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TECHNICAL SPECIFICATION

Low-voltage switchgear and controlgear – Security aspects

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR – SECURITY ASPECTS

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Technical Specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 63208, which is a Technical Specification, has been prepared by subcommittee 121A: Low-voltage switchgear and controlgear, of IEC technical committee 121: Switchgear and controlgear and their assemblies for low voltage.

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The text of this Technical Specification is based on the following documents:

Draft TS	Report on voting
121A/321/DTS	121A/331A/RVDTS

Full information on the voting for the approval of this Technical Specification 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.

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

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- withdrawn,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

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INTRODUCTION

The growing use of data communication capabilities by switchgear and controlgear (called “equipment” in this document) automatically increases cybersecurity risks. In addition, information technology is more often interconnected to and even integrated into industrial systems which therefore, increase this risk.

Very often, switchgear, such as circuit-breakers, or controlgear, such as overload relays or proximity switches, are equipped with data communication interface. They can be connected to a logic controller or remote display, with local and remote connectivity for giving access to data such as actual power supply values, monitoring data, data logging and remote upgrade.

For these typical applications for electrical distribution and machinery, minimum cybersecurity requirements are needed for maintaining an acceptable level of safety integrity of the protection functions for equipment, with or without data communication capability. These requirements are intended to limit the vulnerability of the data communication interfaces. To keep the largest freedom of innovation, the relevant requirements for a defined application are determined preferably by a systematic risk assessment approach.

The intention of this document is to:

1) develop an awareness of cybersecurity risks associated with unintended operation and loss of protective functions;
2) provide minimum cybersecurity requirements for equipment to mitigate the likelihood of unintended operation and loss of protective functions in the context of electrical distribution installations and control systems of machinery;
3) provide guidance to avoid impairing the functionality of equipment, in all operating modes, as a consequence of the implementation of security countermeasures.

This document gives guidance on countermeasures applicable to the design of the equipment (hardware, firmware, network interface, access control, system) and on additional countermeasures to be considered for the implementation and instruction for use. This document uses relevant references to ISO/IEC 27001, IEC 62443 (all parts) and IEC 62351 (all parts).

As a first stage, the content of this document is intended to be referenced by product standards. The common security requirement of IEC SC 121A product standards are expected to be moved to a future edition of IEC 60947-1.

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