NEMA Standards Publication

ANSI/NEMA C12.4-1984 (R2011)

American National Standard for Registers, Mechanical Demand

National Electrical Manufacturers Association

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ANSI C12.4-1984 (R2002, R2011)

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Registers—
Mechanical Demand

Secretariat:

National Electrical Manufacturers Association

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Foreword

(This Foreword is not a part of ANSI C12.4-1984, American National Standard for Mechanical Demand Registers.)

This revised standard provides minimum recommended requirements for mechanical demand registers for use on watthour meters. It supersedes ANSI C12.4-1978 and previous EEI Publication No MSJ-4, NEMA Publication No EI-14-1972.

The changes in the revised standard are mainly editorial; they make the document consistent with other C12 standards and prevent overlap in specifications. Also, data for Class 320 meters have been added.

Suggestions for improvement of this standard will be welcome. They should be sent to the American National Standards Institute, 1430 Broadway, New York, NY 10018.

This standard was revised and approved for submittal to ANSI by the Accredited Standards Committee on Electricity Metering, C12. At the time of approval, the C12 Committee had the following membership:

R. S. Turgel, *Chairman*

Fred Huber, *Secretary*

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American National Standard for Mechanical Demand Registers

1. Scope

This standard covers the voltage and frequency rating, full-scale values, scale classes, demand intervals, multiplying constants, timing mechanism, and other general features of mechanical demand registers required for use on watthour meters. Since mechanical demand registers are designed for use as accessories in watthour meters, items relating to watthour meters are not covered in this standard; these items are dealt with in several other standards.

2. References

When the American National Standards referred to in this standard are superseded by a revision approved by the American National Standards Institute, the revision shall apply.

[1] ANSI C12.1-1982, American National Standard Code for Electricity Metering.

[2] ANSI C12.10-1978, American National Standard for Watthour Meters.

3. Definitions

NOTE: Only definitions not included in ANSI C12.1-1982 [1][1] are provided here.

block-interval demand register. A demand register that indicates or registers the maximum demand obtained by arithmetically averaging the meter registration over a regularly repeated time interval.

dual-range single-pointer-form demand register. An indicating demand register having an arrangement for changing the full-scale capacity from one value to another, usually by reversing the scale plate. For example, Scale Class 1/2; Scale Class 2/6. An interlock assures proper scale and scale-class relation.

full-scale value. The maximum scale capacity of the register. If a multiplier exists, the full-scale value will be the product of the maximum scale marking and the multiplying constant.

scale class. Denotes, with respect to single-pointer-form, dual-range single-pointer-form, or cumulative-form demand registers, the relationship between the full-scale value of the register and the test kVA rating of the meter with which the register is used.

universal demand register. A demand register of specific ratio used in conjunction with all ratings of any type of integrating electricity meter designed to accommodate it. The register constant of a universal demand register is proportional to the watthour constant K_h of the meter on which it is mounted.

4. General Requirements

4.1 General. Mechanical demand registers shall be substantially constructed of good material in a workmanlike manner with the objective of attaining stability of performance, sustained accuracy, and safe operation over long periods of time and over wide ranges of operating conditions with minimum maintenance. The sections of ANSI C12.10-1978 [2] relating to finishes, protective enclosures, and connections shall be applicable to mechanical demand registers.

[1] The numbers in brackets correspond to those of the references in Section 2.