

# **SLOVENSKI STANDARD**

## **oSIST prEN 17255-2:2018**

**01-december-2018**

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### **Emisije nepremičnih virov - Sistemi za vrednotenje podatkov (DAHS) - 2.del: Specifikacija zahtev za sisteme za vrednotenje podatkov**

Stationary source emissions - Data acquisition and handling systems - Part 2:  
Specification of requirements on data acquisition and handling systems

Emissionen aus stationären Quellen - Datenerfassungs- und Auswerteeinrichtungen -  
Teil 2: Festlegung von Anforderungen an Datenerfassungs- und Auswerteeinrichtungen

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**Stationary source emissions - Data acquisition and  
handling systems - Part 2: Specification of requirements on  
data acquisition and handling systems**

Emissionen aus stationären Quellen - Datenerfassungs-  
und Auswerteeinrichtungen - Teil 2: Festlegung von  
Anforderungen an Datenerfassungs- und  
Auswerteeinrichtungen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 264.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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**prEN 17255-2:2018 (E)****European foreword**

This document (prEN 17255-2:2018) has been prepared by Technical Committee CEN/TC 264 “Air Quality”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document is Part 2 of the EN 17255 series:

- EN 17255-1, *Stationary source emissions — Data acquisition and handling systems — Part 1: Specification of requirements for the handling and reporting of data*
- EN 17255-2, *Stationary source emissions — Data acquisition and handling systems — Part 2: Specification of requirements on data acquisition and handling systems*
- EN 17255-3, *Stationary source emissions — Data acquisition and handling systems — Part 3: Specification of requirements for the performance test and certification of data acquisition and handling systems*

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## Introduction

This document forms part of a series of standards which, between them, govern the process for the quality assurance of data received by a data acquisition and handling system (DAHS) from automated measuring systems (AMS), being used for monitoring emissions from stationary sources and quality ensured to EN 14181.

The input data can be either in analogue representation or in digital form directly from an AMS or via a digital bus system. Inputs can include the data from the AMS, peripheral data needed for calculation of the reported values and information on plant conditions needed to apply data selection criteria.

The data acquisition and handling system (DAHS) receives the raw data, as they are measured, averaged and presented by the AMS, and converts, averages, stores and reports data as required by legislation.

This series of standards suggests that the process of data handling is best performed in a dedicated DAHS. It does not preclude the use of other options for all or part of the process provided that it can be shown to meet all of the requirements of the standard, particularly in relation to speed, accuracy, access, security and validation.

This series of standards applies to all DAHS installed after the date of implementation of this standard.

EN 17255-1 relates specifically to the handling of the data. It defines the calculations to be carried out to produce the data outputs that DAHS provide.

EN 17255-2 specifies the implementation of the calculations laid down in EN 17255-1 and the specific requirements on functionality of the DAHS.

EN 17255-3 specifies the performance test and certification of DAHS.

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**prEN 17255-2:2018 (E)****1 Scope**

This document specifies the performance requirements on data acquisition and handling systems (DAHS) regarding implementation of the procedures defined in prEN 17255-1 including

- data acquisition;
- data processing;
- data storage;
- data output;
- generation of reports;
- system functions;
- data security;
- documentation.

This document supports the requirements of EN 14181 and legislation such as the IED and E-PRTR. It does not preclude the use of additional features and functions provided the minimum requirements of this document are met and that these features do not adversely affect data quality, clarity or access.

This document does not cover additional requirements for multiplexing systems where gases are sampled from multiple sources.

**2 Normative references**

SIST EN 17255-2:2020

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.

EN 14181:2014, *Stationary source emissions - Quality assurance of automated measuring systems*

prEN 17255-1, *Stationary source emissions - Data acquisition and handling systems - Part 1: Specification of requirements for the handling and reporting of data*

IEEE 754, *Floating-point arithmetic*



### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in prEN 17255-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

#### 3.1

##### **alarm signal**

binary value or enumerated value indicating an alarm state

Note 1 to entry: Examples of alarm signals are incidents where an ELV is exceeded,

Note 2 to entry: Examples of alarm signals from instruments include conditions such as out of operation, and operation conditions like measurements outside the measurement range.

Note 3 to entry: A condition, which leads to an alarm, can lead to a violation, if it persists too long according to directives, local permits or other standards.

Note 4 to entry: Alarms are conditions communicated to the plant operator indicating that the plant if it continues in this state could enter into a condition where it is not any longer fulfilling the relevant directive conditions.

#### 3.2

##### **violation signal**

binary value or enumerated value indicating presence of a condition where requirements of directives, operating permits or other standards are exceeded

Note 1 to entry: Measured values above ELV at a duration exceeding the limit in the directives can cause a violation signal.

Note 2 to entry: Instrument conditions like too many hours out of operation, and operation conditions like exceeding the valid calibration range for too many time periods related to the short-term average can cause violation signals.

#### 3.3

##### **warning signal**

binary value or enumerated value signifying the need for action

Note 1 to entry: Warnings can be derived from measurement values or conditions, which are still within the specified limits, but where the value is close to the specified limit. Warnings are for the benefit of the plant operator.

Note 2 to entry: Warnings can be conditions communicated to the plant operator as requiring attention. Instrument conditions like operation exceeding the upper limit of the valid calibration range are also considered as warnings.

#### 3.4

##### **data storage**

electronic memory capacity to hold data for processing or documentation

Note 1 to entry: This European Standard does not prescribe storage technology. It is always the responsibility of the plant operator that the capacity and reliability of the chosen storage is sufficient.

**prEN 17255-2:2018 (E)****3.5****permanent data storage**

non-volatile data storage with the capacity to hold data for a period equal to or exceeding a required minimum time period

**3.6****temporary data storage**

data storage with the capacity to hold data for a limited time for later processing

**3.7****event**

occurrence that could affect the performance or processing of the DAHS

Note 1 to entry: Events can be caused by an operator, e.g. by adding or changing configuration data, peripheral data, limit values, QAL2 data or basic information, or by the system itself, e.g. for watchdog restart, change to or from DST, recovery from power cut, performing automatic backup, reporting lack of communication with AMS or external data loggers, or generating reports.

**4 Symbols and abbreviations**

AMS	automated measuring system
DAHS	data acquisition and handling system
DST	daylight saving time
E-PRTR	European pollutant release and transfer register
FLD	first level data
IED	industrial emissions directive
LTA	long-term average
QAL2	second quality assurance level
QAL3	third quality assurance level
SRM	standard reference method
SSTA	standardized short-term average
STA	short-term average
UTC	universal time coordinated
VSTA	validated short-term average

**5 Principles**

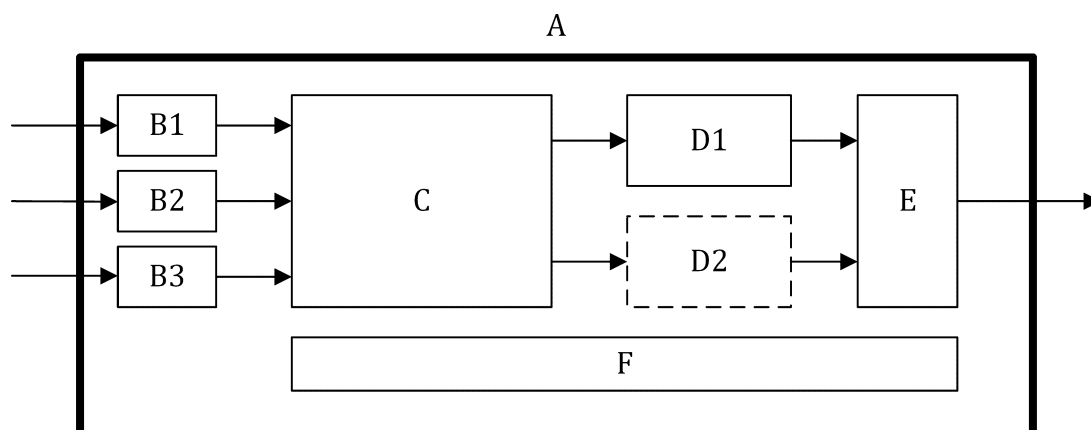
This document specifies minimum requirements for the performance and functional capabilities of DAHS.

The minimum functional capabilities specified in this document are considered to be necessary to meet the requirements of the relevant regulations (e.g. EU Directives) in terms of the provision of emissions data for reporting. These functional capabilities also cover the traceability, security and ability to audit reported data.

The DAHS provides the time stamp for input data.

**NOTE** It is therefore important to ensure during system installation that there is no significant transmission delay between data sources e.g. AMS and the DAHS input.

Figure 1 shows the elements of the DAHS defined in this document.



### Keys

- A DAHS
- B1 AMS data interface
- B2 peripheral data interface
- B3 plant data interface
- C input processing and production of FLD
- D1 calculation of reported data
- D2 optional calculation of additional reported data, e.g. to meet additional reporting requirements
- E report generation
- F data storage

**Figure 1 — DAHS elements**

## 6 Performance requirements

### 6.1 General

The DAHS shall meet the performance requirements for

- data acquisition (see 6.2);
- input data processing (see 6.3);
- reported data (see 6.4);
- reports (see 6.5);
- data storage (see 6.6);
- system functions (see 6.7);
- data security (see 6.8);
- documentation (see 6.9).