

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



Motor type : 1CV4315C

SIMOTICS SD - 315 L - IM B5 - 6p

|                  |                 |           |
|------------------|-----------------|-----------|
| 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)                    |       |      |          |      |        |         |        |                 |                                                  |      |                    |      |      |                                |                                |                                |       |
| 400                                                 | Δ     | 50   | 132.00   | -/-  | 230.00 | 992     | 1270.0 | 96.0            | 96.3                                             | 96.3 | 0.87               | 0.83 | 0.74 | 8.4                            | 2.8                            | 3.5                            | IE4   |
| 690                                                 | Y     | 50   | 132.00   | -/-  | 132.00 | 992     | 1270.0 | 96.0            | 96.3                                             | 96.3 | 0.87               | 0.83 | 0.74 | 8.4                            | 2.8                            | 3.5                            | IE4   |
| 460                                                 | Δ     | 60   | 132.00   | -/-  | 200.00 | 1193    | 1060.0 | 96.2            | 96.3                                             | 96.0 | 0.86               | 0.82 | 0.72 | 9.4                            | 3.1                            | 3.9                            | IE4   |
| 460                                                 | Δ     | 60   | 158.00   | -/-  | 235.00 | 1191    | 1270.0 | 96.2            | 96.5                                             | 96.5 | 0.88               | 0.85 | 0.77 | 8.1                            | 2.6                            | 3.3                            | IE4   |
|                                                     |       |      |          |      |        |         |        |                 |                                                  |      |                    |      |      |                                |                                |                                |       |
| IM B5 / IM3001                                      |       |      | FS 315 L |      |        | IP55    | UKCA   | IEC/EN 60034    |                                                  |      |                    |      |      |                                |                                |                                |       |
| Environmental conditions : -20 °C - +40 °C / 1000 m |       |      |          |      |        |         |        |                 | Locked rotor time (hot / cold) : 22.8 s   33.2 s |      |                    |      |      |                                |                                |                                |       |

Mechanical data

|                                                                                     |                                            |                                |                                |                                                |
|-------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------|--------------------------------|------------------------------------------------|
| Sound level (SPL / SWL) at 50Hz 60Hz                                                | 64 / 79 dB(A) <sup>2) 3)</sup>             | 66 / 81 dB(A) <sup>2) 3)</sup> | External earthing terminal     | (Standard) Yes                                 |
| Moment of inertia                                                                   | 5.3200 kg m <sup>2</sup>                   |                                | Vibration severity grade       | Grade A                                        |
| Bearing DE   NDE                                                                    | 6319 C3                                    | 6319 C3                        | Thermal class                  | F                                              |
| permissible lateral force on (N)                                                    | X <sub>0</sub> : 10600                     | X <sub>0.5</sub> : 9900        | 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                 | cast iron                                      |
| Relubrication interval/quantity DE   NDE                                            | 40 g   40 g                                | 6000 h                         | Net weight of the motor        | 1180 kg                                        |
| Lubricants                                                                          | UNIREX N3                                  |                                | Coating (paint finish)         | Special paint finish C3                        |
| Regreasing device                                                                   | with conical grease nipple acc. DIN 71412A |                                | Color, paint shade             | RAL7030                                        |
| Grease nipple                                                                       | M10x1 DIN 71412 A                          |                                | Motor protection               | 3 PTC thermistors - for tripping (2 terminals) |
| Type of bearing                                                                     | Locating bearing NDE                       |                                | Method of cooling              | IC411 - self ventilated, surface cooled        |
| Condensate drainage holes                                                           | (Standard) Yes                             |                                | 'SIMOTICS Connect 400' in IP65 | No                                             |

Terminal box

|                          |                |                                |                       |
|--------------------------|----------------|--------------------------------|-----------------------|
| Terminal box position    | box at the top | Max. cross-sectional area      | 240 mm <sup>2</sup>   |
| Material of terminal box | cast iron      | Cable diameter from ... to ... | 38 mm - 45 mm         |
| Type of terminal box     | TB1Q61         | Cable entry                    | 2xM63x1,5 - 2xM20x1,5 |
| Contact screw thread     | 6xM12          | Cable gland                    | 4 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>A</sub>/M<sub>N</sub> = locked rotor torque / torque nominal      2) at rated power / at full load

M<sub>K</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               | 1LE5504-3AC53-4FB4-Z |               |                                                                                                              | document number |                                                                                       |  |
|                                                                                    | F74+L19+M11+R52+S02 |                      |               |                                                                                                              |                 |                                                                                       |  |
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|                                                                                    |                     | 943                  | 2023-06-26    |                                                                                                              | en              | 1/2                                                                                   |  |

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|     |                                                                   |     |                               |
|-----|-------------------------------------------------------------------|-----|-------------------------------|
| F74 | Sheet steel fan cowl                                              | R52 | Drilled removable entry plate |
| L19 | Regreasing device with regreasing nipple M10X1 acc.to DIN 71412-A | S02 | Special paint finish C3       |
| M11 | Stainless steel rating plate                                      |     |                               |

Notes:

|                                                                                    |                               |                               |             |                                                                                                              |                             |                                                                                       |             |
|------------------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------|--------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|-------------|
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|  | document type<br>datasheet    |                               |             | document status<br>released                                                                                  |                             |  |             |
|                                                                                    | title<br>1LE5504-3AC53-4FB4-Z |                               |             | document number                                                                                              |                             |                                                                                       |             |
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