

Message handbook for UIC Railway Energy Metered Data for Billing

Implementation guide for UTILITY TIME SERIES MESSAGE

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1 INTRODUCTION

This document is an Implementation Guide (IG) for the Utility time series message, to be used for Railway Energy Billing. The IG describes the EDIFACT-message UTILTS (Utility time series message) in detail.

This IG is based on the "Message handbook for ebIX", which contains a set of IG's for different messages used in the energy industry and ebIX common rules and recommendations. The ebIX common rules and recommendations contains common descriptions for the different Implementation Guides. This includes relationships between the different message types, use of codes and code lists, special conditions within and between countries (such as use of time zones), terms and notation, use of header and trailer segments (UNB and UNZ), etc.

The objective of this document is to achieve harmonisation within the European railway and energy industry.

Process descriptions are available in separate modelling document.

2 GENERAL DESCRIPTION OF THE UTILTS MESSAGE

2.1 Functional Definition

The Utilities time series message is sent between data responsible parties in a utilities infrastructure for the purpose of reporting time series and connected technical and/or administrative information.

2.2 Principles

The Utilities time series message may contain time series for metered values, forecasts, estimates, prices, etc. Connected to each time series there may be technical and administrative information, such as characteristics of a meter, exchange rates, etc. Each time series will be identified by the companies and/or locations that are reported, the product and the validity time period. The message may be an initial message and does not require a response.

3 REFERENCES

This Implementation guide is based on the following documents.

- [1] UN/EDIFACT directory, D.05A, <http://www.unece.org/trade/untdid/>
- [2] ebIX common rules and recommendations, <http://www.ebix.org/>
- [3] ISO 9735, version 2, 1990.11.01, <http://www.unece.org/trade/untdid/>
- [4] ebIX model for metered data, www.ebix.org
- [5] ebIX Code list, www.ebix.org
- [6] ebIX Core component registry, www.ebix.org
- [7] UIC Leaflet XXX for Exchange of data in connection with cross-border railway energy settlement

3.1 Precedence

If there should be any conflict regarding this Implementation guide or between this Implementation guide and other documents, the following precedence shall be used:

- 1 UN/EDIFACT directory, D.05A [1]
- 2 ebIX common rules and recommendations [2]
- 3 UIC Leaflet XXX for Exchange of data in connection with cross-border railway energy settlement **Erreur ! Source du renvoi introuvable.**
- 4 This Implementation guide.

In this Implementation guide the EDIFACT message type is described in different ways. If there should be any conflict regarding the different descriptions, the detailed description in the last chapter should be used.

4 QUALITY ASSURANCE

This document is written by EdiSys AS on behalf of the UIC Railway Energy Billing project.

4.1 Version number

The Implementation Guide will have 2 levels of version numbering. This will be Version and Release. In addition there will be a Revision number.

- The Version number (first number) will be updated when there have been major changes like new versions of the message type.
- The Release number will be updated when there have been small changes to the IG, like adding new segments, new data elements etc. within the EDIFACT directory. These changes shall not influence existing implementations.
- The Revision number will be updated when there have been minor changes, like correction of examples, adding new codes etc. These changes shall not influence existing implementations.

4.2 Change log

In addition to minor text corrections the following changes has been made to this version of the IG:

Ver.	Rel.	Rev.	Date	Changes
D05A	0.1	A	6.03.2007	First draft
D05A	1.0	A	05.12.2007	First approved version.

5 SPECIAL CONDITIONS

This MIG has been developed for use in exchange of data in connection with cross-border railway energy settlement.

Codes specific for the Railway energy sector is prefixed by an “R”, i.e. “R01 – Location Quality”. These codes should be sent to UN/CEFACT for registration when the project is completed.

6 OVERVIEW OF THE MESSAGE

6.1 Class diagram for E30 Collected data from Metered Data Collector with Balise

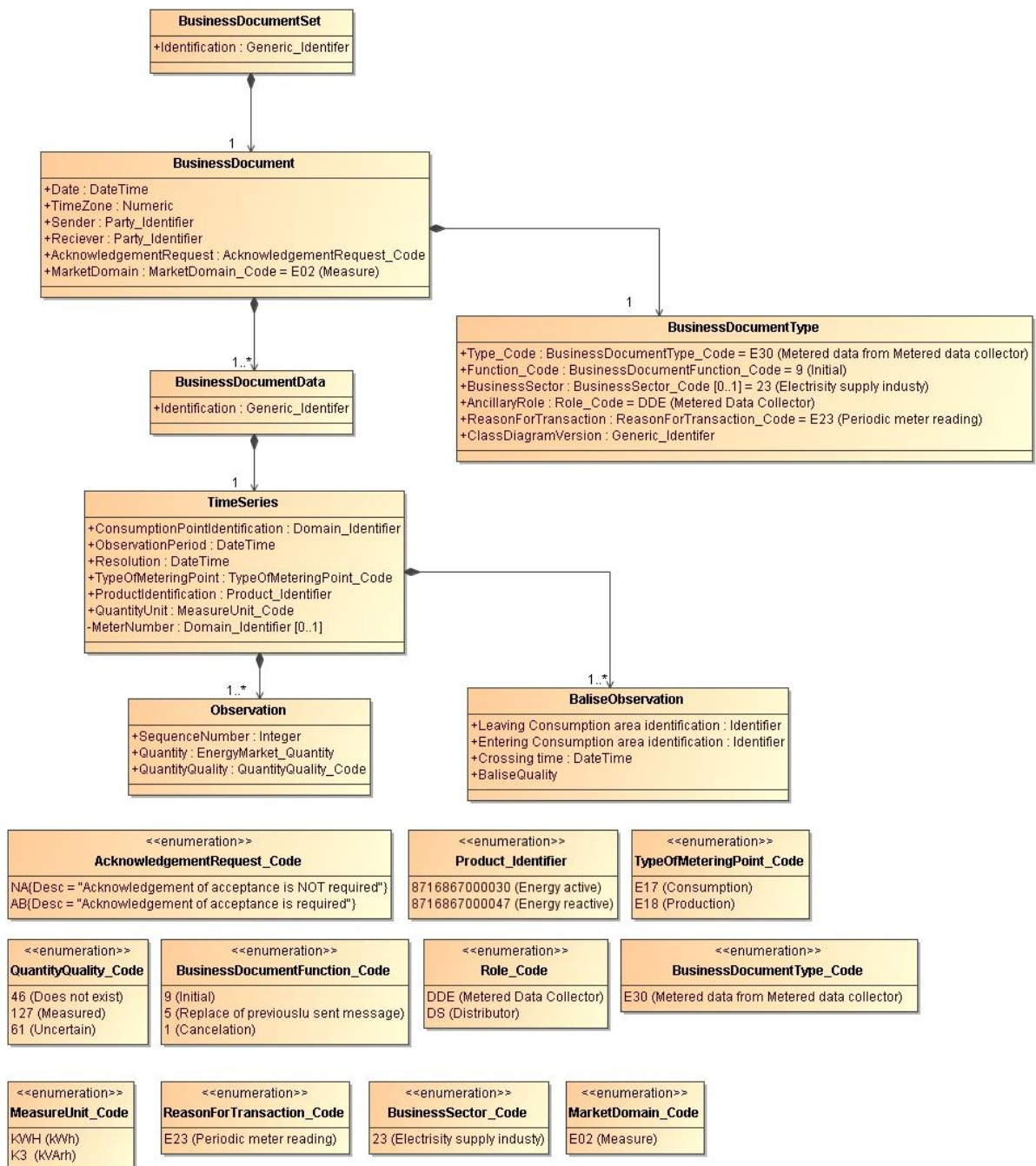


Figure 1 Class diagram for the Utility time series message. Logical.

This figure shows the logical structure of the message for Transfer of Metered Data with Balise signals. The physical implementation as UTILTS message is illustrated in the next class diagram.

Railway Energy Billing - UTILTS E30 with Balise observations

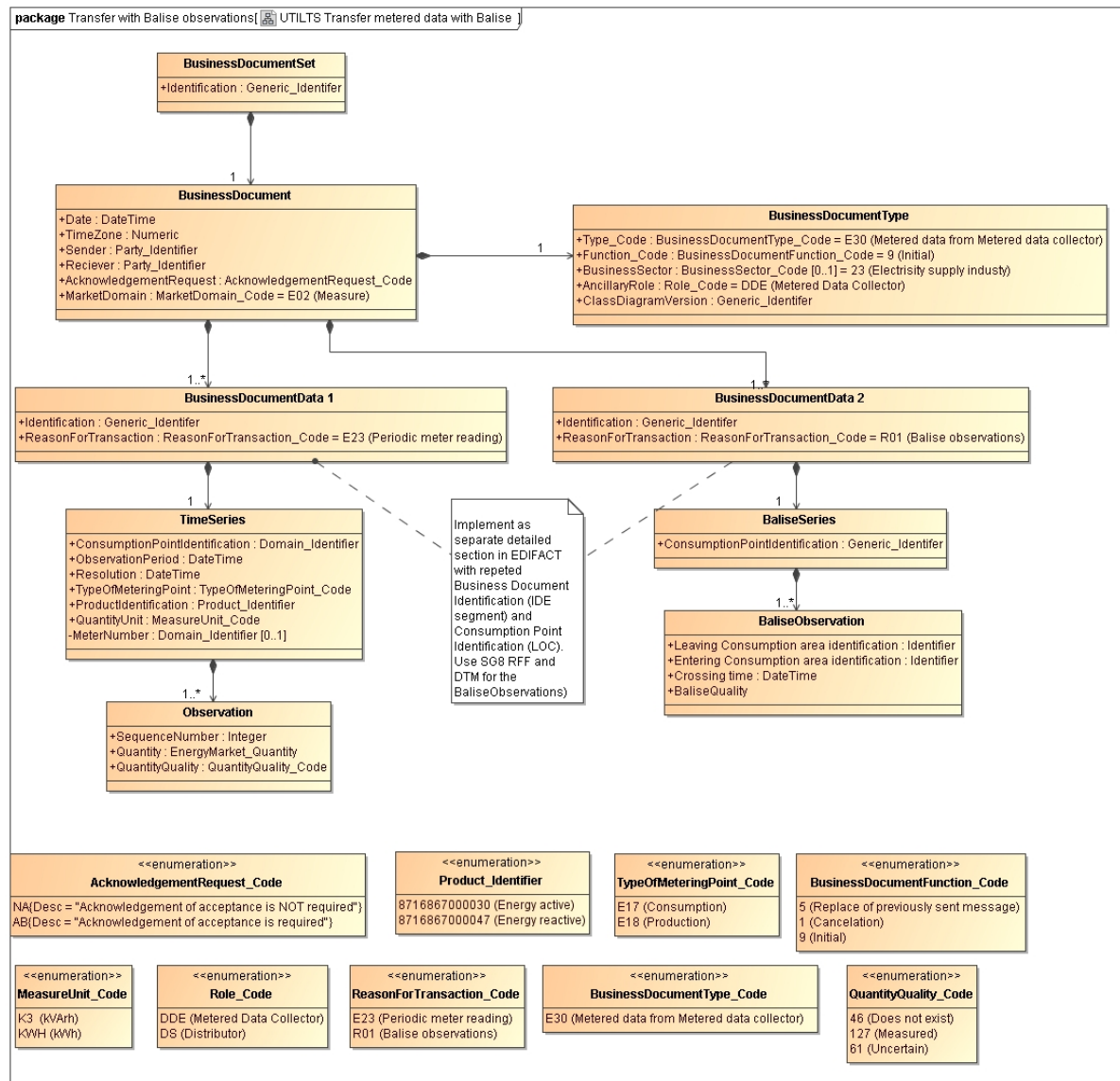


Figure 2 Class diagram for the Utility time series message. Physical implementation.

This diagram illustrates how the message has been implemented in EDIFACT UTILTS. There will be two parallel series for each Consumption Point, one with the consumption observations and one with the Balise observations.

Railway Energy Billing - UTILTS E30 with Balise observations

6.2 Cue list

Below is a table describing the EDIFACT message and the relationships to the attributes in the class diagram.

Message header				
	UNH	M	1	(Message reference) (Message type) BusinessDocumentType.ClassDiagramVersion
	BGM	M	1	BusinessDocumentType.Type_Code BusinessDocumentSet.Identification BusinessDocument.AcknowledgementRequest BusinessDocumentType.Function_Code
	DTM	M	2	BusinessDocument.Date BusinessDocument.TimeZone
	MKS	R	1	BusinessDocument.MarketDomain BusinessDocumentType.BusinessSector
References	PRC	C	9	Not used
	SG 1	O	1	
	RFF	M	1	Not used
	DTM	C	9	Not used
Message parties				
	SG 2	R	2	
	NAD	M	1	BusinessDocument.Reciever BusinessDocument.Sender
	RFF	C	1	Not used
	ATT	D	1	BusinessDocumentType.AncillaryRole
Contact information	SG 3	C	9	Not used
	CTA	M	1	Not used
	COM	C	9	Not used
Currencies / Rate of exchange				
	SG 4	C	99	Not used
	CUX	M	1	Not used
	DTM	C	9	Not used
	STS	C	9	Not used
Message details				
	SG 5	R	99999	
	IDE	M	1	BusinessDocumentData.Identification
	LOC	R	1	TimeSeries.ConsumptionPointIdentification BaliseSeries.ConsumptionPointIdentification
	NAD	C	9	Not used
	ALI	C	9	Not used
	LIN	R	1	TimeSeries.ProductIdentification
	PIA	C	9	Not used
	IMD	C	9	Not used
	DTM	R	2	TimeSeries.ObservationPeriod TimeSeries.Resolution
	PRC	C	9	Not used
	STS	R	1	BusinessDocumentData.ReasonForTransaction
	AGR	C	9	Not used

Railway Energy Billing - UTILTS E30 with Balise observations

	MEA	R	1	TimeSeries.QuantityUnit
	FTX	C	9	Not used
References				
	SG 6	C	99	
	RFF	M	1	TimeSeries.MeterNumber
	DTM	C	9	Not used
Characteristics				
	SG 7	R	1	
	CCI	M	1	(Type of characteristics)
	CAV	R	1	TimeSeries.TypeOfMeteringPoint
Time series date/time/period				
	SG 8	O	99999	
	SEQ	M	1	Observation.SequenceNumber
	DTM	R	1	BaliseObservation.CrossingTime
	RFF	R	2	BaliseObservation.LeavingConsumptionArea BaliseObservation.EnteringConsumptionArea
	MOA	C	9	Not used
	PCD	C	9	Not used
	GPO	C	2	Not used
Characteristics for observation				
	SG 9	C	99	Not used
	CCI	M	1	Not used
	CAV	C	99	Not used
Price				
	SG 10	C	9	Not used
	PRI	M	1	Not used
	CUX	C	9	Not used
Quantity				
	SG 11	R	1	
	QTY	M	1	Observation.Quantity
	DTM	C	9	Not used
	STS	R	1	Observation.QuantityQuality BaliseObservation.BaliseQuality
	SG 12	C	99	Not used
	CCI	M	1	Not used
	CAV	C	99	Not used
Price				
	SG 13	C	9	Not used
	PRI	M	1	Not used
	CUX	C	9	Not used
Message trailer				
	CNT	O	1	Not used
	UNT	M	1	Message trailer

Railway Energy Billing - UTILTS E30 with Balise observations

6.4 Segment table

In this chapter the segment table for the Utility time series message (UTILTS) is shown by the way it is described in version D, release 05A of the EDIFACT directory. The segments and segment groups that are used in this IG are shown in bold type.

Pos	Tag Name	S	R
0010	UNH Message header	M	1
0020	BGM Beginning of message	M	1
0030	DTM Date/time/period	M	9
0040	MKS Market/sales channel information	C	9
0050	PRC Process identification	C	9
0060	----- Segment group 1 -----	C	9-----+
0070	RFF Reference	M	1
0080	DTM Date/time/period	C	9-----+
0090	----- Segment group 2 -----	C	99-----+
0100	NAD Name and address	M	1
0110	RFF Reference	C	1
0120	ATT Attribute	C	9
0130	----- Segment group 3 -----	C	9-----+
0140	CTA Contact information	M	1
0150	COM Communication contact	C	9-----++
0160	----- Segment group 4 -----	C	99-----+
0170	CUX Currencies	M	1
0180	DTM Date/time/period	C	9
0190	STS Status	C	9-----+
0200	----- Segment group 5 -----	C	99999-----+
0210	IDE Identity	M	1
0220	LOC Place/location identification	C	9
0230	NAD Name and address	C	9
0240	ALI Additional information	C	9
0250	LIN Line item	C	9
0260	PIA Additional product id	C	9
0270	IMD Item description	C	9
0280	DTM Date/time/period	C	9
0290	PRC Process identification	C	9
0300	STS Status	C	9
0310	AGR Agreement identification	C	9
0320	MEA Measurements	C	9
0330	FTX Free text	C	9
0340	----- Segment group 6 -----	C	99-----+
0350	RFF Reference	M	1
0360	DTM Date/time/period	C	9-----+
0370	----- Segment group 7 -----	C	99-----+
0380	CCI Characteristic/class id	M	1
0390	CAV Characteristic value	C	99-----+
0400	----- Segment group 8 -----	C	99999-----+
0410	SEQ Sequence details	M	1
0420	DTM Date/time/period	C	9
0430	RFF Reference	C	9


Railway Energy Billing - UTILTS E30 with Balise observations

0440	MOA Monetary amount	C	9	
0450	PCD Percentage details	C	9	
0460	GPO Geographical position	C	9	
0470	----- Segment group 9 -----	C	99-----	+
0480	CCI Characteristic/class id	M	1	
0490	CAV Characteristic value	C	99-----	+
0500	----- Segment group 10 -----	C	9-----	+
0510	PRI Price details	M	1	
0520	CUX Currencies	C	9-----	+
0530	----- Segment group 11 -----	C	99-----	+
0540	QTY Quantity	M	1	
0550	DTM Date/time/period	C	9	
0560	STS Status	C	9	
0570	----- Segment group 12 -----	C	99-----	+
0580	CCI Characteristic/class id	M	1	
0590	CAV Characteristic value	C	99-----	+
0600	----- Segment group 13 -----	C	9-----	+
0610	PRI Price details	M	1	
0620	CUX Currencies	C	9-----	++++
0630	CNT Control total	C	9	
0640	UNT Message trailer	M	1	

7 DETAILED DESCRIPTION OF THE MESSAGE

In this chapter all segments and segment groups are specified in detail. In the left column you will find a list of the attributes used.

The EDIFACT segments listed are copies of those defined in the original UN/EDIFACT directory except for data elements defined as conditional (C) which are redefined using the ebIX classification.



MESSAGE: UTILTS

SG 0

Function:

A service segment starting and uniquely identifying a message. The message type code for the Utilities time series message is UTILTS.

Segments:

UNH, BGM, DTM, MKS, SG 2, SG 4

UNH

Message header

Function:

A service segment starting and uniquely identifying a message.

Classification:

Mandatory (M1).

Comments:

Example:

UNH+1+UTILTS:D:05A:UN:R01A'

Message-reference

>

0062

MESSAGE REFERENCE NUMBER

M

an..14

The message reference uniquely identifies the message in the interchange. Typically by using a sequence number that identifies each message in the interchange. The first message will have reference number. 1, the second message will have reference number 2, etc. The reference can be set to 1 in the first message of the next interchange.

Message-type

>

S009

MESSAGE IDENTIFIER

M

0065

Message type identifier

M

an..6

Code: UTILTS

0052

Message type version number

M

an..3

Code: D

0054

Message type release number

M

an..3

Code: 05A

0051

Controlling agency

M

an..2

Code: UN

0057

Association assigned code

R

an..6

Code: R01A

ClassDiagram

Version

>

0068

COMMON ACCESS REFERENCE

X

an..35

S010

STATUS OF THE TRANSFER

X

0070

Sequence message transfer number

X

n..2

0073

First/last seq. mess. transfer. indicator.

X

a1

BGM Beginning of message
Function: A segment by which the sender uniquely identifies the Utilities time series message by means of its name and number and when necessary its function.
Classification: Mandatory (M1).
Comments:
Example: BGM+E30::260+SSA1234+9+AB'

Ref.	Name	CL	Form.	Description
C002	DOCUMENT/MESSAGE NAME	R		
1001	Document name code	R	an..3	Codes: E30 Metered data from Metered Data Collector
1131	Code list identification code	X	an..17	
3055	Code list responsible agency code	R	an..3	Codes: 260 ebIX (Ediel)
1000	Document name	X	an..35	
C106	DOCUMENT/MESSAGE IDENTIFICATION	R		
1004	Document identifier	R	an..35	Unique Id. of the message. Shall be unique over time for each party.
1056	Version identifier	X	an..9	
1060	Revision identifier	X	an..6	
1225	MESSAGE FUNCTION CODE	R	an..3	Codes: 9 Original message. 5 Replace of previously sent 1 Cancellation
4343	RESPONSE TYPE CODE	R	an..3	Codes: AB Message acknowledgement is required (APERAK). NA No acknowledgement needed

DTM Date/time/period

Function: A segment specifying general dates related to the whole message and the time zone used in the message. The segment must be specified at least once to specify the message date as allocated by the sender.

Classification: Mandatory (M2).

Comments:

- Both “137, Message date” and 735, Time zone” are required.
- There shall be only one offset to UTC for each message that covers all dates in the message (not including UNB).
- Its recommended always setting the offset to UTC to zero.

Example: DTM+137:200611011241:203'
DTM+735:?+0000:406'

Date
Time zone

>

Ref.	Name	CL	Form.	Description
C507	DATE/TIME/PERIOD	M		
2005	Date or time or period function code qualifier	M	an..3	Codes: 137 Message date 735 Offset from Coordinated Universal Time (UTC)
2380	Date or time or period text	R	an..35	Date/time/period
2379	Date or time or period format code	R	an..3	Codes: 203 CCYYMMDDHHmm, (137) 406 ZHHMM, Offset from Coordinated Universal Time (UTC) where Z is plus (+) or minus (-). (735)

MKS Market/sales channel information
Function: A segment to specify to which market and/or through which sales distribution channel and/or for which end-use the time series relates.
Classification: Required (R1).
Comments:
Example: MKS+23+E02::260'

Ref.	Name	Cl.	Form.	Description
7293	SECTOR AREA IDENTIFICATION CODE QUALIFIER	M	an..3	Codes: 23 Electricity supply industry
C332	SALES CHANNEL IDENTIFICATION	M		
3496	Sales channel identifier	R	an..17	Codes: E02 Meter reading phase
1131	Code list identification code	X	an..17	
3055	Code list responsible agency code	R	an..3	Codes: 260 ebIX (Ediel)
1229	ACTION REQUEST/NOTIFICATION DESCRIPTION CODE	X	an..3	

**MESSAGE: UTILTS****SG 2**

Function: A group of segments identifying the parties with associated information relevant to the whole message, such as the sender and the receiver of the message.

Classification: Required (R2).

Comments: MR and MS are always required

Segments: NAD, ATT

NAD Name and address

Function: A segment for specifying the identification and/or the name and the address of the party, in coded or clear form, and the function relevant to the message. It is recommended that, if possible, only the coded form of the party ID should be specified.

Classification: Mandatory (M1).

Comments:

- The qualifier MS should be used to identify the party responsible for the data (originator) and the qualifier MR for the final recipient

Example: NAD+MR+1234567890123::9'

Receiver
SenderCoding
scheme

>

>

Ref.	Name	Cl.	Form.	Description
3035	PARTY FUNCTION CODE QUALIFIER	M	an..3	Codes: MR Message recipient MS Document/message issuer/sender
C082	PARTY IDENTIFICATION DETAILS	R		
3039	Party identifier	M	an..35	Party identification
1131	Code list identification code	X	an..17	
3055	Code list responsible agency code	R	an..3	Codes: 9 GS1 (EAN, International Article Numbering association) 12 UIC 305 ETSO/EIC (ETSO Identification Code)
C058	NAME AND ADDRESS	X		
3124	Name and address description	X	an..35	
3124	Name and address description	X	an..35	
3124	Name and address description	X	an..35	
3124	Name and address description	X	an..35	
3124	Name and address description	X	an..35	

		C080	PARTY NAME	X		
		3036	Party name	X	an..35	
		3036	Party name	X	an..35	
		3036	Party name	X	an..35	
		3036	Party name	X	an..35	
		3036	Party name	X	an..35	
		3045	Party name format code	X	an..3	
Ancillary Role	>	C059	STREET	X		
		3042	Street and number or post office box identifier	X	an..35	
		3042	Street and number or post office box identifier	X	an..35	
		3042	Street and number or post office box identifier	X	an..35	
		3042	Street and number or post office box identifier	X	an..35	
		3164	CITY NAME	X	an..35	
		C819	COUNTRY SUB-ENTITY DETAILS	X		
		3229	Country sub-entity name code	X	an..9	
		1131	Code list identification code	X	an..17	
		3055	Code list responsible agency code	X	an..3	
		3228	Country sub-entity name	X	an..70	
		3251	POSTAL IDENTIFICATION CODE	X	an..17	
		3207	COUNTRY NAME CODE	X	an..3	
		<p>ATT ATTRIBUTE</p> <p>Function: A segment used to identify attributes of the relevant party, such as additional functions of the sender or receiver.</p> <p>Classification: Dependent (D1).</p> <p>Comments: Only used together with message receiver (MR) in the previous NAD segment.</p> <p>Example: ATT+25++DDE::260'</p>				
		Ref.	Name	Cl.	Form.	Description
		9017	ATTRIBUTE FUNCTION CODE QUALIFIER	M	an..3	Codes: 25 Additional function
		C955	ATTRIBUTE TYPE	X		
		9021	Attribute type description code	X	an..17	
		1131	Code list identification code	X	an..17	
		3055	Code list responsible agency code	X	an..3	
		9020	Attribute type description	X	an..70	
		C956	ATTRIBUTE DETAIL	R		
		9019	Attribute description code	R	an..17	Code: DDE Metered Data Collector
		1131	Code list identification code	X	an..17	
		3055	Code list responsible agency code	R	an..3	Codes: 260 ebIX (Ediel)
		9018	Attribute description	X	an..256	

**MESSAGE: UTILTS****SG 5**

Function: A group of segments providing details of the time series and connected technical and/or administrative information. In addition to the time series itself, this includes identification of the time series, associated dates, references, characteristics, etc.

Classification: Required (R99999).

Comments:

Segments: IDE, LOC, LIN, DTM, STS, MEA, SG7

IDE Identity

Function: A segment identifying a time series, the type of object and the product or service being reported in the time series (e.g. electrical energy, electrical power, water, gas).

Classification: Mandatory (M1).

Comments: Unique id from the sender of the message. The id may be used to link the response to the original transaction.

Example: IDE+24+MD200505832134'

BusinessDoc-
umentData.
Identification

Ref.	Name	Cl.	Form.	Description
7495	OBJECT TYPE CODE QUALIFIER	M	an..3	Codes: 24 Transaction
C206	IDENTIFICATION NUMBER	R		Business Document data Identification.
7402	Object identifier	M	an..35	
7405	Object identification code qualifier	X	an..3	
4405	Status description code	X	an..3	
C082	PARTY IDENTIFICATION DETAILS	X		
3039	Party identifier	X	an..35	
1131	Code list identification code	X	an..17	
3055	Code list responsible agency code	X	an..3	
4405	STATUS DESCRIPTION CODE	X	an..3	
1222	CONFIGURATION LEVEL NUMBER	X	n..2	
C778	POSITION IDENTIFICATION	X		
7164	Hierarchical structure level identifier	X	an..35	
1050	Sequence position identifier	X	an..10	
C240	CHARACTERISTIC DESCRIPTION	X		
7037	Characteristic description code	X	an..17	
1131	Code list identification code	X	an..17	
3055	Code list responsible agency code	X	an..3	
7036	Characteristic description	X	an..35	

LOC Place/location identification
Function: A segment to identify location(s) related to the time series.
Classification: Required (R1).
Comments:
Example: LOC+172+871234567890::12'

Consumption
Point
Identification

Ref.	Name	CL	Form.	Description
3227	LOCATION FUNCTION CODE QUALIFIER	M	an..3	Codes: 172 Metering point id (EDIFACT term "Reporting location")
C517	LOCATION IDENTIFICATION	R		
3225	Location name code	R	an..35	Consumption point identification European Vehicle identification (12 digits) + serial number (1 digit) see http://ec.europa.eu/transport/rail/international/roperability/doc/o-pe-tsi-en-annex.pdf
1131	Code list identification code	X	an..17	
3055	Code list responsible agency code	R	an..3	Codes: 12 UIC
3224	Location name	X	an..256	
C519	RELATED LOCATION ONE IDENTIFICATION	X		
3223	First related location name code	X	an..25	
1131	Code list identification code	X	an..17	
3055	Code list responsible agency code	X	an..3	
3222	First related location name	X	an..70	
C553	RELATED LOCATION TWO IDENTIFICATION	X		
3233	Second related location name code	X	an..25	
1131	Code list identification code	X	an..17	
3055	Code list responsible agency code	X	an..3	
3232	Second related location name	X	an..70	
5479	RELATION CODE	X	an..3	

LIN Line item
Function: A segment used to identify the time series by its product identification.
Classification: Required (R1).
Comments:
Example: LIN+++8716867000016:::9'

Product
Identification

>

Ref.	Name	Cl.	Form.	Description
1082	LINE ITEM IDENTIFIER	X	n..6	
1229	ACTION REQUEST/NOTIFICATION DESCRIPTION CODE	X	an..3	
C212	ITEM NUMBER IDENTIFICATION	R		
7140	Item identifier	R	an..35	Code: 8716867000030 Energy active 8716867000047 Energy reactive
7143	Item type identification code	X	an..3	
1131	Code list identification code	X	an..3	
3055	Code list responsible agency code	R	an..3	Code: 9 EAN (International Article Numbering association)
C829	SUB-LINE INFORMATION	X		
5495	Sub-line indicator code	X	an..3	
1082	Line item identifier	X	n..6	
1222	CONFIGURATION LEVEL NUMBER	X	n..2	
7083	CONFIGURATION OPERATION CODE	X	an..3	

DTM Date/time/period
Function: A segment to specify dates associated with the time series.
Classification: Required (R2).
Comments:

- Time zone is defined in DTM / SG 0.
- The end period should be “exclusive”, e.g. the whole day and night of July 5th, 2002 is expressed as 200207050000200207060000.

Example: DTM+324:200606130000200606200000:719'

Observation
Period
Resolution

>

Ref.	Name	Cl.	Form.	Description
C507 2005	DATE/TIME/PERIOD Date or time or period function code qualifier	M M	an..3	Codes: 324 Observation (Processing) period 354 Resolution (EDIFACT term: “Activity period date range”)
2380	Date or time or period text	R	an..35	Date, time or period
2379	Date or time or period format code	R	an..3	Codes: 719 CCYYMMDDHHmm- CCYYMMDDHHmm, without hyphen (324) 806 A quantity of minutes (354)

STS Status
Function: A segment giving the status for the time series being reported, such as metered, estimated or corrected.
Classification: Required (R1).
Comments:
Example: STS+7++E23::260'

Reason for transaction

>

Ref.	Name	CL	Form.	Description
C601 9015	STATUS CATEGORY Status category code	R M	an..3	Code: 7 Transaction
1131 3055	Code list identification code Code list responsible agency code	X X	an..17 an..3	
C555 4405	STATUS Status description code	X X	an..3	
1131 3055	Code list identification code Code list responsible agency code	X X	an..17 an..3	
4404	Status description	X	an..35	
C556 9013	STATUS REASON Status reason description code	R M	an..3	Codes: E23 Periodic Meter Reading R01 Balise observations Codes: 260 ebIX (Ediel)
1131 3055	Code list identification code Code list responsible agency code	X R	an..17 an..3	
9012	Status reason description	X	an..256	
C556 9013	STATUS REASON Status reason description code	X X	an..3	
1131 3055	Code list identification code Code list responsible agency code	X X	an..17 an..3	
9012	Status reason description	X	an..256	
C556 9013	STATUS REASON Status reason description code	X X	an..3	
1131 3055	Code list identification code Code list responsible agency code	X X	an..17 an..3	
9012	Status reason description	X	an..256	
C556 9013	STATUS REASON Status reason description code	X X	an..3	
1131 3055	Code list identification code Code list responsible agency code	X X	an..17 an..3	
9012	Status reason description	X	an..256	
C556 9013	STATUS REASON Status reason description code	X X	an..3	
1131 3055	Code list identification code Code list responsible agency code	X X	an..17 an..3	
9012	Status reason description	X	an..256	

MEA Measurements
Function: A segment for specifying physical measurements or measurement unit connected to the time series.
Classification: Required (R1).
Comments:
Example: MEA+AAZ++KWH'

Ref.	Name	Cl.	Form.	Description
6311	MEASUREMENT PURPOSE CODE QUALIFIER	M	an..3	Code: AAZ Handling unit measurement
C502	MEASUREMENT DETAILS	X		
6313	Measured attribute code	X	an..3	
6321	Measurement significance code	X	an..3	
6155	Non-discrete measurement name code	X	an..17	
6154	Non-discrete measurement name	X	an..70	
C174	VALUE/RANGE	R		
6411	Measurement unit code	M	an..3	Code: KWH kWh (Kilowatt-hour) K3 kVArh (KiloVolt-Ampere reactive hour) - (also to be used for kVArh/h)
6314	Measure	X	an..18	
6162	Range minimum quantity	X	n..18	
6152	Range maximum quantity	X	n..18	
6432	Significant digits quantity	X	n..2	
7383	SURFACE OR LAYER CODE	X	an..3	

**MESSAGE: UTILTS****SG 6**

Function: A group of segments for specifying any references and associated dates valid for the current time series.

Classification: Conditional (C1)

Comments:

Segments: RFF, DTM

RFF Reference

Function: A segment identifying any references related to the current time series.

Classification: Mandatory (M1)

Comments:

Example: RFF+MG:012345'

Ref.	Name	Cl.	Form.	Description
C506	REFERENCE	M1		
1153	Reference function code qualifier	M	an..3	Code: MG Meter unit number (for other identification systems than for EAN GSAI)
1154	Reference identifier	R	an..35	Meter Number
1156	Line number	X	an..6	
4000	Reference version identifier	X	an..35	
1060	Revision number	X	an..6	

Meter
Number

>

**MESSAGE: UTILTS****SG 7**

Function: A group of segments providing characteristics and characteristic details connected to the current time series.

Classification: Required (R1)

Comments:

Segments: CCI, CAV

CCI CHARACTERISTIC/CLASS ID

Function: A segment to identify characteristic and/or the characteristic name and characteristic relevance for the time series.

Classification: Mandatory (M1)

Comments:

Example: CCI++E12::260'

Type of
description

>

Ref.	Name	Cl.	Form.	Description
7059	CLASS TYPE CODE	X	an..3	
C502	MEASUREMENT DETAILS	X		
6313	Measured attribute code	X	an..3	
6321	Measurement significance, coded	X	an..3	
6155	Non-discrete measurement name code	X	an..17	
6154	Non-discrete measurement name	X	an..70	
C240	PRODUCT CHARACTERISTIC	R		
7037	Characteristic description code	M	an..17	Code: E12 Type of metering point
1131	Code list identification code	X	an..3	
3055	Code list responsible agency code	R	an..3	260 ebIX (Ediel)
7036	Characteristic description	X	an..35	
7036	Characteristic description	X	an..35	
4051	CHARACTERISTIC RELEVANCE, CODED	X	an..3	

CAV CHARACTERISTIC VALUE

Function: A segment to specify the value of the characteristic previously defined in either coded form or in free format.

Classification: Required (R1)

Comments:

- 1131 shall be used if the codes used are taken from a national code list.

Example: CAV+E17::260'

Type Of
Metering
Point

>

Ref.	Name	Cl.	Form.	Description
C889	CHARACTERISTIC VALUE	M1		
7111	Characteristic value, coded	R	an..3	<i>Type of metering point:</i> E17 Consumption E18 Production
1131	Code list identification code	X	an..3	
3055	Code list responsible agency code	R	an..3	Codes: 260 ebIX (Ediel)
7110	Characteristic value	X	an..35	
7110	Characteristic value	X	an..35	

**MESSAGE: UTILTS****SG 8**

Function: A group of segments providing details of the time series.
Classification: Required (R999999).
Comments:
Segments: SEQ, DTM, RFF, SG11

SEQ Sequence details
Function: A segment to identify the sequence of the observations in a time series.
Classification: Mandatory (M1).
Comments: The DTM and RFF segments are only used in the Balise observations series
Example: SEQ++1'

Sequence
number

>

Ref.	Name	Cl.	Form.	Description
1229	ACTION REQUEST/NOTIFICATION DESCRIPTION CODE	X	an..3	
C286	SEQUENCE INFORMATION	R		
1050	Sequence position identifier	M	an..10	Observation id
1159	Sequence identifier source code	X	an..3	
1131	Code list identification code	X	an..17	
3055	Code list responsible agency code	X	an..3	

DTM Date/time/period
Function: A segment to specify a date or a period identifying a new observation in a time series.
Classification: Optional (O1).
Comments:

- Time zone is defined in DTM / SG 0.
- "219, Cross border date/time is used for Crossing time for Balise observations

Example: DTM+219:200703060207:203'

Ref.	Name	CL	Form.	Description
C507	DATE/TIME/PERIOD	M		
2005	Date or time or period function code qualifier	M	an..3	Codes: 219 Cross border date/time
2380	Date or time or period text	R	an..35	Date, time or period
2379	Date or time or period format code	R	an..3	Codes: 203 CCYYMMDDHHmm (219)

RFF Reference
Function: A segment to specify references connected to the observations.
Classification: Optional (O2)
Comments: Are used for defining the Areas of a Balise observation.

- Use R01 for identification of Leaving Consumption area,
- R02 for Entering Consumption Area

Example: RFF+R01:198734'

Ref.	Name	CL	Form.	Description
C506	REFERENCE	M1		
1153	Reference function code qualifier	M	an..3	Code: R01 Leaving Consumption Area R02 Entering Consumption Area
1154	Reference identifier	R	an..35	ConsumptionAreaIdentification
1156	Line number	X	an..6	
4000	Reference version identifier	X	an..35	
1060	Revision number	X	an..6	

**MESSAGE: UTILTS****SG 11**

Function: A group of segments providing observation of quantities with related characteristics and statuses, in a time series.

Classification: Required (R1).

Comments:

Segments: QTY, STS

QTY Quantity

Function: A segment identifying the quantity details in a time series.

Classification: Mandatory (M1).

Comments:

- For non-existing values the code “46, Non existent” shall be used in the corresponding STS segment.

Example: QTY+220:90'

Quantity
type
Quantity

>
>

Ref.	Name	Cl.	Form.	Description
C186	QUANTITY DETAILS	M		
6063	Quantity type code qualifier	M	an..3	Codes: 136 Period quantity, reached Quantity
6060	Quantity	M	an..35	
6411	Measurement unit code	X	an..3	

STS Status

Function: A segment giving the status for the quantity, e.g. metered, estimated or corrected.

Classification: Required (R1).

Comments: 4405:

- Codes are EDIFACT codes. The interpretation of the codes (unauthorised etc.) is specific for the power sector (ebIX).

Example: STS+8+127'

Quantity
quality
Balise
Quality

>

Ref.	Name	CL	Form.	Description
C601 9015	STATUS CATEGORY Status category code	R M	an..3	Codes: 8 Meter reading quality R01 Location quality
1131 3055	Code list identification code Code list responsible agency code	X X	an..17 an..3	
C555 4405	STATUS Status description code	R M	an..3	
1131 3055 4404	Code list identification code Code list responsible agency code Status description	X X X	an..17 an..3 an..35	
C556 9013 1131 3055 9012	STATUS REASON Status reason description code Code list identification code Code list responsible agency code Status reason description	X X X X X	an..3 an..17 an..3 an..256	Codes for meter reading quality: 46 Non existent (EDIFACT term: Does not exist) 61 Uncertain 127 Measured Codes used for balise observation quality: 56 Estimated 127 Measured
C556 9013 1131 3055 9012	STATUS REASON Status reason description code Code list identification code Code list responsible agency code Status reason description	X X X X X	an..3 an..17 an..3 an..256	
C556 9013 1131 3055 9012	STATUS REASON Status reason description code Code list identification code Code list responsible agency code Status reason description	X X X X X	an..3 an..17 an..3 an..256	
C556 9013	STATUS REASON Status reason description code	X X	an..3	

	1131	Code list identification code	X	an..17	
	3055	Code list responsible agency code	X	an..3	
	9012	Status reason description	X	an..256	
	C556	STATUS REASON	X		
	9013	Status reason description code	X	an..3	
	1131	Code list identification code	X	an..17	
	3055	Code list responsible agency code	X	an..3	
	9012	Status reason description	X	an..256	

**MESSAGE: UTILTS****SG 0**

Function: Summary section
Classification: Mandatory (M1).
Comments:
Segments: UNT

UNT Message trailer
Function: A service segment ending a message, giving the total number of segments in the message (including the UNH & UNT) and the control reference number of the message.
Classification: Mandatory (M1).
Comments:
Example: UNT+11+1'

Ref.	Name	Cl.	Form.	Description
0074	NUMBER OF SEGMENTS IN THE MESSAGE	M	n..6	Number of segments in the message, including UNH and UNT.
0062	MESSAGE REFERENCE NUMBER	M	an..14	Control reference number. Equal to 0062 in UNH

APPENDIX A – MESSAGE EXAMPLES

A.1 Examples to be added