SLOVENSKI STANDARD
SIST ENV 13106:2003

01-oktober-2003

Cestna transportna in prometna telematika ï Slovar prometnih in potovalnih podatkov DATEX (razliį ica 3.1a)

Road transport and traffic telematics - DATEX traffic and travel data dictionary (version 3.1a)

Ta slovenski standard je istoveten z: ENV 13106:2000

ICS:

01.040.35	Informacijska tehnologija. Pisarniški stroji (Slovarji)	Information technology. Office machines (Vocabularies)
35.240.60	Uporabniške rešitve IT v transportu in trgovini	IT applications in transport and trade

SIST ENV 13106:2003 **en**

EUROPEAN PRESTANDARD
PRÉNORME EUROPÉENNE
EUROPÄISCHE VORNORM

ENV 13106

May 2000

ICS 01.040.35; 35.240.60

English version

Road transport and traffic telematics - DATEX traffic and travel data dictionary (version 3.1a)

This European Prestandard (ENV) was approved by CEN on 22 April 2000 as a prospective standard for provisional application.

The period of validity of this ENV is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the ENV can be converted into a European Standard.

CEN members are required to announce the existence of this ENV in the same way as for an EN and to make the ENV available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the ENV) until the final decision about the possible conversion of the ENV into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Ref. No. ENV 13106:2000 E

Contents

1. Foreword (informative)

This European Prestandard has been prepared by Technical Committee CEN/TC 278 "Road transport and traffic telematics", the secretariat of which is held by NNI

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this European Prestandard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

A first data dictionary has been issued as ENV 13106-1:1998, which was designed as a first part only containing the highest level items. It did not include the list of phrases which was being finalised by WG 4 of CEN/TC 278 and published as ENV 12313-2.

This draft, produced from the DATEX-Net specifications and data dictionary is a complete one, encompassing expansions and additions, intended to serve the general needs and in particular the data exchange applications as specified by DATEX. This European Prestandard replaces ENV 13106-1:1998.

2. Introduction (informative)

Information system applications are increasingly interconnected. A predominant trend towards standardisation has been a major theme throughout DRIVE and its successors, which is found in national projects as well. The minimum need for project interoperability is a common dictionary. This is why the DATEX Task since its creation in the ATT programme released several versions of the Traffic/Travel Data Dictionary which have been provided to the CEN WG8 as working documents and became the basis of ENV 13106-1:1998

In December 1996, DATEX had prepared both versions 3.0 of the dictionary and the first version, numbered 1.1, of the Specifications for Interoperability. This package was then submitted CEN/TC 278 which in turn sent it in 1997 to stage 32 for TC comments.

The resulting comments have been processed by the last DATEX effort, funded by the EC, which has produced this dictionary version 3.1 proposed as a draft European Prestandard to CEN/TC 278/WG 8 as well as version 1.2 of the Specifications for Interoperability.

This dictionary has a dual aim:

1. it serves general purposes, by enabling a normative common understanding of data and information and proposing informative pre-defined codes, units and formats for system design,
2. it is to be used as a companion book of the DATEX-Net Specifications for Interoperability also proposed for standardisation in data/information exchange.

For this reason this European Prestandard contains common normative elements and specific informative parts.

3. Scope (normative)

This standard defines terms used for data and information in the fields of traffic and travel. The standard is applicable to traffic and transport engineering in general, and particularly data and information exchange.

This ENV supersedes ENV 13106-1:1998.

The normative terminology is provided in tables 1 to 3. Table 1 provides general definitions; it is normative. Table 2 lists the entities and their instances; it is normative. Table 3 lists the attributes with their definitions, values, units, data type, field width and default format. The columns of table 3 have various statuses which are defined in 5.3.

Table 4 provides a list of units, partially based on Edifact, given as informative.

Tables 5 and 6 list the instances of the attributes phrase, cause and supplementary advice, a majority of which are Alert C and copied from ENV 12313-2. Only the names and definitions are normative.

Clause 7 gives normative information on vehicles classes and classification. These vehicle classes and classifications need not be used in electronic tolling and automatic fee collection systems, during the time that a European classification standard for such systems is being determined.

Clause 8 defines the relationship between data objects and attributes, for information only.

To help understanding and using the dictionary a User Guide is provided in Clause 9. Its content, including the simplified data model for the data object approach, is informative.

This document is comprehensive, but it is recognised that extra requirements for dictionary entries will exist. In this case, new codes can be used. However, in order to keep the standard up-to-date, and to avoid inappropriate usage, it is requested that all additional codes are reported to the CEN TC278 secretariat and not used before registration. All such additions will then be included in the formal maintenance of the standard.

4. Normative references

This European Prestandard incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and publications are listed below. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Prestandard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

ENV 12313-2:1997	Traffic and traveller Information (TTI) - TTI Messages via traffic message coding - Part 2: Event and information codes for Radio Data System - Traffic Message Channel (TMC)
EN ISO 3166-1	Codes for the representation of names of countries and their subdivisions - Part 1: Country codes (ISO 3166-1:1997)

5. Presentation of the dictionary items

5.1 General definitions

Table 1 provides a general terminology used in the data dictionary

Table 1 - Glossary of general definitions (normative)

Coded name	Full name	Definition
ATT	Attribute ; data item	Elementary information that may characterise entities or messages. Examples: a message number may be used as an attribute of a message; a vehicle class may be used as an attribute of an entity "vehicle". A synonym commonly used is data item
RED	Data record	A representation of a message exchanged or stored in a database.
ENT	Entity	Any type of "thing" in the real world (abstract or concrete) about which information is maintained. An entity is characterised by attributes
EVE	Event	A disturbance to the normal traffic/travel equilibrium state (e.g., an incident, road closure, accident, etc).
SEL	Situation element	A traffic/travel circumstance related to one data object and one location.
STT	Status	A characterisation of the traffic/travel situation whether normal or abnormal (e.g., flows, travel times, speeds, weather, level of service).
TEQ	Traffic equipment	Any equipment used to measure traffic or influence it, or to be used by end users: e.g. variable message signs, traffic signals, emergency call boxes, measurement outstation, etc.
TOP	Traffic operator	An organisation responsible for the operation of a stretch or network of roads.
TME	Traffic/travel message	Traffic/travel information being exchanged between two systems, characterising the traffic/travel situation, or giving other relevant (e.g.. supporting) information.
TTS	Traffic/travel situation	A set of traffic/travel circumstances linked by a causal relationship which apply to a common set of locations. A situation can be composed of situation elements.
VER	Version	A snapshot of the situation at a point in time. It is characterised by a set of attributes, which collectively give details of the traffic/travel situation.

5.2 Entities

The basic entity is the **data object**, on which data (attributes) are collected. Some logical grouping of these objects in categories was felt necessary which led to the so-called **object sets**, e.g. traffic conditions.

Table 2 - List of the entities and their instances (normative)

Coded name	Full name	Definition
		Entities
DOB	Data object	A logically related set of traffic/travel situations (e.g. "level of service" within the object set "traffic conditions").
OBS	Object set	A logically related set of data objects (e.g. "traffic conditions")
UPC	Update class	A group of mutually exclusive phrases, used in Alert C applications for transmitter and receiver management
		Instances of the entity Object Set
AMB	Ambient conditions	This object set describes potential interactions between travellers and the environment, including possible effects of the environment on travel, and the effects of travel on the environment. Examples include precipitation, weather data, and pollution.
RCO	Road conditions	This object set includes information related to the road availability and ease of use: obstruction and skid hazards, roadworks, etc
TRD	Traffic data	This object set comprises data objects, which describe the fundamental characteristics of traffic, measured in quantitative terms. Examples include traffic flow, speed, occupancy, etc.
TRR	Traffic management	This object set includes all forms of traffic management intervention by operators and authorities. Examples range from action plans and operator intervention through to snow clearing equipment and traffic orders.

Coded name	Full name	Definition
TTC	Traffic/travel conditions	This object set consists of data objects and description categories, which describe situations arising from the traffic stream itself, described in primarily qualitative terms. Examples include level of service, accidents, delays, etc.
		Instances of the entity Data Object
ACC	Accident	Situations in which one or more vehicles lose control and do not recover. They include collisions between vehicle(s) or other road user(s), between vehicle(s) and obstacle(s), or they result from a vehicle running off the road.
APL	Action plans	Action plans are pre-planned regulations or schemes, which are prepared and implemented by the authorities or by a traffic operator. Action plans are triggered either on a periodic basis (e.g. yearly, weekly) or according to operational criteria.
ACT	Activities	Deliberate human actions external to the traffic stream or roadway which could disrupt traffic.
AVS	Average speed	Is the average of individual vehicle speeds. The different ways of computing this average are defined in the attribute COM, computation method. The average speed may be a single value or an n-dimensional matrix; a one-dimensional matrix is often used for speeds per vehicle class.
PAR	Car parks	The availability of spaces and of park and ride services.
CTT	Concentration	Is the total number of vehicles present on a specified section of road at a particular time, divided by the length of the section. It may be a single value or an n-dimensional matrix.
DEC	Delays/Cancellations	Disruptions to traffic or public transport services resulting in hold-ups, lateness or unavailability of service.
EXH	Exhaust pollution	Air pollution due to exhaust fumes.
FER	Ferries/Trains	The availability of ferry and train services and information relating to departures.
FLO	Flow	Is the number of vehicles, axles, axle-pairs or pcu (passenger car units) which pass a fixed point in a specified measurement period. It may be a single value or an n-dimensional matrix; a one-dimensional matrix is often used for flows per vehicle class.
FOS	Fog/smoke/ dust	Environmental or weather conditions (other than precipitation) which prevent drivers from seeing clearly.
INC	Incident	Abnormal traffic situation adversely affecting the normal traffic flow.
INF	Service information	This item gives information about the availability of the information service and about items presented over the audio channel.
IVD	Individual vehicle data	The attributes of a single vehicle including its intrinsic features and its specific traffic parameters.
LOS	Level of service	A qualitative measure describing traffic flowing conditions and their perception by motorists and passengers.
MHZ	Moving hazards	Chance occurrences due to abnormal loads or dangerous vehicles, which could disrupt or endanger traffic.
OHZ	Obstruction Hazards	Motionless chance occurrences involving earlier causes (e.g. earlier accidents) or causes external to the traffic stream (e.g. physical obstacles other than vehicles), which could disrupt or endanger traffic.
OCC	Occupancy	The proportion of time that a vehicle presence sensor is activated within a measurement period. It may be a single value or an n-dimensional matrix.
OPA	Operator Actions	The actions that a traffic operator can decide or implement to prevent or help correct dangerous or poor driving conditions.
ODM	Origin-destination matrix	Flows of vehicles or passengers according to their origin and destination
PRE	Precipitation	Precipitation is rainfall, snowfall, sleet or hail and includes both qualitative and quantitative measurements per unit time.
ROU	Rerouting	An action which involves diverting traffic, whether mandatory or advisory.
RMT	Road maintenance ; road works	Highway maintenance activities that may potentially affect traffic operations.
SHZ	Skid hazards	Situations in which the normal risks of skidding are increased, other than those resulting from snow on the road.
SNO	Snow on the road (s)	Presence of snow on the road, which may cause skid or obstruction hazards, or both.
SNE	Snow/Ice Equipment	The requirements for special equipment to improve vehicle adhesion on snow or ice.
EQU	Traffic Equipment Status	The situation of the traffic equipment: operating status, position or information displayed.

Coded name	Full name	Definition
RES	Traffic Restrictions	Restrictions on road usage, whether by legal order or by operational decisions. It includes road and lane closures, weight and dimensional limits, banned turns, contraflows and alternate traffic operations.
SIG	Traffic Signal Plans	Signal plan settings.
TTM	Travel time	The time taken to travel between 2 specified points, by a specified route, including any time taken by involuntary stops and delays. It may be a single value or a n-dimensional matrix.
WDA	Weather data	Meteorological data: e.g. temperatures, pressure and humidity.
WIN	Wind	Wind conditions on the roads.

5.3 Attributes

Attributes give information on data objects and on message and information management. A classification in data and management is defined in the column " class ", to ease the use of the table. More information is provided on the attribute classification and their relationship with data object in clause 7. The class codes are:

D: traffic/travel data

MD: meta-data

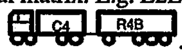
M: system/message management

The columns of table 3 have various statuses:

- the full name and definition are normative,
- the coded name is normative to identify the items and to cross-reference translations. It shall be used for Edifact-based data exchange. When another exchange format is preferred, it need not be used,
- the attribute class is informative
- the attribute values are normative,
- the attribute units and unit codes, data type, field width and default format are informative, as recommendation.

Table 3 - List of attributes

General information						DATEX-Net specific	
Coded name	**Full name**	**Definition**	**Class**	**Values**	**unit(s) codes**	**Data type/field width**	**Default format**
AAD	Chemical name	This is a free text facility to add the chemical name of a hazardous substance associated with a traffic/travel situation.	D	Free text		an.. 350	
ACU	Accuracy	The extent to which data may be subject to error. It can be indicated by the relative value, or an absolute value	MD		%: PER	n..3	NNN
AFV	Axle flow numerical value	A specific numerical value of the axle flow.	D		axles in the measurement period: AXL; axles/hour: AXH (d); axles/day: AXD	n..15	
ALG	above stated altitude	An altitude above which an event is expected or is occurring, normally weather related.	D		m: MTR	n..6	NNNNN N
AMH	AM frequency	This indicates the AM radio frequency being used to report a traffic/travel situation.	D		kHz: KHZ	n..4	NNNN
API	Action plan identifier	The code or identifier of an action plan.	D	Text		an..35	
APR	Atmospheric pressure at sea level	The force per unit area exerted by the atmosphere, measured at ground level and converted to an equivalent sea level pressure.	D		hPa: HPA	n..6	NNNNN N
ARI	Area of interest	The extent to which an item of information should be distributed.	MD	1: continent-wide 2: neighbouring countries 3: national 4: regional 5: not specified		n1	N
ARR	ALERT C area reference	ALERT C location code of an Area referred to by an other ALERT C location code. RDS-TMC uses a hierarchical structure of pre-defined locations Note: a system of pointers provides upward references to higher-level locations containing the specified locations	DL			n..5	NNNNN
ATE	Air temperature	The air temperature measured in the shade between 1,5 and 2 metres above ground level.	D		°C: CEL	n..3	NNN
ATS	Arrival time	The time of the arrival of an individual vehicle on a detection zone.	D		Local or universal time: UTC (d) local time: LTI	an..35	CCYYM MDDH HMMZ ZZ

General information						DATEX-Net specific	
Coded name	Full name	Definition	Class	Values	unit(s) codes	Data type/field width	Default format
AVV	Average speed numerical value	A specific numerical value of the average speed.	D		km/h: KMH(d); m/s: MTS	n..6	NNNNN N
AXC	Axle class	The type which the axles of an individual vehicle belong to. Note: This a one-dimensional matrix. E.g. E2E2E1E3 corresponds to the following axle structure:  . This reference section of the dictionary provides for the classification method in which this example is coded KZ29.	D	1 single axle 2 dual axle 3 triple axle		n1	N
AXN	Axle number	The total number of axles of an individual vehicle.	D			n..3	NNN
AXs	Axle spacing	The spacing of the s[th] interval between the axles of an individual vehicle from front to back of this vehicle.	D		m: MTR	n..15	NNNNN N
AXw	Axle weight	The weight of the w[th] axle of an individual vehicle from front to back of this vehicle.	D		t: TNE	n..15	NNNNN N
BRO	Broadcast	Indication as to whether the data may be re-sent by the recipient.	MD	Y: yes; N: no		a1	A
BSA	below stated altitude	An altitude at or below which an event is expected or is occurring, normally weather related.	D		m: MTR	n..6	NNNNN N
CAN	Cancel	Indication that all the element information previously sent is not considered valid, due to an incorrect content.	MD	Y: Yes; N: No		a1	A
CAT	Catalogue reference	Identification of a supplier data catalogue in a data exchange context	M				
CAV	number of caravans	The number of caravans involved.	D			n..3	NNN
CFI	Confidentiality	The extent to which the information may be circulated, according to the recipient type.	MD	1: Internal use; 2: Restricted to Authorities; 3: Restricted to Authorities and traffic operators; 4: Restricted to Authorities, traffic operators and publishers; 5: No restriction		n1	N
CH4	Methane concentration	The hourly average concentration of methane	D		parts per million : PPM	n..6	NNNNN N
CLA	Vehicle classification	The classes into which other attributes are classified. A class can be defined by a single value, or a range of values. For example, where traffic is classified by vehicle classes, the classification attribute refers to a list of classes which could be "cars, heavy vehicles, others". Where traffic is classified by speed, the classification attribute could refer to a list such as 0-20 km/h, 20-40 km/h, etc	D	Re section on Classification of vehicles Note: when .all vehicles are grouped together in a single class, this attribute is void		an..3	

General information						DATEX-Net specific	
Coded name	**Full name**	**Definition**	**Class**	**Values**	**unit(s) codes**	**Data type/field width**	**Default format**
CLI	Client identification	In a data exchange process, the organisation which receives information from another called " supplier ".	M	In DATEX-Net the code is the 2-alpha code as given in EN ISO 3166-1 followed by the user id in the country. Example: GBAAR		an..5	
CLR	Catalogue line reference	Identification of a line of a supplier data catalogue in a data exchange context	M				
CLV	Code list version number	Identification of the version of the list of codes used in an application	M			n..3	NNN
CMC	Carbon monoxide concentration	The concentration of CO in the air, i.e. the volume of CO contained in unit volume of air, usually measured in parts per million.	D		parts per million : PPM	n..6	NNNNN N
CNT	Confirmation time	The date/time at which the information containing in the element was last verified, e.g. by a direct observation or new information associated with the element has been confirmed.	D		universal time: UTC (d) local time: LTI	an..35	CCYYM MDDH HMMZ ZZ
COM	Computation method	Method of computation which has been used to compute data	MD	1: arithmetic average of measures in a time period; 2: harmonic average of measures in a time period; 3: moving average of measures; 4: arithmetic average of measures based on a fixed number of measurements		n1	N
COS	Cost for the duration indicated	This indicates a cost (normally for parking) for the associated time period.	D	In DATEX-Net the currency code used is the ISO 4217 3-alpha code	Currency unit: CUR	n..18	NNNN. NN
CTV	Concentration numerical value	A specific numerical value of the concentration.	D		vehicles/km: VPK	n..6	NNNNN N
CYR	Capacity remaining	The ratio of the current capacity to the normal road capacity, as a percentage. The capacity is the maximum number of vehicles that can pass a specified point on the road, in unit time.	D		%: PER	n..3	NNN
DAD	Diversion advice	A binary attribute (Y/N) indicating whether travellers are recommended to find and follow an alternative route around a traffic/travel situation.	D	Y: yes; N: no		a1	A
DAR	Detection array	The area of detection is made up of one or more associated sensors. There may be several detection arrays for the same traffic lane.	MD	The arrays are numbered as odd or even according to the direction of traffic		n..35	

General information						DATEX-Net specific	
Coded name	Full name	Definition	Class	Values	unit(s) codes	Data type/field width	Default format
DBK	Delivery break	Indicates that a data delivery is stopped for unplanned reasons, i.e. excluding the end of the order validity (attribute FIL) or the case when the filter expression is not met (attribute OOR).	M	Y: yes; N: no		a1	A
DDV	Data dictionary version	The version of the data dictionary currently used in the application	M			an..6	
DEA	Number of deaths	The number of persons fatally injured in an accident.	D			n..4	NNNN
DEN	Entering delay	This is the delay time expected to enter a parking area.	D		h m: HOM	an..4	HHMM
DGF	Dangerous goods flash-point	This is temperature at which the vapour from a hazardous substance will ignite in air.	D		°C: CEL	an..3	NNN
DGR	Data group	A series of traffic data items corresponding to a sequence in time: e.g. 24 hourly flow for a given day, or 12 average speeds in a given hour. This attribute aims at grouping data for transmission effectiveness	MD	to be defined		an..35	
DIH	Distance headway	The distance between the front (respectively back) of this vehicle and the front (respectively back) of the preceding vehicle.	D		m: MTR	n..6	NNNNN N
DIN	Delivery interval	Value of the interval of data delivery in the delivery mode "periodic"	M		d h m: DHM	an..35	NNNNN NDDHH MM
DIR	Direction bearing	The direction of traffic flow concerned by a situation or traffic data given as a bearing.	D		DEG	n..3	NNN
DIS	Message display	The message displayed by a variable message sign.	D	Free text		an..350	
DLC	Coded delay time	The coded additional travel time due to adverse travel conditions of any kind, when compared to "normal conditions".	D	3 hours <1< 6 h; 1 h <2< 3 h; 30 min <3< 1 h; 4: < 30 minutes; 5: negligible		n1	N
DLE	Leaving delay	This is the delay time expected to leave a parking area.	D		h m: HOM	an..4	HHMM
DLT	Delay time value	The value of the additional travel time due to adverse travel conditions of any kind, when compared to "normal conditions".	D	Days: 0-99 Hours: 0-23 Minutes: 0-59	d h m: DHM; h m: HOM (d)	an..35	HHMM
DMD	Delivery mode	The way in time the data are or will be delivered by the supplier to a client. The three ways are: on occurrence: the information is delivered as soon as it is available periodic: the information is delivered at specified intervals one shot: the information is delivered once	M	O: on occurrence P: periodic S: one shot		a1	A

General information						DATEX-Net specific	
Coded name	**Full name**	**Definition**	**Class**	**Values**	**unit(s) codes**	**Data type/field width**	**Default format**
DOW	Day of week	The day of the week at which the associated event will occur	D	1: Monday 2: Tuesday 3: Wednesday 4: Thursday 5: Friday 6: Saturday 7: Sunday		n1	N
DPH	Depth	The depth of flooding or of snow on the road.	D		mm: MMT(d); cm: CMT	n..3	NNN
DPL	ALERT C distance from primary location	When using ALERT C location referencing: distance to the primary location of a situation	D	Positive Integer	m : MTR	n..6	
DRC	Compass point direction	The direction of traffic flow concerned by a situation or traffic data given in compass point form.	D	The following codes for a 4, 8 or 16 position compass card: N: north NNE: north north east NE: north east ENE: east north east E: east ESE: east south east SE: south east SSE: south south east S: south SSW: south south west SW: south west WSW: west south west W: west WNW: west north west NW: north west NNW: north north west		a..3	AAA