

TECHNICAL SPECIFICATION

AMENDMENT 1

**Shunt capacitors for AC power systems having a rated voltage above 1 000 V –
Part 3: Protection of shunt capacitors and shunt capacitor banks**

IEC TS 60871-3:2015/AMD1:2023

<https://standards.iteh.ai/catalog/standards/sist/01d1a1d6-ed48-4cdf-bf37-c8060932257a/iec-ts-60871-3-2015-amd1-2023>



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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 29.240.99; 31.060.70

ISBN 978-2-8322-7394-4

Warning! Make sure that you obtained this publication from an authorized distributor.

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SHUNT CAPACITORS FOR AC POWER SYSTEMS
HAVING A RATED VOLTAGE ABOVE 1 000 V –****Part 3: Protection of shunt capacitors
and shunt capacitor banks****AMENDMENT 1****FOREWORD**

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Amendment 1 to IEC TS 60871-3:2015 has been prepared by IEC technical committee 33: Power capacitors and their applications.

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

Draft	Report on voting
33/688/DTS	33/691/RVDTS

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

The language used for the development of this Amendment is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

Add, after Subclause 6.6, the following new subclause:

6.7 Calculation of the unbalance relay's settings

The capacitor bank should be protected by an unbalance relay, whose settings shall be calculated considering the limits of overvoltage as specified below.

- a) Externally fused units
 - Overvoltage condition on remaining parallel units: 5 % U_N alarm threshold, 10 % U_N trip threshold.
- b) Internally fused units
 - Overvoltage condition on remaining parallel units: 5 % U_N alarm threshold, 10 % U_N trip threshold.
 - Overvoltage condition on remaining parallel elements: 35 % U_N alarm threshold, 50 % U_N trip threshold.
 - The setting for trip and alarm shall be based on the stricter condition arising from the calculations of the allowable overvoltage on units and on elements.
- c) Fuseless units
 - Overvoltage condition on remaining series elements: alarm threshold: 5 % U_N or two failed elements (whichever is higher), trip threshold: 10 % U_N or three failed elements (whichever is higher).
 - The selected threshold shall not reach the number of internal series connected elements equivalent to the loss of one unit, to avoid a direct short circuit.

The above mentioned general rules for overvoltage limits may vary due to special considerations related to the specific bank's application or to specific unit design, based on the recommendations of the manufacturer. In these cases, the settings shall be calculated according to an agreement between manufacturer and purchaser.
