

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



Motor type : 1AV2112B

SIMOTICS GP - 112 M - 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 <sub>A</sub> /I <sub>N</sub> | M <sub>A</sub> /M <sub>N</sub> | M <sub>K</sub> /M <sub>N</sub> | IE-CL |
|-----------------|--------------|-----------|-----------|-----------|----------|--------------|-----------|----------------------|------|------------------------|--------------------------|------|------|--------------------------------|--------------------------------|--------------------------------|-------|
|                 |              |           |           |           |          |              |           | 4/4                  | 3/4  | 2/4                    | 4/4                      | 3/4  | 2/4  | I <sub>I</sub> /I <sub>N</sub> | T <sub>I</sub> /T <sub>N</sub> | T <sub>B</sub> /T <sub>N</sub> |       |
| 415             | $\Delta$     | 50        | 4.00      | -/-       | 7.90     | 1460         | 26.0      | 86.6                 | 87.3 | 86.4                   | 0.81                     | 0.74 | 0.61 | 7.1                            | 2.5                            | 3.2                            | IE2   |
| 480             | $\Delta$     | 60        | 4.55      | -/-       | 7.60     | 1760         | 24.5      | 87.5                 | 88.0 | 86.9                   | 0.82                     | 0.76 | 0.63 | 7.5                            | 2.4                            | 3.2                            | IE2   |
| 480             | $\Delta$     | 60        | 3.70      | -/-       | 6.60     | 1770         | 20.0      | 87.5                 | 87.2 | 85.1                   | 0.77                     | 0.69 | 0.56 | 8.7                            | 3.0                            | 4.0                            | IE2   |
| IM B3 / IM 1001 |              | FS 112 M  |           | 29 kg     |          | IP55         |           | IEC/EN 60034         |      | IEC, DIN, ISO, VDE, EN |                          |      |      |                                |                                |                                |       |

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

Locked rotor time (hot / cold) : 8.85 s | 14.5 s

## Mechanical data

|                                                                                     |                                 |                                 |                            |                                         |
|-------------------------------------------------------------------------------------|---------------------------------|---------------------------------|----------------------------|-----------------------------------------|
| Sound level (SPL / SWL) at 50Hz 60Hz                                                | 58.0 / 70.0 dB(A) <sup>2)</sup> | 62.0 / 74.0 dB(A) <sup>2)</sup> | External earthing terminal | No                                      |
| Moment of inertia                                                                   | 0.0140 kg m <sup>2</sup>        |                                 | Vibration severity grade   | A                                       |
| Bearing DE   NDE                                                                    | 6206 2Z C3                      | 6206 2Z 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             | aluminum                                |
| 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                                                           | Yes (standard)                  |                                 | Method of cooling          | IC411 - self ventilated, surface cooled |

## Terminal box

|                          |           |                                |                     |
|--------------------------|-----------|--------------------------------|---------------------|
| Terminal box position    | top       | Max. cross-sectional area      | 4.0 mm <sup>2</sup> |
| Material of terminal box | Aluminium | Cable diameter from ... to ... | 11.0 mm - 21.0 mm   |
| Type of terminal box     | TB1 F00   | Cable entry                    | 2xM32x1,5           |
| Contact screw thread     | M4        | Cable gland                    | 2 plugs             |

## Notes:

I<sub>A</sub>/I<sub>N</sub> = locked rotor current / current nominal  
M<sub>K</sub>/M<sub>N</sub> = locked rotor torque / torque nominal  
M<sub>K</sub>/M<sub>N</sub> = 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>1LE1001-1BB23-5AA4-Z |                               |             | document number                   |                                                                                                              |                |             |  |
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### Special design

N30 Increased air humidity/temperature with 30 to 60 g water per m3 air

### Notes:

|                                                                                    |                               |                               |                                   |  |                                                                                                              |             |  |  |
|------------------------------------------------------------------------------------|-------------------------------|-------------------------------|-----------------------------------|--|--------------------------------------------------------------------------------------------------------------|-------------|--|--|
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