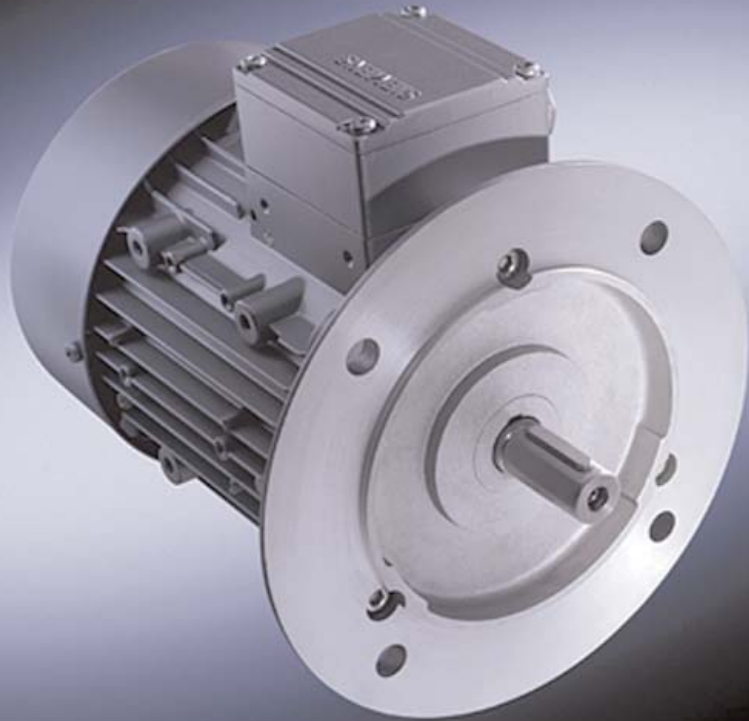


# 1LA7

General Purpose, Eff2, Aluminum Frame  
TEFC IEC Motors



iec

MOTORS

Our 1LA7 motors, with their wide variety of options, fit in every drive system concept and cover more than 90% of all imaginable applications worldwide. They are suitable for indoor and outdoor applications where light weight, excellent price/performance ratio and high degree of operational reliability are required. This powerful energy-saving motor is less harmful to the environment, thanks to reduction in CO<sub>2</sub> emission.

## Performance Specifications

- 90W to 18.5kW
- Overload reserve in continuous mode (SF 1.1)
- Dual frequency rated
- 3000/3600, 1500/1800, 1000/1200 or 750/900 RPM
- 3 phase, 50 Hz; 230D/400Y V and 60 Hz 460VD
- 3 phase, 50 Hz; 400D/690Y V and 60 Hz 460VD
- All commonly used voltages (50Hz and 60Hz) available
- EU/CEMEP efficiency classification EFF2 (improved efficiency)
- Class F insulation, Class B temperature rise
- Continuous duty, suitable for converted fed operation
- CE marked, IEC 60034
- NEMA MG1-12 available
- UL and CSA label marks available
- 56 through 160 frames

## 1LA7

### General Purpose, Aluminum Frame TEFC IEC Motors

#### Features for Long Life

##### Frame and End Shields

Cast aluminum construction for exceptional heat dissipation and structural integrity. All motors are designed with degree of protection IP55 (IEC 529), suitable for use in dusty or damp surroundings and ready for use in the tropics (IP56 and IP65 available).

##### Rotor

A unique offset laminated rotor core design provides improved efficiency, while larger bars and aluminum end rings reduce resistance for lower rotor losses. Each die cast aluminum rotor assembly is dynamically balanced (IEC 60034-14) for extended bearing life.

##### Stator/Windings

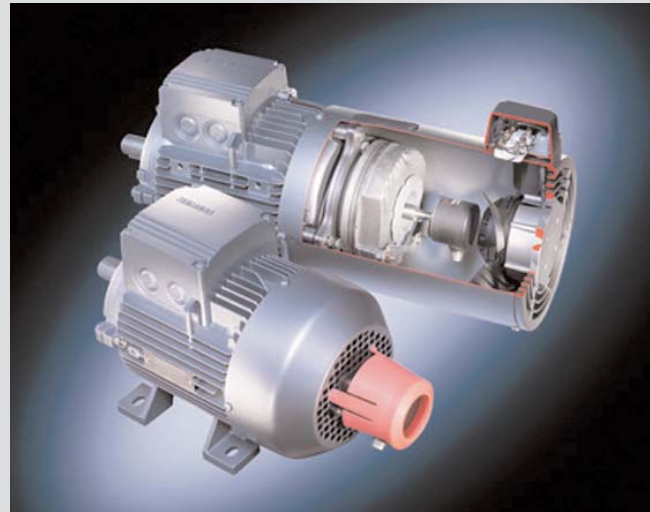
Manufactured with premium electrical-grade steel laminations and the finest copper electrical magnet wire for lower losses and improved efficiencies. A unique stator core design lowers flux density and increases cooling capacity. Large conductor cross-section reduces resistance, also lowering stator losses.

##### Insulation

DURIGNIT® IR 2000, inverter-compatible up to 500 V, optionally up to 690 V. This insulation system comprises high-grade enameled wires and insulating sheet materials combined with solvent-free-impregnating resin. The system ensures a high level of mechanical and electrical strength, as well as good serviceability and long motor life. The insulation offers general protection for the windings against corrosive gases, vapors, dust, oil and increased humidity, and resists the normal stresses of vibration.

##### Cooling

Motors are fitted with a radial-flow fan that functions independently of the direction of rotation (cooling method IC 411 to DIN EN 60034-6). The material of the external cooling fans is a reinforced plastic. This material is tested and certified for a 20-year lifetime. Fan cowls are made of corrosion-protected steel plating.



##### Bearings

The bearing nominal life is specified by standard calculation (DIN ISO 281) and is achieved or exceeds by 90% if used according to instructions. If the operating conditions are below average, a bearing life of 100,000 (Lh10 hours) can be achieved.

##### Lubrication

The grease life for pre-lubricated motors is tailored to the bearing life. In those cases where re-lubrication is chosen, the motors are provided a grease retaining system that prevents grease from entering the motor. Siemens IEC motors use a lithium-based grease.

##### Conduit Box

Cast aluminum construction, top-mounted as standard, the terminal box can be placed on either side of the motor or be rotated 90° or 180° (frames size 80 and above), providing a more flexible mounting. In addition to the standard terminal box earthing, an external earthing is also made available for all motors.

##### Corrosion Resistance

Zinc-plated hardware, epoxy enamel paint and aluminum nameplate resist rust and corrosion (stainless steel hardware also available).

##### Flexible

All Siemens IEC motors are available with a wide variety of options to meet your specific motor needs.