NEMA Standards Publication TS 2-2003 (R2008)

Traffic Controller Assemblies
with NTCIP Requirements
Version 02.06

Published by:

National Electrical Manufacturers Association
1300 North 17th Street, Suite 1752
Rosslyn, Virginia 22209

www.nema.org

NOTICE AND DISCLAIMER

The information in this publication was considered technically sound by the consensus of persons engaged in the development and approval of the document at the time it was developed. Consensus does not necessarily mean that there is unanimous agreement among every person participating in the development of this document.

The National Electrical Manufacturers Association (NEMA) standards and guideline publications, of which the document contained herein is one, are developed through a voluntary consensus standards development process. This process brings together volunteers and/or seeks out the views of persons who have an interest in the topic covered by this publication. While NEMA administers the process and establishes rules to promote fairness in the development of consensus, it does not write the document and it does not independently test, evaluate, or verify the accuracy or completeness of any information or the soundness of any judgments contained in its standards and guideline publications.

NEMA disclaims liability for any personal injury, property, or other damages of any nature whatsoever, whether special, indirect, consequential, or compensatory, directly or indirectly resulting from the publication, use of, application, or reliance on this document. NEMA disclaims and makes no guaranty or warranty, expressed or implied, as to the accuracy or completeness of any information published herein, and disclaims and makes no warranty that the information in this document will fulfill any of your particular purposes or needs. NEMA does not undertake to guarantee the performance of any individual manufacturer or seller's products or services by virtue of this standard or guide.

In publishing and making this document available, NEMA is not undertaking to render professional or other services for or on behalf of any person or entity, nor is NEMA undertaking to perform any duty owed by any person or entity to someone else. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances. Information and other standards on the topic covered by this publication may be available from other sources, which the user may wish to consult for additional views or information not covered by this publication.

NEMA has no power, nor does it undertake to police or enforce compliance with the contents of this document. NEMA does not certify, test, or inspect products, designs, or installations for safety or health purposes. Any certification or other statement of compliance with any health or safety–related information in this document shall not be attributable to NEMA and is solely the responsibility of the certifier or maker of the statement.

CONTENTS

Section 2 ENVIRONMENTAL REQUIREMENTS

Section 6 AUXILIARY DEVICES

Section 8 BUS INTERFACE UNIT

Tables

Figures

Foreword

This NEMA Standards Publication TS 2-2003, *Traffic Controller Assemblies with NTCIP Requirements,* has been developed as a design guide for traffic signaling equipment which can be safely installed and provide operational features not covered by the NEMA TS 1-1989, *Traffic Control Systems*. Within the standard, any reference to a specific manufacturer is made strictly for the purpose of defining interchangeability where there exists no nationally recognized standard covering all the requirements. The manufacturer references do not constitute a preference.

The TS 2 Standards Publication has been established to reduce hazards to persons and property when traffic signaling equipment is properly selected and installed in conformance with the requirements herein.

The user's attention is called to the possibility that compliance with this standard may require use of an invention covered by patent rights. By publication of this standard, no position is taken with respect to the validity of this claim or of any patent rights in connection therewith.

Comments and suggestions for the improvement of this document are encouraged. They should be sent to:

Senior Technical Director, Operations
National Electrical Manufacturers Association
1300 North 17th Street
Rosslyn, Virginia 22209

Scope

This Standards Publication covers traffic signaling equipment used to facilitate and expedite the safe movement of pedestrians and vehicular traffic.

Two approaches to expansion of traffic features of NEMA TS 1, *Traffic Control Systems,* are provided:

Type 1—

- Entirely new performance oriented standard.

Type 2—

- Use of the MSA, B, and C connectors in common use with NEMA TS 1 equipment.

The Type 1 approach embraces:

- Controller Unit
    - Display-alphanumeric Display—32 Characters, 2 Lines Minimum
    - Port 1 Connector
        - High speed full duplex data channel connecting controller unit, conflict monitor (malfunction management unit), rear panel (terminals and facilities) and detectors.
        - All data exchange with rear panel.
        - Controller unit and conflict monitor exchange information on a regular basis, performing redundant checks on each other. Controller unit has access to all conflict monitor internal information, making enhanced event logging, remote intersection monitoring, and remote diagnostics feasible.
        - All detector information, including detector diagnostics.
        - EIA-485 serial communications interface with noise immunity characteristics.
        - SDLC (synchronous data link) communication protocol with a bit rate of 153, 600 bits/second, utilizing sophisticated error checking.
        - Vast reduction in number of wires in the cabinet.
    - Port 2 Connector
        - Interface to personal computer.
        - Interface to printer.
    - Port 3 Connector
        - 1200 baud, FSK serial port for on-street communications.