

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



Motor type : 1AV2090B

SIMOTICS GP - 90 S - IM B5 - 4p

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

Remarks

## Electrical data

## Safe Area

| U<br>[V]        | Δ / Y | f<br>[Hz] | P<br>[kW] | P<br>[hp] | I<br>[A] | n<br>[1/min] | M<br>[Nm] | 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 |
|-----------------|-------|-----------|-----------|-----------|----------|--------------|-----------|-----------------|------|------------------------|--------------------|------|------|--------------------------------|--------------------------------|--------------------------------|-------|
|                 |       |           |           |           |          |              |           | 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        | 1.10      | -/-       | 4.35     | 1425         | 7.4       | 81.4            | 81.8 | 80.0                   | 0.78               | 0.70 | 0.56 | 5.6                            | 2.3                            | 2.9                            | IE2   |
| 400             | Y     | 50        | 1.10      | -/-       | 2.50     | 1425         | 7.4       | 81.4            | 81.8 | 80.0                   | 0.78               | 0.70 | 0.56 | 5.6                            | 2.3                            | 2.9                            | IE2   |
| 460             | Y     | 60        | 1.27      | -/-       | 2.45     | 1725         | 7.0       | 84.0            | 84.7 | 83.3                   | 0.78               | 0.71 | 0.59 | 6.1                            | 2.3                            | 3.0                            | IE2   |
| 460             | Y     | 60        | 1.10      | -/-       | 2.20     | 1740         | 6.0       | 84.0            | 83.7 | 81.2                   | 0.74               | 0.65 | 0.52 | 7.0                            | 2.7                            | 3.6                            | IE2   |
| IM B5 / IM 3001 |       | FS 90 S   |           | 13 kg     |          | IP55         |           | IEC/EN 60034    |      | IEC, DIN, ISO, VDE, EN |                    |      |      |                                |                                |                                |       |

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

## Mechanical data

|                                                                                     |                                 |                                 |                            |                                         |
|-------------------------------------------------------------------------------------|---------------------------------|---------------------------------|----------------------------|-----------------------------------------|
| Sound level (SPL / SWL) at 50Hz 60Hz                                                | 56.0 / 68.0 dB(A) <sup>2)</sup> | 58.0 / 70.0 dB(A) <sup>2)</sup> | Condensate drainage holes  | No<br>-/-                               |
| Moment of inertia                                                                   | 0.0028 kg m <sup>2</sup>        |                                 | External earthing terminal | No<br>-/-                               |
| Bearing DE   NDE                                                                    | 6205 2Z C3                      | 6004 2Z C3                      | Vibration severity grade   | A                                       |
| <b>bearing lifetime</b>                                                             |                                 |                                 | Insulation                 | 155(F) to 130(B)                        |
| L <sub>10mh</sub> F <sub>Rad max</sub> acc. catalogue 50 60Hz <sup>1)</sup>         | 20000 h                         | 16000 h                         | Duty type                  | S1                                      |
| L <sub>10mh</sub> F <sub>Rad min</sub> for coupling operation 50 60Hz <sup>1)</sup> | 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)                  |
|                                                                                     |                                 |                                 | Method of cooling          | IC411 - self ventilated, surface cooled |

## Terminal box

|                           |                     |                                |                  |
|---------------------------|---------------------|--------------------------------|------------------|
| Terminal box position     | top                 | Cable diameter from ... to ... | 9.0 mm - 17.0 mm |
| Material of terminal box  | Aluminium           | Cable entry                    | 1xM25x1,5        |
| Type of terminal box      | TB1 E00             | Cable gland                    | 1 plug<br>-/-    |
| Contact screw thread      | M4                  |                                |                  |
| Max. cross-sectional area | 1.5 mm <sup>2</sup> |                                |                  |

## 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    |  |
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