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Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Obsahuje: EN 60255-149:2013, IEC 60255-149:2013

Oznámením tejto normy sa od 3.9.2016 ruší  
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Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy  
rozmnžovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.



English version

**Measuring relays and protection equipment -  
Part 149: Functional requirements for thermal electrical relays  
(IEC 60255-149:2013)**

Relais de mesure et dispositifs de  
protection -  
Partie 149: Exigences fonctionnelles pour  
les relais électriques thermiques  
(CEI 60255-149:2013)

Messrelais und Schutzeinrichtungen -  
Teil 149: Funktionsanforderungen an den  
thermischen Überlastschutz  
(IEC 60255-149:2013)

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## Foreword

The text of document 95/313/FDIS, future edition 1 of IEC 60255-149, prepared by IEC/TC 95 "Measuring relays and protection equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60255-149:2013.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2014-06-03
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-09-03

This document supersedes EN 60255-8:1998.

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The text of the International Standard IEC 60255-149:2013 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60034-11	NOTE	Harmonized as EN 60034-11.
IEC 60947-4-1	NOTE	Harmonized as EN 60947-4-1.
IEC 60947-4-2	NOTE	Harmonized as EN 60947-4-2.
IEC 61850-9-2	NOTE	Harmonized as EN 61850-9-2.

**Annex ZA**  
(normative)  
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with their corresponding European publications**

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NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050	Series	International Electrotechnical Vocabulary (IEV)	-	-
IEC 60085	2007	Electrical insulation - Thermal evaluation and designation	EN 60085	2008
IEC 60255-1	-	Measuring relays and protection equipment - Part 1: Common requirements	EN 60255-1	-
IEC 61850-7-4	-	Communication networks and systems for power utility automation - Part 7-4: Basic communication structure - Compatible logical node classes and data object classes	EN 61850-7-4	-





# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



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**Measuring relays and protection equipment –  
Part 149: Functional requirements for thermal electrical relays**

**Relais de mesure et dispositifs de protection –  
Partie 149: Exigences fonctionnelles pour relais électriques thermiques**





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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



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**Measuring relays and protection equipment –  
Part 149: Functional requirements for thermal electrical relays**

**Relais de mesure et dispositifs de protection –  
Partie 149: Exigences fonctionnelles pour relais électriques thermiques**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MEASURING RELAYS AND PROTECTION EQUIPMENT –****Part 149: Functional requirements for thermal electrical relays**

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International Standard IEC 60255-149 has been prepared by IEC technical committee 95: Measuring relays and protection equipment.

This first edition cancels and replaces IEC 60255-8, published in 1990.

The text of this standard is based on the following documents:

FDIS	Report on voting
95/313/FDIS	95/317/RVD

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

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

A list of all parts of IEC 60255 series, under the general title *Measuring relays and protection equipment*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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## MEASURING RELAYS AND PROTECTION EQUIPMENT –

### Part 149: Functional requirements for thermal electrical relays

#### 1 Scope

This part of the IEC 60255 series specifies minimum requirements for thermal protection relays. This standard includes specification of the protection function, measurement characteristics and test methodologies.

The object of this standard is to establish a common and reproducible reference for evaluating dependent time relays which protect equipment from thermal damage by measuring a.c. current flowing through the equipment. Complementary input energizing quantities such as ambient, coolant, top oil and winding temperature may be applicable for the thermal protection specification set forth in this standard. This standard covers protection relays based on a thermal model with memory function.

The test methodologies for verifying performance characteristics of the thermal protection function and accuracy are also included in this Standard.

This standard does not intend to cover the thermal overload protection trip classes indicated in IEC 60947-4-1 and IEC 60947-4-2, related to electromechanical and electronic protection devices for low voltage motor-starters.

The thermal protection functions covered by this standard are as follows:

Protection function	IEC 61850-7-4	IEEE C37.2
Thermal overload protection	PTTR	49
Rotor thermal overload protection	PROL	49R
Stator thermal overload protection	PSOL	49S

General requirements for measuring relays and protection equipment are specified in IEC 60255-1.

#### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050 (all parts), *International Electrotechnical Vocabulary* (available at <http://www.electropedia.org>)

IEC 60085, *Electrical insulation – Thermal evaluation and designation*

IEC 60255-1, *Measuring relays and protection equipment – Part 1: Common requirements*

IEC 61850-7-4, *Communication networks and systems for power utility automation – Part 7-4: Basic communication structure – Compatible logical node classes and data classes*

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