

List of stereotype to categorize subProfiles ShortCircuit Description Operation European Abstract Entsoe

# Concrete Classes

## AccountingPoint

An administrative point where Energy Supplier change can take place and for which commercial business processes are defined.

### Native Members

---

<b>description</b>	0..1	<u>String</u>	The description is a free human readable text describing or naming the object. It may be non unique and may not correlate to a naming hierarchy.
<b>mRID</b>	1..1	<u>MeasurementPointID_String</u>	<p>A unique identification of the measurement point.</p> <p>In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification.</p> <p>Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do</p>

this.  
For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.

## AccountingPoint

## RealTimeData assembly model

An administrative point where Energy Supplier change can take place and for which commercial business processes are defined.

### Native Members

---

<b>description</b>	0..1	<u>String</u>	The description is a free human readable text describing or naming the object. It may be non unique and may not correlate to a naming hierarchy.
<b>mRID</b>	1..1	<u>MeasurementPointID_String</u>	A unique identification of the measurement point.  In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification.  Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by

using a UUID for the mRID. It is strongly recommended to do this.

For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.

## DateAndOrTime

## RealTimeData contextual model

The Date and or the Time.

### Native Members

<b>dateTime</b>	0 .. 1	<a href="#">DateTime</a>	Date and time as per ISO 8601 YYYY-MM-DDThh:mm:ss.sssZ.
-----------------	--------	--------------------------	---

## Quantity

## RealTimeData assembly model

Description of quantities needed in the data exchange.

The type of the quantity is described either by the role of the association or the quantityType attribute. The quality attribute provides the information about the quality of the quantity (measured, estimated, etc.).

### Native Members

<b>quality</b>	0 .. 1	<a href="#">Quality_String</a>	The description of the quality of the quantity.
----------------	--------	--------------------------------	---

<b>quantity</b>	1 .. 1	<a href="#">Decimal</a>	The quantity value. The association role provides the information about what is expressed.
-----------------	--------	-------------------------	--

<b>type</b>	1 .. 1	<a href="#">QuantityTypeKind</a>	The description of the type of the quantity.
-------------	--------	----------------------------------	--

## Quantity

## RealTimeData contextual model

Description of quantities needed in the data exchange.

The type of the quantity is described either by the role of the association or the quantityType attribute. The quality attribute provides the information about the quality of the quantity (measured, estimated, etc.).

### Native Members

<b>quality</b>	0..1	<a href="#">Quality_String</a>	The description of the quality of the quantity.
<b>quantity</b>	1..1	<a href="#">Decimal</a>	The quantity value. The association role provides the information about what is expressed.
<b>type</b>	1..1	<a href="#">QuantityTypeKind</a>	The description of the type of the quantity.

## RegisteredResource

## RealTimeData contextual model

A resource that is registered through the market participant registration system. Examples include generating unit, load, and non-physical generator or load.

### Native Members

<b>mRID</b>	1..1	<a href="#">ResourceID_String</a>	The unique identification of a resource.
			In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification.

Master resource

identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this.

For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.

## RTD\_MarketDocument

## RealTimeData contextual model

An electronic document containing the information necessary to satisfy the requirements of a given business process.

### Native Members

<b>createdDateTime</b>	1..1	<a href="#">ESMP_DateTime</a>	The date and time of the creation of the document.
<b>mRID</b>	1..1	<a href="#">ID_String</a>	The unique identification of the document being exchanged within a business process flow.
			In the ESMP context, the "model authority" is defined as a party (originator of the exchange) that provides an identification in the context of a business exchange such as document identification, ...
			Master resource identifier issued by a

model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this.

For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.

## RTD\_MarketDocument

## RealTimeData assembly model

An electronic document containing the information necessary to satisfy the requirements of a given business process.

### Native Members

<b>createdDateTime</b>	1..1	<u>ESMP_DateTime</u>	The date and time of the creation of the document.
<b>mRID</b>	1..1	<u>ID_String</u>	<p>The unique identification of the document being exchanged within a business process flow.</p> <p>In the ESMP context, the "model authority" is defined as a party (originator of the exchange) that provides an identification in the context of a business exchange such as document identification, ...</p> <p>Master resource identifier issued by a model authority. The</p>

mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this.

For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.

## TimeSeries

## RealTimeData assembly model

A set of time-ordered quantities being exchanged in relation to a product.

In the ESMP profile, the TimeSeries provides not only time-ordered quantities but also time-ordered information.

### Native Members

---

**dateAndOrTime.dateTime** 0..1 [DateTime](#)

Date and time as per ISO 8601 YYYY-MM-DDThh:mm:ss.sssZ.  
--- A date and/or time associated with a TimeSeries.

**registeredResource.mRID** 0..1 [ResourceID\\_String](#)

The unique identification of a resource.

In the ESMP context, the "model authority" is defined as an authorized issuing office that provides an agreed identification coding scheme for market participant, domain, measurement point, resources (generator, lines, substations, etc.) identification.

Master resource identifier issued by a model authority. The mRID is globally unique within an exchange context. Global uniqueness is easily achieved by using a UUID for the mRID. It is strongly recommended to do this.

For CIMXML data files in RDF syntax, the mRID is mapped to rdf:ID or rdf:about attributes that identify CIM object elements.  
--- The identification of a resource associated with a TimeSeries.

<b>version</b>	1..1	<a href="#">ESMPVersion_String</a>	The identification of the version of the time series.
----------------	------	------------------------------------	---

## TimeSeries

## RealTimeData contextual model

A set of time-ordered quantities being exchanged in relation to a product.  
In the ESMP profile, the TimeSeries provides not only time-ordered quantities but also time-ordered information.

### Native Members

<b>version</b>	1..1	<a href="#">ESMPVersion_String</a>	The identification of the version of the time series.
----------------	------	------------------------------------	---

<b>RegisteredResource</b>	[0..1]	<a href="#">RegisteredResource</a>	The identification of a resource associated with a TimeSeries.
---------------------------	--------	------------------------------------	--

<b>DateAndOrTime</b>	[1..1]	<a href="#">DateAndOrTime</a>	A date and/or time associated with a TimeSeries.
----------------------	--------	-------------------------------	--

# Enumerations

## CodingSchemeTypeList

## ESMPEnumerations

Codification scheme used to identify the coding scheme used for the set of coded values to identify specific objects.

---

<b>EIC</b>	The coding scheme is the Energy Identification Coding Scheme (EIC), maintained by ENTSO-E.
------------	--

---

<b>GS1</b>	The coding scheme for the preceding attribute is the Global Location Number (GLN 13) or Global Service Relation Number (GSRN 18), maintained by GS1.
------------	--

---

<b>Andorra National coding scheme</b>	The National coding scheme of the country in question.
---------------------------------------	--

---

<b>Albania National coding scheme</b>	The National coding scheme of the country in question.
---------------------------------------	--

---

<b>Armenia National coding scheme</b>	The National coding scheme of the country in question.
---------------------------------------	--

---

<b>Austria National coding scheme</b>	The National coding scheme of the country in question.
---------------------------------------	--

---

<b>Azerbaijan National coding scheme</b>	The National coding scheme of the country in question.
--	--

---

<b>Bosnia and Herzegovina National coding scheme</b>	The National coding scheme of the country in question.
--	--

---

<b>Belgium National coding scheme</b>	The National coding scheme of the country in question.
---------------------------------------	--

---

<b>Bulgaria National coding scheme</b>	The National coding scheme of the country in question.
--	--

---

<b>Switzerland National coding scheme</b>	The National coding scheme of the country in question.
---	--

---

<b>Serbia and Montenegro National coding scheme</b>	The National coding scheme of the country in question.
---	--

---

**Czech Republic National coding scheme** The National coding scheme of the country in question.

---

**Germany National coding scheme** The National coding scheme of the country in question.

---

**Denmark National coding scheme** The National coding scheme of the country in question.

---

**Estonia National coding scheme** The National coding scheme of the country in question.

---

**Spain National coding scheme** The National coding scheme of the country in question.

---

**Finland National coding scheme** The National coding scheme of the country in question.

---

**France National coding scheme** The National coding scheme of the country in question.

---

**United Kingdom National coding scheme** The National coding scheme of the country in question.

---

**Georgia National coding scheme** The National coding scheme of the country in question.

---

**Gibraltar National coding scheme** The National coding scheme of the country in question.

---

**Greece National coding scheme** The National coding scheme of the country in question.

---

**Croatia National coding scheme** The National coding scheme of the country in question.

---

**Hungary National coding scheme** The National coding scheme of the country in question.

---

**Ireland National coding scheme** The National coding scheme of the country in question.

---

**Italy National coding scheme** The National coding scheme of the country in question.

---

**Kyrgyzstan National** The National coding scheme of the country in question.

**coding scheme**

---

**Kazakhstan National coding scheme** The National coding scheme of the country in question.

---

**Liechtenstein National coding scheme** The National coding scheme of the country in question.

---

**Lithuania National coding scheme** The National coding scheme of the country in question.

---

**Luxembourg National coding scheme** The National coding scheme of the country in question.

---

**Latvia National coding scheme** The National coding scheme of the country in question.

---

**Morocco National coding scheme** The National coding scheme of the country in question.

---

**Moldavia National coding scheme** The National coding scheme of the country in question.

---

**Macedonia National coding scheme** The National coding scheme of the country in question.

---

**Netherlands National coding scheme** The National coding scheme of the country in question.

---

**Nordic Regional coding scheme** The coding scheme of the Nordic region which covers Denmark, Finland, Norway and Sweden.

---

**Norway National coding scheme** The National coding scheme of the country in question.

---

**Poland National coding scheme** The National coding scheme of the country in question.

---

**Portugal National coding scheme** The National coding scheme of the country in question.

---

**Romania National coding scheme** The National coding scheme of the country in question.

---

**Russian Federation National coding scheme** The National coding scheme of the country in question.

<b>Sweden National coding scheme</b>	The National coding scheme of the country in question.
<b>Slovenia National coding scheme</b>	The National coding scheme of the country in question.
<b>Slovakia National coding scheme</b>	The National coding scheme of the country in question.
<b>Turkey National coding scheme</b>	The National coding scheme of the country in question.
<b>Ukraine National coding scheme</b>	The National coding scheme of the country in question.
<b>CGM</b>	The coding scheme used for Common Grid Model Exchange Standard (CGMES).
<b>Cyprus National coding scheme</b>	The National coding scheme of the country in question.

## QualityTypeList

The quality of an object.

## ESMPEnumerations

<b>Adjusted</b>	The contents of the object have been adjusted.
<b>Not available</b>	The contents of the object are not available.
<b>Estimated</b>	The contents of the object are estimated. The code is typically used when measured values are missing and an estimate is made based on historical data.
<b>As provided</b>	The contents of the object are as provided.
<b>Incomplete</b>	The contents of the object are calculated based on incomplete data.
<b>Calculated</b>	The contents of the object are calculated. The code is typically used when a value is calculated based on several other known values.

**QuantityTypeKind****IEC62746DataTypes**

CEEDS specific enumeration for the mapping of OBIS codes in the DLMS/COSEM definition cf. IEC 62056

<b>Total_Active_Energy_Consumed_kWh</b>	OBIS Code: 1-0:1.8.0 ActiveEnergySumDrawn
<b>Total_Active_Energy_Produced_kWh</b>	OBIS Code: 1-0:2.8.0 ActiveEnergySumSupply
<b>Instantaneous_Active_Power_Consumption_kw</b>	OBIS Code: 1-0:1.7.0 ActivePowerRTDrawn
<b>Instantaneous_Active_Power_Generation_kw</b>	OBIS Code: 1-0:2.7.0 ActivePowerRTSupply
<b>Instantaneous_Voltage_V_in_phase_L1</b>	OBIS Code: 1-0:32.7.0 Instantaneous voltage (U) in phase L1 [V]
<b>Instantaneous_Voltage_V_in_phase_L2</b>	OBIS Code: 1-0:52.7.0 Instantaneous voltage (U) in phase L2 [V]
<b>Instantaneous_Voltage_V_in_phase_L3</b>	OBIS Code: 1-0:72.7.0 Instantaneous voltage (U) in phase L3 [V]
<b>Instantaneous_Current_A_in_phase_L1</b>	OBIS Code: 1-0:31.7.0 Instantaneous current (I) in phase L1 [A]
<b>Instantaneous_Current_A_in_phase_L2</b>	OBIS Code: 1-0:51.7.0 Instantaneous current (I) in phase L2 [A]
<b>Instantaneous_Current_A_in_phase_L3</b>	OBIS Code: 1-0:71.7.0 Instantaneous current (I) in phase L3[A]

<b>Instantaneous_PowerFactor</b>	OBIS Code: 1-0:13.7.0 Instantaneous power factor
<b>Total_Active_Energy_Consumed_kWh_in_phase_L1</b>	OBIS Code 1-0:21.8.0 Positive active energy (A+) in phase L1 total [kWh]
<b>Total_Active_Energy_Consumed_kWh_in_phase_L2</b>	OBIS Code 1-0:41.8.0 Positive active energy (A+) in phase L2 total [kWh]
<b>Total_Active_Energy_Consumed_kWh_in_phase_L3</b>	OBIS Code 1-0:61.8.0 Positive active energy (A+) in phase L3 total [kWh]
<b>Total_Active_Energy_Produced_kWh_in_phase_L1</b>	OBIS Code 1-0:22.8.0 Negative active energy (A+) in phase L1 total [kWh]
<b>Total_Active_Energy_Produced_kWh_in_phase_L2</b>	OBIS Code 1-0:42.8.0 Negative active energy (A+) in phase L2 total [kWh]
<b>Total_Active_Energy_Produced_kWh_in_phase_L3</b>	OBIS Code 1-0:62.8.0 Negative active energy (A+) in phase L3 total [kWh]
<b>Instantaneous_Active_Power_Consumption_kw_in_phase_L1</b>	OBIS Code: 1-0:21.7.0 Positive active instantaneous power (A+) in phase L1 [kW]
<b>Instantaneous_Active_Power_Consumption_kw_in_phase_L2</b>	OBIS Code: 1-0:41.7.0 Positive active instantaneous power (A+) in phase L2 [kW]
<b>Instantaneous_Active_Power_Consumption_kw_in_phase_L3</b>	OBIS Code: 1-0:61.7.0 Positive active instantaneous power (A+) in phase L3 [kW]
<b>Instantaneous_Reactive_Power_Consumption_kvar</b>	OBIS Code: 1-0:3.7.0 Positive reactive instantaneous power (Q+) [kvar]
<b>Instantaneous_Reactive_Power_Consumption_kvar_in</b>	OBIS Code: 1-0:23.7.0 Positive reactive instantaneous power (Q+) [kvar]

<b>phase_L1</b>	reactive instantaneous power (Q+) in phase L1 [kvar]
<b>Instantaneous_Reactive_Power_Consumption_kvar_in_phase_L2</b>	OBIS Code: 1-0:43.7.0 Positive reactive instantaneous power (Q+) in phase L2 [kvar]
<b>Instantaneous_Reactive_Power_Consumption_kvar_in_phase_L3</b>	OBIS Code: 1-0:63.7.0 Positive reactive instantaneous power (Q+) in phase L3 [kvar]
<b>Instantaneous_Reactive_Power_Generation_kvar</b>	OBIS Code: 1-0:4.7.0 Negative reactive instantaneous power (Q-) [kvar]
<b>Instantaneous_Voltage_V</b>	OBIS Code: 1-0:12.7.0 Instantaneous voltage (U) [V]
<b>Instantaneous_Current_A</b>	OBIS Code: 1-0:11.7.0 Instantaneous current (I) [A]
<b>Instantaneous_Current_A_in_phase_neutral</b>	OBIS Code: 1-0:91.7.0 Instantaneous current (I) in neutral [A]
<b>Maximum_Current_A</b>	OBIS Code: 1-0:11.6.0 Maximum current (I max) [A]
<b>Maximum_Current_A_in_phase_L1</b>	OBIS Code: 1-0:31.6.0 Maximum current (I max) in phase L1 [A]
<b>Maximum_Current_A_in_phase_L2</b>	OBIS Code: 1-0:51.6.0 Maximum current (I max) in phase L2 [A]
<b>Maximum_Current_A_in_phase_L3</b>	OBIS Code: 1-0:51.6.0 Maximum current (I max) in phase L3 [A]
<b>Instantaneous_Power_Factor_in_phase_L1</b>	OBIS Code: 1-0:33.7.0 Instantaneous power factor in phase L1
<b>Instantaneous_Power_Factor_in_phase_L2</b>	OBIS Code: 1-0:53.7.0 Instantaneous power factor in

phase L2

<b>Instantaneous_Power_Factor_in_phase_L3</b>	OBIS Code: 1-0:73.7.0 Instantaneous power factor in phase L3
<b>Frequency_Hz</b>	OBIS Code: 1-0:14.7.0 Frequency [Hz]

## Compound types

### Datatypes

#### MeasurementPointID\_String

#### ESMPDataTypes

The coded identification of a domain covering a number of related objects, such as metering point, accounting point, etc.

In the ESMP context, it is an authorized issuing office that provides an agreed identification coding scheme for measurement point identification.

<b>codingScheme</b>	1..1	<a href="#">CodingSchemeTypeList</a>	DomainQualification.
<b>value</b>	1..1	<a href="#">String</a>	Main Core value Space.

#### Quality\_String

#### ESMPDataTypes

The coded identification of the quality of the information.

<b>value</b>	1..1	<a href="#">QualityTypeList</a>	Main Core value Space.
--------------	------	---------------------------------	------------------------

#### ResourceID\_String

#### ESMPDataTypes

The identification of a resource object in the energy market.

In the ESMP context, it is an authorized issuing office that provides an agreed identification coding

scheme for resources (generator, lines, substations, etc.) identification.

<b>codingScheme</b>	1..1	<a href="#">CodingSchemeTypeList</a>	DomainQualification.
<b>value</b>	1..1	<a href="#">String</a>	Main Core value Space.

## ESMP\_DateTime

## ESMPDataTypes

In ESMP, the dateTime shall be expressed in UTC as YYYY-MM-DDThh:mm:ssZ.

<b>value</b>	1..1	<a href="#">DateTime</a>	Main Core value Space.
--------------	------	--------------------------	------------------------

## ID\_String

## ESMPDataTypes

A code to uniquely distinguish one occurrence of an entity from another.

In the ESMP context, the code is defined either by:

- an emitting company that provides an agreed identification unique within a business context such as capacity auction identification, market agreement identification, etc.
- a party (originator of the exchange) that provides a unique identification in the framework of a business exchange such as document identification, time series identification, bid identification, ...

<b>value</b>	1..1	<a href="#">String</a>	Main Core value Space.
--------------	------	------------------------	------------------------

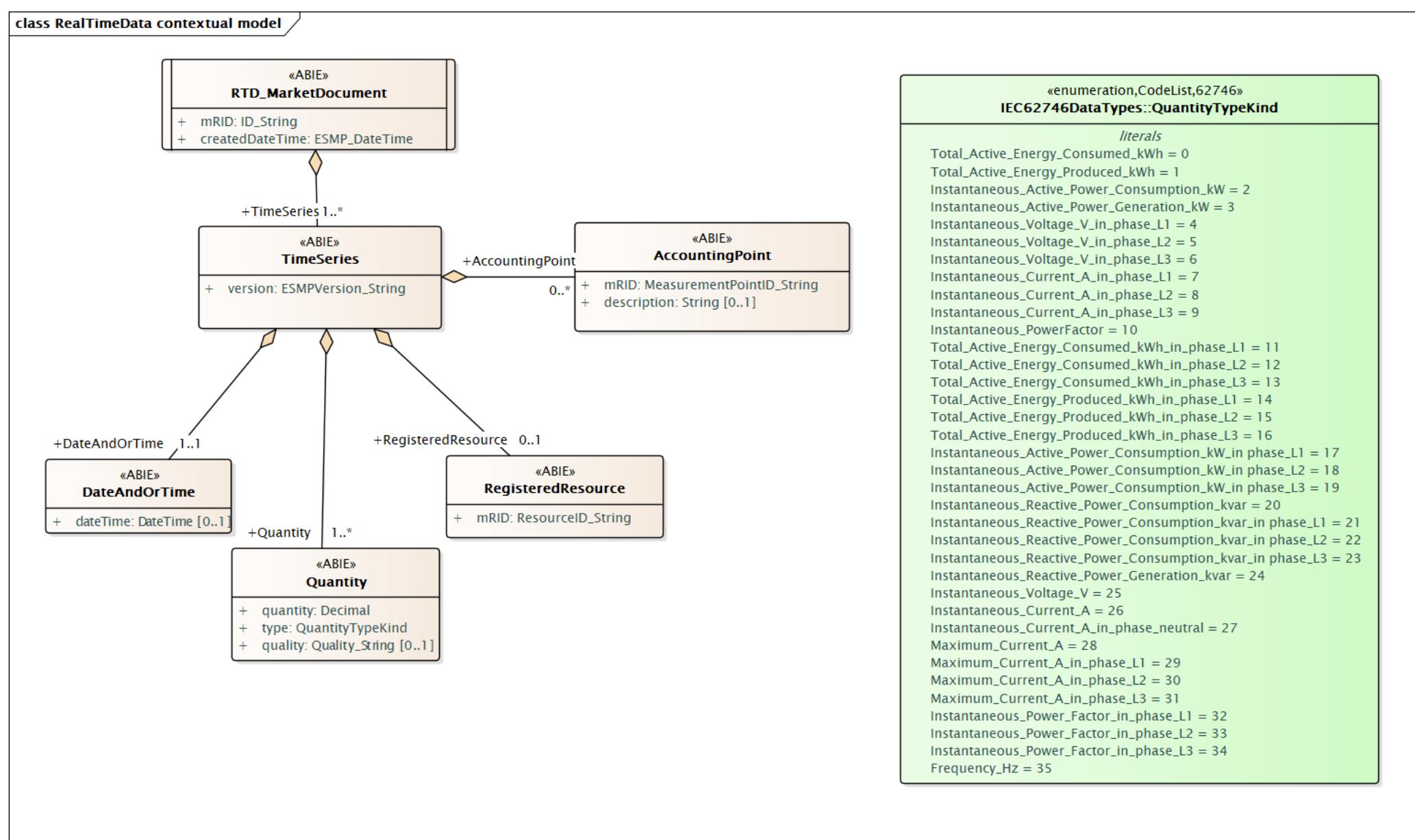
## ESMPVersion\_String

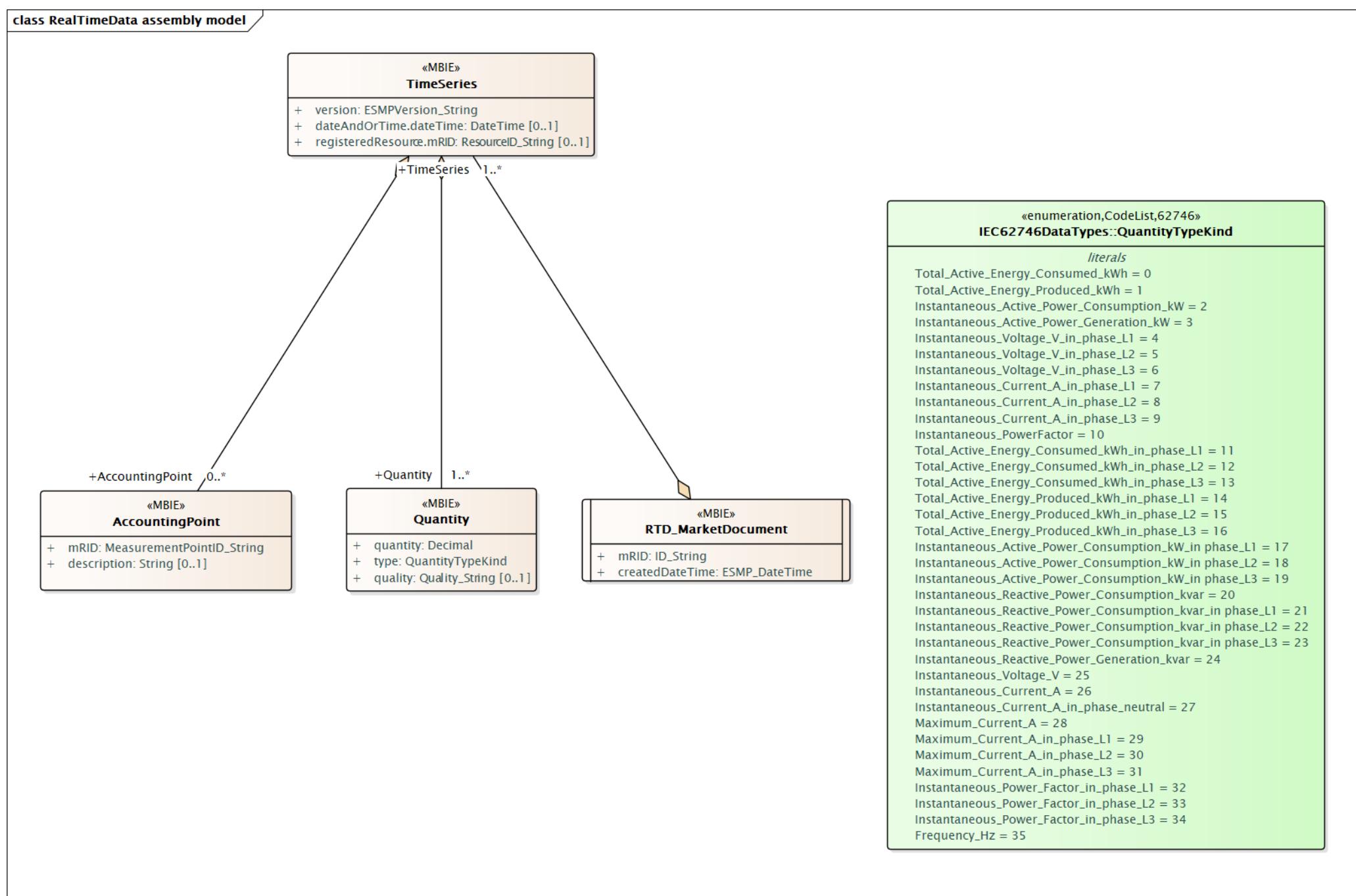
## ESMPDataTypes

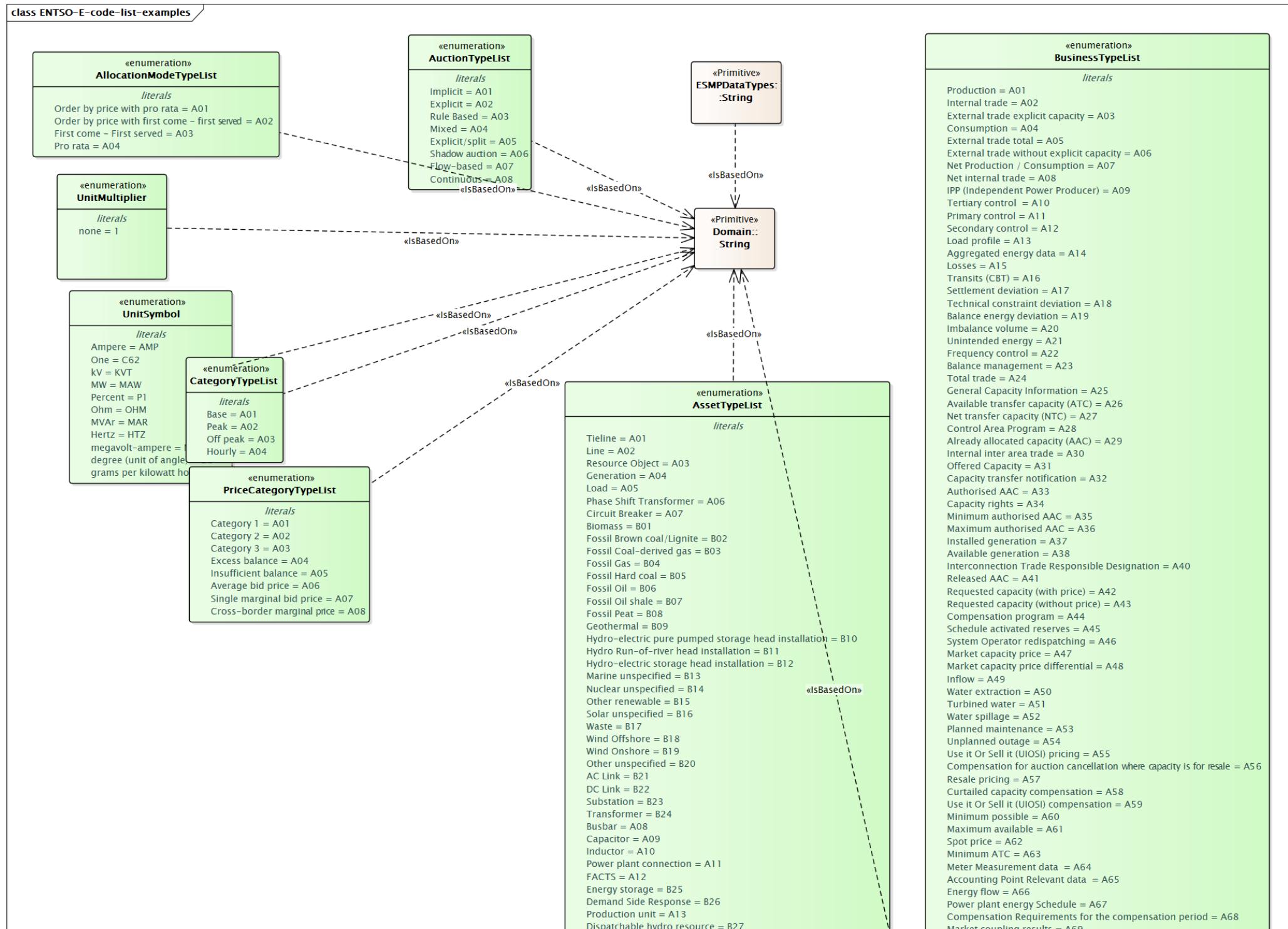
In ESMP, the coded value is restricted to digits.

A code that distinguishes one evolution of an identified object from another. Information about a specific object may be sent several times, each transmission being identified by a different version number.

<b>value</b>	1..1	<a href="#">String</a>	Main Core value Space.
--------------	------	------------------------	------------------------





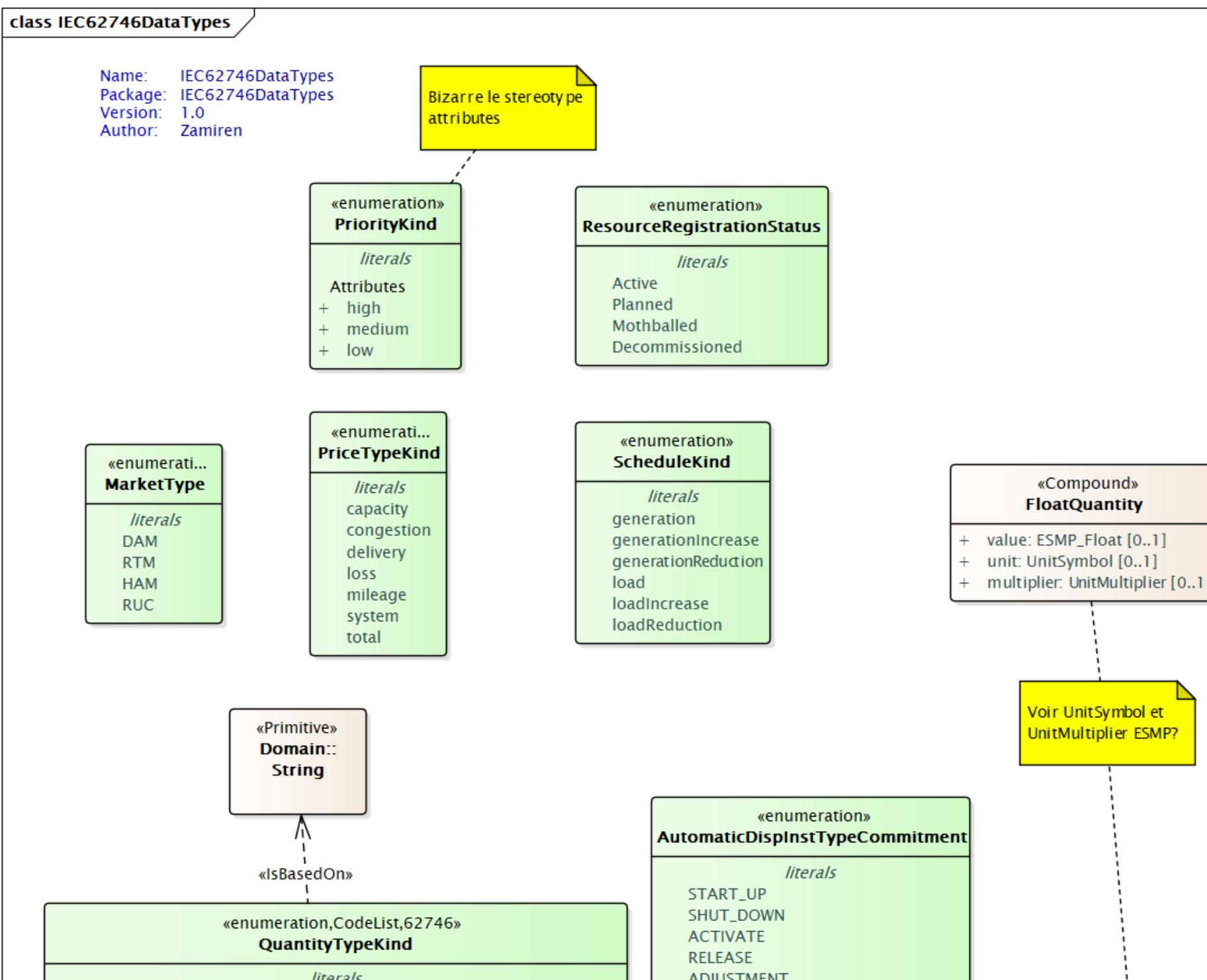


Solar photovoltaic = B28  
 Solar concentration = B29  
 Wind unspecified = B30  
 Hydro-electric unspecified = B31  
 Hydro-electric mixed pumped storage head installation = B32  
 Marine tidal = B33  
 Marine wave = B34  
 Marine currents = B35  
 Marine pressure = B36  
 Thermal unspecified = B37  
 Thermal combined cycle gas turbine with heat recovery = B38  
 Thermal steam turbine with back-pressure turbine (open cycle) = B39  
 Thermal steam turbine with condensation turbine (closed cycle) = B40  
 Thermal gas turbine with heat recovery = B41  
 Thermal internal combustion engine = B42  
 Thermal micro-turbine = B43  
 Thermal Stirling engine = B44  
 Thermal fuel cell = B45  
 Thermal steam engine = B46  
 Thermal organic Rankine cycle = B47  
 Thermal gas turbine without heat recovery = B48  
 Nuclear heavy water reactor = B49  
 Nuclear light water reactor = B50  
 Nuclear breeder = B51  
 Nuclear graphite reactor = B52

Production, unavailable = A70  
 Supplementary available generation = A71  
 Interruptible consumption = A72  
 Summarised Market Balance Area Schedule = A73  
 Load Frequency Control Program Schedule = A74  
 Timeframe Independent Schedule = A75  
 Consumption curtailment = A76  
 Production, dispatchable = A77  
 Consumption, dispatchable = A78  
 Production, non-dispatchable = A79  
 Consumption, non-dispatchable = A80  
 Total Transfer Capacity (TTC) = A81  
 Mutual Emergency Assistance Service (MEAS) = A82  
 Auction cancellation = A83  
 Nomination curtailment = A84  
 Internal redispatch = A85  
 Control area balance energy = A86  
 Balancing energy price = A87  
 Economised secondary reserve = A88  
 Spinning reserve = A89  
 Solar = A90  
 positive forecast margin = A91  
 Negative forecast margin = A92  
 Wind generation = A93  
 Solar generation = A94  
 Frequency containment reserve = A95  
 Automatic frequency restoration reserve = A96  
 Manual frequency restoration reserve = A97  
 Replacement reserve = A98  
 Financial information = A99  
 Interconnector network evolution = B01  
 Interconnector network dismantling = B02  
 Counter trade = B03  
 Congestion costs = B04  
 Capacity allocated (including price) = B05  
 DC link constraint = B06  
 Auction revenue = B07  
 Total nominated capacity = B08  
 Net position = B09  
 Congestion income = B10  
 Production unit = B11  
 Rounded market coupling results = B12  
 Allocation Revenue = B13  
 Production deviation = B14  
 Consumption deviation = B15  
 Transmission asset = B16  
 Consumption unit = B17  
 In-feed ATC = B18  
 Out-feed ATC = B19  
 Balance up regulation price = B20  
 Balance down regulation price = B21  
 Main direction = B22  
 Consumption imbalance price = B23  
 Production sales imbalance price = B24  
 Production purchase imbalance price = B25  
 Average balance price between MBAs = B26  
 Pumped = B27  
 Large installation consumption = B28  
 Metering Grid Area (MGA) imbalance = B29  
 HVDC Link settings = B30  
 Transmission Reliability Margin (TRM) = B31  
 Imbalance component for a pool = B32  
 Area Control error (ACE) = B33  
 Area Control Error after Imbalance Netting = B34  
 Implicit and explicit trade total = B35  
 Production units own consumption = B36  
 Constraint situation = B37  
 Initial domain = B38  
 Flow based domain adjusted to long term schedules = B39  
 Network element constraint = B40  
 Calculation opposition (Red Flag) = B41  
 Base case proportional shift key = B42  
 Proportional to participation factors shift key = B43  
 Proportional to the remaining capacity shift key = B44

Merit order shift key = B45  
 Wind speed = B46  
 Wind direction = B47  
 Solar irradiance = B48  
 Air temperature = B49  
 Cloudiness = B50  
 Air humidity = B51  
 Atmospheric pressure = B52  
 Precipitation = B53  
 Network constraint situation that constraints the market = B54  
 Contingency = B55  
 Remedial Action = B56  
 Monitored Network Element = B57  
 Busbar = B58  
 Network Element = B59  
 SPS = B60  
 Aggregated netted external market schedule = B61  
 Aggregated netted external TSO schedule = B62  
 Aggregated netted external schedule = B63  
 Netted area AC position = B64  
 Netted area position = B65  
 Interconnection shift key = B66  
 DC flow with losses = B67  
 DC flow without losses = B68  
 minimum value of netted area position = B69  
 maximum value of netted area position = B70  
 maximum value of DC flow = B71  
 minimum value of DC flow = B72  
 indicative AC flow = B73  
 Offer = B74  
 Need = B75  
 Opportunity costs or benefits = B76  
 Financial compensation or penalties = B77  
 Global radiation = B78  
 Diffuse radiation = B79  
 Direct solar radiation = B80  
 Outage (OUT) = B81  
 Special switching state (SSS) = B82  
 Testing (TEST) = B83  
 Auxiliary busbar operation = B84  
 Automatic reclosing = B85  
 Busbar protection = B86  
 Phase Shift Angle = B87  
 Base Case Network Situation = B88  
 Inter-TSO assistance = B89  
 FlexibleNeed = B90  
 GLSK Limitation = B91  
 Capacity ramping limitation = B92  
 interconnector capacity = B93  
 Must Run = B94  
 Procured capacity = B95  
 Used capacity = B96  
 Estimated costs = B97  
 Estimated benefits = B98  
 Load Shedding = B99  
 Remaining Capacity = C01  
 Indicator of generation capacity adequacy = C02  
 Income from price divergence without congestions = C03  
 Push-button = C04  
 Interripping = C05  
 Emergency instruction = C06  
 Ramp management = C07  
 Profile smoothing = C08  
 Emergency reallocation deselection = C09  
 SO-SO-trade = C10  
 Production reduction = C11  
 Maximum power exchange = C12  
 Maximum power exchange after remedial actions = C13  
 Network constraint situation that cannot limit the market = C14  
 Flat participation for all generators or loads = C15  
 Proportional to installed capacity of generators = C16  
 Market price and total volume = C17  
 Import price = C18  
 Capacity allocated (excluding price) = C19  
 Common Grid Model Equipment = C20

Exchanged balancing reserve capacity = C21  
Shared balancing reserve capacity = C22  
Share of reserve capacity = C23  
Actual reserve capacity = C24  
K-factor = C25  
Frequency Containment Reserve–Normal (FCR–N) = C26  
Frequency Containment Reserve–Disturbance (FCR–D) = C27  
Internal trade difference = C28  
Small scale production = C29  
System price = C30  
Wind gust = C31  
Area imbalance = C32  
Unintended energy price = C33  
Frequency containment process energy = C34  
Frequency containment process energy price = C35  
Ramping period energy = C36  
Ramping period energy price = C37  
Frequency deviation = C38  
Day-Ahead market price = C39  
Conditional bid = C40  
Thermal limit = C41  
Frequency Limit = C42  
Voltage limit = C43  
Current limit = C44  
Short circuit current limit = C45  
Dynamic stability limit = C46  
Disconnection = C47  
Intended energy with positive price = C48  
Intended energy with negative price = C49  
Decoupling = C50  
Resource capacity unit = C51  
Resource entry capacity data = C52  
Resource capacity obligation data = C53  
Available energy = C54  
Production curtailment = C55  
Rounding error = C56  
Metered frequency = C57  
Adjusted TTC to the nominal criteria = C58  
Adjusted TTC to the nominal criteria with TSOs limitation = C59  
Frequency deviation larger than standard deviation = C60  
Frequency deviation larger than maximum deviation = C61  
Frequency deviation not returned to 50% = C62  
Frequency deviation not returned to restoration range = C63  
Frequency deviation outside recovery range = C64  
Frequency = C65  
Mean value = C66  
Standard deviation = C67  
Percentile = C68  
Measured frequency resolution = C69  
Accuracy = C70  
FRCE outside level 1 range = C71  
FRCE outside level 2 range = C72  
FRCE exceeded 60% of FRR capacity = C73  
FRCE exceeded steady state deviation = C74  
FRCE calculation and accuracy descriptor = C75  
Forecasted capacity = C76  
Minimum available capacity = C77  
Average available capacity = C78  
Maximum available capacity = C79  
Frequency and accuracy descriptor = C80  
Long-Term internal redispatch = C81  
Other unavailability = C82  
Faster than standard FAT = C83  
Faster than standard deactivation time = C84  
Slower than standard FAT = C85  
Remedial action cost summary = C86  
Settlement result = C87  
Reserved cross zonal capacity = C88  
Energy reserves = C89  
Combined dynamic constraint = C90  
Anonymised constraint = C91



```

Total_Active_Energy_Consumed_kWh = 0
Total_Active_Energy_Produced_kWh = 1
Instantaneous_Active_Power_Consumption_kW = 2
Instantaneous_Active_Power_Generation_kW = 3
Instantaneous_Voltage_V_in_phase_L1 = 4
Instantaneous_Voltage_V_in_phase_L2 = 5
Instantaneous_Voltage_V_in_phase_L3 = 6
Instantaneous_Current_A_in_phase_L1 = 7
Instantaneous_Current_A_in_phase_L2 = 8
Instantaneous_Current_A_in_phase_L3 = 9
Instantaneous_PowerFactor = 10
Total_Active_Energy_Consumed_kWh_in_phase_L1 = 11
Total_Active_Energy_Consumed_kWh_in_phase_L2 = 12
Total_Active_Energy_Consumed_kWh_in_phase_L3 = 13
Total_Active_Energy_Produced_kWh_in_phase_L1 = 14
Total_Active_Energy_Produced_kWh_in_phase_L2 = 15
Total_Active_Energy_Produced_kWh_in_phase_L3 = 16
Instantaneous_Active_Power_Consumption_kW_in phase_L1 = 17
Instantaneous_Active_Power_Consumption_kW_in phase_L2 = 18
Instantaneous_Active_Power_Consumption_kW_in phase_L3 = 19
Instantaneous_Reactive_Power_Consumption_kvar = 20
Instantaneous_Reactive_Power_Consumption_kvar_in phase_L1 = 21
Instantaneous_Reactive_Power_Consumption_kvar_in phase_L2 = 22
Instantaneous_Reactive_Power_Consumption_kvar_in phase_L3 = 23
Instantaneous_Reactive_Power_Generation_kvar = 24
Instantaneous_Voltage_V = 25
Instantaneous_Current_A = 26
Instantaneous_Current_A_in_phase_neutral = 27
Maximum_Current_A = 28
Maximum_Current_A_in_phase_L1 = 29
Maximum_Current_A_in_phase_L2 = 30
Maximum_Current_A_in_phase_L3 = 31
Instantaneous_Power_Factor_in_phase_L1 = 32
Instantaneous_Power_Factor_in_phase_L2 = 33
Instantaneous_Power_Factor_in_phase_L3 = 34
Frequency_Hz = 35

```

«Compound»  
**ActivePowerChangeRate**

- + multiplier: UnitMultiplier [0..1]
- + unit: UnitSymbol [0..1] = WPers {readOnly}
- + value: ESMP\_Float [0..1]

