

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



Motor type : 1AV4112A

SIMOTICS GP - 112 M - IM B5 - 2p

|                  |                 |           |
|------------------|-----------------|-----------|
| 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> |      |      | $I_A/I_N$<br>$I_i/I_N$ | $M_A/M_N$<br>$T_i/T_N$ | $M_K/M_N$<br>$T_B/T_N$ | IE-CL |
|--|--------------|-----------|-----------|-----------|----------|--------------|-----------|------------------------|--|------|--------------------------|------|------|------------------------|------------------------|------------------------|-------|
|  |              |           |           |           |          |              |           | 4/4                    | 3/4  | 2/4  | 4/4                      | 3/4  | 2/4  |                        |                        |                        |       |
| <b>DOL duty (S1) - 155(F) to 130(B)</b>              |              |           |           |           |          |              |           |                        |  |      |                          |      |      |                        |                        |                        |       |
| 415  | $\Delta$     | 50        | 4.00      | -/-       | 6.90     | 2950         | 12.9      | 90.0                   | 90.4   | 89.7 | 0.89                     | 0.86 | 0.79 | 8.8                    | 2.6                    | 4.1                    | IE4   |
| 480  | $\Delta$     | 60        | 4.55      | -/-       | 6.80     | 3545         | 12.3      | 89.5                   | 89.6   | 88.4 | 0.90                     | 0.87 | 0.81 | 9.1                    | 2.6                    | 4.2                    | IE4   |
| 480  | $\Delta$     | 60        | 3.70      | -/-       | 5.70     | 3560         | 9.9       | 89.5                   | 89.1   | 87.2 | 0.88                     | 0.84 | 0.76 | 11.0                   | 3.3                    | 5.1                    | IE4   |
| IM B5 / IM 3001                                      |              | FS 112 M  |           | IP55      |          | IEC/EN 60034 |           | IEC, DIN, ISO, VDE, EN |  |      |                          |      |      |                        |                        |                        |       |
| Environmental conditions : -20 °C - +40 °C / 1,000 m |              |           |           |           |          |              |           |                        | Locked rotor time (hot / cold) : 12.6 s   16.7 s |      |                          |      |      |                        |                        |                        |       |

## Mechanical data

|  |                             |                             |                                 |   |
|--|-----------------------------|-----------------------------|---------------------------------|---|
| Sound level (SPL / SWL) at 50Hz 60Hz                                 | 69 / 81 dB(A) <sup>2)</sup> | 73 / 85 dB(A) <sup>2)</sup> | Vibration severity grade        | A                                       |
| Moment of inertia  | 0.0120 kg m <sup>2</sup>    |                             | Thermal class                   | F                                       |
| Bearing DE   NDE   | 6206 2Z C3                  | 6206 2Z C3                  | Duty type                       | S1                                      |
| <b>bearing lifetime</b>  |                             |                             | Direction of rotation           | bidirectional                           |
| $L_{10mh}$ , $F_{Rad}$ , $m_{min}$ for coupling operation<br>50 60Hz | 40000 h                     | 32000 h                     | Frame material                  | aluminum                                |
| Lubricants   | Unirex N3                   |                             | Net weight of the motor (IM B3) | 34 kg                                   |
| Regreasing device  | No                          |                             | Coating (paint finish)          | Standard paint finish C2                |
| Grease nipple  | -/-                         |                             | Color, paint shade              | RAL7030                                 |
| Type of bearing  | Preloaded bearing DE        |                             | Motor protection                | (A) without (Standard)                  |
| Condensate drainage holes  | No                          |                             | Method of cooling               | IC411 - self ventilated, surface cooled |
| External earthing terminal   | No                          |                             |                                 |   |

## Terminal box

|                          |           |                                |                   |
|--------------------------|-----------|--------------------------------|-------------------|
| Terminal box position    | top       | Max. cross-sectional area      | 4 mm <sup>2</sup> |
| Material of terminal box | Aluminium | Cable diameter from ... to ... | 11 mm - 21 mm     |
| Type of terminal box     | TB1 F00   | Cable entry                    | 2xM32x1,5         |
| Contact screw thread     | M4        | Cable gland                    | 2 plugs           |

### Notes:

$I_A/I_N$  = locked rotor current / current nominal  
 $M_K/M_N$  = locked rotor torque / torque nominal  
 $M_B/M_N$  = 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                 | <i>Technical data are subject to change! There may be discrepancies between calculated and rating plate values.</i> | <a href="#">Link documents</a> |                |
|                               | document type<br>datasheet  | document status<br>released   |                             |   | document number                |                |
|                               | title<br>1LE1004-1BA23-5FA4 | rev.<br>01                    | creation date<br>2022-03-21 |   |                                | language<br>en |
| © Siemens AG 2022             |                             |                               |                             |   |                                |                |