



Technical Specification

**Intelligent Transport Systems (ITS);  
Communications Access for Land Mobiles (CALM);  
Test specifications for ITS station management (ISO 24102);  
Part 1: Protocol Implementation Conformance Statement  
(PICS) specification**

PREVIEW  
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## Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Intelligent Transport Systems (ITS).

The present document is part 1 of a multi-part deliverable covering Communications Access for Land Mobiles (CALM); Test specifications for ITS station management (ISO 24102), as identified below:

**Part 1: "Protocol Implementation Conformance Statement (PICS) specification";**

Part 2: "Test Suite Structure and Test Purposes (TSS & TP)";

Part 3: "Abstract Test Suite (ATS) and partial PIXIT proforma"

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## Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**may not**", "**need**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

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## Introduction

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a telecommunication specification. Such a statement is called a "Protocol Implementation Conformance Statement" (PICS).

---

# 1 Scope

The present document provides the "Protocol Implementation Conformance Statement" (PICS) proforma for the ISO protocols specified in ISO 24102-4 [1] and ISO 24102-5 [2] in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-7 [4], ETS 300 406 [3] and EG 202 798 [i.1].

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# 2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

## 2.1 Normative references

The following referenced documents are necessary for the application of the present document.

- [1] ISO 24102-4:2013: "Intelligent transport systems -- Communications access for land mobiles (CALM) -- ITS station management -- Part 4: Station-internal management communications".
- [2] ISO 24102-5:2013: "Intelligent transport systems -- Communications access for land mobiles (CALM) -- ITS station management -- Part 5: Fast service advertisement protocol (FSAP)".
- [3] ETSI ETS 300 406 (1995): "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
- [4] ISO/IEC 9646-7: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 7: Implementation Conformance Statements".

## 2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI EG 202 798: "Intelligent Transport Systems (ITS); Testing; Framework for conformance and interoperability testing".

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# 3 Definitions and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in ISO 24102-4 [1], ISO 24102-5 [2], ETS 300 406 [3], ISO/IEC 9646-7 [4], EG 202 798 [i.1] and the following apply:

**PICS proforma:** document, in the form of a questionnaire, which when completed for an implementation or system becomes a PICS

**Protocol Implementation Conformance Statement (PICS):** statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented

NOTE: The PICS can take several forms: protocol PICS, profile PICS, profile specific PICS, information object PICS, etc.

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in ISO 24102-4 [1], ISO 24102-5 [2], ETS 300 406 [3], ISO/IEC 9646-7 [4], EG 202 798 [i.1] and the following apply:

FSAP	Fast Service Advertisement Protocol
IUT	Implementation Under Test
PICS	Protocol Implementation Conformance Statement
SUT	System Under Test

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## 4 Conformance to this PICS proforma specification

If it claims to conform to the present document, the actual PICS proformas to be filled in by a supplier shall be technically equivalent to the text of the PICS proformas given in annexes A or B, and shall preserve the numbering/naming and ordering of the proforma items.

A PICS which conforms to the set of "ITS station-internal management communication protocol (IICP)" [1] shall be a conforming PICS proforma completed in accordance with the guidance for completion given in clause A.1.

A PICS which conforms to "Fast Service Advertisement Protocol" (FSAP) [2] shall be a conforming PICS proforma completed in accordance with the guidance for completion given in clause B.1.

NOTE: "ITS station-internal management communications" is an integral functionality of an implementation option of FSAP.

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## Annex A (normative): PICS proforma for the "ITS station-internal management communications protocol"

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the PICS proforma in this annex so that it can be used for its intended purposes and may further publish the completed PICS.

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### A.1 Guidance for completing the PICS proforma

#### A.1.1 Purposes and structure

The purpose of this PICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in ISO 24102-4 [1] may provide information about the implementation in a standardized manner.

The PICS proforma is subdivided into clauses for the following categories of information:

- guidance for completing the PICS proforma;
- identification of the implementation;
- identification of the protocol;
- global statement of conformance;
- PICS proforma tables.

#### A.1.2 Abbreviations and conventions

The PICS proforma contained in this annex is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [4].

##### Item column

The item column contains a number which identifies the item in the table.

##### Item description column

The item description column describes in free text each respective item (e.g. parameters, timers, etc.). It implicitly means "is <item description> supported by the implementation?".



## Status column

The following notations, defined in ISO/IEC 9646-7 [4], are used for the status column:

m	mandatory - the capability is required to be supported.
o	optional - the capability may be supported or not.
n/a	not applicable - in the given context, it is impossible to use the capability.
x	prohibited (excluded) - there is a requirement not to use this capability in the given context.
o.i	qualified optional - for mutually exclusive or selectable options from a set. "i" is an integer which identifies a unique group of related optional items and the logic of their selection which is defined immediately following the table.
ci	conditional - the requirement on the capability ("m", "o", "x" or "n/a") depends on the support of other optional or conditional items. "i" is an integer identifying a unique conditional status expression which is defined immediately following the table.

## Reference column

The reference column makes reference to ISO 24102-4 [1], except where explicitly stated otherwise.

## Support column

The support column shall be filled in by the supplier of the implementation. The following common notations, defined in ISO/IEC 9646-7 [4], are used for the support column:

Y or y	supported by the implementation.
N or n	not supported by the implementation.
N/A, n/a or -	no answer required (allowed only if the status is n/a, directly or after evaluation of a conditional status).

**NOTE:** As stated in ISO/IEC 9646-7 [4], support for a received PDU requires the ability to parse all valid parameters of that PDU. Supporting a PDU while having no ability to parse a valid parameter is non-conformant. Support for a parameter on a PDU means that the semantics of that parameter are supported.

## Values allowed column

The values allowed column contains the type, the list, the range or the length of values allowed. The following notations are used:

- range of values: <min value> .. <max value>  
example: 5 .. 20
- list of values: <value1>, <value2>, ..., <valueN>  
example: 2, 4, 6, 8, 9  
example: '1101'B, '1011'B, '1111'B  
example: '0A'H, '34'H, '2F'H
- list of named values: <name1>(<val1>), <name2>(<val2>), ..., <nameN>(<valN>)  
example: reject(1), accept(2)
- length: size (<min size> .. <max size>)  
example: size (1 .. 8)

## Values supported column

The values supported column shall be filled in by the supplier of the implementation. In this column, the values or the ranges of values supported by the implementation shall be indicated.

## References to items

For each possible item answer (answer in the support column) within the PICS proforma a unique reference exists, used, for example, in the conditional expressions. It is defined as the table identifier, followed by a solidus character "/", followed by the item number in the table. If there is more than one support column in a table, the columns are discriminated by letters (a, b, etc.), respectively.

EXAMPLE 1: B.5/4 is the reference to the answer of item 4 in table 5 of annex B.

EXAMPLE 2: B.6/3b is the reference to the second answer (i.e. in the second support column) of item 3 in table 6 of annex B.

## Prerequisite line

A prerequisite line takes the form: Prerequisite: <predicate>.

A prerequisite line indicates that the whole table is not required to be completed if the predicate is FALSE.

## A.1.3 Instructions for completing the PICS proforma

The supplier of the implementation shall complete the PICS proforma in each of the spaces provided. In particular, an explicit answer shall be entered, in each of the support or supported column boxes provided, using the notation described in clause A.1.2.

However, the tables containing in "user role" clause shall only be completed for user implementations, and the tables containing in "network role" clause shall only be completed for network implementations.

If necessary, the supplier may provide additional comments in space at the bottom of the tables or separately.

More detailed instructions are given at the beginning of the different clauses of the PICS proforma.

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## A.2 Identification of the implementation

### A.2.1 Date of the statement

.....

### A.2.2 Implementation Under Test (IUT) identification

IUT name:

.....  
 .....

IUT version:

.....

### A.2.3 System Under Test (SUT) identification

SUT name:

.....  
 .....