



Standard Specification for Tachometers, Various¹

This standard is issued under the fixed designation F 2046; 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.

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 the standard. The values given in parentheses are for information only.

2. Referenced Documents

2.1 *ASTM Standards*:

D 3951 Practice for Commercial Packaging²

3. Terminology

3.1 *Definitions*:

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

3.1.2 *tachometer*—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:

- (a) Centrifugal;
- (b) Centrifugal, flexible drive;
- (c) Chronometric;
- (d) Electrical, alternating current (ac) voltage responsive, direct drive;
- (e) Electrical reactance;
- (f) Electrical, magnetovoltmeter, direct drive;
- (g) Electrical, magnetovoltmeter;
- (h) Frequency responsive, electrical control box and voltmeter, direct drive;

(i) Frequency sensitive, electrical, nonrotating magnetic pickup, direct drive, consists of a magnetic pickup, transducer, and indicator;

(j) Photoelectric;

(k) Digital contact;

(l) Centrifugal, flexible drive; and

(m) 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:

- (a) Title, number, and date of this specification;
- (b) Quantity of tachometers required;
- (c) Range;
- (d) Manufacturer's part number;
- (e) When qualification inspection is required;
- (f) Final disposition of qualification test samples;
- (g) Type of electrical connection;
- (h) Mounting method;
- (i) Environmental requirements;
- (j) Materials;
- (k) Size and weight restrictions;
- (l) Critical service life requirements;
- (m) Performance requirements;
- (n) Surface finish requirements;
- (o) Cleaning requirements;
- (p) When certification is required;
- (q) Marking requirements;
- (r) Packaging requirements; and
- (s) Preservation requirements.

6. Materials and Manufacture

6.1 *Material Selection*—The materials for all parts shall be selected for long-term compatibility with the environment in which the tachometer will be installed or used.

6.2 *Material Inspection*—The manufacturer shall be responsible for ensuring that materials used are manufactured, examined, and tested in accordance with the specifications and standards as applicable.

¹ This specification is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.10 on Electrical and Electronics.

Current edition approved July 10, 2000. Published October 2000.

² *Annual Book of ASTM Standards*, Vol. 15.09.

