

INTERNATIONAL STANDARD

NORME INTERNATIONALE



Monitoring and measuring systems used for data collection, gathering and analysis –

Part 1: Device requirements

Systemes de surveillance et de mesure utilisés pour la collecte et l'analyse de données –

Partie 1: Exigences relatives aux dispositifs



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**MONITORING AND MEASURING SYSTEMS USED
FOR DATA COLLECTION, GATHERING AND ANALYSIS –**
Part 1: Device requirements
FOREWORD

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

FDIS	Report on voting
85/587/FDIS	85/589/RVD

Full information on the voting for the approval of this International Standard 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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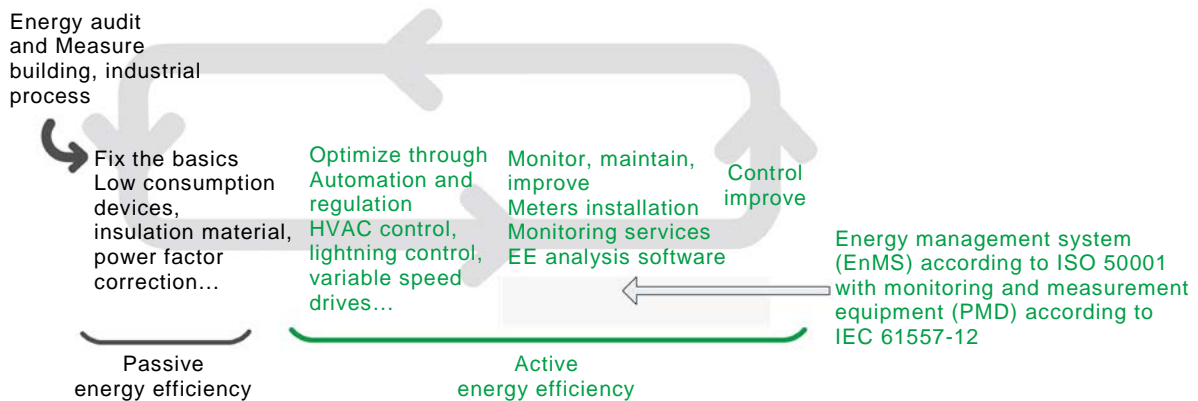
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INTRODUCTION

The use of electrical energy needs to be optimised worldwide to ensure more efficient use of available energy sources, for enhanced competitiveness, and for reducing greenhouse gas emissions and other related environmental impacts.

It implies better energy management leading to a necessary improvement of energy performance, particularly in terms of efficiency, use and consumption. This can be summarized by the lifecycle shown in Figure 1:

Lifecycle solutions for Energy Efficiency



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Figure 1 – Lifecycle solutions for energy efficiency

Standards such as ISO 50001, ISO 50002, ISO 50006 and IEC 60364-8-1 are providing information related to this topic.

What is not known cannot be changed, and what is not measured is not known. Consequently, there is an increasing need to measure energy within the installations in order to:

- monitor performance indicators or to monitor energy baselines, or
- compare energy performance between baseline period and reporting period as described in ISO 50006.

Measurements can be collected by employees at a defined frequency, provided absences are accounted for (vacation, off sick, etc.), provided the measurements are relevant (number of measurement points to collect) and provided measurements can be relatively coherent (synchronism).

This is why more and more devices are used for collection, gathering and sometimes analysis of measured data. Some typical architectures are given in Annex A.

MONITORING AND MEASURING SYSTEMS USED FOR DATA COLLECTION, GATHERING AND ANALYSIS –

Part 1: Device requirements

1 Scope

This part of IEC 62974 specifies product and performance requirements for devices that fall under the heading of “monitoring and measuring systems used for data collection, gathering and analysis”, for industrial, commercial and similar use rated below or equal to 1 kV AC and 1,5 kV DC.

These devices are fixed and are intended to be used indoors as panel-mounted devices, or as modular devices fixed on a DIN rail, or as housing devices fixed on a DIN rail, or as devices fixed by other means inside a cabinet.

These devices are used to upload or download information (energy measured on loads, power metering and monitoring data, temperature information...), mainly for energy efficiency purposes. These devices are known as energy servers, energy data loggers, data gateways and I/O data concentrators.

NOTE These systems are embedded or can be connected to a software application capable of consolidating data and delivering automatic analysis. Automatic analysis can include calculation of energy baselines or energy performance indicators as requested for the energy management system required by ISO 50001, or can be used during energy audits as defined in ISO 50002, or can be used for monitoring an installation complying with IEC 60364-8-1. These devices can also be used for certification according to labels such as LEED, BREEAM, HQE, etc.

This standard does not cover:

- devices used only in the consumer market (living quarters) or household;
- devices used in the smart metering infrastructure (e.g. smart meters);
- devices used in the smart grid infrastructure;
- devices used as IT servers in the information technology business;
- power metering and monitoring devices: PMD with additional functions (e.g. energy data logger function);
- I/O data concentrators already covered by a specific product standard;
- communication protocols and interoperability;
- power quality instruments (PQI);
- software used for the data collection and analysis of the power quality for the supply side.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 60068-2-1, *Environmental testing – Part 2-1: Tests – Test A: Cold*

IEC 60068-2-2, *Environmental testing – Part 2-2: Tests – Tests B: Dry heat*