

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



Motor type : 1CV4280B

SIMOTICS SD - 280 S - IM V1 - 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) - 155(F) to 130(B)                    |       |      |          |      |        |         |       |                 |                                                |              |                    |                        |      |                                |                                |                                |       |
| 380                                                 | Δ     | 50   | 75.00    | -/-  | 136.00 | 1490    | 480.0 | 96.0            | 96.2                                           | 96.0         | 0.87               | 0.84                   | 0.76 | 8.5                            | 2.8                            | 3.4                            | IE4   |
| 660                                                 | Y     | 50   | 75.00    | -/-  | 79.00  | 1490    | 480.0 | 96.0            | 96.2                                           | 96.0         | 0.87               | 0.84                   | 0.76 | 8.5                            | 2.8                            | 3.4                            | IE4   |
| 440                                                 | Δ     | 60   | 75.00    | -/-  | 119.00 | 1792    | 400.0 | 96.2            | 96.2                                           | 95.7         | 0.86               | 0.82                   | 0.74 | 10.0                           | 3.2                            | 3.8                            | IE4   |
| 440                                                 | Δ     | 60   | 86.00    | -/-  | 135.00 | 1790    | 460.0 | 96.2            | 96.4                                           | 96.1         | 0.87               | 0.85                   | 0.78 | 8.9                            | 2.8                            | 3.3                            | IE4   |
|                                                     |       |      |          |      |        |         |       |                 |                                                |              |                    |                        |      |                                |                                |                                |       |
| IM V1 / IM3011                                      |       |      | FS 280 S |      |        |         | IP55  | UKCA            |                                                | IEC/EN 60034 |                    | IEC, DIN, ISO, VDE, EN |      |                                |                                |                                |       |
| Environmental conditions : -20 °C - +40 °C / 1000 m |       |      |          |      |        |         |       |                 | Locked rotor time (hot / cold) : 32.7 s   46 s |              |                    |                        |      |                                |                                |                                |       |

Mechanical data

|                                                                                      |                                |                                |                            |                                                |
|--------------------------------------------------------------------------------------|--------------------------------|--------------------------------|----------------------------|------------------------------------------------|
| Sound level (SPL / SWL) at 50Hz 60Hz                                                 | 64 / 78 dB(A) <sup>2) 3)</sup> | 67 / 82 dB(A) <sup>2) 3)</sup> | External earthing terminal | (Standard) Yes                                 |
| Moment of inertia                                                                    | 1.7400 kg m <sup>2</sup>       |                                | Vibration severity grade   | Grade A                                        |
| Bearing DE   NDE                                                                     | 6316 C3 S0                     | 6316 C3 S0                     | Thermal class              | F                                              |
| permissible lateral force on (N)                                                     | X <sub>0</sub> : 8600          | X <sub>0.5</sub> : 7900        | 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> | 20000 h                        | 16000 h                        | Frame material             | cast iron                                      |
| Relubrication interval/quantity DE   NDE                                             | 30 g   30 g<br>8000 h          |                                | Net weight of the motor    | 620 kg                                         |
| Lubricants                                                                           | UNIREX N3                      |                                | Coating (paint finish)     | Standard paint finish C2                       |
| Regreasing device                                                                    | Flat type lubricating nipple   |                                | Color, paint shade         | RAL7030                                        |
| Grease nipple                                                                        | M10x1 DIN 3404 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                 |                                |                            |                                                |

Terminal box

|                          |                |                                |                       |
|--------------------------|----------------|--------------------------------|-----------------------|
| Terminal box position    | box at the top | Max. cross-sectional area      | 120 mm <sup>2</sup>   |
| Material of terminal box | cast iron      | Cable diameter from ... to ... | 34 mm - 45 mm         |
| Type of terminal box     | TB4N01         | Cable entry                    | 2xM63x1,5 - 2xM20x1,5 |
| Contact screw thread     | 6xM10          | Cable gland                    | -/-                   |

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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|  | Document type<br>Technical data sheet  |                   |                                      | Document status<br>Released                                                                                  |                             |  |             |
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## Special design

|     |                                                                                 |
|-----|---------------------------------------------------------------------------------|
| N30 | Increased air humidity/temperature with 30 to 60 g water per m <sup>3</sup> air |
|-----|---------------------------------------------------------------------------------|

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