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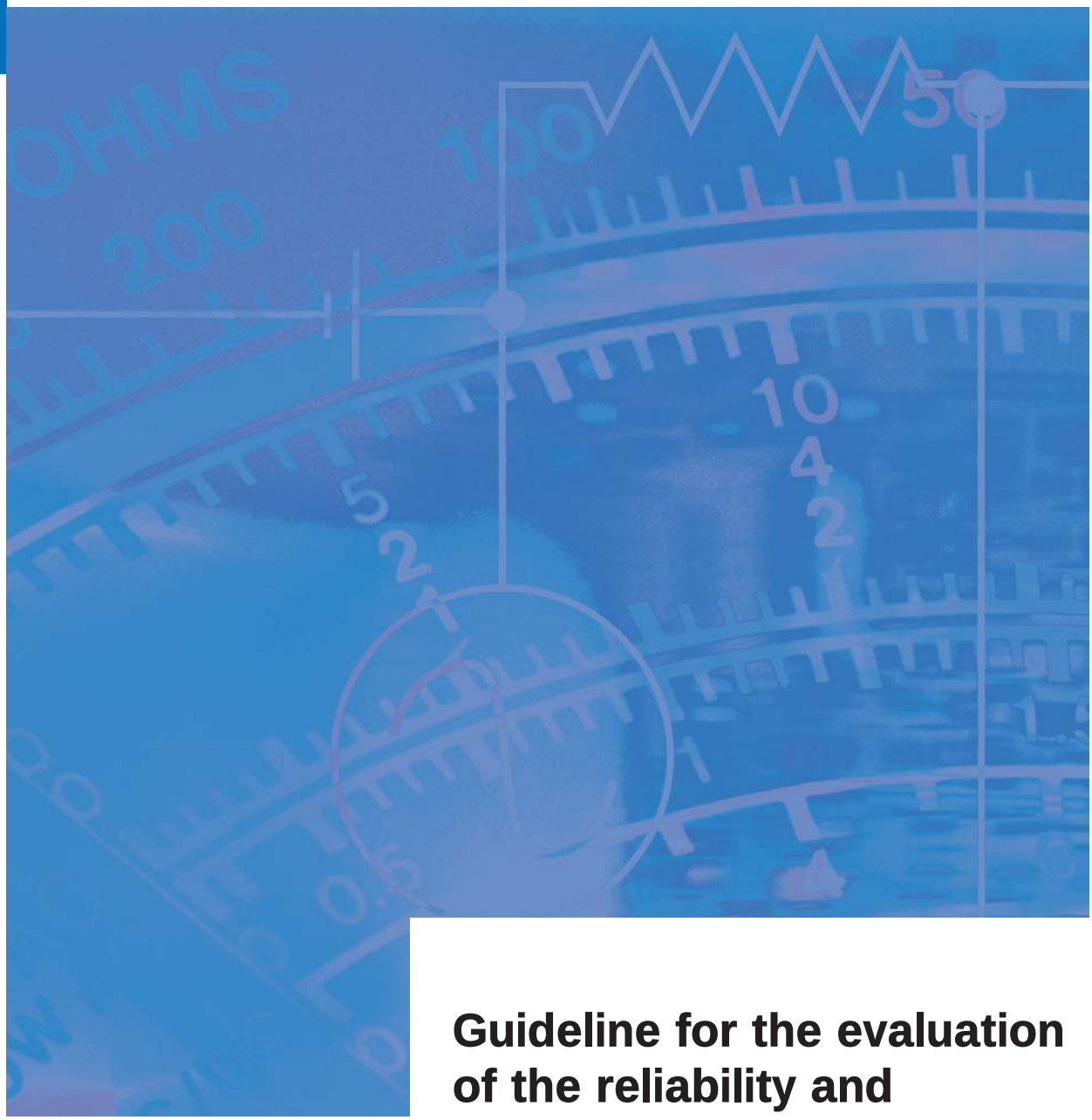

Guideline for the evaluation of the reliability and measurement stability of electricity meters and ancillary devices

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Foreword

As a result of the present change from electromechanical to electronic meters, new methods for the evaluation of the reliability and measurement stability are becoming necessary. Not only the technology itself, but also the operating conditions under which electronic measuring devices are used, have changed in a sustainable manner. These operating conditions are characterized by:

- different equipment technology used in the measuring devices;
- changed power supply conditions and feed-in procedures at the place of installation;
- higher functionalities in the measuring device and
- a demand for higher resistance to manipulations.

This guideline shows the various influences and interactions electricity meters and ancillary devices are subject to and describes the resulting additional requirements.

Measuring devices are certified for use in legal metrology if they meet the MID-related (e.g. type approval tests) and/or intrastate requirements. In order to rule out or limit risks to measuring devices already known but not evaluated so far, the appropriate test methods have to be supplemented.

This guideline is intended to complement the existing technical standards and product standards. The test methods given are meant to enable the prompt demonstration of the reliability and measurement stability of innovative newly developed devices.

In the following, the problems and solution approaches are described. This is not meant to be a static process but a permanent adaptation to the new practice-oriented findings. The test methods described here are intended to enable a systematic evaluation of the measuring devices and to result in the development of devices resistant to disturbances during operation.