

Meter Reading Process

Model Documentation



Version 6.0

Document Version: 1

Table of Contents

24		
25		
26	1 Model Detail.....	3
27	2 Document usage decision table.....	4
28	3 Metering Process	7
29	3.1 Meter Reading Document (METRED)	7
30	3.1.1 Meter Reading Business Process	7
31	3.1.1.1 Measured Data Sequence	7
32	3.1.1.2 Metered Data Workflow	8
33	3.1.2 Meter Reading Document Contextual Model.....	9
34	3.1.3 Meter Reading Document Assembly Model	10
35	3.1.3.1 MeterReading_Document	11
36	3.1.3.1.1 Attributes	11
37	3.1.3.2 ConnectionPoint	11
38	3.1.3.2.1 Attributes	11
39	3.1.3.3 Meter	12
40	3.1.3.3.1 Attributes	12
41	3.1.3.4 MeasureType_Composition	12
42	3.1.3.4.1 Attributes	12
43	3.1.3.5 Period	12
44	3.1.3.5.1 Attributes	12
45	4 Document Change Log.....	13
46	4.1 Version	13
47	4.1.1 Attributes	13
48		

1 Model Detail

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2 Document usage decision table

The following decision table provides a summary of the message requirements.

Meter Reading Document	Measurement data
identification	Mandatory
version	Mandatory
DocumentCode	87G
creationDateTime	Mandatory
validityPeriod	Mandatory
issuer_MarketParticipant.identification	Mandatory; codingScheme = 305 (EIC Party X code)
issuer_MarketParticipant.MarketRole.roleCode	ZSO = System Operator ZUE = Metered Data Responsible
recipient_MarketParticipant.identification	Mandatory; codingScheme = 305 (EIC Party X code)
recipient_MarketParticipant.MarketRole.roleCode	ZAA = Allocation Responsible ZSH = Balance Responsible Party ZSO = System Operator UD = Final Customer
ConnectionPoint.identification	May be used; codingScheme = 305 (EIC Measurement Point Z or Y code) or ZSO
Meter.identification	Not used for the relation document header to Connection Point. However it may be used in the relation document header to meter or Connection Point to Meter with codingScheme = 305 (EIC Measurement Point Z or Y code) or ZSO
MeasureType_Composition.chemicalCompoundCode OR MeasureType_Composition.physicalPropertyCode	MeasureType_Composition.chemicalCompoundCode values: ZGL = Lowest announced GCV. ZN = Nitrogen. ZNV = Net caloric value. ZO = Oxygen (O2). ZQD = CO2 content. ZQE = Hydrogen sulphide content (H2S).

Meter Reading Document	Measurement data
<p>NOTE: Only one MeasureType_Composition attribute per instance.</p>	<p> ZQF = Propane content C3H8. ZQG = Ethan Content C2H6. ZQH = Methane content CH4. ZQI = i-Butane content i-C4H10. ZQO = n-Butane content n-C4H10. ZQJ = Content C6+. ZQK = i-Pentane content i-C5H12. ZQP = n-Pentane content n-C5H12. ZQQ = neo-Pentane content neo-C5H12. ZQN = Mercaptan (C_nH_{2n+1}SH). ZS = Sulphur (S). ZQR = Hydrogen (H₂) content. ZQS= Water dew point at contract conditions. DN = Density. DN1 = Relative density. ZGK = GCV. ZQA = Water dew point at line pressure conditions ZQB = Hydrocarbon dew point. ZWI = Wobbe index. ZQT = Methanol (MeOH) content. ZQU = Triethylene glycol (TEG) content ZQV = Monoethylene glycol (MEG) content </p> <hr/> <p> MeasureType_Composition.physicalPropertyCode values: TC = Temperature. ZCD = Relative density meter reading. ZLA = Volume at normal conditions (V_n). ZLB = Volume at 20°C or 293.15K (V_{20°C}). ZPR = Pressure. ZWP = Volume at measurement conditions ZWO = Compressibility factor Z. ZWQ = Quantity (kWh) ZCA = Hs flow computer reading. ZCB = Carbon dioxide flow computer reading. ZCC = Nitrogen flow computer reading. </p>

Meter Reading Document	Measurement data
MeasuredType.quantity.measureUnit	BAR = Bar. CEL = Celsius. GP = Milligram per cubic meter (mg/m3). JM = Megajoule per cubic meter (MJ/m3). KC1 = Kilocalorie per m3 (kcal/m3). KMQ = Kilogram per cubic meter (kg/m3). KW1 = Kilowatthour per hour (kWh/h). KW2 = Kilowatthour per day (kWh/d). KW3 = Kilowatt hour per cubic meter (kWh/m3). KWH = Kilowatt hour. MOL = Mole %. MPA = MegaPascal (MPa). MQ5 = Normal cubic meter (nm ³). MQ6 = Normal cubic meter per hour (m3/h). MQ7 = Normal cubic meter per day (m3/d). MQH = Cubic meters (m3/h). MTQ = Cubic meter (m3). P1 = Percent. A06 = Litres (L). A07 = Parts per million (PPM).
Period.timeInterval	Mandatory
period.quantity.amount	Mandatory
Period.gasDirectionCode	Z02 = Input. Z03 = Output.
Period.status.statusCode	03G = Estimated. 04G = Provisional. 05G = Definitive. 58G = Validated. 59G = Replacement value. 60G = Average hourly value.

63
64

3 Metering Process

3.1 Meter Reading Document (METRED)

3.1.1 Meter Reading Business Process

3.1.1.1 Measured Data Sequence

The Metered Data Responsible provides the measured data to the System Operator. The System Operator provides data to the Allocation Responsible.

The System Operator may, if requested, provide this information to Balance Responsible Party's, Final customer or adjacent System Operator.

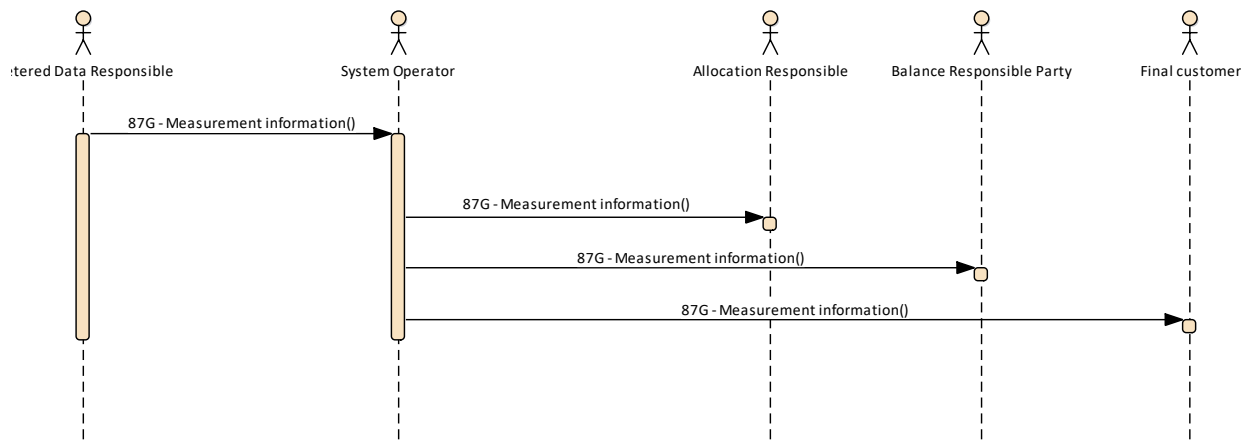


Figure: 1 Measured data sequence

3.1.1.2 Metered Data Workflow

The Metered Data Responsible transmits metered information to the System Operator. This information may be provided with meters that can be read in real time.

Generally the metered information is obtained directly by the System Operator from the metering equipment in real time.

The System Operator also provides its counter System Operators with their relevant metered information.

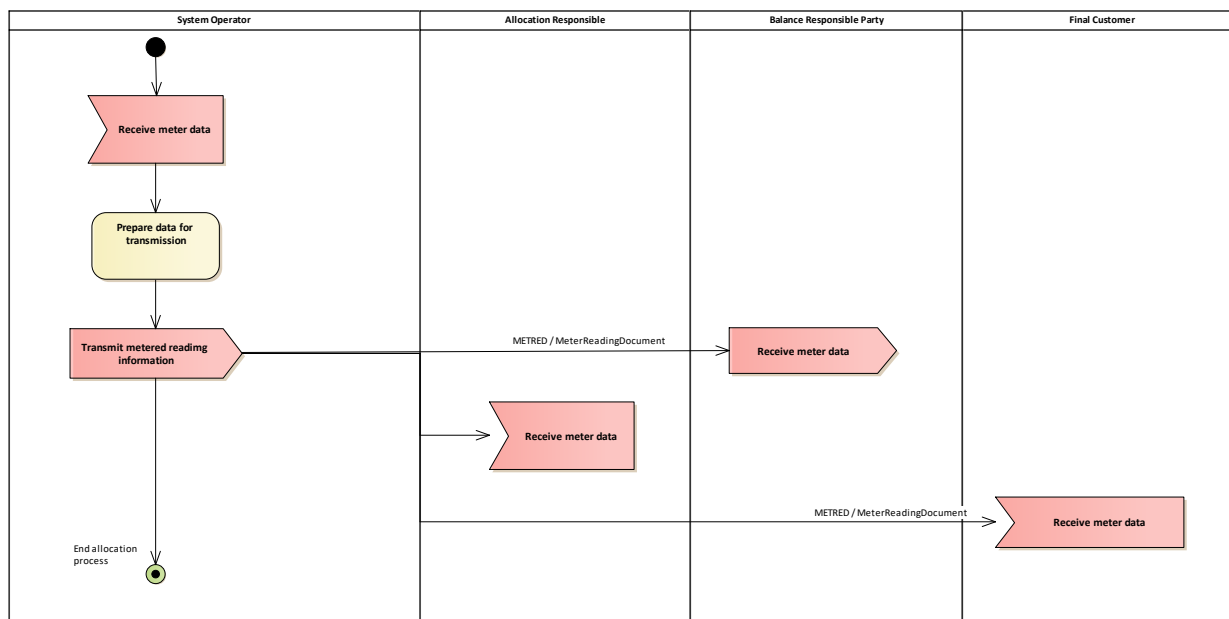


Figure: 2 Metered data workflow

3.1.2 Meter Reading Document Contextual Model

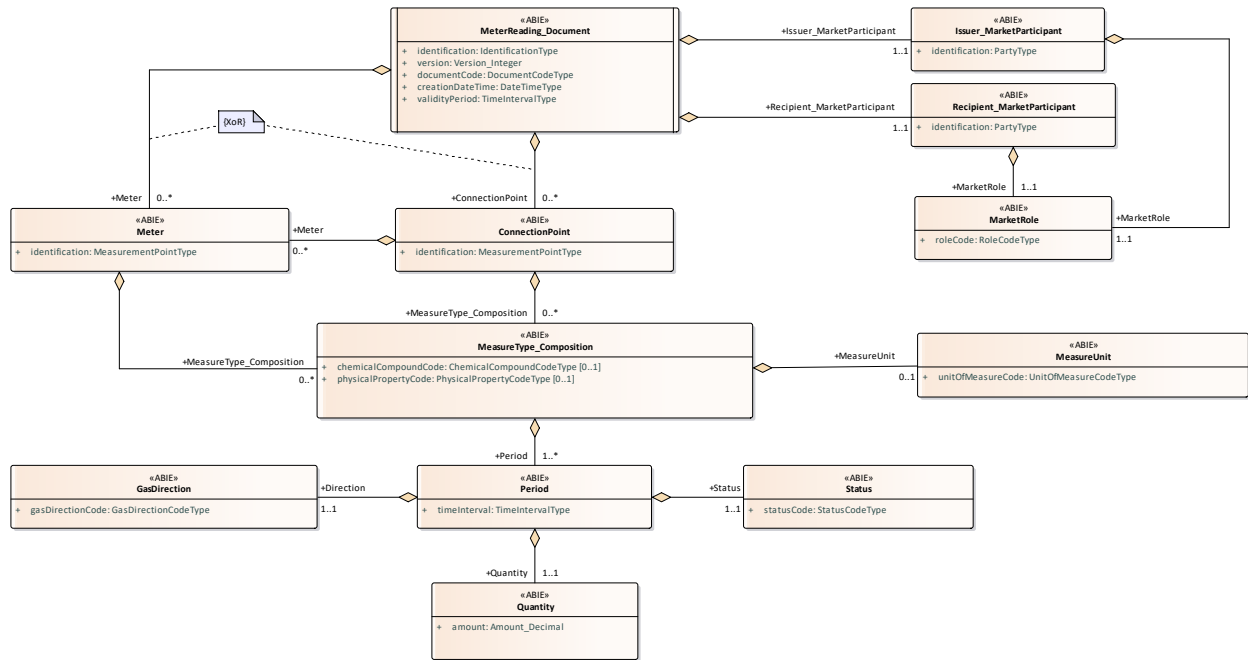


Figure: 3 Meter Reading Document Contextual Model

3.1.3 Meter Reading Document Assembly Model

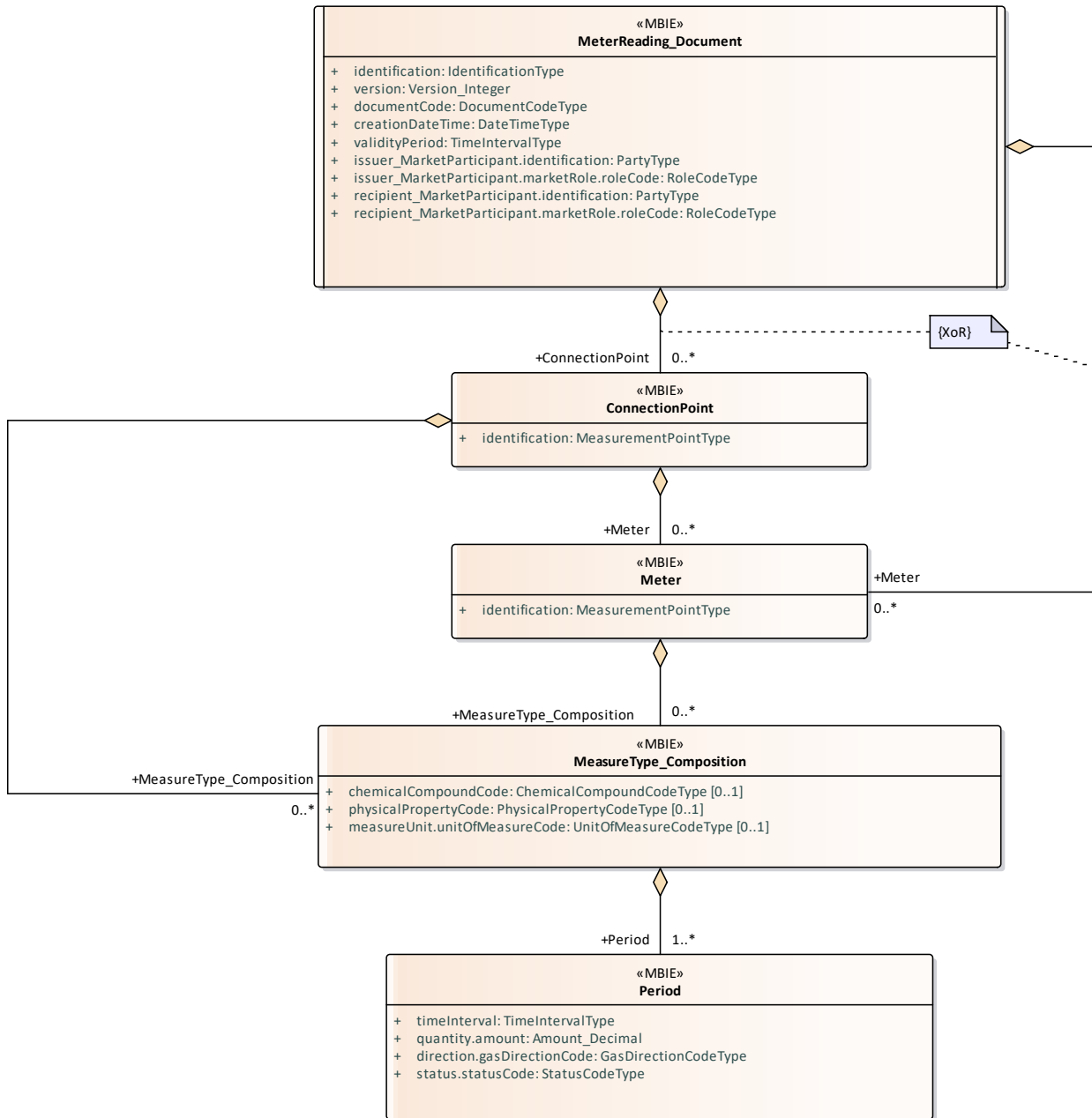


Figure: 4 Meter Reading Document Assembly Model

3.1.3.1 MeterReading_Document

3.1.3.1.1 Attributes

Attribute	Description	Multiplicity
identification	A unique identification of a document that is assigned by the issuer. Identification of the document describing the Meter Reading Document.	
version	Version of the document being sent. The first version number for a given document identification shall normally be 1. The document version number must be incremented for each retransmission of a document that contains changes to the previous version. The receiving system shall only accept a document with a version number which is greater than the previous version number of the same document.	
documentCode	Coded representation of the type of the electronic document. (Refer to Edig@s DocumentCodeTypeCodeList for the list of valid codes).	
creationDateTime	Date and time of the creation of the current document expressed in UTC.	
validityPeriod	The start and end date and time of the period of validity covered in the document.	
issuer_MarketParticipant.identification	The identification of the party participating in the market. --- The issuer of the Meter Reading Document.	
issuer_MarketParticipant.marketRole.roleCode	A code identifying the role played by a market participant in the market. (Refer to Edig@s RoleCodeTypeCodeList for the list of valid codes). --- The issuer of the Meter Reading Document.	
recipient_MarketParticipant.identification	The identification of the party participating in the market. --- The recipient of the Meter Reading Document.	
recipient_MarketParticipant.marketRole.roleCode	A code identifying the role played by a market participant in the market. (Refer to Edig@s RoleCodeTypeCodeList for the list of valid codes). --- The recipient of the Meter Reading Document.	

3.1.3.2 ConnectionPoint

A cross-border interconnection point, whether it is physical or virtual, between two or more member states as well as interconnection between adjacent entry-exit-systems within the same member states.

The Connection Point class provides all the information concerning the quantities that have been metered on a per Measure Type class basis.

3.1.3.2.1 Attributes

Attribute	Description	Multiplicity
identification	The identification of a connection point.	

3.1.3.3 Meter

The identification of a meter.

The Meter class provides the identification of a specific meter and beneath it identifies per Measured Type Composition class the information that has been measured for the validity period defined in the document header.

3.1.3.3.1 Attributes

Attribute	Description	Multiplicity
identification	The identification of a specific measurement point.	

3.1.3.4 MeasureType_Composition

A coded identification of the composition of gas.

3.1.3.4.1 Attributes

Attribute	Description	Multiplicity
chemicalCompoundCode	The code identifying the chemical properties of gas. (Refer to Edig@s ChemicalCompoundCodeTypeCodeList for the list of valid codes).	[0..1]
physicalPropertyCode	The code identifying the physical properties of gas. (Refer to Edig@s PhysicalPropertyCodeTypeCodeList for the list of valid codes).	[0..1]
measureUnit.unitOfMeasureCode	The coded representation of a unit of measure using the UN/CEFACT Recommendation 20 common codes. (Refer to Edig@s UnitOfMeasureCodeTypeCodeList for the list of valid codes).	[0..1]

3.1.3.5 Period

The period that the dependent information is for.

There must always be one or many Period classes related to a Measured Type Composition class.

3.1.3.5.1 Attributes

Attribute	Description	Multiplicity
timeInterval	The start and end date and time for the period. The time is expressed in UTC.	
quantity.amount	The amount of a quantity.	
direction.gasDirectionCode	A code identifying the direction of a gas flow. (Refer to Edig@s GasDirectionCodeTypeCodeList for the list of valid codes). --- The direction of the energy flow shall always be reported as seen from the perspective of the issuers System Operator's area.	
status.statusCode	A code providing the status of an object. (Refer to Edig@s StatusCodeTypeCodeList for the list of valid codes).	

4 Document Change Log

4.1 Version

4.1.1 Attributes

Attribute	Description	Multiplicity
Version 1 2020-06-29	Initial release.	