WELMEC 8.1

Issue 1

WELMEC

European co-operation in legal metrology

Guide on Terms and definitions in MID

and
their relation to terms defined in other international metrologically relevant documents

June 2006

WELMEC

European cooperation in legal metrology

WELMEC is a cooperation between the legal metrology services of the Member States of the European Union and EFTA. This document is one of a number of Guides published by WELMEC to provide guidance to manufacturers of measuring instruments and to notified bodies responsible for conformity assessment of their products. The Guides are purely advisory and do not themselves impose any restrictions or additional technical requirements beyond those contained in relevant EC Directives. Alternative approaches may be acceptable, but the guidance provided in this document represents the considered view of WELMEC as to the best practice to be followed.

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Introduction

According to the terms of reference of WG8, it has been decided to draft an inventory of terms and expressions with metrological relevance in the English version of the MID* and compare these terms and expressions with those used in other relevant documents like OIML Recommendations, the VIM, and relevant international and European standards. In particular the "closest synonyms" will be referred to.

(*) Directive 2004/22/EC of the European Parliament and of the Council of 31 March 2004 on measuring instruments, published in the Official Journal of the European Union, L 135, Volume 47, 30 April 2004
ISSN 1725-2555

A first draft has been presented to and briefly discussed in the meeting of WELMEC WG 8 in Seville on 10th and 11th March 2005.
During this meeting, it has been decided :
- to add a column for comments (especially for cases where some clarification is necessary);
- to keep the document as general as possible;
- to put all symbols together in a separate part of the list;
- that participants send their comments to Mr. Engler by 15 April 2005.

No comments being received, it has been decided during the meeting 6th - 7th June 2005 in Berlin to extend this deadline until 1st August 2005.
By that date too, no comments have been received.
The draft was accepted by WG8 in Paris November 2005 and Mr Engler was thanked for this work.

Remarks

- Words/expressions marked in *Italic* are separately in the column "Term in MID".
- Mostly, the terms in the list below are in the singular form, with the first letter in uppercase.
- An overview of the documents referred to in the 4th column, is given in Annex I.
- Items marked (*) are listed in both Part 1 and Part 2
- Text in bold face in the 1st, 2nd and 3rd column denotes a definition (or text that can clearly be seen as a definition) in the MID or its annexes.

Part 1 - Terms (words and expressions)

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
'CE' marking	Directive, Annex A, A1, C, C1, D, D1, E, E1, F, F1, G, H, H1		**"Blue Guide", 7. 1: Principles of CE marking** - The CE marking symbolises the conformity of the product with the applicable Community requirements imposed on the manufacturer. - The CE marking affixed to products is a declaration by the person responsible that: * the product conforms to all applicable Community provisions, and * the appropriate conformity assessment procedures have been completed.	
Accuracy	Annex I MI-002 MI-003 MI-005 MI-006 MI-007 MI-008		**VIM 3.5: Accuracy of measurement** Closeness of the agreement between the result of a measurement and a true value of the measurand **VIM 3.5: Accuracy of a measuring instrument** Ability of a measuring instrument to give responses close to a true value	
Accuracy class	Directive MI-004 MI-005 MI-006 MI-008 MI-009		**VIM 5.19: Accuracy class** Class of measuring instruments that meet certain metrological requirements that are intended to keep errors within specified limits	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Active electrical energy meter	Directive **MI-003**	**MI-003, Definitions:** An active electrical energy meter is a device which measures the active electrical energy consumed in a circuit.	**Draft OIML R 46, 3.1.2: Watt-hour meter** An electricity meter intended to measure active electrical energy. The active energy is normally displayed with the prefix kilo or mega, as kWh or MWh. **Draft OIML R 46, 3.1.1: Electricity meter** An instrument intended to measure electrical energy continuously buy integrating power with respect to time and which displays and stores the result.	
Ancillary device	Annex I		**OIML R 117, T.1.5 and OIML R 125, 2.1.8: Ancillary device** A device intended to perform a particular function, directly involved in elaborating, transmitting or displaying measurement results. Main ancillary devices are: • zero setting device, • repeating indicating device, • printing device, • memory device, • price indicating device, • totalizing indicating device **(R117**), • conversion device **(R 117)**, • pre-setting device, • self-service device. (f) tariff control device **(R125)**; Note: An ancillary device may or may not be subject to legal metrology control according to its function in the measuring system or to national regulations. **OIML R 125, T.9.1: Ancillary device** A device associated with the instrument which is intended to perform a specific function, e.g. a repeat indication device, ticket printer, card reader, data input terminal, etc.	
Ancillary equipment	Directive			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Approve (to -)	Annex E		**ISO/IEC Guide 2, 16.1: Approval** Permission for a product, process or service to be marketed or used for stated purposes or under stated conditions	
Approved design	Annex H1			
Approved instrument	Annex F1, H1			
Approved quality system	Annex D1, E, H			
Approved type	Annex D Annex E Annex F		**VIML, 4.5: Approved type** definitive model or family of measuring instruments permitted for legal use, the decision being confirmed by the issuing of a type approval certificate	
Area Measuring Instrument	**MI-009**	**MI-009, Definitions** An area measuring instrument serves for the determination of the area of irregular shaped objects, e.g. for leather.		
Assess (to -)	Annex B, D, D1, E, E1, H, H1			See: *Assessment of the quality system*
Assessment	Directive Several annexes			See: *Assessment of the quality system* and *conformity assessment*
Assessment of the conformity	Annex A, A1, B, D1, E1, F1, G, H1			See: *Conformity assessment*
Assessment of the quality system	Annex d, D1, E, E1, H, H1			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Associated measuring instrument	**MI-005**	**MI-005, Definitions: Associated measuring instrument** An instrument connected to the calculator for measuring certain quantities which are characteristic of the liquid, with a view to make a correction and/or conversion	**R 117, T.1.10: Associated measuring instruments** Instruments connected to the calculator, the correction device or the conversion device, for measuring certain quantities which are characteristic of the liquid, with a view to making a correction and/or a conversion.	
Audit	Annex D, D1, E, E1, H, H1		**ISO 9000, 3.9.1: audit** systematic, independent and documented process (3.4.1) for obtaining audit evidence (3.9.4) and evaluating it objectively to determine the extent top which audit criteria (3.9.3) are fulfilled	
Audit report	Annex D, D1, E, E1, H, H1			
Auditing team	Annex D, D1, E, E1, H, H1		**ISO 9000, 3.9.10: audit team** one or more auditors (3.9.9) conducting an audit (3.9.1)	
Authorised representative	**Directive** Annex A, B, C, C1, D, D1, E, E1, F, F1, G, H, H1	**Directive, Article 4 (g)** 'authorised representative 'means a natural or legal person who is established within the Community and authorised by a manufacturer, in writing, to act on his behalf for specified tasks within the meaning of this Directive	Also refer to notes 55 and 56 on page 24 of the **"Blue Guide"** (clause 3.2)	
Automatic catchweigher	**MI-006**	**MI-006 Definitions: Automatic catchweigher** An automatic weighing instrument that determines the mass of pre-assembled discrete loads (for example prepackages) or single loads of loose material.	**OIML R51-1, T.1.3: Automatic catchweighing instrument (catchweigher):** Automatic weighing instrument that weighs pre-assembled discrete loads or single loads of loose material	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Automatic checkweigher	**MI-006**	**MI-006 Definitions: Automatic checkweigher** An automatic catchweigher that subdivides articles of different mass into two or more subgroups according to the value of the difference of their mass and a nominal set-point.	**OIML R 51-1, T.1.3.1: Checkweigher:** Catchweigher that sub-divides articles (i.e. objects) of different mass into two or more sub-groups according to the value of the difference between their mass and the nominal set point	However the expression *automatic checkweigher* has been defined, it is not used in the rest of MI-006
Automatic gravimetric filling instrument	**MI-006**	**MI-006, Definitions: Automatic gravimetric filling instrument** An automatic weighing instrument that fills containers with a predetermined and virtually constant mass of product from bulk.	**OIML R 61-1, T.1.8: Automatic gravimetric filling instrument** Instrument which fills containers with predetermined and virtually constant mass of product from bulk by automatic weighing, and which comprises essentially automatic feeding device(s) associated with weighing unit(s) and the appropriate control and discharge devices.	
Automatic Rail Weighbridge	MI-006		See: *Rail-weighbridge*	According to the definition of a *rail weigh bridge*, this is already automatic. The sense of the additional word "automatic" here, is not clear.
Automatic weighing instrument	**MI-006** Directive	**MI-006, Definitions: Automatic weighing instrument** An instrument that determines the mass of a product without the intervention of an operator and follows a predetermined programme of automatic processes characteristic of the instrument.	**OIML R 50-1, T.1.2, OIML R 51-1, T.1.2, OIML R 106-1, T.1.2, and OIML R 107-1, T.1.2: Automatic weighing instrument** An instrument that weighs without the intervention of an operator and follows a predetermined program of automatic processes characteristic of the instrument. **OIML R 61-1, T.1.7: Automatic weighing instrument** Instrument which weighs without the intervention of an operator and/or follows a predetermined program of automatic process characteristic of the instrument.	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Base conditions	**MI-002**	**MI-002, Definitions: Base conditions** The specified conditions to which the measured quantity of fluid is converted.	**OIML R 6, T.4.2: Base conditions** Conditions to which the measured volume of gas is converted (examples base temperature and base pressure).	
	MI-005	**MI-005, Definitions: Base conditions** The specified conditions to which the measured quantity of liquid at metering conditions is converted.	**R117, T.1.14: Base conditions** The specified conditions to which the measured volume of liquid is converted (example: base temperature and base pressure).	
Beltweigher	MI-006	See: *continuous totaliser*		"*Beltweigher*" is used in MI-006, but not defined. It is clear that *Continuous totaliser* is meant
Brim measure	**MI-008**	**MI-008, II, Definitions: Brim measure** A capacity serving measure for which the internal volume is equal to the nominal capacity.		
Calculation mode	MI-007			See: *Normal calculation mode D* and *Normal calculation mode S*
Calculator	**MI-004**	**MI-004, Definitions** ... calculator as defined in Article 4(b) ... Article 4 (b) of the Directive reads: For the purposes of this Directive: ..... (b) 'sub-assembly 'means a hardware device, mentioned as such in the specific annexes, that functions independently and makes up a measuring instrument together - with other sub-assemblies with which it is compatible, or - with a measuring instrument with which it is compatible;	**R 75-1, 3.4.3: Calculator** A sub-assembly which receives signals from the flow sensor and the temperature sensors and calculates and indicates the quantity of heat exchanged.	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
	MI-005	**MI-005, Definitions: Calculator** A part of a meter that receives the output signals from the measurement transducer(s) and possibly, from associated measuring instruments and displays the measurement results	**R 117, T.1.3: Calculator** A part of the meter that receives the output signals from the transducer(s) and, possibly, from associated measuring instruments, transforms them and, if appropriate, stores in memory the results until they are used. In addition, the calculator may be capable of communicating both ways with peripheral equipment.	
Calibration	Annex D, D1, E, E1, H, H1 MI-010		**VIM, 6.11: Calibration:** set of operations that establish, under specified conditions, the relationship between values of quantities indicated by a measuring instrument or measuring system, or values represented by a material measure or a reference material, and the corresponding values realized by standards	
Calibration data	Annex D, D1E, E1, H, H1			
Calibration gas	MI-010		**ISO 3930 / OIML R 99, 3.30: calibration gas** stable gas mixture of known concentration used for periodic calibration of the instruments and for various performance tests	
Capacity	Annex I			See: *Measuring capacity*
	MI-006			
	MI-008	**MI-008, II, Definitions: Capacity** The capacity is the internal volume for brim measures or internal volume to a filling mark for line measures.		
Capacity serving measure	**MI-008**	**MI-008, II, Definitions: Capacity serving measure** A capacity measure (such as a drinking glass, jug or thimble measure)designed to determine a specified volume of a liquid (other than a pharmaceutical product) which is sold for immediate consumption.		

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Category (of a measuring instrument)	Annex D, D1, E, E1, H, H1 MI-006			See: *Type*
Catchweigher				See: *Automatic catchweigher*
CE marking	**Directive**		**"Blue Guide", 7.1: The CE marking affixed to products** is a declaration by the person responsible that: * the product conforms to all applicable Community provisions, and * the appropriate conformity assessment procedures have been completed.	
CEN	**Directive**	**Directive (11):** European Committee for standardisation		
CENELEC	**Directive**	**Directive (11):** European Committee for Electrotechnical Standardisation		
Certificate	Annex H1			In this Annex: *EC design examination certificate*
Certificate of conformity	Annex F Annex F1			
Certification of the instrument	Annex F1			
Checkweigher				See: *Automatic checkweigher*
Circuit	MI-003 MI-004			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Class	Directive Annex I MI-002 MI-003 MI-004 MI-005 MI-006 MI-007 MI-008 MI-009 MI-010			See: *Environmental class* and *Accuracy class*
Class index	MI-003		**VIM 5.19, note:** An *accuracy class* is usually denoted by a number or symbol adopted by convention and called the **class index**.	
Climatic environment	**Annex I** MI-002 MI-007 MI-010	**Annex I, Definitions: Climatic environments** Climatic environments are the conditions in which measuring instruments may be used. To cope with climatic differences between the Member States, a range of temperature limits has been defined.		
Climatic operating environment	Annex I			See: *Climatic environment*
Commercial and/or light industrial use	MI-002 MI-003 MI-004			See: *Residential, commercial and light industrial*
Committee	Directive			See: *Measuring instruments committee* and *Standing committee*
Competent authority	Directive			
Competent body	Directive	**Directive (11):** CEN, CENELEC, ETSI		

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Competent Member State	Directive			
Component	Annex I, 8.2		**D 11, 3.4: Electronic component** Smallest physical entity that uses electron or hole conduction in semi-conductors, gases or in a vacuum. Examples: electronic tubes, transistors, integrated circuits.	
Conformity	Directive, Annex I, A, A1, B, C, etc.		**ISO/IEC Guide 2, 12.1: conformity** fulfilment by a product, process or service of specified requirements **ISO 9000, 3.6.1: conformity** fulfilment of a requirement (3.1.2) Note 1 This definition is consistent with ISO/IEC Guide 2 but differs from it phrasing to fit into the ISO 9000 concepts.	
Conformity assessment	Directive, Every Annex		**ISO/IEC Guide 2, 12.2:Conformity assessment** any activity concerned with determining directly or indirectly that the relevant requirements are fulfilled **VIML, 2.11: conformity assessment of a measuring instrument** testing and evaluation of measuring instruments to ascertain whether or not a single instrument, an instrument lot or a production series of instruments comply with all statutory requirements applicable to this instrument type	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Conformity assessment modules	Directive		**"Blue Guide" 5.1** Conformity assessment is subdivided into modules, which comprise a limited number of different procedures applicable to the widest range of products. The modules relate to the design phase of products, their production phase or both. The eight basic modules and their eight possible variants can be combined with each other in a variety of ways in order to establish complete conformity assessment procedures. As a general rule, a product is subject to conformity assessment according to a module during the design as well as the production phase. Each New Approach directive describes the range and contents of possible conformity assessment procedures, which are considered to give the necessary level of protection. The directives also set out the criteria governing the conditions under which the manufacturer can make a choice, if more than one option is provided for. Also refer to **"Blue Guide"**, note 90 on page 31.	
Conformity assessment procedure	Directive			
Conformity evaluation	Annex B Annex H1		**ISO/IEC Guide 2, 14.1:Conformity evaluation** systematic examination of the extent to which a product, process or service fulfils specified requirements	
Conformity marking	Directive		**VIML, 2.23: Marking** affixing of one or more of the marks as described in ... [refers to verification mark, rejection mark, sealing mark, and type approval mark]	
Consumer	Directive Annex I			
Consumer protection	Directive			
Consumption	MI-002			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Continuous totaliser	**MI-006**	**MI-006, Definitions: Continuous totaliser** An automatic weighing instrument that continuously determines the mass of a bulk product on a conveyor belt, without systematic subdivision of the product and without interrupting the movement of the conveyor belt.	**OIML R 50-1, T.1.3: Continuous totalizing automatic weighing instrument (belt weigher)** An automatic weighing instrument for continuously weighing a bulk product on a conveyor belt, without systematic subdivision of the mass and without interrupting the movement of the conveyor belt.	In MI-006, the word *"Beltweigher"* is also used
Conversion device	**MI-002**	**MI-002, Definitions: Conversion device** A device fitted to a gas meter that automatically converts the quantity measured at metering conditions into a quantity at base conditions.	**R 6, T.5: Conversion device** A device which converts the volume measured at the metering conditions to a volume at base conditions. Note: The type of conversion may be: a) temperature only; b) temperature and pressure ; c) temperature and pressure with correction for deviations from the ideal gas law.	
	MI-005	**MI-005, Definitions: Conversion device** A part of the calculator which by taking account of the characteristics of the liquid (temperature, density, etc.)measured using associated measuring instruments, or stored in a memory, automatically converts: - the volume of the liquid measured at metering conditions into a volume at base conditions and/or into mass, or - the mass of the liquid measured at metering conditions into a volume at metering conditions and/or into a volume at base conditions Note: A conversion device includes the relevant associated measuring instruments	**OIML R117, T.1.12: Conversion device** A device which automatically converts the volume measured at metering conditions into a volume at base conditions, or into a mass, by taking account of the characteristics of the liquid (temperature, pressure, density, relative density...) measured using associated measuring instruments, or stored in a memory. The quotient of the volume at base conditions, or of the mass, to the volume at metering conditions is referred to as "conversion factor".	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Critical change value	Directive **Annex I**	**Annex I, definitions** The critical change value is the value at which the change in the measurement result is considered undesirable.	**OIML D 11, 3.10: Significant fault** A fault greater than the value specified in the relevant Recommendation **OIML D 11, 3.9: Fault** The difference between the error of indication and the intrinsic error of a measuring instrument)	CCV corresponds to significant fault with the editorial difference that CCV is a limit where SF corresponds to all errors beyond the limit
	MI-001 ... as defined in 8.1.4	**MI-001, 7.1.3** The critical change value is the smaller of the two following values: - the volume corresponding to half of the magnitude of the MPE in the upper zone on the measured volume; - the volume corresponding to the MPE on the volume corresponding to one minute at flowrate Q_3.	**R 49-1, 2.2.10 Significant fault** A fault the magnitude of which is greater than one half of the maximum permissible error in the "upper zone" [adapted from D 11 T.9]. The following are not considered to be significant faults: - faults arising from simultaneous and mutually independent causes in the water meter itself or in its checking facilities; and - transitory faults being momentary variations in the indication which cannot be interpreted, memorized or transmitted as a measurement result.	In MI-001, 7.1.1 reads: "...the critical change value as defined in 8.1.4 ..." this should be "... 7.1.3 ..."
	MI-002 ... as defined in 3.1.3	**MI-002, 3.1.3** The critical change value is the smaller of the two following values: - the quantity corresponding to half of the magnitude of the MPE in the upper zone on the measured volume; - the quantity corresponding to the MPE on the quantity corresponding to one minute at maximum flowrate.	**R 6, T.16 Significant fault** T.16.1. A fault greater than 0.5 of the maximum permissible error on initial verification. T.16.2. The following faults are considered not to be significant, even if they exceed the significant fault : (a) faults arising from simultaneous and mutually independent causes in the gas meter itself or in its checking facilities ; (b) transitory faults being momentary variations in the indication, which cannot be interpreted, memorised or transmitted as a measurement result.	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
	MI-003	*No definition in MI-003*		* In MI-003, t*he Critical change value depends on the nature of the disturbance. This is defined in sub-clauses 4.2 and 4.3 (not copied in this overview)* * OIML R 46 is being revised
	MI-004 ..... as laid down in requirement 4.3	*No definition in MI-003*	**R 75-1, 4.10.3 Significant fault** Fault greater than the absolute value of the MPE which is not a transitory fault.	MI-003, 4.3 The critical change value for a complete heat meter is equal to the absolute value of the MPE applicable to that heat meter (see paragraph 3).
	MI-005 .... as defined in paragraph 3.2	**MI-005, 3.2** The critical change value is the greater of MPE/5 for a particular measured quantity or E_{min}.	**R 117, T.3.12 Significant fault** (*) A fault the magnitude of which is greater than the larger of these two values: - one fifth of the magnitude of the maximum permissible error for the volume, - the minimum specified volume deviation. The following are not considered to be significant faults: - faults arising from simultaneous and mutually independent causes in the measuring instrument itself or in its checking facilities, - transitory faults being momentary variations in the indication, which cannot be interpreted, memorized or transmitted as a measurement result, - faults implying the impossibility of performing any measurement.	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
	MI-006 ... are given in the relevant Chapter of this Annex	*No definition in MI-006*	**R 51-1, T.4.7 Significant fault** A fault greater than e. A significant fault does not include: • faults arising from simultaneous and mutually independent causes in the instrument or in its checking facility, or • faults that imply it is impossible to perform a measurement, or • faults that are so serious they will inevitably be noticed by all those interested in the measurement, or • transitory faults that are momentary variations in the indications that cannot be interpreted, memorized or transmitted as a measurement result.	MI-006, II,.7.2 The critical change value due to a disturbance is one verification scale interval.
			R 61-1, T.4.2.6 Significant fault Fault greater than 0.25 of the maximum permissible deviation of each fill for in-service inspection as specified in 2.2.2, for a fill equal to the minimum capacity or rated minimum fill respectively of the filling instrument. The following are not considered to be significant faults, even when they exceed the value defined above: • Faults arising from simultaneous and mutually independent causes in the instrument; • Faults that imply it is impossible to perform a measurement; • Faults that are so serious that they will inevitably be noticed by those interested in the measurement; and • Transitory faults that are momentary variations in the indications or operation that can not be interpreted, memorized or transmitted as a measurement result.	MI-006, III, 3.2 The critical change value due to a disturbance is a change of the static weight indication equal to the MPE as specified in paragraph 2.1 calculated for the rated minimum fill, or a change that would give equivalent effect on the fill in the case of instruments where the fill consists of multiple loads. The calculated critical change value shall be rounded to the next higher scale interval (d).

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
			R 107-1, T.4.2.5 Significant fault A fault greater than d_t . The following are not considered to be significant faults: • faults that result from simultaneous and mutually independent cause in the instrument or in its checking facility, • faults that imply the impossibility of performing any measurement, • transitory faults that are momentary variations in the indications which can-not be interpreted, memorized or transmitted as a measurement result, • faults that are so serious that they will inevitably be noticed by those interested in the measurement.	MI-006, IV, 8.2 The critical change value due to a disturbance is one totalisation scale interval for any weight indication and any stored total.
			R 50-1, T.5.5 Significant fault A fault greater than the absolute value of the appropriate maximum permissible error for influence factor tests for a load equal to the minimum totalized load ($\sum$min) for the designated class of the belt weigher. A significant fault does not include: • faults that result from simultaneous and mutually independent causes in the belt weigher or in its checking facility, • faults that imply the impossibility of performing any measurement, • transitory faults that are momentary variations in the indications which can-not be interpreted, memorized or transmitted as a measurement result, • faults that are so serious they will inevitably be noticed by those interested in the measurement.	MI-006, V, 6.2: The critical change value due to a disturbance shall be 0,7 times the appropriate value specified in Table 8, for a load equal to $\sum_{min}$,for the designated class of the beltweigher; rounded up to the next higher totalisation scale interval (d).

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
			R 106-1, T.4.2.5: Significant fault A fault greater than d. The following are not considered to be significant faults: • faults that result from simultaneous and mutually independent causes in the instrument or in its checking facility; • faults that imply the impossibility of performing any measurement; • transitory faults that are momentary variations in the indications which cannot be interpreted, memorized or transmitted as a measurement result; • faults that are so serious that they will inevitably be noticed by those interested in the measurement.	MI-006, VI, 5.2 The critical change value due to a disturbance is one scale interval.
	MI-009 *... as defined in 2.3*	**MI-009, 2.3** The critical change value is equal to one scale interval.		In MI-009, this reference to "2.3" should be "2".
	MI-010 ... laid down in paragraph 4 ...	*No definition in MI-010*	**R99, 3.20: significant fault** fault the magnitude of which is greater than the magnitude of the maximum permissible error on initial verification	MI-010, 4 For each of the volume fractions measured by the instrument, the critical change value is equal to the MPE for the parameter concerned.
Cross-over speed	**MI-007**	**MI-007, Definitions: Cross-over speed** The speed value found by division of a time tariff value by a distance tariff value.		
Declaration	All Annexes A - H1			See: *Declaration of conformity* Except for B, 3 and H1, 4.2
Declaration of conformity	All Annexes A - H1 MI-008		**ISO/IEC Guide 2, 15.1.1: Suppliers declaration** procedure by which a supplier gives written assurance that a product, process or service conforms to specified requirements	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Declaration of conformity based on full quality assurance	**Annex H**	**Annex H, 1** The conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in this Annex and ensures and declares that the measuring instruments concerned satisfy the appropriate requirements of this Directive.		
Declaration of conformity based on full quality assurance plus design examination	**Annex H1**	**Annex H1, 1** The conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in this Annex and ensures and declares that the measuring instruments concerned satisfy the appropriate requirements of this Directive.		
Declaration of conformity based on internal production control	**Annex A**	**Annex A, 1** The conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in this Annex and ensures and declares that the measuring instruments concerned satisfy the appropriate requirements of this Directive.		
Declaration of conformity based on internal production control plus product testing by a notified body	**Annex A1**	**Annex A1, 1** The conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in this Annex, and ensures and declares that the measuring instruments concerned satisfy the appropriate requirements of this Directive		

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Declaration of conformity based on product verification	**Annex F1**	**Annex F1, 1** The conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in this Annex and ensures and declares that the measuring instruments that have been subjected to the provisions of paragraph 5 are in conformity with the appropriate requirements of this Directive.		
Declaration of conformity based on quality assurance of final product inspection and testing	**Annex E1**	**Annex E1, 1** The conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in this Annex and ensures and declares that the measuring instruments concerned are in conformity with the appropriate requirements of this Directive.		
Declaration of conformity based on quality assurance of the production process	**Annex D1**	**Annex D1, 1** The conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in this Annex and ensures and declares that the measuring instruments concerned satisfy the appropriate requirements of this Directive.		
Declaration of conformity based on unit verification	**Annex G**	**Annex G, 1** The conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in this Annex and ensures and declares that a measuring instrument that has been subjected to the provisions of paragraph 4,is in conformity with the appropriate requirements of this Directive.		

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Declaration of conformity to type based on internal production control	**Annex C**	**Annex C, 1** The part of a conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in this Annex and ensures and declares that the measuring instruments concerned are in conformity with the type as described in the EC-type examination certificate and satisfy the appropriate requirements of this Directive.		
Declaration of conformity to type based on internal production control plus product testing by a notified body	**Annex C1**	**Annex C1, 1** The part of a conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in this Annex and ensures and declares that the measuring instruments concerned are in conformity with the type as described in the EC-type examination certificate and satisfy the appropriate requirements of this Directive.		
Declaration of conformity to type based on product verification	**Annex F**	**Annex F, 1** The part of a conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in this Annex and ensures and declares that the measuring instruments that have been subjected to the provisions of paragraph 3 are in conformity with the type as described in the EC-type examination certificate and satisfy the appropriate requirements of this Directive.		

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Declaration of conformity to type based on quality assurance of final product inspection and testing	**Annex E**	**Annex E, 1** The part of a conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in this Annex and ensures and declares that the measuring instruments concerned are in conformity with the type as described in the EC-type examination certificate and satisfy the appropriate requirements of this Directive.		
Declaration of conformity to type based on quality assurance of the production process	**Annex D**	**Annex D, 1** The part of a conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in this Annex and ensures and declares that the measuring instruments concerned are in conformity with the type as described in the EC-type examination certificate and satisfy the appropriate requirements of this Directive.		
Dedicated power source	MI-002			
Design control	Annex H1			
Design examination	Annex H1			
Design examination certificate	Annex H1			
Design verification techniques	Annex H Annex H1			
Designated body	Directive Article 12			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Device	Directive, Annex I, MI-002, MI-003, MI-005, MI-006, MI-007, MI-010		**D11, 3.2 Electronic device** Device employing electronic sub-assemblies and performing a specific function. Electronic devices are usually manufactured as separate units and are capable of being tested independently. *Notes:* (1) An electronic device may be a complete measuring instrument (for example: counter scale, electricity meter) or a part of a measuring instrument (for example: printer, indicator). (2) An electronic device can be a module in the sense that this term is used in OIML Publication B 3 "The OIML Certificate system for measuring Instruments" [2].	
Dimensional measuring instrument	**MI-009**	**From: MI-009, Introductory text and definitions:** Length measuring instrument or area measuring instrument or multi-dimensional measuring Instrument		
Dipping tape	MI-008			
Direct sales trading transactions	Annex I			
Direct indication	**MI-005**	**MI-005, Definitions: Direct indication** The indication, either volume or mass, corresponding to the measure and that the meter is physically capable of measuring Note: The direct indication may be converted into another quantity using a conversion device		

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Direct sales	**Annex I** MI-005	**Annex I, Definitions: Direct sales** A trading transaction is direct sales if: - the measurement result serves as the basis for the price to pay and; - at least one of the parties involved in the transaction related to measurement is a consumer or any other party requiring a similar level of protection and; - all the parties in the transaction accept the measurement result at that time and place.		
Discontinuous totaliser (totalising hopper weigher)	**MI-006**	**MI-006, Definitions: Discontinuous totaliser (totalising hopper weigher)** An automatic weighing instrument that determines the mass of a bulk product by dividing it into discrete loads. The mass of each discrete load is determined in sequence and summed. Each discrete load is then delivered to bulk.	**R 107-1, T.1.3 Discontinuous totalizing automatic weighing instrument (totalizing hopper weigher)** An automatic weighing instrument that weighs a bulk product by dividing it into discrete loads, determining the mass of each discrete load in sequence, summing the weighing results and delivering the discrete loads to bulk.	
Discrimination	Annex I		**VIM, 5.12 discrimination (threshold)** largest change in a stimulus that produces no detectable change in the response of a measuring instrument, the change in the stimulus taking place slowly and monotonically.	
Distance signal generator	MI-007			See: *Signal generator*

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Disturbance	Directive **Annex I** MI-001 MI-002 MI-003 MI-004 MI-005 MI-006 MI-007 MI-009 MI-010	**Annex I, Definitions: Disturbance** An influence quantity having a value within the limits specified in the appropriate requirement but outside the specified rated operating conditions of the measuring instrument. An influence quantity is a disturbance if for that influence quantity the rated operating conditions are not specified.	**D 11, 3.13.2 Disturbance** Influence quantity having a value within the limits specified in the relevant Recommendation, but outside the specified rated operating conditions of a measuring instrument. *Note:* An influence quantity is a disturbance if the rated operating conditions for that influence quantity are not specified.	
Durability	Directive Annex I MI-001 MI-002 MI-004 MI-005		**OIML D 11, 3.17 Durability** Ability of a measuring instrument to maintain its performance characteristics over a period of use.	
EC design examination certificate	Directive Annex I Annex H1			
EC-type examination certificate	Directive Annex I Annex B, C, C1, D, E, F			See also: *Type examination*

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Electromagnetic disturbance	Annex I MI-001 MI-002 MI-003 MI-004 MI-005 MI-006 MI-007 MI-009 MI-010		**D 11, 3.13.2 Disturbance** Influence quantity having a value within the limits specified in the relevant Recommendation, but outside the specified rated operating conditions of a measuring instrument. *Note:* An influence quantity is a disturbance if the rated operating conditions for that influence quantity are not specified.	
Electromagnetic environment	Directive **Annex I** MI-003 MI-006	**Annex I, 1.3.3 (b)** The following influence quantities shall be considered in relation with electromagnetic environments: - Voltage interruptions, - Short voltage reductions, - Voltage transients on supply lines and/or signal lines, - Electrostatic discharges, - Radio frequency electromagnetic fields, - Conducted radio frequency electromagnetic fields on supply lines and/or signal lines, - Surges on supply lines and/or signal lines. And, where appropriate: - Voltage variation, - Mains frequency variation, - Power frequency magnetic fields, - Any other quantity likely to influence in a significant way the accuracy of the instrument.		

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Electronic device	Directive		**OIML D 11, 3.2** **Electronic device** Device employing electronic sub-assemblies and performing a specific function. Electronic devices are usually manufactured as separate units and are capable of being tested independently.	
Environmental class	Directive			
Environmental disturbances	Directive			
Equirements	MI-009			Typing error in MID; should be **R**equirements
Error	Annex I MI-002 - 010		**VIM 3.10 Error (of measurement)** Result of a measurement minus a true value of the measurand	
Error of indication	MI-001 MI-002		**VIM 5.20 Error (of indication) of a measuring instrument** indication of a measuring instrument minus a true value of the corresponding input quantity	
Error of measurement	Annex I MI-003 MI-009		**VIM 3.10 Error (of measurement)** result of a measurement minus a true value of the measurand	
Essential requirement	Directive Annex I Annex B, H, H1 MI-002 MI-004 MI-005 MI-006 MI-007 MI-008 MI-009			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
ETSI	**Directive**	**Directive (11)** European Telecommunications Standards Institute		
Evaluate	Directive Annex I Annex B, D, D1, E, E1, H, H1 mi-003			See: *Evaluation*
Evaluation	Directive Annex I Annex B, D, D1, E, E1, H, H1		**VIML, 2.5: type (pattern) evaluation** systematic examination and testing of the performance of one or more specimens of an identified type (pattern) of measuring instruments against documented requirements, the results of which are contained in the evaluation report, in order to determine whether the type may be approved NOTE "Pattern" is used in legal metrology with the same meaning as "type"; in the entries below, only "type" is used. **ISO/IEC Guide 2, 14.1: conformity evaluation** systematic examination of the extent to which a product, process or service fulfils requirements	The word "evaluation" is used here in 2 meanings: - *evaluation* of the *instrument* - *evaluation* of the *manufacturer* by the *notified body* (*audit*)
Evaluation report	Annex H1			
Examination	Directive Annex I Annex B, C, C1, D, D1, E, E1, F, F1, G, H, H1			
Examination of the design	Annex H1			See: *Design examination*

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Exhaust gas analyser	Directive, **MI-010**	**MI-010, Definitions: Exhaust gas analyser** An exhaust gas analyser is a measuring instrument that serves to determine the volume fractions of specified components of the exhaust gas of a motor vehicle engine with spark ignition at the moisture level of the sample analysed. These gas components are carbon monoxide (CO) ,carbon dioxide (CO_2), oxygen (O_2)and hydrocarbons (HC). The content of hydrocarbons has to be expressed as concentration of n-hexane (C_6H_{14}),measured with near-infrared absorption techniques. The volume fractions of the gas components are expressed as a percentage (% vol) for CO,CO_2 and O_2 and in parts per million (ppm vol). Moreover, an exhaust gas analyser calculates the lambda value from the volume fractions of the components of the exhaust gas.	**ISO 3930 / OIML R 99, 1:** measuring instruments that serve to determine the volume fractions of certain components of the exhaust gases emanating from motor vehicles	
External instrument transformer	MI-003			
Factor K (*)	MI-009	**MI-009, II, 1** $K = \varepsilon \cdot (G_A + 2{,}2\ N/m^2)$, where: ε is the relative elongation of a cloth specimen 1 m wide at a tensile force of 10 N, G_A is the weight force per unit area of a cloth specimen in N/m^2 .		

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Fare	**MI-007**	**MI-007, Definitions: Fare** The total amount of money due for a trip based on a fixed initial hire fee and/or the length and/or the duration of the trip. The fare does not include a supplement charged for extra services.		
Final product inspection	Annex D, D1, E, E1, H, H1			
Flow disturbance	MI-002			
Flowrate	MI-001 MI-002 MI-005		**R 49-1, 2.3.1: Flowrate, Q** Quotient of the actual volume of water passing through the water meter and the time taken for this volume to pass through the water meter.	
Flow rate	MI002 MI-004			
Flowrate range	MI-001 MI-002 **MI-005**	**MI-005, Definitions: Flowrate range** The range between the minimum flowrate (Q_{min}) and maximum flowrate (Q_{max}).	**R6, T.1: Working range of a gas volume meter** The range of the flowrates of gas limited by the maximum flowrate Q_{max} and the minimum flowrate Q_{min}.	
Fluid	MI-002			General meaning: Gas or liquid In MI-002: gas
Fuel dispenser	**MI-005**	**MI-005, Definitions: Fuel dispenser** A measuring system intended for the refuelling of motor vehicles, small boats and small aircraft	**R 117, T.2.1: Fuel dispenser** A measuring system intended for the refuelling of motor vehicles, small boats and small aircraft.	
Full quality assurance	Annex H, H1		**EN-ISO 9000, 3.2.11: quality assurance** part of quality management (3.2.8) focussed on providing confidence that quality requirements (3.1.2) will be fulfilled	
Garbage weighers	MI-006			
Gas calibration	MI-010			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Gas meter	Directive **MI-002**	**MI-002, Definitions: Gas meter** An instrument designed to measure, memorise and display the quantity of fuel gas (volume or mass)that has passed it.	**Draft OIML Gas meters, 2.1.1: Gas meter** An instrument intended to measure, memorize and display the quantity of gas passing the measurement transducer at metering conditions. **Draft OIML Measuring systems for gaseous fuel, T.1.1: Meter** An instrument intended to measure continuously, memorise and display the volume or mass of gas passing through the flow measuring device at metering conditions	
Group (of measuring instruments)	Directive Annex I			See: *Type* (in the sense of *category*)
Harmonised standard	**Directive,** Annex D, D1, E, E1, H, H1	**Directive, Article 1 (h)** 'harmonised standard 'means a technical specification adopted by CEN,CENELEC or ETSI or jointly by two or all of these organisations, at the request of the Commission pursuant to Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services (1) and prepared in accordance with the General Guidelines agreed between the Commission and the European standards organisations		
Heat meter	Directive **MI-004**	**MI-004, Definitions, introductory text** A heat meter is an instrument designed to measure the heat which, in a heat exchange circuit, is given up by a liquid called the heat-conveying liquid.	**OIML R 75-1, 1: heat meter** instrument intended for measuring the heat which, in a heat-exchange circuit, is given up by a liquid called the heat-conveying liquid.	
Heat-meter				See: *Heat meter*

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Inaccurate measurement result	Annex I			
Industrial buildings/use				See: *Residential, commercial and light industrial buildings/use* and *Other industrial buildings*
Influence Factor	MI-006		**OIML D 11, 3.13.1: Influence factor** Influence quantity having a value within the rated operating conditions of a measuring instrument specified in the relevant Recommendation.	In MI-006, chapter III, clause 3.1, there is reference to 2.1. However in 2.1, "Influence Factor" does not occur.
Influence quantity	**Annex I** MI-003 MI-006 MI-010	**Annex I, Definitions: Influence quantity** An influence quantity is a quantity that is not the measurand but that affects the result of measurement	**VIM 2.7 and OIML D 11, 3.13: Influence quantity** Exactly the same definition	
In-service control.	Annex B Annex H1			
Inspection	Annex D, D1, E, E1, F, F1, G, H, H1 MI-010		**EN-ISO 9000, 3.8.2 and ISO/IEC Guide 2, 14.2 Inspection** Conformity evaluation by observation and judgement accompanied as appropriate by measurement, testing or gauging **VIML, 2.21: inspection of a measuring instrument** examination of a measuring instrument to ascertain all or some of the following: - verification mark and/or certificate is valid, - no sealing marks are damaged, - after verification the instrument suffered no obvious modification, - its errors do not exceed the maximum permissible in-service errors	The word "*inspection*" is used in MID with 2 meanings: - *inspection* of the instrument - *inspection* of the *manufacturer* by the *notified body* (*audit*)
Inspection report	Annex D, D1, E, E1, H, H1			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Inspection visit	Annex D, D1, E, E1, H, H1			
Installation conditions	MI-002			
Instructions	Directive Annex I Annex D, D1, E, E1, H, H1, MI-002 MI-007			
Instrument	Directive Annex E			See: *Measuring instrument*
Instrument model	Annex D, E, E1, F1, H			See: *Model of the instrument*
Interface	Directive Annex I MI-006 MI-007			
Internal checks	Annex A1, C1			
Internal production control	Annex A, A1, C, C1			
Interruptible/non interruptible	**MI-005**	**MI-005, Definitions: Interruptible/non interruptible** A measuring system is considered as interruptible/non interruptible when the liquid flow can/cannot be stopped easily and rapidly	**R117, T.3.14: Interruptible/non interruptible measuring system** Exactly the same definition	
K-factor (*)	MI-009			See: *Factor K*

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Lambda (λ) (*)	**MI-010**	**MI-010, Definitions: Lambda** Lambda is a dimensionless value representative of the burning efficiency of an engine in terms of air/fuel ratio in the exhaust gases. It is determined with a reference standardised formula.	**ISO 3930 / OIML R 99, 3.29** Exactly the same definition	
Legal metrological control	**Directive,** Annex I	**Directive, Article 4, (c)** Legal metrological control means the control of the measurement tasks intended for the field of application of a measuring instrument, for reasons of public interest, public health, public safety, public order, protection of the environment, levying of taxes and duties, protection of the consumers and fair trading	**VIML 2.1: Legal metrological control**: The whole of legal metrological activities which contribute to metrological assurance.	
Legally controlled measuring instrument	Directive		**VIML 4.3: Legally controlled measuring instrument:** Measuring instrument which conforms to prescribed requirements, in particular legal metrological requirements	
Length measuring instrument	**MI-009**	**MI-009, Definitions: Length measuring instrument** A length measuring instrument serves for the determination of the length of rope-type materials (e.g. textiles, bands, cables) during feed motion of the product to be measured.	**OIML R 66, 1.1:** **length measuring instrument** instruments (other than length measures) which determine the length of a line, wire, cable, tape, piece of cloth, strip, sheet or any other developable piece.	
Light industrial				See: *residential, commercial and light industrial*
Line measure	**MI-008**	**MI-008, Definitions: Line measure** A capacity serving measure marked with a line to indicate nominal capacity.	**R 98, 2.1: Line measure of length** A measure representing one or several values of length determined by the shortest distance between the centers of two scale marks.	Definition of R 98 not applicable in MID

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Manufacturer	**Directive** Every Annex	**Directive, Article 4, (d)** manufacturer means a natural or legal person responsible for the conformity of the measuring instrument with this Directive with a view to either placing it on the market under his own name and/or putting it into use for his own purposes	**"Blue Guide", 3.7** A producer is either a manufacturer of a finished product or a component part of a finished product, producer of any raw material, or any person who presents himself as a manufacturer (for example by affixing a trade-mark). Importers placing products on the Community market from third countries are all considered to be producers according to the Directive on product liability. If the producer cannot be identified, each supplier of the product becomes liable, unless he informs the injured person within a reasonable time of the identity of the producer, or of the person who supplied him with the product. When several persons are liable for the same damage, they are all liable jointly and severally.	
Market surveillance	Directive		**"Blue Guide", 8.1** The purpose of market surveillance is to ensure that the provisions of applicable directives are complied with across the Community. Citizens are entitled to an equivalent level of protection throughout the single market, regardless of the origin of the product. Further, market surveillance is important for the interest of economic operators, because it helps to eliminate unfair competition.	
Marking	Directive		**VIML, 2.23: Marking** affixing of one or more of the marks as described in ... [refers to verification mark, rejection mark, sealing mark, and type approval mark]	See also: *CE-marking* *Conformity marking* *Supplementary metrology marking*
Material Measure	**Annex I** MI-008	**Annex I, Definitions: Material Measure** A material measure is a device intended to reproduce or supply in a permanent manner during its use one or more known values of a given quantity.	**VIM, 4.2: Material measure** Exactly the same definition	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Material measure of length	**MI-008**	**MI-008, Definitions: Material measure of length** An instrument comprising scale marks whose distances are given in legal units of length.	**R 35, T.1: Material measure of length** A material measure provided with scale marks, the distances between which are indicated in legal units of length.	
Max (*)	MI-006			See: *Maximum capacity*
Maximum capacity (*)	MI-006		**R 51-1, T.3.1.1: Maximum capacity (Max)** Maximum weighing capacity, not taking into account the additive tare capacity. **R 61-1 T.3.8: Maximum capacity (Max)** Largest discrete load that can be weighed automatically on the load receptor of the filling instrument. **R106-1, T.3.2.1: Maximum capacity (Max)** The largest load that an instrument is designed to weigh-in-motion without totalizing. **R107-1, T.3.3.1: Maximum capacity (Max)** The largest discrete load that can be weighed automatically.	
Maximum flowrate (Q_{max}) (*)	**MI-002** MI-005	**MI-002, Definitions: Maximum flowrate (Q_{max})** The highest flowrate at which the gas meter provides indications that satisfy the requirements regarding MPE.		
Maximum permissible error (*)	Annex I, MI-all			See: *Maximum permissible error (MPE) value*
Maximum permissible error (MPE) value (*)	**Annex I** MI-all	**Annex I, 1.1** Unless stated otherwise in the instrument-specific annexes, MPE is expressed as a bilateral value of the deviation from the true measurement value.		

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Measurand	**Annex I**	**Annex I, Definitions: Measurand** The measurand is the particular quantity subject to measurement.	**VIM, 2.5: Measurand** particular quantity subject to measurement	
Measurement	Directive, Annexes		**VIM 2.1: Measurement** Set of operations having the object of determining a value of a quantity	
Measurement function	Directive			What is the difference between *Measurement function*, *Measurement task*, and *Measuring function* ? Neither of these expressions have been defined.
Measurement Range	MI-006			See: *Measuring range*
Measurement task	Annex I			What is the difference between *Measurement function*, *Measurement task*, and *Measuring function* ? Neither of these expressions have been defined.
Measuring capacity	Annex I			
Measuring function	Directive, Annex I			What is the difference between *Measurement function*, *Measurement task*, and *Measuring function* ? Neither of these expressions have been defined.

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Measuring instrument	**Directive**, Annex I, A, A1, B, C, C1, D, D1, E, E1, F, F1, G, H, H1, MI-005, MI-007, MI-009, MI-010	**Any device or system with a measurement function that is covered by Articles 1 and 3**	**VIM 4.1: Measuring instrument** device intended to be used to make measurements, alone or in conjunction with supplementary device(s)	
Measuring Instruments Committee	Directive			
Measuring range	Directive Annex I MI-006	**MI-006, II, 1.1:** The measuring range in terms of its maximum and minimum capacity.	**VIM 5.4: Measuring range** Set of values of measurands for which the error of a measuring instrument is intended to lie within specified limits	
Measuring System	**MI-005**	**MI-005, Definitions: Measuring System** A system that comprises the meter itself and all devices required to ensure correct measurement or intended to facilitate the measuring operations	**VIM 4.5: Measuring system** complete set of measuring instruments and other equipment assembled to carry out specified measurements **R 117, T.1.7: Measuring system** A system which comprises the meter itself and all the ancillary devices and additional devices.	
Mechanical environment	Annex I	**Annex I, 1.3.2, (b)** The following influence quantities shall be considered in relation with mechanical environments: - Vibration; - Mechanical shock		
Mechanical strain	MI-006			
Member State	Directive			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Meter	**MI-005**	**MI-005, Definitions: Meter** An instrument designed to measure continuously, memorise and display the quantity at metering conditions of liquid flowing through the measurement transducer in a closed, fully charged conduit	**R 117, T.1.1: Meter for volumes of liquids** An instrument intended to measure continuously, memorize and display the volume of liquid passing through the measurement transducer at metering conditions.	Meter is the unit of length. Here, "Meter" should be "(Measuring) instrument"
Metering conditions	MI-001 MI-005		**R 49-1, 2.2.12: Metering conditions** The conditions of the water, of which the volume is to be measured, at the point of measurement (example: temperature and pressure of the water). **R 117, T.1.13: Metering conditions** The conditions of the liquid of which the volume is to be measured, at the point of measurement (example: temperature and pressure of the measured liquid).	
Metrological characteristics	Directive Annex I Annex B MI-003			
Metrological performance	Directive Annex B, H1			
Metrological requirements	Annex F, F1			
Metrologically controlled indications.	Annex I			
Metrology	Directive		**VIM 2.2 and VIML 1.1: Metrology** Science of measurement	
Metrology marking				See: *Supplementary metrology marking*

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Minimum capacity	MI-006		**R 51-1, T.3.1.2: Minimum capacity (Min)** Rated value of the load below which the weighing results may be subject to an excessive relative error. **R 61-1, T.3.7: Minimum capacity (Min)** Smallest discrete load that can be weighed automatically on the load receptor of the filling instrument. **R 106-1, T.3.2.2: Minimum capacity (Min)** The load below which a weighing-in-motion result before totalizing may be subject to an excessive relative error. **R 107-1, T.3.3.2: Minimum capacity (Min)** The smallest discrete load that can be weighed automatically.	
Minimum Flowrate (Q_1) (*)	**MI-001**	**MI-001, Definitions: Minimum Flowrate (Q_1)** The lowest flowrate at which the water meter provides indications that satisfy the requirements concerning the maximum permissible errors (MPEs.)	**R 49-1, 2.3.5: Minimum flowrate, Q_1** [(1)] The lowest flowrate at which the water meter is required to operate within the maximum permissible error. [(1)] Expressed in m^3 /h in this Recommendation.	
Minimum flowrate (Q_{min}) (*)	**MI-002** MI-005	**MI-002, Definitions: Minimum flowrate (Q_{min})** The lowest flowrate at which the gas meter provides indications that satisfy the requirements regarding maximum permissible error (MPE.)		
Minimum measured quantity (MMQ) (*)	**MI-005**	**MI-005, Definitions: Minimum measured quantity (MMQ)** The smallest quantity of liquid for which the measurement is metrologically acceptable for the measuring system.	**R 117, T.3.5: Minimum measured quantity** of a measuring system The smallest volume of liquid for which the measurement is metrologically acceptable for that system.	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Model	Directive Annex A, C, C1, D, D1,E, E1, F, F1, H, H1			also see: *Type* The words "*type*" and "*model*" are used in MID with the same meaning
Module	Directive		**OIML B 3: Module** Identifiable part of a measuring instrument or of a family of measuring instruments that performs a specific function or functions and that can be separately evaluated according to prescribed metrological and technical performance Requirements in the relevant Recommendation.	The definition from B 3 is not applicable in MID. See: *Conformity assessment module*
Multi-dimensional Measuring Instrument	**MI-009**	**MI-009, Definitions: Multi-dimensional Measuring Instrument** A multi-dimensional measuring instrument serves for the determination of the edge length (length, height, width) of the smallest enclosing rectangular parallelepiped of a product.	**OIML R 129, 2.1: Multi-dimensional measuring instrument** A measuring instrument which measures the length *(*L), width *(*W) and height *(*H) of a rectangular parallelepiped (a rectangular box), and in some cases determines the volume of that box. If the object is not of the form of a rectangular box, the smallest rectangular box which fully encloses the object is determined.	
Normal calculation mode D (double application of tariff)	**MI-007**	**MI-007, Definitions: Normal calculation mode D (double application of tariff)** Fare calculation based on simultaneous application of time tariff and distance tariff over the whole trip.	**EN 50148, 2.12: Double system calculation** Double system calculating calculates the fare using time-distance counting **EN 50148, 2.10: Time-distance counting** Time-distance counting is the calculation mode in which two additional components of the fare increase concurrently, one in proportion to the hiring and the other in proportion to the distance travelled.	
Normal calculation mode S (single application of tariff)	**MI-007**	**MI-007, Definitions: Normal calculation mode S (single application of tariff)** Fare calculation based on application of the time tariff below the cross-over speed and application of the distance tariff above the cross-over speed.	**EN 50148, 2.11: Single system calculation** Single system calculating calculates the fare using either time-counting or distance-counting.	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Normal operational status	Annex I			
Normative document	**Directive**	**Directive, Article 4, (i)** 'normative document 'means a document containing technical specifications adopted by the Organisation Internationale de Métrologie Légale (OIML),subject to the procedure stipulated in Article 16(1)	**ISO/IEC Guide 2, 3.1: normative document** document that provides rules, guidelines or characteristics for activities or their results	
Notification	Directive Annex D, D1, E, H, H1			
Notified body	Directive Annex A1, B, C1, D, D1, E, E1, F, F1, G, H, H1			
Notify (a body)	Directive			This word is used in 2 meanings: * Designate * Put forward
Notifying authority	Directive			
Operating conditions	MI-010			See: *Rated operating conditions*

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Operating position	**MI-007**	**MI-007, Definitions: Operating position** The different modes in which a taximeter fulfils the different parts of its functioning. The operating positions are distinguished by the following indications: 'For Hire ': The operating position in which the fare calculation is disabled 'Hired ': The operating position in which the fare calculation takes place on the basis of a possible initial charge and a tariff for distance travelled and/or time of the trip 'Stopped ': The operating position in which the fare due for the trip is indicated and at least the fare calculation based on time is disabled.		
Operating pressure	MI-002			
Operational accuracy class(es) X(x).	MI-006			
Operational status	Annex I			See: *Normal operational status*
Operator control interface	MI-006			
Operator Interface	MI-006	**MI-006, IV, 6** Operator Interface: Operator adjustments and reset function		

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Other industrial buildings	Annex I		**EN-IEC 61000-6-2, 1** The environments encompassed by this standard are industrial, both indoor and outdoor. Industrial locations are in addition characterised by the existence of one or more of the following: - industrial, scientific and medical (ISM) apparatus (as defined in CISPR 11); - heavy inductive or capacitive loads are frequently switched; - currents and associated magnetic fields are high.	
Overload Flowrate (Q_4)	**MI-001**	**MI-001, Definitions: Overload Flowrate (Q_4)** The overload flowrate in the highest flowrate at which the meter operates in a satisfactory manner for a short period of time without deteriorating.	**R 49-1, 2.3.3: Overload flowrate, Q_4** The highest flowrate, at which a water meter is required to operate, for a short period of time, within its maximum permissible error, whilst maintaining its metrological performance when it is subsequently operated within its rated operating conditions.	
Overload Flowrate (Q_r)	**MI-002**	**MI-002, Definitions: Overload Flowrate (Q_r)** The overload Flowrate is the highest flowrate at which the meter operates for a short period of time without deteriorating.		
Partial range	MI-006			See: *Partial weighing range*
Partial weighing range	MI-006			
Performance	Directive, Annex I Annex B, H1 MI-003 MI-006			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Permanent Flowrate (Q_3)	**MI-001**	**MI-001, Definitions: Permanent Flowrate (Q_3)** The highest flowrate at which the water meter operates in a satisfactory manner under normal conditions of use, i.e. under steady or intermittent flow conditions.	**M 49-1, 2.3.2: Permanent flowrate, Q_3** The highest flowrate within the rated operating conditions, at which the water meter is required to operate in a satisfactory manner within the maximum permissible error.	
Place on the market	**Directive,** Annex I, A, A1, B, C, C1, D, D1, E, E1, F, F1, G, H, H1	**Directive, Article 4, (e)** 'placing on the market 'means making available for the first time in the Community an instrument intended for an end user, whether for reward or free of charge	**"Blue Guide", 2.3: Placing on the market** is the initial action of making a product available for the first time on the Community market, with a view to distribution or use in the Community. Making available can be either for payment or free of charge. Putting into service takes place at the moment of first use.	
Policies	Annex D, D1, E, E1, H, H1			
Polyphase meter	MI-003			
Power factor	**MI-003**	**MI-003, Definitions: PF** PF = power factor = cos φ = the cosine of the phase difference φ between I and U.		See also: *PF* and *cos φ*
Power supply	Annex I, MI-001, MI-002, MI-005, MI-007		**OIML D 11, 3.21: Mains power** Primary external source of electrical power for an instrument, including all *sub-assemblies*. (Examples: public power (AC or DC), generator, external battery or other DC supply systems). (not to be confused with *power supply device*)	
Power supply device	MI-002 MI-005		**OIML D 11, 3.22: Power converter (power supply device)** *Sub-assembly* converting the voltage from the *mains power* to a voltage suitable for other sub-assemblies. **R 117, T.5.9: Power supply device** A device which provides the electronic devices with the required electrical energy, using one or several sources of a.c. or d.c.	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Process	Directive Annex B, D, D1, F, F1, H, H1 MI-006		**EN-ISO 9000, 3.4.1: Process** set of interrelated or interacting activities which transforms inputs into outputs	
Procedure	Directive All Annexes		**EN-ISO 9000, 3.4.5: Procedure** specified way to carry out an activity or a process	
Product	Directive Annex A1, C1, D, D1, E, E1, F, F1, H, H1 MI-006 MI-008 MI-009		**EN-ISO 9000, 3.4.2: Product** result of a process	
Product check	Annex A1, C1			
Product inspection	Annexes D, D1, E, E1, H, H1		**VIML, 2.21: Inspection of a measuring instrument** examination of a measuring instrument to ascertain all or some of the following: - verification mark and/or certificate is valid, - no sealing marks are damaged, - after verification the instrument suffered no obvious modification, - its errors do not exceed the maximum permissible in-service errors NOTE: Inspection of a measuring instrument may be done only after verification.	Definition from VIML not applicable here
Product quality	Annex D, D1, E, E1, H, H1			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Product test	Annex A1, C1, D, D1, E, E1, H, H1			See: *Test*
Product verification	Annex F, F1		**VIML 2.13: verification of a measuring instrument** procedure (other than type approval) which includes the examination and marking and/or issuing of a verification certificate, that ascertains and confirms that the measuring instrument complies with the statutory requirements	see also: *Verification*
Put(ting) into use	**Directive,** Annex I, MI-001, MI-002, MI-003, MI-004, MI-005	**Directive, Article 4, (f)** 'putting into use 'means the first use of an instrument intended for the end user for the purposes for which it was intended		
Quality	Directive Annex1 Annex A1, C1, D, D1, E, E1, F, F1, H, H1		**EN-ISO 9000, 3.1.1: quality** degree to which a set of inherent characteristics fulfils requirements	
Quality assurance	Annex D, D1, E, E1, H, H1		**EN-ISO 9000, 3.2.11: quality assurance** part of quality management (3.2.8) focussed on providing confidence that quality requirements (3.1.2) will be fulfilled	
Quality assurance technique	Annex D, D1, H, H1			
Quality control	Annex D, D1, H, H1		**EN-ISO 9000, 3.2.10: quality control** part of the quality management focussed on fulfilling quality requirements	
Quality management	Annex D, D1, E, E1, H, H1		**EN-ISO 9000, 3.2.8: quality management** coordinated activities to direct and control an organization with regard to quality	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Quality management system	Annex D, D1, E, E1, H, H1		**EN-ISO 9000, 3.2.3: quality management system** management system to direct and control an organization with regard to quality	
Quality manual	Annex D, D1, E, E1, H, H1		**EN-ISO 9000, 37.4: quality manual** document specifying the quality management system of an organization	
Quality objective	Annex D, D1, E, E1, H, H1		**EN-ISO 9000, 3.2.5: quality objective** something sought, or aimed for, related to quality	
Quality plan	Annex D, D1, E, E1, H, H1		**EN-ISO 9000, 3.7.5: quality plan** document specifying which procedures and associated resources shall be applied by whom and when to a specific project, product, process or contract	
Quality programme	Annex D, D1, E, E1, H, H1			
Quality record	Annex D, D1, E, E1, H, H1			
Quality system	Directive Annex D, D1, E, E1, H, H1			See: *Quality management system*
Quality system approval	Directive Annex D, D1, E, E1, H, H1			
Quality system documentation	Annex D, D1, E, E1, H, H1			See: *Quality manual*

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Rail-weighbridge	**MI-006**	**MI-006, Definitions: Rail-weighbridge** An automatic weighing instrument having a load receptor inclusive of rails for conveying railway vehicles.	**R 106-1, T.1.3: Rail-weighbridge** A weighing instrument having a load receptor, inclusive of rails for conveying railway vehicles.	
Rate(s) of operation	MI-006			
Rated Operating Conditions	**Annex I** Directive MI-001 MI-002 MI-003 MI-004 MI-005 MI-006 MI-007 MI-010	**Annex I, Definitions: Rated Operating Conditions** The rated operating conditions are the values for the measurand and influence quantities making up the normal working conditions of an instrument.	**VIM, 5.5: Rated operating conditions** Conditions of use for which specified metrological characteristics of a measuring instrument are intended to lie within given limits. **OIML D 11, 3.14: Rated operating conditions** Conditions of use giving the range of values of influence quantities for which specified metrological characteristics of a measuring instrument are intended to lie within given limits. **R 49-1, 2.4.4: Rated operating conditions** Conditions of use giving the range of values of the influence factors, for which the errors (of indication) of the water meter are required to be within the maximum permissible errors [adapted from VIM 5.5]. **R99, 3.22: rated operating conditions** conditions of use giving the ranges of the influence quantities for which the metrological characteristics of an instrument are intended to lie within the specified maximum permissible errors NOTE Adapted from VIM: 1993, 5.5.	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Real-timeclock Timekeeping	MI-007			MI-007, clause 22 reads: *"The taximeter shall be equipped with a real-timeclock ..... The requirements for the real-time clock are:* - *The timekeeping shall have an accuracy of 0,02 %;* - *The correction possibility of the clock shall be not more than 2 minutes per week ....."* It is likely that it is meant that the drift of the clock (real time) shall not be more than 2 minutes per week (0.02% of a week is 2.016 minutes)
Re-assessment	Annex D, D1, E, E1, H, H1			
Reference accuracy class Ref(x)	**MI-006**	**MI-006, III, 1.2:** .... reference accuracy class, Ref(x), corresponding to the best possible accuracy for instruments of the type.	**R61-1, T.4.3: Reference value for accuracy class (Ref(x))** Value for accuracy class determined by static testing of the weighing unit during influence quantity testing at type approval stage. Ref(x) is equal to the best accuracy class for which the instrument may be verified for operational use.	
Reference value	Annex I MI-003		**VIM 1.20, note 1:** "Conventional true value" is sometimes called ..... or reference value. "**Reference value**", in this sense, should not be confused with "reference value" in the sense used in the NOTE to 5.7. **VIM 5.7 note:** The reference conditions generally include **reference values** or reference ranges for the influence quantities affecting the measuring instrument.	
Reliability	Annex I			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Repeatability	Annex I		**VIM 5.27: Repeatability (of a measuring instrument):** Ability of a measuring instrument to provide closely similar indications for repeated applications of the same measurand under the same conditions of measurement **VIM 3.6: Repeatability (of results of measurements):** Closeness of the agreement between the results of successive measurements of the same measurand carried out under the same conditions of measurement	
Reproducibility	Directive Annex I Annex B, H1	**Annex I, 2: Reproducibility** The application of the same measurand in a different location or by a different user, all other conditions being the same, shall result in the close agreement of successive measurements. The difference between the measurement results shall be small when compared with the MPE.	**VIM 3.7: Reproducibility (of the results of measurements):** Closeness of the agreement between the results of measurements of the same measurand carried out under changed conditions of measurement.	
Residential, commercial and/or light industrial buildings	Annex I		**EN-IEC 61000-6-1, 1** The environments encompassed by this standard are residential, commercial and light-industrial locations, both indoor and outdoor. The following list, although not comprehensive, gives an indication of locations which are included: – residential properties, for example houses, apartments; – retail outlets, for example shops, supermarkets; – business premises, for example offices, banks; – areas of public entertainment, for example cinemas, public	**MI-003, introductory text:** .... procedures listed in this Annex, apply to active electrical energy meters intended for residential, commercial and light industrial use. But: **MI-003, 4.1** prescribes: "The meter shall comply with the
Residential, commercial and/or light industrial use	MI-001 MI-002 MI-003 MI-004			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Residential use	MI-002 MI-003 MI-004			
Scale interval	Annex I MI-005 MI-006 MI-008 MI-009		**VIM 4.22: Scale interval** Difference between the values corresponding to two successive scale marks	
Scale mark	MI-008		**VIM, 417: scale (of a measuring instrument)** ordered set of marks, together with any associated numbering, forming part of a displaying device of a measuring instrument Note: Each mark is called a **scale mark.**	
Seal	Directive		**VIML, 3.9: Sealing mark** mark intended to protect the measuring instrument against any unauthorized modification, readjustment, removal of parts, etc.	
Sealing	Annex B			
Secure	Annex I MI-006 MI-007		**EN 50148, 2.26: Securing** Securing includes all measures which will make unauthorised changes to the taximeter improbable and/or detectable because the knowledge, tools or parts necessary to perform or conceal such changes are not expected to be available to an unauthorised person.	
Security measures	Annex I			
Self-service arrangement	**MI-005**	**MI-005, Definitions: Self-service arrangement** An arrangement that allows the customer to use a measuring system for the purpose of obtaining liquid for his own use	**R117, T.2.6: Self-service arrangement** An arrangement that allows the customer to use a measuring system for the purpose of obtaining liquid for his own purchase.	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Self-service device	**MI-005**	**MI-005, Definitions: Self-service device** A specific device that is part of a self-service arrangement and which allows one of more measuring systems to perform in this self-service arrangement.	**R117, T.2.7: Self-service device** A specific device that is part of a self-service arrangement and which allows one or more measuring systems to perform in this self-service arrangement. Note: The self-service device includes all the elements and constituents that are mandatory so that a measuring system performs in a self-service arrangement.	
Sensitivity	Annex I		**VIM, 5.10: Sensitivity** change in the response of a measuring instrument divided by the corresponding change in the stimulus	
Signal generator	MI-007			See: *Distance signal generator*
Single interval instrument	MI-006			
Standard	Directive Annex D, D1, E, E1, H, H1		**ISO/IEC Guide 2, 3.2: Standard** document, established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context	
Standing Committee	Directive			
Static load	MI-006, III			
Static weighing	MI-006, II		**R 106-1, T.3.1.4: Static weighing** Weighing a wagon while stationary and uncoupled to obtain a weight for the purposes of testing.	
Static weight	MI-006, III			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Sub-assembly	**Directive** Annex B, H1, MI-002, MI-004	**Directive, Article 4, (b)** 'Sub-assembly' means a hardware device, mentioned as such in the specific annexes, that functions independently and makes up a measuring instrument together - with other sub-assemblies with which it is compatible, or - with a measuring instrument with which it is compatible	**OIML D 11, 3.3: Electronic sub-assembly:** A part of an electronic device, employing electronic components and having a recognizable function of its own **OIML B 3, 2.4: Module:** Identifiable part of a measuring instrument or of a family of measuring instruments that performs a specific function or functions and that can be separately evaluated according to prescribed metrological and technical performance requirements in the relevant Recommendation.	
Supplementary metrology marking	Directive Annex A Annex A1, C, C1, D, D1, E, E1, F, F1, G, H, H1	**Directive, Article 17, 2:** The supplementary metrology marking consists of the capital letter 'M 'and the last two digits of the year of its affixing, surrounded by a rectangl**e.**	**VIML, 2.23: marking** affixing of one or more of the marks as described in 3.7, 3.8, 3.9 and 3.10 NOTES 1 Verification and sealing marks may be combined. 2 The manufacturer may be authorized to apply other marks.	Definition in VIML not applicable in MID
Surveillance	Directive Annex D, D1, E, E1, H, H1		**ISO/IEC Guide 2, 14.6: Conformity surveillance** conformity evaluation to determine the continuing conformity to specified requirements	The definition from ISO/IEC Guide 2 is not applicable in MID See: *Market surveillance*
System	Directive, Annexes		**ISO 9000, 3.2.1: System** set of interrelated or interacting elements	See: *Measuring system* and *Quality system*
Tank strapping tape	MI-008, I			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Taximeter	**MI-007**	**MI-007, Definitions: Taximeter** A device that works together with a signal generator [(1)] to make a measuring instrument. This device measures duration, calculates distance on the basis of a signal delivered by the distance signal generator. Additionally, it calculates and displays the fare to be paid for a trip on the basis of the calculated distance and/or the measured duration of the trip.	**OIML R 21, 1.1** "Taximeters" are measuring instruments which totalize continuously and indicate at any moment of the journey the sum payable by the user of a public vehicle as a function of the distance travelled and – below a certain speed – of the length of time occupied, independently of supplements authorized by the regulations in force. **EN 50148, 2.1: Electronic taximeters** Electronic taximeters are instruments normally installed in taxis which, by means of electronic components, calculate and display the fare to be paid for the use of the taxi, on the basis of the distance travelled and duration of the hiring.	
Temperature conversion	MI-002			
Test	Directive Annex I Annex A1, B, C1, D, D1, E, E1, F, F1, G, H, H1 MI-001 MI-002 MI-004 MI-005 MI-007		**EN-ISO 9000, 3.8.3: test** determination of one or more characteristics according to a procedure **ISO/IEC Guide 2, 13.1: test** technical operation that consists of the determination of one or more characteristics of a given product, process or service according to a specified procedure	
Test data	Annex D, D1, E, E1, H, H1			
Test report	Annex D, D1, E, E1, H, H1		**ISO/IEC Guide 2, 13.3: test report** document that presents test results and other information relevant to a test	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Testing	Annex I Annex A1, B, C1, D, D1, E, E1, F, F1, H, H1 MI-003 MI-007 MI-009		**ISO/IEC Guide 2, 13.1.1: testing** action of carrying out one or more tests	
Testing laboratory	Annex B, H1		**ISO/IEC Guide 2, 13.4: testing laboratory** laboratory that performs tests	
Totalising hopper weigher				See: *Discontinuous totaliser*
Transfer measure	**MI-008**	**MI-008, III, Definitions: Transfer measure** A capacity serving measure from which it is intended that the liquid is decanted prior to consumption.	**R 29, 1:** ..... **transfer measures**, such as carafes, flasks, jugs, pitchers, bottles (*) , which are used solely for decanting specific volumes of beverages, ...	
Transitional Flowrate (Q_2)	**MI-001**	**MI-001, Definitions: Transitional Flowrate (Q_2)** A transitional Flowrate is the transitional flowrate is the flowrate value occurring between the permanent and minimum flowrates, at which the flowrate range is divided into two zones, the 'upper zone 'and the 'lower zone '.Each zone has a characteristic MPE.	**R 49-1, 2.3.4: Transitional flowrate, Q_2** Flowrate which occurs between the permanent flow-rate Q_3 , and the minimum flowrate Q_1 , that divides the flowrate range into two zones, the upper flowrate zone and the lower flowrate zone, each characterized by its own maximum permissible error.	

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Transitional flowrate (Q_t)	**MI-002**	**MI-002, Definitions: Transitional flowrate (Q_t)** The transitional flowrate is the flowrate occurring between the maximum and minimum flowrates at which the flowrate range is divided into two zones, the 'upper zone 'and the 'lower zone '. Each zone has a characteristic MPE.	**R 6, T.9: Transitional flowrate (Q_t)** The flowrate at which the maximum permissible error changes in value.	
Type (of a measuring instrument)	Directive Annex B, C, C1, D, E, F MI-004 MI-005 MI-006 (MI-008) (MI-009)		**OIML B 3, 2.6: Type of a measuring instrument or module** Definitive model of a measuring instrument or module (including a family of instruments or modules) of which all of the elements affecting its metrological properties are suitably defined.	The word "type" has been used in 2 different meanings: * Type in the sense of B3, 2.6, in the past called "pattern" in OIML, also called "model". Also see: *type.* The words *type* and *model* are used in MID with the same meaning. * Type in the sense of "category of instruments" or "kind of instruments". In particular in MI-008 and MI-009. Also see *category.* In this sense, the words *type* and *category* are used in MID with the same meaning.

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Type examination	Directive **Annex B**	**Annex B, 1** Type examination is the part of a conformity assessment procedure whereby a notified body examines the technical design of a measuring instrument and ensures and declares that the technical design meets the appropriate requirements of this Directive.	**VIML, 2.5: type (pattern) evaluation** systematic examination and testing of the performance of one or more specimens of an identified type (pattern) of measuring instruments against documented requirements, the results of which are contained in the evaluation report, in order to determine whether the type may be approved NOTE "Pattern" is used in legal metrology with the same meaning as "type"; in the entries below, only "type" is used. **OIML B 3, 2.7: Type (pattern) evaluation** Systematic examination and testing of the performance of one or more specimens of an identified type (pattern) of measuring instrument against documented requirements, the results of which are contained in an evaluation report, in order to determine whether the type may be approved. (VIML 2.5)	See also: *EC-type examination* In the "Blue Guide", only the expression *EC type-examination*" is used
Unit verification	Annex G			See also: *Verification*
Utility	**Annex I**	**Annex I, Definitions: Utility** A utility is regarded as a supplier of electricity, gas, heat or water.		
Utility measuring instrument	Annex I			
Vehicle	Annex I MI-005 MI-006 MI-010			

Term in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
Verification	Annex F, F1, G, H, H1 MI-006		**VIML, 2.13: verification of a measuring instrument** procedure (other than type approval) which includes the examination and marking and/or issuing of a verification certificate, that ascertains and confirms that the measuring instrument complies with the statutory requirements **EN-ISO 9000, 3.8.4: verification** confirmation, through the provision of objective evidence, that specified requirements have been fulfilled	
Verification scale interval	MI-006		**R51-1, T.3.3: Verification scale interval (e)** Value, expressed in units of mass, used for the classification and verification of an instrument.	
Volume conversion device	MI-002			See: *conversion device*
Water Meter	Directive **MI-001**	**MI-001, Definitions: Water meter** An instrument designed to measure, memorise and display the volume at metering conditions of water passing through the measurement transducer.	**OIML R 49-1, 2.1.1: Water meter** An instrument intended to measure continuously, memorize and display the volume of water passing through the measurement transducer at metering conditions.	
Weight	Directive, MI-002 MI-004 MI-005 MI-006 MI-008 MI-009		**SI, page 118:** The word "weight" denotes a quantity of the same nature as a "force": the weight of a body is the product of its mass and the acceleration due to gravity; in particular, the standard weight of a body is the product of its mass and the standard acceleration due to gravity.	According to the introduction in MI-006 and the definition of an a*utomatic weighing instrument* in MI-006, the mass is determined. But in clause 2.2, the weight is determined. Weight and mass are not identical !
Weight labeller	**MI-006**	**MI-006, Definitions: Weight labeller** An automatic catchweigher that labels individual articles with the weight value.		However the expression *weight labeller* has been defined, it is not used in the rest of MI-006
Weight/price labeller	**MI-006**	**MI-006, Definitions: Weight/price labeller** An automatic catchweigher that labels individual articles with the weight value, and price information.		However the expression *weight/price labelle*r has been defined, it is not used in the rest of MI-006

Part 2 - Symbols and abbreviations

Symbol in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
E1	Annex I Annex E1 MI-008 MI-009			In MID, the term E1 has two ambiguous meanings: * In Annex I, 1.3.3: environmental class * In Annex E1, "Blue Guide", MI-008 and MI-009: conformity assessment module
E2	Annex I MI-003			In Annex I, 1.3.3: environmental class
E3	Annex I MI-007			In Annex I, 1.3.3: environmental class
f	**MI-003**	**MI-003, Definitions: f** f = the frequency of the voltage supplied to the meter		
f_n	**MI-003**	**MI-003, Definitions: f_n** f_n is the specified reference frequency		
I	**MI-003**	**MI-003, Definitions: I** I = the electrical current flowing through the meter		
I_{max}	**MI-003**	**MI-003, Definitions: I_{max}** I_{max} = the maximum value of I for which the error lies within the MPEs		
I_{min}	**MI-003**	**MI-003, Definitions: I_{min}** I_{min} = the value of I above which the error lies within maximum permissible errors (MPEs) (polyphase meters with balanced load)		
I_n	**MI-003**	**MI-003, Definitions: I_n** I_n = the specified reference current for which the transformer operated meter has been designed		

Symbol in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
I_{st}	**MI-003**	**MI-003, Definitions: I_{st}** I_{st} = the lowest declared value of I at which the meter registers active electrical energy at unity power factor		
I_{tr}	**MI-003**	**MI-003, Definitions: I_{tr}** I_{tr} = the value of I above which the error lies within the smallest MPE corresponding to the class index of the meter		
K (*) K-factor (*)	MI-009			See: *Factor K*
L	**MI-008**	**MI-008, I, 2** L is the value of the length rounded up to the next whole metre		
L_m	**MI-009**	**MI-009, II, 3** L_m is the minimum measurable length, that is to say the smallest length specified by the manufacturer for which the instrument is intended to be used.		
Max (*)	MI-006			See: *Maximum capacity*
MMQ (*)	**MI-005**			See: *Minimum Measured Quantity*
MPE (*)	Annex I, MI-all			See: *Maximum Permissible Error (MPE) value*
OIML	Directive	**Directive, article 4, (i)** the Organisation Internationale de Métrologie Légale (OIML)		
P	**MI-004**	**MI-004, Definitions: P** P = the thermal power of the heat exchange		
PF power factor cos φ	**MI-003**	**MI-003, Definitions, PF** PF = power factor = cos φ = the cosine of the phase difference φ between I and U.		See also: *Power factor*
P_s	**MI-004**	**MI-004, Definitions: P_s** P_s = the upper limit of P that is permitted for the heat meter to function correctly	**R 75-1, 5.4 Limits of thermal power** The upper limit of the thermal power, *P*s, is the highest power at which the heat meter shall function without the maximum permissible errors being exceeded.	

Symbol in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
q	**MI-004**	**MI-004, definitions: q** q is the flow rate of the heat conveying liquid		
Q_1	**MI-001**			See: *Minimum Flowrate*
Q_2	**MI-001**			See: *Transitional Flowrate*
Q_3	**MI-001**			See: *Permanent Flowrate*
q_i	**MI-004**	**MI-004, Definitions: q_i** q_i = the lowest value of q that is permitted for the heat meter to function correctly	**R 75-1, 5.3.3** The lower limit of the flow rate, q_i , is the lowest flow rate, above which the heat meter shall function without the maximum permissible errors being exceeded.	
Q_{max}	**MI-002**			See: *Maximum flowrate*
Q_{min}	**MI-002**			See: *Minimum flowrate*
q_p	**MI-004**	**MI-004, Definitions: q_p** q_p = the highest value of q that is permitted permanently for the heat meter to function correctly	**R75-1, 5.3.2** The permanent flow rate, q_p , is the highest flow rate at which the heat meter shall function continuously without the maximum permissible errors being exceeded.	
q_s	**MI-004**	**MI-004, Definitions: q_s** q_s = the highest value of q that is permitted for short periods of time for the heat meter to function correctly	**R 75-1, 5.3.1** The upper limit of the flow rate, q_s , is the highest flow rate, at which the heat meter shall function for short periods (less than 1 h/day and less than 200 h/year) without the maximum permissible errors being exceeded.	
Q_t	**MI-002**			See: *Transitional flowrate*
Ref(x)	**MI-006**			See: *Reference accuracy class*
U	**MI-003**	**MI-003, Definitions: U** U = the voltage of the electricity supplied to the meter		
U_n	**MI-003**	**MI-003, Definitions: U_n** U_n = the specified reference voltage		

Symbol in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
$\Delta\theta$	**MI-004**	**MI-004, Definitions: $\Delta\theta$** $\Delta\theta$ = the temperature difference θ_{in} - θ_{out} with $.\Delta_\theta \geq 0$	**R 75-1, 5.2.1** The temperature difference, **$\Delta\theta$**, (expressed in K) is the absolute value of the difference between the temperatures of the heat-conveying liquid at the flow and return of the heat-exchange circuit. **R 75-1, 8** **$\Delta\theta$**is the temperature difference between the flow and return of the heat exchange circuit.	
$\Delta\theta_{max}$	**MI-004**	**MI-004, Definitions: $\Delta\theta_{max}$** $\Delta\theta_{max}$ = the upper limit of $\Delta\theta$ for the heat meter to function correctly within the MPEs	**R 75-1, 5.2.2** The upper limit of the temperature difference, $\Delta\theta_{max}$, is the highest temperature difference, at which the heat meter shall function within the upper limit of thermal power without the maximum permissible errors being exceeded.	
$\Delta\theta_{min}$	**MI-004**	**MI-004, Definitions: $\Delta\theta_{min}$** $\Delta\theta_{min}$ = the lower limit of $\Delta\theta$ for the heat meter to function correctly within the MPEs	**R 75-1, 5.2.3** The lower limit of the temperature difference, $\Delta\theta_{min}$, is the lowest temperature difference, at which the heat meter shall function without the maximum permissible errors being exceeded.	
θ	**MI-004**	**MI-004, Definitions: θ** θ = the temperature of the heat-conveying liquid		
θ_{in}	**MI-004**	**MI-004, Definitions: θ_{in}** θ_{in} = the value of θ at the inlet of the heat exchange circuit		
θ_{max}	**MI-004**	**MI-004, Definitions: θ_{max}** θ_{max} = the upper limit of θ for the heat meter to function correctly within the MPEs	**R76-1 5.1.1** The upper limit of the temperature range, θ_{max}, (expressed in °C) is the highest temperature of the heat-conveying liquid, at which the heat meter shall function without the maximum permissible errors being exceeded.	

Symbol in MID	where in MID	Definition in MID	Definition of (comparable) term in other document(s)	Conclusions and comments
θ_{min}	**MI-004**	**MI-004, Definitions: θ_{min}** θ_{min} = the lower limit of θ for the heat meter to function correctly within the MPEs	**R76-1, 5.1.2** The lower limit of the temperature range, θ_{min}, (expressed in °C) is the lowest temperature of the heat-conveying liquid, at which the heat meter shall function without the maximum permissible errors being exceeded.	
θ_{out}	**MI-004**	**MI-004, Definitions: θ_{out}** θ_{out} = the value of θ at the outlet of the heat exchange circuit		
λ (*)	**MI-010**			See: *Lambda*

Annex I - Referred international publications

Abbreviation	Year	Title
VIM	1993	International Vocabulary of Basic and General Terms in Metrology
VIML	2000	International Vocabulary of Terms in Legal Metrology
OIML B 3	2003	OIML Certificate System for Measuring Instruments (formerly OIML Publication P1)
OIML D 11	2004	General requirements for electronic measuring instruments
OIML R 4 (*)	1972	Volumetric flasks (one mark) in glass
OIML R 6	1989	General provisions for gas volume meters
OIML R 21	1975	Taximeters
OIML R 31 (*)	1995	Diaphragm gas meters
OIML R 32 (*)	1989	Rotary piston gas meters and turbine gas meters
OIML R 35	1985	Material measures of length for general use
Draft OIML R 46	2005	Draft Revision CD2 Electricity Meters
OIML R 49-1	2000	Water meters intended for the metering of cold potable water
OIML R 50-1	1997	Continuous totalizing automatic weighing instruments (belt weighers).
OIML R 51-1	1996	Automatic catchweighing instruments
OIML R 61-1	2004	Automatic gravimetric filling instruments
OIML R 66	1985	Length measuring instruments
OIML R 75-1	2002	Heat meters
OIML R 99 / ISO 3930	2000	Instruments for measuring vehicle exhaust emissions
OIML R 106-1	1997	Automatic rail-weighbridges.
OIML R 107-1	1997	Discontinuous totalizing automatic weighing instruments (totalizing hopper weighers).
OIML R 117	1995	Measuring systems for liquids other than water
OIML R 129	2000	Multi-dimensional measuring instruments
OIML R 134-1 (*)	2003	Automatic instruments for weighing road vehicles in motion. Total vehicle weighing
OIML R 136-1 (*)	2004	Instruments for measuring the areas of leathers
OIML Draft	2004	OIML CD2 Gas meters
OIML Draft	2005	OIML CD4 Measuring systems for gaseous fuel
EN 50148	1995	Electronic taximeters
EN-IEC 61000-6-1	2005	Electromagnetic compatibility (EMC) – Part 6-1: Generic standards – Immunity for residential, commercial and light-industrial environments
EN-IEC 61000-6-2	2005	Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments
EN-ISO 9000	2000	Quality management systems - Fundamentals and vocabulary
ISO/IEC Guide 2	1996 2004	Standardization and related activities - General vocabulary
SI	1998	The International System of Units (BIPM)
“Blue Guide” ISBN 92-828-7500-8	2000	Guide to the implementation of directives based on the New Approach and the Global Approach

(*) Taken into account, but not referred to in this document

Annex 2 - Alphabetical index

of terms and expressions used in the MID
as published in the Official Journal L 135, Volume 47, 30 April 2004, Page 1 - 80

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