

INTERNATIONAL STANDARD



**Electronic railway equipment – Train communication network (TCN) –
Part 2-8: TCN conformance test**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRONIC RAILWAY EQUIPMENT –
TRAIN COMMUNICATION NETWORK (TCN) –**
Part 2-8: TCN conformance test**FOREWORD**

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Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 61375 series, published under the general title *Electronic railway equipment – Train communication network (TCN)*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
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- replaced by a revised edition, or
- amended.

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INTRODUCTION

TCN is an International Standard with the aim of defining interfaces so as to achieve plug-in compatibility:

- a) between equipment located in different vehicles or consist, and
- b) between equipment and devices located within the same vehicle or consist.

One of the key success factors for the deployment of any technology is standardisation and ensuring interoperability among various implementations. To facilitate interoperability, a conformance test should be implemented.

In this part of IEC 61375, the conformance testing of the ECN and ETB defined in IEC 61375-2-3:2015, IEC 61375-2-5:2014 and IEC 61375-3-4:2014 is specified.

ELECTRONIC RAILWAY EQUIPMENT – TRAIN COMMUNICATION NETWORK (TCN) –

Part 2-8: TCN conformance test

1 Scope

This part of IEC 61375 applies to all equipment and devices implemented according to IEC 61375-2-3:2015, IEC 61375-2-5:2014 and IEC 61375-3-4:2014, i.e. it covers the procedures to be applied to such equipment and devices when the conformance should be proven.

The applicability of this document to a TCN implementation allows for individual conformance checking of the implementation itself, and is a pre-requisite for further interoperability checking between different TCN implementations.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60571:2012, *Railway applications – Electronic equipment used on rolling stock*

IEC 61000-4-4:2012, *Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test*

IEC 61076-2-101:2012, *Connectors for electronic equipment – Product requirements – Part 2-101: Circular connectors – Detail specification for M12 connectors with screw-locking*

IEC 61076-3-104, *Connectors for electrical and electronic equipment – Product requirements – Part 3-104: Detail specification for 8-way, shielded free and fixed connectors for data transmissions with frequencies up to 2 000 MHz*

IEC 61156-6, *Multicore and symmetrical pair/quad cables for digital communications – Part 6: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Work area wiring – Sectional specification*

IEC 61375-1:2012, *Electronic railway equipment – Train communication network (TCN) – Part 1: General architecture*

IEC 61375-2-1:2012, *Electronic railway equipment – Train communication network (TCN) – Part 2-1: Wire Train Bus (WTB)*

IEC 61375-2-3:2015, *Electronic railway equipment – Train communication network (TCN) – Part 2-3: TCN communication profile*

IEC 61375-2-5:2014, *Electronic railway equipment – Train communication network (TCN) – Part 2-5: Ethernet train backbone*