

SLOVENSKI STANDARD

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Nadomešča:
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Cisterne za prevoz nevarnega blaga - Digitalni vmesnik za prenos podatkov med cisterno in stacionarnimi napravami - 2. del: Komerčni in logistični podatki

Tanks for transport of dangerous goods - Digital interface for the data transfer between tank vehicle and with stationary facilities - Part 2: Commercial and logistic data

Tanks für die Beförderung gefährlicher Güter - Digitale Schnittstelle für den Datenaustausch zwischen Tankfahrzeugen und stationären Einrichtungen - Teil 2: Kommerzielle und logistische Daten

Citernes destinées au transport de matières dangereuses - Interface numérique pour le transfert de données entre des véhicules-citernes et des installations fixes - Partie 2 : Données commerciales et logistiques

Ta slovenski standard je istoveten z: EN 15969-2:2022

ICS:

13.300	Varstvo pred nevarnimi izdelki	Protection against dangerous goods
23.020.10	Nepremične posode in rezervoarji	Stationary containers and tanks
35.240.60	Uporabniške rešitve IT v prometu	IT applications in transport

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 15969-2

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ICS 13.300; 23.020.10; 35.240.60

Supersedes EN 15969-2:2017

English Version

**Tanks for transport of dangerous goods - Digital interface
for the data transfer between tank vehicle and with
stationary facilities - Part 2: Commercial and logistic data**

Citernes destinées au transport de matières
dangereuses - Interface numérique pour le transfert de
données entre des véhicules-citernes et des
installations fixes - Partie 2 : Données commerciales et
logistiques

Tanks für die Beförderung gefährlicher Güter - Digitale
Schnittstelle für den Datenaustausch zwischen
Tankfahrzeugen und stationären Einrichtungen - Teil
2: Kommerzielle und logistische Daten

This European Standard was approved by CEN on 5 September 2022.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 15969-2:2022) has been prepared by Technical Committee CEN/TC 296 “Tanks for the transport of dangerous goods”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2023, and conflicting national standards shall be withdrawn at the latest by May 2023.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 15969-2:2017.

With regard to EN 15969-2:2017 the following fundamental changes are given:

- fields for air craft refilling added;
- Index C09 “process identification” included;
- Index O32 “process identification” amended;
- Index P42 “delivery path” included.

The EN 15969 series, *Tanks for transport of dangerous goods - Digital interface for the data transfer between tank vehicle and with stationary facilities*, consists of the following 2 parts:

- *Part 1: Protocol specification - Control, measurement and event data;*
- *Part 2: Commercial and logistic data.*

This document forms part of a coherent standards programme comprising the following standards:

- EN 13616-1, *Overfill prevention devices for static tanks for liquid fuels - Part 1: Overfill prevention devices with closure device;*
- EN 13616-2, *Overfill prevention devices for static tanks for liquid fuels - Part 2: Overfill prevention devices without a closure device;*
- EN 13922, *Tanks for transport of dangerous goods - Service equipment for tanks - Overfill prevention systems for liquid fuels;*
- EN 14116, *Tanks for transport of dangerous goods - Digital interface for product recognition devices for liquid fuels;*
- EN 15207, *Tanks for the transport of dangerous goods - Plug/socket connection and supply characteristics for service equipment in hazardous areas with 24 V nominal supply voltage;*
- EN 15208, *Tanks for transport of dangerous goods - Sealed parcel delivery systems - Working principles and interface specifications;*
- EN 15969-1, *Tanks for transport of dangerous goods - Digital interface for the data transfer between tank vehicle and with stationary facilities - Part 1: Protocol specification - Control, measurement and event data.*

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Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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SIST EN 15969-2:2022

<https://standards.iteh.ai/catalog/standards/sist/586bd2d2-87f9-48c1-9848-3d10afba85ba/sist-en-15969-2-2022>

Introduction

FTL is an acronym for Fuel Truck Link, the interface between electronic system(s) on board of a tank truck (Tank-Vehicle-Equipment) and any external computer, Part 2 mainly for a host installed in the office and connected via Internet (TCP/IP); for illustration, see Figure 1.

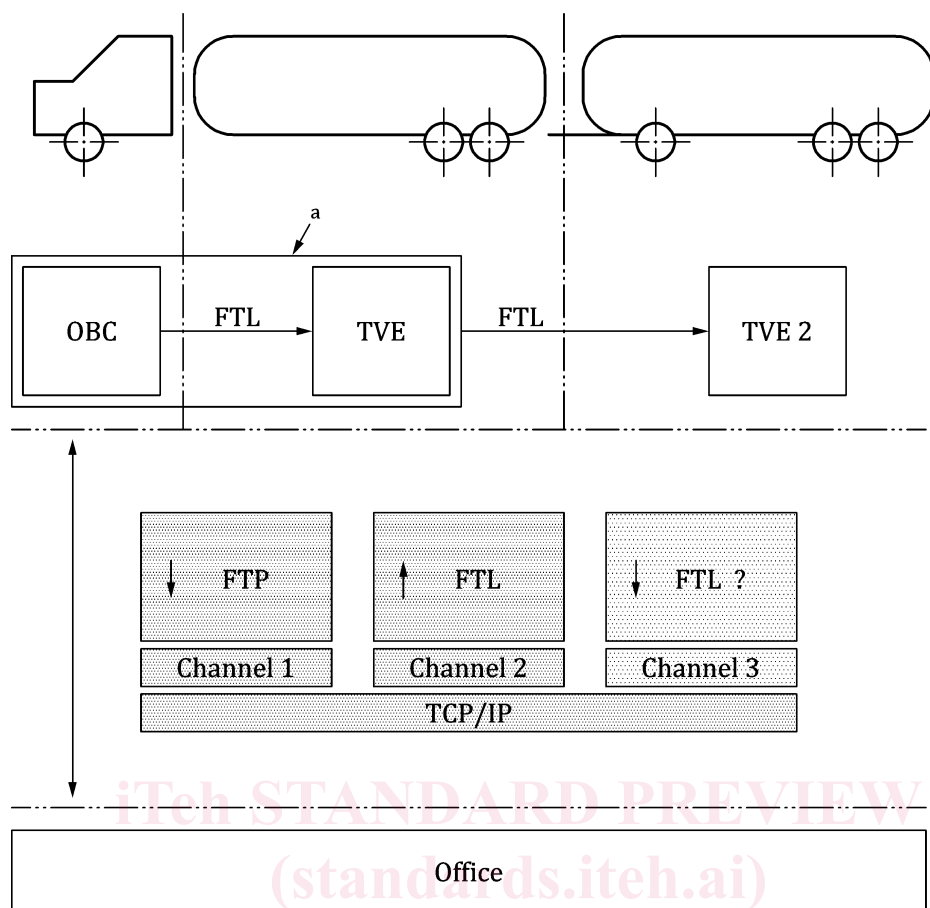
This document specifies data format for all interconnecting communication paths for commercial issues.

This document offers the user following features:

- multiple orders (batch processing);
- pricing;
- master data (e.g. products, customers, drivers, taxes);
- additional texts for the printout;
- information for the drivers;
- tour management;
- data for invoicing with surcharge;
- data for delivery packaged goods;
- handle planned and unplanned deliveries.

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<https://standards.iteh.ai/catalog/standards/sist/586bd2d2-87f9-48c1-9848-3d10afba85ba/sist-en-15969-2-2022>

**Key**

- direction of communication (client → server)
- a may be either two independent units or one single unit which incorporates both functions OBC and TVE

Figure 1 — Communication structure

1 Scope

This document specifies the data structure needed for tour management, scheduling orders of measured and unmeasured products online to the truck. Processed orders are transferred back to the host in the office at once or later every time the truck is online.

It specifies the transfer of commercial and logistic data between transport vehicle equipment, on board computer of the tank vehicle and stationary facilities for all communication channels between these parties.

This document is used in conjunction with EN 15969-1 and does not modify or override any of the requirements of EN 15969-1.

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.

EN 14116, *Tanks for transport of dangerous goods - Digital interface for product recognition devices for liquid fuels*

EN 15969-1:2022¹, *Tanks for transport of dangerous goods - Digital interface for the data transfer between tank vehicle and with stationary facilities - Part 1: Protocol specification - Control, measurement and event data*

EN ISO 3166-1, *Codes for the representation of names of countries and their subdivisions - Part 1: Country code (ISO 3166-1)*

ISO 639-1, *Codes for the representation of names of languages — Part 1: Alpha-2 code*

ISO 4217, *Codes for the representation of currencies*

ISO/IEC 10646:2020, *Information technology — Universal coded character set (UCS)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15969-1:2022¹ and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1

dispatcher

person who manages tour at the host system

¹ Under preparation. Stage at the time of publication: FprEN 15969-1:2022.

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operator
driver**

person who operates the truck and the truck management computer

**3.3
tour**

set of at least one 'Order Record' and related records, which describes a collection of stops at different customers and the ordered products, so that the driver knows where to go and what to deliver

**3.4
article**

goods and/or services provided

4 Files**4.1 Format identifiers**

Format identifiers are specified in EN 15969-1.

If the tank vehicle accepts LC-files (see Table 1) for backwards compatibility it shall also treat L-files from the office as LC-files. Record identifier and file type according to Table 1.

NOTE The change from L-files to LC-files in this edition of this document was required because EN 15969-1 and EN 15969-2 used the same name (L) for different types of files.

Table 1 — Record identifier and file type

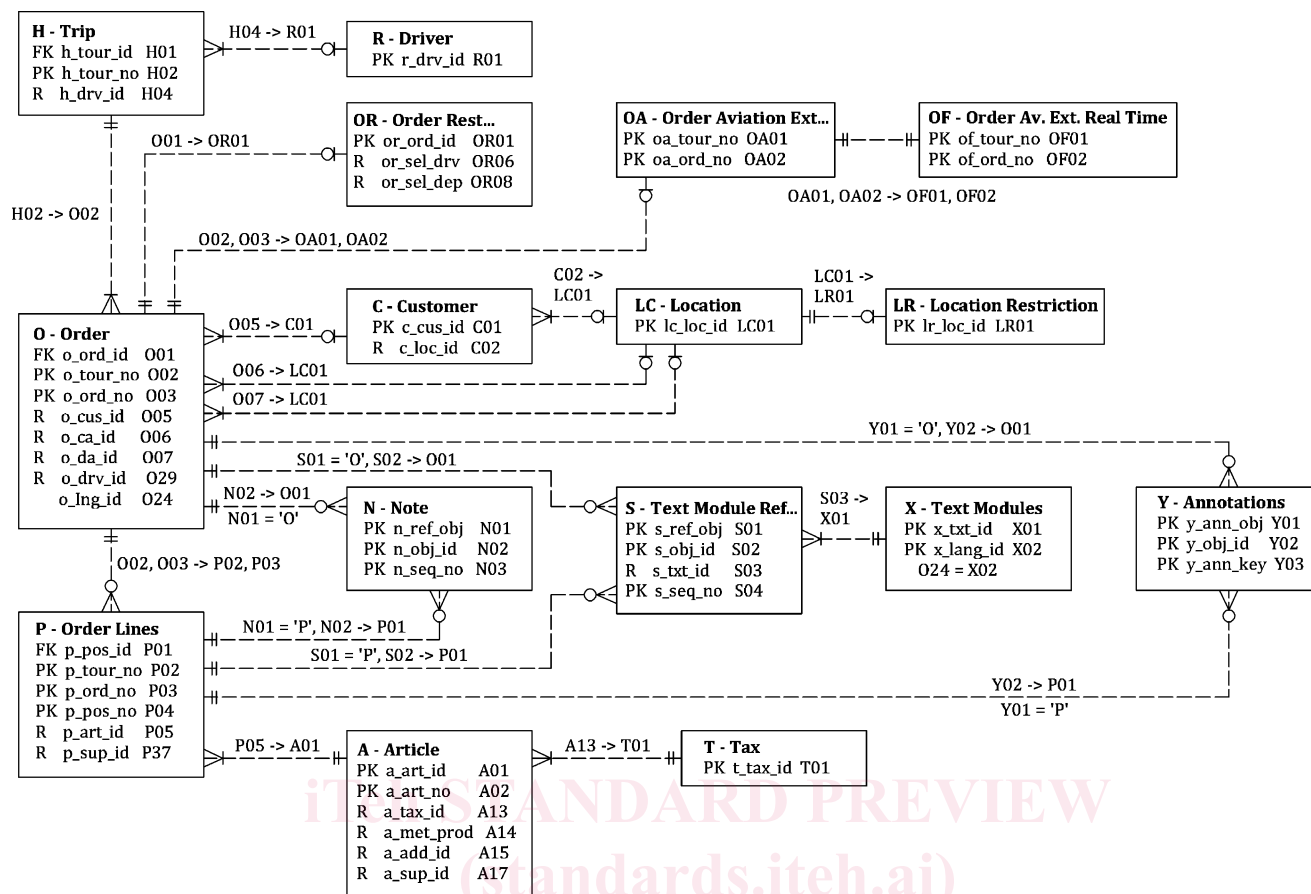
Record identifier	Short description	Description of file contents and possible destinations of the file	Primary Key	Deletion Identifier
A	Article	List of all goods and/or services provided	a_art_id	a_deleted
C	Customer	Customer database	c_cus_id	c_deleted
FB	FTLbatch ^a	Record type used to mark batch commands inside RC_file; see Table 11	—	—
H	Tour	A tour consists of a list of tour stops, which could be stops at customers (typ. unloading) or depots (typ. loading)	h_tour_no	h_deleted
LC	Location	All locations (depots, customers, etc.)	lc_loc_id	lc_deleted
LR	Location restriction	Restrictions for a location (time windows, vehicle accessibility, permitted actions)	lr_loc_id	lr_deleted
N	Notes	Notes that can be specified for any object	n_ref_obj n_obj_id n_seq_no	n_deleted
O	Order	Represents a stop in a tour. This could be both a loadstop and an orderstop. Per stop, several actions	o_tour_no o_ord_no	o_deleted

Record identifier	Short description	Description of file contents and possible destinations of the file	Primary Key	Deletion Identifier
		can be performed. These are specified in the p-records of this o-record. If field o_ord_id is 0, the order is unplanned		
OA	Order Aviation Extension	Extension to O-File for aviation specific delivery and scheduling data	oa_tour_no oa_ord_no	oa_deleted
OF	Order Aviation Extension for real time data	Extension to OA-File for aviation specific frequently changed order and scheduling information data	of_tour_no of_ord_no	of_deleted
OR	Order restrictions	Order restrictions, used for scheduling and routing	or_ord_id	or_deleted
P	Order lines	Specifies the goods and services to be delivered at this stop (o-record)	p_tour_no p_ord_no p_pos_no	p_deleted
R	Driver	List of all drivers	r_drv_id	r_deleted
S	Text-module reference	Static texts for any object. Provides text module references, to add a variable number of static texts to an object for printout	s_ref_obj s_obj_id s_seq_no	s_deleted
T	Tax	Different applicable VAT rates, used for invoice calculation ²²	t_tax_id	t_deleted
X	Text modules	Texts which are repetitively used may be stored in this database and referred to by a three-digit numeric code in the S-record	x_blk_id x_lang_id	x_deleted
Y	Annotations	Optional annotations to any other type, these annotations are used to add manufacturer specific fields to any record, which trigger an action on the truck and are not only used for printout. It is not allowed to define fields of type y within this standard	y_ann_obj y_obj_id y_ann_key	y_deleted
^a FTL batch - Commands of Fuel Truck Link according to EN 15969-1.				

4.2 Relations

Figure 2 shows the relations between the different record types and contains only the fields relevant for these relations.

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Key

PK	primary key
FK	foreign key
R	reference
-----	one-to-one relationship, both objects shall exist
-----○	one-to-one relationship, the object on the right side is optional (zero or one)
-----<	one-to-many relationship, both objects shall exist
-----○<	one-to-many relationship, the object on the right side is optional (zero, one or many)

Figure 2 — Work data and master data

4.3 File naming conventions

When files are being transferred using FTP connection, the file(s) shall be named RC_CCYYMMDDhhmmss.FTL. CCYYMMDDhhmmss is the timestamp according to EN 15969-1:2022¹, Table 3.

If more than one file is transferred, they shall be processed in ascending order of file names.

5 Fields of special types

5.1 Text module reference

Table 2 — Text module reference

Type	Size	Explanation
R	N4.1	Text module reference

Text module fields according to Table 2 have the special functionality described below.

The text module selection will be done by a key number. Each record of type X can be used as a single line or as a set of lines. To differentiate between single line and set, the pointer has a special structure.

The text module reference *s_txt_id* is defined as a numeric value with the size: 4.1.

The leading 4 digit number is the key-field of the record of type X (field *x_txt_id*). The 1 digit number behind the decimal point counts the number of records following the first record, i.e. this number is used to increment the pointer.

EXAMPLE

Value	Explanation
99.0	Only record no. 99 is printed.
99.2	Record no. 99, 100, 101 are printed.

5.2 Geo-Coordinates

Geo-coordinate fields shall be according to Table 3.

Table 3 — Geo-coordinate field

Type	Size	Explanation
G	N4.6	<p>Longitude and latitude values shall be in degrees and decimal fractions of degree:</p> <ul style="list-style-type: none"> — negative value of longitude is west of Greenwich; positive value is east of Greenwich; — positive value of latitude is north of equator; negative value is south of equator. <p>Examples for longitude GPS:</p> <p>+007.512500 = 7,512500° E = 7° 30' 45" E = 7° 0,750' E</p> <p>7. 5125 = 7,512500° E = 7° 30' 45" E</p> <p>-007. 512500 = 7,512500° W = 7° 30' 45" W</p> <p>Examples for latitude GPS:</p> <p>+07.512500 = 7,512500° N = 7° 30' 45" N</p>

5.3 UTF-8 strings

UTF-8 strings according to Table 4.

Table 4 — UTF-8 string field

Type	Explanation
Ux	Text with maximum length of x printable characters coded in UTF-8 according to ISO/IEC 10646:2020. At most, x-times four bytes are required for storage.