NEMA Standards Publication

NEMA ICS 10 Part 2-2020

Standard for Industrial Control and Systems Part 2: Static AC Transfer Equipment

National Electrical Manufacturers Association

NEMA Standards Publication ICS 10 Part 2-2020

Industrial Control and Systems

Part 2: *Static AC Transfer Equipment*

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Foreword

This publication was prepared by a technical committee of the NEMA Industrial Control and Systems Section. It was approved in accordance with the bylaws of NEMA.

ICS 10-2020, Part 2 replaces and supersedes ICS 10-2005, Part 2.

This publication provides practical information concerning ratings and application of static (solid-state) transfer switches and may be used by the electrical industry to provide guidelines for the proper application of products and equipment.

Properly constructed equipment is only one factor in minimizing the hazards which may be associated with the use of electricity. The reduction of hazard involves the joint efforts of the various equipment manufacturers, the system designer, the installer, and the user. Information is provided herein to assist users and others in the proper selection of equipment.

The equipment manufacturer has limited or no control over the following factors which are vital to a safe installation:

a. Environmental conditions
b. System design
c. Equipment selection and application
d. Installation
e. Operation practices
f. Maintenance

This publication is not intended to instruct the user of equipment with regard to these factors except insofar as suitable equipment to meet needs can be recognized in this publication, and application guidance is given.

This publication is necessarily confined to providing recommendations for proper selection for use under normal or certain specific conditions. Since any piece of equipment can be installed, operated, and maintained in such a manner that hazardous conditions may result, conformance with this publication does not by itself assure a safe installation. When, however, equipment conforming to the applicable standards is properly selected and is installed in accordance with the *National Electrical Code*® (NEC) and properly maintained, the hazards to persons and property will be reduced.

NEMA Standards publications are subject to periodic review. They are reviewed periodically to and revised if necessary to reflect user input and to meet changing conditions and technical progress. Users should obtain the latest editions.

Proposed additions to this publication should be submitted to:

NEMA Technical Operations Department
National Electrical Manufacturers Association
1300 North 17th Street
Rosslyn, Virginia 22209

This publication was developed by the NEMA Industrial Automation Control Products and Systems Section. Section approval of the Standard does not necessarily imply that all section Members voted for

its approval or participated in its development. At the time it was approved, the section was composed of the following Members:

ABB, Inc.—Cary, NC
ASCO Power Technologies—Florham Park, NJ
Carlo Gavazzi, Inc.—Buffalo Grove, IL
Cummins, Inc.—Minneapolis, MN
Danfoss Drives—Chambersburg, PA
Delta Electronics (Americas) Ltd.—Research Triangle Park, NC
E+I Engineering US Corporation—Anderson, SC
Eaton—Milwaukee, WI
Electro Switch Corporation—Weymouth, MA
Elliott Control Company, Ltd.—Willis, TX
Franklin Control Systems—Hillsboro, OR
Fuji Electric Corporation of America—Roanoke, VA
Generac Power Systems—Waukesha, WI
Hubbell Industrial Controls, Inc.—Archdale, NC
Joslyn Clark Controls, Inc.—Elizabethtown, NC
Master Controls Systems, Inc.—Lake Bluff, IL
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Toshiba International Corporation USA—Houston, TX
WAGO Corporation—Germantown, WI
Weidmuller Inc.—Richmond, VA
Yaskawa America, Inc. Drives and Motion Division—Waukegan, IL

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Part 2
Static AC Transfer Equipment

1 Scope

This publication applies to static (solid-state), automatic and non-automatic open transition transfer equipment (without cross-connection of sources during transfer or retransfer), with or without bypass isolation switches, rated 600 volts AC or less, not exceeding 6000 amps, for use on single-phase and polyphase AC circuits.

Closed transition static transfer equipment (that does have cross-connection of sources during transfer or retransfer) is outside the scope of this Standard.

1.1 General

The definitions and requirements of NEMA ICS 1, except for clause 7 pertaining to spacings as indicated, also apply to this publication.

This publication covers static automatic transfer equipment intended for use in ordinary (non-hazardous) locations to provide for lighting and power only in optional standby systems in accordance with Article 702 of the *National Electrical Code*®, ANSI/NFPA 70.

1.2 Normative References

In this NEMA Standards Publication, reference is made to the following Standards listed below. Copies are available from the indicated sources.

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

ICS 1-2000 (2015)	*Industrial Control and Systems General Requirements*
ICS 1.3-1986 (2015)	*Preventive Maintenance of Industrial Control and Systems Equipment*
MG 1-2016	*Motors and Generators*

Underwriters Laboratories Inc.
333 Pfingsten Road
Northbrook, IL 60062

UL 869A	*Service Equipment*
UL 1008S	*Solid-State Transfer Switches*