

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



Motor type : 1CV4286B

SIMOTICS SD - 280 M - IM B3 - 4p

|                  |                 |           |
|------------------|-----------------|-----------|
| 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)                     |       |      |          |      |        |         |       |                 |                                                  |              |                    |                        |      |                                |                                |                                |       |
| 380                                                  | Δ     | 50   | 110.00   | -/-  | 197.00 | 1490    | 700.0 | 96.3            | 96.6                                             | 96.5         | 0.88               | 0.85                   | 0.78 | 9.5                            | 2.9                            | 3.5                            | IE4   |
| 660                                                  | Y     | 50   | 110.00   | -/-  | 114.00 | 1490    | 700.0 | 96.3            | 96.6                                             | 96.5         | 0.88               | 0.85                   | 0.78 | 9.5                            | 2.9                            | 3.5                            | IE4   |
| 440                                                  | Δ     | 60   | 110.00   | -/-  | 172.00 | 1791    | 590.0 | 96.2            | 96.3                                             | 95.9         | 0.87               | 0.84                   | 0.75 | 11.0                           | 3.3                            | 3.8                            | IE4   |
| 440                                                  | Δ     | 60   | 127.00   | -/-  | 197.00 | 1790    | 680.0 | 96.2            | 96.4                                             | 96.2         | 0.88               | 0.86                   | 0.79 | 9.4                            | 2.8                            | 3.3                            | IE4   |
|                                                      |       |      |          |      |        |         |       |                 |                                                  |              |                    |                        |      |                                |                                |                                |       |
| IM B3 / IM1001                                       |       |      | FS 280 M |      |        |         | IP55  | UKCA            |                                                  | IEC/EN 60034 |                    | IEC, DIN, ISO, VDE, EN |      |                                |                                |                                |       |
| Environmental conditions : -20 °C - +40 °C / 1,000 m |       |      |          |      |        |         |       |                 | Locked rotor time (hot / cold) : 23.4 s   35.5 s |              |                    |                        |      |                                |                                |                                |       |

Mechanical data

|                                                                                     |                                |                                |                            |                                               |
|-------------------------------------------------------------------------------------|--------------------------------|--------------------------------|----------------------------|-----------------------------------------------|
| Sound level (SPL / SWL) at 50Hz 60Hz                                                | 69 / 84 dB(A) <sup>2) 3)</sup> | 73 / 88 dB(A) <sup>2) 3)</sup> | External earthing terminal | (Standard) Yes                                |
| Moment of inertia                                                                   | 2.5500 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> : 8450          | X <sub>0.5</sub> : 7720        | 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<br>8000 h          |                                | Net weight of the motor    | 785 kg                                        |
| Lubricants                                                                          | UNIREX N3                      |                                | Coating (paint finish)     | Standard paint finish C2                      |
| Regreasing device                                                                   | -/-                            |                                | Color, paint shade         | RAL7030                                       |
| Grease nipple                                                                       | -/-                            |                                | Motor protection           | 3 resistance thermometers PT100 (6 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                    | -/-                   |

|                                                    |                                                |                                                                  |
|----------------------------------------------------|------------------------------------------------|------------------------------------------------------------------|
| <b>Notes:</b>                                      |                                                |                                                                  |
| $I_L/I_N$ = locked rotor current / current nominal | 1) $L_{10mh}$ according to DIN ISO 281 10/2010 | 3) Value is valid only for DOL operation with motor design IC411 |
| $M_L/M_N$ = locked rotor torque / torque nominal   | 2) at rated power / at full load               |                                                                  |
| $M_B/M_N$ = break down torque / nominal torque     |                                                |                                                                  |

|                                                                                    |                                   |                       |             |                                                                                                              |                                 |                                                                                                                         |  |                    |                 |
|------------------------------------------------------------------------------------|-----------------------------------|-----------------------|-------------|--------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------|--|--------------------|-----------------|
| responsible dep.<br><br>IN LVM                                                     | technical reference               | created by<br><br>SPC | approved by | Technical data are subject to change! There may be discrepancies between calculated and rating plate values. |                                 | <a href="#">Link documents</a><br> |  |                    |                 |
|  | document type<br><br>datasheet    |                       |             |                                                                                                              | document status<br><br>released |                                                                                                                         |  |                    |                 |
|                                                                                    | title<br><br>1LE5504-2DB63-3AH4-Z |                       |             |                                                                                                              | document number                 |                                                                                                                         |  |                    |                 |
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|     |                                                                                     |     |                                                   |
|-----|-------------------------------------------------------------------------------------|-----|---------------------------------------------------|
| G15 | Mounting of HOG 10 DN 1024 I rotary pulse encoder, terminal box moisture protection | Q02 | Anti-condensation heating for 230 V (2 terminals) |
|-----|-------------------------------------------------------------------------------------|-----|---------------------------------------------------|

|               |
|---------------|
| Space heaters |
|---------------|

|                 |
|-----------------|
| Technical data: |
|-----------------|

Notes:

|                            |                               |                   |             |                                                                                                              |                             |                                                                                       |             |
|----------------------------|-------------------------------|-------------------|-------------|--------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|-------------|
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|                            | title<br>1LE5504-2DB63-3AH4-Z |                   |             | document number                                                                                              |                             |                                                                                       |             |
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