

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



Motor type : 1AV2090A

SIMOTICS GP - 90 S - IM B3 - 2p

|                  |                 |           |
|------------------|-----------------|-----------|
| 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> |       |  |
| 230                                                  | Δ     | 50   | 1.50    | -/-  | 5.50 | 2900    | 5.0  | 81.3            | 81.7                                             | 79.7         | 0.84               | 0.77                   | 0.63 | 6.9                            | 2.7                            | 3.6                            | IE2   |  |
| 400                                                  | Y     | 50   | 1.50    | -/-  | 3.15 | 2900    | 5.0  | 81.3            | 81.7                                             | 79.7         | 0.84               | 0.77                   | 0.63 | 6.9                            | 2.7                            | 3.6                            | IE2   |  |
| 460                                                  | Y     | 60   | 1.75    | -/-  | 3.10 | 3480    | 4.8  | 84.0            | 84.4                                             | 82.6         | 0.85               | 0.79                   | 0.68 | 7.4                            | 2.6                            | 3.8                            | IE2   |  |
| 460                                                  | Y     | 60   | 1.50    | -/-  | 2.75 | 3505    | 4.1  | 84.0            | 83.5                                             | 80.7         | 0.82               | 0.74                   | 0.62 | 8.5                            | 3.1                            | 4.5                            | IE2   |  |
| IM B3 / IM 1001                                      |       |      | FS 90 S |      |      |         | IP55 |                 |                                                  | IEC/EN 60034 |                    | IEC, DIN, ISO, VDE, EN |      |                                |                                |                                |       |  |
| Environmental conditions : -20 °C - +40 °C / 1,000 m |       |      |         |      |      |         |      |                 | Locked rotor time (hot / cold) : 6.55 s   10.9 s |              |                    |                        |      |                                |                                |                                |       |  |

## Mechanical data

|                                                                |                             |                             |                                 |                                         |
|----------------------------------------------------------------|-----------------------------|-----------------------------|---------------------------------|-----------------------------------------|
| Sound level (SPL / SWL) at 50Hz 60Hz                           | 65 / 77 dB(A) <sup>2)</sup> | 69 / 81 dB(A) <sup>2)</sup> | Vibration severity grade        | A                                       |
| Moment of inertia                                              | 0.0017 kg m <sup>2</sup>    |                             | Insulation                      | 155(F) to 130(B)                        |
| Bearing DE   NDE                                               | 6205 2Z C3                  | 6004 2Z C3                  | Duty type                       | S1                                      |
| bearing lifetime                                               |                             |                             | Direction of rotation           | bidirectional                           |
| L <sub>10mh</sub> , F <sub>Rad min</sub> 50 60Hz <sup>1)</sup> | 40000 h                     | 32000 h                     | Frame material                  | aluminum                                |
| Lubricants                                                     | Unirex N3                   |                             | Net weight of the motor (IM B3) | 13 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      | 1.5 mm <sup>2</sup> |
| Material of terminal box | Aluminium | Cable diameter from ... to ... | 9 mm - 17 mm        |
| Type of terminal box     | TB1 E00   | Cable entry                    | 1xM25x1,5           |
| Contact screw thread     | M4        | Cable gland                    | 1 plug              |

## 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.  | technical reference | created by      | approved by | Technical data are subject to change! There may be discrepancies between calculated and rating plate values. |                  |          |      |
| DI MC LVM         |                     | DT Configurator |             |                                                                                                              |                  |          |      |
|                   | document type       |                 |             | document status                                                                                              | customer         |          |      |
|                   | datasheet           |                 |             | released                                                                                                     |                  |          |      |
|                   | title               |                 |             | document number                                                                                              |                  |          |      |
|                   | 1LE1001-0EA02-2AA4  |                 |             |                                                                                                              |                  |          |      |
| © Siemens AG 2021 |                     |                 |             | rev.                                                                                                         | creation date    | language | Page |
|                   |                     |                 |             | 01                                                                                                           | 2021-10-16 19:24 | en       | 1/1  |