

EC type examination for Directive 2004/22/EC Technical documentation required

Categories of measuring instruments concerned:

- water meters intended for the measurement of volumes of clean, cold or heated water in residential, commercial and light industrial use
- gas meters and volume conversion devices intended for residential, commercial and light industrial use
- active electrical energy meters intended for residential, commercial and light industrial use
- heat meters and their sub-assemblies intended for residential, commercial and light industrial use
- measuring systems intended for continuous and dynamic measurement of quantities (volumes or masses) of liquids other than water
- automatic weighing instruments
- taximeters
- material measures of length
- dimensional measuring instruments
- exhaust gas analysers

To apply for EC type examination in accordance with module B of Directive 2004/22/CE, you must send the following to LNE:

- type examination application form 720 CIM 0701, completed and signed
- all the information and technical documentation specified below.

I I General presentation of application

The application for type examination must include the following information:

- Details of the manufacturer and a short description of his activities. Please specify if the manufacturer is directly responsible for the design and production of the instrument or if he is subcontracting the design, production, assembly or marking of the instrument with a view to placing it on the market under his own name.
- If the applicant for EC type examination is not the manufacturer but is acting as an authorized representative: a letter (original document) from the manufacturer designating the applicant as the authorized representative and declaring that he understands that the instruments subsequently produced must comply with the type certified in Europe. The tasks delegated by the manufacturer to the authorized representative must be stated explicitly in writing. The scope of the tasks and the powers delegated to the authorized representative must be clearly specified. The authorized representative must be established within the European Community.

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- q If the applicant wishes that the LNE carry out tests according to the European directive relating to electromagnetic compatibility on the same equipment that those submitted for testing within the framework of legal metrology, this must be specified here.
- q The upper and lower temperature limits for the instrument, from the following values:

	Temperature limits			
Upper temperature limit	30° C	40° C	55° C	70° C
Lower temperature limit	5° C	- 10° C	- 25° C	- 40° C

Indicate whether the instrument is designed for condensing or non-condensing humidity, and its intended location (open or closed).

- q The appropriate mechanical environment class (if applicable), either M1, M2 or M3:
- M1 Instruments used in locations exposed to low levels of vibration and shock, eg. instruments fixed to light supporting structures subject to negligible vibrations and shocks from nearby building work, slamming doors, etc.
 - M2 Instruments used in locations exposed to significant or high levels of vibration and shock, eg. transmitted from machines and passing vehicles in the vicinity or adjacent to heavy machines, conveyor belts, etc.
 - M3 Instruments used in locations exposed to high or very high levels of vibration and shock, eg. instruments mounted directly on machines, conveyor belts, etc.
- q The appropriate electromagnetic environment class, either E1, E2 or E3:
- E1 Instruments used in locations where the electromagnetic interference corresponds to the level likely to be found in residential, commercial and light industrial buildings.
 - E2 Instruments used in locations where the electromagnetic interference corresponds to the level likely to be found in other industrial buildings.
 - E3 Instruments powered by the battery of a vehicle. These instruments must meet the requirements for E2 class *and* the requirements for operation under the following conditions:
 - voltage reduction caused by energizing the starter-motor circuits of an internal combustion engine
 - load dump transients occurring when a discharged battery is disconnected while the engine is running.

II I Technical documentation

The technical documentation shall render the design, manufacture and operation of the measuring instrument intelligible and shall permit an assessment of its conformity with the appropriate requirements of the Directive.

The technical documentation shall be sufficiently detailed to ensure:

- definition of the instrument's metrological characteristics
- reproducibility of the metrological performances of produced instruments when properly adjusted using appropriate intended means
- the integrity of the instrument.

The technical documentation provided shall include:

- a general description of the instrument that clearly explains its operation (eg. a draft version of the instructions for use)
- conceptual design and manufacturing drawings and plans of components, sub-assemblies, circuits, etc.,
- manufacturing procedures designed to ensure consistent production
- if applicable, a description of the electronic devices (including drawings, diagrams and flow charts of the logic elements) and general information about the software components (characteristics and operation)
- descriptions and explanations necessary for understanding the plans, manufacturing procedures, drawings and diagrams listed above, including operation of the instrument
- a list of the harmonised standards and/or normative documents applied that will entitle the manufacturer to a presumption of conformity with the essential requirements of the Directive, or a description of the technical solutions adopted to meet the essential requirements of the Directive if the standards and/or normative documents have not been applied
- the results of design calculations and tests performed
- if necessary, test results demonstrating that the type or instrument meets:
 - the requirements of the Directive under declared rated operating conditions and under specified environmental disturbances,
 - the durability specifications for water meters, gas meters, heat meters and measuring system for liquids other than water
- test reports, OIML certificates, EC type examination certificates or EC design examination certificates for instruments containing components identical to those used for the instrument covered by this application.
- The manufacturer shall specify where seals and markings will be applied.
- The manufacturer shall indicate the conditions for compatibility with interfaces and sub-assemblies, where relevant.