



BSI Standards Publication

Marine energy — Wave, tidal and other water current converters

Part 200: Electricity producing tidal energy converters — Power performance assessment

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National foreword

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The UK participation in its preparation was entrusted by Technical Committee PEL/114, Marine energy — Wave, tidal and other water current converters, to Panel PEL/114/-/3, Marine Energy Converters - Tidal Performance Testing.

A list of organizations represented on this committee can be obtained on request to its secretary.

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TECHNICAL SPECIFICATION



**Marine energy – Wave, tidal and other water current converters –
Part 200: Electricity producing tidal energy converters – Power performance
assessment**

INTERNATIONAL
ELECTROTECHNICAL
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CONTENTS

FOREWORD.....	5
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	8
4 Symbols, units and abbreviations	12
4.1 Symbols and units	12
4.2 Abbreviations	13
5 Site and test conditions	14
5.1 General	14
5.2 Bathymetry	14
5.3 Flow conditions	14
5.4 TEC test site constraints	15
5.5 External constraints.....	16
6 Tidal energy converter (TEC) description.....	16
6.1 General	16
6.2 Operational parameters	16
7 Test equipment.....	16
7.1 Electric power measurement	16
7.2 Tidal current measurement.....	17
7.3 Data acquisition.....	18
8 Measurement procedures	18
8.1 General	18
8.2 Operational status	18
8.3 Data collection	19
8.4 Instrument calibration.....	19
8.5 Data processing	19
8.6 Averaging.....	20
8.7 Test data properties	20
8.8 Electric power measurement	20
8.8.1 Output terminals of the TEC	20
8.8.2 The power measurement location	21
8.8.3 Remote TEC sub-systems	21
8.8.4 Power measurements	21
8.9 Incident resource measurement.....	21
8.9.1 Current profiler placement relative to TEC	21
8.9.2 Contribution from turbulence.....	25
8.9.3 Contribution from waves	25
9 Derived results	26
9.1 General	26
9.1.1 Introductory remarks.....	26
9.1.2 Water density	26
9.2 Data processing	26
9.2.1 Filtering	26
9.2.2 Exclusion.....	26
9.2.3 Correction	26
9.3 Calculation of the power curve	26

9.3.1	Method of bins	26
9.3.2	Detailed description of method of bins	27
9.3.3	Interpolation	30
9.3.4	Extrapolation	30
9.3.5	Uncertainty calculation	30
9.4	Mean tidal current velocity vertical shear profile	30
9.5	RMS fluctuating tidal current velocity	31
9.6	Tidal ellipse at hub height	32
9.7	Calculation of the TEC overall efficiency	33
9.8	TEC annual energy production (TEC AEP)	33
10	Reporting format	34
10.1	General	34
10.2	TEC report	34
10.3	TEC test site report	34
10.4	Electrical grid and load report	37
10.5	Test equipment report	37
10.6	Measurement procedure report	38
10.7	Presentation of measured data	38
10.8	Presentation of the power curve	40
10.9	Presentation of the TEC overall efficiency	43
10.10	Uncertainty assumptions	44
10.11	Deviations from the procedure	44
Annex A	(normative) Categories of error	45
Annex B	(informative) Uncertainty case study	47
Annex C	(informative) Calculation of TEC annual energy production	48
Annex D	(informative) Wave measurement	51
Figure 1	– Equivalent diameter calculations for various TEC projected capture areas	9
Figure 2	– Orientation A for current profiler deployment (plan view)	23
Figure 3	– Orientation A for current profiler deployment (section view)	23
Figure 4	– Orientation B for current profiler deployment (plan view)	24
Figure 5	– Orientation B for current profiler deployment (section view)	24
Figure 6	– Orientation for floating TEC current profiler deployment (plan view)	25
Figure 7	– The vertical variation of tidal current across the projected capture area	28
Figure 8	– Example tidal ellipse plot identifying principal ebb and flood directions	36
Figure 9	– Example plot of the channel cross-sectional area consumed by the TEC on plane perpendicular to principal flow direction (plan and section view)	37
Figure 10	– Example scatter plot of performance data	38
Figure 11	– Example plot of the mean tidal current velocity vertical shear (mean velocity shear) profile	39
Figure 12	– Example presentation of the power curve	41
Figure 13	– Example presentation of the power curve with uncertainty bars	42
Figure 14	– Example presentation of the power curve showing excluded data points	42
Figure 15	– Example presentation of the TEC overall efficiency curve	44
Table 1	– Example presentation of the mean tidal current velocity vertical shear (mean velocity shear) data	39

Table 2 – Example presentation of the RMS fluctuating tidal current velocity at hub height	40
Table 3 – Example presentation of the power curve data	41
Table 4 – Example presentation of the TEC overall efficiency	43
Table A.1 – List of uncertainty parameters to be included in the uncertainty analysis	45
Table C.1 – Example presentation of annual energy production (flood tide shown)	50

INTERNATIONAL ELECTROTECHNICAL COMMISSION

MARINE ENERGY – WAVE, TIDAL AND OTHER WATER CURRENT CONVERTERS –

Part 200: Electricity producing tidal energy converters – Power performance assessment

FOREWORD

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- the required support cannot be obtained for the publication of an International Standard, despite repeated efforts, or
- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 62600-200, which is a technical specification, has been prepared by IEC technical committee TC 114: Marine energy – Wave, tidal and other water current converters.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
114/93/DTS	114/101A/RVC

Full information on the voting for the approval of this technical specification can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of IEC 62600 series, under the general title *Marine energy – Wave, tidal and other water current converters*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- transformed into an International Standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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MARINE ENERGY – WAVE, TIDAL AND OTHER WATER CURRENT CONVERTERS –

Part 200: Electricity producing tidal energy converters – Power performance assessment

1 Scope

This Technical Specification provides:

- a systematic methodology for evaluating the power performance of tidal current energy converters (TECs) that produce electricity for utility scale and localized grids;
- a definition of TEC rated power and rated water velocity;
- a methodology for the production of the power curves for the TECs in consideration;
- a framework for the reporting of results.

Exclusions from the scope of this Technical Specification are as follows:

- tidal energy converters (TECs) that provide forms of energy other than electrical energy unless the other form is an intermediary step that is converted into electricity by the TEC;
- resource assessment. This will be carried out in the tidal energy resource characterization and assessment Technical Specification (future IEC/TS 62600-201);
- scaling of any measured or derived results;
- power quality issues;
- any type of performance other than power and energy performance;
- the combined effect of multiple TEC arrays.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60688:2012, *Electrical measuring transducers for converting AC and DC electrical quantities to analogue or digital signals*

IEC 61400-12-1:2005, *Wind turbines – Part 12-1: Power performance measurements of electricity producing wind turbines*

IEC 61869-2:2012, *Instrument transformers – Part 2: Additional requirements for current transformers*

IEC 61869-3:2011, *Instrument transformers – Part 3: Additional requirements for inductive voltage transformers*

IEC/TS 62600-1, *Marine energy – Wave, tidal and other water current converters – Part 1: Terminology*

ISO/IEC 17025:2005, *General requirements for the competence of testing and calibration laboratories*