

# Direct Magnet



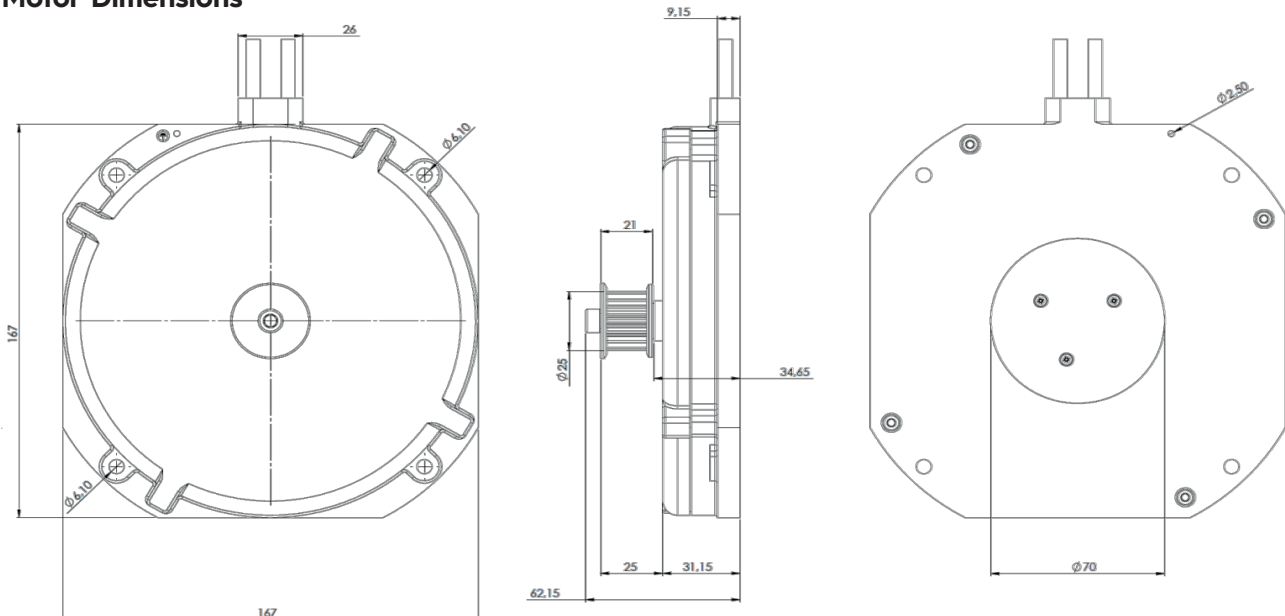
- ✓ High Rated Torque, up to 4Nm
- ✓ High Efficiency
- ✓ High Reliability
- ✓ Low Torque Ripple / Smooth Movement
- ✓ Compact Design (axial thickness=31mm)
- ✓ Linear Torque vs Current Characteristic
- ✓ Low Thermal Resistance 1.3 C°/W

# Permanent Magnet Synchronous Motor

**DirectMagnet** is a new technology motor to meet direct drive need for automatic door application without any gearbox to ensure high reliability and maintenance free. Motor has low time constant and high torque constant (Nm/A) so that drive system can open and close the door with high acceleration and deceleration especially for elevator application.

Motor is driven by a special electronic that controls also the door open&close cycles by using special position feedback sensor installed in motor housing. There is no optical encoder and by the way the reliability of system is increased. FOC method is used for motor drive to get precise speed and torque control and high efficiency and smooth door movement.

## Motor Dimensions

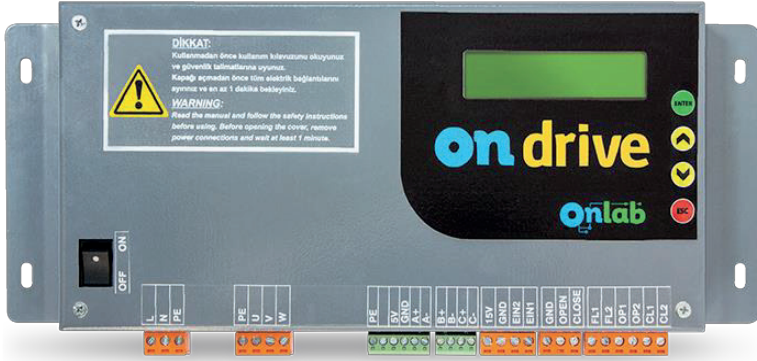


Minimum DC Bus Voltage @ rated speed	: 213V
Rated speed	: 50cm/s
Maximum speed	: 80cm/s
Diameter of pulley	: 25mm
Rated motor speed @ Min. DC Bus voltage	: 260rpm
Motor base speed	: 488rpm
Rated torque up to base speed	: 3.5Nm
Rated motor phase current	: 0.9A
Torque constant	: 3.95Nm/A

Rated driver input voltage	: 220-240V AC
Rated motor input voltage	: 125V AC
Maximum motor speed	: 600rpm
Dimensions	: 167 x 167 x 31 mm
Duty Cycle	: S4
Winding encapsulation	: Epoxy (>1W/mK)
Door weight	: up to 250kg
IP	: IP54
Insulation class	: F

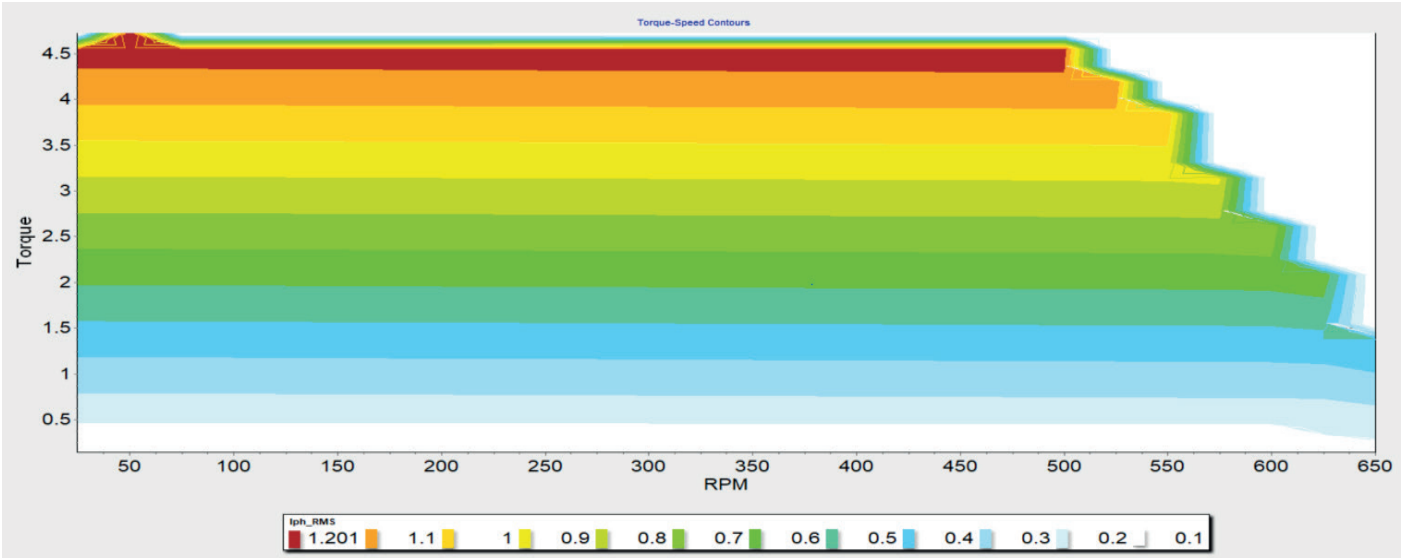
# High Efficiency Industrial Motors Permanent Magnet Synchronous Motor for Direct Drive Automatic Door

## Motor Driver and Door Controller



- ✓ Built-in EMC
- ✓ 150W continuous output power at 60C ambient temperature
- ✓ Save space and price with transformerless implementation
- ✓ Smooth and continuous motion with real S-curve
- ✓ Low noise level with gearless direct drive operation
- ✓ Internal high resolution encoder
- ✓ Water and dust proof motor with IP54
- ✓ Compliant to EN 81-20 Standards

## Torque vs Speed Characteristic



## Torque vs Input Power Characteristic

