

INTERNATIONAL
STANDARD

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**Road vehicles — Electrical performance of
starter motors — Test methods and
general requirements**

*Véhicules routiers — Caractéristiques électriques des démarreurs —
Méthodes d'essai et conditions générales*



Reference number
ISO 8856:1995(E)

Foreword

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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.

International Standard ISO 8856 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 8856:1988), of which it constitutes a technical revision.

Annex A forms an integral part of this International Standard.

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Road vehicles — Electrical performance of starter motors — Test methods and general requirements

1 Scope

This International Standard lays down test methods and general requirements for the determination of the electrical characteristics of d.c. starter motors intended to start internal combustion engines of road vehicles.

2 Definitions

For the purposes of this International Standard, the following definitions apply.

2.1 nominal power, P_{nom} : Power declared by the starter motor manufacturer corresponding to the maximum power output at the reference temperature of 20 °C when determined in accordance with this International Standard.

2.2 power output, P : Power derived from measurements of torque and rotational frequency of the starter motor pinion shaft.

2.3 power supply: Battery or simulator which delivers a voltage/current characteristic as defined in this International Standard.

2.4 internal resistance of starter motor: Value of the terminal voltage divided by the starter motor current (steady state solenoid current included) with the armature shaft locked (no rotation).

3 Test conditions

3.1 Temperature and time

Tests shall be carried out at an ambient temperature of (23 ± 5) °C unless otherwise specified.

3.1.1 Test method A

Ensure that all parts of the starter motor are at the temperature of (23 ± 5) °C, or to avoid a need for temperature correction, the starter motor may be preconditioned at (20 ± 2) °C.

The time for each discrete point measurement shall be 3 s.

3.1.2 Test method B

Ensure that all parts of the starter motor are at the temperature of (23 ± 5) °C, or to avoid a need for temperature correction, the starter motor may be preconditioned at (20 ± 2) °C.

The total test time shall be 10 s.

3.1.3 Test method C

The starter motor shall be preconditioned at a temperature of (-20 ± 2) °C. If required, other temperatures may be used as agreed between starter motor manufacturer and the engine manufacturer.

The total test time shall be 10 s.

3.2 Measurement accuracy

The overall capability of the test equipment shall enable the parameters to be measured within the accuracy shown in table 1. This requirement shall be respected throughout the test procedure.