

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



Motor type : 1AV3104B

SIMOTICS GP - 100 L - IM B5 - 4p

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

Remarks

## Electrical data

## Safe Area

| U                                                    | Δ / Y | f        | P    | P    | I    | n       | M    | η <sup>3)</sup> |                                                |      | cosφ <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 |
|------------------------------------------------------|-------|----------|------|------|------|---------|------|-----------------|------------------------------------------------|------|------------------------|------|------|--------------------------------|--------------------------------|--------------------------------|-------|
| [V]                                                  |       | [Hz]     | [kW] | [hp] | [A]  | [1/min] | [Nm] | 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> |       |
| DOL duty (S1) - 155(F) to 130(B)                     |       |          |      |      |      |         |      |                 |                                                |      |                        |      |      |                                |                                |                                |       |
| 240                                                  | Δ     | 50       | 2.20 | -/-  | 7.40 | 1455    | 14.4 | 86.7            | 87.2                                           | 86.3 | 0.82                   | 0.76 | 0.64 | 8.3                            | 3.0                            | 3.8                            | IE3   |
| 415                                                  | Y     | 50       | 2.20 | -/-  | 4.30 | 1455    | 14.4 | 86.7            | 87.2                                           | 86.3 | 0.82                   | 0.76 | 0.64 | 8.3                            | 3.0                            | 3.8                            | IE3   |
| 480                                                  | Y     | 60       | 2.54 | -/-  | 4.10 | 1750    | 13.9 | 89.5            | 90.1                                           | 89.2 | 0.83                   | 0.77 | 0.66 | 8.8                            | 3.0                            | 3.9                            | IE3   |
| 480                                                  | Y     | 60       | 2.20 | -/-  | 3.70 | 1760    | 11.9 | 89.5            | 89.5                                           | 88.0 | 0.80                   | 0.73 | 0.61 | 9.9                            | 3.5                            | 4.6                            | IE3   |
| IM B5 / IM 3001                                      |       | FS 100 L |      |      |      | IP55    |      |                 | IEC/EN 60034                                   |      | IEC, DIN, ISO, VDE, EN |      |      |                                |                                |                                |       |
| Environmental conditions : -20 °C - +40 °C / 1,000 m |       |          |      |      |      |         |      |                 | Locked rotor time (hot / cold) : 18.9 s   23 s |      |                        |      |      |                                |                                |                                |       |

## Mechanical data

|                                                                                     |                                |                                |                                 |                                         |
|-------------------------------------------------------------------------------------|--------------------------------|--------------------------------|---------------------------------|-----------------------------------------|
| Sound level (SPL / SWL) at 50Hz 60Hz                                                | 60 / 72 dB(A) <sup>2) 3)</sup> | 62 / 74 dB(A) <sup>2) 3)</sup> | Vibration severity grade        | A                                       |
| Moment of inertia                                                                   | 0.0101 kg m <sup>2</sup>       |                                | Thermal class                   | F                                       |
| Bearing DE   NDE                                                                    | 6206 2Z C3                     | 6206 2Z C3                     | Duty type                       | S1                                      |
| bearing lifetime                                                                    |                                |                                | Direction of rotation           | bidirectional                           |
| L <sub>10mh</sub> F <sub>Rad min</sub> for coupling operation 50 60Hz <sup>1)</sup> | 40000 h                        | 32000 h                        | Frame material                  | aluminum                                |
| Lubricants                                                                          | Unirex N3                      |                                | Net weight of the motor (IM B3) | 25 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                    | 2xM32x1,5-1xM16x1,5 |
| Contact screw thread     | M4        | Cable gland                    | 3 plugs             |

## Notes:

|                                                                         |                                           |                                                                  |
|-------------------------------------------------------------------------|-------------------------------------------|------------------------------------------------------------------|
| I <sub>A</sub> /I <sub>N</sub> = locked rotor current / current nominal | 1) L10mh according to DIN ISO 281 10/2010 | 3) Value is valid only for DOL operation with motor design IC411 |
| M <sub>K</sub> /M <sub>N</sub> = locked rotor torque / torque nominal   | 2) at rated power / at full load          |                                                                  |
| M <sub>B</sub> /M <sub>N</sub> = break down torque / nominal torque     |                                           |                                                                  |

|                   |                                     |                 |               |                                                                                                              |                                |
|-------------------|-------------------------------------|-----------------|---------------|--------------------------------------------------------------------------------------------------------------|--------------------------------|
| responsible dep.  | technical reference                 | created by      | approved by   | Technical data are subject to change! There may be discrepancies between calculated and rating plate values. | <a href="#">Link documents</a> |
| DI MC LVM         |                                     | DT Configurator |               |                                                                                                              |                                |
|                   | document type                       |                 |               |                                                                                                              | document status                |
|                   | datasheet                           |                 |               |                                                                                                              | released                       |
|                   | title                               |                 |               |                                                                                                              | document number                |
|                   | 1LE1003-1AB42-3FA4-Z<br>F01+F11+Q02 |                 |               |                                                                                                              |                                |
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|                   |                                     | 01              | 2022-08-12    | en                                                                                                           | 1/2                            |



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### Special design

|     |                                          |     |                                                   |
|-----|------------------------------------------|-----|---------------------------------------------------|
| F01 | Mounting a brake                         | Q02 | Anti-condensation heating for 230 V (2 terminals) |
| F11 | Brake supply voltage, 230 V AC, 50/60 Hz |     |                                                   |

### Additional information:

#### Space heaters

Technical data: 1-phase, 230 V 25W

#### Brake:

|              |           |                    |                           |
|--------------|-----------|--------------------|---------------------------|
| Description: | BFK458-12 | Current:           | .2 A                      |
| Voltage:     | AC 230 V  | Moment of inertia: | 0.000360 kgm <sup>2</sup> |

### Notes:

|                                                                                    |                               |                               |             |                                                                                                              |                             |                                                                                       |             |
|------------------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------|--------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|-------------|
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|  | document type<br>datasheet    |                               |             | document status<br>released                                                                                  |                             |  |             |
|                                                                                    | title<br>1LE1003-1AB42-3FA4-Z |                               |             | document number                                                                                              |                             |                                                                                       |             |
| © Siemens AG 2022                                                                  | F01+F11+Q02                   |                               |             | rev.<br>01                                                                                                   | creation date<br>2022-08-12 | language<br>en                                                                        | Page<br>2/2 |