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AMENDMENT 1
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**Electronic fee collection — Application
interface definition for dedicated
short-range communication**

AMENDMENT 1

*Perception du télépéage — Définition de l'interface d'application
relative aux communications dédiées à courte portée*

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AMENDEMENT 1

ISO 14906:2011/Amd 1:2015

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The committee responsible for this document is ISO/TC 204, *Intelligent transport systems*.

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Electronic fee collection — Application interface definition for dedicated short-range communication

AMENDMENT 1

1 Amendment to Clause 3.2, action

Page 2, Clause 3.2, delete the clause.

2 Amendment to Clause 3.11, element

Page 3, Clause 3.11, replace:

element

with

Element

3 Amendment to Clause 6.2.3, ContextVersion

Page 14, Clause 6.2.3, replace:

EFC-ContextMark:: = SEQUENCE{

ContractProvider

Provider,

TypeOfContract

OCTET STRING (SIZE(2)),

ContextVersion

INTEGER(0..127,..)

}

with

EFC-ContextMark:: = SEQUENCE{

ContractProvider

Provider,

TypeOfContract

OCTET STRING (SIZE(2)),

ContextVersion

INTEGER(0..127,..)

}

The extensibility of the ContextVersion should not be used. ContextVersion is coded as a single octet.

4 Amendment to Clause 8.1, General

Page 35, Clause 8.1, replace:

Table 36 — EFC Attributes

AttributeID	Attribute	Length in Octet	Data Group
0	EFC-ContextMark	6	Contract
1	ContractSerialNumber	4	
2	ContractValidity	6	

Table 36 (continued)

AttributeID	Attribute	Length in Octet	Data Group
35	ValidityOfContract	4	Receipt
3	ContractVehicle	Variable	
4	ContractAuthenticator	Variable	
5	ReceiptServicePart	13	
6	SessionClass	2	
7	ReceiptServiceSerialNumber	3	
36	ReceiptFinancialPart	23	
9	ReceiptContract	9	
10	ReceiptOBUId	Variable	
11	ReceiptICC-Id	Variable	
12	ReceiptText	Variable	
13	ReceiptAuthenticator	Variable	
14	ReceiptDistance	3	
33	ReceiptData1	28	
34	ReceiptData2	28	
15	VehicleIdentificationNumber	Variable	Vehicle
16	VehicleLicencePlateNumber	Variable	
17	VehicleClass	1	
18	VehicleDimensions	3	
19	VehicleAxles	2	
20	VehicleWeightLimits	6	
21	VehicleWeightLaden	2	
22	VehicleSpecificCharacteristics	4	
23	VehicleAuthenticator	Variable	
37	AxleWeightLimits	10	
38	PassengerCapacity	2	
39	Engine	4	
40	SoundLevel	2	
41	ExhaustEmissionValues	8	
42	DieselEmissionValues	4	
43	CO2EmissionValue	2	
44	VehicleTotalDistance	4	
45	TrailerLicencePlateNumber	Variable	
46	TrailerCharacteristics	5	
24	EquipmentOBUId	Variable	Equipment
25	EquipmentICC-Id	Variable	
26	EquipmentStatus	2	
27	DriverCharacteristics	2	Driver
47	ActualNumberOfPassengers	1	

Table 36 (continued)

AttributeID	Attribute	Length in Octet	Data Group
32	PaymentMeans	14	Payment
29	PaymentMeansBalance	3	
30	PaymentMeansUnit	2	
31	PaymentSecurityData	Variable	
48-53	ReservedForCCC		
54	ReservedForLAC		
55-86	ReservedForFutureCENuse		
87-127	ReservedForPrivateUse		

with

Table 36 — EFC Attributes

AttributeID	Attribute	Length in Octet	Data Group	
0	EFC-ContextMark	6	Contract	
1	ContractSerialNumber	4		
2	ContractValidity	6		
35	ValidityOfContract	4		
3	ContractVehicle	Variable	Receipt	
4	ContractAuthenticator	Variable		
5	ReceiptServicePart	13		
6	SessionClass	2		
7	ReceiptServiceSerialNumber	3		
36	ReceiptFinancialPart	23		
9	ReceiptContract	9		
10	ReceiptOBUId	Variable		
11	ReceiptICC-Id	Variable		
12	ReceiptText	Variable		
13	ReceiptAuthenticator	Variable		
14	ReceiptDistance	3		
33	ReceiptData1	28		
34	ReceiptData2	28		
15	VehicleIdentificationNumber	Variable		Vehicle
16	VehicleLicencePlateNumber	Variable		
17	VehicleClass	1		
18	VehicleDimensions	3		
19	VehicleAxles	2		
20	VehicleWeightLimits	6		
21	VehicleWeightLaden	2		
22	VehicleSpecificCharacteristics	4		
23	VehicleAuthenticator	Variable		
37	AxleWeightLimits	10		

Table 36 (continued)

AttributeID	Attribute	Length in Octet	Data Group	
38	PassengerCapacity	2		
39	Engine	4		
40	SoundLevel	2		
41	ExhaustEmissionValues	8		
42	DieselEmissionValues	4		
43	CO2EmissionValue	2		
44	VehicleTotalDistance	4		
45	TrailerLicencePlateNumber	Variable		
46	TrailerCharacteristics	5		
55	VehicleCurrentMaxTrainWeight	2		
24	EquipmentOBUId	Variable		Equipment
25	EquipmentICC-Id	Variable		
26	EquipmentStatus	2		
27	DriverCharacteristics	2	Driver	
47	ActualNumberOfPassengers	1		
32	PaymentMeans	14	Payment	
29	PaymentMeansBalance	3		
30	PaymentMeansUnit	2		
31	PaymentSecurityData	Variable		
48-53	ReservedForCCC			
54	ReservedForLAG			
56-86	ReservedForFutureCENuse			
87-127	ReservedForPrivateUse			

5 Amendment to Table 39 — Data group Vehicle

Page 44, Table 39, replace Table 39 with the following:

Table 39 — Data group Vehicle

EFC Attribute	Data element	Definition	Type	Length in octet	Value Range	Informative remarks																	
VehicleLicence PlateNumber	VehicleLicence PlateNumber	Claimed licence plate of the vehicle	LPN	Variable																			
VehicleIdentificationNumber	VehicleIdentificationNumber	Identification number of vehicle according ISO 3779	CS5	Variable		Imported from ISO 14816																	
VehicleClass	VehicleClass	Service provider specific information pertaining to the vehicle.	INT1	1																			
VehicleDimensions	VehicleLengthOverall	Nominal maximum overall length of the vehicle according to ISO 612, in dm, rounded to the next dm.	INT1	1																			
	VehicleHeightOverall	Nominal overall unladen height, according to ISO 612, in dm, rounded to the next dm.	INT1	1																			
	VehicleWidthOverall	Nominal overall width, according to ISO 612, in dm, rounded to the next dm	INT1	1																			
	VehicleFirstAxleHeight	Bonnet height, measured over the front axle, in dm, rounded to the next dm.	INT1	1																			
VehicleAxles	VehicleAxlesNumber	Tyre type and number of axles, including drop axles.	VehicleAxles	1		2 bits for dual tyre. 6 bits are used for the definition of number of axles: 3 bits to encode the number of all axles of the tractor and 3 to encode the number of all axles of the trailer.																	
						<table border="1"> <tr> <td>Bit 5</td> <td>Bit 4</td> <td>Bit 3</td> <td>Bit 2</td> <td>Bit 1</td> <td>Bit 0 (LSB)</td> </tr> <tr> <td colspan="3">Nr of axles of Trailer</td> <td colspan="3">Nr of axles of Tractor</td> </tr> <tr> <td colspan="3">0 to 7</td> <td colspan="3">0 to 7</td> </tr> </table> <p>See Note 2.</p>	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0 (LSB)	Nr of axles of Trailer			Nr of axles of Tractor			0 to 7			0 to 7	
Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0 (LSB)																		
Nr of axles of Trailer			Nr of axles of Tractor																				
0 to 7			0 to 7																				
VehicleWeight Limits	VehicleMaxLadenWeight	Maximum permissible total weight including payload, according to ISO 1176. 10 kg units, rounded down to the next 10kg step.	INT2	2																			

Table 39 (continued)

EFC Attribute	Data element	Definition	Type	Length in octet	Value Range	Informative remarks
	VehicleTrainMaximumWeight	Maximum permissible weight of the complete vehicle train, as defined in ISO 1176. 10 kg units, rounded down to the next 10kg step.	INT2	2		ISO 1176 Code ISO-M18 maximum design mass of vehicle combination
	VehicleWeightUnladen	Nominal unladen weight, according to ISO 1176 in 10 kg units, rounded down to the next 10 kg step.	INT2	2		
VehicleWeightLaden	VehicleWeightLaden	Actual weight of vehicle including load in 10kg units, rounded down to the next 10 kg step.	INT2	2		
VehicleCurrentMaxTrainWeight	VehicleCurrentMaxTrainWeight	Maximum permissible weight of the complete vehicle train that is currently in operation, which shall be as defined in ISO 1176-10kg units, rounded down to the next 10kg step.	INT2	2		This weight may be lower than VehicleTrainMaximumWeight as it represents the current maximum train weight and not the maximum design mass.
AxleWeightLimits	MaxLadenWeightOnAxle1	Technically permissible maximum laden weight on axle 1 of the vehicle, 10 kg units rounded down to the next 10 kg step.	INT2	2		
	MaxLadenWeightOnAxle2	Technically permissible maximum laden weight on axle 2 of the vehicle, 10 kg units rounded down to the next 10 kg step.	INT2	2		
	MaxLadenWeightOnAxle3	Technically permissible maximum laden weight on axle 3 of the vehicle, 10 kg units rounded down to the next 10 kg step.	INT2	2		
	MaxLadenWeightOnAxle4	Technically permissible maximum laden weight on axle 4 of the vehicle, 10 kg units rounded down to the next 10 kg step.	INT2	2		
	MaxLadenWeightOnAxle5	Technically permissible maximum laden weight on axle 5 of the vehicle, 10 kg units, rounded down to the next 10 kg step.	INT2	2		
PassengerCapacity	NumberOfSeats	Number of seats of the vehicle, including the driver's seat.	INT1	1	0...255	

Table 39 (continued)

EFC Attribute	Data element	Definition	Type	Length in octet	Value Range	Informative remarks
	Number of Standing Places	Number of standing places of the vehicle	INT1	1	0...255	
Vehicle Specific Characteristics	Vehicle Specific Characteristics	Further vehicle characteristics. Each enumerated value has a specific meaning assigned. The meaning of some values are defined in this standard, others are reserved for future needs.	Vehicle Specific Characteristics	4		Assignment of meaning to the unassigned enumerated values is subject to registration according to the registration procedure specified in EN 12834 / ISO 15628.
Engine	Engine Capacity	Capacity of the vehicle's engine in cm ³	INT2	2		
	Engine Power	Maximum net power of the vehicle's engine in KW	INT2	2		
Sound Level	Sound Stationary	Stationary Sound of the vehicle, according to vehicle registration documents in dB(A)	INT1	1	0...255	
	Sound Drive By	Sound of the vehicle when driving, according to vehicle registration documents in dB(A)	INT1	1	0...255	
Exhaust Emission Values	Emission CO	Exhaust emission of CO, according to vehicle registration documents, in 10 ⁻³ g/km or g/kWh.	INTE-GER(0...32766)			If the emissions are measured directly on the engine test bed the value is declared in g/kWh
	Emission HC	Exhaust emission of HC, according to vehicle registration documents, in 10 ⁻³ g/km or g/kWh.	INT2	2	0...65535	If the emissions are measured directly on the engine test bed the value is declared in g/kWh
	Emission NOX	Exhaust emission of NOX, according to vehicle registration documents, in 10 ⁻³ g/km or g/kWh.	INT2	2	0...65535	If the emissions are measured directly on the engine test bed the value is declared in g/kWh
	Emission HCNOX	Exhaust emission of HCNOX, according to vehicle registration documents, in 10 ⁻³ g/km or g/kWh.	INT2	2	0...65535	If the emissions are measured directly on the engine test bed the value is declared in g/kWh
Diesel Emission Values	Particulate	Particulates for diesel, according to vehicle registration documents, in 10 ⁻³ g/km or g/kWh.	INTE-GER(0...32766)	2		If the emissions are measured directly on the engine test bed the value is declared in g/kWh
	Absorption Coeff	Corrected absorption coefficient for diesel, according to vehicle registration documents, in 10 ⁻³ m ⁻¹ .	INT2	2	0...65535	

Table 39 (continued)

<i>EFC Attribute</i>	<i>Data element</i>	<i>Definition</i>	<i>Type</i>	<i>Length in octet</i>	<i>Value Range</i>	<i>Informative remarks</i>
CO2EmissionValue	CO2EmissionValue	Vehicle's CO ₂ emission value according to vehicle registration documents, in g/km.	INT2	2	0...65535	
VehicleTotalDistance	VehicleTotalDistance	Total distance as measured by the vehicle, in 10 m resolution, continuously incremented.	INT4	4	0...4294967294	The initial value of this attribute may be either the value zero or the vehicle's kilometre reading at the moment of personalisation of the OBU
TrailerLicencePlateNumber	TrailerLicencePlateNumber	Claimed licence plate of the trailer	LPN	Variable		
TrailerCharacteristics	TrailerDetails	Indication provided on trailer presence, type and number of axles.	TrailerDetails	1		5 bits are used for the trailer presence and type. 3 bits are used for the number of axles. If only one trailer is present, the presence and the number of axles of this single trailer is available in VehicleAxles and may not be included in this attribute.
	TrailerMaxLadenWeight	Maximum permissible total weight of the trailer including payload, according to ISO 1176-10 kg units, rounded down to the next 10 kg step.	INT2	2		
	TrailerWeightUnladen	Nominal unladen weight of the trailer, according to ISO 1176 in 10 kg units, rounded down to the next 10 kg step.	INT2	2		
VehicleAuthenticator	VehicleAuthenticator	Authenticator calculated by the entity entering the data elements at time of entry or modification.	OCTET STRING	Variable		

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