Symbols used in this document:

Danger notice: Minor bodily injury and damage to property can occur if the appropriate precautionary measures are not taken.

Danger due to electricity: Death, serious bodily injury or considerable damage to property can occur if the corresponding precautionary measures are not taken.

Danger from magnetism: Danger for storage media such as (bank cards etc.), influence on electronic devices (measuring instruments etc.), risk of injury due to the attraction of strong magnetic fields (crushing etc.), destruction of sensitive devices (watches etc.).

Risk of interference with medical equipment: Magnetic fields can influence and interfere with pacemakers and defibrillators.

Safety instructions

- All connection, commissioning and installation work may only be carried out by trained and qualified personnel. They must be familiar with and observe the following standards and guidelines: DIN VDE 0105, IEC 364, accident prevention regulations, improper behaviour can cause serious personal injury and damage to property.
- Before installation and commissioning, read this documentation as well as the commissioning and maintenance instructions. Observe the information on the connection conditions (type plate and documentation) and the technical data.
- Surface temperatures of over 100°C can occur on the motors. Make sure that no temperature-sensitive parts are in contact with or attached to them. Protective measures against contact may have to be taken.
- Even if no voltage has been applied, voltages can occur at the motor terminals of rotating machines with permanent magnets. Check and ensure that the machine is at a standstill before working on it.

- Strong magnetic fields can destroy or affect electronic devices. Strong magnetic fields in the rotor and their forces can attract magnetic parts, causing damage or injury.

- Assembly and maintenance work on the rotor must not be carried out by persons with pacemakers or other electronic medical implants.

Important notes

- Check the goods for damage immediately after receipt and inform the transport company. Damaged machines must not be put into operation
- The machines comply with the standard IEC/EN 60034-1

- Standard motors of the MPM series are not intended for direct connection to the three-phase mains, they must be operated via a frequency converter with the functionality "sensorless vector control". Failure to observe this can lead to the destruction of the machine.

Identification Check the type plate to see if the motor corresponds to the one in your order.

Transport The carrying lugs provided are only designed for the weight of the machine. Do not attach any additional loads!

Storage of the machine

- Humidity above 90% should be avoided. This reduces the insulation resistance and increases corrosion.
- For longer storage periods (>3 months), it is recommended to store the machine in airtight packaging such as boxes or shrink-wrapped plastic film.
- Avoid vibrations and large temperature fluctuations during storage.
- If stored for too long (>2 years), the bearings must be replaced before the machine is assembled.

Operating conditions

- Installation altitude: maximum 1000m above sea level, above this altitude there is a reduction in performance.
- Ambient temperature: -20°C to max. 40°C, above this temperature the performance will be reduced.
- Relative humidity: 15 to 85%, non-condensing

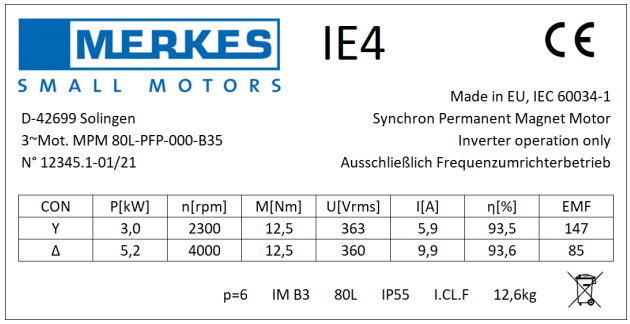
Mounting the machine

- Ensure a distance of at least 25 cm between the rear of the motor and walls or flat objects so that the cooling air can be drawn in unhindered.
- Before mounting, remove rust protection from the output shaft and lightly grease the joining surfaces.
- Mount the motor vibration-free, firmly and without tension.
- To mount backlash-free, frictionally engaged output elements, be sure to use the tightening thread provided in the motor shaft and, if possible, heat the output elements. The output elements may only be tightened with suitable aids.
- Avoid hard blows or impacts on the motor flange and the motor shaft. This can damage the bearings.
- Make sure that the coupling is correctly aligned. Follow the instructions of the coupling manufacturer. Misalignment leads to impermissible vibrations and to the destruction of ball bearings and coupling. The shaft with fasteners attached to it must be mounted precisely in alignment with the fasteners, as in the case of foot mounting, flange mounting, etc.
- When using toothed belts or belt drives, be sure to observe the permissible radial forces. Excessive radial loads on the shaft will considerably shorten the service life of the motor.

- Dynamically balance components mounted on the shaft end of the machine. Motor rotors are balanced at the factory with a half key.

Nameplate

IE4: efficiency according to IEC/EN 60034-30-2, standard for inverter-fed variable-speed motors
CE: CE marking according to EU regulation 765/2008
3~Mot.: Machine with three motor phases
MPM 80L-PFP-000-B35: Type designation
N° 12345.1-01/21: Serial number
CON: Motor connection Y=star, Δ=delta
P[kW]: Rated motor power in kW
n[rpm]: Rated speed in revolutions/minute
M[Nm]: Torque specification in Nm
U[Vrms]: Rated voltage specification as effective value
I[A]: Rated current in amperes
η[%]: Percentage of efficiency at operating point
EMF: EMF at n = 1000 min-1, effective value
p=6: Number of poles
IM B3: Design of the motor
80L: Enclosure size
IP55: Protection class
I.CL.F: Insulation class
12.6kg: Weight



CON	P[kW]	n[rpm]	M[Nm]	U[Vrms]	I[A]	η[%]	EMF
Y	3,0	2300	12,5	363	5,9	93,5	147
Δ	5,2	4000	12,5	360	9,9	93,6	85

Electrical connection of the machine

- Voltages can occur at the motor terminals of rotating machines with permanent magnets even if no voltage has been applied. Check and ensure that the machine is at a standstill before working on it.
- Standard motors of the MPM series are not intended for direct connection to the three-phase mains, they must be operated via a frequency converter with the "sensorless vector control" functionality. Failure to observe this can lead to the destruction of the machine.
- The parameters required for operation can be found on the type plate or in the manual.
- Check the assignment of frequency inverter and motor. Compare the rated voltage and rated current of the units.
- The terminal box can be rotated 90°/180°/270° according to requirements.
- The machine is earthed via the PE connection provided for this purpose in the terminal box.
- The shielding of the machine must be carried out in accordance with the frequency inverter operating instructions. If necessary, use low-capacitance, shielded cables and EMC cable glands.
- The connection cable must be supported by the strain relief of the cable gland.
- Make sure that no dirt (residues of insulation, shielding, wire, etc.) remains in the terminal box.
- Connect the motor in Y-connection or Δ-delta connection according to the requirements.
- The temperature monitor (standard = PTC) must be connected to the terminal block provided for this purpose.

Settings

- Settings is carried out according to the frequency inverter manufacturer's documentation.
- After parameterisation or successful calibration of the parameters, a test run must be carried out.
- Take care not to come into contact with rotating or moving parts!
- The motor must be able to be operated noiselessly without load. Due to the clock frequency of the frequency inverter, higher-frequency noises (2, 3, 4, 8kHz) occur; this must be taken into account.
- The direction of rotation can be changed via the parameterisation of the frequency inverter or by exchanging two phases on the motor.

Maintenance

- Maintenance of the bearings on the A or B side is not necessary. These are lubricated for life.
- Replacing the bearings should be done without dismantling the rotor. The end shields can be removed one after the other and the bearings replaced. One end shield must always be mounted on the motor and the shaft must be guided in it.
- When dismantling the shaft, there is a very high risk of injury due to the strong magnets in the rotor and the associated tightening forces.
- Assembly and maintenance work on the rotor must not be carried out by persons with pacemakers or other electronic medical implants.

Standards Technical design according to IEC 60034-31, IEC 60034-30-2