



Technical Specification 12-6

Issue 2 2014

Time fuse-links for use with current transformer releases on circuit-breakers

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Amendments since publication

Issue	Date	Amendment
1	1973	First issue
2	2014	<p>Major revision and updating of reference publications.</p> <p>This issue includes the following principal technical changes.</p> <p>Scope extended to cover protection of ENA TS 35-1 distribution transformers with rated powers up to and including 1 500 kVA for use on 11 kV and 20 kV systems.</p> <p>Rated current of low voltage distributor fuse-links changed to align with preferred values in ENA TS 12-08.</p> <p>New Clause 4: Classification added with requirement for time fuse-links to generally conform to BS EN 60269-1, BS 88-1 and BS HD 60269-2, BS 88-2.</p> <p>Clause 7.2: Mountings amended so covers have degree of protection not less than IP3X in accordance with BS EN 60529.</p> <p>Tables 2 & 3: LV distributor fuses with rated currents of 150 A, 300 A and 600 A changed to 200 A, 315 A and 630 A respectively to align with ENA TS 12-08. Time fuse-link selections added for 1 250 kVA and 1 500 kVA distribution transformers associated with 11 kV systems.</p> <p>New Table 4 added with time fuse-link selections for distribution transformers associated with 20 kV systems.</p> <p>Details of all other technical, general and editorial amendments are included in the associated Document Amendment Summary for this Issue (available on request from the Operations Directorate of ENA).</p>

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Foreword

This Technical Specification (TS) is published by the Energy Networks Association (ENA) and comes into effect from date of publication. It has been prepared under the authority of the ENA Engineering Policy and Standards Manager and has been approved for publication by the ENA Electricity Networks and Futures Group (ENFG). The approved abbreviated title of this engineering document is "ENA TS 12-6".

This issue cancels and replaces Issue 1 1973.

This Specification has been revised with direction from the ENA Protection Assessment Panel to ensure requirements for time fuse-links conform to relevant BS EN Standards for fuse-links.

The scope of this issue has been extended to cover protection of ENA TS 35-1 distribution transformers with rated powers up to and including 1 500 kVA for use on 11 kV and 20 kV systems.

Level 1 headings in this issue have been aligned with those in BS HD 60269-2, BS 88-2 for the purposes on conformance declaration by manufacturers.

Where the term "shall" or "must" is used in this document it means the requirement is mandatory. The term "may" is used to express permission.

NOTE: Commentary, explanation and general informative material is presented in smaller type, and does not constitute a requirement.

1 Scope

The time fuse-links covered by this Specification are intended to protect distribution transformers covered by ENA TS 35-1 [N1] with rated powers from 200 kVA to 1 500 kVA and to discriminate with low voltage distributor fuse-links covered by ENA TS 12-08 [N2] connected to the transformer secondaries with current ratings up to 630 A.

NOTE: Distribution transformers with rated powers exceeding 1 500 kVA are intended to be protected by relays.

This Specification covers time fuse-links for use with current transformer release coils of circuit-breakers, where each protection element is fitted with one conventional a.c. release coil. They are primarily for use with standard 6.6 kV, 11 kV and 20 kV distribution switchgear as covered by ENA TS 41-36 [3] but may be used with other circuit-breakers.

2 Normative references

The following referenced documents, in whole or part, 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.

Standards publications

BS 2572:1990, *Specification for phenolic laminated sheet and epoxy cotton fabric laminated sheet*

BS EN 60269-1:2007+A1:2009, BS 88-1: 2007, *Low-voltage fuses. General requirements*

BS HD 60269-2:2013, BS 88-2: 2013, *Low-voltage fuses. Supplementary requirements for fuses for use by authorized person (fuses mainly for industrial application). Examples of standardized systems of fuses A to K*

BS EN 60529:1992+A2:2013, *Degrees of protection provided by enclosures (IP code)*

Other publications

[N1] ENA TS 35-1, *Distribution transformers (from 16 kVA to 2 000 kVA)*

[N2] ENA TS 12-08, *The application of fuse-links to 11 kV/400 V and 6.6 kV/400 V underground distribution networks*

[N3] ENA TS 41-36, *Switchgear for service up to 36 kV (cable and overhead conductor connected)*

NOTE: ENA Engineering Documents are revised when necessary by the issue either of revised pages or complete new editions. It is important that users ascertain they are in possession of the latest issues.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

FLC

full load current

3.2

release coil

current operated coil that operates the trip mechanism of a circuit-breaker