



ANSI/ICEA S-58-679-2014 (2019)

Standard for Control, Instrumentation and
Thermocouple Extension Conductor
Identification

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Extension Conductor Identification***

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FOREWORD

This standard for conductor identification, ICEA S-58-679, was developed by the Insulated Cable Engineers Association (ICEA).

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Requests for interpretation of this Standard must be submitted in writing to:

Insulated Cable Engineers Association

www.icea.net

An official written interpretation will be provided once approved by ICEA. Suggestions for improvements gained in the use of this Standard will be welcomed by the Association.

PREFACE

Control, Instrumentation and Thermocouple Extension Conductor Identification

This subject has been carried in ICEA publications over the years, dating back to the 1950's. It has been updated as necessitated by changes in the National Electrical Code. It has appeared in the main part of several standards, but later, in the Appendices under designations K and E.

Due to its widespread use, the complete text and tables have been reprinted in this convenient, stand-alone document; but the appendix letters K or E have been deleted.

This information was included in now obsolete ICEA/NEMA standards S-19-81/WC3, S-61-402/WC5, S-66-524/WC7 and S-68-516/WC8.

The conductor identification methods and sequence of colors now are only included in ANSI/NEMA WC 57/ICEA S-73-532.

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CONDUCTOR IDENTIFICATION

1 SCOPE

This standard contains recommendations for conductor and circuit identification of control, instrumentation and thermocouple extension cables when such identification is used.

2 NATIONAL ELECTRICAL CODE

The National Electrical Code specifies that conductor colored white be used only as grounded conductors and that conductors colored green or green/yellow be used only as grounding conductors and that neither white nor green be used in any manner on ungrounded conductors. Tables 2 and 4 provide color sequences that do not include white or green conductors. If grounded or grounding conductors, or both, are used in the cable, they shall be colored white or green respectively, and inserted as the second or third, or both, designated conductor in the first sequence of circuit identification only. Where these conductors are required, they shall be specified.

3 METHODS OF CIRCUIT IDENTIFICATION

3.1 Method 1—Colored Compounds with Tracers

This method uses base colors with tracers in accordance with Table 1 or 2. These color combinations shall be repeated in regular sequence as necessary.

Base and tracer colors shall be recognizably the color combinations given in the tables and should approximately match the color shades given in Table 6.

Base colors may be obtained by suitable color coatings applied to the insulation or jacket surface or by colored insulation or jacket compound.

Tracers shall be colored stripes or bands marked on the surface of the insulation or jacket in such a manner as to afford distinctive circuit coding throughout the length of each wire. Tracers may be continuous or broken lines, such as series of dots or dashes, and shall be applied longitudinally, annularly, spirally, or in other distinctive patterns.

3.2 Method 2—Neutral Colored Compounds with Tracers

This method uses a neutral background or base color, such as tan, on all conductors, with tracers as defined in Method 1 and in accordance with Table 3 or 4. These color combinations shall be repeated in regular sequence as necessary.

3.3 Method 3—Neutral or Single-Color Compounds with Surface Printing of Numbers and Color Designations or Only Color Designations

This method uses a single-color insulation or covering on all conductors with printed conductor numbers and color designations or only color designations in accordance with Table 1 or 2. These color combinations shall be repeated in regular sequence as necessary.