

# Country Fact Sheet Motors



## European Union



### Regional Characteristics

**Voltage** 3 ~ 400V ± 10%  
1 ~ 230V ± 10%

**Frequency** 50 Hz

### Approval Mark CE Conformity

**Standard** EN IEC 60034

**Regulation** Low Voltage Directive 2014/35/EU  
ErP Directive 2009/125/EG  
RoHS Directive 2011/65/EU

**Scope** All machines and electronic devices which are affected by any EU Directive.

**Marking** 

### Energy Efficiency Ecodesign Directive

**Regional Standard** Directive 2009/125/EC

**Regulation** Commission Regulation (EC) No. 640/2009 and (EU) No. 4/2014 (2017)

**Mandatory Efficiency Class** IE3 (or IE2 – motors for use with VSD)

**Scope**

- Rated output power from 0.75 up to 375 kW
- Rated voltage from 50 up to 1000 V
- Rated frequency 50 and 60 Hz
- 2-, 4- and 6-pole
- For continuous duty operation

**Exemptions**

- Motors with intermittent duty like S3 (duty factor ≤ 80%) or S6 (duty factor ≤ 80%)
- Exclusively suitable for inverter operation
- Ex-motors
- Brake Motors (The brake is inside the motor housing)
- Motors for heavy environmental conditions like ambient temperature above +60°C or below -30°C, installation altitude above 4000m
- Pole-changeable motors
- With Integral fans and blower motors
- Motors that share common components with the driven unit and cannot operate as a motor if separated from it
- Motors specifically designed and specified to operate wholly immersed in a liquid

**Marking**

- IE-Class
- Nominal efficiency ( $\eta$ ) at 50%, 75% and 100 % load
- If applicable “Use with VSD only“(->IE2)

From 1<sup>st</sup> July 2021, new requirements for small powers <0.75 kW will enter into force. In addition several exemptions will decline. The next page provides an overview on the upcoming requirements. For more information and changeover support, take a look at our [ecodesign-page](#).

# Country Fact Sheet Motors – Update from 1<sup>st</sup> July 2021



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**Scope** All machines and electronic devices which are affected by any EU Directive.

### Marking



### Energy Efficiency Ecodesign Directive

**Regional Standard** Directive 2009/125/EC

**Regulation** Commission Regulation (EU) No. 2019/1781

**Mandatory Efficiency Class** IE2 from 0.12 kW  
IE3 from 0.75 kW

**Scope**

- Directive 2009/125/EC
- Commission Regulation (EU) No. 2019/1781
- IE2 from 0.12 kW, IE3 from 0.75 kW
- Rated output power from 0.12 up to 1000 kW
- Rated voltage from 50 up to 1000 V
- Rated frequency 50 and 60 Hz
- 2-, 4-, 6- and 8-pole
- For continuous duty operation

**Exemptions**

- Motors with intermittent duty like S3 (duty factor < 80%) or S6 (duty factor < 80%)
- Exclusively suitable for inverter operation
- Motors with integrated variable speed drive as integral part of the motor
- Motors for heavy environmental conditions like ambient temperature above +60°C or below -30°C, installation altitude above 4000m
- Pole-changeable motors
- Motors placed on the market before 1<sup>st</sup> July 2029 as substitutes for identical motors integrated in products placed on the market before 1<sup>st</sup> July 2022, and specifically marketed as such
- Motors that share common components with the driven unit and cannot operate as a motor if separated from it
- Motors specifically designed and specified to operate wholly immersed in a liquid

**Marking**

- IE-Class
- Nominal efficiency ( $\eta$ ) at 50%, 75% and 100 % load

For more information and changeover support, take a look at our [ecodesign page](#).