

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



Motor type : 1CV4312B

SIMOTICS SD - 315 M - IM B3 - 4p

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

|                 |           |
|-----------------|-----------|
| Remarks         | Safe Area |
| Electrical data | -/-       |

| 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) - 180(H) to 130(B)                  |       |          |        |      |        |         |       |                 |                                                  |                        |                    |      |      |                                |                                |                                |       |
| 415                                               | Δ     | 50       | 132.00 | -/-  | 225.00 | 1490    | 850.0 | 96.4            | 96.6                                             | 96.3                   | 0.85               | 0.81 | 0.73 | 8.2                            | 3.3                            | 3.2                            | IE4   |
|                                                   |       |          |        |      |        |         |       |                 |                                                  |                        |                    |      |      |                                |                                |                                |       |
| 480                                               | Δ     | 60       | 132.00 | -/-  | 196.00 | 1791    | 700.0 | 96.5            | 96.5                                             | 95.9                   | 0.84               | 0.80 | 0.71 | 9.2                            | 3.6                            | 3.6                            | IE4   |
| 480                                               | Δ     | 60       | 152.00 | -/-  | 225.00 | 1790    | 810.0 | 96.5            | 96.6                                             | 96.3                   | 0.85               | 0.82 | 0.74 | 8.1                            | 3.2                            | 3.1                            | IE4   |
|                                                   |       |          |        |      |        |         |       |                 |                                                  |                        |                    |      |      |                                |                                |                                |       |
| IM B3 / IM1001                                    |       | FS 315 M |        |      |        | IP55    | UKCA  | IEC/EN 60034    |                                                  | IEC, DIN, ISO, VDE, EN |                    |      |      |                                |                                |                                |       |
| Environmental conditions : -20 °C - + °C / 1000 m |       |          |        |      |        |         |       |                 | Locked rotor time (hot / cold) : 25.4 s   39.5 s |                        |                    |      |      |                                |                                |                                |       |

Mechanical data

|                                                                                      |                                |                                |                            |                                               |
|--------------------------------------------------------------------------------------|--------------------------------|--------------------------------|----------------------------|-----------------------------------------------|
| Sound level (SPL / SWL) at 50Hz 60Hz                                                 | 67 / 81 dB(A) <sup>2) 3)</sup> | 72 / 86 dB(A) <sup>2) 3)</sup> | External earthing terminal | (Standard) Yes                                |
| Moment of inertia                                                                    | 2.9100 kg m <sup>2</sup>       |                                | Vibration severity grade   | Grade A                                       |
| Bearing DE   NDE                                                                     | 6319 C3                        | 6319 C3                        | Thermal class              | H                                             |
| permissible lateral force on (N) (N)                                                 | X <sub>0</sub> : 9300          | X <sub>0.5</sub> : 8650        | 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                                     |
| Lubricants                                                                           |                                |                                | Net weight of the motor    | 942 kg                                        |
| Regreasing device                                                                    | Flat type lubricating nipple   |                                | Coating (paint finish)     | Standard paint finish C2                      |
| Grease nipple                                                                        | M10x1 DIN 3404 A               |                                | Color, paint shade         | RAL7030                                       |
| Type of bearing                                                                      | Locating bearing NDE           |                                | Motor protection           | 1 temperature sensor KTY84-130 (2 terminals)  |
| Condensate drainage holes                                                            | (Standard) Yes                 |                                | Method of cooling          | IC416 - separately ventilated, surface cooled |

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     | TB1Q01         | Cable entry                    | 2xM63x1,5 - 2xM20x1,5 |
| Contact screw thread     | 6xM12          | Cable gland                    | 4 plugs               |

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>B</sub>/M<sub>N</sub> = break down torque / nominal torque  
1) L<sub>10mh</sub> 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

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## Special design

|     |                                                 |     |                                                             |
|-----|-------------------------------------------------|-----|-------------------------------------------------------------|
| F70 | Mounting of separately driven fan               | N11 | Temperature class 180(H), and coolant temperature max. 60°C |
| G06 | Mounting a rotary pulse encoder HOG 10 D 1024 I |     |                                                             |

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