NEMA Standards Publication

ANSI/NEMA C12.6-1987 (R2002, 2012, 2016)

# American National Standard for Phase-Shifting Devices Used In Metering, Marking and Arrangement of Terminals



National Electrical Manufacturers Association

National Electrical Manufacturers Association
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Reaffirmation of ANSI C12.6-1987

# *American National Standard for Phase-Shifting Devices Used In Metering, Marking and Arrangement of Terminals*

Secretariat:

**National Electrical Manufacturers Association**

Approved January 27, 2017

**American National Standards Institute, Inc.**

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*Published by*

**National Electrical Manufacturers Association**
**1300 North 17th Street, Suite 900**
**Rosslyn, VA 22209**



Printed in the United States of America

## Foreword

This foreword is not a part of ANSI C12.6-1987, American National Standard for Marking and Arrangement of Terminals for Phase-Shifting Devices Used in Metering.

This standard was developed by the Accredited Standards Committee on Electricity Metering, C12, for full consensus approval as an American National Standard. This revised version supersedes ANSI C12.6-1978.

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

American National Standards Institute
1430 Broadway
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Subcommittee 15 of ANSI Committee C12, which developed and revised this standard, had the following members:

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## FIGURES

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# 1 Scope

This specification applies to phase-shifting devices designed to provide the proper lagged voltages required for kvar and kVA measurement.

# 2 Terminal Marking

## 2.1 Devices for Specific Types of Services

Phase-shifting devices designed primarily for use on a specific type of circuit shall be so connected internally that the external marked terminals will satisfy the conditions of Fig. 1 for the common types of services shown as examples. For types of circuits not shown, the same general system of corresponding voltages shall also be applied for 1-2-3 phase sequence and lagging current. That is:

a. Terminals marked 4 to 5 shall provide the voltage of proper magnitude and phasor relationship with respect to supply voltage 1 to 2 or 1 to 0.

b. Terminals marked 6 to 7 shall provide the proper voltage with respect to 3 to 2 or 2 to 0.

c. Terminals marked 8 to 9 shall provide the proper voltage with respect to 3 to 0.

d. Where one voltage element is to be omitted in metering a 4-wire service, terminals marked 4 to 5, and 8 to 9 shall still provide the proper remaining two voltages, with the voltages, with the voltages 2 to 0 and 6 to 7 considered eliminated

## 2.2 Universal Devices

Phase-shifting devices designed for use on a variety of circuits shall be so connected internally that the external marked terminals will satisfy the conditions shown under the 3-phase, 3-wire type of service in Fig.1 and 2.

Examples of other applications of a typical universal phase-shifting device are shown in Fig. 2, but details of internal connections and methods need not conform to those indicated for these other types of services.

# 3 Terminal Arrangements

External terminal of phase-shifting devices shall be arranged in the sequence and general position shown in Fig. 3(a). Where the phase-shifting device is designed in a simple level-plan manner on a panel baseboard with a built-in test switch, the terminals may be arranged as shown in Fig. 3(b).

# 4 Character of Terminal Markings

The identification numerals shall be marked legibly and durably on the base or enclosure of the phase-shifting device. The markings shall be so placed adjacent to the terminals that they unmistakably identify the proper terminals. Terminals may be arranged in columns or groups, which shall be identified in a clear and unmistakable manner.