –     |
| Balance and vibration quantity                                                                                            |                                                                                                          |                       |                                 |       |       |       |
| Vibration quantity level B                                                                                                | K02                                                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Full key balancing                                                                                                        | L68                                                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Shaft and rotor                                                                                                           |                                                                                                          |                       |                                 |       |       |       |
| Second standard shaft extension                                                                                           | K16                                                                                                      |                       | –                               | –     | –     | –     |
| Shaft extension with standard<br>dimensions, without featherkey way                                                       | K42                                                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Non-standard cylindrical shaft extension                                                                                  | Y55 • and<br>identification<br>code                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Heating and ventilation                                                                                                   |                                                                                                          |                       |                                 |       |       |       |
| Anti-condensation heaters for 230 V                                                                                       | K45                                                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Anti-condensation heaters for 115 V                                                                                       | K46                                                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Separately driven fan with non-standard<br>voltage and/or frequency <sup>15)</sup>                                        | Y81 • and<br>identification<br>code                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Rating plate and extra rating plates                                                                                      |                                                                                                          |                       |                                 |       |       |       |
| Second rating plate, loose                                                                                                | K31                                                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Extra rating plate or rating plate<br>with deviating rating plate data                                                    | Y80 • and<br>identification<br>code                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Extra rating plate<br>with identification code                                                                            | Y82 • and<br>identification<br>code                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Packaging, safety notes, documentation and test certificates <sup>16)</sup>                                               |                                                                                                          |                       |                                 |       |       |       |
| Document – Electrical data sheet                                                                                          | B31                                                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |
| Document – Order dimension drawing                                                                                        | B32                                                                                                      |                       | ✓                               | ✓     | ✓     | ✓     |

|                                                                                                       |                                                                                                            |                       |                                 |       |       |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|-------|-------|
| Special versions                                                                                      | Additional<br>identifica-<br>tion code<br><b>-Z</b> with<br>order code<br>and plain<br>text if<br>required | Motor type frame size |                                 |       |       |
|                                                                                                       |                                                                                                            | 315                   | 355                             | 400   | 450   |
| Forced-air cooled motors with mounted separately driven fan for converter-fed operation 1PQ8          |                                                                                                            |                       |                                 |       |       |
|                                                                                                       |                                                                                                            |                       | 1PQ8<br>Converter-fed operation |       |       |
| Packaging, safety notes, documentation and test certificates <sup>16)</sup> (continued)               |                                                                                                            |                       |                                 |       |       |
| Document – Load characteristics                                                                       | B37                                                                                                        |                       | O. R.                           | O. R. | O. R. |
| Normal inspection (routine inspection) with acceptance                                                | F01                                                                                                        |                       | ✓                               | ✓     | ✓     |
| Visual acceptance and report handover with acceptance                                                 | F03                                                                                                        |                       | ✓                               | ✓     | ✓     |
| Temperature-rise test, without acceptance                                                             | F04                                                                                                        |                       | ✓                               | ✓     | ✓     |
| Temperature-rise test, with acceptance                                                                | F05                                                                                                        |                       | ✓                               | ✓     | ✓     |
| Noise measurement in no-load operation, no noise analysis, no acceptance                              | F28                                                                                                        |                       | ✓                               | ✓     | ✓     |
| Noise measurement in no-load operation, no noise analysis, with acceptance                            | F29                                                                                                        |                       | ✓                               | ✓     | ✓     |
| Noise measurement in no-load operation, with noise analysis, without acceptance                       | F62                                                                                                        |                       | ✓                               | ✓     | ✓     |
| Noise measurement in no-load operation, with noise analysis, with acceptance                          | F63                                                                                                        |                       | ✓                               | ✓     | ✓     |
| Recording of current and torque curves with torque metering shaft during starting, without acceptance | F34                                                                                                        |                       | –                               | –     | –     |
| Recording of current and torque curves with torque metering shaft during starting, with acceptance    | F35                                                                                                        |                       | –                               | –     | –     |
| Measurement of locked-rotor torque and current, without acceptance                                    | F52                                                                                                        |                       | –                               | –     | –     |
| Measurement of locked-rotor torque and current, with acceptance                                       | F53                                                                                                        |                       | –                               | –     | –     |
| Type test with heat run for horizontal motors, without acceptance                                     | F82                                                                                                        |                       | ✓                               | ✓     | ✓     |
| Type test with heat run for horizontal motors, with acceptance                                        | F83                                                                                                        |                       | ✓                               | ✓     | ✓     |
| Type test with heat run for vertical motors, without acceptance                                       | F92                                                                                                        |                       | ✓                               | ✓     | ✓     |
| Type test with heat run for vertical motors, with acceptance                                          | F93                                                                                                        |                       | ✓                               | ✓     | ✓     |

- 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) The standard thermistors are omitted. If PTC thermistors are required as well as KTYs or PT100s, this must be specified in the order in plain text. A combination of **A12** and **A61** or **A12** and **A23** is possible on request for an additional charge.
- 3) Only possible in combination with the larger connection boxes 1XB1 621 or 1XB1 631 (order codes **M58** or **L00**).
- 4) A combination with the order codes **M88** and **M50** is not possible. Connection box 1XP1 634 can be rotated through 4 x 90°. Cable entry is from NDE or the delivery position. Dimension drawings available on request.
- 5) With 1PQ8 357-2 and 1PQ8 357-4, connection box 1XB1 631 is supplied in the standard version.
- 6) Use according to temperature class 180 (H) is not possible. All 400 V version are available on request. Due to the rated current, a larger connection box of type 1XB9 600, which is part of order code **C14**, is generally provided for frame sizes 400 (2- and 4-pole) and 450 (all no. of poles).
- 7) Only possible for main motor – Not possible for separately driven fan.
- 8) Site altitude up to 1000 m above sea level.
- 9) Only possible for main motor – Not possible for separately driven fan motor.
- 10) Explosion-protected encoders are available on request.
- 11) Only admissible for use in accordance with temperature class 130 (B). PTC thermistors for temperature class 130 (B) are included. For compliance with temperature class 130 (B), derating is necessary in the case of converter-fed operation in Zones 2 and 22. Derating data are available on request.
- 12) These motors do not have a rated voltage range stamped on the rating plate.
- 13) In the order, the "Speed range and torque characteristic" must be specified in plain text. A system test is necessary for *M* = constant.
- 14) Not possible for 2-pole motors and motors of vertical type of construction.
- 15) When ordering, specify in plain text: Voltage, frequency and circuit.
- 16) Type testing is also performed for converter-fed operation.
- 17) Only possible in combination with the stainless steel auxiliary connection box (order code **M51**).
- 18) Only possible for 4 and 6-pole 1LA8 or 1PQ8 motors with frame size 315 or 355 in versions IM V1 or IM B35.

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

| Special versions                                                                                                                                           | Additional<br>identification<br>code<br><b>-Z</b> with<br>order<br>code and<br>plain text if<br>required | Motor type frame size |       |                     |       |       |       |       |                         |       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------|-------|---------------------|-------|-------|-------|-------|-------------------------|-------|
|                                                                                                                                                            |                                                                                                          | 315                   | 355   | 400                 | 450   | 315   | 355   | 400   | 450                     |       |
| Self-ventilated motors with through ventilation for mains-fed and converter-fed operation                                                                  |                                                                                                          |                       |       |                     |       |       |       |       |                         |       |
|                                                                                                                                                            |                                                                                                          |                       | 1LL8  | Mains-fed operation |       |       |       | 1LL8  | Converter-fed operation |       |
| Standardline                                                                                                                                               |                                                                                                          |                       |       |                     |       |       |       |       |                         |       |
| Standardline version                                                                                                                                       | B20                                                                                                      |                       | –     | –                   | –     | –     | –     | –     | –                       | –     |
| Motor protection                                                                                                                                           |                                                                                                          |                       |       |                     |       |       |       |       |                         |       |
| Motor protection with PTC thermistors with 6 embedded temperature sensors for alarm and tripping <sup>1)</sup>                                             | A12                                                                                                      |                       | □     | □                   | □     | □     | □     | □     | □                       | □     |
| Motor temperature detection with embedded temperature sensor KTY 84-130 <sup>2)</sup>                                                                      | A23                                                                                                      |                       | ○     | ○                   | ○     | ○     | ○     | ○     | ○                       | ○     |
| Installation of 6 PT 100 resistance thermometers in stator winding <sup>2)</sup>                                                                           | A61                                                                                                      |                       | ✓     | ✓                   | ✓     | ✓     | ✓     | ✓     | ✓                       | ✓     |
| Installation of 6 resistance thermometers PT100 in stator winding, 3-wire input from auxiliary terminal box (order code M50 or M88)                        | A64                                                                                                      | New!                  | ✓     | ✓                   | ✓     | ✓     | ✓     | ✓     | ✓                       | ✓     |
| Installation of 2 PT 100 screw-in resistance thermometers (basic circuit) for rolling-contact bearings                                                     | A72                                                                                                      |                       | ✓     | ✓                   | ✓     | ✓     | ✓     | ✓     | ✓                       | ✓     |
| Installation of 2 screw-in resistance thermometers PT100 for rolling-contact bearings, in 3-wire input from auxiliary terminal box (order code M50 or M88) | A78                                                                                                      | New!                  | ✓     | ✓                   | ✓     | ✓     | ✓     | ✓     | ✓                       | ✓     |
| 6x PT100 Smart transmitter – 40 to +140 °C Rosemount <sup>8)</sup>                                                                                         | M62                                                                                                      | New!                  | ✓     | ✓                   | ✓     | ✓     | ✓     | ✓     | ✓                       | ✓     |
| Motor connection and connection box                                                                                                                        |                                                                                                          |                       |       |                     |       |       |       |       |                         |       |
| Two-part plate on connection box                                                                                                                           | K06                                                                                                      |                       | ✓     | ✓                   | ✓     | ✓     | O. R. | O. R. | O. R.                   | O. R. |
| Undrilled entry plate                                                                                                                                      | L01                                                                                                      |                       | ○     | ○                   | ○     | ○     | ○     | ○     | ○                       | ○     |
| Connection box on RHS                                                                                                                                      | K09                                                                                                      |                       | □     | □                   | □     | □     | □     | □     | □                       | □     |
| Connection box on LHS                                                                                                                                      | K10                                                                                                      |                       | ○     | ○                   | ○     | ○     | ○     | ○     | ○                       | ○     |
| Connection box above (1XB1 634 connection box) <sup>3)</sup>                                                                                               | K11                                                                                                      |                       | ✓     | ✓                   | ✓     | ✓     | ✓     | ✓     | ✓                       | ✓     |
| Cable gland, maximum configuration                                                                                                                         | K57                                                                                                      |                       | ✓     | ✓                   | ✓     | ✓     | ✓     | ✓     | ✓                       | ✓     |
| 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                                                                                                      |                       | ○     | ○                   | ○     | ○     | ○     | ○     | ○                       | ○     |
| Larger connection box (1XB1 621 connection box)                                                                                                            | M58                                                                                                      |                       | ✓     | –                   | –     | –     | □     | –     | –                       | –     |
| Larger connection box (1XB1 631 connection box)                                                                                                            | L00                                                                                                      |                       | ✓     | □                   | □     | □     | ✓     | □     | □                       | □     |
| 6 cables protruding, 1.5 m long                                                                                                                            | L48                                                                                                      |                       | O. R. | O. R.               | O. R. | O. R. | O. R. | O. R. | O. R.                   | O. R. |
| 6 cables protruding, 3 m long                                                                                                                              | L49                                                                                                      |                       | O. R. | O. R.               | O. R. | O. R. | O. R. | O. R. | O. R.                   | O. R. |
| Auxiliary connection box 1XB9 016 (cast-iron)                                                                                                              | M50                                                                                                      |                       | ✓     | ✓                   | ✓     | ✓     | ✓     | ✓     | ✓                       | ✓     |
| Auxiliary connection box 1XB9 015 (stainless steel)                                                                                                        | M51                                                                                                      | New!                  | ✓     | ✓                   | ✓     | ✓     | ✓     | ✓     | ✓                       | ✓     |
| Auxiliary connection box 1XB3 020                                                                                                                          | L97                                                                                                      |                       | ✓     | ✓                   | ✓     | ✓     | ✓     | ✓     | ✓                       | ✓     |
| Auxiliary connection box 1XB9 014 (aluminum)                                                                                                               | M88                                                                                                      |                       | ✓     | ✓                   | ✓     | ✓     | ✓     | ✓     | ✓                       | ✓     |
| Connection box on NDE                                                                                                                                      | M64                                                                                                      |                       | ✓     | ✓                   | ✓     | ✓     | ✓     | ✓     | ✓                       | ✓     |

| Special versions                                                                                                                    | Additional identification code<br><b>-Z</b> with order code and plain text if required | Motor type frame size |                             |       |       |       |                                 |       |       |       |
|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------|-----------------------------|-------|-------|-------|---------------------------------|-------|-------|-------|
|                                                                                                                                     |                                                                                        | 315                   | 355                         | 400   | 450   | 315   | 355                             | 400   | 450   |       |
| Self-ventilated motors with through ventilation for mains-fed and converter-fed operation                                           |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
|                                                                                                                                     |                                                                                        |                       | 1LL8<br>Mains-fed operation |       |       |       | 1LL8<br>Converter-fed operation |       |       |       |
| Windings and insulation                                                                                                             |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| Temperature class 155 (F), used acc. to 155 (F), with service factor (SF 1.1, SF 1.05 from frame size 400) <sup>4)</sup>            | C11                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | –                               | –     | –     | –     |
| Temperature class 155 (F), used acc. to 155 (F), with increased output (10 %, 5 % from frame size 400) <sup>4)</sup>                | C12                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | –                               | –     | –     | –     |
| Temperature class 155 (F), used acc. to 155 (F), with increased coolant temperature (55 °C, 50°C from frame size 400) <sup>4)</sup> | C13                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | –                               | –     | –     | –     |
| Temperature class 180 (H), used acc. to 155 (F), with service factor (SF 1.1) <sup>4)</sup>                                         | C14                                                                                    |                       | O. R.                       | O. R. | O. R. | O. R. | O. R.                           | O. R. | O. R. | O. R. |
| Colors and paint finish                                                                                                             |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| Standard finish in RAL 7030 stone gray                                                                                              |                                                                                        |                       | □                           | □     | □     | □     | □                               | □     | □     | □     |
| Standard paint finish in other colors                                                                                               | Y53 • and standard finish RAL ....                                                     |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Special finish in RAL 7030 stone gray                                                                                               | K26                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Special finish in other colors                                                                                                      | Y54 • and special finish RAL ....                                                      |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Unpainted (only cast iron parts primed)                                                                                             | K23                                                                                    |                       | ○                           | ○     | ○     | ○     | ○                               | ○     | ○     | ○     |
| Special technology                                                                                                                  |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| Mounting of brake (incl. brake of Stromag)                                                                                          | H47                                                                                    |                       | –                           | –     | –     | –     | –                               | –     | –     | –     |
| Mounting of LL 861 900 220 rotary pulse encoder                                                                                     | H70                                                                                    |                       | –                           | –     | –     | –     | ✓                               | ✓     | ✓     | ✓     |
| Mounting of HOG 10 D 1024 I rotary pulse encoder                                                                                    | H73                                                                                    |                       | –                           | –     | –     | –     | ✓                               | ✓     | ✓     | ✓     |
| Prepared for mounting LL 861 900 220                                                                                                | H78                                                                                    |                       | –                           | –     | –     | –     | ✓                               | ✓     | ✓     | ✓     |
| Prepared for mounting HOG 10 D 1024 I                                                                                               | H80                                                                                    |                       | –                           | –     | –     | –     | ✓                               | ✓     | ✓     | ✓     |
| Mounting a special type of rotary pulse encoder                                                                                     | Y70 • and encoder designation                                                          |                       | –                           | –     | –     | –     | O. R.                           | O. R. | O. R. | O. R. |
| Mechanical design and degrees of protection                                                                                         |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| 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                                                                                    |                       | ✓                           | ○     | ○     | ○     | ✓                               | ○     | ○     | ○     |
| IP56 degree of protection (non-heavy-sea)                                                                                           | K52                                                                                    |                       | –                           | –     | –     | –     | –                               | –     | –     | –     |
| Non-rusting screws (externally)                                                                                                     | M27                                                                                    |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     | ✓     |
| Coolant temperature and site altitude                                                                                               |                                                                                        |                       |                             |       |       |       |                                 |       |       |       |
| Coolant temperature –40 to +40 °C                                                                                                   | D03                                                                                    |                       | –                           | –     | –     | –     | –                               | –     | –     | –     |
| Coolant temperature –30 to +40 °C                                                                                                   | D04                                                                                    |                       | –                           | –     | –     | –     | –                               | –     | –     | –     |
| Coolant temperature 45 °C, derating 4 % <sup>5)</sup>                                                                               | D11                                                                                    |                       | ○                           | ○     | ○     | ○     | ○                               | ○     | ○     | ○     |
| Coolant temperature 50 °C, derating 8 % <sup>5)</sup>                                                                               | D12                                                                                    |                       | ○                           | ○     | ○     | ○     | ○                               | ○     | ○     | ○     |
| Coolant temperature 55 °C, derating 13 % <sup>5)</sup>                                                                              | D13                                                                                    |                       | ○                           | ○     | ○     | ○     | ○                               | ○     | ○     | ○     |
| Coolant temperature 60 °C, derating 18 % <sup>5)</sup>                                                                              | D14                                                                                    |                       | ○                           | ○     | ○     | ○     | ○                               | ○     | ○     | ○     |

| Special versions                                                                             | Additional<br>identifica-<br>tion code<br><b>-Z</b> with<br>order<br>code and<br>plain text if<br>required | Motor type frame size |                             |       |       |       |                                 |       |       |
|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------|-------|-------|-------|---------------------------------|-------|-------|
|                                                                                              |                                                                                                            | 315                   | 355                         | 400   | 450   | 315   | 355                             | 400   | 450   |
| Self-ventilated motors with through ventilation for mains-fed and converter-fed operation    |                                                                                                            |                       |                             |       |       |       |                                 |       |       |
|                                                                                              |                                                                                                            |                       | 1LL8<br>Mains-fed operation |       |       |       | 1LL8<br>Converter-fed operation |       |       |
| Design in accordance with standards and specifications                                       |                                                                                                            |                       |                             |       |       |       |                                 |       |       |
| Electrical according to NEMA MG1-12                                                          | D30                                                                                                        |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Design according to UL with<br>"Recognition Mark"                                            | D31                                                                                                        |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| VIK version                                                                                  | K30                                                                                                        |                       | –                           | –     | –     | –     | –                               | –     | –     |
| Canadian regulations (CSA)                                                                   | D40                                                                                                        |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Designs for Zones 2 and 22 according to ATEX                                                 |                                                                                                            |                       |                             |       |       |       |                                 |       |       |
| Design for Zone 2 for mains-fed<br>operation Ex nA II T3<br>to IEC/EN 60079-15               | M72                                                                                                        |                       | –                           | –     | –     | –     | –                               | –     | –     |
| Design for Zone 2 for converter-fed<br>operation, derating Ex nA II T3<br>to IEC/EN 60079-15 | M73                                                                                                        |                       | –                           | –     | –     | –     | –                               | –     | –     |
| Design for Zone 22 for non-conduct-<br>ing dust (IP55) for mains-fed<br>operation            | M35                                                                                                        |                       | –                           | –     | –     | –     | –                               | –     | –     |
| Design for Zone 22 for non-conduct-<br>ing dust (IP55) for converter-fed<br>operation        | M39                                                                                                        |                       | –                           | –     | –     | –     | –                               | –     | –     |
| Stamping of Ex nA II on VIK rating<br>plate                                                  | C27                                                                                                        |                       | –                           | –     | –     | –     | –                               | –     | –     |
| Bearings and lubrication                                                                     |                                                                                                            |                       |                             |       |       |       |                                 |       |       |
| Measuring nipple for SPM shock<br>pulse measurement for bearing<br>inspection                | G50                                                                                                        |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Bearing design for increased<br>cantilever forces                                            | K20                                                                                                        |                       | –                           | –     | –     | –     | –                               | –     | –     |
| Balance and vibration quantity                                                               |                                                                                                            |                       |                             |       |       |       |                                 |       |       |
| Vibration quantity level B                                                                   | K02                                                                                                        |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Full key balancing                                                                           | L68                                                                                                        |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Shaft and rotor                                                                              |                                                                                                            |                       |                             |       |       |       |                                 |       |       |
| Second standard shaft<br>extension <sup>6)</sup>                                             | K16                                                                                                        |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Shaft extension with standard<br>dimensions, without featherkey way                          | K42                                                                                                        |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Non-standard cylindrical shaft<br>extension                                                  | Y55 • and<br>identifica-<br>tion code                                                                      |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Heating and ventilation                                                                      |                                                                                                            |                       |                             |       |       |       |                                 |       |       |
| Metal external fan                                                                           | K35                                                                                                        |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Anti-condensation heaters for 230 V                                                          | K45                                                                                                        |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Anti-condensation heaters for 115 V                                                          | K46                                                                                                        |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Sheet metal fan cover                                                                        | L36                                                                                                        |                       | □                           | □     | □     | □     | □                               | □     | □     |
| Rating plate and extra rating plates                                                         |                                                                                                            |                       |                             |       |       |       |                                 |       |       |
| Second rating plate, loose                                                                   | K31                                                                                                        |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Extra rating plate or rating plate<br>with deviating rating plate data                       | Y80 • and<br>identifica-<br>tion code                                                                      |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Extra rating plate with identification<br>code                                               | Y82 • and<br>identifica-<br>tion code                                                                      |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Packaging, safety notes, documentation and test certificates <sup>7)</sup>                   |                                                                                                            |                       |                             |       |       |       |                                 |       |       |
| Document – Electrical data sheet                                                             | B31                                                                                                        |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Document – Order dimension drawing                                                           | B32                                                                                                        |                       | ✓                           | ✓     | ✓     | ✓     | ✓                               | ✓     | ✓     |
| Document – Load characteristics                                                              | B37                                                                                                        |                       | O. R.                       | O. R. | O. R. | O. R. | O. R.                           | O. R. | O. R. |

| Special versions                                                                                      | Additional<br>identification<br>code<br><b>-Z</b> with<br>order<br>code and<br>plain text if<br>required | Motor type frame size |                             |     |     |     |     |                                 |     |
|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------|-----|-----|-----|-----|---------------------------------|-----|
|                                                                                                       |                                                                                                          | 315                   | 355                         | 400 | 450 | 315 | 355 | 400                             | 450 |
| Self-ventilated motors with through ventilation for mains-fed and converter-fed operation             |                                                                                                          |                       |                             |     |     |     |     |                                 |     |
|                                                                                                       |                                                                                                          |                       | 1LL8<br>Mains-fed operation |     |     |     |     | 1LL8<br>Converter-fed operation |     |
| Packaging, safety notes, documentation and test certificates <sup>7)</sup> (continued)                |                                                                                                          |                       |                             |     |     |     |     |                                 |     |
| Standard test (routine test) with acceptance                                                          | F01                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | ✓   | ✓                               | ✓   |
| Visual acceptance and report handover with acceptance                                                 | F03                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | ✓   | ✓                               | ✓   |
| Temperature-rise test, without acceptance                                                             | F04                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | ✓   | ✓                               | ✓   |
| Temperature-rise test, with acceptance                                                                | F05                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | ✓   | ✓                               | ✓   |
| Noise measurement in no-load operation, no noise analysis, no acceptance                              | F28                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | ✓   | ✓                               | ✓   |
| Noise measurement in no-load operation, no noise analysis, with acceptance                            | F29                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | ✓   | ✓                               | ✓   |
| Noise measurement in no-load operation, with noise analysis, without acceptance                       | F62                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | ✓   | ✓                               | ✓   |
| Noise measurement in no-load operation, with noise analysis, with acceptance                          | F63                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | ✓   | ✓                               | ✓   |
| Recording of current and torque curves with torque metering shaft during starting, without acceptance | F34                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | –   | –                               | –   |
| Recording of current and torque curves with torque metering shaft during starting, with acceptance    | F35                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | –   | –                               | –   |
| Measurement of locked-rotor torque and current, without acceptance                                    | F52                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | –   | –                               | –   |
| Measurement of locked-rotor torque and current, with acceptance                                       | F53                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | –   | –                               | –   |
| Type test with heat run for horizontal motors, without acceptance                                     | F82                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | ✓   | ✓                               | ✓   |
| Type test with heat run for horizontal motors, with acceptance                                        | F83                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | ✓   | ✓                               | ✓   |
| Type test with heat run for vertical motors, without acceptance                                       | F92                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | ✓   | ✓                               | ✓   |
| Type test with heat run for vertical motors, with acceptance                                          | F93                                                                                                      |                       | ✓                           | ✓   | ✓   | ✓   | ✓   | ✓                               | ✓   |

- 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) The standard thermistors are omitted. If PTC thermistors are required as well as KTYs or PT100s, this must be specified in the order in plain text. A combination of **A12** and **A61** or **A12** and **A23** is possible on request for an additional charge.

3) A combination with the order codes **M88** and **M50** is not possible. Connection box 1XP1 634 can be rotated through 4 x 90°. Cable entry is from NDE or the delivery position. Dimension drawings available on request.

4) Use according to temperature class 180 (H) is not possible. All 400 V version are available on request. Due to the rated current, a larger connection box of type 1XB9 600, which is part of order code **C14**, is generally provided for frame sizes 400 (2- and 4-pole) and 450 (all no. of poles).

5) Site altitude 1000 m above sea level

6) Please inquire in the case of 2-pole motors and motors in vertical type of construction.

7) Type testing is also performed for converter-fed operation.

8) Only possible in combination with the stainless steel auxiliary connection box (order code **M51**).