INCH POUND MIL-DTL-3971F <u>18 March 2008</u> SUPERSEDING MIL-DTL-3971E 24 January 2001

# DETAIL SPECIFICATION

# METERS, TIME TOTALIZING, NON-HERMETICALLY SEALED, ELECTRICAL: GENERAL SPECIFICATION FOR

### This specification is approved for use by all Departments and Agencies of the Department of Defense.

### 1. SCOPE

1.1 <u>Scope</u>. This specification covers the general requirements for electrically operated nonhermetically sealed meters that automatically measure, and cumulatively register the total operating or idle time of the circuit, machine or system to which connected.

1.2 <u>Classification</u>. Time totalizing meters covered by this specification are of the following types and grades (meter class is applicable to type II meters only):

Type I - MIL-DTL-3971/1, Direct current (DC), total capacity: 10,000 hours Type II - MIL-DTL-3971/2, Alternating current (AC), total capacity, as follows:

> Class 1 - 120V, 60 hertz (Hz) - 100,000 hours Class 2 - 120V, 400 Hz - 10,000 hours

Grade A - With electromagnetic compatibility Grade B - Without electromagnetic compatibility

1.3 <u>Part or identifying number (PIN)</u>. The PIN is created as specified on the detail specification sheet.

Comments, suggestions, or questions on this document should be addressed to Defense Supply Center Richmond, ATTN: DSCR-VEB, 8000 Jefferson Davis Highway, Richmond, VA 23297-5616 or e-mailed to <u>STDZMGT@dla.mil</u>. Since contact information can change, you may want to verify the currency of this address information using the ASSIST data base at <a href="http://assist.daps.dla.mil">http://assist.daps.dla.mil</a>.

# 2. APPLICABLE DOCUMENTS

2.1 <u>General</u>. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

## 2.2 Government documents.

2.2.1 <u>Government specifications and standards</u>. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract (see 6.2).

## DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-DTL-3971/1	_	Meters, Time Totalizing, Non-Hermetically Sealed,
		Electrical; Type I, 10-40V or 40-130V or
		10-130V; Grades A and B, 2 Hole and 3 Hole Flange
MIL-DTL-3971/2	_	Meters, Time Totalizing, Non-Hermetically Sealed,
		Electrical; Type II, 120V, 60 Hz and 120V, 400 Hz
		Grades A and B, 2 Hole and 3 Hole Flange

# DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-202	_	Test Method Standard Electronic and Electrical
		Component Parts
MIL-STD-461	—	Requirements for the Control of Electromagnetic
		Interference Characteristics of Subsystems and Equipment
MIL-STD-810	_	Environmental Engineering Considerations and Laboratory
		Tests
MIL-STD-889	_	Dissimilar Metals

(Copies of these documents are available online at <u>http://assist.daps.dla.mil</u> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 <u>Non-government publications</u>. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of this document is that cited in the solicitation or contract (see 6.2).

# AMERICAN NATIONAL STANDARDS INSTITUTE

ANSI/ASQ Z1.4	—	Sampling Procedures and Tables for Inspection by
		Attributes

(Copies of this document are available online at <u>http://www.ansi.org</u> or from the American National Standards Institute, 25 West 43rd Street, 4 floor, New York, NY 10036.)

2.4 <u>Order of precedence</u>. If there is conflict between the text of this document and the references cited herein (except for related specification sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

## 3. REQUIREMENTS

3.1 <u>Specification sheets</u>. The individual item requirements shall be as specified herein and in accordance with the applicable specification sheet. In the event of any conflict between requirements of this specification and the detailed specification, the latter shall govern.

3.1.1 <u>Reference to detail specification</u>. For the purpose of this specification, when the terms "specified" or "as specified" are used without reference to a specific document, the intended reference is to the detailed specification.

3.2 <u>Qualification</u>. Time totalizing meters furnished under this specification shall be products that are authorized for listing on the applicable qualified products list before contract award (see 4.2 and 6.3).

3.3 <u>Materials</u>. All materials shall be of uniform quality and free of defects which might impair the functioning or accuracy of the meters. Material which is not specified by a definite material specification shall be of a composition and quality that will enable the meters to meet all applicable requirements of this specification.

3.3.1 <u>Fungus-proof materials</u>. Materials that are nutrients for fungi shall not be used where it is practical to avoid them. Where used, they shall be treated with a suitable fungicidal agent.

3.3.2 <u>Protective treatment</u>. All parts of the meter, except those whose proper function would be detrimentally affected, shall be protected by a finish capable of resisting corrosion, crazing, or cracking due to fuel, salt spray, common solvents or atmospheric conditions which are likely to be encountered in storage or service.

3.3.3 <u>Dissimilar metals</u>. Dissimilar metals, as defined in MIL-STD-889, shall not be used in intimate contact with each other unless suitably protected against electrolytic corrosion.

3.4 <u>Design and construction</u>. Meters shall be in accordance with the applicable detailed specification and the requirements specified herein. The design shall assure that parts will not work loose in service. The meters shall be constructed to withstand the normal hazards incident to shipping, storage and service.

3.4.1 Case. The dimensions of the case shall be in accordance with MIL-DTL-3971/1 and /2.

3.4.2 <u>Finish</u>. Aluminum, when utilized on exposed portions of the meter, shall be anodized. Visible parts of the meter, as viewed when mounted, shall be finished with a durable non-reflecting black. A black finish on the case is optional.

3.4.3 <u>Window</u>. The window shall be clear, uncolored, and free of bubbles, scratches, or other imperfections which may interfere with the reading of the meter and shall show no evidence of damage when tested in accordance with 3.5.4.

3.4.4 Grounding. Cases shall not be externally grounded.

3.4.5 <u>Elapsed time indicator</u>. The elapsed time indicator shall be a drum register type having a total range of 10,000 or 100,000 hours, as specified in 1.2.

3.4.6 <u>Running indicator</u>.

3.4.6.1 <u>Type I</u>. A running indicator shall be clearly visible. The indicator shall, within 30 seconds after the meter is energized, be evidence that the meter is operating.

3.4.6.2 <u>Type II</u>. A running indicator is optional. If a running indicator is used, it shall be as specified in 3.4.6.1.

3.4.7 <u>Terminals</u>. Meters shall be provided with terminals for connecting electrical wires to the meter. Terminals for soldered connections shall be hot-tin dipped or solder coated to facilitate soldering. Screw terminals shall be #8-32. Blade terminals shall be 0.25 inch (6.3 mm) nominal width.

3.4.7.1 <u>Terminal polarity</u>. Type I meters, which are polarity sensitive, shall have the positive terminal identified as such by marking on that portion of the case adjacent to that terminal.

3.4.7.2 <u>Terminal location</u>. The terminals (two) shall be located on the back of the case and positioned in a manner that will not interfere with mounting of the meter.

3.4.8 <u>Mounting hardware</u>. Machine screws, nuts and either split-ring lock-washers or internal tooth lock washers shall be furnished with each meter. The machine screws shall be fully threaded and 0.5 inch (12.7 mm) in length. The hardware shall have a non-reflecting black finish.

3.4.9 <u>Coils</u>. The coils shall be properly insulated from the case and other ground parts.

3.4.10 <u>Insulation resistance</u>. The insulation resistance between the terminals and the case shall exceed 100 megohms.

3.4.11 <u>Electromagnetic compatibility (mechanical designs only)</u>. Grade A meters shall conform to the electromagnetic compatibility requirements for class IIC as specified in MIL-STD-461.

3.4.12 <u>Dielectric strength</u>. Meters shall be capable of withstanding the application of a higher than normal operating voltage and frequency for 60 seconds between insulated portions without damage or flashover, as specified in MIL-DTL-3971/1 and /2.

3.4.13 <u>Weight</u>. The weight of the meter shall not exceed that specified in MIL-DTL-3971/1 and /2.

3.5 <u>Performance</u>. Meters shall meet all performance requirements at the operating voltage, or over the operating voltage range, as specified.

3.5.1 <u>Starting and stopping</u>. Meters shall be capable of starting and stopping within the time limitations and at the temperatures specified in MIL-DTL-3971/1 and /2

3.5.2 <u>Operating position</u>. Meters shall be capable of operating in any position within an accuracy of  $\pm 1$  percent of total elapsed time at 23°C  $\pm 10$ °C (73.4°F  $\pm 18.0$ °F) when energized at rated nominal voltage frequency as specified

3.5.3 Vibration.

3.5.3.1 <u>Accuracy</u>. Meters shall remain accurate within  $\pm$  1 percent of actual elapsed time during normal vibration and for 24 hours following extended vibration endurance.

3.5.3.1.1 <u>Normal vibration</u>. Meters shall be capable, while energized, of being vibrated as specified in 4.4.6.6.1. Total test time is 3 hours.

3.5.3.1.2 <u>Extended vibration endurance</u>. Following the vibration specified in 3.5.3.1.1 the meters shall be capable, while energized, of withstanding extended vibration as specified in 4.4.6.6.2.

3.5.4 Shock.

3.5.4.1 <u>Standard shock</u>. Meters shall operate for at least 1 hour, be accurate within  $\pm 1$  percent of actual elapsed time and show no evidence of damage (excluding flange) after the shock test of 4.4.6.7.1.

3.5.4.2 <u>High impact shock</u>. Meters shall operate for at least 1 hour, be accurate within  $\pm$  1 percent of actual elapsed time and show no evidence of damage after the shock test of 4.4.6.7.2.

3.5.5 <u>Temperature cycling</u>. Meters shall be accurate within  $\pm$  1 percent of actual elapsed time and show no evidence of damage during the temperature cycling test of 4.4.6.8.

3.5.6 <u>Moisture resistance</u>. Meters shall operate for at least 1 hour, be accurate within  $\pm 1$  percent of actual elapsed time and show no evidence of corrosion or damage after being subjected to the moisture resistance test of 4.4.6.9.

3.5.7 <u>Salt spray</u>. Meters shall operate for at least 1 hour, be accurate within  $\pm$  1 percent of actual elapsed time and show no evidence of damage to the finish after being subjected to the salt atmosphere test of 4.4.6.10.

3.5.8 <u>Power supply tolerance</u>. The meter shall not be damaged, operate for at least 1 hour, and be accurate within  $\pm 1$  percent of actual elapsed time when subjected to the power supply tolerance test of 4.4.6.11. The meter is exempt from being accurate during the test but shall resume proper operation when returned to the specified nominal.

3.5.9 <u>Water resistance</u>. Meters shall be capable of rejecting the entry of water when subjected to the water resistance test of 4.4.6.12.

3.5.10 <u>Long term accuracy</u>. Meters shall be capable of operating continuously for 2500 hours and be accurate within  $\pm 1$  percent when subjected to the long term accuracy test of 4.4.6.13.

3.6 <u>Identification marking</u>. The identification marking shall be as specified in figure 1.

Туре	Grade	Part No.	Date
Frequency and Voltage		Mfr's Name	
Federal Stock No.		Contract or Purchase Ord	ler No.

FIGURE 1. Identification marking.

Note: The part number, date, frequency and voltage, manufacturer's name, federal stock number and contract or purchase order number may be applied without their descriptive titles. Identification markings which appear on the dial need not be duplicated on the case.

3.6.1 <u>Application</u>. The marking shall be applied on the side or rear of the case and shall be legible after withstanding the test procedures of 4.4.6.8, 4.4.6.9 and 4.4.6.10.

3.6.2 <u>Acceptance date</u>. The marking shall include the date of acceptance of the meter by the Government. The marking for the month shall be the first three letters and the marking for the year shall be the last two numbers, e.g., December 2000 is Dec 00.

3.7 <u>Workmanship</u>. Workmanship shall be of a quality consistent with the highest commercial production standards and practices. The meters shall be free of loose components, rust, scratches, burrs, sharp edges, chips, and unnecessary oil or foreign materials.

## 4. VERIFICATION

4.1 <u>Classification of inspections</u>. The inspection requirements specified herein are classified as follows:

a. Qualification inspection (see 4.2).

b. Conformance inspection (see 4.3).

4.2 <u>Qualification inspection</u>. Qualification inspection of meters shall be in conformance with the qualification tests listed in table I for the types and grades as specified.

TABLE I. Qualification inspection.

Requirement paragraph	Method paragraph	
3.3	4.4.4	
3.4.9	4.4.4	
3.4.1	4.4.3	
3.4.13	4.4.6.14	
3.4.2 thru 3.4.8, 3.6, 3.7	4.4.2	
3.4.10	4.4.6.1	
3.4.11	4.4.6.2	
3.4.12	4.4.6.3	
3.5.1	4.4.6.4	
3.5.2	4.4.6.5	
3.5.3	4.4.6.6	
3.5.4	4.4.6.7	
3.5.5	4.4.6.8	
3.5.6	4.4.6.9	
3.5.7	4.4.6.10	
3.5.8	4.4.6.11	
3.5.9	4.4.6.12	
3.5.10	4.4.6.13	
	Requirement paragraph   3.3   3.4.9   3.4.1   3.4.13   3.4.2 thru 3.4.8, 3.6, 3.7   3.4.10   3.4.11   3.4.12   3.5.1   3.5.2   3.5.3   3.5.4   3.5.5   3.5.6   3.5.7   3.5.8   3.5.9   3.5.10	

4.2.1 <u>Samples</u>. Four meters shall be subjected to qualification inspections. The samples shall be representative of the meters produced under order or contract.

4.2.2 <u>Failure</u>. Failure of any sample meter to pass all the inspections or tests listed in table I is cause for rejection of all samples submitted for qualification at one time.

4.3 <u>Conformance inspection</u>. Conformance inspections shall be in accordance with the inspections and tests listed in tables II and III.

# TABLE II.Classification of defects.Level II of Table I with<br/>Sampling Plan Table II-A of ANSI/ASQC Z1.4

## CRITICAL: NONE

MAJOR	<u>REQUIREMENT</u>	TEST PROCEDURE
101. Fungus proof	3.3.1	4.4.4
102. Protective treatment	3.3.2	4.4.4
103. Metals	3.3.3	4.4.4
104. Case	3.4.1	4.4.3
105. Finish	3.4.2	4.4.2
106. Window	3.4.3	4.4.2
107. Grounding	3.4.4	4.4.2
108. Elapsed time indicator	3.4.5	4.4.2
109. Running indicator	3.4.6	4.4.2
110. Terminals	3.4.7	4.4.2
111. Terminal polarity	3.4.7.1	4.4.2
112. Hardware	3.4.8	4.4.2
113. Starting and stopping	3.5.1	4.4.6.4
MINOR		

201.	Weight	3.4.13	4.4.6.14
202.	Identification marking	3.6	4.4.2
203.	Workmanship	3.7	4.3.3, 4.4.2

# TABLE III.Classification of defects.Level S-4 of Table I with<br/>Sampling Plan Table II-A of ANSI/ASQC Z1.4

# CRITICAL: NONE

MAJ	<u>IOR</u>	<u>REQUIREMENT</u>	TEST PROCEDURE
101.	Operating position	3.5.2	4.4.6.5
102.	Normal vibration	3.5.3.1.1	4.4.6.6.1
103.	Standard shock	3.5.4.1	4.4.6.7.1
104.	Power supply tolerance	3.5.8	4.4.6.11
105.	Water resistance	3.5.9	4.4.6.12

## MINOR: NONE

4.3.1 <u>Inspection lot</u>. Unless otherwise specified by the contracting officer, inspection lot size, formation and presentation of lots shall be in accordance with "Submission of Product" and "Drawing of Samples" specified in ANSI/ASQC Z1.4.

4.3.2 <u>Classification of examinations and tests</u>. Examinations and tests shall be performed on a defect (individual characteristic) basis in accordance with ANSI/ASQC Z1.4 and the inspection level and sampling plans specified in tables II and III. Examination and tests for packaging, packing and marking shall be in accordance with section 5 and the contract or purchase order.

4.3.3 <u>Workmanship</u>. Quality of workmanship in conjunction with industry standard practices shall be inspected at the discretion of the Government during in-process and on completed meters to insure that meters are continually produced in accordance with 3.7.

### 4.4 Procedures.

4.4.1 <u>Test equipment</u>. Accuracy of the meter shall be determined by a mechanical, electric or electronic time measuring instrument having a daily rate of  $\pm$  10 seconds per day.

4.4.2 <u>Visual examination</u>. The meter shall be examined visually for conformance to workmanship and requirements as specified in tables I, II and III.

4.4.3 <u>Mechanical examination</u>. The meter shall be checked for conformance to dimensional requirements.

4.4.4 <u>Certification</u>. Certification, when required herein, shall certify that the meter has been determined to be in full compliance with the specified requirements and that workmanship and materials conform with recognized standards of commercial quality. The certification shall reference the contract or purchase order number and shall be signed by a responsible officer of the contractor. The certificate shall contain the following statement: "as the authorized representative of the contractor, the undersigned warrants and represents that all the information supplied herewith is true and accurate."

#### 4.4.5 <u>Test conditions</u>.

4.4.5.1 <u>Atmospheric</u>. Unless otherwise specified, the tests shall be performed at  $+23^{\circ}C \pm 10^{\circ}C$  (73.4°F  $\pm 18.0^{\circ}F$ ), at barometric pressure of 28 to 31 inches (711 to 787 mm) of mercury and a maximum relative humidity of 80 percent.

4.4.5.2 <u>Voltage and frequency</u>. Unless otherwise specified, type I meters shall be tested, as applicable, at 28 volts or 120 volts and type II meters shall be tested at rated voltage and frequency as specified.

4.4.5.3 <u>Temperature changes</u>. Temperature changes, when required, shall be gradual to reduce the possibility of thermal shock.

4.4.5.4 <u>Accuracy</u>. Unless otherwise specified meters shall be accurate within  $\pm 1$  percent of total elapsed time during and following tests.

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4.4.6 <u>Test methods</u>.

4.4.6.1 <u>Insulation resistance</u>. The insulation resistance between terminals and case shall exceed 100 megohms when subjected to method 302, test condition A of MIL-STD-202.

4.4.6.2 <u>Electromagnetic compatibility</u>. Grade A meters shall be subjected to methods CE102 and RE102 of MIL-STD-461.

4.4.6.3 <u>Dielectric strength</u>. Meters shall be subjected to method 301 of MIL-STD-202 for 60 seconds between the terminals and case with test voltage as specified.

4.4.6.4 <u>Starting and stopping</u>. The meter shall be energized as specified. Failure to start within 10 seconds or stop within 120 seconds shall be cause for rejection.

4.4.6.5 <u>Operating position</u>. The meter shall be energized with applicable rated voltage and frequency (see 4.3.7.2) and operated for a minimum of four hours in each of the following positions:

- a. Face up
- b. Face down
- c. Face up 45 degrees from horizontal

4.4.6.6 Vibration.

4.4.6.6.1 <u>Normal vibration</u>. While energized the meter shall be subjected to 4 cycles of vibration, each of 15 minutes, in 3 mutually perpendicular axes with the frequency varied logarithmically from 7 to 500 Hz and return to 7 Hz. The amplitude from 7 to 57 Hz shall be 0.06 inch (1.52 mm) double amplitude (maximum total excursion) and from 57 to 500 Hz the acceleration shall be 10g's. The meter shall operate for one hour following vibration.

4.4.6.6.2 <u>Extended vibration</u>. Following normal vibration the meter, while energized, shall be vibrated with an input acceleration level of 2g's as follows:

Frequency (Hz)	<u>Axis</u>	Time	<u>Temperature</u>
60	Vertical	10 hours	$-32^{\circ}C \pm 2^{\circ}C (-25.6^{\circ}F \pm 3.6^{\circ}F)$
60	Vertical	30 hours	$+23^{\circ}C \pm 10^{\circ}C (73.4^{\circ}F \pm 18.0^{\circ}F)$
60	Vertical	10 hours	$+68^{\circ}C \pm 2^{\circ}C (154.4^{\circ}F \pm 3.6^{\circ}F)$

The meter shall operate for 24 hours following extended vibration.

4.4.6.7 Shock.

4.4.6.7.1 <u>Standard shock</u>. The meter shall be dropped from a height of two feet onto the end grain of a hardwood block of beech, oak or hard maple which shall be a minimum of eight inches square. Following the test the meter shall be visually examined for loose or damage parts and operate one hour.

Note: Damage to the flange shall not be cause for rejection.

4.4.6.7.2 <u>High impact shock</u>. The meter shall be subjected to method 516 of MIL-STD-810 using procedure II with a terminal-peak saw tooth shock pulse configuration with a peak value of 75g's having a nominal duration of 6 milliseconds. The meter shall be subjected to 2 shocks in each direction along the 3 mutually perpendicular axes of the meter (total of 12 shocks). Following the test the meter shall be visually examined for loose or damage parts and operate for one hour.

4.4.6.8 <u>Temperature cycling</u>. While energized at rated voltage and frequency (see 4.3.7.2) the meter shall operate six hours at each of the following temperatures (18 hours total):

+68°C ± 2°C (154.4° F ± 3.6°F) -4°C ± 2°C (24.8° F ± 3.6°F) -40°C ± 2°C (-40.0° F ± 3.6°F)

4.4.6.9 <u>Moisture resistance</u>. The meters shall be subjected to method 106 of MIL-STD-202 without being energized except the 5 vibration cycles shall be completed before the start of the 10th moisture cycle. Following the test the meter shall be examined for loose or damaged parts and shall operate for one hour.

4.4.6.10 <u>Salt atmosphere</u>. Meters shall be subjected to method 101, condition B of MIL-STD-202 except specific gravity shall be between 1.0268 and 1.0413 at a temperature of 33.9°C to 36.1°C (93.0°F and 97.0°F). Following the test the meter shall be examined for evidence of corrosion, deterioration of finish and shall operate for one hour.

4.4.6.11 <u>Power supply tolerance</u>. The meters shall operate at each voltage and frequency specified. Following the test the meter shall operate for one hour. The meters are exempt from being accurate during the test.

4.4.6.12 <u>Water resistance</u>. The meters shall be suspended in distilled water contained in a partially filled transparent chamber which shall be evacuated to a negative gage pressure of 5.5 inches of mercury (24.5 inches absolute pressure) for a period of 15 seconds. Meters showing evidence of air leakage during the test period shall be rejected.

Note: Bubbles which are the result of entrapped air on the various exterior parts of the meters shall not be considered a leak. The meters being tested and the water used shall be at ambient temperature.

4.4.6.13 <u>Long term accuracy</u>. The meter shall operate continuously for 2500 hours within an accuracy of  $\pm 1$  percent.

4.4.6.14 <u>Weight</u>. The meter shall be weighed to insure that the weight does not exceed that specified in 3.1.

## 5. PACKAGING

5.1 <u>Packaging</u>. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

## 6. NOTES

6.1 <u>Intended use</u>. The time totalizing meters covered by this specification are intended to accurately record equipment, machine or system operating hours or idle time. Type I meters (see MIL-DTL-3971/1) are for DC applications and type II meters (see MIL-DTL-3971/2) are for AC applications.

6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number and date of this specification.
- b. Title, number and date of applicable specification sheet.
- c. Applicable stock number.
- d. Applicable part number.
- e. Packing (see 5.1).

f. Responsibility for inspection. Specify in the contract or purchase order which entity (supplier or Government) is responsible for the performance of inspection requirements, where those inspections must (or may) be performed, and any inspection rights the Government chooses to reserve in order to assure the products conform to prescribed requirements.

6.3 <u>Qualification</u>. With respect to products requiring qualification, awards will be made only for products which, at the time of contract award, are qualified for inclusion in Qualified Products List (QPL) 3971 whether or not such products have actually been so listed by that date. The attention of suppliers is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or orders covered by this specification. Information pertaining to qualification of products may be obtained from the Defense Supply Center Richmond, Standardization Branch, ATTN: DSCR-VEB, 8000 Jefferson Davis Highway, Richmond, VA 23297-5610.

## 6.4 Definitions.

6.4.1 <u>Voltage</u>. All alternating current voltages as used in this specification will be considered to be root mean square (rms) values.

6.4.2 <u>Electromagnetic compatibility</u>. Electromagnetic compatibility is the capability of a meter to operate without radiating electromagnetic energy which may impair the operation of electrical or electronic equipment.

6.5 Subject term (key word) listing:

Hour meter Time indicator, elapsed

6.6 <u>Identification of changes</u>. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:	Preparing activity:
Army – AR	DLA-GS1
Navy – SH	
Air Force – 99	(Project 6645-2008-001)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST data base at <u>http://assist.daps.dla.mil</u>.