

# ETSI TS 103 248 V2.5.1 (2026-01)



TECHNICAL SPECIFICATION

**Intelligent Transport Systems (ITS);  
GeoNetworking;  
Port Numbers for the Basic Transport Protocol (BTP);  
Release 2**

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**Reference**

RTS/ITS-00109

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**Keywords**

ITS, protocol

**ETSI**

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# Foreword

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

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# Modal verbs terminology

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# Introduction

Facilities layer entities that use the Basic Transport Protocol for the transport of messages need to be identifiable. For this purpose, BTP defines port numbers. The present document specifies the well-known port numbers to be used by facilities layer entities.

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# 1 Scope

The present document defines port number values for the Basic Transport Protocol as specified in ETSI TS 103 836-5-1 [i.1].

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## 2 References

### 2.1 Normative 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 referenced document (including any amendments) applies.

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The following referenced documents may be useful in implementing an ETSI deliverable or add to the reader's understanding, but are not required for conformance to the present document.

- [i.1] ETSI TS 103 836-5-1: "Intelligent Transport Systems (ITS); Vehicular Communications; GeoNetworking; Part 5: Transport Protocols; Sub-part 1: Basic Transport Protocol; Release 2".
- [i.2] ETSI TS 103 900: "Intelligent Transport Systems (ITS); Facilities Layer; Cooperative Awareness Service; Release 2".
- [i.3] ETSI TS 103 831: "Intelligent Transport Systems (ITS); Facilities Layer; Decentralized Environmental Notification Service; Release 2".
- [i.4] ETSI TS 101 556-1: "Intelligent Transport Systems (ITS); Infrastructure to Vehicle Communication; Electric Vehicle Charging Spot Notification Specification".
- [i.5] ETSI TS 101 556-2: "Intelligent Transport Systems (ITS); Infrastructure to Vehicle Communication; Part 2: Communication system specification to support application requirements for Tyre Information System (TIS) and Tyre Pressure Gauge (TPG) interoperability".
- [i.6] ETSI TS 101 556-3: "Intelligent Transport Systems (ITS); Infrastructure to Vehicle Communications; Part 3: Communications system for the planning and reservation of EV energy supply using wireless networks".
- [i.7] ETSI TS 102 890-1: "Intelligent Transport Systems (ITS); Facilities layer function; Part 1: Services Announcement (SA) specification".
- [i.8] ETSI TS 102 941: "Intelligent Transport Systems (ITS); Security; Trust and Privacy Management; Release 2".

- [i.9] ETSI TS 103 152: "Intelligent Transport Systems (ITS); V2X Communications; Multimedia Content Dissemination (MCD) Basic Service specification; Release 2".
- [i.10] ETSI TS 103 301: "Intelligent Transport Systems (ITS); Vehicular Communications; Basic Set of Applications; Facilities layer protocols and communication requirements for infrastructure services; Release 2".
- [i.11] ETSI TS 103 324: "Intelligent Transport Systems (ITS); Vehicular Communications; Basic Set of Applications; Collective Perception Service; Release 2".
- [i.12] ETSI TS 103 300-3: "Intelligent Transport Systems (ITS); Vulnerable Road Users (VRU) awareness; Part 3: Specification of VRU awareness service; Release 2".
- [i.13] ETSI TS 103 601: "Intelligent Transport Systems (ITS); Security; Security management messages communication requirements and distribution protocols; Release 2".
- [i.14] ETSI TS 103 724: "Intelligent Transport Systems (ITS); Facilities layer function; Interference Management Zone Message (IMZM); Release 2".
- [i.15] ETSI TS 103 759: "Intelligent Transport Systems (ITS); Security; Misbehaviour Reporting service; Release 2".
- [i.16] ETSI TS 103 916: "Intelligent Transport Systems (ITS); Parking Availability Service; Release 2".
- [i.17] ETSI TS 103 882: "Intelligent Transport Systems (ITS); Automated Vehicle Marshalling (AVM); Release 2".
- [i.18] ETSI TS 104 072: "Intelligent Transport Systems (ITS); Facilities Layer; Parking Information Service; Release 2".

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## 3 Definition of terms, symbols and abbreviations

### 3.1 Terms

For the purposes of the present document, the following terms apply:

**destination port:** port identifying the destination's protocol entity at the ITS facilities layer

NOTE: Facilities layer services that do not expect replies either do not include a source port number in the header, or they set it to a default (usually 0) to indicate no reply port available. For session-based services (client-server or peer-to-peer), the source port is often set to a value from an ephemeral (dynamically assigned) subspace of the space of all port numbers.

**port:** ITS station-internal address that identifies a protocol entity at the facilities layer and represents an endpoint of a logical connection

**source port:** port number to be used by a facilities layer entity as the destination port in a subsequent reply to the originator

### 3.2 Symbols

Void.

### 3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ASN.1	Abstract Syntax Notation One
AT	Authorization Ticket
AVM	Automated Vehicle Marshalling

BTP	Basic Transport Protocol
CA	Cooperative Awareness
CAM	Cooperative Awareness Message
CP	Collective Perception
CPM	Collective Perception Message
CRL	Certificate Revocation List
CRLM	Certificate Revocation List Message
CTL	Certificate Trust List
CTLM	Certificate Trust List Message
DEN	Decentralized Environmental Notification
DENM	Decentralized Environmental Notification Message
EC	Enrolment Credential
EOFM	End Of Filling Message
EVCSN	Electric Vehicle Charging Spot Notification
EV-RSR	Electric Vehicle Recharging Spot Reservation
GPC	GNSS Positioning Correction
IMZ	Interference Management Zone
IMZM	Interference Management Zone Message
ITS	Intelligent Transport Systems
IVI	Infrastructure to Vehicle Information
IVIM	Infrastructure to Vehicle Information Message
MAPEM	MAP (topology) Extended Message
MCD	Multimedia Content Dissemination
MCDM	Multimedia Content Dissemination Message
MIM	Marshalling Infrastructure Message
MVM	Marshalling Vehicle Message
MR	Misbehaviour Reporting
MRS	Misbehaviour Reporting Service
P2P_CRL	Peer-to-Peer CRL Distribution
P2P_DCTL	Peer-to-Peer Delta CTL Distribution
PIM	Parking Information Message
PIS	Parking Information Service
POI	Point Of Interest
RLT	Road and Lane Topology
RTCMEM	RTCM Extended Message
SA	Service Announcement
SAEM	Services Announcement Extended Message
SPATEM	Signal Phase And Timing Extended Message
SREM	Signal Request Extended Message
SSEM	Signal Status Extended Message
TCM	TPG Reservation Confirmation Message
TLC	Traffic Light Control
TLM	Traffic Light Manoeuvre
TPG	Tyre Pressure Gauge
TRM	TPG Reservation Message
VA	VRU Awareness
VAM	VRU Awareness Message
VDPM	Vehicle Data Provisioning Message
VDRM	Vehicle Data Request Message

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## 4 Port number values for the Basic Transport Protocol

The Basic Transport Protocol (BTP) [i.1] multiplexes messages from the facilities layer to the networking & transport layer and de-multiplexes received GeoNetworking packets to corresponding entities in the facilities layer. At the networking & transport layer the messages need to be identified so that they can be delivered to the correct facilities layer entity. BTP manages this process.

BTP port numbers are used in BTP service primitives and the BTP headers. In the BTP service primitives *BTP-Data.request* and *BTP-Data.indication* the port numbers are in the (optional) *source port* and *destination port* parameters. In the BTP headers, the port numbers are carried in the *source port* and *destination port* fields.

BTP defines well-known ports, which are used to assign fixed port numbers to specific facilities layer entities. Facilities layer entities that have no well-known port number values assigned shall dynamically use numbers from 3 000 to 65 536.

The well-known BTP port number values shall be used as specified in Table 1. They are used by the corresponding facilities layer entities and related applications to allow the identification of the message types.

**Table 1: List of well-known BTP port number values**

BTP port number values	Facilities service or Application	Related standard
2 001	CA (CAM)	ETSI TS 103 900 [i.2]
2 002	DEN (DENM)	ETSI TS 103 831 [i.3]
2 003	RLT (MAPEM)	ETSI TS 103 301 [i.10]
2 004	TLM (SPATEM)	
2 005	SA (SAEM)	ETSI TS 102 890-1 [i.7]
2 006	IVI (IVIM)	ETSI TS 103 301 [i.10]
2 007	TLC (SREM)	
2 008	TLC (SSEM)	
2 009	CP (CPM)	ETSI TS 103 324 [i.11]
2 010	EVCSN POI (EVCSN POI message)	ETSI TS 101 556-1 [i.4]
2 011	TPG (TRM, TCM, VDRM, VDPM, EOFM)	ETSI TS 101 556-2 [i.5]
2 012	Charging (EV-RSR)	ETSI TS 101 556-3 [i.6]
2 013	GPC (RTCMEM)	ETSI TS 103 301 [i.10]
2 014	CTL (CTLM)	ETSI TS 102 941 [i.8]
2 015	CRL (CRLM)	ETSI TS 102 941 [i.8]
2 016	Secured certificate request service (EC/AT request)	ETSI TS 102 941 [i.8]
2 017	MCD (MCDM)	ETSI TS 103 152 [i.9]
2 018	VA (VAM)	ETSI TS 103 300-3 [i.12]
2 019	IMZ (IMZM)	ETSI TS 103 724 [i.14]
2 020	PIS (PIM)	ETSI TS 104 072 [i.18]
2 021	P2P_CRL (CRLM)	ETSI TS 103 601 [i.13]
2 022	P2P_DCTL (CTLM)	
2 023	MRS (MR message)	ETSI TS 103 759 [i.15]
2 024	Peer-to-Peer Full CTL Distribution (CTLM)	ETSI TS 103 601 [i.13]
2 025	PAS (POIM-PA)	ETSI TS 103 916 [i.16]
2 026	AVM (MIM, MVM)	ETSI TS 103 882 [i.17]

NOTE: The Facilities service naming resembles the naming in ASN.1.

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## History

<b>Version</b>	<b>Date</b>	<b>Status</b>
V1.1.1	November 2016	Publication
V1.2.1	August 2018	Publication
V1.3.1	April 2019	Publication
V2.1.1	August 2021	Publication
V2.2.1	November 2022	Publication
V2.3.1	March 2024	Publication
V2.4.1	July 2024	Publication
V2.5.1	January 2026	Publication