

Svenska Elektriska Kommissionen, SEK

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Elmätare – Allmänna fordringar och provning – Del 1: Mätare av noggrannhetsklass A, B och C

*Electricity metering equipment (a.c.) –
Part 1: General requirements, tests and test conditions –
Metering equipment (class indexes A, B and C)*

Som svensk standard gäller europastandarden EN 50470-1:2006. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50470-1:2006.

Nationellt förord

Standarden skall användas tillsammans med SS-EN 50470-2, utgåva 1, 2007 och SS-EN 50470-3, utgåva 1, 2007.

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

Svenska Elektriska Kommissionen, SEK, svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

SEK
Box 1284
164 29 Kista
Tel 08-444 14 00
www.sekom.se

**Electricity metering equipment (a.c.)
Part 1: General requirements, tests and test conditions -
Metering equipment (class indexes A, B and C)**

Equipement de comptage
d'électricité (c.a.)
Partie 1: Prescriptions générales,
essais et conditions d'essai -
Equipement de comptage
(classes de précision A, B et C)

Wechselstrom-Elektrizitätszähler
Teil 1: Allgemeine Anforderungen,
Prüfungen und Prüfbedingungen -
Messeinrichtungen
(Genauigkeitsklassen A, B und C)

This European Standard was approved by CENELEC on 2006-05-01. CENELEC 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 13, Equipment for electrical energy measurement and load control.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50470-1 on 2006-05-01.

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) 2007-05-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2009-05-01

This EN 50470-1 is related to EN 62052-11:2003, *Electricity metering equipment (a.c.) – General requirements, tests and test conditions – Part 11: Metering equipment*.

The structure of the two standards is similar, modifications in this European Standard are provided in the perspective of compliance with the essential requirements of the Directive 2004/22/EC on Measuring Instruments (MID).

This standard is to be used with:

- EN 50470-2:2006, *Electricity metering equipment (a.c.) – Part 2: Particular requirements – Electromechanical meters for active energy (class indexes A and B)* or
- EN 50470-3:2006, *Electricity metering equipment (a.c.) – Part 3: Particular requirements – Static meters for active energy (class indexes A, B and C)*.

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directives 89/336/EMC and 2004/22/EC. See Annex ZZ.

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1 Scope

This European Standard applies to newly manufactured watt-hour meters, measuring active electrical energy, intended for residential, commercial and light industrial use, for use on 50 Hz electrical networks. It specifies general requirements and type tests methods.

It applies to electromechanical or static watt-hour meters for indoor and outdoor application, consisting of a measuring element and register(s) enclosed in a meter case. It also applies to operation indicator(s) and test output(s).

If the meter has (a) measuring element(s) for more than one type of energy (multi-energy meters), or when other functional elements, like maximum demand indicators, electronic tariff registers, time switches, ripple control receivers, data communication interfaces, etc. are enclosed in the meter case (multi-function meters) then this standard applies only for the active energy metering part.

This standard distinguishes between:

- electromechanical and static meters;
- meters of class indexes A, B and C;
- direct connected and transformer operated meters;
- protective class I and protective class II meters;
- meters intended to be used indoors and outdoors.

It does not apply to:

- watt-hour meters where the voltage across the connection terminals exceeds 600 V (line-to-line voltage for meters for polyphase systems);
- portable meters;
- reference meters.

For rack-mounted meters, the mechanical properties are not covered in this standard.

The test levels are regarded as minimum values to guarantee the proper functioning of the meter under normal working conditions. For special applications, other test levels might be necessary and should be agreed on between the user and the manufacturer.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>
EN 50470-2	2006	<i>Electricity metering equipment (a.c.) – Particular requirements – Part 2: Electromechanical meters for active energy (class indexes A and B)</i>
EN 50470-3	2006	<i>Electricity metering equipment (a.c.) – Particular requirements – Part 3: Static meters for active energy (class indexes A, B and C)</i>
EN 55022	2006	<i>Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement (CISPR 22:2005, mod.)</i>
EN 60044-1	1999	<i>Instrument transformers – Part 1: Current transformers</i>
+ A1	2000	(IEC 60044-1:1996, mod. + A1:2000 + A2:2002)
+ A2	2003	