

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



Motor type : 1CV4312A

SIMOTICS SD - 315 M - IM B5 - 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> |       |
| DOL duty (S1) - 155(F) to 130(B)                    |       |      |          |      |        |         |       |                 |                                                |      |                    |      |      |                                |                                |                                |       |
| 400                                                 | Δ     | 50   | 132.00   | -/-  | 220.00 | 2988    | 420.0 | 96.2            | 96.2                                           | 95.6 | 0.90               | 0.88 | 0.81 | 9.8                            | 2.6                            | 3.9                            | IE4   |
| 690                                                 | Y     | 50   | 132.00   | -/-  | 128.00 | 2988    | 420.0 | 96.2            | 96.2                                           | 95.6 | 0.90               | 0.88 | 0.81 | 9.8                            | 2.6                            | 3.9                            | IE4   |
| 460                                                 | Δ     | 60   | 132.00   | -/-  | 192.00 | 3590    | 350.0 | 95.8            | 95.5                                           | 94.4 | 0.90               | 0.87 | 0.80 | 11.0                           | 2.9                            | 4.3                            | IE4   |
| 460                                                 | Δ     | 60   | 148.00   | -/-  | 215.00 | 3588    | 395.0 | 95.8            | 95.6                                           | 94.8 | 0.90               | 0.88 | 0.82 | 9.8                            | 2.6                            | 3.9                            | IE4   |
|                                                     |       |      |          |      |        |         |       |                 |                                                |      |                    |      |      |                                |                                |                                |       |
| IM B5 / IM3001                                      |       |      | FS 315 M |      |        | IP55    | UKCA  |                 | IEC/EN 60034                                   |      |                    |      |      |                                |                                |                                |       |
| Environmental conditions : -20 °C - +40 °C / 1000 m |       |      |          |      |        |         |       |                 | Locked rotor time (hot / cold) : 27 s   40.9 s |      |                    |      |      |                                |                                |                                |       |

## Mechanical data

|                                                                                     |                                            |                                |                                |                                                |
|-------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------|--------------------------------|------------------------------------------------|
| Sound level (SPL / SWL) at 50Hz 60Hz                                                | 73 / 88 dB(A) <sup>2) 3)</sup>             | 77 / 92 dB(A) <sup>2) 3)</sup> | External earthing terminal     | (Standard) Yes                                 |
| Moment of inertia                                                                   | 2.0800 kg m <sup>2</sup>                   |                                | Vibration severity grade       | Grade A                                        |
| Bearing DE   NDE                                                                    | 6316 C3                                    | 6316 C3                        | Thermal class                  | F                                              |
| permissible lateral force on (N)                                                    | X <sub>0</sub> : 5800                      | X <sub>0.5</sub> : 5500        | 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                                            | 30 g   30 g                                | 3000 h                         | Net weight of the motor        | 1050 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 ... | 34 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                |                 |             |                                                                                                              | document number                |
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|                   |                      |                 |             |                                                                                                              | 943                            |
|                   |                      | creation date   |             | language                                                                                                     | Page                           |
|                   |                      | 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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| DI MC LVM                                                                          |                      | DT Configurator |             |                                                                                                              |               |  |      |
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|                                                                                    | datasheet            |                 |             | released                                                                                                     |               |                                                                                       |      |
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|                                                                                    | 1LE5504-3AA23-4FB4-Z |                 |             |                                                                                                              |               |                                                                                       |      |
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