Instrument transformers - Part 10: Additional requirements for low-power passive current transformers

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NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 61869-10:2018 sisaldab Euroopa standardi EN IEC 61869-10:2018 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61869-10:2018 consists of the English text of the European standard EN IEC 61869-10:2018.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 16.03.2018.	Date of Availability of the European standard is 16.03.2018.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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EUROPEAN STANDARD

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English Version

Instrument transformers - Part 10: Additional requirements for low-power passive current transformers (IEC 61869-10:2017)

Transformateurs de mesure - Partie 10: Exigences supplémentaires concernant les transformateurs de courant passifs de faible puissance (IEC 61869-10:2017)

Messwandler - Teil 10: Zusätzliche Anforderungen für Kleinsignal-Stromwandler (IEC 61869-10:2017)

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European Committee for Electrotechnical Standardization
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Europäisches Komitee für Elektrotechnische Normung

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European foreword

The text of document 38/550/FDIS, future edition 1 of IEC 61869-10, prepared by IEC/TC 38 "Instrument transformers" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61869-10:2018.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2018-10-17
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2021-01-17

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Endorsement notice

The text of the International Standard IEC 61869-10:2017 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60059	-	IEC standard current ratings	EN 60059	-
IEC 61869-6	2016	Instruments transformers -- Part 6: Additional general requirements for Low Power Instrument Transformers	EN 61869-6	2016

CONTENTS

INTRODUCTION

Low-power passive current transformers (LPCT) are based on passive technologies without any active electronic components. They can have an output signal proportional to the primary current, for example iron core coils with integrated shunt as a current to voltage converter (primary converter) or they can have an output signal proportional to the derivative of the primary current, for example air-core coils (Rogowski coils). This part of IEC 61869 does not cover the air-core coils with active integrator.

According to a general block diagram given in Figure 601 of IEC 61869-6:2016, the low-power passive current transformers do not use an active primary converter (i.e. without any active electronic component); therefore, there is no need for primary power supply. Additionally, neither the secondary converter nor the secondary power supply is used.

The general block diagram of a low-power passive current transformer is given in Figure 1001.

The applied technology decides which part is necessary for the realization of a low-power passive current transformer, i.e. it is not absolutely necessary that the transmitting cable or primary converter described in Figure 1001 be included in the low-power passive current transformer. The derivative LPCT solution considers only the air-core coil as the primary sensor and the transmission cable as the transmitting system. In this technology, the primary converter is not considered. In case of a proportional LPCT solution, the ferromagnetic-core coil is considered as the primary sensor, a burden resistance connected directly to the coil outputs works as a primary converter and the transmission cable is a transmitting system.

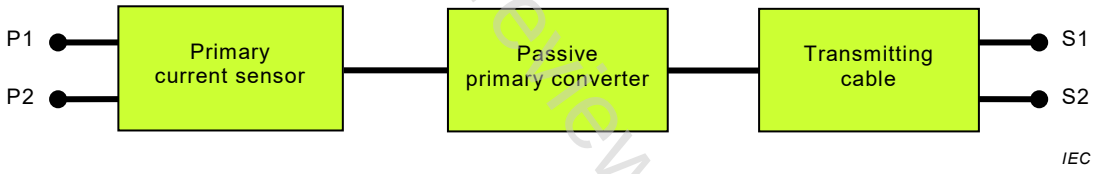

Figure 1001 – General block diagram of a single-phase low-power passive current transformer