

AS/NZS 60255.127:2025



Australian/New Zealand Standard™

# Measuring relays and protection equipment

Part 127: Functional requirements for over/under voltage protection (IEC 60255-127:2010 (ED. 1.0) MOD)



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AS/NZS 60255.127:2025

This Joint Australian/New Zealand Standard™ was prepared by Joint Technical Committee EL-042, Renewable Energy Power Supply Systems & Equipment. It was approved on behalf of Standards Australia's Standards Development and Accreditation Committee on 16 January 2025 and by the New Zealand Standards Approval Board on 11 December 2024.

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## Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-042, Renewable Energy Power Supply Systems and Equipment.

The objective of this document is to specify minimum requirements for over/under voltage relays. This document includes specification of the protection function, measurement characteristics and time delay characteristics.

This document defines the influencing factors that affect the accuracy under steady-state conditions and performance characteristics during dynamic conditions. The test methodologies for verifying performance characteristics and accuracy are also included in this document.

The general requirements for measuring relays and protection equipment are specified in AS/NZS 60255.1.

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## Contents

Preface .....	ii
FOREWORD .....	v
<b>1 Scope .....</b>	<b>1</b>
<b>2 Normative references .....</b>	<b>1</b>
<b>3 Terms and definitions .....</b>	<b>2</b>
<b>4 Specification of the function .....</b>	<b>3</b>
4.1 General .....	3
4.2 Input energising quantities/Energising quantities .....	3
4.3 Binary input signals .....	4
4.4 Functional logic .....	4
4.4.1 Operating characteristics .....	4
4.4.2 Reset characteristics .....	7
4.5 Binary output signals .....	9
4.5.1 Start (pick-up) signal .....	9
4.5.2 Operate (trip) signal .....	9
4.5.3 Other binary output signals .....	9
<b>5 Performance specification .....</b>	<b>9</b>
5.1 Accuracy related to the characteristic quantity .....	9
5.2 Accuracy related to the operate time .....	10
5.3 Accuracy related to the reset time .....	10
5.4 Transient performance .....	10
5.4.1 Overshoot time .....	10
5.4.2 Response to time varying value of the characteristic quantity .....	11
5.5 Voltage transformer requirements .....	11
<b>6 Functional test methodology .....</b>	<b>11</b>
6.1 General .....	11
6.2 Determination of steady state errors related to the characteristic quantity .....	12
6.2.1 Accuracy of setting (start) value .....	12
6.2.2 Reset ratio determination .....	12
6.3 Determination of steady state errors related to the start and operate time .....	13
6.4 Determination of steady state errors related to the reset time .....	14
6.5 Determination of transient performance .....	14
6.5.1 Overshoot time for undervoltage protection .....	14
6.5.2 Response to time varying value of the characteristic quantity for dependent time relays .....	15
<b>7 Documentation requirements .....</b>	<b>16</b>
7.1 Type test report .....	16
7.2 Other user documentation .....	16
<b>Annex A (informative) Reset time determination for relays with trip output only .....</b>	<b>18</b>
<b>Bibliography .....</b>	<b>19</b>
<b>List of Figures</b>	
Figure 1 — Simplified protection function block diagram .....	3
Figure 2 — Overvoltage independent time characteristic .....	5
Figure 3 — Undervoltage independent time characteristic .....	5
Figure 4 — Dependent time characteristic for overvoltage protection .....	6
Figure 5 — Dependent time characteristic for undervoltage protection .....	7
Figure 6 — Definite time reset characteristic .....	9
Figure 7 — Definite time reset characteristic (alternative solution with instantaneous reset after relay operation) .....	9

Figure 8 — Test waveform.....	15
Figure A.1 — Dependent reset time determination.....	18

## List of Tables

Table 1 — Test points for overvoltage elements.....	13
Table 2 — Test points for undervoltage elements.....	13
Table 3 — Test points for overvoltage elements.....	14
Table 4 — Test points for undervoltage elements.....	14
Table 5 — Recommended values for the test.....	15

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## FOREWORD

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International Standard IEC 60255-127 has been prepared by IEC technical committee 95: Measuring relays and protection equipment.

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

CDV	Report on voting
95/254/CDV	95/261/RVC

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

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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# Australian/New Zealand Standard

## Measuring relays and protection equipment

### Part 127: Functional requirements for over/under voltage protection (IEC 60255-127:2010 (ED. 1.0) MOD)

#### 1 Scope

This part of IEC 60255 specifies minimum requirements for over/under voltage relays. The standard includes specification of the protection function, measurement characteristics and time delay characteristics.

This standard defines the influencing factors that affect the accuracy under steady state conditions and performance characteristics during dynamic conditions. The test methodology for verifying performance characteristics and accuracy are also included in this standard.

The over/under voltage functions covered by this standard are as follows:

	IEEE/ANSI C37.2	IEC 61850-7-4
	Function numbers	Logical nodes
Phase undervoltage protection	27	PTUV
Positive sequence undervoltage protection	27D	PTUV
Phase overvoltage protection	59	PTOV
Residual/zero-sequence overvoltage protection	59N/59G	PTOV
Negative sequence/ unbalance overvoltage protection	47	PTOV

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

#### 2 Normative references

The following referenced documents are indispensable for the application 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.

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IEC 60044 (all parts), *Instrument transformers*