ORGANISATION INTERNATIONALE DE MÉTROLOGIE LÉGALE

INTERNATIONAL RECOMMENDATION

Discontinuous totalizing automatic weighing instruments (totalizing hopper weighers) Part 2: Test report format

Instruments de pesage totalisateurs discontinus à fonctionnement automatique (peseuses totalisatrices à trémie)
Partie 2: Format du rapport d'essai

OIML R 107-2

Edition 1997 (E)

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FOREWORD

The International Organization of Legal Metrology (OIML) is a worldwide, intergovernmental organization whose primary aim is to harmonize the regulations and metrological controls applied by the national metrological services, or related organizations, of its Member States.

The two main categories of OIML publications are:

1) **International Recommendations (OIML R)**, which are model regulations that establish the metrological characteristics required of certain measuring instruments and which specify methods and equipment for checking their conformity; the OIML Member States shall implement these Recommendations to the greatest possible extent;

2) **International Documents (OIML D)**, which are informative in nature and intended to improve the work of the metrological services.

OIML Draft Recommendations and Documents are developed by technical committees or subcommittees which are formed by the Member States. Certain international and regional institutions also participate on a consultation basis.

Cooperative agreements are established between OIML and certain institutions, such as ISO and IEC, with the objective of avoiding contradictory requirements; consequently, manufacturers and users of measuring instruments, test laboratories, etc. may apply simultaneously OIML publications and those of other institutions.

International Recommendations and International Documents are published in French (F) and English (E) and are subject to periodic revision.

OIML publications may be obtained from the Organization's headquarters:

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INTRODUCTION

The *Test report format* aims at presenting, in a standardized format, the results of the various tests and examinations to which a pattern of a discontinuous totalizing automatic weighing instrument (totalizing hopper weigher) shall be submitted with a view to its approval.

The *Test report format* consists of two parts, the *Checklist* and the *Test report*.

- The *Checklist* is a summary of the examinations carried out on the instrument. It includes the conclusions of the results of the test performed, and experimental or visual checks based on the requirements of OIML R 107-1. The words or condensed sentences aim at reminding the examiner of the requirements in OIML R 107-1 without reproducing them.

- The *Test report* is a record of the results of the tests carried out on the instrument. The test report forms have been produced based on the tests detailed in OIML R 107-1.

The “information concerning the test equipment used for pattern evaluation” shall cover all test equipment which has been used in determining the test results given in a report. The information may be a short list containing essential data (name, type, reference number for the purpose of traceability). For example:

- Verification standards (accuracy, or accuracy class, and no.);
- Simulator for testing of modules (name, type, traceability and no.);
- Climatic test and static temperature chamber (name, type and no.);
- Electrical tests, bursts (name of the instrument, type and no.);
- Description of the procedure of field calibration for the test of electromagnetic susceptibility.

All metrology services or laboratories evaluating patterns of discontinuous totalizing automatic weighing instruments according to OIML R 107-1 or to national or regional regulations based on OIML R 107-1 are strongly advised to use this *Test report format*, directly or after translation into a language other than English or French. Its direct use in English or in French, or in both languages, is even more strongly recommended whenever test results may be transmitted by the country performing these tests to the approving authorities of another country, under bi- or multi-lateral cooperation agreements. In the framework of the *OIML Certificate System for measuring instruments*, use of the *Test report format* is mandatory.

Note concerning page numbering in this publication

In addition to the sequential numbering "R 107-2 page .." at the bottom of each page, a space has been left at the top of each page (starting on page 5) for numbering the pages of reports established following this model. In particular, some tests (e.g. metrological performance tests) shall be repeated several times, each test being reported individually on a separate page following the relevant format. For a given report, it is advisable to complete the sequential numbering of each page by indicating the total number of pages in the report.

IDENTIFICATION OF THE INSTRUMENT

Application No: .....

Report date: .....

Pattern designation: .....

Manufacturer: .....

Serial No: .....

Manufacturing documentation

(Record as necessary to identify the equipment under test)

System or module name	Drawing number or software reference	Issue level	Serial number (if different from above)
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

Simulator documentation

System or module name	Drawing number or software reference	Issue level
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

Simulator function (summary)

Simulator description and drawings, block diagram etc. should be attached to the report if available

IDENTIFICATION OF THE INSTRUMENT (continued)

Application No: .....

Report date: .....

Pattern designation: .....

Manufacturer: .....

Description or other information pertaining to identification of the instrument (attach photograph here if available):

GENERAL INFORMATION CONCERNING THE PATTERN

Application No: .....

Manufacturer: .....

Applicant: .....

Instrument category: .....

Testing on: ☐ Complete instrument ☐ Module (*)

Pattern designation: .....

Accuracy class:

☐ 0.2 ☐ 0.5 ☐ 1 ☐ 2

Min = ☐ Σ_{min} = ☐

Max = ☐

T = + ☐ T = – ☐ d = ☐ d_t = ☐

U_{nom} (**) = ☐ V U_{min} = ☐ V U_{max} = ☐ V f = ☐ Hz Battery, U = ☐ V

Zero-setting device:

☐ Nonautomatic

☐ Semi-automatic

☐ Automatic

☐ Initial zero-setting

Initial zero-setting range: ☐ % Temperature range: ☐ °C

(*) The test equipment (simulator or part of a complete instrument) connected to the module shall be defined in the test form(s) used

(**) The voltage U_{nom} shall be as defined in IEC 1000-4-11 (1994) section 5

GENERAL INFORMATION CONCERNING THE PATTERN (continued)

Printer: ☐ Built-in ☐ Connected ☐ Not present but connectable ☐ No connection

Instrument submitted: .....

Identification No: .....

Connected equipment: .....

Interfaces
(number, nature): .....

Load cell:

Manufacturer:

OIML R 60 certificate of conformity. Please tick and if "Yes" supply certificate number.	Yes		Certificate number	
	No			

Type:

Capacity:

Number:

Classification symbol:

Remarks: see following page

Date of report: .....

Evaluation period: .....

Observer: .....

GENERAL INFORMATION CONCERNING THE PATTERN (continued)

Use this space to indicate additional remarks and/or information: other connected equipment, interfaces and load cells, choice of the manufacturer regarding protection against disturbances, etc.

CHECKLIST

For each test, the "SUMMARY OF THE CHECKLIST" and the "CHECKLIST" shall be completed according to this example:

	Passed	Failed
when the instrument has passed the test:	X	
when the instrument has failed the test:		X
when the test is not applicable:	/	/

SUMMARY OF THE CHECKLIST

Requirement	Passed	Failed	Remarks
Metrological requirements R 107-1 clause 2			
Technical requirements R 107-1 clause 3			
Requirements for electronic instruments R 107-1 clause 4			
Metrological controls R 107-1 clause 5			
Test methods R 107-1 clause 6			
Test report			
OVERALL RESULT			

SUMMARY OF THE CHECKLIST (continued)

Use this page to detail remarks from the summary of the checklist

CHECKLIST

Application No: .....

Pattern designation: .....

Requirement of R 107-1	Test procedure	Requirement summary - refer to OIML R 107-1 for details	Passed	Failed	Remarks
2		Metrological requirements			
2.2		Maximum permissible errors			
2.2.1	A.6.2	Maximum permissible errors for automatic weighing for each class for loads not less than $\sum_{min}$: do not exceed values in R 107-1 Table 1 rounded to nearest d_t			
2.2.2	A.8.3	Maximum permissible errors for influence factor tests: do not exceed values in R 107-1 Table 2, digital indications and printed results shall be corrected for rounding error and errors determined with accuracy of at least 0.2 d_t			
2.3	Observe	Form of scale interval: 1×10^k, 2×10^k or 5×10^k	Note		
2.4	Observe	Totalization scale interval: 0.01 % $\leq d_t \leq$ 0.1 % of Max	Note		
2.5	Observe	Minimum totalized load: $\sum_{min} \geq$ Min $\sum_{min} \geq$ 1000 d_t for class 0.2 or 400 d_t for class 0.5 or 200 d_t for class 1 or 100 d_t for class 2			
2.6	A.7.2	Agreement between indicating and printing devices			
2.7		Influence quantities			
2.7.1	A.8.3.1	Static temperature			
2.7.2	A.8.3.3	Mains power supply (AC)			
2.7.3	A.8.3.4	Battery power supply (DC)			
3		Technical requirements			
3.1	Observe	Suitability for use: design to suit intended materials and usage			
3.2		Security of operation:			
3.2.1	Observe	- Maladjustment prevented			
3.2.2		- Operation unaffected by incomplete discharge			
3.2.3 (a)		- Inhibition of usage at loads > Max			
3.2.3 (b)		< Min			
3.2.4	A.7.3	Adjustment prevented in auto mode			
3.2.5	Observe	Dust extraction: shall not affect measurement			

Requirement of R 107-1	Test procedure	Requirement summary - refer to OIML R 107-1 for details	Passed	Failed	Remarks
3.2.6	A.6.1	Zero-setting device:			
	Observe	Instrument tare weigh after each discharge, or	Confirm		
	Observe	Instrument does not tare weigh after each discharge in which case:	Confirm		
	A.7.7	An interlock is provided to stop automatic operation if zero indicated varies by:			
		- 1 d_t for instruments with auto zero-setting	Confirm		
		- 0.5 d_t for instruments with semi-auto or non-auto zero-setting	Confirm		
	A.6.1.3	Accuracy of zero-setting is ±0.25 of smallest scale interval of all indicating devices and shall have:			
	A.6.1.2	Accuracy range of adjustment not exceeding 4 % of maximum capacity			
3.2.7	Observe	Fraudulent use: no characteristics likely to facilitate fraudulent use			
3.3	Observe	Instrument with a control indicating device shall have facility to support standard weights in accordance with R 107-1 Table 3	Confirm		
3.4		Totalization indicating and printing devices:			
	Observe	Totalization devices present: Principal	Note		
		Supplementary	Note		
		Partial	Note		
		Combined	Note		
		Printer	Note		
3.4 (a)	A.7.4	On instruments with printing device: not possible to reset principle totalization indication without auto printout and	Confirm		
3.4 (b)	A.7.4	Auto printout if interrupted	Confirm		
3.4.1	Observe	A totalization indicating and printing device shall allow reliable, simple and unambiguous reading of results by simple juxtaposition and bear name or symbol of the appropriate unit of mass	Confirm		
3.4.2	Observe	Except supplementary totalization devices, scale interval of all devices shall be same	Confirm		
3.4.3	Observe	For supplementary device, scale interval > 10 d_t	Confirm		
3.4.4	Observe	Indicating devices may be combined so that indication is on demand, if so it is to be clearly identified	Confirm		
3.5	Observe	Ancillary devices: do not affect totalization representing a bulk load transaction			

Requirement of R 107-1	Test procedure	Requirement summary - refer to OIML R 107-1 for details	Passed	Failed	Remarks
3.6		Sealing:			
		Location	Note		
		Form	Note		
3.7		Descriptive markings			
3.7.1		Markings shown in full:			
	Observe	identification mark of the manufacturer			
		identification mark of the importer (if applicable)			
		serial number and type designation of the instrument			
		product(s) designation			
		control scale interval (if applicable) - g or kg or t			
		electrical supply voltage - V			
		electrical supply frequency - Hz			
		working fluid pressure (if applicable) - kPa or bar			
3.7.2		Markings shown in code:			
	Observe	pattern approval sign in accordance with national requirements			
		indication of the accuracy class: 0.2, 0.5, 1 or 2			
		maximum capacity Max - g or kg or t			
		minimum capacity Min - g or kg or t			
		minimum totalized load $\sum_{min}$ - g or kg or t			
		totalization scale interval d_t - g or kg or t			
3.7.3		Supplementary markings:			
	Observe	temperature range			
		special applications clearly marked			
3.7.4		Presentation of descriptive markings:			
	Observe	indelible			
		easily readable			
		grouped together in a clearly visible place			
		possible to seal the plate unless removal will result in destruction			
3.8		Verification marks			
3.8.1	Observe	Position:			
		cannot be removed			
		easy application			
		visibility without the instrument or its protective covers being removed			

Requirement of R 107-1	Test procedure	Requirement summary - refer to OIML R 107-1 for details	Passed	Failed	Remarks
3.8.2		Verification mark support which ensures conservation of the marks			
4		Requirements for electronic instruments			
4.1		General requirements			
4.1.1		Rated operating conditions: errors do not exceed mpe			
4.1.2	Observe	Disturbances: electronic instruments shall be designed and manufactured so that:			
4.1.2 (a)		- significant faults do not occur, or			
4.1.2 (b)		- significant faults are detected and acted upon			
4.1.3	Observe	Durability: requirements of 4.1.1 and 4.1.2 shall be met durably			
4.1.4	Observe	Evaluation for compliance: instrument has passed examination and test specified in Annex A			
4.2	Observe	Application: requirements in 4.1.2 may be applied separately to:	Note		
4.2.1 (a)		- each individual cause of significant fault, and/or	Note		
4.2.1 (b)		- each part of the electronic instrument	Note		
4.2.2		Choice is made by the manufacturer	Note		
4.3		Functional requirements:			
4.3.1	Observe	Acting upon a significant fault:	Note below		
		Visual indication, or			
		audible indication is provided and is continuous until user takes action or the fault disappears			
	Observe	Totalized load information is retained when a significant fault occurs			
4.3.2	Observe	Switch-on procedure: all relevant signs of indicating device are activated			
4.3.3		Influence quantities:			
	A.8.3	Instrument complies with requirements of R 107-1 subclause 2.7, and			
	A.8.3.2	Damp heat steady state			
4.3.4	A.8.4	Disturbances			
	A.8.4.1	Voltage dips and short interruptions			
	A.8.4.2	Electrical fast transients/burst immunity			
	A.8.4.3	Electrostatic discharge			
	A.8.4.4	Electromagnetic susceptibility			

Requirement of R 107-1	Test procedure	Requirement summary - refer to OIML R 107-1 for details	Passed	Failed	Remarks
4.3.5	A.7.1	Warm-up time: no indication or transmission of information; auto operation shall be inhibited			
4.3.6	Observe	Interface: when fitted no effect on instrument			
4.3.7	A.7.6	Mains power supply failure:			
		Metrological information to be retained for at least 24 hours			
		Switch-over to emergency power supply shall not cause significant fault			
4.3.8	A.7.5	Battery power supply failure (voltage drops below the manufacturer's specified value):			
		Instrument continues to function correctly			
		Instrument is automatically disabled			
4.4		Examination and tests			
4.4.1		Instrument examined to obtain general appraisal of design and construction			
4.4.2		Instrument meets the requirements in Annex A			
4.4.3	A.9	Span stability			
		The maximum allowable variation in the errors of indication shall not exceed half the absolute value of the maximum permissible error in R 107-1, 2.2.2 Table 2 for the test load for any of the n measurements			
		Where the difference of the results indicates a trend more than half the allowable variation specified above the tests shall continue until the trend comes to rest, or reverses itself, or until the error exceeds the maximum allowable variation	Note		
5		Metrological controls			
5.1		Pattern evaluation			
5.1.1		Documentation includes:			
		metrological characteristics of the instrument	Confirm		
		specifications of the instrument	Confirm		
		technical information and data	Confirm		
		functional description	Confirm		
		drawings, diagrams and general software information as applicable, to explain construction and operation	Confirm		
		fractions p (modules tested separately)	Confirm		
		other documentation	Confirm		

Requirement of R 107-1	Test procedure	Requirement summary - refer to OIML R 107-1 for details	Passed	Failed	Remarks
5.1.2		General requirements			
		Instruments available for test as follows:			
		fully operational at a typical site	Confirm		
		for laboratory simulation testing	Confirm		
		evaluation consists of tests specified in 5.1.3			
5.1.3		Pattern evaluation			
	Observe	Documents examined and tests carried out to verify that instrument complies with:			
		requirements specified in clause 2			
		technical requirements in clause 3			
		acceptance of test reports from another authority	Note		
		instruments that can operate as nonautomatic shall comply with OIML R 76-1, class III or IIII	Note		
5.1.3.1	A.6.2	Material tests			
		Instruments subjected to in-situ material tests in accordance with:	Indicate below		
		separate verification method as in A.6.2.2, or			
		integral verification method as in A.6.2.3			
		when integral control instrument method used, weighing test as in A.6.2.3.1	Confirm		
		In-situ material tests shall be done as follows:			
		in accordance with descriptive markings	Confirm		
		under rated operating conditions for the instrument	Confirm		
		not less than three material tests shall be conducted: - one at minimum capacity - one at maximum capacity - one at close to minimum totalized load	Confirm		
		each test conducted at maximum rate of weighing cycles per hour	Confirm		
		with a test load representative of the range and type of product or a product for which the instrument is specified	Confirm		
		quantity not less than minimum totalized load as marked on the instrument	Confirm		
		when quantity equal to minimum totalized load can be totalized in less than five weighing cycles, additional test required, five at maximum capacity and five at minimum capacity	Note		

Requirement of R 107-1	Test procedure	Requirement summary - refer to OIML R 107-1 for details	Passed	Failed	Remarks
		equipment near the instrument, e.g. conveyors, dust collection system in use in normal operation of the instrument, shall be in use	Note		
		if instrument can divert weighed material, the test program shall be performed for each alternative, unless hopper not affected	Note		
		when load receptor cannot be loaded with sufficient standard weights, instrument shall be subjected to material tests by separate verification method, in which case an appropriate control instrument shall be available	Note method		
		errors for automatic weighing: difference between conventional true value of test load as defined in 6.2.2 or 6.2.3, and indicated weight observed and recorded as defined in 6.2.1 or 6.3.2	Confirm		
		maximum permissible error shall be as specified in 2.2.1 Table 1 for initial verification	Confirm		
5.1.3.2	A.8	Simulation tests			
		Influence quantities shall be applied during simulation tests in a manner that reveals alteration in accordance with: R 107-1, 2.7 for all instruments R 107-1, 4 for electronic instruments, and	Confirm		
		when conducting tests on load cells or an electronic device equipped with an analogue component, mpe shall be 0.7 times value in R 107-1 Table 2, and	Note		
		if the metrological characteristics of the load cell or other major component have been evaluated in accordance with OIML R 60 or any other Recommendation, that evaluation shall be used to aid pattern evaluation if requested by applicant, and	Note		
		as requirements in this clause apply only to instrument submitted for pattern evaluation and not verification, means to determine whether mpe or maximum allowable variation has been exceeded shall be agreed with applicant for example by: - adaption of totalization indication to higher resolution - use of change point weights - any mutually agreed method	Note method		
5.1.4	Observe	Provision of means for testing: applicant may be required to provide material, handling equipment, personnel, and control instrument	Note		
5.1.5	Observe	Instrument submitted may be tested at: premises of metrological authority, or any other mutually agreed place	Note		

Requirement of R 107-1	Test procedure	Requirement summary - refer to OIML R 107-1 for details	Passed	Failed	Remarks
5.2		Initial verification			
5.2.1		Instruments shall comply with R 107-1, 2 (except 2.7) and 3 for any products for which they are intended under normal conditions, and	Confirm		
		test shall be carried out by metrological authority, in-situ, normal installation. Instrument installed such that automatic weighing is same for testing as for transaction, and	Confirm		
		in manner that prevents unnecessary commitment of resources and avoids duplicating tests previously performed for pattern evaluation under R 107-1, 5.1.3 results of such observed tests may be used	Confirm		
5.2.1.1		instruments that can operate as nonautomatic shall comply with OIML R 76-1, class III or IIII	Confirm		
5.2.1.2		Material tests			
		Instruments subjected to in-situ material tests in accordance with:			
		separate verification method as in A.6.2.2, or	Confirm		
		integral verification method as in A.6.2.3	Confirm		
		when integral control instrument method used, weighing test as in A.6.2.3.1	Confirm		
		In-situ material test shall be done as follows:			
		in accordance with descriptive markings	Confirm		
		under rated operating conditions for the instrument	Confirm		
		not less than three material tests shall be conducted: - one at minimum capacity - one at maximum capacity - one at close to minimum totalized load	Confirm		
		each test conducted at maximum rate of weighing cycles per hour	Confirm		
		with a test load representative of the range and type of product or a product for which instrument specified	Confirm		
		quantity not less than minimum totalized load as marked on the instrument	Confirm		
		when quantity equal to minimum totalized load can be totalized in less than five weighing cycles, additional test required, five at maximum capacity and five at minimum capacity	Note		
		equipment near the instrument, e.g. conveyors, dust collection system in use in normal operation of the instrument, shall be in use	Note		
		if instrument can divert weighed material, the test program shall be performed for each alternative, unless not affected. Testing for full range need only be done for one discharge facility	Note		
		when load receptor cannot be loaded with sufficient standard weights, instrument shall be subjected to material tests by separate verification method, in which case an appropriate control instrument shall be available	Note method		

Requirement of R 107-1	Test procedure	Requirement summary - refer to OIML R 107-1 for details	Passed	Failed	Remarks
		errors for automatic weighing: difference between conventional true value of test load as defined in 6.2.2 or 6.3.3, and indicated weight observed and recorded as defined in 6.2.1 or 6.3.2	Confirm		
		maximum permissible error shall be as specified in 2.2.1 Table 1 for initial verification	Confirm		
5.2.2		Provision of means for testing: applicant may be required to provide material, handling equipment, personnel and control instrument	Note		
6		Test methods			
6.1		Control instrument and test standards: shall ensure the checking of a test load to an error not greater than: a) one third of the mpe for automatic weighing when control instrument or device used for control purposes is verified immediately prior to material tests, or b) one fifth of the mpe in all other cases	Note mpe		
6.2		Separate verification method			
6.2.1		Indicated weight: test load weighed as automatic bulk to bulk weighing operation, the indicated weight value of the principal totalization indicating device observed and recorded	Confirm		
6.2.2		Mass of the test load: test load weighed on control instrument and the result considered as true value of mass of test load	Confirm		
6.3		Integral verification method:			
		Instrument being verified is used to determine the conventional true mass of test load	Confirm		
		Integral method shall be conducted using either:	Note below		
		a) partial indicating device with standard weights to assess the rounding error, or			
		b) an appropriately designed control indicating device			
		Interruption of automatic operation: Automatic weighing operation of test load shall be initiated following the same procedure for weighing bulk to bulk. However, automatic operation shall be interrupted twice during each weighing cycle necessary to weigh a sub-division of the test load. Automatic operation shall not be interrupted if the instrument is installed in an air-enclosed system	Confirm		

Requirement of R 107-1	Test procedure	Requirement summary - refer to OIML R 107-1 for details	Passed	Failed	Remarks
6.3.1.1		Predischarge (gross) interrupt: After load receptor has been loaded and instrument has automatically processed gross weight, automatic operation shall be interrupted. When load receptor has stabilized, the gross weight indicated or determined by balancing with standard weights shall be recorded and instrument switched back to automatic operation	Confirm		
6.3.1.2		Postdischarge (tare) interrupt: After load receptor has been loaded and instrument has automatically processed tare weight, automatic operation shall be interrupted. When load receptor has stabilized, the tare weight indicated or determined by balancing with standard weights shall be recorded and instrument switched back to automatic operation	Confirm		
6.3.2		Indicated weight: Principal totalization indicating device shall be used in obtaining the indicated weight of the test load	Confirm		
6.3.3		Mass of the test load: For each discharge, the tare weight value subtracted from gross weight value is the net weight of the material discharged. A summation of the net weight values of all the discharges in the test load shall be the conventional true value of the mass of the test load	Confirm		

Use this page to detail remarks from the checklist

TEST REPORT

Test equipment used for pattern evaluation

Application No: .....

Report date: .....

Pattern designation: .....

Manufacturer: .....

List all test equipment used in this report:

Equipment name	Manufacturer	Type No.	Serial No.	Used for (test references)
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

Configuration for test

Application No: .....

Report date: .....

Pattern designation: .....

Manufacturer: .....

Use this space for additional information relating to equipment configuration, interfaces, data rates, load cells, EMC protection options etc., for the instrument and/or simulator

Explanatory notes

Meaning of symbols:

I = Indication

I_n = n^{th} indication

L = Load

ΔL = Additional load to next changeover point

P = I + 0.5 d – ΔL = Indication prior to rounding (digital indication)

E = I – L or P – L = Error

E_0 = Error calculated at zero

E_c = Corrected error

mpe = Maximum permissible error (absolute value)

EUT = Equipment under test

The name(s) or symbol(s) of the unit(s) used to express test results shall be specified in each form.

The white spaces in boxes in the headings of the report should always be filled in according to the following example:

	At start	At end	
Temp:	20.5	21.1	°C
Rel. h:			%
Date:	96:12:02	96:12:03	yy:mm:dd
Time:	16:00:05	16:30:05	hh:mm:ss

where:
Temp = temperature
Rel. h = relative humidity

"Date" in the test reports refers to the date on which the test was performed.

In the disturbance tests, faults greater than d are acceptable provided that they are detected and acted upon, or that they result from circumstances such that these faults shall not be considered as significant; an appropriate explanation shall be given in the column “Yes (remarks)”.

Numbers in brackets refer to the corresponding subclauses of OIML R 107-1.

Summary of test report

Application No: .....

Pattern designation: .....

R 107-2	Tests	Report page	Passed	Failed	Remarks
1	Zero-setting device				
2	Material tests				
3	Warm-up time				
4	Influence quantities				
4.1	Static temperature				
4.2	Damp heat, steady state				
4.3	Mains power supply voltage variations (AC)				
4.4	Battery power supply voltage variations (DC)				
5	Disturbances				
5.1	Voltage dips and short interruptions				
5.2	Electrical fast transients/burst immunity				
5.3	Electrostatic discharges				
5.4	Electromagnetic susceptibility				
6	Span stability				

1 Zero-setting device (R 107-1, 3.2.6, A.6.1)

Application No: .....
Pattern designation: .....
Observer: .....
Control scale interval (d): .....
Resolution during test: (smaller than d) .....

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

1.1 Zero-setting modes (R 107-1, A.6.1.1)

	Present	Range tested	Accuracy tested
Nonautomatic			
Semi-automatic			
Auto-zero at switch-on			
Auto-zero at start of automatic operation			
Auto-zero as part of weighing cycle			

1.2 Range of zero-setting (R 107-1, A.6.1.2)

Positive range L_1	Negative range L_2	Range $L_1 + L_2$	% of maximum load

Remarks:

1.3 Accuracy of zero-setting (R 107-1, A.6.1.3)

ΔL	$E = 0.5\ d - \Delta L$	E/d

Remarks:

1.4 Additional zero-setting modes

Application No: .....

Pattern designation: .....

Observer: .....

Control scale interval (d): .....

Resolution during test: ..... (smaller than d)

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

1.4.1 Test of additional zero-setting mode (R 107-1, A.6.1.1)

Zero-setting mode	

1.4.1.1 Range of zero-setting (R 107-1, A.6.1.2)

L_1	L_2	$L_1 + L_2$	% of maximum load

1.4.1.2 Accuracy of zero-setting (R 107-1, A.6.1.3)

ΔL	$E = 0.5\ d - \Delta L$	E/d

1.4.2 Test of additional zero-setting mode (R 107-1, A.6.1.1)

Zero-setting mode	

1.4.2.1 Range of zero-setting (R 107-1, A.6.1.2)

L_1	L_2	$L_1 + L_2$	% of maximum load

1.4.2.2 Accuracy of zero-setting (R 107-1, A.6.1.3)

ΔL	$E = 0.5\ d - \Delta L$	E/d

1.5 Zero offset interlock (R 107-1, 3.2.6, A.7.7)

			At start	At end	
Application No:	.....	Temp:			°C
Pattern designation:	.....	Rel. h:			%
Observer:	.....	Date:			yy:mm:dd
Totalization scale interval (d_t):	.....	Time:			hh:mm:ss
Resolution during test: (smaller than d_t)	.....				

Method of zero-setting:

☐ Non auto or semi-auto ☐ Auto

Positive offset:

Load applied after zeroing:		
Automatic operation	inhibited	
	not inhibited	

Negative offset:

Load removed after zeroing:		
Automatic operation	inhibited	
	not inhibited	

Remarks:

2 Material tests (R 107-1, 5.1.3.1, A.6.2)

2.1 Material testing (separate verification method) (R 107-1, 6.2, A.6.2.2)

Test 1

Application No: .....

Pattern designation: .....

Observer: .....

Control scale interval (d): .....

Totalization scale interval d_t: .....

Material: .....

Condition of material: .....

Nominal load: .....

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

Number of loads	
Indicated total at start T_S	
Indicated total at end T_F	
$I = T_F - T_S$	
Control instrument indication for total load L	
Error = $\frac{I - L}{L} \times 100\ \%$	

Remarks:

2.1 Material testing (separate verification method) (continued)

Test 2

Application No: .....

Pattern designation: .....

Observer: .....

Control scale interval (d): .....

Totalization scale interval d_t: .....

Material: .....

Condition of material: .....

Nominal load: .....

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

Number of loads	
Indicated total at start T_S	
Indicated total at end T_F	
$I = T_F - T_S$	
Control instrument indication for total load L	
Error = $\frac{I - L}{L} \times 100\ \%$	

Remarks:

2.1 Material testing (separate verification method) (continued)

Test 3

Application No: .....

Pattern designation: .....

Observer: .....

Control scale interval (d): .....

Totalization scale interval d_t: .....

Material: .....

Condition of material: .....

Nominal load: .....

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

Number of loads	
Indicated total at start T_S	
Indicated total at end T_F	
$I = T_F - T_S$	
Control instrument indication for total load L	
Error = $\frac{I - L}{L} \times 100\ \%$	

Remarks:

2.1 Material testing (separate verification method) (continued)

Additional test

Application No: .....

Pattern designation: .....

Observer: .....

Control scale interval (d): .....

Totalization scale interval d_t: .....

Material: .....

Condition of material: .....

Nominal load: .....

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

Number of loads	
Indicated total at start T_S	
Indicated total at end T_F	
$I = T_F - T_S$	
Control instrument indication for total load L	
Error = $\frac{I - L}{L} \times 100\ \%$	

Remarks:

2.1 Material testing (separate verification method) (continued)

Additional test

Application No: .....

Pattern designation: .....

Observer: .....

Control scale interval (d): .....

Totalization scale interval d_t: .....

Material: .....

Condition of material: .....

Nominal load: .....

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

Number of loads	
Indicated total at start T_S	
Indicated total at end T_F	
$I = T_F - T_S$	
Control instrument indication for total load L	
Error = $\frac{I - L}{L} \times 100\ \%$	

Remarks:

2.2 Integral verification method (R 107-1, A.6.2.3)

2.2.1 Integral verification method weighing test (see Note) (A.6.2.3.1 & A.6.2.5)

Application No: .....

Pattern designation: .....

Observer: .....

Control scale interval (d): .....

Resolution during test: ..... (smaller than d)

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

Automatic zero-setting device is:

☐ Non-existent ☐ Not in operation ☐ Out of working range ☐ In operation

$E = I + 0.5\ d - \Delta L - L$
$E_c = E - E_o$ with E_o = error calculated at or near zero (*)

Load L	Indication I ↓	Indication I ↑	Add. load ΔL ↓	Add. load ΔL ↑	Error E ↓	Error E ↑	Corrected error E_c ↓	Corrected error E_c ↑	mpe
(*)					(*)				

Note: This test is only part of the material tests when the integral weighing method is used for material tests. It is then conducted prior to the actual material test

Remarks:

2.2.2 Material testing (integral verification method) (R 107-1, 5.1.3.1, 6.3, A.6.2.3)

Test 1

Application No: .....

Pattern designation: .....

Observer: .....

Control scale interval (d): .....

Totalization scale interval d_t: .....

Material: .....

Condition of material: .....

Nominal load: .....

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

	HOPPER CONTENTS STATIC WEIGHING							INDICATED TOTAL
	Indication I	Add. load ΔL	Indication prior to rounding P = I + 0.5 d – ΔL	Cal. error E	Corrected indication $I_C = P - E$	Load weight $L = I_{CL} - I_{CD}$		At start T_S
Loaded					I_{CL}			
Discharged					I_{CD}			
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								At end T_F
Discharged								
						Σ_L (total load)		

$$\text{Error} = \frac{T_F - T_S - \Sigma_L}{\Sigma_L} \times 100\ \%$$

Error = %

2.2.2 Material testing (integral verification method) (continued)

Test 2

Application No: ....

Pattern designation: ....

Observer: ....

Control scale interval (d): ....

Totalization scale interval d_t: ....

Material: ....

Condition of material: ....

Nominal load: ....

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

	HOPPER CONTENTS STATIC WEIGHING							INDICATED TOTAL
	Indication I	Add. load ΔL	Indication prior to rounding $P = I + 0.5\ d - \Delta L$	Cal. error E	Corrected indication $I_C = P - E$	Load weight $L = I_{CL} - I_{CD}$		At start T_S
Loaded					I_{CL}			
Discharged					I_{CD}			
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								At end T_F
Discharged								
						Σ_L (total load)		

$$\text{Error} = \frac{T_F - T_S - \Sigma_L}{\Sigma_L} \times 100\ \%$$

Error = %

2.2.2 Material testing (integral verification method) (continued)

Test 3

Application No: ....

Pattern designation: ....

Observer: ....

Control scale interval (d): ....

Totalization scale interval d_t: ....

Material: ....

Condition of material: ....

Nominal load: ....

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

	HOPPER CONTENTS STATIC WEIGHING							INDICATED TOTAL
	Indication I	Add. load ΔL	Indication prior to rounding $P = I + 0.5\ d - \Delta L$	Cal. error E	Corrected indication $I_C = P - E$	Load weight $L = I_{CL} - I_{CD}$		At start T_S
Loaded					I_{CL}			
Discharged					I_{CD}			
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								At end T_F
Discharged								
						Σ_L (total load)		

$$\text{Error} = \frac{T_F - T_S - \Sigma_L}{\Sigma_L} \times 100\ \%$$

Error = %

2.2.2 Material testing (integral verification method) (continued)

Test 4

Application No: ....

Pattern designation: ....

Observer: ....

Control scale interval (d): ....

Totalization scale interval d_t: ....

Material: ....

Condition of material: ....

Nominal load: ....

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

	HOPPER CONTENTS STATIC WEIGHING							INDICATED TOTAL
	Indication I	Add. load ΔL	Indication prior to rounding $P = I + 0.5\ d - \Delta L$	Cal. error E	Corrected indication $I_C = P - E$	Load weight $L = I_{CL} - I_{CD}$		At start T_S
Loaded					I_{CL}			
Discharged					I_{CD}			
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								At end T_F
Discharged								
						Σ_L (total load)		

$$\text{Error} = \frac{T_F - T_S - \Sigma_L}{\Sigma_L} \times 100\ \%$$

Error =	%

2.2.2 Material testing (integral verification method) (continued)

Test 5

Application No:	....			At start	At end	
Pattern designation:	....		Temp:			°C
Observer:	....		Rel. h:			%
Control scale interval (d):	....		Date:			yy:mm:dd
Totalization scale interval d_t:	....		Time:			hh:mm:ss
Material:	....					
Condition of material:	....					
Nominal load:	....					

	HOPPER CONTENTS STATIC WEIGHING							INDICATED TOTAL
	Indication I	Add. load ΔL	Indication prior to rounding $P = I + 0.5\,d - \Delta L$	Cal. error E	Corrected indication $I_C = P - E$	Load weight $L = I_{CL} - I_{CD}$		At start T_S
Loaded					I_{CL}			
Discharged					I_{CD}			
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								
Discharged								
Loaded								At end T_F
Discharged								
						Σ_L (total load)		

$$\text{Error} = \frac{T_F - T_S - \Sigma_L}{\Sigma_L} \times 100\ \%$$

Error =	%

3 Warm-up time (R 107-1, 4.3.5, A.7.1)

			At start	At end	
Application No:	.....				
Pattern designation:	.....	Temp:			°C
Observer:	.....	Rel. h:			%
Control scale interval (d):	.....	Date:			yy:mm:dd
Resolution during test: (smaller than d)	.....	Time:			hh:mm:ss
Duration of disconnection before test:	.....				

Automatic zero-setting device is:

☐ Non-existent ☐ Not in operation ☐ Out of working range ☐ In operation

$E = I + 0.5\ d - \Delta L - L$
E_0 = error calculated at zero or near zero (unloaded)
E_L = error calculated at load (loaded)

	Time (*)	Load	Indication I	Add. load ΔL	Error E	$E_L - E_0$
Unloaded	0 min				E_{0I} =	
Loaded					E_L =	
Unloaded	5 min				E_0 =	
Loaded					E_L =	
Unloaded	15 min				E_0 =	
Loaded					E_L =	
Unloaded	30 min				E_0 =	
Loaded					E_L =	

(*) Counted from the moment an indication has first appeared

Remarks:

4 Influence quantities (R 107-1, 2.7, A.8 & A.8.3)

4.1 Static temperatures (R 107-1, A.8.3.1, A.8.1 & A.8.2)

Application No: .....

Pattern designation: .....

Observer: .....

Control scale interval (d): .....

Totalization scale interval d_t: .....

Automatic zero-setting is:

☐ Non-existent ☐ Not in operation ☐ Out of working range ☐ In operation

Test 1 - Static temperature, reference 20 °C

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

$E = I + 0.5\ d - \Delta L - L$
$E_c = E - E_o$ with E_o = error calculated at or near zero (*)

Load L	Indication I		Add. load ΔL		Error E		Corrected error E_c		mpe
	↓	↑	↓	↑	↓	↑	↓	↑	
(*)					(*)				

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Totalization indication		
At start of test ( )	At end of test ( )	Max deviation observed (except for non-recordable transients)

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Static Load ( )	Calculated change in totalization T_c ( )	Totalization before adding load T_b ( )	Totalization after adding load T_a ( )	Indicated change in totalization $T_I = T_a - T_b$ ( )	Error $T_c - T_I$ ( )

Remarks:

Test 2 - Static temperature, specified high (°C)

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

$E = I + 0.5\ d - \Delta L - L$
$E_c = E - E_o$ with E_o = error calculated at or near zero (*)

Load L	Indication I		Add. load ΔL		Error E		Corrected error E_c		mpe
	↓	↑	↓	↑	↓	↑	↓	↑	
(*)					(*)				

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Totalization indication		
At start of test ( )	At end of test ( )	Max deviation observed (except for non-recordable transients)

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Static Load ( )	Calculated change in totalization T_c ( )	Totalization before adding load T_b ( )	Totalization after adding load T_a ( )	Indicated change in totalization $T_I = T_a - T_b$ ( )	Error $T_c - T_I$ ( )

Remarks:

Test 3 - Static temperature, specified low (°C)

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

$E = I + 0.5\ d - \Delta L - L$
$E_c = E - E_o$ with E_o = error calculated at or near zero (*)

Load L	Indication I		Add. load ΔL		Error E		Corrected error E_c		mpe
	↓	↑	↓	↑	↓	↑	↓	↑	
(*)					(*)				

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Totalization indication		
At start of test ( )	At end of test ( )	Max deviation observed (except for non-recordable transients)

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Static Load ( )	Calculated change in totalization T_c ( )	Totalization before adding load T_b ( )	Totalization after adding load T_a ( )	Indicated change in totalization $T_I = T_a - T_b$ ( )	Error $T_c - T_I$ ( )

Remarks:

Test 4 - Static temperature, 5 °C

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

$E = I + 0.5\ d - \Delta L - L$
$E_c = E - E_o$ with E_o = error calculated at or near zero (*)

Load L	Indication I		Add. load ΔL		Error E		Corrected error E_c		mpe
	↓	↑	↓	↑	↓	↑	↓	↑	
(*)					(*)				

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Totalization indication		
At start of test ( )	At end of test ( )	Max deviation observed (except for non-recordable transients)

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Static Load ( )	Calculated change in totalization T_c ( )	Totalization before adding load T_b ( )	Totalization after adding load T_a ( )	Indicated change in totalization $T_I = T_a - T_b$ ( )	Error $T_c - T_I$ ( )

Remarks:

Test 5 - Static temperature, reference 20 °C

	At start	At end	
Temp:			°C
Rel. h:			%
Date:			yy:mm:dd
Time:			hh:mm:ss

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

$E = I + 0.5\ d - \Delta L - L$
$E_c = E - E_o$ with E_o = error calculated at or near zero (*)

Load L	Indication I		Add. load ΔL		Error E		Corrected error E_c		mpe
	↓	↑	↓	↑	↓	↑	↓	↑	
(*)					(*)				

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Totalization indication		
At start of test ( )	At end of test ( )	Max deviation observed (except for non-recordable transients)

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Static Load ( )	Calculated change in totalization T_c ( )	Totalization before adding load T_b ( )	Totalization after adding load T_a ( )	Indicated change in totalization $T_I = T_a - T_b$ ( )	Error $T_c - T_I$ ( )

Remarks:

4.2 Damp heat, steady state (R 107-1, 4.3.3, A.8.3.2 & A.8.1 & A.8.2)

Application No: .....

Pattern designation: .....

Observer: .....

Control scale interval (d): .....

Totalization scale interval d_t: .....

Automatic zero-setting is:

☐ Non-existent ☐ Not in operation ☐ Out of working range ☐ In operation

Initial test at reference temperature of 20 °C and relative humidity of 50 %

	At start	After 3 hrs	At end	
Temp:				°C
Rel. h:				%
Date:				yy:mm:dd
Time:				hh:mm:ss

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

$E = I + 0.5\ d - \Delta L - L$
$E_c = E - E_o$ with E_o = error calculated at or near zero (*)

Load L	Indication I		Add. load ΔL		Error E		Corrected error E_c		mpe
	↓	↑	↓	↑	↓	↑	↓	↑	
(*)					(*)				

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Totalization indication		
At start of test ( )	At end of test ( )	Max deviation observed (except for non-recordable transients)

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Static Load ( )	Calculated change in totalization T_c ( )	Totalization before adding load T_b ( )	Totalization after adding load T_a ( )	Indicated change in totalization $T_I = T_a - T_b$ ( )	Error $T_c - T_I$ ( )

Test at upper limit temperature (°C), relative humidity of 85 %

	At start	After 2 days	At end	
Temp:				°C
Rel. h:				%
Date:				yy:mm:dd
Time:				hh:mm:ss

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

$E = I + 0.5\ d - \Delta L - L$
$E_c = E - E_o$ with E_o = error calculated at or near zero (*)

Load L	Indication I		Add. load ΔL		Error E		Corrected error E_c		mpe
	↓	↑	↓	↑	↓	↑	↓	↑	
(*)					(*)				

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Totalization indication		
At start of test ( )	At end of test ( )	Max deviation observed (except for non-recordable transients)

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Static Load ( )	Calculated change in totalization T_c ( )	Totalization before adding load T_b ( )	Totalization after adding load T_a ( )	Indicated change in totalization $T_I = T_a - T_b$ ( )	Error $T_c - T_I$ ( )

Final test at reference temperature of 20 °C and relative humidity of 50 %

	At start	After 2 h	At end	
Temp:				°C
Rel. h:				%
Date:				yy:mm:dd
Time:				hh:mm:ss

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

$E = I + 0.5\ d - \Delta L - L$
$E_c = E - E_o$ with E_o = error calculated at or near zero (*)

Load L	Indication I		Add. load ΔL		Error E		Corrected error E_c		mpe
	↓	↑	↓	↑	↓	↑	↓	↑	
(*)					(*)				

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Totalization indication		
At start of test ( )	At end of test ( )	Max deviation observed (except for non-recordable transients)

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Static Load ( )	Calculated change in totalization T_c ( )	Totalization before adding load T_b ( )	Totalization after adding load T_a ( )	Indicated change in totalization $T_I = T_a - T_b$ ( )	Error $T_c - T_I$ ( )

Remarks:

4.3 Mains power supply voltage variation (AC) (R 107-1, 2.7.2, 4.3.3 & A.8.3.3)

			At start	At end	
Application No:	.....	Temp:			°C
Pattern designation:	.....	Rel. h:			%
Observer:	.....	Date:			yy:mm:dd
Control scale interval (d):	.....	Time:			hh:mm:ss
Totalization scale interval d_t:	.....				

Automatic zero-setting is:

☐ Non-existent ☐ Not in operation ☐ Out of working range ☐ In operation

Marked nominal voltage, U_n, or voltage range: ☐ V

Reference voltage: (**) ☐ V

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

$E = I + 0.5\ d - \Delta L - L$
$E_c = E - E_o$ with E_o = error calculated at or near zero (*)

Voltage	Load L	Indication I	Add. load ΔL	Error E	Corrected error E_c
Reference voltage				(*)	
Reference voltage −15 %					
Reference voltage +10 %					
Reference voltage					

(**) The reference voltage shall be as defined in IEC 1000-4-11 (1994)

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Voltage	Totalization indication		
	At start of test ( )	At end of test ( )	Max deviation observed (except for non-recordable transients)
Reference voltage			
Reference voltage –15 %			
Reference voltage +10 %			
Reference voltage			

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Voltage	Static load ( )	Calculated change in totalization T_c ( )	Totalization before adding load T_b ( )	Totalization after adding load T_a ( )	Indicated change in totalization $T_I = T_a - T_b$ ( )	Error $T_c - T_I$ ( )
Reference voltage						
Reference voltage –15 %						
Reference voltage +10 %						
Reference voltage						

Remarks:

4.4 Battery power supply voltage variation (DC) (R 107-1, 2.7.3, 4.3.3 & A.8.3.4)

			At start	At end	
Application No:	.....				
Pattern designation:	.....	Temp:			°C
Observer:	.....	Rel. h:			%
Control scale interval (d):	.....	Date:			yy:mm:dd
Totalization scale interval d_t:	.....	Time:			hh:mm:ss

Automatic zero-setting is:

☐ Non-existent ☐ Not in operation ☐ Out of working range ☐ In operation

Marked nominal voltage: ☐ V

Lower limit voltage: (**) ☐ V

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

$E = I + 0.5\ d - \Delta L - L$
$E_c = E - E_o$ with E_o = error calculated at or near zero (*)

Voltage	Load L	Indication I	Add. load ΔL	Error E	Corrected error E_c
Nominal voltage				(*)	
Lower limit voltage					
Nominal voltage					

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Voltage	Totalization indication		
	At start of test ( )	At end of test ( )	Max deviation observed (except for non-recordable transients)
Nominal voltage			
Lower limit voltage			
Nominal voltage			

(**) The lower limit voltage shall be the voltage at which the EUT clearly ceases to function + 2 % of this voltage

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Voltage	Static load ( )	Calculated change in totalization T_c ( )	Totalization before adding load T_b ( )	Totalization after adding load T_a ( )	Indicated change in totalization $T_I = T_a - T_b$ ( )	Error $T_c - T_I$ ( )
Nominal voltage						
Lower limit						
Nominal voltage						

Remarks:

5 Disturbances (R 107-1, 4.1.2 & 4.3.4 & A.8 & A.8.4)

5.1 Voltage dips and short interruptions (R 107-1, 4.1.2 & 4.3.4 & A.8.4.1)

			At start	At end	
Application No:	.....				
Pattern designation:	.....	Temp:			°C
Observer:	.....	Rel. h:			%
Control scale interval (d):	.....	Date:			yy:mm:dd
Totalization scale interval d_t:	.....	Time:			hh:mm:ss

Automatic zero-setting is:

☐ Non-existent ☐ Not in operation ☐ Out of working range ☐ In operation

Marked nominal voltage, U_n, or voltage range: ☐ V

Reference voltage: (*) ☐ V

Pre-test information

Disturbance parameters			
Amplitude % of U_n	Duration cycles	Number of disturbances	Repetition interval (s)
0	0.5	10	
50	1	10	

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

Disturbance				
Amplitude % of U_n (other parameters as pre-test information)	Static load ( )	Indication I ( )	Significant fault	
			No	Yes (remarks)
Without disturbance				
0				
50				

(*) The reference voltage shall be as defined in IEC 1000-4-11 (1994)

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Disturbance	Result			
	Totalization indication		Significant fault	
Amplitude % of U_n (other parameters as pre-test information)	At start of test ( )	At end of test ( )	No	Yes (remarks)
Without disturbance				
0				
50				

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Disturbance	Result						
Amplitude % of U_n (other parameters as pre-test information)	Load ( )	Calculated change in totalization T_c ( )	Totalization before adding load T_b ( )	Totalization after adding load T_a ( )	Indicated change in totalization $T_I = T_a - T_b$ ( )	Significant fault $T_c - T_I$	
						No	Yes (remarks)
Without disturbance							
0							
50							

Note 1: If significant faults are detected and acted upon, the test point at which this occurs shall be recorded

Note 2: If the EUT fails the test point at which this occurs shall be recorded

Remarks:

5.2 Electrical fast transients/burst immunity (R 107-1, 4.1.2 & 4.3.4 & A.8.4.2)

5.2.1 Power lines

			At start	At end	
Application No:	.....				
Pattern designation:	.....	Temp:			°C
Observer:	.....	Rel. h:			%
Control scale interval (d):	.....	Date:			yy:mm:dd
Totalization scale interval d_t:	.....	Time:			hh:mm:ss

Automatic zero-setting is:

☐ Non-existent ☐ Not in operation ☐ Out of working range ☐ In operation

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

Power supply lines: test voltage 1 kV, duration of the test 1 minute at each polarity

Disturbance connexion and polarity		Result			
		Load ( )	Indication I ( )	Significant fault	
				No	Yes (remarks)
without disturbance					
Live ↓ ground	pos				
	neg				
without disturbance					
Neutral ↓ ground	pos				
	neg				
without disturbance					
Protective earth ↓ ground	pos				
	neg				

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Disturbance connection and polarity		Result			
		Totalization indication		Significant fault	
		At start of test ( )	At end of test ( )	No	Yes (remarks)
without disturbance					
Live ↓ ground	pos				
	neg				
without disturbance					
Neutral ↓ ground	pos				
	neg				
without disturbance					
Protective earth ↓ ground	pos				
	neg				

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Disturbance connection and polarity		Result						
		Load ( )	Calculated change in totalization T_c ( )	Totalization before adding load T_b ( )	Totalization after adding load T_a ( )	Indicated change in totalization $T_I = T_a - T_b$ ( )	Significant fault $T_c - T_I$	
							No	Yes (remarks)
without disturbance								
Live ↓ ground	pos							
	neg							
without disturbance								
Neutral ↓ ground	pos							
	neg							
without disturbance								
Protective earth ↓ ground	pos							
	neg							

Note 1: If significant faults are detected and acted upon, the test point at which this occurs shall be recorded

Note 2: If the EUT fails the test point at which this occurs shall be recorded

Remarks:

5.2 Electrical fast transients/burst immunity (continued)

5.2.2 I/O circuits and communication lines

			At start	At end	
Application No:	.....				
Pattern designation:	.....	Temp:			°C
Observer:	.....	Rel. h:			%
Control scale interval (d):	.....	Date:			yy:mm:dd
Totalization scale interval d_t:	.....	Time:			hh:mm:ss

Automatic zero-setting is:

☐ Non-existent ☐ Not in operation ☐ Out of working range ☐ In operation

I/O signals, data and control lines: test voltage 0.5 kV, duration of the test 1 minute at each polarity

Explain or make a sketch indicating where the clamp is located on the cable: if necessary, use an additional page

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

Cable/Interface (C/I) and polarity		Load ( )	Indication I ( )	Result	
				Significant fault	
				No	Yes (remarks)
without disturbance					
C/I,1	pos				
	neg				
without disturbance					
C/I,2	pos				
	neg				
without disturbance					
C/I,3	pos				
	neg				
without disturbance					
C/I,4	pos				
	neg				
without disturbance					
C/I,5	pos				
	neg				
without disturbance					
C/I,6	pos				
	neg				

Note: The cell references C/I,1 to C/I,6 should be used to cross reference the cable or interface between Tables A and B

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Cable/Interface (C/I) and polarity		Totalization indication		Result	
		At start of test ( )	At end of test ( )	Significant fault	
				No	Yes (remarks)
without disturbance					
C/1,1	pos				
	neg				
without disturbance					
C/I,2	pos				
	neg				
without disturbance					
C/I,3	pos				
	neg				
without disturbance					
C/I,4	pos				
	neg				
without disturbance					
C/I,5	pos				
	neg				
without disturbance					
C/I,6	pos				
	neg				

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Cable/interface (C/I) and polarity		Result						
		Load	Calculated change in totalization T_c	Totalization before adding load T_b	Totalization after adding load T_a	Indicated change in totalization $T_I = T_a - T_b$	Significant fault $T_c - T_I$	
		( )	( )	( )	( )	( )	No	Yes (remarks)
without disturbance								
C/I,1	pos							
	neg							
without disturbance								
C/I,2	pos							
	neg							
without disturbance								
C/I,3	pos							
	neg							
without disturbance								
C/I,4	pos							
	neg							
without disturbance								
C/I,5	pos							
	neg							
without disturbance								
C/I,6	pos							
	neg							

Note 1: If significant faults are detected and acted upon, the test point at which this occurs shall be recorded

Note 2: If the EUT fails the test point at which this occurs shall be recorded

Note 3: Explain, or make a sketch indicating where the clamp is located on the cable; if necessary, use an additional page

Remarks:

5.3 Electrostatic discharges (R 107-1, 4.1.2 & 4.3.4 & A.8.4.3)

5.3.1 Direct application

			At start	At end	
Application No:	.....				
Pattern designation:	.....	Temp:			°C
Observer:	.....	Rel. h:			%
Control scale interval (d):	.....	Date:			yy:mm:dd
Totalization scale interval d_t:	.....	Time:			hh:mm:ss

Automatic zero-setting is:

☐ Non-existent ☐ Not in operation ☐ Out of working range ☐ In operation

☐ Contact discharges ☐ Paint penetration

☐ Air discharges Polarity: (*) ☐ pos ☐ neg

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

Discharges			Result			
Test voltage (kV)	Number of discharges ≥ 10	Repetition interval (s)	Load ( )	Indication I ( )	Significant fault	
					No	Yes (remarks)
without disturbance						
2						
4						
6						
8 (air discharges)						

(*) IEC 1000-4-2 specifies that the test should be conducted at the most sensitive polarity

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Discharges			Result			
Test voltage	Number of discharges	Repetition interval	Totalization indication		Significant fault	
			At start of test	At end of test		
(kV)	≥ 10	(s)	( )	( )	No	Yes (remarks)
without disturbance						
2						
without disturbance						
4						
without disturbance						
6						
without disturbance						
8 (air discharges)						

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Disturbance			Result						
				Totalization indication					
Test voltage	Number of discharges	Repetition interval	Load	Calculated change	Before adding load	After adding load	Indicated change	Significant fault $T_c - T_I$	
(kV)	≥ 10	(s)	( )	T_c	T_b	T_a	T_I	No	Yes (remarks)
without disturbance									
2									
without disturbance									
4									
without disturbance									
6									
without disturbance									
8 (air discharges)									

Note 1: If significant faults are detected and acted upon, the test point at which this occurs shall be recorded

Note 2: If the EUT fails the test point at which this occurs shall be recorded

Remarks:

5.3 Electrostatic discharges (continued)

5.3.2 Indirect application (contact discharge only)

			At start	At end	
Application No:	.....				
Pattern designation:	.....	Temp:			°C
Observer:	.....	Rel. h:			%
Control scale interval (d):	.....	Date:			yy:mm:dd
Totalization scale interval d_t:	.....	Time:			hh:mm:ss

Automatic zero-setting is:

☐ Non-existent ☐ Not in operation ☐ Out of working range ☐ In operation

Polarity: (*) ☐ pos ☐ neg

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

Horizontal coupling plane

Discharges			Result			
Test voltage	Number of discharges	Repetition interval	Load	Indication I	Significant fault	
(kV)	≥ 10	(s)	( )	( )	No	Yes (remarks)
without disturbance						
2						
4						
6						

Vertical coupling plane

Discharges			Result			
Test voltage	Number of discharges	Repetition interval	Load	Indication I	Significant fault	
(kV)	≥ 10	(s)	( )	( )	No	Yes (remarks)
without disturbance						
2						
4						
6						

(*) IEC 1000-4-2 specifies that the test should be conducted with the most sensitive polarity

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Horizontal coupling plane

Discharges			Result			
Test voltage	Number of discharges	Repetition interval	Totalization indication		Significant fault	
			At start of test	At end of test		
(kV)	≥ 10	(s)	( )	( )	No	Yes (remarks)
without disturbance						
2						
without disturbance						
4						
without disturbance						
6						

Vertical coupling plane

Discharges			Result			
Test voltage	Number of discharges	Repetition interval	Totalization indication		Significant fault	
			At start of test	At end of test		
(kV)	≥ 10	(s)	( )	( )	No	Yes (remarks)
without disturbance						
2						
without disturbance						
4						
without disturbance						
6						

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

Horizontal coupling plane

Disturbance			Result						
				Totalization indication					
Test voltage	Number of discharges	Repetition interval	Load	Calculated change	Before adding load	After adding load	Indicated change	Significant fault $T_c - T_I$	
(kV)	≥ 10	(s)	( )	T_c	T_b	T_a	T_I	No	Yes (remarks)
without disturbance									
2									
without disturbance									
4									
without disturbance									
6									

Vertical coupling plane

Disturbance			Result						
				Totalization indication					
Test voltage	Number of discharges	Repetition interval	Load	Calculated change	Before adding load	After adding load	Indicated change	Significant fault $T_c - T_I$	
(kV)	≥ 10	(s)	( )	T_c	T_b	T_a	T_I	No	Yes (remarks)
without disturbance									
2									
without disturbance									
4									
without disturbance									
6									

Note 1: If significant faults are detected and acted upon, the test point at which this occurs shall be recorded

Note 2: If the EUT fails the test point at which this occurs shall be recorded

Remarks:

5.3 Electrostatic discharges (continued)

Specification of test points of EUT (direct application), e.g. by photos or sketches

a) Direct application

Contact discharges:

Air discharges:

b) Indirect application

5.4 Electromagnetic susceptibility (R 107-1, 4.1.2 & 4.3.4 & A.8.4.4)

			At start	At end	
Application No:	.....				
Pattern designation:	.....	Temp:			°C
Observer:	.....	Rel. h:			%
Control scale interval (d):	.....	Date:			yy:mm:dd
Totalization scale interval d_t:	.....	Time:			hh:mm:ss

Rate of sweep:

Result sheet A

To be used in conjunction with result sheet B when the integral control device is used to determine the error

Disturbance				Result			
Antenna	Frequency range (MHz)	Polarization	Facing EUT	Load ( )	Indication I ( )	Significant fault	
						No	Yes (remarks)
without disturbance							
		Vertical	Front				
			Right				
			Left				
			Rear				
		Horizontal	Front				
			Right				
			Left				
			Rear				
		Vertical	Front				
			Right				
			Left				
			Rear				
		Horizontal	Front				
			Right				
			Left				
			Rear				

Result sheet B (R 107-1, A.8.2.3)

To be used in conjunction with result sheet A to record the retained totalization indication

Disturbance				Result				
Antenna	Frequency range (MHz)	Polarization	Facing EUT	Load	Totalization indication		Significant fault	
					At start of test	At end of test		
				( )	( )	( )	No	Yes (remarks)
without disturbance								
		Vertical	Front					
			Right					
			Left					
			Rear					
without disturbance								
		Horizontal	Front					
			Right					
			Left					
			Rear					
without disturbance								
		Vertical	Front					
			Right					
			Left					
			Rear					
without disturbance								
		Horizontal	Front					
			Right					
			Left					
			Rear					

Result sheet C (R 107-1, A.8.2.2)

To be used where the total is being increased by continually adding the result of weighing a static load and the totalization indicator is used to determine the error

				Result						
Antenna	Frequency	Polarization	Facing EUT		Totalization					
				Load ( )	Calculated change T_c ( )	Before adding load T_b ( )	After adding load T_a ( )	Indicated change T_I ( )	Significant fault $T_c - T_I$	
									No	Yes (remarks)
without disturbance										
		Vertical	Front							
			Right							
			Left							
			Rear							
without disturbance										
		Horizontal	Front							
			Right							
			Left							
			Rear							
without disturbance										
		Vertical	Front							
			Right							
			Left							
			Rear							
without disturbance										
		Horizontal	Front							
			Right							
			Left							
			Rear							

Frequency range: 26–1000 MHz
Field strength: 3 V/m
Modulation: 80 % AM, 1 kHz sine wave

Note 1: If significant faults are detected and acted upon, the test point at which this occurs shall be recorded

Note 2: If the EUT fails the test point at which this occurs shall be recorded

Remarks:

5.4 Electromagnetic susceptibility (continued)

Provide a description of the set-up of the EUT, e.g. by photos or sketches

6 Span stability (R 107-1, 4.4.3, A.9)

Application No: .....

Pattern designation: .....

Control scale interval (d): .....

Resolution during test: (smaller than d) .....

Automatic zero-setting device is:

☐ Non-existent ☐ Not in operation ☐ Out of working range

Test load = ☐

Measurement No. 1: Initial measurement

		At start	At end	
	Temp:			°C
Observer:	Rel. h:			%
Location:	Date:			yy:mm:dd
	Time:			hh:mm:ss

$E_o = I_o + 0.5\ d - \Delta L_o - L_o$ $E_L = I_L + 0.5\ d - \Delta L - L$

	Indication of zero (I_o)	Add. load (ΔL_o)	E_o	Indication of load (I_L)	Add. load (ΔL)	E_L	$E_L - E_o$	Corrected value (*)
1								
2								
3								
4								
5								

(*) When applicable, necessary corrections resulting from variations of temperature, pressure, etc. See remarks

Average error = average $(E_L - E_o)$ = ☐

$(E_L - E_o)_{max} - (E_L - E_o)_{min}$ = ☐

0.1 d = ☐

If $*(E_L - E_o)_{max} - (E_L - E_o)_{min} * \leq 0.1$ d, the loading and reading will be sufficient for each of the subsequent measurements; if not, five loadings and readings shall be performed at each measurement

Remarks:

6 Span stability (continued)

Subsequent measurements

For each of the subsequent measurements (at least 7), indicate on the line "conditions of the measurement", as appropriate, if the measurement has been performed:

- after the temperature test, the EUT having been stabilized for at least 16 h;
- after the humidity test, the EUT having been stabilized for at least 16 h;
- after the EUT has been disconnected from the mains for at least 8 h and then stabilized for at least 5 h;
- after any change in the test location;
- under any other specific condition.

Measurement No. 2:

		At start	At end	
	Temp:			°C
Observer:	Rel. h:			%
Location:	Date:			yy:mm:dd
	Time:			hh:mm:ss

$E_o = I_o + 0.5\ d - \Delta L_o - L_o \quad E_L = I_L + 0.5\ d - \Delta L - L$

	Indication of zero (I_o)	Add. load (ΔL_o)	E_o	Indication of load (I_L)	Add. load (ΔL)	E_L	$E_L - E_o$	Corrected value (*)
1								
2								
3								
4								
5								

(*) When applicable, necessary corrections resulting from variations of temperature, pressure, etc. See remarks

If five loadings and readings have been performed:

Average error = average ($E_L - E_o$)

=

Remarks:

6 Span stability (continued)

Measurement No. 3:

		At start	At end	
	Temp:			°C
Observer:	Rel. h:			%
Location:	Date:			yy:mm:dd
	Time:			hh:mm:ss

Conditions of the measurement:

$E_o = I_o + 0.5\ d - \Delta L_o - L_o \qquad E_L = I_L + 0.5\ d - \Delta L - L$

	Indication of zero (I_o)	Add. load (ΔL_o)	E_o	Indication of load (I_L)	Add. load (ΔL)	E_L	$E_L - E_o$	Corrected value (*)
1								
2								
3								
4								
5								

(*) When applicable, necessary corrections resulting from variations of temperature, pressure, etc. See remarks

If five loadings and readings have been performed:

Average error = average ($E_L - E_o$)

=

Remarks:

Measurement No. 4:

		At start	At end	
	Temp:			°C
Observer:	Rel. h:			%
Location:	Date:			yy:mm:dd
	Time:			hh:mm:ss

Conditions of the measurement:

$E_o = I_o + 0.5\ d - \Delta L_o - L_o \qquad E_L = I_L + 0.5\ d - \Delta L - L$

	Indication of zero (I_o)	Add. load (ΔL_o)	E_o	Indication of load (I_L)	Add. load (ΔL)	E_L	$E_L - E_o$	Corrected value (*)
1								
2								
3								
4								
5								

(*) When applicable, necessary corrections resulting from variations of temperature, pressure, etc. See remarks

If five loadings and readings have been performed:

Average error = average ($E_L - E_o$)

=

Remarks:

6 Span stability (continued)

Measurement No. 5:

		At start	At end	
	Temp:			°C
Observer:	Rel. h:			%
Location:	Date:			yy:mm:dd
	Time:			hh:mm:ss

Conditions of the measurement:

$E_o = I_o + 0.5\ d - \Delta L_o - L_o \qquad E_L = I_L + 0.5\ d - \Delta L - L$

	Indication of zero (I_o)	Add. load (ΔL_o)	E_o	Indication of load (I_L)	Add. load (ΔL)	E_L	$E_L - E_o$	Corrected value (*)
1								
2								
3								
4								
5								

(*) When applicable, necessary corrections resulting from variations of temperature, pressure, etc. See remarks

If five loadings and readings have been performed:

Average error = average ($E_L - E_o$)

=

Remarks:

Measurement No. 6:

		At start	At end	
	Temp:			°C
Observer:	Rel. h:			%
Location:	Date:			yy:mm:dd
	Time:			hh:mm:ss

Conditions of the measurement:

$E_o = I_o + 0.5\ d - \Delta L_o - L_o \qquad E_L = I_L + 0.5\ d - \Delta L - L$

	Indication of zero (I_o)	Add. load (ΔL_o)	E_o	Indication of load (I_L)	Add. load (ΔL)	E_L	$E_L - E_o$	Corrected value (*)
1								
2								
3								
4								
5								

(*) When applicable, necessary corrections resulting from variations of temperature, pressure, etc. See remarks

If five loadings and readings have been performed:

Average error = average ($E_L - E_o$)

=

Remarks:

6 Span stability (continued)

Measurement No. 7:

		At start	At end	
		Temp:		°C
Observer:	.....	Rel. h:		%
Location:	.....	Date:		yy:mm:dd
		Time:		hh:mm:ss

Conditions of the measurement:

$E_o = I_o + 0.5\ d - \Delta L_o - L_o \qquad E_L = I_L + 0.5\ d - \Delta L - L$

	Indication of zero (I_o)	Add. load (ΔL_o)	E_o	Indication of load (I_L)	Add. load (ΔL)	E_L	$E_L - E_o$	Corrected value (*)
1								
2								
3								
4								
5								

(*) When applicable, necessary corrections resulting from variations of temperature, pressure, etc. See remarks

If five loadings and readings have been performed:

Average error = average ($E_L - E_o$)

=

Remarks:

Measurement No. 8:

		At start	At end	
		Temp:		°C
Observer:	.....	Rel. h:		%
Location:	.....	Date:		yy:mm:dd
		Time:		hh:mm:ss

Conditions of the measurement:

$E_o = I_o + 0.5\ d - \Delta L_o - L_o \qquad E_L = I_L + 0.5\ d - \Delta L - L$

	Indication of zero (I_o)	Add. load (ΔL_o)	E_o	Indication of load (I_L)	Add. load (ΔL)	E_L	$E_L - E_o$	Corrected value (*)
1								
2								
3								
4								
5								

(*) When applicable, necessary corrections resulting from variations of temperature, pressure, etc. See remarks

If five loadings and readings have been performed:

Average error = average ($E_L - E_o$)

=

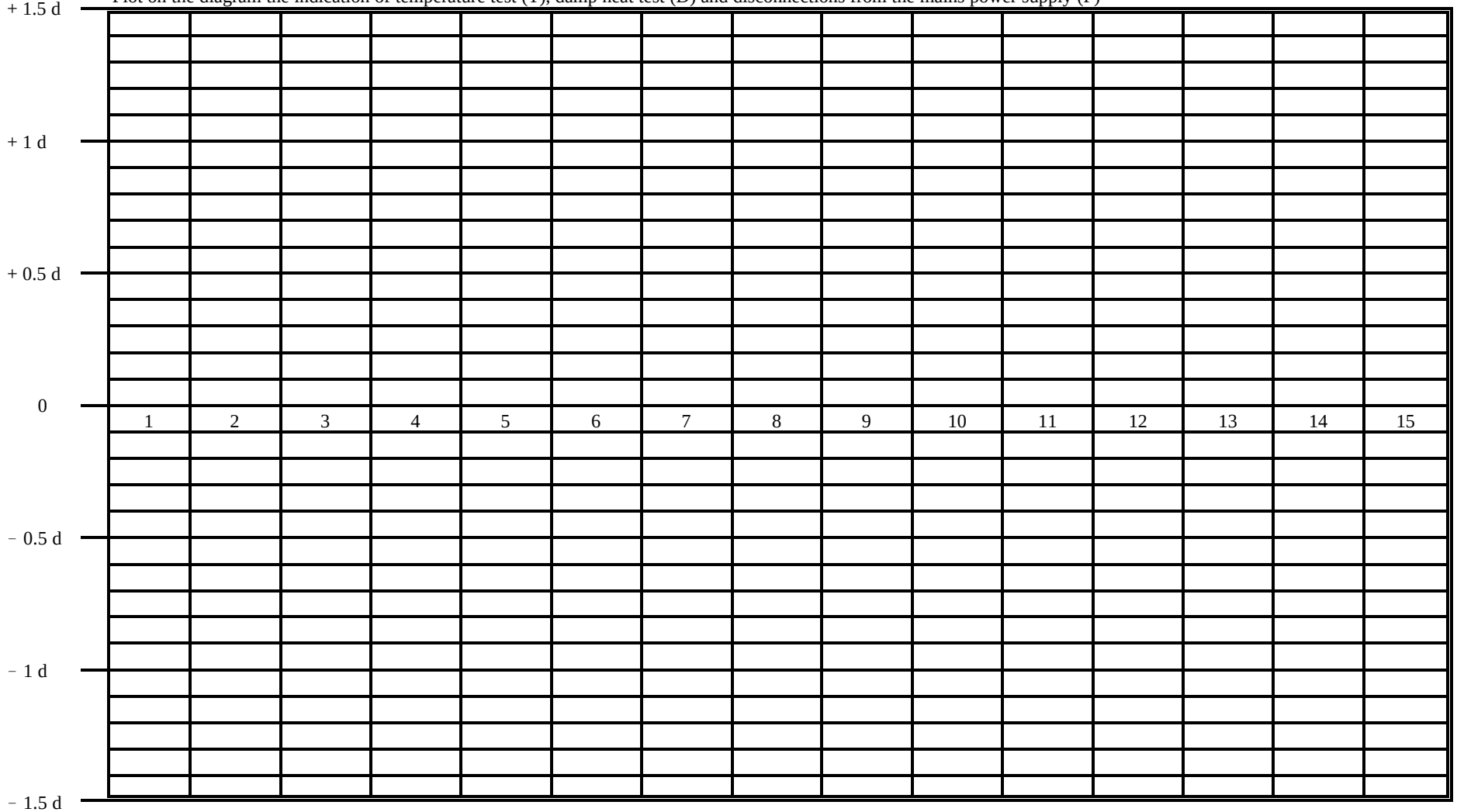
Remarks:

6 Span stability (continued)

Application No: .....

Pattern designation: .....

Plot on the diagram the indication of temperature test (T), damp heat test (D) and disconnections from the mains power supply (P)



Maximum allowable variation: