

## Data sheet for SIMOTICS M-1PH8

Article No. : **1PH8131-3MF02-2AA1-Z**  
K23+U65+X53



Figure similar

Client order no. :  
Order no. :  
Offer no. :  
Remarks :

Item no. :  
Consignment no. :  
Project :

### Engineering data

|   |              | P <sub>N</sub><br>[kW] | M <sub>N</sub><br>[Nm] | I <sub>N</sub><br>[A] | U <sub>N</sub><br>[V] | f <sub>N</sub><br>[Hz] | n <sub>N</sub><br>[rpm] | M <sub>max</sub><br>[Nm] | I <sub>max</sub><br>[A] | n <sub>max</sub><br>[rpm] | M <sub>0</sub><br>[Nm] | I <sub>0</sub><br>[A] | η     | cos φ | l <sub>μ</sub><br>[A] |
|---|--------------|------------------------|------------------------|-----------------------|-----------------------|------------------------|-------------------------|--------------------------|-------------------------|---------------------------|------------------------|-----------------------|-------|-------|-----------------------|
| Y | ALM 400V     | 13.0                   | 71.0                   | 24.0                  | 416                   | 59.8                   | 1,750                   | 148                      | 50.0                    | 4,500                     | 96.0                   | 30                    | 0.914 | 0.840 | 10.3                  |
|   | BLM/SLM 400V | 11.0                   | 70.0                   | 24.0                  | 360                   | 51.4                   | 1,500                   | 148                      | 50.0                    | 4,500                     | 96.0                   | 30                    | 0.899 | 0.840 | 10.4                  |
|   | ALM 480V     | 16.5                   | 72.0                   | 24.0                  | 500                   | 75.0                   | 2,200                   | 148                      | 50.0                    | 4,500                     | 96.0                   | 30                    | 0.920 | 0.870 | 10.0                  |
|   | BLM/SLM 480V | 15.0                   | 72.0                   | 24.0                  | 460                   | 68.2                   | 2,000                   | 148                      | 50.0                    | 4,500                     | 96.0                   | 30                    | 0.931 | 0.860 | 9.2                   |

### Mechanical data

|                           |                                                                                              |
|---------------------------|----------------------------------------------------------------------------------------------|
| Motor type                | Squirrel cage asynchronous motor                                                             |
| Shaft height              | 132                                                                                          |
| Cooling                   | Forced ventilation DE -> NDE                                                                 |
| Vibration severity grade  | A                                                                                            |
| Shaft and flange accuracy | N                                                                                            |
| Degree of protection      | IP55                                                                                         |
| Design acc. to Code I     | IM B5 (IM V1, IM V3)                                                                         |
| Temperature monitoring    | KTY84 temperature sensor in the stator winding                                               |
| Color                     | Light gray RAL 7035                                                                          |
| Type of the bearing       | Standard                                                                                     |
| Shaft extension           | Feather key with half key balancing                                                          |
| Encoder system            | Incremental encoder sin/cos 1Vpp 2048 S/R with C- and D-Spur, max. encoder speed = 12000 rpm |

### Physical constants

|                              |                       |
|------------------------------|-----------------------|
| Thermal time constant        | 30 min                |
| Moment of inertia with brake | 731 kgcm <sup>2</sup> |
| Weight with brake (approx.)  | 135 kg                |

### Connection

|                               |              |
|-------------------------------|--------------|
| Type of electrical connection | Terminal box |
| Position of the connection    | NDE top      |
| Power connection              | right        |
| Signal connection             | DE           |
| Terminal box designation      | gk833        |

### Cooling data and sound pressure level

|                                                                                               |                        |
|-----------------------------------------------------------------------------------------------|------------------------|
| Airflow, min.                                                                                 | 0.09 m <sup>3</sup> /s |
| Sound pressure level LpA(1m) motor + external fan operation 50 HZ rated load, tolerance + 3dB | 70 dB <sup>1)</sup>    |
| Air discharge                                                                                 | axial                  |
| Pressure drop                                                                                 | 140 Pa                 |

### Holding brake

|                                    |                              |
|------------------------------------|------------------------------|
| Holding torque                     | 140 ... 310 Nm <sup>2)</sup> |
| Moment of inertia                  | 141 kgcm <sup>2</sup>        |
| Power supply voltage               | DC 24 V ± 10%                |
| Coil current                       | 6.3 A                        |
| Permissible brake work             | 15.5 kJ                      |
| Speed (Emergency Stop)             | 3,600 rpm                    |
| Number of emergency stops          | 2,000                        |
| Number of emergency stops per hour | 3                            |
| Opening time                       | 650 ms                       |
| Closing time                       | 100 ms                       |

### Special design

|     |                                   |
|-----|-----------------------------------|
| K23 | Special paint finish worldwide    |
| U65 | 24 V DC holding brake             |
| X53 | Paint finish: Light gray RAL 7035 |

<sup>1)</sup> at a rated frequency of 4 kHz and a speed range of up to 5000 rpm

<sup>2)</sup> Holding torque [Nm]: On motors with shaft height 100 ... 160, the holding torque can be gradually set using an adjusting ring within the value range specified (factory setting 100 % of the possible holding torque). The dynamic braking torque is approx. 70 % of the set holding torque.