



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



CERTIFICATION OF MEASURING INSTRUMENTS

ACKNOWLEDGMENTS

UNIDO gratefully acknowledges the dedicated work of Mr. Paul Dixon (OIML) and Mr. Grégory Glas (BEIS-UK), edited and coordinated by Mr. Bernardo Calzadilla-Sarmiento (UNIDO), Mr. Raymond Tavares (UNIDO) and Mr. Shaukat Hussain (UNIDO). The publication also greatly benefited from precious comments and peer review of Mr. Michael Andrew Peet. The finalization of the publication was facilitated by Ms. Monika Kubiec-Dobosz (UNIDO). Graphic design by Ms. Radhika Nathwani.

DISCLAIMER

This document has been produced without formal United Nations editing. The designation and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO. Although great care has been taken to maintain the accuracy of information herein, neither UNIDO nor its Member States assume any responsibility for consequences which may arise from the use of the material. This document may be freely quoted or reprinted but acknowledgement is requested.

Table of Contents

1	INTRODUCTION	7
2	SCOPE	7
3	HOW TO USE THIS GUIDE	7
4	TERMINOLOGY AND ABBREVIATIONS	8
5	INTRODUCTION TO UNIDO'S QUALITY INFRASTRUCTURE DEVELOPMENT SYSTEM	11
6	INTRODUCTION TO THE OIML	12
7	INTRODUCTION TO THE OIML CERTIFICATION SYSTEM (OIML-CS)	12
7.1	PRINCIPLES.....	12
7.2	OBJECTIVES AND BENEFITS.....	13
7.3	PARTICIPANTS.....	13
7.4	SCOPE AND TRANSITION.....	13
7.5	STRUCTURE OF THE OIML-CS.....	14
7.6	OIML-CS DOCUMENTATION.....	15
7.7	OIML RECOMMENDATIONS.....	16
8	REQUIREMENTS TO BECOME AN OIML IA AND TL	16
8.1	GENERAL.....	16
8.2	OIML IA REQUIREMENTS.....	17
8.3	TL REQUIREMENTS.....	18
8.4	USE OF OIML EXPERTS.....	18
9	PROCESSES TO BECOME AN APPROVED OIML IA AND TL	18
9.1	GENERAL.....	18
9.2	AREAS TO CONSIDER BEFORE APPLYING.....	18
9.3	APPLICATION FORMS.....	19
9.4	THE APPLICATION PROCESS.....	19
9.5	REPRESENTATION ON THE OIML-CS MANAGEMENT COMMITTEE.....	20
9.6	PERIODIC REVIEW.....	20
9.7	MODIFICATION/EXTENSION TO SCOPE.....	20
10	HOW TO BECOME A UTILIZER OR AN ASSOCIATE	21
10.1	GENERAL.....	21
10.2	AREAS TO CONSIDER BEFORE APPLYING.....	21
10.3	APPLICATION FORMS.....	21
10.4	PROCESS.....	21
10.5	REPRESENTATION ON THE OIML-CS MANAGEMENT COMMITTEE.....	21
11	MANAGEMENT SYSTEMS (ISO/IEC 17025 [2][3] AND ISO/IEC 17065 [1])	21
11.1	INTRODUCTION.....	21
11.2	MANAGEMENT SYSTEM (CLAUSE 8, OPTION A).....	22
11.3	GENERAL REQUIREMENTS (CLAUSE 4).....	25
11.4	STRUCTURAL REQUIREMENTS (CLAUSE 5).....	25

11.5	RESOURCES REQUIREMENTS (CLAUSE 6)	25
11.6	PROCESS REQUIREMENTS (CLAUSE 7)	26
11.7	PROCESS TO IMPLEMENT A MS COVERING OIML ACTIVITIES	26
12	TYPE EVALUATION AND TYPE APPROVAL	26
12.1	INTRODUCTION	26
12.2	OIML RECOMMENDATIONS	27
12.3	TYPE EVALUATION AND TYPE APPROVAL PROCESS	27
12.4	OIML CERTIFICATE ISSUED ON THE BASIS OF INCORRECT CONCLUSIONS	30
12.5	MODIFICATION OF AN OIML CERTIFICATE	30
12.6	PROCESS UNDER SCHEME A AND SCHEME B	30
12.7	USE OF THIRD-PARTY TEST LABORATORY OR MANUFACTURER TEST LABORATORY(MTL)	30
12.8	ADDITIONAL NATIONAL REQUIREMENTS	30
13	TYPE APPROVAL CONTROL SYSTEMS	31
13.1	INTRODUCTION	31
13.2	TYPE APPROVAL CONTROL PROCEDURES	31
13.3	APPLICATION OF THE OIML-CS TO TYPE APPROVAL CONTROLS	32
14	REFERENCES	32
	ANNEX 1: SCOPE OF OIML-CS (FROM 1 JANUARY 2018)	34
	ANNEX 2: SCOPE OF OIML-CS (FROM 1 JANUARY 2019) AND TRANSITION DATES	35
	ANNEX 3: GUIDANCE ON COMPLETING THE OIML IA APPLICATION FORM	36
	ANNEX 4: GUIDANCE ON COMPLETING THE TL APPLICATION FORM	37
	ANNEX 5: GUIDANCE ON COMPLETING THE UTILIZER APPLICATION FORM	38
	ANNEX 6: TYPICAL STRUCTURE OIML IA (SMALL ORGANISATION)	39
	ANNEX 7: TYPICAL STRUCTURE OIML IA (LARGE ORGANISATION)	40
	ANNEX 8: TYPICAL STRUCTURE TEST LABORATORY (SMALL ORGANISATION)	41
	ANNEX 9: TYPICAL STRUCTURE TEST LABORATORY (LARGE ORGANISATION)	42
	FLOWCHART 1 - PROCESS TO BECOME AN OIML IA AND TL	43
	FLOWCHART 2 - OIML IA SUPPORTING DOCUMENTATION	44
	FLOWCHART 3 - TL SUPPORTING DOCUMENTATION	45
	FLOWCHART 4 - PROCESS TO BECOME A UTILIZER	46
	FLOWCHART 5 - PROCESS TO BECOME AN ASSOCIATE	47
	FLOWCHART 6 - TYPE EVALUATION AND TYPE APPROVAL PROCESS	48
	FLOWCHART 7 - TESTING PROCESS	49
	CHECKLIST 1 - OIML IA SUPPORTING DOCUMENTATION (SCHEME A)	50
	CHECKLIST 2 - OIML IA SUPPORTING DOCUMENTATION (SCHEME B)	51
	CHECKLIST 3 - TL SUPPORTING DOCUMENTATION (SCHEME A)	52
	CHECKLIST 4 - TL SUPPORTING DOCUMENTATION (SCHEME B)	53
	CHECKLIST 5 - TYPE EVALUATION AND TYPE APPROVAL	54
	CHECKLIST 6 - TESTING	55



Guidance Document on the OIML Certification System (OIML-CS)

1. INTRODUCTION

The United Nations 2030 Agenda for Sustainable Development sets an ambitious vision for the world that we want and charts the course for how to get there. The Agenda comprises 17 interconnected and complementary Sustainable Development Goals (SDGs). Establishing an appropriate Quality Infrastructure System (QIS), including an appropriate legal metrology system, can substantially assist nations in positioning their economy to seize the many opportunities available through appropriate implementation of these SDGs. A QIS supports governmental policy objectives in areas including industrial development, trade competitiveness in global markets, the efficient use of natural and human resources, food safety, health, the environment and climate change. The QI system components assist in the verification and demonstration that products and services actually meet specified requirements.

The United Nations Industrial Development Organization (UNIDO) has an extensive and proven track record in working with governments, industry and other major stakeholders to develop and strengthen national and regional QIS. UNIDO's approach is holistic, from building awareness of the QIS to helping to initiate, develop and strengthen a fit for purpose QIS that runs efficiently and cost effectively. The approach adopted by UNIDO emphasizes the need for

strong collaboration and cooperation with all stakeholders to meet shared objectives through agreed activities that lead to concrete actions.

Together with partners from the public and private sector, academia, national and international organizations in charge of standard-setting and global practices on metrology, standards and conformity assessment, UNIDO promotes good practices, capacity-building and training, and fosters global cooperation in standard-setting, measurement and compliance development along value chains. UNIDO's partners in the field of quality and standards include the International Organization of Legal Metrology (OIML).

This document has been developed by UNIDO and the OIML to provide information on the OIML Certification System (OIML-CS), including the requirements for participation, the application processes and how the OIML-CS can be used to implement a national type approval system for measuring instruments such as active electrical energy meters, taximeters, water meters, and non-automatic weighing instruments. Information is also provided on the relevant international standards and associated management system requirements, along with the supporting OIML publications that underpin the OIML-CS.

2. SCOPE

2.1 This document provides information on the structure of the OIML-Certification System (OIML-CS), and the documentation available that describes its operation. It also provides information on the requirements to become an OIML Issuing Authority (OIML IA), with one or more associated Test Laboratories (TL), and the processes that they would need to follow to apply for approval.

2.2 The different routes available for the OIML IAs and the TLs to demonstrate competence against the requirements of ISO/IEC 17065 [1] and ISO/IEC 17025 [2][3] respectively is also described. An overview of these two international

standards, together with information on the use of OIML D 32 [4] and OIML D 30 [5], which provide guidance on the application of these international standards in legal metrology applications, is also provided. Type evaluation and the type approval process under the OIML-CS and the issuing of OIML Certificates is also described.

2.3 The document also provides details on how to become a Utilizer or Associate under the OIMLCS, together with important guidance on how the OIML-CS can support the implementation of a new, or expansion of an existing, national (or regional) type approval system.

3. HOW TO USE THIS GUIDE

3.1 The reader is encouraged to initially refer to sections 6 and 7 for general information on the OIML and the OIML-CS. These sections provide information on the OIML-CS framework. These sections should be read in conjunction with section 13, which explains how the OIML-CS can be used to support the implementation or expansion of a national type approval system. It will then be possible to determine which parts of the guide are relevant for a particular organisation (for instance, the organisation wishes to become an OIML IA under Scheme A, a TL under Scheme B, or a Utilizer or Associate).

3.2 The requirements and processes described in sections 8 to 10, as applicable, can provide guidance on how to meet the particular intended outcomes. Section 11 provides an overview of the relevant management system requirements. An overview of a type evaluation and type approval process, including requirements relating to the issuing of OIML Certificates under the OIML-CS, is provided in section 12.

4. TERMINOLOGY AND ABBREVIATIONS

4.1 accreditation (from ISO/IEC 17000, 5.6 [6])

third party attestation related to a conformity assessment body conveying formal demonstration of its competence to carry out specific conformity assessment tasks

Note: In the OIML-CS, accreditation is equivalent to peer assessment (see 4.30).

4.2 additional national requirement

requirement that is not included in the relevant OIML Recommendation but that is required in order to issue a national/regional type approval, and that has been included in the scope of the Declaration

4.3 applicant

manufacturer and/or authorized representative who submits an application for an OIML type evaluation of a measuring instrument to an OIML Issuing Authority in order to receive an OIML type evaluation report and an OIML Certificate for that type of measuring instrument

Note: Upon issuance of the OIML Certificate, the applicant becomes the owner of the OIML Certificate and associated type evaluation report and test report(s).

4.4 Associate

national issuing authority or national responsible body from an OIML Corresponding Member that has signed the Declaration indicating the terms of acceptance of OIML Certificates and/or OIML type evaluation reports

4.5 Board of Appeal

internal appeals committee of the OIML-CS

4.6 category

classification of measuring instruments for which technical and metrological requirements are laid down in an OIML Recommendation

4.7 certification body (from ISO/IEC 17065, 3.12 [1])

third-party conformity assessment body operating certification schemes

Note: A certification body can be non-governmental or

4.11 Executive Secretary

BIML staff member appointed by the BIML Director who is responsible for the day-to-day operation of the OIML-CS under the direction of the Management Committee (MC)

4.12 family of measuring instruments

identifiable group of measuring instruments belonging to the same manufactured type that have the same design features and metrological principles for measurement but which may differ in some metrological and technical performance characteristics, as defined in the relevant Recommendation

Note: The concept of a “family” primarily aims to reduce the testing required for OIML type evaluation. It does not preclude the possibility of listing more than one family in one OIML Certificate.

4.13 family of modules

identifiable group of modules belonging to the same manufactured type that have similar design features but which may differ in some metrological and technical performance requirements as defined in the relevant Recommendation

4.14 internal Test Laboratory

Test Laboratory that is designated by an OIML Issuing Authority, and registered in the Declaration of the OIML Issuing Authority, that is part of the same organization as the OIML Issuing Authority

4.15 Legal Metrology Expert

person, approved by the Management Committee (MC), who provides specific technical and metrological expertise with respect to the scope of an accreditation or peer assessment; is a team member who provides advice but is not considered to be an assessor unless he/she has the relevant assessor qualifications and training

4.16 Management Committee

committee established by the CIML to manage the OIML-CS

4.17 Management System Expert

person, approved by the Management Committee (MC), who

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_23136

