

# Data sheet for three-phase Squirrel-Cage-Motors SIMOTICS



Motor type : 1CV2220B

SIMOTICS SD - 225 S - IM B3 - 4p

|                  |                 |           |
|------------------|-----------------|-----------|
| Client order no. | Item-No.        | Offer no. |
| Order no.        | Consignment no. | Project   |

Remarks

## Electrical data

## Safe Area

| U<br>[V]        | $\Delta / Y$ | f<br>[Hz] | P<br>[kW] | P<br>[hp] | I<br>[A] | n<br>[1/min] | M<br>[Nm] | $\eta$ <sup>3)</sup> |      |                        | $\cos\phi$ <sup>3)</sup> |      |      | $I_A/I_N$ | $M_A/M_N$ | $M_K/M_N$ | IE-CL |
|-----------------|--------------|-----------|-----------|-----------|----------|--------------|-----------|----------------------|------|------------------------|--------------------------|------|------|-----------|-----------|-----------|-------|
|                 |              |           |           |           |          |              |           | 4/4                  | 3/4  | 2/4                    | 4/4                      | 3/4  | 2/4  | $I_i/I_N$ | $T_i/T_N$ | $T_B/T_N$ |       |
| 400             | $\Delta$     | 50        | 37.00     | -/-       | 65.00    | 1470         | 240.0     | 92.7                 | 93.5 | 93.5                   | 0.88                     | 0.85 | 0.78 | 6.6       | 2.3       | 2.9       | IE2   |
| 690             | Y            | 50        | 37.00     | -/-       | 38.00    | 1470         | 240.0     | 92.7                 | 93.5 | 93.5                   | 0.88                     | 0.85 | 0.78 | 6.6       | 2.3       | 2.9       | IE2   |
| 460             | $\Delta$     | 60        | 42.50     | -/-       | 65.00    | 1770         | 230.0     | 93.6                 | 94.2 | 94.0                   | 0.88                     | 0.86 | 0.79 | 6.6       | 2.3       | 2.9       | IE2   |
| 460             | $\Delta$     | 60        | 37.00     | -/-       | 57.00    | 1778         | 199.0     | 93.0                 | 93.2 | 92.5                   | 0.87                     | 0.84 | 0.76 | 7.2       | 2.7       | 3.3       | IE2   |
| IM B3 / IM 1001 |              | FS 225 S  |           | 280 kg    |          | IP55         |           | IEC/EN 60034         |      | IEC, DIN, ISO, VDE, EN |                          |      |      |           |           |           |       |

Environmental conditions : -20 °C - +40 °C / 1,000 m

Locked rotor time (hot / cold) : 16.2 s | 29.2 s

## Mechanical data

|                                                                                     |                                 |                                 |                            |                                                    |
|-------------------------------------------------------------------------------------|---------------------------------|---------------------------------|----------------------------|----------------------------------------------------|
| Sound level (SPL / SWL) at 50Hz 60Hz                                                | 66.0 / 79.0 dB(A) <sup>2)</sup> | 69.0 / 82.0 dB(A) <sup>2)</sup> | External earthing terminal | Yes (standard)                                     |
| Moment of inertia                                                                   | 0.4200 kg m <sup>2</sup>        |                                 | Vibration severity grade   | A                                                  |
| Bearing DE   NDE                                                                    | 6213 Z C3                       | 6213 Z C3                       | Insulation                 | 155(F) to 130(B)                                   |
| <b>bearing lifetime</b>                                                             |                                 |                                 | Duty type                  | S1                                                 |
| L <sub>10mh</sub> F <sub>Rad min</sub> 50 60Hz <sup>1)</sup> for coupling operation | 40000 h                         | 32000 h                         | Direction of rotation      | bidirectional                                      |
| Lubricants                                                                          | Unirex N3                       |                                 | Frame material             | cast iron                                          |
| Regreasing device                                                                   | No                              |                                 | Coating (paint finish)     | No paint finish (cast iron parts primed)           |
| Grease nipple                                                                       | -/-                             |                                 | Color, paint shade         | RAL7030                                            |
| Type of bearing                                                                     | Locating bearing NDE            |                                 | Motor protection           | (B) 3 PTC thermistors - for tripping (2 terminals) |
| Condensate drainage holes                                                           | Yes (standard)                  |                                 | Method of cooling          | IC411 - self ventilated, surface cooled            |

## Terminal box

|                          |           |                                |                      |
|--------------------------|-----------|--------------------------------|----------------------|
| Terminal box position    | top       | Max. cross-sectional area      | 35.0 mm <sup>2</sup> |
| Material of terminal box | cast iron | Cable diameter from ... to ... | 27.0 mm - 35.0 mm    |
| Type of terminal box     | TB1 L01   | Cable entry                    | 2xM50x1,5-2xM20x1,5  |
| Contact screw thread     | M8        | Cable gland                    | 4 plugs              |

## Notes:

$I_A/I_N$  = locked rotor current / current nominal  
 $M_A/M_N$  = locked rotor torque / torque nominal  
 $M_K/M_N$  = break down torque / nominal torque

1) L10mh according to DIN ISO 281 10/2010  
2) at rated power / at full load

3) Value is valid only for DOL operation with motor design IC411

|                                                                                    |                                                      |                               |             |            |                                                                                                              |  |                |             |
|------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------|-------------|------------|--------------------------------------------------------------------------------------------------------------|--|----------------|-------------|
| responsible dep.<br>DI MC LVM                                                      | technical reference                                  | created by<br>DT Configurator | approved by |            | Technical data are subject to change! There may be discrepancies between calculated and rating plate values. |  |                |             |
|  | document type<br>datasheet                           |                               |             |            | document status<br>released                                                                                  |  | customer       |             |
|                                                                                    | title<br>1LE1501-2BB03-4AB4-Z<br>F74+M11+Q60+Q72+S00 |                               |             |            | document number                                                                                              |  |                |             |
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### Special design

|     |                                                                          |     |                                                                                   |
|-----|--------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------|
| F74 | Sheet steel fan cowl                                                     | Q72 | 2 Pt100 resistance thermometers in basic configuration for bearings (4 terminals) |
| M11 | Stainless steel rating plate                                             | S00 | No paint finish, only GG parts primed                                             |
| Q60 | 3 PT100 resistance thermometers in stator winding - 2 wire (6 terminals) |     |                                                                                   |

### Notes:

|                                                                                    |                               |                               |                                   |  |                                                                                                              |             |  |  |
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