

American Standard Requirements for

Automatic Circuit Reclosers and Automatic Line Sectionalizers For Alternating-Current Systems

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Approved January 19, 1959

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Published by
AMERICAN STANDARDS ASSOCIATION
INCORPORATED

70 East Forty-fifth Street
New York 17, N. Y.

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Universal Decimal Classification 621.3.064:621.3.078

Printed in U.S.A.

13M559/140

Foreword

(This Foreword is not a part of American Standard Requirements for Automatic Circuit Reclosers and Automatic Line Sectionalizers for Alternating-Current Systems, C37.22-1959.)

This publication was based on a revision (including sectionalizers) of American Institute of Electrical Engineers Publication 50, Automatic Circuit Reclosers for A-C Distribution Systems, and National Electrical Manufacturers Association Publication SG 13-1958, Automatic Circuit Reclosers and Automatic Line Sectionalizers, and was prepared by ASA Subcommittee C37-5 on Automatic Reclosers and Line Sectionalizers.

Upon recommendation by Subcommittee C37-5 the proposed American Standard was voted on by Sectional Committee C37 on Power Switchgear and subsequently approved as American Standard.

Suggestions for improvement gained in the use of this standard will be welcome. They should be sent to the American Standards Association, Incorporated, 70 East Forty-fifth Street, New York 17, N.Y.

The ASA Sectional Committee on Power Switchgear, C37, which reviewed and approved this standard, had the following personnel at the time of approval:

V. L. Cox, *Chairman*

O. B. VIKOREN, *Secretary*

<i>Organization Represented</i>	<i>Name of Representative</i>
American Institute of Electrical Engineers.....	L. R. GATY F. W. McCLOSKE R. C. VAN SICKLE C. A. WOODROW J. C. WOODS M. A. HYDE (<i>Alt</i>) J. H. VIVIAN (<i>Alt</i>)
Association of Iron & Steel Engineers.....	T. S. NOVAK
Electric Light & Power Group.....	HARRIS BARBER OSCAR BAUMAN J. H. FOOTE R. G. MEYERAND A. T. HIGGINS (<i>Alt</i>) R. R. WAGSTAFF (<i>Alt</i>)
National Electrical Manufacturers Association.....	V. L. COX A. W. HILL S. C. KILLIAN J. W. MAY P. M. ROSS T. G. A. SILLERS
Tennessee Valley Authority.....	MERRILL DEMERIT
U.S. Department of the Army (<i>Liaison</i>).....	W. K. CAVE
U.S. Department of the Interior, Bureau of Reclamation.....	D. C. MILLARD
U.S. Department of the Navy, Bureau of Yards and Docks.....	C. D. FRIDAY

Subcommittee 5 on Automatic Reclosers and Line Sectionalizers

A. VAN RYAN, *Chairman*

H. BROOKS	E. J. FIELD
L. B. CRANN	J. R. GUY
F. W. EDWARDS	J. B. HENDRICKS
W. C. MITCHELL	

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American Standard Requirements for Automatic Circuit Reclosers and Automatic Line Sectionalizers For Alternating-Current Systems

1. Scope

1.1 This standard applies to all single- or multi-pole alternating-current automatic circuit reclosers and automatic line sectionalizers for the nominal voltages from 1,500 to 23,000 volts.

1.2 In order to simplify this standard where possible: The term "recloser" has been substituted for "automatic circuit recloser."

The term "sectionalizer" has been substituted for "automatic line sectionalizer."

2. Service Conditions

2.1 Usual Service Conditions. Equipment conforming to this standard shall be suitable for operation at its standard rating provided that:

- (1) The temperature of the cooling air (ambient temperature) does not exceed 40 C.
- (2) The altitude does not exceed 3300 feet (1000 meters).

2.2 Unusual Temperature and Altitude Service Conditions

2.2.1 The application of this equipment at higher ambient temperatures or at higher altitudes than specified in 2.1 shall be considered as special.

2.2.2 Standard equipment may be applied at higher ambient temperatures or at higher altitudes than specified, but its performance may be affected and special consideration should be given to these applications.

2.3 Applications at Altitudes Greater Than 3300 Feet (1000 Meters)

2.3.1 Equipment that depends on air for its insulating and cooling medium will have a higher temperature rise and a lower dielectric strength when operated at altitudes above 3300 feet.

2.3.2 Voltage and current ratings should be multiplied by factors shown in Columns 1 and 2 of Table 1.

2.3.3 Equipment designed for standard tempera-

TABLE 1
Altitude Correction

Altitude		Altitude Correction Factor to be Applied to		
		Column 1	Column 2	Column 3
Feet	Meters	Voltage Rating	Current Rating	Ambient Temperatures
3,300	1,000	1.00	1.00	1.00
4,000	1,200	0.98	0.995	0.992
5,000	1,500	0.95	0.99	0.980
10,000	3,000	0.80	0.96	0.920
16,000	4,800	0.65	0.925	0.848

ture rise may be used at its normal current rating without exceeding ultimate standard temperature limits provided that the ambient temperature does not exceed the ambient allowed in 2.1 multiplied by the factor shown in Column 3 of Table 1.

2.3.4 If the derating (as determined from Table 1) is serious, equipment of a suitably higher rating should be chosen to meet requirements after correction factors have been applied. The correction factors in Table 1, Columns 2 and 3, are not to be applied at the same time.

2.4 Other Conditions Which May Affect Design and Applications. Where other unusual conditions exist they should be brought to the attention of those responsible for the design and application of the equipment. Examples of such conditions are:

- (1) Damaging fumes or vapors, excessive or abrasive dust, explosive mixtures of dust or gases, steam, salt spray, excessive moisture or dripping water, etc
- (2) Abnormal vibration, shocks, or tilting
- (3) Excessively high (above 40 C) or low (below -30 C) temperatures
- (4) Unusual transportation or storage conditions
- (5) Unusual operating duty, frequency of operation, inadequate maintenance, poor waveform, unbalanced voltage, special insulation requirements, capacitive switching, etc