
**Road vehicles — Alternators with
regulators — Test methods and general
requirements**

*Véhicules routiers — Alternateurs avec régulateurs — Méthodes d'essai
et conditions générales*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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ISO 8854 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 3, *Electrical and electronic equipment*.

This second edition cancels and replaces the first edition (ISO 8854:1988), which has been technically revised.

Road vehicles — Alternators with regulators — Test methods and general requirements

1 Scope

This International Standard specifies test methods and general requirements for the determination of the electrical characteristic data of alternators for road vehicles.

It applies to alternators, cooled according to the supplier's instructions, mounted on internal combustion engines.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1

alternator frequency

n_G

alternator rotational frequency in reciprocal minutes (min^{-1})

2.2

cut-in speed

n_A

alternator rotational frequency, in reciprocal minutes (min^{-1}), at which the alternator begins to supply current when speed is increased for the first time, depending on pre-exciting power (input), speed changing velocity, battery voltage, residual flux density of the rotor, and regulator characteristics

2.3

efficiency

η

alternator efficiency calculated from the measured values of voltage, current, speed and torque

2.4

minimum application speed

n_L

alternator rotational frequency, in reciprocal minutes (min^{-1}), which corresponds approximately to the idling speed of the engine

2.5

minimum application current

I_L

current, in amperes, which is delivered by a warmed-up alternator at test voltage U_t and minimum application speed n_L

2.6

rated current

I_R

minimum current, in amperes, which the warmed-up alternator shall supply at a speed $n_R = 6\,000\text{ min}^{-1}$ and at test voltage U_t

NOTE The mean value minus twice the standard deviation should be stated unless the customer has requested otherwise.

2.7

rated speed

n_R

alternator rotational frequency, in reciprocal minutes (min^{-1}), at which the alternator supplies its rated current, I_R , specifying the rated speed as $n_R = 6\,000\text{ min}^{-1}$