

Expression of performance of electrochemical analyzers —

Part 3: Electrolytic conductivity

The European Standard EN 60746-3:2002 has the status of a
British Standard

ICS 17.020; 71.040

National foreword

This British Standard is the official English language version of EN 60746-3:2002. It is identical with IEC 60746-3:2002, including Corrigendum January 2003. It supersedes BS 6438-3:1986 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee GEL/65, Measurement and control, to Subcommittee GEL/65/4, Process instruments for gas and liquid analysis, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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Cross-references

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This British Standard, having been prepared under the direction of the Electrotechnical Sector Policy and Strategy Committee, was published under the authority of the Standards Policy and Strategy Committee on 22 October 2002

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English version

Expression of performance of electrochemical analyzers
Part 3: Electrolytic conductivity
(IEC 60746-3:2002)

Expression des qualités
de fonctionnement
des analyseurs électrochimiques
Partie 3: Conductivité électrolytique
(CEI 60746-3:2002)

Angabe zum Betriebsverhalten
von elektrochemischen Analysatoren
Teil 3: Elektrolytische Leitfähigkeit
(IEC 60746-3:2002)

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CENELEC

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Foreword

The text of document 65D/85/FDIS, future edition 2 of IEC 60746-3, prepared by SC 65D, Analyzing equipment, of IEC TC 65, Industrial-process measurement and control, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60746-3 on 2002-09-01.

This publication shall be used in conjunction with IEC 60746-1 ¹⁾.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2003-06-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2005-09-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes C and ZA are normative and annexes A, B and D are informative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60746-3:2002 was approved by CENELEC as a European Standard without any modification.

¹⁾ At draft stage.

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EXPRESSION OF PERFORMANCE OF ELECTROCHEMICAL ANALYZERS –

Part 3: Electrolytic conductivity

1 Scope

This part of IEC 60746 is intended

- to specify terminology, definitions and requirements for statements by manufacturers for analyzers, sensor units, and electronic units used for the determination of the electrolytic conductivity of aqueous solutions;
- to establish performance tests for such analyzers, sensor units and electronic units;
- to provide basic documents to support the applications of quality assurance standards.

2 Normative references

The following referenced documents are indispensable for the application 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 60746-1, *Expression of performance of electrochemical analyzers – Part 1: General*

3 Definitions

For the purpose of this part of IEC 60746, the definitions of IEC 60746-1 apply, together with the following definitions.

3.1

electrolytic conductance

current divided by the potential difference in the case of ionic charge transport within an electrolytic solution filling a conductivity cell:

$$G = \frac{I}{U}$$

where

I is the current through the electrolyte, in amperes (A);

U is the potential difference applied across the electrodes, in volts (V);

G is the electrolytic conductance, in siemens (S).

Electrolytic resistance is the reciprocal of electrolytic conductance with the ohm (Ω) as the unit of measurement