NEMA Standards Publication

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American National Standard for Physical Aspects of Watthour Meters-Safety Standard

National Electrical Manufacturers Association

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ANSI C12.10-2004

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for Physical Aspects
of Watthour Meters—
Safety Standard

ANSI C12.10-2004
Revision of
ANSI C12.10-1997

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Secretariat:

National Electrical Manufacturers Association

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Foreword (This Foreword is not part of American National Standard C12.10-2004.)

This standard was developed by the Accredited Standards Committee on Electricity Metering, C12, for full consensus approval as an American National Standard and provides recommended minimum requirements for both detachable and bottom-connected watthour meters. This revised edition supersedes ANSI C12.10-1997.

Suggestions for improvement to this standard are welcome. They should be sent to:

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Vice President of Engineering
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There were relatively few changes made to this edition to bring it up to date with modern practice and with new editions of other ANSI C12 standards. The title was modified to more accurately reflect the contents of this edition. The last of the performance specifications for solid state registers on electro-mechanical meters that were in section 6, have been moved to C12.1-2001 and thus this standard now contains physical specifications. To this edition Forms 39S and 76S were added, as was the reference to class 2 ampere meters. The drawing for figure 6 was corrected.

Dimensions and other relevant specifications given in this standard have been coordinated with the American National Standard Requirements for Watthour Meters Sockets, ANSI C12.7-1993. At the time the committee approved this standard, the C12 Committee had the following members:

Tom Nelson, Chairman
Carin Bernstiel, Secretary

Organization Represented:	*Name of Representative:*
American Public Power Association	C. Gomez
Edison Electrical Institute	L. Kotewa J. McEvoy J. Mining T. Morgan D. Y. Nguyen L. Pananen
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Underwriters Laboratory	R. Breschini
Independent Members:	B. Hughes
	A. Moise
	A. Snyder

The members of Subcommittee ANSI C12.1 who contributed to the development of this standard are:

Organization Represented:	*Name of Representative:*
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Austin Energy	H. Millican
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Schlumberger Electricity Inc	A. Snyder
Schweitzer Engineering Labs	B. Hughes
Watthour Engineering Co	C. Weimer

In addition, the following comprised the Editorial Committee for the current revision of C12.10:

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E. Malemezian
D. Y. Nguyen
A. Snyder
S. Weikel

For Physical Aspects of Watthour Meters

1 Scope

This standard covers the physical aspects of both detachable and bottom-connected watthour meters and associated registers. These include ratings, internal wiring arrangements, pertinent dimensions, markings, and other general specifications. Refer to the latest version of ANSI C12.1 and ANSI C12.20 for performance requirements.

2 References

The following publications shall be used in conjunction with this standard. Use the latest published version of the document if no year is specified:

ANSI C12.1, *American National Standard for Electric Meters*

ANSI MH10.8.1- 2000, *Linear Bar Code and Two Dimensional Symbols Used in Shipping, Receiving, and Transport Applications*

The Handbook for Electricity Metering, 10th edition 2002, The Edison Electric Institute

3 Standards applicable to watthour meters

3.1 Mounting

Mounting arrangements shall be either detachable (socket or type “S”) or bottom-connected (type “A”).

3.2 Voltage and frequency

The typical voltage and frequency ratings are 120, 240, 277, or 480 V and 60 Hz.

3.3 Current classes and test amperes (TA)

The normal current classes and test amperes shall be as listed in Table 1:

Table 1 – Current classes and test amperes

Current Class	Test Amperes
2	0.25 A
10	2.5 A
20	2.5 A
100	15 A
200	30 A
320	50 A

NOTE—Current classes 200 and 320 in “S” type only.

Other values of test amperes may be used.