

# API for Units of Measure v1 (Direct Sales)

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## Overview

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An API to retrieve or convert [unit of measure](#) data.

## API General Info

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### Response Content Type

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It is possible to switch between `json` and `xml` response types by setting an `Accept` header to either `application/json` or `application/xml` respectively.

### Successful Responses

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#### Response Codes

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- **200** - The request was executed successfully and the server returned some data. The return content type is specified inside a response header called `content-type`. Example content types are `application/xml`, `application/json`, `application/zip` and `text/plain`.
- **204** - The request was executed successfully and the server returned no data. If the `Location` header was present then the server responded with a redirect.

### Error Responses

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If the API call resulted in an error then the error code will be returned along with the error object in the response body. The error object contains the attributes listed below:

- **type** - type of the error
- **cause** - the root cause of the error
- **message** - message containing details of the related error
- **uuid** - a unique identifier of the error which also may appear in the exception logs
- **timestamp** - the time of the error

**Note:** For chunked responses, the socket will be closed prematurely if an error occurs after the initial chunk containing the status code has been sent.

#### Response Codes

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- **400** - The request contains invalid parameters or there are invalid settings. Consult the error message and/or check Administration for invalid settings.
- **401** - The user is not authenticated.
- **403** - The user is not authorized access to the specified endpoint.
- **404** - The specified endpoint does not exist or a request parameter is invalid. Consult the error message.
- **405** - The specified endpoint does not support the requested operation. Consult the error message.
- **409** - The specified endpoint is in a state incompatible with the requested operation. Consult the error message.
- **500** - Unknown error occurred while processing the request. Consult the CPQ logs for more information.
- **504** - The specified concurrent calls limit was exceeded and the server was not able to serve the response in a specified timeout limit. That error is always served with the xml body containing the description.

## Endpoints by Category

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### Unit Item

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#### **GET /api/units-of-measure/v1/uom-item/[id]**

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Retrieve a Unit Item defined in the latest revision of the Units of Measure data.

Parameter	Type	Description
id	String	The identity of the Unit Item
<i>Result</i>	<a href="#">GetUoMItemOutput</a>	A Unit Item resource

#### **GET /api/units-of-measure/v1/uom-item?uom-domain-id=[uoMDomainId]&uom-system-id=[uoMSystemId]**

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Retrieve a Unit Item defined in the latest revision of the Units of Measure data by Unit Domain and Unit System.

Parameter	Type	Description
uom-system-id	String	The identity of the Unit System
uom-domain-id	String	The identity of the Unit Domain
<i>Result</i>	<a href="#">GetUoMItemOutput</a>	A Unit Item resource

**GET /api/units-of-measure/v1/enumerated-elements?uom-domain-id=[uoMDomainId]&uom-system-id=[uoMSystemId]**

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Retrieve a list of Enumerated Elements defined in the latest revision of the Units of Measure data by Unit Domain and Unit System.

Parameter	Type	Description
uom-system-id	String	The identity of the Unit System
uom-domain-id	String	The identity of the Unit Domain
<i>Result</i>	<a href="#">GetEnumeratedElementListOutput</a>	An Enumerated Element resource list

**POST /api/units-of-measure/v1/convert-by-uom-item?input=[input]**

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Convert value from one Unit Item to another one defined in the latest revision of the Units of Measure data.

Parameter	Type	Description
input	<a href="#">ConvertValueByUoMItemIdInput</a>	The Convert Value by Unit Item ID input
<i>Result</i>	<a href="#">ConvertValueOutput</a>	A Converted Value resource

**POST /api/units-of-measure/v1/convert-by-parameters?input=[input]**

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Convert value from one Unit Item to another one defined in the latest revision of the Units of Measure data.

Parameter	Type	Description
input	<a href="#">ConvertValueByParametersInput</a>	The Convert Value by parameters input
<i>Result</i>	<a href="#">ConvertValueOutput</a>	A Converted Value resource

**GET /api/units-of-measure/v1/[objectType]/[objectId]/uom-item/[id]**

---

Retrieve a Unit Item defined in the specified revision of the Units of Measure data.

Parameter	Type	Description
objectType	String	The resource object type (ConfiguredProduct or ShoppingCartItem)
objectId	String	The identity of the resource
id	String	The identity of the Unit Item
<i>Result</i>	<a href="#">GetUoMItemOutput</a>	A Unit Item resource

**GET /api/units-of-measure/v1/[objectType]/[objectId]/uom-item?uom-domain-id=[uoMDomainId]&uom-system-id=[uoMSystemId]**

Retrieve a Unit Item defined in the specified revision of the Units of Measure data by Unit Domain and Unit System.

Parameter	Type	Description
objectType	String	The resource object type (ConfiguredProduct or ShoppingCartItem)
objectId	String	The identity of the resource
uom-system-id	String	The identity of the Unit System
uom-domain-id	String	The identity of the Unit Domain
<i>Result</i>	<a href="#">GetUoMItemOutput</a>	A Unit Item resource

**GET /api/units-of-measure/v1/[objectType]/[objectId]/enumerated-elements?uom-domain-id=[uoMDomainId]&uom-system-id=[uoMSystemId]**

Retrieve a list of Enumerated Elements defined in the specified revision of the Units of Measure data by Unit Domain and Unit System.

Parameter	Type	Description
objectType	String	The resource object type

Parameter	Type	Description
		(ConfiguredProduct or ShoppingCartItem)
objectId	String	The identity of the resource
uom-system-id	String	The identity of the Unit System
uom-domain-id	String	The identity of the Unit Domain
<i>Result</i>	<a href="#">GetEnumeratedElementListOutput</a>	An Enumerated Element resource list

**POST /api/units-of-measure/v1/[objectType]/[objectId]/convert-by-uom-item?  
input=[input]**

Convert value from one Unit Item to another one defined in the specified revision of the Units of Measure data.

Parameter	Type	Description
objectType	String	The resource object type (ConfiguredProduct or ShoppingCartItem)
objectId	String	The identity of the resource
input	<a href="#">ConvertValueByUoMItemIdInput</a>	The Convert Value by Unit Item ID input
<i>Result</i>	<a href="#">ConvertValueOutput</a>	A Converted Value resource

**POST /api/units-of-measure/v1/[objectType]/[objectId]/convert-by-parameters?  
input=[input]**

Convert value from one Unit Item to another one defined in the specified revision of the Units of Measure data.

Parameter	Type	Description
objectType	String	The resource object type (ConfiguredProduct or ShoppingCartItem)
objectId	String	The identity of the resource
input	<a href="#">ConvertValueByParametersInput</a>	The Convert Value by paramters input
<i>Result</i>	<a href="#">ConvertValueOutput</a>	A Converted Value resource

## Unit System

### GET /api/units-of-measure/v1/uom-system/list

Retrieve all Unit Systems defined in the latest revision of the Units of Measure data.

Parameter	Type	Description
<i>Result</i>	<a href="#">GetUoMSystemListOutput</a>	A list of Unit Systems resources

### GET /api/units-of-measure/v1/uom-system/[id]

Retrieve a Unit System defined in the latest revision of the Units of Measure data.

Parameter	Type	Description
id	String	The identity of the Unit System
<i>Result</i>	<a href="#">GetUoMSystemOutput</a>	A Unit System resource

### GET /api/units-of-measure/v1/uom-system?name=[name]

Retrieve a Unit System defined in the latest revision of the Units of Measure data.

Parameter	Type	Description
name	String	The name of the Unit System

Parameter	Type	Description
<i>Result</i>	<a href="#">GetUoMSystemOutput</a>	A Unit System resource

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**GET /api/units-of-measure/v1/[objectType]/[objectId]/uom-system/list**

Retrieve all Unit Systems defined in the specified revision of the Units of Measure data.

Parameter	Type	Description
objectType	String	The resource object type
objectId	String	The identity of the resource
<i>Result</i>	<a href="#">GetUoMSystemListOutput</a>	A list of Unit Systems resources

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**GET /api/units-of-measure/v1/[objectType]/[objectId]/uom-system/[id]**

Retrieve a Unit System defined in the specified revision of the Units of Measure data.

Parameter	Type	Description
objectType	String	The resource object type (ConfiguredProduct or ShoppingCartItem)
objectId	String	The identity of the resource
id	String	The identity of the Unit System
<i>Result</i>	<a href="#">GetUoMSystemOutput</a>	A Unit System resource

---

**GET /api/units-of-measure/v1/[objectType]/[objectId]/uom-system?name=[name]**

Retrieve a Unit System defined in the specified revision of the Units of Measure data

Parameter	Type	Description
objectType	String	The resource object type (ConfiguredProduct or ShoppingCartItem)
objectId	String	The identity of the resource

Parameter	Type	Description
name	String	The name of the Unit System
<i>Result</i>	<a href="#">GetUoMSystemOutput</a>	A Unit System resource

## Unit Type

### GET /api/units-of-measure/v1/uom-type/[id]

Retrieve a Unit Type defined in the latest revision of the Units of Measure data.

Parameter	Type	Description
id	String	The identity of the Unit Type
<i>Result</i>	<a href="#">GetUoMTypeOutput</a>	A Unit Type resource

### GET /api/units-of-measure/v1/uom-type?name=[name]

Retrieve a Unit Type defined in the latest revision of the Units of Measure data.

Parameter	Type	Description
name	String	The name of the Unit Type
<i>Result</i>	<a href="#">GetUoMTypeOutput</a>	A Unit Type resource

### GET /api/units-of-measure/v1/[objectType]/[objectId]/uom-type/[id]

Retrieve a Unit Type defined in the specified revision of the Units of Measure data.

Parameter	Type	Description
objectType	String	The resource object type (ConfiguredProduct or ShoppingCartItem)
objectId	String	The identity of the resource
id	String	The identity of the Unit Type
<i>Result</i>	<a href="#">GetUoMTypeOutput</a>	A Unit Type resource

### GET /api/units-of-measure/v1/[objectType]/[objectId]/uom-type?name=[name]

Retrieve a Unit Type defined in the specified revision of the Units of Measure data.

Parameter	Type	Description
objectType	String	The resource object type (ConfiguredProduct or ShoppingCartItem)
objectId	String	The identity of the resource
name	String	The name of the Unit Type
Result	<a href="#">GetUoMTypeOutput</a>	A Unit Type resource

## Data Types by Category

### Unit Item

#### ConvertValueByParametersInput

```
JSON XML
{
  "fromUoMItemId" : "", // Current Unit Item ID.
  "value" : "", // Value to convert.
  "uoMDomainId" : "", // The identity of the Unit Domain.
  "uoMSystemId" : "", // The identity of the Unit System.
  "numberOfDecimals" : 1 // (Optional) Number of Decimals, default:
}
```

#### ConvertValueByUoMItemIdInput

A Convert Value by Unit Item ID input.

```
JSON XML
{
  "toUoMItemId" : "", // Unit Item ID to convert
  "fromUoMItemId" : "", // Current Unit Item ID.
  "value" : "", // Value to convert.
  "numberOfDecimals" : 1, // (Optional) Number of Decimals, default:
  "significance" : 1 // (Optional) Significance, default: 0.
}
```

## ConvertValueOutput

---

A Convert Value output.

```
JSON XML
{
  "value" : "" // Converted value.
}
```

## GetUoMItemOutput

---

A get Unit Item output.

```
JSON XML
{
  "uoMItemResource" : {
    "uoMItemReference" : {
      "id" : ""
    }, // The UoM System Reference.
    "uoMItem" : {
      "name" : "", // The Unit Item name.
      "symbol" : "", // The Unit Item symbol.
      "conversionToBaseFormula" : "", // The Unit Item conversion to
      "conversionFromBaseFormula" : "" // The Unit Item conversion f
    } // The Unit Item.
  }
}
```

## Unit System

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### GetUoMSystemListOutput

---

A get Unit System list output.

JSON XML

```
{
  "uoMSystemResources" : [
    {
      "uoMSystemReference" : {
        "id" : ""
      }, // The Unit System Reference.
      "uoMSystem" : {
        "name" : "", // The Unit System name.
        "description" : "" // (Optional) The Unit System description
      } // The Unit System.
    },
    ...
  ] // The Unit System resource list.
}
```

### GetUoMSystemOutput

---

A get Unit System output.

JSON XML

```
{
  "uoMSystemResource" : {
    "uoMSystemReference" : {
      "id" : ""
    }, // The Unit System Reference.
    "uoMSystem" : {
      "name" : "", // The Unit System name.
      "description" : "" // (Optional) The Unit System description.
    } // The Unit System.
  } // The Unit System resource.
}
```

### Unit Type

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#### GetEnumeratedElementListOutput

---

A get Enumerated Element List for Unit Type output.

JSON XML

```
{
  "enumeratedElementResourceList" : [
    {
      "enumeratedElementReference" : {
        "id" : "" // The Enumerated Element Row ID.
      }, // The Enumerated Element Reference.
      "enumeratedElement" : {
        "name" : "", // The Enumerated Element name.
        "description" : "" // The Enumerated Element description.
      } // The Enumerated Element.
    },
    ...
  ] // The Enumerated Element Resource list.
}
```

### **GetUoMTypeOutput**

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A get Unit Type output.

```
{
  "uoMTypeResource" : {
    "uoMItemReference" : {
      "id" : ""
    }, // The Unit Type Reference.
    "uoMType" : {
      "name" : "", // The Unit Type name.
      "description" : "" // (Optional) The Unit Type description.
    } // The Unit Type.
  }, // The Unit Type resource.
  "uoMItemResourceList" : [
    {
      "uoMItemReference" : {
        "id" : ""
      }, // The UoM System Reference.
      "uoMItem" : {
        "name" : "", // The Unit Item name.
        "symbol" : "", // The Unit Item symbol.
        "conversionToBaseFormula" : "", // The Unit Item conversion
        "conversionFromBaseFormula" : "" // The Unit Item conversion
      } // The Unit Item.
    },
    ...
  ] // The UoM Item Resource list.
}
```

