



Standard Specification for Tachometers, Various¹

This standard is issued under the fixed designation F2046; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 This specification covers various tachometers capable of measuring rotational shaft speed.

1.2 Special requirements for tachometer types used in naval shipboard applications are included in Supplement S1.

1.3 The values stated in SI units are to be regarded as standard. The values given in parentheses are mathematical conversions to inch-pound units that are provided for information only and are not considered standard.

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D3951 Practice for Commercial Packaging

3. Terminology

3.1 *Definitions:*

3.1.1 *SI (Le Systeme International d'Unites) Units, n*—units of measurement recognized by the Comité International des Poids et Mesures (CIPM).

3.1.2 *tachometer, n*—an instrument capable of generating, transmitting, and indicating information or signal that can be converted into a function of rotational speed.

4. Classification

4.1 *Design Types*—The following are among the types of tachometers available:

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

- (1) Centrifugal;
- (2) Centrifugal, flexible drive;
- (3) Chronometric;
- (4) Electrical, alternating current (ac) voltage responsive, direct drive;
- (5) Electrical reactance;
- (6) Electrical, magnetovoltmeter, direct drive;
- (7) Electrical, magnetovoltmeter;
- (8) Frequency responsive, electrical control box and voltmeter, direct drive;
- (9) Frequency sensitive, electrical, nonrotating magnetic pickup, direct drive, consists of a magnetic pickup, transducer, and indicator;
- (10) Photoelectric;
- (11) Digital contact;
- (12) Centrifugal, flexible drive; and
- (13) Vibrating resonant reed.

5. Ordering Information

5.1 The buyer shall provide the manufacturer with all of the pertinent application data in accordance with the acquisition requirements, 5.2.

5.2 *Acquisition Requirements*—Acquisition documents shall specify the following:

- (1) Title, number, and date of this specification;
- (2) Quantity of tachometers required;
- (3) Range;
- (4) Manufacturer's part number;
- (5) When qualification inspection is required;
- (6) Final disposition of qualification test samples;
- (7) Type of electrical connection;
- (8) Mounting method;
- (9) Environmental requirements;
- (10) Materials;
- (11) Size and weight restrictions;
- (12) Critical service life requirements;
- (13) Performance requirements;
- (14) Surface finish requirements;
- (15) Cleaning requirements;
- (16) When certification is required;
- (17) Marking requirements;
- (18) Packaging requirements; and
- (19) Preservation requirements.