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Cybersecurity aspects of devices used for power metering and monitoring, power quality monitoring, data collection and analysis

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IEC TS 63383 has been prepared by IEC technical committee 85: Measuring equipment for electrical and electromagnetic quantities. It is a Technical Specification.

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

Draft	Report on voting
85/832/DTS	85/839/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 Technical Specification 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/publications.

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

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- amended.

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INTRODUCTION

This publication can be regarded as a generic document to be referenced for cybersecurity aspects within other TC 85 publications. It contains general information for measuring equipment and related systems used in low-voltage applications for which cybersecurity can be a concern.

The growing use of measuring devices (e.g. power metering and monitoring devices as defined in IEC 61557-12:2018), power quality instruments (defined in IEC 62586-1:2017) and data collection, gathering and analysis devices (e.g. gateways, energy servers, as defined in IEC 62974-1:2017) is being accompanied by a growing increase in cybersecurity risks. This is enhanced by the growing use of interconnected devices in electrical installations.

Thus, maintenance of an acceptable information level for devices and environmental policy should be considered by facility managers to limit the risks. To keep the largest freedom of innovation, good practices when designing devices to withstand cybersecurity threats during its whole lifecycle are preferably based on a risk assessment approach.

This document uses British spelling.

This document follows IEC Guide 120:2018.

CYBERSECURITY ASPECTS OF DEVICES USED FOR POWER METERING AND MONITORING, POWER QUALITY MONITORING, DATA COLLECTION AND ANALYSIS

1 Scope

This document deals with cybersecurity related to measuring devices (PMD according to IEC 61557-12 and PQI according to IEC 62586-1) and devices for data collection (devices according to IEC 62974-1) that are intended to be installed in restricted access areas.

This document deals with cybersecurity aspects (e.g. device hardening or device resilience) of device(s) used for power metering and monitoring, power quality monitoring, data collection and analysis, but does not cover requirements for organisational cybersecurity (e.g. end-user security policy).

NOTE Organisational cybersecurity is essential for trustworthy operation of the device(s).

This document is a first attempt to develop awareness by manufacturers and other relevant stakeholders about cybersecurity aspects and provide basic guidance for achieving the appropriate security mitigation against vulnerabilities to security threats:

– in coherence with device/system approaches described in relevant standards such as IEC 62443 (all parts) and ISO/IEC 27001,

– based on generic system use-cases.

This document does not cover billing meters covered by the IEC 62053-2x set of standards.

2 Normative references

There are no normative references in this document.