



IEC 61557-7

Edition 3.0 2019-07
REDLINE VERSION

INTERNATIONAL STANDARD



**Electrical safety in low voltage distribution systems up to 1 000 V a.c. and
1 500 V d.c. – Equipment for testing, measuring or monitoring of protective
measures –
Part 7: Phase sequence**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 17.220.20; 29.080.01; 29.240.01

ISBN 978-2-8322-7161-2

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CONTENTS

FOREWORD	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Requirements	6
4.1 General	7
4.2 Indication	7
4.3 Measuring equipment	8
4.3.1 General	8
4.3.2 Portable phase sequence indicator	8
4.3.3 Test leads for direct contact with live parts and accessories	8
5 Marking and operating instructions	9
5.1 Marking	9
5.2 Operating instructions	9
6 Tests	9
6.1 General	9
6.1.1 Tests – General	9
6.1.2 Visual display	9
6.1.3 Audible indication (if applicable)	10
6.2 Leakage current	10
6.3 Test of mechanical requirements (type tests)	10
6.3.1 Mechanical shock test	10
6.3.2 Test of leads for direct contact with live parts	10
6.4 Overvoltage	10
6.5 Test of markings	11
Annex A (normative) Illustrations for mechanical tests	12
Annex B (informative) Phase sequence test	14
B.1 Phase sequence test – Tripolar connection	14
B.2 Phase sequence test – Sequential bipolar connection	14
Bibliography	16
Figure A.1 – Mechanical shock test	12
Figure A.2 – Drop test	13
Figure B.1 – Tripolar connection	14
Figure B.2 – Sequential bipolar connection	15

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICAL SAFETY IN LOW VOLTAGE DISTRIBUTION SYSTEMS
UP TO 1 000 V AC AND 1 500 V DC –
EQUIPMENT FOR TESTING, MEASURING OR MONITORING
OF PROTECTIVE MEASURES –****Part 7: Phase sequence****FOREWORD**

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International Standard IEC 61557-7 has been prepared by IEC technical committee 85: Measuring equipment for electrical and electromagnetic quantities.

This third edition cancels and replaces the second edition published in 2007. This edition constitutes a technical revision.

This edition includes the following changes with respect to the previous edition:

- a) alignment of the structure with that of the whole IEC 61557 series;
- b) updated requirements in 4.3 in accordance with new editions of IEC 61010-1 and IEC 61010-031;
- c) the information on markings was extended;
- d) the information on the operating instructions was extended;
- e) complement to the information on the testing of leads;
- f) test leads for insulated conductors were introduced;
- g) Annex B was added with information on phase sequence tests and indications.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
85/683/FDIS	85/698/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

This International Standard is to be used in conjunction with IEC 61557-1:2019.

A list of all parts of the IEC 61557 series, published under the general title *Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC – Equipment for testing, measuring or monitoring of protective measures*, can be found on the IEC website

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ELECTRICAL SAFETY IN LOW VOLTAGE DISTRIBUTION SYSTEMS UP TO 1 000 V AC AND 1 500 V DC – EQUIPMENT FOR TESTING, MEASURING OR MONITORING OF PROTECTIVE MEASURES –

Part 7: Phase sequence

1 Scope

This part of IEC 61557 specifies the requirements ~~for~~ applicable to measuring equipment ~~applied to~~ for testing the phase sequence in three-phase distribution systems. Indication of the phase sequence ~~may~~ can be mechanical, visual and/or audible.

~~This part of IEC 61557 does not apply to ancillary measuring equipment for other quantities, for example voltage testers comprising an additional phase sequence indicator. This document does not apply to additional measurements for other quantities. It does not apply to monitoring relays.~~

NOTE ~~Phase lamps are not considered to be voltage testers.~~ Common worldwide three-phase distribution systems are depicted in IEC 61010-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

~~IEC 60417, Graphical symbols for use on equipment~~

IEC 61010-1:2010, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements*
IEC 61010-1:2010/AMD1:2016¹

IEC 61010-2-030:2017, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-030: Particular requirements for equipment having testing or measuring circuits*

IEC 61010-031, *Safety requirements for electrical equipment for measurement, control and laboratory use – Part 031: Safety requirements for hand-held and hand-manipulated assemblies for electrical test and measurement*

~~IEC 61010-3-031, Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 3-031: Conformity verification report for IEC 61010-031:2002 – Safety requirements for hand-held probe assemblies for electrical test and measurement~~

IEC 61557-1:2019 *Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC – Equipment for testing, measuring or monitoring of protective measures – Part 1: General requirements*

¹ A consolidated version of this publication exists, comprising IEC 61010-1:2010 and IEC 61010-1:2010/AMD1:2016.

INTERNATIONAL STANDARD

NORME INTERNATIONALE



Electrical safety in low voltage distribution systems up to 1 000 V a.c. and 1 500 V d.c. – Equipment for testing, measuring or monitoring of protective measures –

Part 7: Phase sequence

Sécurité électrique dans les réseaux de distribution basse tension au plus égale à 1 000 V c.a. et 1 500 V c.c. – Dispositifs de contrôle, de mesure ou de surveillance de mesures de protection –

Partie 7: Ordre de phases

CONTENTS

FOREWORD	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Requirements	6
4.1 General	6
4.2 Indication	6
4.3 Measuring equipment	7
4.3.1 General	7
4.3.2 Portable phase sequence indicator	7
4.3.3 Test leads for direct contact with live parts and accessories	7
5 Marking and operating instructions	8
5.1 Marking	8
5.2 Operating instructions	8
6 Tests	8
6.1 General	8
6.1.1 Tests – General	8
6.1.2 Visual display	8
6.1.3 Audible indication (if applicable)	8
6.2 Leakage current	8
6.3 Test of mechanical requirements (type tests)	9
6.3.1 Mechanical shock test	9
6.3.2 Test of leads for direct contact with live parts	9
6.4 Overvoltage	9
6.5 Test of markings	9
Annex A (normative) Illustrations for mechanical tests	10
Annex B (informative) Phase sequence test	12
B.1 Phase sequence test – Tripolar connection	12
B.2 Phase sequence test – Sequential bipolar connection	12
Bibliography	14
Figure A.1 – Mechanical shock test	10
Figure A.2 – Drop test	11
Figure B.1 – Tripolar connection	12
Figure B.2 – Sequential bipolar connection	13

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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UP TO 1 000 V AC AND 1 500 V DC –
EQUIPMENT FOR TESTING, MEASURING OR MONITORING
OF PROTECTIVE MEASURES –****Part 7: Phase sequence****FOREWORD**

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ELECTRICAL SAFETY IN LOW VOLTAGE DISTRIBUTION SYSTEMS UP TO 1 000 V AC AND 1 500 V DC – EQUIPMENT FOR TESTING, MEASURING OR MONITORING OF PROTECTIVE MEASURES –

Part 7: Phase sequence

1 Scope

This part of IEC 61557 specifies the requirements applicable to measuring equipment for testing the phase sequence in three-phase distribution systems. Indication of the phase sequence can be mechanical, visual and/or audible.

This document does not apply to additional measurements for other quantities. It does not apply to monitoring relays.

NOTE Common worldwide three-phase distribution systems are depicted in IEC 61010-1.

2 Normative references

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IEC 61010-1:2010/AMD1:2016¹

IEC 61010-2-030:2017, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-030: Particular requirements for equipment having testing or measuring circuits*

IEC 61010-031, *Safety requirements for electrical equipment for measurement, control and laboratory use – Part 031: Safety requirements for hand-held and hand-manipulated assemblies for electrical test and measurement*

IEC 61557-1:2019 *Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC – Equipment for testing, measuring or monitoring of protective measures – Part 1: General requirements*

¹ A consolidated version of this publication exists, comprising IEC 61010-1:2010 and IEC 61010-1:2010/AMD1:2016.

SOMMAIRE

AVANT-PROPOS	17
1 Domaine d'application	19
2 Références normatives	19
3 Termes et définitions	19
4 Exigences	20
4.1 Généralités	20
4.2 Indication	20
4.3 Appareil de mesure	21
4.3.1 Généralités	21
4.3.2 Indicateur d'ordre de phases portatif	21
4.3.3 Câbles d'essai pour un contact direct avec les parties actives et accessoires	21
5 Marquage et instructions de fonctionnement	22
5.1 Marquage	22
5.2 Instructions de fonctionnement	22
6 Essais	22
6.1 Généralités	22
6.1.1 Essais – Généralités	22
6.1.2 Indication visuelle	22
6.1.3 Indication sonore (le cas échéant)	22
6.2 Courant de fuite	22
6.3 Essai de conformité aux exigences mécaniques (essais de type)	23
6.3.1 Essai de tenue aux chocs mécaniques	23
6.3.2 Essai des câbles pour un contact direct avec les parties actives	23
6.4 Surtension	23
6.5 Essai des marquages	23
Annexe A (normative) Représentation des essais mécaniques	24
Annexe B (informative) Essai d'ordre des phases	26
B.1 Essai d'ordre des phases – Raccordement tripolaire	26
B.2 Raccordement séquentiel bipolaire	26
Bibliographie	28
Figure A.1 – Essai de tenue aux chocs mécaniques	24
Figure A.2 – Essai de tenue aux chutes	25
Figure B.1 – Raccordement tripolaire	26
Figure B.2 – Raccordement séquentiel bipolaire	27

COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

SÉCURITÉ ÉLECTRIQUE DANS LES RÉSEAUX DE DISTRIBUTION BASSE TENSION AU PLUS ÉGALE À 1 000 V C.A. ET 1 500 V C.C. – DISPOSITIFS DE CONTRÔLE, DE MESURE OU DE SURVEILLANCE DE MESURES DE PROTECTION –

Partie 7: Ordre de phases

AVANT-PROPOS

- 1) La Commission Electrotechnique Internationale (IEC) est une organisation mondiale de normalisation composée de l'ensemble des comités électrotechniques nationaux (Comités nationaux de l'IEC). L'IEC a pour objet de favoriser la coopération internationale pour toutes les questions de normalisation dans les domaines de l'électricité et de l'électronique. A cet effet, l'IEC – entre autres activités – publie des Normes internationales, des Spécifications techniques, des Rapports techniques, des Spécifications accessibles au public (PAS) et des Guides (ci-après dénommés "Publication(s) de l'IEC"). Leur élaboration est confiée à des comités d'études, aux travaux desquels tout Comité national intéressé par le sujet traité peut participer. Les organisations internationales, gouvernementales et non gouvernementales, en liaison avec l'IEC, participent également aux travaux. L'IEC collabore étroitement avec l'Organisation Internationale de Normalisation (ISO), selon des conditions fixées par accord entre les deux organisations.
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La Norme internationale IEC 61557-7 a été établie par le comité d'études 85 de l'IEC: Equipement de mesure des grandeurs électriques et électromagnétiques.

Cette troisième édition annule et remplace la deuxième édition parue en 2007. Cette édition constitue une révision technique.

Cette édition inclut les modifications majeures suivantes par rapport à l'édition précédente:

- a) alignement de la structure sur l'ensemble de la série IEC 61557;
- b) mise à jour des exigences définies au 4.3 par rapport aux nouvelles éditions de l'IEC 61010-1 et de l'IEC 61010-031;
- c) développement des informations concernant le marquage;

- d) développement des informations concernant les instructions de fonctionnement;
- e) développement des informations concernant les essais des câbles;
- f) les câbles d'essai pour conducteurs isolés ont été introduits;
- g) l'Annexe B a été ajoutée avec information sur l'essai d'ordre de phases et indication d'ordre de phases.

Le texte de cette Norme internationale est issu des documents suivants:

FDIS	Rapport de vote
85/683/FDIS	85/698/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette Norme internationale.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2.

Cette Norme internationale doit être utilisée conjointement avec l'IEC 61557-1:2019.

Une liste de toutes les parties de la série IEC 61557, publiées sous le titre général *Sécurité électrique dans les réseaux de distribution basse tension au plus égale à 1 000 V c.a. et 1 500 V c.c. — Dispositifs de contrôle, de mesure ou de surveillance de mesures de protection*, peut être consultée sur le site web de l'IEC.

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SÉCURITÉ ÉLECTRIQUE DANS LES RÉSEAUX DE DISTRIBUTION BASSE TENSION AU PLUS ÉGALE À 1 000 V C.A. ET 1 500 V C.C. – DISPOSITIFS DE CONTRÔLE, DE MESURE OU DE SURVEILLANCE DE MESURES DE PROTECTION –

Partie 7: Ordre de phases

1 Domaine d'application

La présente partie de l'IEC 61557 spécifie les exigences applicables aux appareils de mesure destinés à soumettre à essai l'ordre des phases dans les réseaux de distribution triphasés. L'indication de l'ordre des phases peut être mécanique, visuelle et/ou audible.

Le présent document ne s'applique pas aux mesures supplémentaires destinées à d'autres grandeurs. Elle ne s'applique pas aux relais de surveillance.

NOTE Les réseaux de distribution triphasés communs à l'échelle mondiale sont décrits dans l'IEC 61010-1.

2 Références normatives

Les documents suivants sont cités dans le texte de sorte qu'ils constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 61010-1:2010, *Règles de sécurité pour appareils électriques de mesurage, de régulation et de laboratoire – Partie 1: Exigences générales*
IEC 61010-1:2010/AMD1:2016¹

IEC 61010-2-030:2017, *Exigences de sécurité pour appareils électriques de mesurage, de régulation et de laboratoire – Partie 2-030: Exigences particulières pour les appareils équipés de circuits d'essai ou de mesure*

IEC 61010-031, *Règles de sécurité pour appareils électriques de mesurage, de régulation et de laboratoire – Partie 031: Prescriptions de sécurité pour sondes équipées portatives et manipulées à la main pour mesurage et essais électriques*

IEC 61557-1:2019, *Sécurité électrique dans les réseaux de distribution basse tension au plus égale à 1 000 V c.a. et 1 500 V c.c. – Dispositifs de contrôle, de mesure ou de surveillance de mesures de protection – Partie 1: Exigences générales*

¹ Il existe une version consolidée de cette publication, comprenant l'IEC 61010-1:2010 et l'IEC 61010-1:2010/AMD1:2016.