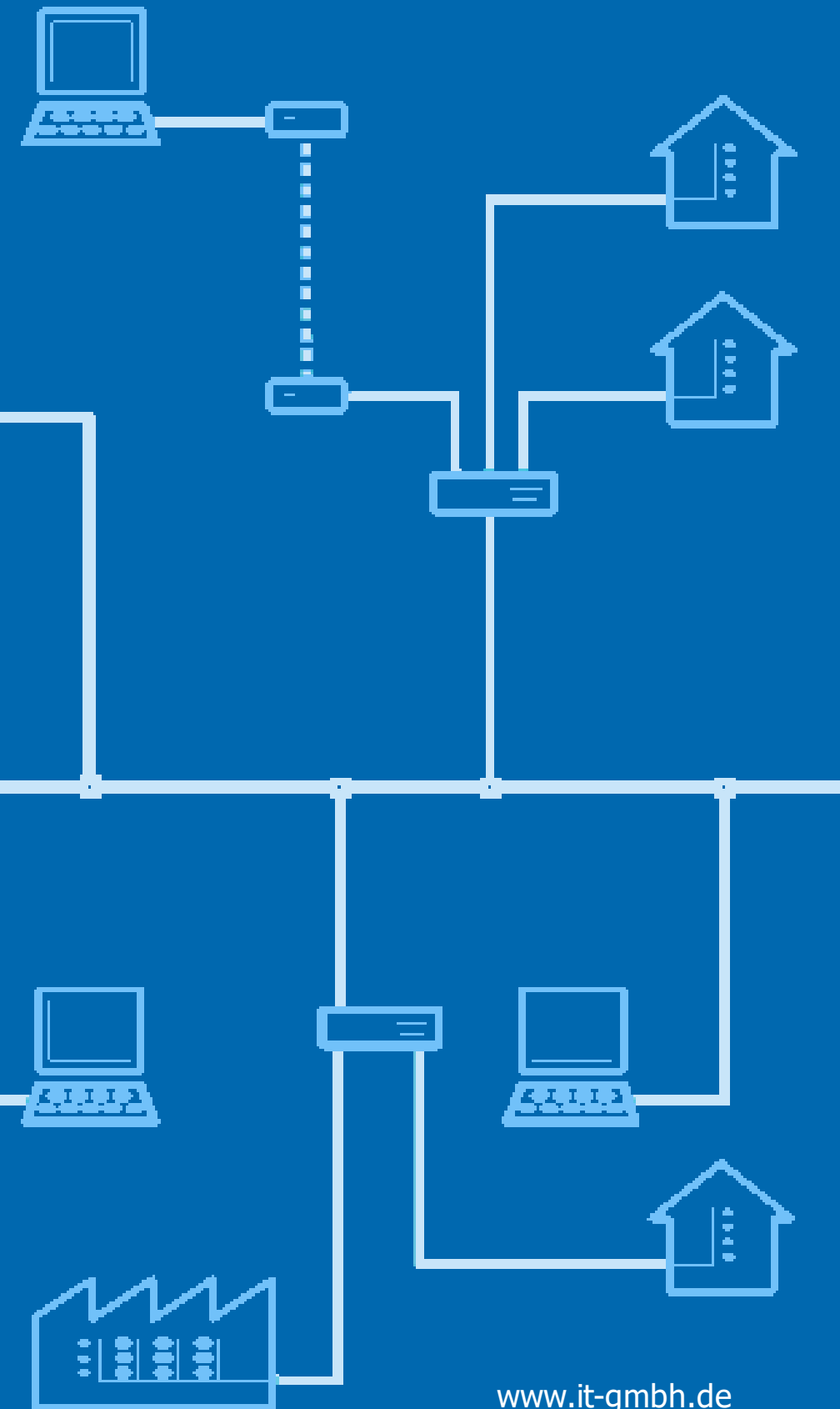




Gesellschaft für  
Informationstechnik mbH



# Manual ProjectDataExchange

[www.it-gmbh.de](http://www.it-gmbh.de)

# **ProjectDataExchange**

**Manual**

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# Chapter



**Welcome**

# 1 Welcome

We congratulate to your purchase of the ETS App ProjectDataExchange, and thank you for choosing one of our products.

The available functions in ProjectDataExchange may be restricted by the used ETS license. In addition you find further details in the on-line help of ETS.

Knowledge of Windows and ETS is necessary for an understanding of the contents described.

## [Features](#)

### How to ...

- [Import data](#)
- [Export project data](#)
- [Export product data](#)

### Windows

- [App Window](#)

### Additional Information

- [Contact \(Orders, Support\)](#)

## 1.1 Conventions

The following conventions were used for this manual:

- **Bold** print either highlights important terms, denotes a menu command or pressing a button.
- *Italic* print indicates a variable text, e.g. *Project file* indicates that the name of your project file is meant here.
- > and >> the symbol > in a brief description denotes an operational sequence. In front of the sequence symbol > there may be a site specification e.g. main menu or context menu.  
Example: main menu > Edit > Properties properties-page > General means that in the main menu you should first select the Edit menu command and in it the Properties command, then proceed in the dialog which has opened up to the General properties page.  
If a double mouse click is necessary the sequence symbol will be doubled >>. The terms left/right mouse button refer to the standard Windows setting.

Screen images and operating sequences refer to a Windows 10 operating system. If you use another operating system, your display or operation may deviate from the illustrations in this manual.

## 1.2 Features

Using ProjectDataExchange you can [export](#) and [import](#) the following data for the current ETS project in XML format:

- Project history
- Topology with areas, lines and devices including group objects and links to group addresses and parameter data
- Complete building structure and devices and building functions
- Complete trade structure and devices
- Group addresses and group ranges

For schema documentation see [here](#).

Remarks:

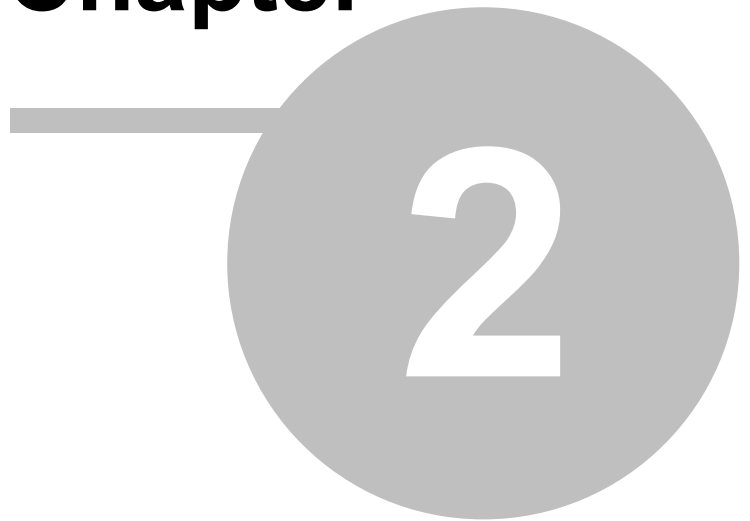
- Project data exchange only works between ETS projects with same group address style (Free / Two level / Three level).
- Devices which use Plugins may no be exported or imported completely
- Replacement of product data for devices already present in ETS is not possible

## 1.3 System requirements

- You can use this software only together with the EIB/KNX Engineering Tool Software ETS 5.7.2 or higher.  
For ETS3, older software version is available directly from [IT GmbH](#).
- All operating systems are supported where ETS can be installed.
- The software uses less than 1 MByte space on the hard disk.



**Chapter**



**Procedures**

## 2 Procedures

### 2.1 Launching the App

ProjectDataExchange integrates itself as menu command in Apps > IT GmbH. If you use this ETS App regularly, you will find it useful to add it as a button in the ETS toolbar.

Open a project and click on the menu item or toolbar button to start the ETS App ProjectDataExchange.

### 2.2 Import project data

For the import into ProjectDataExchange you need an XML-file in the appropriate format (see [Schema](#)). You can get this file e.g. by exporting it via ProjectDataExchange from another project, via the [ProjectDataExchange Converter](#) or from another source (e.g. CAD programs that support our interface). Depending on the source of the file, we recommend adjusting the [import options](#) before loading and importing the file. There is a special import format for [project data from DDS-CAD](#). Depending on the import option selected, the import button text is "Import Standard", "Import DDS-CAD" or "Import User-Defined".

The import process can be divided into the following steps and starts when you click the Import button and select a file:

1. Loading the XML file and checking the entries to see if the appropriate ETS objects already exist in the project, searching and inserting ETS product data from the catalog or other projects into the current project.

The check process starts automatically when you load the corresponding file using the Import button.

The way in which ETS objects are identified depends on the import options set. Details can be found in the [import options](#) at **Identify existing elements by**.

Searching and inserting the ETS product data can take some time if the appropriate product data still has to be searched for in the online catalog and downloaded automatically.

The check process can be terminated prematurely using the **Cancel** button, but in this case the data may not be complete.

If errors are detected (e.g. inconsistency or multiple-used IDs), the log output is displayed on the [Output page](#) after the check.

2. In preview: check and completion of data by user

- [Devices](#): for devices not already in project assign [TemplateDevices](#) or [ProductData](#), modify [Lines and Areas](#)
- [BuildingParts](#): no further changes possible
- [GroupAddresses](#): shift to another [GroupRange](#)

Note: This step can be skipped by activating the option **Start import automatically** in the [import options](#), if valid ETS product data have been assigned to all devices.

3. Perform import via button **Continue import**

Irrespective of which page of the [App Window](#) is active, the entire content of the import file is imported into the current project, taking into account the current import options.

If you have not completed all missing information, a warning appears that the incomplete devices cannot be imported.

Confirm with "OK" if you want to continue the import anyway. You may add the missing devices later by a new import

You can cancel the import prematurely at any time by clicking the **Cancel** button at the bottom

right.

After the import, the log file can be viewed on the [Output page](#) and saved as a text file.

Remarks:

- For general information on importing please see ["What is imported?"](#)
- ProjectDataExchange works only between projects with same group address style (Free / Two level / Three level).
- Devices which use Plugins may no be imported completely
- Devices whose individual address specified in the import file or modified by linking to another line is already occupied by another device in project will be inserted with the next available address in the line.
- Devices with different medium type as defined in line will be inserted in another line in area 0. According to the KNX specification, line 0.2 is used for twisted pair (TP), line 0.4 for PowerLine (PL) and line 0.5 for radio frequency (RF). If these lines already exist with other media types, a new line is defined.
- In [Import options](#) the option "No update for device name" can be set to prevent that not-empty device names will be updated with values from import file.
- Some product data uses calculated parameters, i.e. these parameter values can still change after they have been set because their value depends on other parameters that are set by the import at a later time. In this case, please perform the import again.

## 2.2.1 Project Data from DDS-CAD

Please use the import option "DDS CAD".

If you have set another import option, a corresponding message appears when you open a DDS-CAD import file.

Please change the import option to "DDS-CAD" and reload the file into the preview window via the "Import DDS-CAD" button.

Order numbers and manufacturer IDs specified in the import file may not correspond to the manufacturers and order numbers used in the ETS.

Therefore device data newly created in DDS-CAD must be linked with [product data](#) from the ETS before importing.

Since the import files of DDS CAD do not contain any parameter or group objects, you can assign product data from the catalog to the devices.

Please note:

If an already imported DDS CAD file is reloaded, a possible difference in the order number from the import file / ETS is ignored in the preview for devices already present in the ETS.

Only the order number of the ETS is displayed.

## 2.2.2 Import Devices

At first page [Devices](#) you see the list of the device data in the loaded import file .

You can delete individual entries.

This page is empty if the **Devices** option is deactivated in the User defined import option.

You can find a description of all the individual fields of the device data at [<DeviceInstance>](#)

Since the ETS product data is protected and can only be imported directly into the ETS via the catalog, the data for new devices to be inserted must contain suitable references to this product data in the XML import file.

ProjectDataExchange offers two concepts here:

- Assign to product data via manufacturer / order number or internal identifiers or subsequently by manual assignment:  
device is imported from the ETS product catalog with default parameter settings

Precondition: the appropriate product data is available in the ETS product catalog, online catalog and all other open project are used as well.

- Assign to a template device (via Id in the XML or subsequently by manual assignment):  
device is imported as copy of the device template with its parameter settings  
Precondition: template device exists in current ETS project

Advantage over the use of product data: Parameter settings are adopted

If both assign type of data is available, the product data has to match the template device.

If there is only manufacturer and order number specified in the import file, but several entries with this order number were found in the ETS product catalog, ProjectDataExchange uses the entry with the highest version number of the associated application program. Of course, this assignment can be overwritten by a manual assignment (see [Assign Product Data](#)).

If neither of the two assign types was used in the import file (e.g. because the order numbers of the ETS were not available) or the assignment could not be verified (e.g. because the template device is not available in the current project or the product data was not found), you can edit this assignment in the preview.

You can recognize these device entries by the status "Not yet assigned".

These incomplete device entries cannot be imported into the project, but have to be reworked.

To rework these entries for import please choose

- [Assign Template Device](#) or
- [Assign Product Data](#)

Alternatively, you can leave incomplete device entries unprocessed. During the import, a warning appears, which you can ignore.

You may also change the line address by [Assign Line](#).

If at least one verified device entry is available, you can activate the import via the **Continue import** button.

If all devices, templates and product data were found directly after loading the import file in the ETS, the import starts automatically if this is set in the import options.

If changes are to be made to the address or product assignment of devices to be imported, it is recommended to disable option **Start import automatically** in [import options](#).

### 2.2.2.1 Assign Product Data

Import file does not contain any product data, but it may contain references to product data via product identifiers e.g. order numbers. If there is no reference defined or no suitable product is found in ETS product store, product data has to be assigned manually.

One possibility is to assign product data from product catalog (also from online catalog) to device in import file.

The device will be imported with the default parameter settings from the product catalog.

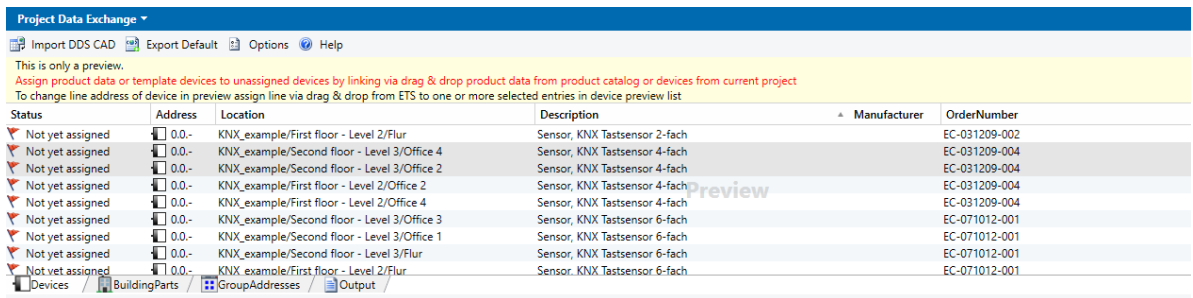
This is useful if the device is to be imported without any linked group addresses.

To assign a product from the product catalog, select one or more devices in the [device preview window](#) of the ProjectDataExchange .

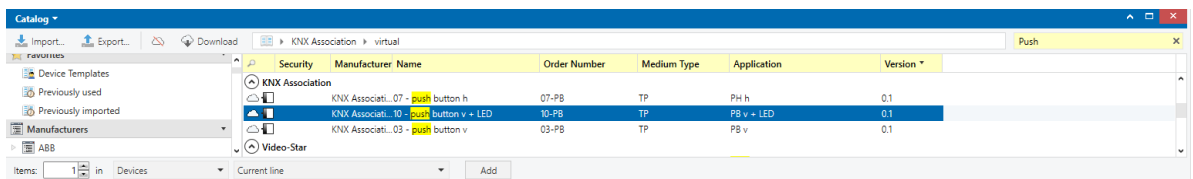
Then open the ETS product catalog, select a product and drag & drop this product onto the selected entries in the preview window.

Data from the online catalog is also available, updating may take some time here.

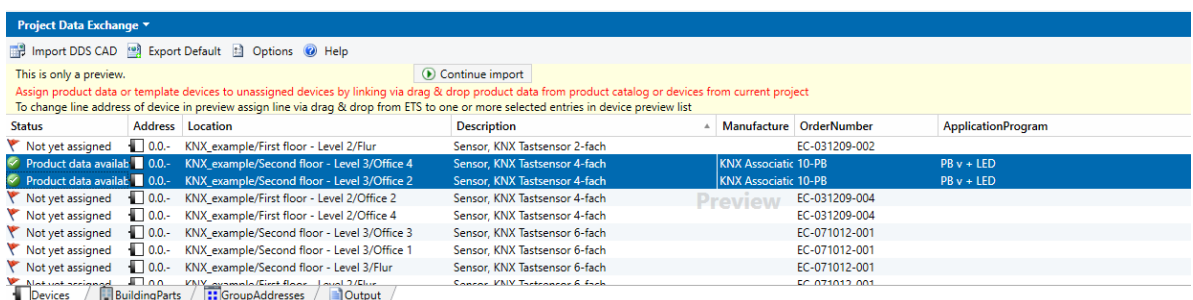
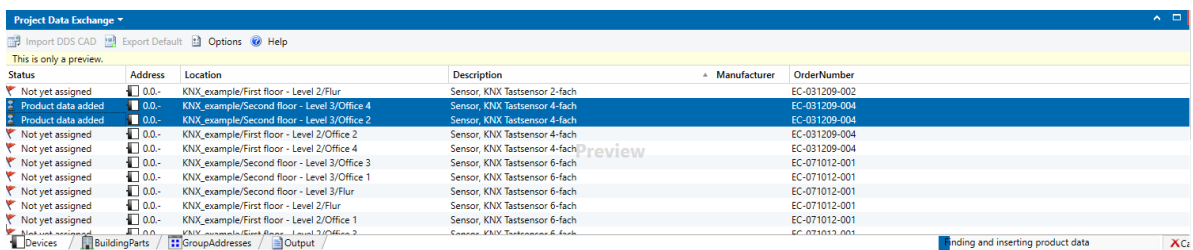
1. Select device entry/entries in preview window



2. Select product in ETS product catalog (in ETS5 also online catalog can be used)



3. Drag product from ETS product catalog window to device entry/entries in preview window



If no entry was previously selected in the preview window, the assignment for the target object of the drag and drop operation is executed.

The information is updated, status will change from "Product data added" into "Product data available".

Unfortunately, for technical reasons, no product data can be assigned directly from the "My templates" folder using drag & drop. If you would like to use such a device as a template device, please insert it into your project using ETS. Then you can select the device in the ETS window "Topology" or "Devices" as described under [Assign template devices](#) and assign it to the import entry using Drag & Drop.

**Note:** Devices assigned from product catalog will be inserted with default parameter settings and updated with parameter data from the import file if given. Please note that the parameter settings can take effect on the activity of group objects and links.

If group objects but no parameter settings are specified in the import file, the status "Product data available" is displayed with a yellow warning symbol instead of a green check mark. In this case it is recommended to assign a suitable template device from the project instead of a device from the product catalog to ensure that all group objects specified in the import file are active and can be updated during the import.

### 2.2.2.2 Assign Template Device

Import file does not contain any product data, but it may contain references to product data via product identifiers e.g. order numbers. If there is no reference defined or no suitable product is found in ETS product store, product data has to be assigned manually.

One possibility is to assign a template device to device in import file. Template device means any device in the current project, but not device templates at Favorites in ETS catalog window or from other open projects

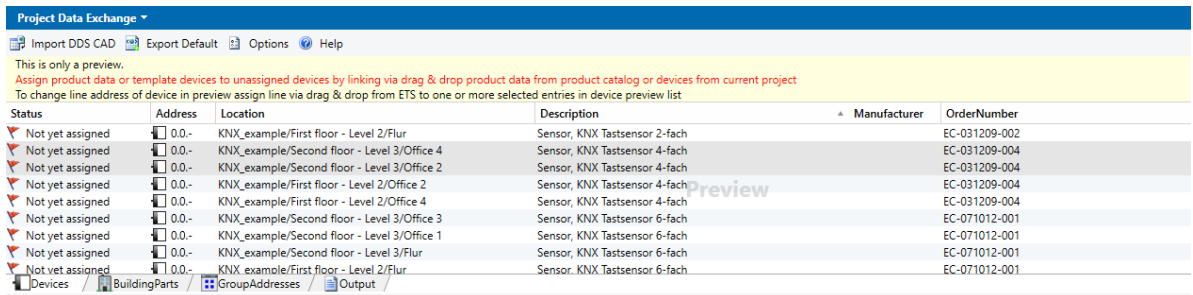
The device to be imported is inserted as a copy of the template device, group address links of the template device are ignored.

The assignment of a template device is useful if links to group addresses are to be imported for group objects that are not active by default.

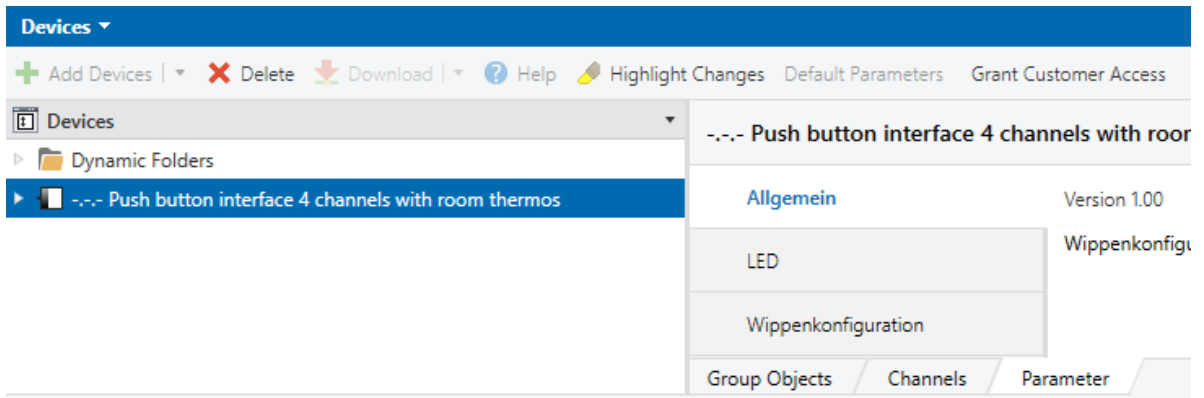
To assign a template device from current project select one or more devices in the [device preview window](#) of the ProjectDataExchange .

Open the Topology Page or Devices Page in current ETS project, select the template device and drag and drop it onto the selected entries in the preview window.

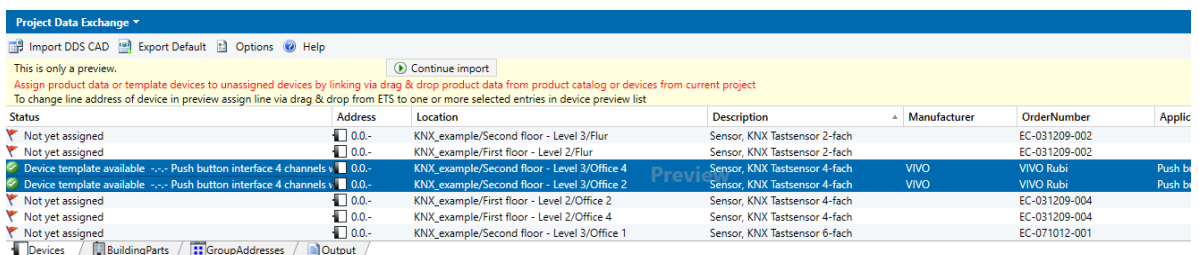
#### 1. Select device entry/entries in preview window



#### 2. Select template device in current ETS project (topology or device or building view)



#### 3. Drag template device from current ETS project (topology or device or building view) to device entry/entries in preview window



If no entry was previously selected in the preview window, the assignment for the target object of the drag and drop operation is executed.

The information is updated immediately, the status changes to "Device template available"

Devices from import file which are not yet available in current ETS project cannot be used as template device

#### Note:

Devices with reference to a template device in the project are copied. Without parameter data in import file, the parameter settings in the template will take effect, otherwise parameter values will be set as defined in import file.

Please note that the parameter settings will affect activity of group objects and links. If there are no parameter settings in import file, and for template device not all group objects are active the update of group objects and connecting with group addresses during import may be incomplete.

### 2.2.2.3 Assign Line

In the import preview, the individual devices can also be assigned to other lines than specified in the import file.

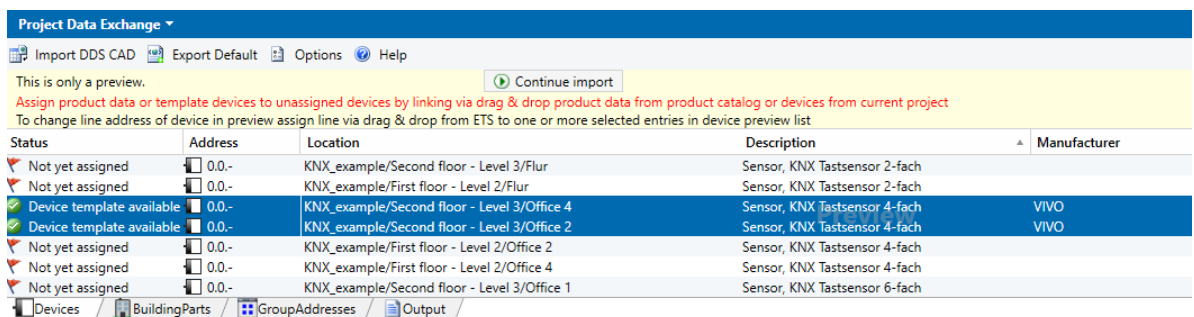
Of course, you can also make changes to the topology after the import into the ETS.

To link with a line from current project, select one or more devices in the [Device preview window](#) of the ProjectDataExchange.

Open the Topology Page in current ETS project, select the line and drag and drop it onto the selected entries in the preview window.

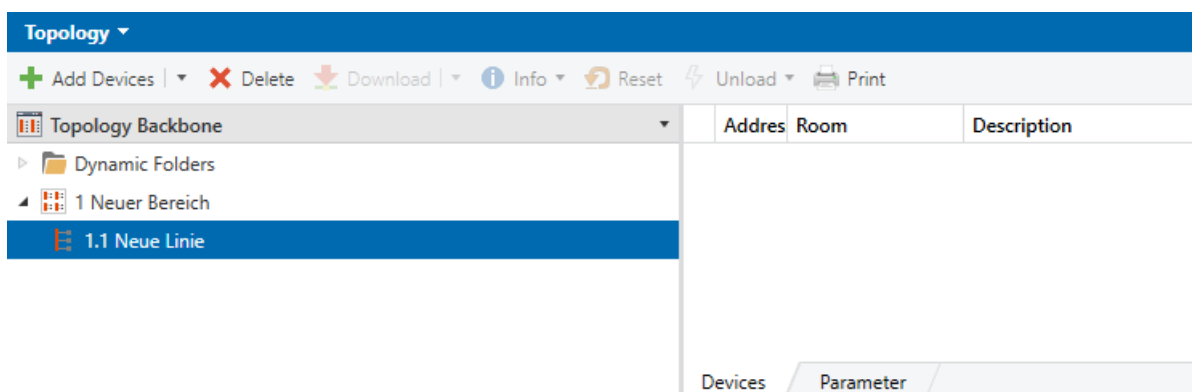
For main lines this method does not work in ETS5. For this use case, please note the special case of main lines below at 4.

#### 1. Select device entry/entries in preview window



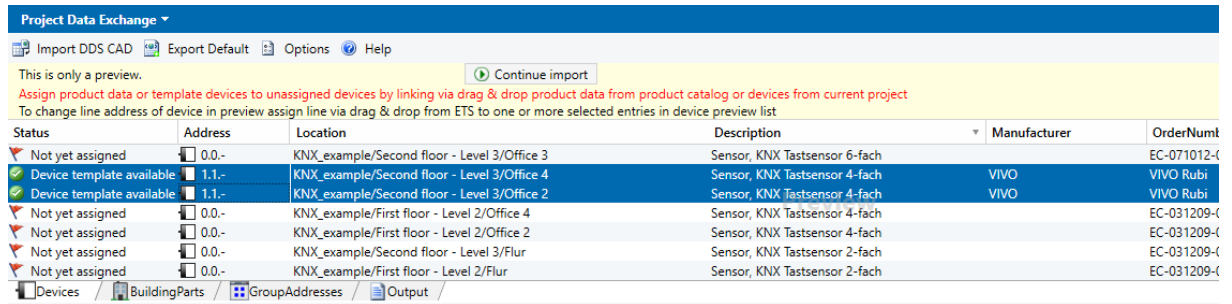
Status	Address	Location	Description	Manufacturer
Not yet assigned	0.0.-	KNX_example/Second floor - Level 3/Flur	Sensor, KNX Tastsensor 2-fach	
Not yet assigned	0.0.-	KNX_example/First floor - Level 2/Flur	Sensor, KNX Tastsensor 2-fach	
Device template available	0.0.-	KNX_example/Second floor - Level 3/Office 4	Sensor, KNX Tastsensor 4-fach	VIVO
Device template available	0.0.-	KNX_example/Second floor - Level 3/Office 2	Sensor, KNX Tastsensor 4-fach	VIVO
Not yet assigned	0.0.-	KNX_example/First floor - Level 2/Office 2	Sensor, KNX Tastsensor 4-fach	
Not yet assigned	0.0.-	KNX_example/First floor - Level 2/Office 4	Sensor, KNX Tastsensor 4-fach	
Not yet assigned	0.0.-	KNX_example/Second floor - Level 3/Office 1	Sensor, KNX Tastsensor 6-fach	

#### 2. Select line in current ETS project in topology view



Topology Backbone	Address	Room	Description
Dynamic Folders			
1 Neuer Bereich			
1.1 Neue Linie			

### 3. Drag line from current ETS project in topology view to device entry/entries in preview window



This is only a preview. Continue import

Assign product data or template devices to unassigned devices by linking via drag & drop product data from product catalog or devices from current project  
To change line address of device in preview assign line via drag & drop from ETS to one or more selected entries in device preview list

Status	Address	Location	Description	Manufacturer	OrderNum
Not yet assigned	0.0.-	KNX_example/Second floor - Level 3/Office 3	Sensor, KNX Tastsensor 6-fach		EC-071012-0
Device template available	1.1.-	KNX_example/Second floor - Level 3/Office 4	Sensor, KNX Tastsensor 4-fach	VIVO	VIVO Rubi
Device template available	1.1.-	KNX_example/Second floor - Level 3/Office 2	Sensor, KNX Tastsensor 4-fach	VIVO	VIVO Rubi
Not yet assigned	0.0.-	KNX_example/First floor - Level 2/Office 4	Sensor, KNX Tastsensor 4-fach		EC-031209-0
Not yet assigned	0.0.-	KNX_example/First floor - Level 2/Office 2	Sensor, KNX Tastsensor 4-fach		EC-031209-0
Not yet assigned	0.0.-	KNX_example/Second floor - Level 3/Flur	Sensor, KNX Tastsensor 2-fach		EC-031209-0
Not yet assigned	0.0.-	KNX_example/First floor - Level 2/Flur	Sensor, KNX Tastsensor 2-fach		EC-031209-0

Devices / BuildingParts / GroupAddresses / Output

If no entry was previously selected in the preview window, the assignment for the target object of the drag and drop operation is executed.

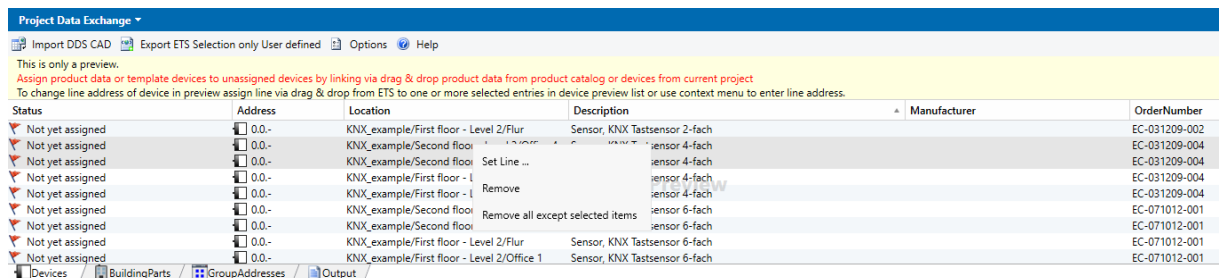
The information is updated immediately, the address/es of device/s will change

### 4. Special case main lines x.0

In ETS5 there are no entries in list view for main lines (x.0). To connect devices to a main line in the preview, please select and drag the area entry from the ETS to the previously marked device(s) in the preview, then the devices will be assigned to the corresponding main line.

Alternatively, you can also use the context menu of the device list in the preview and enter a line address via the entry "Connect to line ..." to which the previously marked devices will be linked in the preview.

For linking to the backbone line 0.0, this method via the context menu is the one and only option, since the area 0 cannot be dropped.

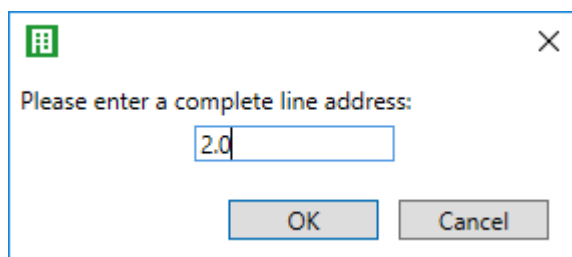


This is only a preview.

Assign product data or template devices to unassigned devices by linking via drag & drop product data from product catalog or devices from current project  
To change line address of device in preview assign line via drag & drop from ETS to one or more selected entries in device preview list or use context menu to enter line address.

Status	Address	Location	Description	Manufacturer	OrderNumber
Not yet assigned	0.0.-	KNX_example/First floor - Level 2/Flur	Sensor, KNX Tastsensor 2-fach		EC-031209-002
Not yet assigned	0.0.-	KNX_example/Second floor	Sensor, KNX Tastsensor 4-fach		EC-031209-004
Not yet assigned	0.0.-	KNX_example/Second floor	Set Line ... ensor 4-fach		EC-031209-004
Not yet assigned	0.0.-	KNX_example/First floor - 1	Sensor, KNX Tastsensor 4-fach		EC-031209-004
Not yet assigned	0.0.-	KNX_example/First floor - 1	Remove ensor 4-fach		EC-031209-004
Not yet assigned	0.0.-	KNX_example/Second floor	Remove all except selected items ensor 6-fach		EC-071012-001
Not yet assigned	0.0.-	KNX_example/Second floor	Remove all except selected items ensor 6-fach		EC-071012-001
Not yet assigned	0.0.-	KNX_example/First floor - Level 2/Flur	Sensor, KNX Tastsensor 6-fach		EC-071012-001
Not yet assigned	0.0.-	KNX_example/First floor - Level 2/Office 1	Sensor, KNX Tastsensor 6-fach		EC-071012-001

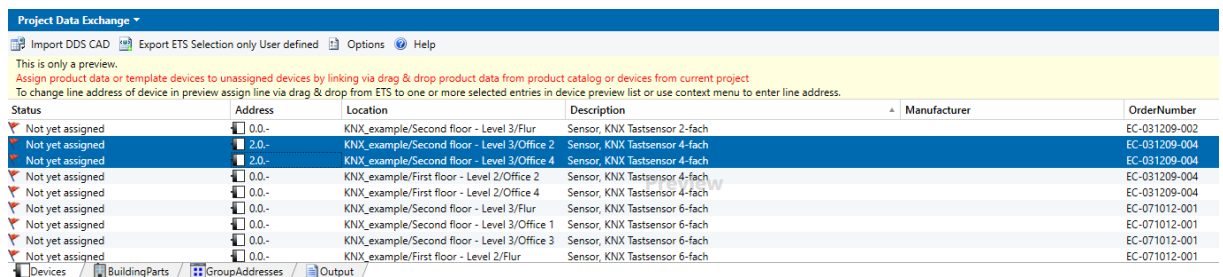
Devices / BuildingParts / GroupAddresses / Output



Please enter a complete line address:

2.0

OK Cancel



This is only a preview.

Assign product data or template devices to unassigned devices by linking via drag & drop product data from product catalog or devices from current project  
To change line address of device in preview assign line via drag & drop from ETS to one or more selected entries in device preview list or use context menu to enter line address.

Status	Address	Location	Description	Manufacturer	OrderNumber
Not yet assigned	0.0.-	KNX_example/Second floor - Level 3/Flur	Sensor, KNX Tastsensor 2-fach		EC-031209-002
Not yet assigned	2.0.-	KNX_example/Second floor - Level 3/Office 2	Sensor, KNX Tastsensor 4-fach		EC-031209-004
Not yet assigned	2.0.-	KNX_example/Second floor - Level 3/Office 4	Sensor, KNX Tastsensor 4-fach		EC-031209-004
Not yet assigned	0.0.-	KNX_example/First floor - Level 2/Office 2	Sensor, KNX Tastsensor 4-fach		EC-031209-004
Not yet assigned	0.0.-	KNX_example/First floor - Level 2/Office 4	Sensor, KNX Tastsensor 4-fach		EC-031209-004
Not yet assigned	0.0.-	KNX_example/Second floor - Level 3/Flur	Sensor, KNX Tastsensor 6-fach		EC-071012-001
Not yet assigned	0.0.-	KNX_example/Second floor - Level 3/Office 1	Sensor, KNX Tastsensor 6-fach		EC-071012-001
Not yet assigned	0.0.-	KNX_example/Second floor - Level 3/Office 3	Sensor, KNX Tastsensor 6-fach		EC-071012-001
Not yet assigned	0.0.-	KNX_example/First floor - Level 2/Flur	Sensor, KNX Tastsensor 6-fach		EC-071012-001

Devices / BuildingParts / GroupAddresses / Output



## 2.2.3 Import Building parts

At Page [Buildings](#), you see the list of building parts in the loaded import file.

You can delete single entries, further changes are not possible.

This page is empty if the **Buildings and Rooms** option is deactivated in the **User-defined** import option.

You can find a description of all the individual fields of the building part data at [<BuildingPart>](#).

## 2.2.4 Import Group Addresses

At Page [Group Addresses](#) you can see the list of group ranges and group addresses from loaded import file.

You can delete single entries.

This page is empty for import option **DDS-CAD** or if the option **Group addresses** is deactivated for import option **User Defined**.

You can find a description of all individual fields of the group address or group address range data under [<GroupAddress>](#) or [<GroupRange>](#).

For two- or three-level group address style, you can shift group addresses before importing them into [other main or middle groups](#).

### 2.2.4.1 Assign Main or Middle Group

In the import preview, group addresses can also be assigned to other main or middle groups than specified in the import file.

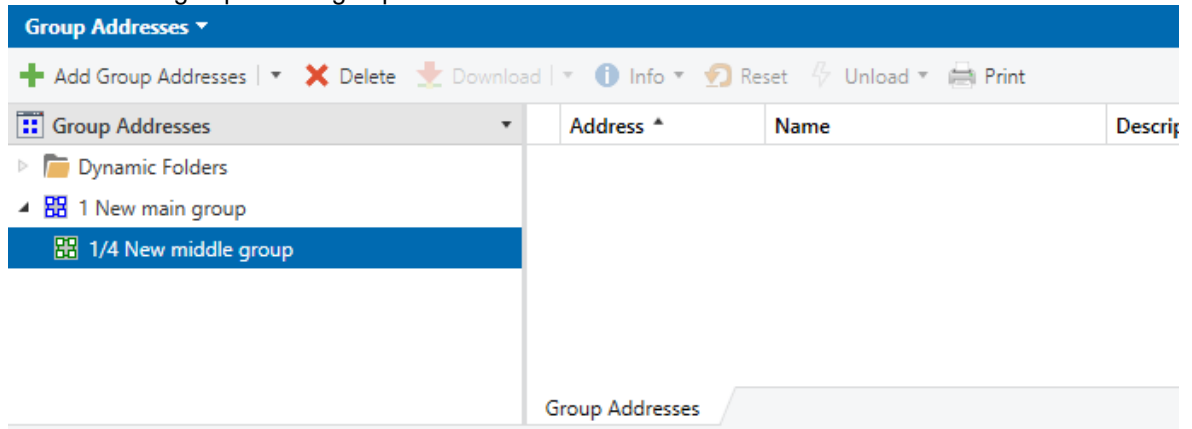
To link with a middle group from current project, select one or more group addresses in the [Group Addresses](#) preview window of the ProjectDataExchange.

Open the Group Addresses Page in current ETS project, select the middle group and drag and drop it onto the selected entries in the preview window. .

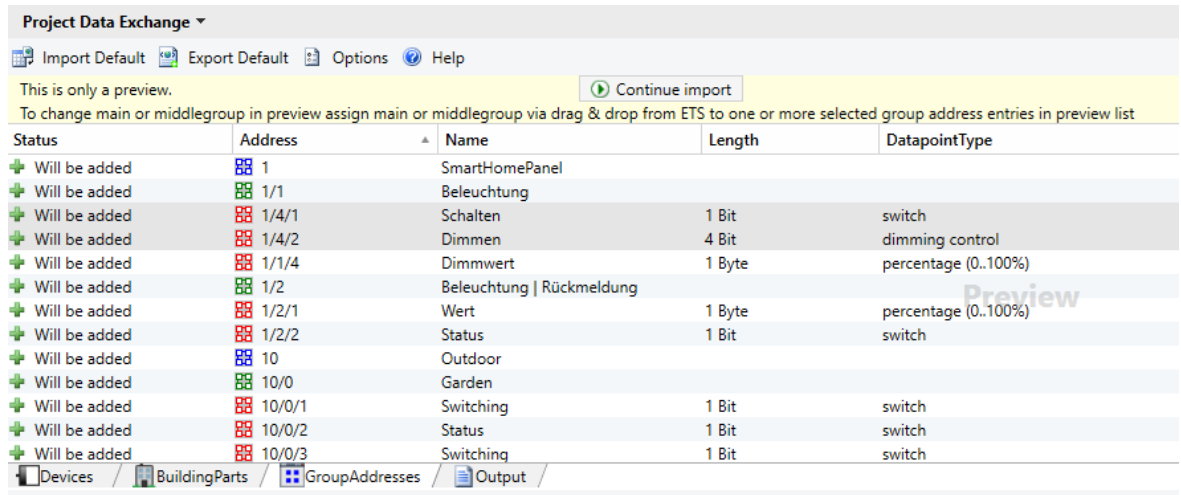
1. Select group address entry/entries in preview window

Status	Address	Name	Length	DatapointType
Will be added	1	SmartHomePanel		
Will be added	1/1	Beleuchtung		
Will be added	1/1/1	Schalten	1 Bit	switch
Will be added	1/1/2	Dimmen	4 Bit	dimming control
Will be added	1/1/4	Dimmwert	1 Byte	percentage (0..100%)
Will be added	1/2	Beleuchtung   Rückmeldung		
Will be added	1/2/1	Wert	1 Byte	percentage (0..100%)
Will be added	1/2/2	Status	1 Bit	switch
Will be added	10	Outdoor		
Will be added	10/0	Garden		
Will be added	10/0/1	Switching	1 Bit	switch
Will be added	10/0/2	Status	1 Bit	switch
Will be added	10/0/3	Switching	1 Bit	switch
Will be added	10/0/4	Status	1 Bit	switch
Will be added	10/1/0	Switching	1 Bit	switch

2. Select middle group in ETS group address window



3. Drag middle group from ETS group addresses window to group address entry/entries in preview window



If no entry was previously selected in the preview window, the assignment for the target object of the drag and drop operation is executed.

The information is updated immediately, the address/es of group address/es will change.

Remark: this option is only available for group address style Two-Level or Three-Level.

## 2.2.5 What is imported?

You can control which data is imported using the [import options](#).

In general, only new data is inserted and existing data is updated when importing via ProjectDataExchange.

No devices, lines, ranges, group addresses and ranges, buildings and trades are deleted.

Such elements that are not present in the import file and have no connection to elements in the import file remain unchanged.

Likewise, empty property fields in the import file are ignored, the current ETS value is retained - e.g. when importing without building structure, the current building structure remains, updated devices retain their room assignment. After importing a group object without data point type specification in the import file, the data point types originally assigned in the ETS are retained.

Of course, changes to existing elements can also influence other properties such as the programming flags: changing the address of a device causes the programming flag programmed address to be reset, new or changed group address links reset the programming flag for group communication, etc.

## 2.3 Export project data

Open [Options dialog](#) in [App Window](#), go to [Export options](#) and select an export option. Depending on export option the export button text will be "Export Default", "Export DDS-CAD" or "Export User defined".

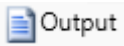
Note: If you only want to export a certain part of the project, e.g. a part of a building, please select this area in the ETS list view, then select "Export User defined" as export option and the option "Export only items that are currently selected in ETS". For details see [Export options](#)

Press export to start exporting project data from current ETS project into a XML formatted file. As file name the current project's name is proposed, of course you may select another file name and location.

You can stop the export at any time via the button "Cancel" prematurely.

Depending on option settings the following project data are exported:

- data from the complete project or only selected entries in the ETS windows with associated superordinate and subordinate elements.
- project history
- topology/ies with areas, lines and devices including group objects and links to group addresses, parameter data  
Remark: devices which use PlugIns may no be exported completely
- complete building structure and devices and building functions and group addresses
- complete trade structure and devices
- group addresses and group ranges (main and middle groups)

Information about the export operation can be inspected on the page  and saved as a text file.

## 2.4 Export product data

This command generates a list of the product data used in the current ETS project and can be saved as an XML file

Open [Options dialog](#), go to Export Options, choose Product Data.

The text of the export button will change to "Export product data". Click the Export button and enter a name for the export file.

As an alternative to the "Product data" export option, you can also select the "User defined" export option and deactivate all options except "Product data used in Project".

Of course, you can also use the option "**Export only items that are currently selected in ETS**" to export only product data of certain devices

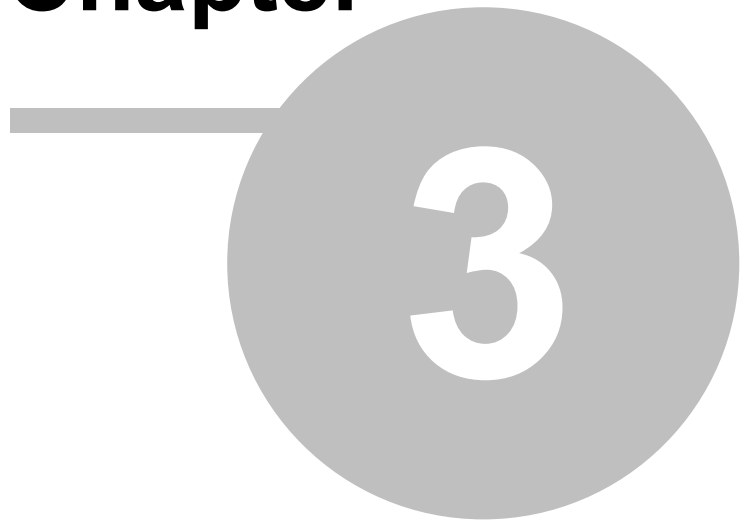
Product data list contains these product information:

ApplicationName	name of application program
ManufacturerId	number of manufacturer (decimal format)
ManufacturerName	manufacturer's name
ManufacturerRefId	identifier of manufacturer in ETS format: prefix "M-" + number of manufacturer in hexadecimal format
OrderNumber	order number of product
ProductRefId	product identifier in ETS format
Hardware2ProgramRefId	identifier of application program (ETS format)

ProductName            name of product  
ApplicationProgramNum number (device type) of application program  
ber  
ApplicationProgramVersi version of application program  
on  
ApplicationProgram2Na if used: name of second application program (PEI program)  
me  
ApplicationProgram2Nu if used: number (device type) of second application program (PEI program)  
mber  
ApplicationProgram2Ver if used: version of second application program (PEI program)  
sion  
RequiresExternalSoftware flag indicates usage of additional external software  
UsesPlugins            flag indicates usage of plugins  
DeviceCounter           counter for product's usage

This list provides information about the exact ETS product data identifiers and cannot be imported by ProjectDataExchange.

**Chapter**



**Reference**

## 3 Reference

### 3.1 User Interface

#### 3.1.1 App Window

In Toolbar you will find commands for Import, Export, [Options](#) and help .

There are different subpages which are only relevant for import:

- [Devices](#)
- [Building Parts](#)
- [Group Addresses](#)


and one page for information (logging) about import and export:

- [Output](#)

##### 3.1.1.1 Devices

Not used for export.

Will be empty for disabled [import option](#) Import Devices.

For import this page  **Devices** shows information about the devices to be imported.

- Column "Status" indicates the state of the devices:


 **Device already in project**

Device exists in current project with same product data.


Goto command (small grey triangle) will take you to the corresponding ETS device in the appropriate view

 **Device template available**


Device does not exist in current project but there is a template devices defined. Goto command (small grey triangle) will take you to the corresponding ETS template device in the appropriate view. During import the template device is duplicated.

 **Product data available**

Device does not exist in current project but product data are available. Import file either does not contain any definition for group objects for this device or contains definitions for group objects and parameters. Without definitions neither for group objects nor for parameters the device is inserted from product catalog with default settings.

 **Product data added**

Only for ETS5: product data are added to project.

 **Product data available**

Device does not exist in current project but product data are available. During import the device is inserted from product catalog. There are definitions for group objects for this device in import file, but without parameter values.

If the default settings do not match the parameter settings of the exported device, the import may found some group objects not active and can not update them with the values from the import file. To make sure that all group objects can be updated, please define a template device with accordingly parameter settings in current ETS project and assign the template device in the ETS project with the device item in list via drag and drop.

#### Device already exists but different product data

There is a device in current project with same device ID but different product data. These devices cannot be imported.

If you nevertheless wish to import data, you can either delete the existing device in the ETS project or assign the ETS device to list item by drag & drop.

#### Not yet assigned

There is neither a template device defined nor the product data are available. Devices with this status can not be imported.

Please define a template device in current project (see: [Assign Template Device](#)) or select a product from product catalog and assign it via drag & drop (see: [Assign Product Data](#)).

- Column "Address" shows the individual address for each device in import file.  
In import preview line address of devices can be modified by selecting a line in ETS topology pane and assigning it here via drag & drop (see: [Assign Line](#)).
- Column "Flags" contains the device's programming flags as defined in import file. Column is only visible for enabled options "Set Device Programming Flags" or "Reset Device Programming Flags" in [import settings](#).
- Column "Location" shows the name of the building part the device is located in.  
Column is invisible if there is no location for any device in import file.
- Column "Description" contains description text for device.  
Column is invisible if there is no description text for any device in import file
- Columns "Manufacturer", "Application Program" and "Order Number" show information about product data.  
If there is no application program or order number defined for any device in import file these columns will be invisible


Selecting a list entry will show information at the property page at side bar (right side).

You may delete single entries from the list - these ones will not be imported.

### 3.1.1.2 BuildingParts

Not used for export.

Will be empty for disabled [import option](#) Import Buildings.

For import this page  **BuildingParts** shows information about the building parts to be imported with status, type, name and complete path in building structure.  
Status indicates whether the building part does already exist in current project or will be newly added.  
For existing building parts you may use the small triangle to navigate to project item


Selecting an entry will show information at the property page at side bar (right side) with additional information about devices placed in current building part and building functions with group addresses (since ETS5.6).

You may delete single entries from the list - these ones will not be imported.

### 3.1.1.3 GroupAddresses

Not used for Export.

Will be empty for disabled [import option](#) Import Group Addresses.

At page  [GroupAddresses](#) information about all group addresses and group ranges in import file are listed with status, address and name, for group addresses also length and datapoint type (if defined) . Selecting an entry will show all information at the property page at side bar (right side)


Status indicates whether the group range or the group address already exists in the ETS or is newly inserted. For existing group ranges or group addresses you may use the small triangle to navigate to project item




Please note: If group address or group range was shifted after the export either in the ETS or in the import file and the identification is made during the import via the ID, group range or the group address can be found (via the internal ID), but maybe the address does not match anymore. In this case, the status is "already exists in project, but with a different address". Depending on the import options, the address will be overwritten or retained.

To modify their main or middle group part in import preview, please select a main or middle group in ETS group addresses pane and assign it via drag & drop (please note: this feature is not available for "Free" group address style). See [Assign Main or Middle Group](#)

You may delete single entries from the list - these ones will not be imported.

#### 3.1.1.4 Output

At page  [Output](#) the log output for import or export operation. There are three different types:

-  information: used for details about import or export
-  warning: e.g. used for unexpected or not valid import data which can be corrected or ignored, the import of the current item will continue
-  error: import or export of current item (area, line, device, group address, building part) cannot be done. Item will be skipped during import or export.

Selecting an entry will show information at the property page at side bar (right side).

Using double-click at entry or goto command (small triangle) will take you to the corresponding ETS element in the appropriate view.

### 3.1.2 Configuration Dialog

You will find the list of installed apps via button "Apps" bottom right at ETS start page. Please select the app ProjectDataExchange in the list of installed apps, and open the dialog via the icon (gray gear) in toolbar of app overview.

The options set here are **used** for each **newly created** project, but can be **changed** project-specifically. The project-specific options are stored in the ETS import file (knxproj), so they are **available after ETS import**.

The project-specific options will be found in [App Window](#) at the top of the toolbar at options. For a better overview, the text of the Import and Export button is adjusted according to the selected option

- Import Default, Import DDS CAD, Import User defined
- Export Default, Export DDS CAD, Export Product data, Export User defined

There are two section in configuration dialog: [Import options](#) and [Export options](#).



### 3.1.2.1 Import options

You can set the following options for the import in current project via the menu item Options in the [application window](#) or for all new project in [configuration dialog](#).

- **Open last import file** (only globally)  
If enabled, ProjectDataExchange at startup will open the last edited import file. This option is only available in [configuration dialog](#), not in configuration area of app panel.
- **Start import automatically:**  
With this option, the import will start automatically after loading an import file if all devices in the import file either already exist in the project or are assigned to a valid template device or if corresponding product data exists  
If this option is deselected, the import will interrupt after loading in the preview window and can then be continued manually after any changes have been made. For example, if you want to change the line of devices to be imported, you should deactivate the option in this case.
- **Use undo mechanism:**  
In case of a critical error, the entire import is automatically reversed. Not recommended when importing large files, because the import will be slower.
- **Default:** Recommended for importing data which has been created or edited using an external tool such as Excel and the [ProjectDataExchangeConverter](#).  
All options in user defined are enabled except Set / Reset Device Programming Flags
- **DDS CAD:** recommended for importing data which has been created or edited with DDS-CAD. The elements are only identified via their internal or external ID: option Identify existing elements by Properties is deactivated.  
Note: Identification via the internal Id ensures that devices are also recognized that were inserted directly in the ETS (and not during import via the project data exchange) and do not have a DDS-CAD identifier.  
No project information, no trade structure, no building functions, no device parameters, no programming flags, no group addresses and no group links are imported or updated.  
For existing devices, the completion status, address, and device name from the import file are ignored, as is the completion status for existing building parts.
- **User defined:** each option is individually adjustable:
  - **Remember imported IDs:**  
If this option is enabled, the external ID (from the import file) of a newly imported element is saved so that it can be exported again later with its original ID (e. g. DDS-CAD).  
Exceptions: IDs starting with "\$PUID-" or "\$LOCAL-" - these IDs are never saved.  
enabled for Option Default, enabled for Option DDS-CAD.
  - Clear remembered IDs (only available in project):  
This command will clear the list of all external IDs in the current project.
  - **Add new elements:**  
If enabled, import will insert all elements from import file that do not yet exist in ETS. If you only want to update existing elements (e.g.: Rename group addresses) you may disable it.  
enabled for Option Default, enabled for Option DDS-CAD.

- **Identify existing elements by**

If there are several options enabled, searching is performed in the order of the listing, i.e. first by Internal Id, then by External Id, then by Properties. As soon as the element is found, the search cancels.

- **Internal Id:** Elements are searched in ETS project by using their internal ETS Id,.  
This option should be only enabled, if import file contains **exclusive** [Ids in ETS format](#) and data to be imported comes from **same project**. If there are information about unique project GUID in import file and this GUID is not the same as in current project, this option will be disabled.  
In case of empty import Id or import Id starting with "\$LOCAL-" option "Properties" will be enabled automatically (only internal).  
enabled for Option Default, enabled for Option DDS-CAD (to ensure identification also for devices directly added in ETS without DDS-CAD identifier).

- **External Id:** Elements are searched in ETS project by using their external import id from import file. If elements has already been imported before, import will find the corresponding element in ETS by using the project internal [mapping list](#).  
This option is useful if import file contains unique Ids which are not from ETS (e.g. from DDS CAD).  
In case of empty import Id or import Id starting with "\$LOCAL-" option "Properties" will be enabled automatically (only internal).  
enabled for Option Default, enabled for Option DDS-CAD.

- **Properties:**  
For this option the element is searched in ETS by using special unique properties - for a detailed list please see [properties for identifying](#).  
If several candidates are found with same properties (devices without complete address, building parts, trades or building functions), a random candidate is selected  
Please note: areas, lines, group ranges and group addresses are always identified by their properties if identifying by id failed.  
enabled for Option Default, disabled for Option DDS-CAD.

- **Update existing elements:**

If this option is enabled, import will overwrite data that already exists in the ETS with the data from the import file.

You can further refine this option using the suboptions.  
enabled for Option Default, enabled for Option DDS-CAD

- **Texts:** description, name (except for device: see special option Device name), comment, installation hints for devices,  
enabled for Option Default, enabled for Option DDS-CAD
- **Completion status:** enabled for Option Default, disabled for Option DDS-CAD
- **Addresses:** enabled for Option Default, disabled for Option DDS-CAD
- **Device name:** enabled for Option Default, disabled for Option DDS-CAD
- **Reset Device programming flags:** disabled for Option Default, disabled for Option DDS-CAD
- **Set Device programming flags:** on import the programming flags set in import file are taken over in ETS without further check. This may lead to problems if these devices have not actually been programmed with current settings.

Therefore, before setting the option in global configuration dialog a warning hint has to be confirmed.

If option is enabled in project configuration import file is checked for programmings flags set. If so, a warning hint has to be confirmed before import can start. This warning hint can be disabled by option "**Warn on import**".

disabled for Option Default, disabled for Option DDS-CAD

You can use the following options to control the import of individual element types:

- **Project information:** [Project information](#) like project history entries are imported enabled for Option Default, disabled for Option DDS-CAD
- **Devices:** [Devices](#) and [Topology](#) will be imported or updated (if corresponding option is enabled):
  - [Area](#): Name, Address, Completionstatus, Description, Comment
  - [Line](#): Name, Address, Completionstatus, Description, Comment, Domain address, Medium type (if there are still no devices in current line)
  - [Device](#): Name, Address, Completionstatus, Description, Comment, serial number (if not set, since ETS5.6), installation hintsenabled for Option Default, enabled for Option DDS-CAD
- **Parameter:** [Parameter](#), only parameter value and - if device has IP Config - the IPConfig will be updated  
enabled for Option Default, disabled for Option DDS-CAD
- **Group objects and links:** [Group objects](#) and [linked GroupAddresses](#) will be imported or updated:  
Description, Text, Priority, Flags, DatapointType and linked group addresses  
enabled for Option Default, disabled for Option DDS-CAD
- **Replace Associations:** If checked and any [linked GroupAddresses](#) are imported, existing associations are replaced, otherwise new associations are added to the existing ones
- **Buildings:** [BuildingStructure](#) including [Devices](#) will be imported or updated (if corresponding option is enabled):  
Name, Number, Description, Comment, Completionstatus, devices placed, Type (only if newly added)  
enabled for Option Default, enabled for Option DDS-CAD
  - **Building functions:** only since ETS5.6: [BuildingFunctions](#) including linked [GroupAddresses](#) will be imported or updated (if corresponding option is enabled):  
Name, Number, Description, Description. Comment, Completionstatus, linked group addresses, Type (only if newly added)  
enabled for Option Default, disabled for Option DDS-CAD
- **Trade:** [trade structure](#) including [Devices](#) will be imported or updated (if corresponding option is enabled):  
Name, Number, Description, Comment, Completionstatus, devices placed  
enabled for Option Default, disabled for Option DDS-CAD
- **Group addresses:** group addresses and group ranges will be imported or updated (if corresponding option is enabled):
  - [GroupRange](#) (Main/Middlegroup): Name, Address (if specified), Description, Comment, Filter flag, RangeStart (only if newly added), RangeEnd (only if newly added),
  - [GroupAddress](#): Name, Address, Description, Comment, DatapointType, Flags for Filtering, Central and Globalenabled for Option Default, disabled for Option DDS-CAD

### 3.1.2.2 Export options

You can set the following options for the export in current project via the menu item Options in the [application window](#) or for all new project in [configuration dialog](#).

- **Default:** Recommended for exporting data which should be edited using an external tool such as Excel and the [ProjectDataExchangeConverter](#) and then re-imported into ETS. All options in User defined are enabled except options for **Parameter**, **Key Mapping**, and **List of all products** used in the project
- **DDS CAD:** recommended for exporting data which should be imported and edited with DDS-CAD Only devices with device templates and buildings and rooms are exported, no project information, no building functions or trades, no group addresses and group address ranges, no parameter values, no group objects and no links: Options **Project information**, **Parameter**, **Group objects and links**, **Group objects without links**, **Building functions**, **Trades**, and **Group addresses** are disabled. Options for **Key Mapping**, and **List of all products** used in the project are also disabled.
- **Product data:** only a list of product data information used in the project is exported, **this file cannot be imported into the ETS**
- **User defined:** each option is individually adjustable:
  - **Export only items that are currently selected in ETS:**

With this option, only the project items currently selected in the ETS windows are exported including associated superordinate or subordinate elements. The following elements can be selected in ETS. Export will also take into account the setting for individual items (see below).

    - **Area:** current area will be exported including all lines and devices with parameters and group objects, with all linked group addresses and their parent group ranges (maingroup, middlegroup).  
If devices are linked with rooms or trades also the branch of building structure or trade structure is added to export file
    - **Line:** corresponding area is exported, and current line including all devices with parameters and group objects, with all linked group addresses and their parent group ranges (maingroup, middlegroup).  
If devices are linked with rooms or trades also the branch of building structure or trade structure is added to export file
    - **Device:** corresponding area and line are exported, current device with parameters and group objects, with all linked group addresses and their parent group ranges (maingroup, middlegroup).  
If device is linked with room or trade also the branch of building structure or trade structure is added to export file
    - **Group Address:** current group address is exported including parent group ranges (maingroup, middlegroup)
    - **Group Range:** current group range is exported including subordinated and parent group ranges and subordinated group addresses
    - **Building Part:** current building part is exported including complete branch of building structure, all devices placed in current and all subordinated building parts including their corresponding area and line, parameters and group objects and linked group addresses and the parent group ranges (maingroup, middlegroup).  
If devices are also linked with trades the branch of trade structure is added to export file

in ETS5 also building functions in current and all subordinated building parts are exported including group addresses and parent group ranges (maingroup, middlegroup)

- Trade: current trade is exported including complete branch of trade structure, all devices placed in current and all subordinated trades including their corresponding area and line, parameters and group objects and linked group addresses and the parent group ranges (maingroup, middlegroup).  
If devices are also linked with building parts the branch of building structure is added to export file
- (since ETS5:) Building function: current building function is exported with parent branch of building structure and all linked group addresses with parent group ranges (maingroup, middlegroup)

If not any of these entries is selected, the complete project is exported  
Disabled for Option Default, disabled for Option DDS-CAD.

○ **Project information:**

With this option, the general project information such as name, group address level and history entries are exported - since ETS5.6 also unique project GUID  
enabled for Option Default, disabled for Option DDS-CAD

○ **Devices:**

If this option is enabled, the entire topology ([areas](#), [lines](#)) including [devices](#) is written to the export file. The following suboptions allow you to specify the contents of the export file in more detail:  
enabled for Option Default, enabled for Option DDS-CAD

○ **Parameters:**

If the [parameter](#) values of the individual devices are required, e. g. if the app ProjectDataExchange shall be used for exchanging device data between two ETS projects without using template devices, this option should be enabled. In this case, all active parameters of the devices are written to the export file with names and values.  
For some export formats (e. g. export to DDS CAD) no parameter values are required. To avoid unnecessarily increasing the size of the export file, deactivating this option suppresses the export of parameter data.  
disabled for Option Default, disabled for Option DDS-CAD

○ **Group objects and links:**

All active [Group objects](#) with [linked group addresses](#) are written to the export file. Enable this option, if, for example, you want to use an external tool such as the [ProjectDataExchange-Converter](#) and Excel to build a complete ETS installation from template devices  
For some export formats (e. g. export to DDS CAD) no group objects and group addresses are required. To avoid unnecessarily increasing the size of the export file, deactivating this option suppresses the export of group objects and linked group addresses.  
enabled for Option Default, disabled for Option DDS-CAD

○ **Group objects without links:**

All active [Group objects](#) without any links are written to the export file. Enable this option, if, for example, you want to use an external tool such as the [ProjectDataExchange-Converter](#) and Excel to define links between group objects and group addresses which can be automatically transferred to the ETS during the subsequent import.  
For some export formats (e. g. export to DDS CAD) no group objects are required. To avoid unnecessarily increasing the size of the export file, deactivating this option suppresses the export of unconnected group objects.  
enabled for Option Default, disabled for Option DDS-CAD

○ **Device templates:**

For each device in the project, a [template entry](#) with the relevant product data and manufacturer IDs is exported.

If no explicit template devices are required when exchanging data between ETS projects, it is advisable to disable this option.

(Note: importing such a file into the ETS is possible without any problems, since the app ProjectDataExchange checks for missing template devices during import and requests the corresponding assignments.

enabled for Option Default, enabled for Option DDS-CAD

- **Buildings:**

If enabled complete [building structure](#) including all [devices](#) placed in building parts is written to export file.

enabled for Option Default, enabled for Option DDS-CAD

- **Building functions (since ETS 5.6)**

If enabled all [building functions](#) stored in the building structure including the [linked group addresses](#) are exported.

enabled for Option Default, disabled for Option DDS-CAD

- **Trades:**

If enabled complete [trade](#) structure including all [devices](#) placed in trades is written to export file.

enabled for Option Default, disabled for Option DDS-CAD

- **Group addresses:**

If enabled complete group address structure ([Group addresses](#) and [GroupRanges](#)) is written to export file.

enabled for Option Default, disabled for Option DDS-CAD

- **Key mapping:**

If enabled a list of all mapping between [external and internal id](#) is written to export file.

disabled for Option Default, disabled for Option DDS-CAD

- **Product data used in Project:**

If enabled a list of all [product data](#) used in current project is written to export file.

disabled for Option Default, disabled for Option DDS-CAD

## 3.2 ProjectDataExchange Converter

Tool for converting [schema](#)-compliant XML files to Excel worksheets (XLSX) and vice versa.

So export files from the ProjectDataExchange can conveniently processed and supplemented in Excel. After working you can re-convert the Excel file back to XML format and import your modified data into the ETS using the ProjectDataExchange import function.

Various conversion templates from XML to XLSX are offered, the list can of course also be supplemented by self-created templates.

The ProjectDataExchange converter is an external tool (no ETS app) and available free of charge from [II GmbH](#).

## 3.3 Unique Properties

[ProjectHistory](#)

Date + Text + if specified: User

[Area](#)

Address

[Line](#)

Area + Address

[DeviceInstance](#)

Serial number (if specified, since ETS5.6)

	+ if specified: parent Line
	+ if specified: Address, otherwise "--.---" (empty address)
	+ ManufacturerID
	+ OrderNumber
	+ Hardware2ProgramRefId
	+ maybe additional: Description
<a href="#">GroupObject</a>	• Device + unique part of ID in applicationProgram (ComObjectRefId)
	or:
	• Device + Number + Size / LengthInBits
	+ if same product language: Text + FunctionText
<a href="#">Parameter</a>	Device + unique part of ID in application program (ParameterRefId)
	+ if specified: Index for parent application program (ApplProgIndex)
<a href="#">BuildingPart</a>	parent BuildingPart + Typ + Number + Name
<a href="#">BuildingFunction</a>	parent BuildingPart + FunctionType (Implements) + Number + Name
<a href="#">Trade</a>	parent Trade + Number + Name
<a href="#">GroupAddress</a>	Address
<a href="#">Maingroup</a>	Address
<a href="#">MiddleGroup</a>	Maingroup + Address
<a href="#">GroupRange</a> (for GroupAddressStyle Free)	RangeStart + RangeEnd

Note: If several candidates are found (devices without complete address, building parts, trades or building functions), a random candidate is selected.

### 3.4 Internal ETS Identifier

Internal ETS Identifier is made up as follows:

- "\$PUIID-" + abbreviation for type of element + "-" + unique number in project (remains unchanged via export and import)  
z.B. \$PUIID-DI-354 for device with unique number 354

- Abbreviations for type of element:

A = Area  
L = Line  
DI = DeviceInstance  
BP = BuildingPart  
BF = BuildingFunction  
GA = GroupAddress  
GR = GroupRange  
T = Trade

### 3.5 Schema

The XML file used by ProjectDataExchange is built according to the following XML schema:

Header:

```
<?XML version="1.0" encoding="utf-8" ?>
```

[<Project>](#)-Element

#### 3.5.1 <Project>

Main element <Project> has to look like this:

```
<Project xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" ToolVersion="4.0.803.0"
CreatedBy="ProjectDataExchange" xmlns="http://www.it-gmbh.de/dds2ets/0/1">
```

Following properties are stored in these attributes (**mandatory** attributes are formatted **bold**):

CreatedBy	Name of the program which was used to create the file; Text is currently not evaluated	optional
ToolVersion	Version number of the program which was used to create the file; is currently not evaluated	optional

Below <Project> there may exists these subelements:

- an optional [<ProjectInformation>](#) element with project properties
- an optional [<Installation>](#) element with project data concerning topology, devices, buildings and group addresses
- an optional [<TemplateDevices>](#) element with template device data (used during import)
- an optional [<ProductDataList>](#) element containing information about product data used in project
- an optional [<IdMap>](#) element with information about assignment between external and internal (ETS) keys for items

### Example:

```
<Project xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" ToolVersion="4.0.803.0"
CreatedBy="ProjectDataExchange" xmlns="http://www.it-gmbh.de/dds2ets/0/1">
  <ProjectInformation GroupAddressStyle="ThreeLevel" ProjectStart="2014-04-
02T07:46:56Z" ProjectEnd="0001-01-01T00:00:00Z" LastModified="2014-05-
27T09:46:56Z" Name="Projektname" CompletionStatus="Undefined" ProjectId="P-03D7" />
  <Installation BCUKey="4294967295" IPRoutingMulticastAddress="224.0.23.12"
CompletionStatus="Undefined" InstallationId="0">
    ...
  </Installation>
  <TemplateDevices>
    ..
  </TemplateDevices>
  <ProductDataList>
    ..
  </ProductDataList>
  <IdMap>
    ..
  </IdMap>
</Project>
```

#### 3.5.1.1 <ProjectInformation>

<ProjectInformation> is an optional element and can exists only once.

Following project information is stored in attributes (**mandatory** attributes are formatted **bold**, *deprecated* attributes are formatted *italic*):

Name	project name	text, up to 50 characters	optional
<b>GroupAddressStyle</b>	<b>group address style</b>	<b>possible values:</b>	<b>mandatory</b>
		• "TwoLevel"	



ProjectNumber	project number	<ul style="list-style-type: none"> <li>• "ThreeLevel"</li> <li>• "Free"</li> </ul> text, up to 50 characters	optional
ContractNumber	contract number	text, up to 50 characters	optional
LastModified	date of last modification	date/time formatted as YYYY-MM-DDThh:mm:ss	optional
ProjectStart	start date	date/time formatted as YYYY-MM-DDThh:mm:ss	optional
ProjectEnd	end date	date/time formatted as YYYY-MM-DDThh:mm:ss	optional
ProjectId	project ID (created by ETS, invisible in ETS)	special formatted text	optional
ProjectGuid	GUI of project, created by ETS, unlike ProjectId, remains safely preserved during import	special formatted text (GUID) (only ETS5)	optional
ProjectPassword	project password	Text	optional, deprecated
Comment	comment	Text	optional
CompletionStatus	status	possible values: <ul style="list-style-type: none"> <li>• "Undefined"</li> <li>• "Editing"</li> <li>• "FinishedDesign"</li> <li>• "FinishedCommissioning"</li> <li>• "Tested"</li> <li>• "Accepted"</li> <li>• "Locked" (since ETS 5.6)</li> </ul>	optional
ProductDataLanguage	product data language	special formatted text, coded as LanguageCultureName e.g. "en-US" for english (USA), "de-DE" for german	optional

As an optional subelement there may be one element [<HistoryEntries>](#) with at least one [<HistoryEntry>](#).entry

### Example:

```
<ProjectInformation GroupAddressStyle="Three Level" ProjectStart="2014-04-02T07:46:56"
ProjectEnd="0001-01-01T00:00:00Z" LastModified="2014-05-27T09:46:56"
Name="Projektname" CompletionStatus="Undefined" ProjectId="P-03D7"
ProjectGuid="561254fc-8f1f-4f44-a46f-1ae9bb5952cc" ProductDataLanguage="en-US"/>
```

or:

```
<ProjectInformation GroupAddressStyle="Three Level" ProjectStart="2014-04-02T07:46:56"
ProjectEnd="0001-01-01T00:00:00" LastModified="2014-05-27T09:46:56"
Name="Projektname" CompletionStatus="Undefined" ProjectId="P-03D7"
ProjectGuid="561254fc-8f1f-4f44-a46f-1ae9bb5952cc" ProductDataLanguage="en-US" >
  <HistoryEntries>
    <HistoryEntry Date="2014-05-17T11:55:08" User="AS" Text="Line 1.1 added" />
    <HistoryEntry Date="2014-06-04T08:53:19" User="RW" Text="Group Addresses
heating" />
  </HistoryEntries>
```

</ProjectInformation>

#### 3.5.1.1.1 <HistoryEntries>

Optional element without any attributes, below [<ProjectInformation>](#), contains at least one and up to unlimited elements of [<HistoryEntry>](#).

#### Example:

```
<HistoryEntries>
  <HistoryEntry Date="2014-05-17T11:55:08" User="AS" Text="Line 1.1 added" />
  <HistoryEntry Date="2014-06-04T08:53:19" User="RW" Text="Group Addresses
    heating" />
</HistoryEntries>
```

#### 3.5.1.1.1.1 <HistoryEntry>

<HistoryEntry> contains these attributes (mandatory attributes are formatted **bold**):

<b>Date</b>	<b>date of creation</b>	<b>date/time formatted as YYYY-MM-DDThh:mm:ss</b>	<b>mandatory</b>
<b>User</b>	name of user text, up to 50 characters		optional
<b>Text</b>	<b>text</b>	<b>text</b>	<b>mandatory</b>

#### Example:

```
<HistoryEntry Date="2014-05-17T11:55:08" User="AS" Text="Line 1.1 added" />
```

#### 3.5.1.2 <Installation>

There has to be at least one and up to 15 elements of <Installation>.

These attributes are available (mandatory attributes are formatted **bold**):

Name	Name	text, up to 50 characters	optional
InstallationId	unique installation ID within current project (invisible in ETS)	number = 0	optional
BCUKey	BCU password	unsigned long: 0 bis 4.294.967.295	optional
IPRoutingMulticast Address	multicast address for IP Routing (invisible in ETS)	IP Address	optional
CompletionStatus	status	possible values: <ul style="list-style-type: none"> <li>• "Undefined"</li> <li>• "Editing"</li> <li>• "FinishedDesign"</li> <li>• "FinishedCommissioning"</li> <li>• "Tested"</li> <li>• "Accepted"</li> <li>• "Locked" (since ETS 5.6)</li> </ul>	optional

There are these subelements available:

- [<Topology>](#)
- [<Buildings>](#) without any or up to unlimited elements of [<BuildingPart>](#)
- [<GroupAddresses>](#) without any or up to 65535 elements of [<GroupAddress>](#)
- and optional [<GroupRanges>](#) with at least one element of [<GroupRange>](#)

### Example:

```
<Installation BCUKey="4294967295" IPRoutingMulticastAddress="224.0.23.12" Name=""
CompletionStatus="Undefined" InstallationId="0">
  <Topology>
    <Area Id="A-6078E6AD-5E7A-4C82-BC6A-D93224733C8D" Name="Backbone
Area" CompletionStatus="Undefined" Address="0">
      <Line Id="L-9954467C-0D74-42AB-AE51-85788008723B" Name="Backbone
Line" CompletionStatus="Undefined" DomainAddressIsChecked="false" Address="0"
MediumTypeRefId="MT-5" />
      <Line Id="P-0335-0_L-3" Name="Linie 0.1" CompletionStatus="Undefined"
DomainAddressIsChecked="false" Address="1" MediumTypeRefId="MT-0">
        <DeviceInstance Id="DI-1015F245-81DA-49AD-8722-4027DB2FBF16"
Name="PSupp 640mA - HV A1" Description="Controler, KNX Power supply
with choke 640mA REG 6 TE" CompletionStatus="Undefined"
ManufacturerID="291" LastModified="2014-05-25T08:14:55"
Hardware2ProgramRefId="M-0123_H-82-0_HP" OrderNumber="STV-0640.01"
Address="1" />
      </Line>
    </Area>
  </Topology>
  <Buildings>
    <BuildingPart Id="PP-2531506A-79B5-4C6A-AD42-81037970FD39" Name="Main
Building" Type="Building" Number="1">
      <BuildingPart Id="PP-78B56934-3B9A-4E65-B332-2494F670DF99"
Name="Groundfloor" Type="BuildingPart" Number="2">
        <BuildingPart Id="PP-1CBAFEE8-7996-4D15-90D2-AF0C0C569147"
Name="Reception" Type="Room" Number="6">
          <DeviceInstanceRef RefId="DI-1015F245-81DA-49AD-8722-
4027DB2FBF16" />
        </BuildingPart>
      </BuildingPart>
    </BuildingPart>
  </Buildings>
  <GroupAddresses>
    <GroupAddress Id="P-0335-0_GA-82" Address="4886" Name="Heating guest room 1
- EA" />
  </GroupAddresses>
  <GroupRanges/>
    <GroupRange Id="P-0335-0_GR-3" Name="heating" Address="2" RangeStart="4096"
RangeEnd="6143" Unfiltered="false">
      <GroupRange Id="P-0335-0_GR-13" Name="first floor" Address="3"
RangeStart="4864" RangeEnd="5119" Unfiltered="false" />
    </GroupRange>
  </GroupRanges>
</Installation>
```

```

    </GroupRange>
  </GroupRanges>
</Installation>

```

### 3.5.1.2.1 <Topology>

Mandatory element without any attributes below [<Installation>](#), contains

- no or up to 16 elements of [<Area>](#), representing the areas of installation
- optional one element [<UnassignedDevices>](#) with at least one and up to unlimited elements of [<DeviceInstance>](#), containing devices which are not placed in any area or line

#### Example:

```

<Topology>
  <Area Id="A-6078E6AD-5E7A-4C82-BC6A-D93224733C8D" Name="Backbone Area"
  CompletionStatus="Undefined" Address="0">
    <Line Id="L-9954467C-0D74-42AB-AE51-85788008723B" Name="Backbone line"
    CompletionStatus="Undefined" DomainAddressIsChecked="false" Address="0"
    MediumTypeRefId="MT-5" />
    <Line Id="P-0335-0_L-3" Name="Line 0.1" CompletionStatus="Undefined"
    DomainAddressIsChecked="false" Address="1" MediumTypeRefId="MT-0">
      <DeviceInstance Id="DI-1015F245-81DA-49AD-8722-4027DB2FBF16"
      Name="PSupp 640mA - HV A1" Description="Controler, KNX Power supply with
      choke 640mA REG 6 TE" CompletionStatus="Undefined" ManufacturerID="291"
      LastModified="2014-05-25T08:14:55" Hardware2ProgramRefId="M-0123_H-82-
      0_HP" OrderNumber="STV-0640.01" IgnoreParameters="true" Address="1" />
    </Line>
  </Area>
  <UnassignedDevices>
    <DeviceInstance Id="DI-F0C96E92-4759-43E7-8116-F7C117F92A99"
    Name="2;1;EC-031209-022" Description="Sensor KNX binary input, 4 x"
    CompletionStatus="Undefined" ManufacturerID="291" LastModified="2014-04-
    01T10:38:54" Hardware2ProgramRefId="M-0291_H-
    2.20.2F.2F.20GHQ.20631.200070-1_HP-A001-13-4A29" OrderNumber="XX 78-0090
    X0141" />
    ...
  </UnassignedDevices>
</Topology>

```

#### 3.5.1.2.1.1 <Area>

<Area> contains properties of an area in ETS and there may exist up to 16 elements of <Area> in [<Topology>](#).

The following area properties are stored in these attributes (**mandatory** attributes are formatted **bold**):

Name	area's name	text, up to 255 characters	optional
Id	internal ID (invisible in ETS)	special formatted text	optional
<b>Address</b>	<b>address</b>	<b>number between 0 and 15, unique within &lt;Topology&gt;</b>	<b>mandatory</b>

Comment	comment	text	optional
CompletionStat	Status	possible values: <ul style="list-style-type: none"> <li>• "Undefined"</li> <li>• "Editing"</li> <li>• "FinishedDesign"</li> <li>• "FinishedCommissioning"</li> <li>• "Tested"</li> <li>• "Accepted"</li> <li>• "Locked" (since ETS5.6)</li> </ul>	optional
us			
Description	description	text	optional

As subelements there may be no or up to 16 elements of [<Line>](#) in one area, representing the lines of area.

### Example:

```
<Area Id="P-0335-0_A-1" Name="Area 1" Address="1" CompletionStatus="Undefined" />
```

or:

```
<Area Id="P-0335-0_A-1" Name="Area 1" Address="1" CompletionStatus="Undefined">
  <Line Id="P-0335-0_L-3" Name="Line 1.1" CompletionStatus="Undefined"
    DomainAddressIsChecked="false" Address="1" MediumTypeRefId="MT-0">
    <DeviceInstance Id="DI-1015F245-81DA-49AD-8722-4027DB2FBF16" Name="PSupp
      640mA - HV A1" Description="Control, KNX Power supply with choke 640mA REG 6
      TE" CompletionStatus="Undefined" ManufacturerID="291" LastModified="2014-05-
      25T08:14:55" Hardware2ProgramRefId="M-0123_H-82-0_HP" OrderNumber="STV-
      0640.01" Address="1" />
    ...
  </Line>
</Area>
```

[<Line>](#) contains properties of a line in ETS and there may exist up to 16 elements of [<Line>](#) in [<Area>](#). The following properties are stored in these attributes (**mandatory** attributes are formatted **bold**, *deprecated* attributes are formatted *italic*):

Name	name of line	text, up to 255 characters	optional
Id	internal ID (invisible inspecial formatted text ETS)		optional
<b>Address</b>	<b>address</b>	<b>number between 0 und 15, unique within &lt;Area&gt;</b>	<b>mandatory</b>
Comment	comment	text	optional
CompletionStatus	Status	possible values: <ul style="list-style-type: none"> <li>• "Undefined"</li> <li>• "Editing"</li> <li>• "FinishedDesign"</li> <li>• "FinishedCommissioning"</li> <li>• "Tested"</li> <li>• "Accepted"</li> <li>• "Locked" (since ETS5.6)</li> </ul>	optional
Description	description	text	optional
MediumTypeRefId	ID of medium type	possible values: <ul style="list-style-type: none"> <li>• "MT-0" for Twisted Pair</li> <li>• "MT-1" for PowerLine</li> </ul>	mandatory

		<ul style="list-style-type: none"> <li>• "MT-2" for KNX RF</li> <li>• "MT-5" for KNXnet/IP</li> </ul>	
DomainAddress	domain address	number	optional
DomainAddressIs		<i>true for PowerLine, otherwise</i>	<i>optional, deprecated</i>
Checked		<i>false</i>	

As subelements there may be no or up to 256 elements [<DeviceInstance>](#), representing the devices in line.

Since ETS6, <Line> additionally may contain no or upto 127 elements [<Segment>](#), then each segment may contain subelements [<DeviceInstance>](#). However, the total number of devices is bound to maximum limit of parent line, such as total number devices in line (including devices in segments) can not exceed 256.

### Example:

```
<Line Id="P-0335-0_L-2" Name="Line 1.1" Address="1" MediumTypeRefId="MT-0"
CompletionStatus="Editing"/>
```

or

```
<Line Id="P-0335-0_L-2" Name="Line 1.1" Address="1" MediumTypeRefId="MT-0"
CompletionStatus="Editing">
  <DeviceInstance Id="DI-1015F245-81DA-49AD-8722-4027DB2FBF16" Name="PSupp
640mA - HV A1" Description="Control, KNX Power supply with choke 640mA REG 6 TE"
CompletionStatus="Undefined" ManufacturerID="291" LastModified="2014-05-25T08:14:55"
Hardware2ProgramRefId="M-0123_H-82-0_HP" OrderNumber="STV-0640.01"
Address="1" />
  ..
</Line>
```

or

```
<Line Id="P-0335-0_L-2" Name="Line 1.1" Address="1" MediumTypeRefId="MT-0"
CompletionStatus="Editing">
  <DeviceInstance Id="DI-1015F245-81DA-49AD-8722-4027DB2FBF16" Name="PSupp
640mA - HV A1" Description="Control, KNX Power supply with choke 640mA REG 6 TE"
CompletionStatus="Undefined" ManufacturerID="291" LastModified="2014-05-25T08:14:55"
Hardware2ProgramRefId="M-0123_H-82-0_HP" OrderNumber="STV-0640.01"
Address="1" />
  ..
  <Segment Id="P-0335-0_S-23" Name="TP Segment 1" Number="1"
MediumTypeRefId="MT-0" CompletionStatus="Editing" />
</Line>
```

or

```
<Line Id="P-0335-0_L-2" Name="Line 1.1" Address="1" MediumTypeRefId="MT-0"
CompletionStatus="Editing">
```

```

<DeviceInstance Id="DI-1015F245-81DA-49AD-8722-4027DB2FBF16" Name="PSupp
640mA - HV A1" Description="Control, KNX Power supply with choke 640mA REG 6 TE"
CompletionStatus="Undefined" ManufacturerID="291" LastModified="2014-05-25T08:14:55"
Hardware2ProgramRefId="M-0123_H-82-0_HP" OrderNumber="STV-0640.01"
Address="1" />
..
<Segment Id="P-0335-0_S-23" Name="TP Segment 1" Number="1"
MediumTypeRefId="MT-0" CompletionStatus="Editing" >
  <DeviceInstance Id="DI-1015F245-81DA-49AD-8722-4027DB2FBF16" Name="PSupp
640mA - HV A1" Description="Control, KNX Power supply with choke 640mA REG 6 TE"
  CompletionStatus="Undefined" ManufacturerID="291" LastModified="2014-05-
25T08:14:55" Hardware2ProgramRefId="M-0123_H-82-0_HP" OrderNumber="STV-
0640.01" Address="2" />
  ...
</Segment>
</Line>

```

<DeviceInstance> contains properties of a device in ETS.

The following properties are stored in these attributes (**mandatory** attributes are formatted **bold**, *deprecated* attributes are formatted *italic*):

Name	device's name	text, up to 255 characters	optional
Id	internal ID (invisible in ETS)	special formatted text, unique in file (may occur only once in <a href="#">&lt;TemplateDevices&gt;</a> )	optional
Address	address	number between 0 and 15, unique within <a href="#">&lt;Line&gt;</a>	optional
Comment	comment	text	optional
CompletionStatus	status	possible values: <ul style="list-style-type: none"> <li>• "Undefined"</li> <li>• "Editing"</li> <li>• "FinishedDesign"</li> <li>• "FinishedCommissioning"</li> <li>• "Tested"</li> <li>• "Accepted"</li> <li>• "Locked" (since ETS5.6)</li> </ul>	optional
Description	description	text	optional
ManufacturerID	ID of manufacturer	number between 0 and 65535, see list of manufacturer IDs e.g. at <a href="http://www.it-gmbh.de/fileadmin/redaktion/document/s/de/reconstruction/Hersteller-ID.pdf">http://www.it-gmbh.de/fileadmin/redaktion/document/s/de/reconstruction/Hersteller-ID.pdf</a>	optional
OrderNumber	order number of product	text	optional
LastModified	date of last modification	date/time formatted as YYYY-MM-DDThh:mm:ss	optional
InstallationHints	hints for installation etc.	text	optional
Hardware2ProgramRefId	reference ID for combination of product and application program	special formatted text	optional
<i>IgnoreParameters</i>	<i>indicates if parameter values has to be set or not</i>	<i>"true" = all parameters with default settings</i>	<i>optional, deprecated</i>

SerialNumber	since ETS5.6: if supported by the manufacturer: unique number for device	special formatted text	optional
ApplicationName	name of application program	text	optional
ProductName	name of product	text	optional
IndividualAddressLoaded	programming flag address loaded (ETS: Adr flag)	true / false	optional
ApplicationProgramLoaded	programming flag application program loaded (ETS: Prg flag)	true / false	optional
CommunicationPartLoaded	programming flag group object part loaded (ETS: Grp flag)	true / false	optional
ParametersLoaded	programming flag parameters loaded (ETS: Par flag)	true / false	optional
MediumConfigurationLoaded	programming flag medium configuration loaded (ETS: Cfg flag) (used only on the medium PL and RF)	true / false	optional
UsesPlugin	flag indicates usage of plugins	true / false	optional
RequiresExternalSoftware	flag indicates usage of additional external software	true / false	optional

As optional subelements there may be:

- one [<ComObjectInstances>](#) element with at least one [<ComObjectInstance>](#) element containing information about device group objects
- at most one [<TemplateDevice>](#) element referencing a [<TemplateDevice>](#) element
- one [<ParameterInstances>](#) element with at least one [<ParameterInstance>](#) element containing information about device parameter
- at most one [<IPConfig>](#) element with information about IP Configuration

Optional element without any attributes, below [<DeviceInstance>](#), contains at least one and up to unlimited elements of [<ParameterInstance>](#), representing the device parameters with not-default value.

### Example:

```
<ParameterInstances>
  <ParameterInstance ParameterRefId = "P-9_R-9" Name="P_Funktion" Value="1" />
  <ParameterInstance ParameterRefId = "P-564_R-564" Name="P_Funktion" Value="8" />

  <ParameterInstance ParameterRefId = "UP-750_R-750" Name="P_Wert_A_1Bit"
    Value="0" />
</ParameterInstances>
```

[<ParameterInstance>](#) contains information about a device parameter with not-default parameter value. **Mandatory** attributes are formatted **bold**, *deprecated* attributes are formatted *italic*.



<i>ParameterId</i>	<i>reference ID to ETS special formatted text parameter in product data (invisible in ETS)</i>		<i>optional, deprecated</i>
<b>ParameterRefId</b>	<b>reference ID to ETS reference parameter in product data (without applicationProgramId)</b>	<b>special formatted text</b>	<b>mandatory</b>
Name	internal parameter name	text	optional
<b>Value</b>	<b>parameter value</b>	<b>text</b>	<b>mandatory</b>
ApplProgIndex	index for associated application program	= 0 if parameter belongs to ApplicationProgramm1 = 1 if device uses a second ApplicationProgramm (PEI-Programm) and parameter belong to ApplicationProgram2	optional (0 for default)
Text	localized Text	Text	optional
ParameterType	ParameterType	Text, different values like Text, SignedInt, UnsignedInt, Float, Time, Date, Picture For type restriction all permitted values are listed	optional
IsUserWritable	flag for user access	"true" or "false"	optional (true for default)

### Example:

```
<ParameterInstance ParameterRefId="P-273_R-273" Name="InvertDisableLogic" Text="Invert enable/disable logic" ParameterType="No 0, Yes 1" Value="0" />
```

Optional element without any attributes, below [<DeviceInstance>](#), contains at least one and up to unlimited elements of [<ComObjectInstance>](#), representing the active group objects of device.

### Example:

```
<ComObjectInstances>
  <ComObjectInstance Text="Channel J" Number="96" FunctionText="Switching ON/OFF"
    Priority="Low" ReadFlag="Disabled" WriteFlag="Enabled" CommunicationFlag="Enabled"
    TransmitFlag="Disabled" UpdateFlag="Disabled" ReadOnInitFlag="Disabled"
    DatapointType="DPT_Switch" >
    <Connectors>
      <Send GroupAddressRefId="P-0335-0_GA-3" />
    </Connectors>
  </ComObjectInstance>
  ...
</ComObjectInstances>
```

<ComObjectInstance> contains information about an active group object in ETS.  
The following properties are stored in these attributes (**mandatory** attributes are formatted **bold**, *deprecated* attributes are formatted *italic*):

Name	<i>name</i>	<i>text, up to 50 characters</i>	<i>optional, deprecated</i>
Id	<i>internal ID (invisible in ETS)</i>	<i>special formatted text, unique</i>	<i>optional, deprecated</i>
<b>Number</b>	<b>number</b>	<b>number &gt;= 0, unique within &lt;ComObjectInstances&gt;</b>	<b>mandatory</b>
Text	text	text, up to 255 characters	optional
FunctionText	object function	text, up to 255 characters	optional
Priority	priority	possible values: "Low" "High" "Alert" "System" (not allowed in ETS5.6)	optional
ReadFlag	read flag	"Enabled" or "Disabled"	optional
WriteFlag	write flag	"Enabled" or "Disabled"	optional
CommunicationFlag	communication flag	"Enabled" or "Disabled"	optional
TransmitFlag	transmit flag	"Enabled" or "Disabled"	optional
UpdateFlag	update flag	"Enabled" or "Disabled"	optional
ReadOnInitFlag	read on init flag	"Enabled" or "Disabled" (only for SystemB devices)	optional
DatapointType	Id(s) or name(s) of datapoint(s)	Id(s) or name(s) of datapoint(s) (see masterdata) several datapoints separated by spaces	optional
<i>IsActive</i>	<i>is active flag</i>	<i>"true" or "false"</i>	<i>optional, deprecated</i>
Description	description	text	optional
<i>LengthInBits</i>	<i>length of group object in bit</i>	<i>special formatted text</i>	<i>optional, deprecated</i>
Size	length of group object	special formatted text: number + "Bit", "Bits", "Byte" or "Bytes"	optional
ComObjectReferenceId	ReferenceId of group object in product data (without applicationId)	special formatted text	optional
ChannelName	channel name, empty for channel independent group objects	text	optional
Roles	role name (for building functions), not yet supported	text	optional

As subelement there can be an optional element [<Connectors>](#), with exactly one element [<Send>](#) and no or up to unlimited elements of [<Receive>](#) for information about all linked group addresses.

### Example:

```
<ComObjectInstance Text="Buttons 1 / 2" Number="0" FunctionText="Dimming On/Off"
Priority="Low" ReadFlag="Enabled" WriteFlag="Disabled" ReadOnInitFlag="Disabled"
TransmitFlag="Enabled" CommunicationFlag="Enabled" UpdateFlag="Disabled"
```

```
DatapointType="DPST-1-1" ComObjectRefId="O-0_R-10004" LengthInBits="1 Bit" Size="1 Bit">
```

```
  <Connectors>
    <Send GroupAddressRefId="$PUID-GA-109" Acknowledge="false" />
    <Receive GroupAddressRefId="$PUID-GA-28" Acknowledge="false" />
    <Receive GroupAddressRefId="$PUID-GA-111" Acknowledge="false" />
  </Connectors>
</ComObjectInstance>
```

Optional element without any attributes, below [<ComObjectInstance>](#), contains information about linked group addresses in

- exactly one element [<Send>](#) for the sending group address
- no or up to unlimited elements of [<Receive>](#) for all other (=not sending) group addresses.

### Example:

```
<Connectors>
  <Send GroupAddressRefId="P-0335-0_GA-3" />
  <Receive GroupAddressRefId="P-0335-0_GA-32" />
  <Receive GroupAddressRefId="P-0335-0_GA-7" />
  ..
</Connectors>
```

[<Send>](#) contains information about the sending group address. For one element [<Connectors>](#) there can be only one element [<Send>](#)-Element. **Mandatory** attributes are formatted **bold**.

<b>GroupAddrreference ID to a group</b>	<b>text</b>	<b>mandatory</b>
<b>essRefId</b>	<b>address</b>	<b>&lt;GroupAddress Id&gt;</b>
Acknowled	flag for acknowledge	true / optional
ge		false

### Example:

```
<Send GroupAddressRefId="P-0335-0_GA-3" />
```

[<Receive>](#) contains information about a not-sending group address. If there are any elements of [<Receive>](#) in current element [<Connectors>](#) an element [<Send>](#) is mandatory. **Mandatory** attributes are formatted **bold**.

<b>GroupAddrreference ID to a group</b>	<b>text</b>	<b>mandatory</b>
<b>essRefId</b>	<b>address</b>	<b>&lt;GroupAddress Id&gt;</b>
Acknowled	flag for acknowledge	true / optional
ge		false

### Example:

```
<Receive GroupAddressRefId="P-0335-0_GA-32" />
```

Optional element without any attributes, below [<DeviceInstance>](#), contains at least one and up to unlimited elements of [<ModuleInstance>](#), representing the device module instance or submodule instance.

### Example:

```
<ModuleInstances>
  <ModuleInstance ModuleInstanceId = "MD-1_M-56_MI-1" />
  <ModuleInstance ModuleInstanceId = "MD-1_M-57_MI-1" />
  <ModuleInstance ModuleInstanceId = "MD-2_M-1_MI-1_SM-1_M-1_MI-1" />
</ModuleInstances>
```

[<ModuleInstance>](#) contains information about a device module/submodule instance . It has only one attribute

ModuleInst	module instance Id	special formatted text	mandatory
anceId			

### Example:

```
<ModuleInstance ModuleInstanceId = "MD-1_M-56_MI-1" />

or

<ModuleInstance ModuleInstanceId = "MD-1_M-57_MI-1" />

or

<ModuleInstance ModuleInstanceId = "MD-2_M-1_MI-1_SM-1_M-1_MI-1" />
```

Optional element without any attributes, below [<ModuleInstance>](#), contains at least one and up to unlimited elements of [<ParameterInstance>](#), representing the device module/submodule instance parameters with not-default value.

### Example:

```
<ParameterInstances>
  <ParameterInstance ParameterRefId = "MD-1_M-57_MI-1_P-1_R-1"
  Name="P_Funktion" Value="1" />
  <ParameterInstance ParameterRefId = "MD-1_M-57_MI-1_P-2_R-2"
  Name="P_Funktion" Value="8" />
  <ParameterInstance ParameterRefId = "MD-1_M-57_MI-1_P-3_R-6"
  Name="P_Wert_A_1Bit" Value="0" />
</ParameterInstances>
```

or

```
<ParameterInstances>
  <ParameterInstance ParameterRefId = "MD-2_M-1_MI-1_SM-1_M-1_MI-1_P-1_R-1"
    Name="P_Funktion" Value="1" />
  <ParameterInstance ParameterRefId = "MD-2_M-1_MI-1_SM-1_M-1_MI-1_P-2_R-2"
    Name="P_Funktion" Value="8" />
  <ParameterInstance ParameterRefId = "MD-2_M-1_MI-1_SM-1_M-1_MI-1_P-3_R-6"
    Name="P_Wert_A_1Bit" Value="0" />
</ParameterInstances>
```

<ParameterInstance> contains information about a device module instance parameter with not-default parameter value. **Mandatory** attributes are formatted **bold**, *deprecated* attributes are formatted *italic*.

<i>ParameterId</i>	<i>reference ID to ETS special formatted text</i>	<i>optional, deprecated</i>
<i>d</i>	<i>parameter in product data (invisible in ETS)</i>	
<b>ParameterRefId</b>	<b>reference ID to ETS reference parameter in product data (without applicationProgramId)</b>	<b>mandatory</b>
<b>Name</b>	<b>internal parameter name</b>	<b>text optional</b>
<b>Value</b>	<b>parameter value</b>	<b>text mandatory</b>
<b>ApplProgIndex</b>	<b>index for associated application program</b>	<b>optional (0 for default)</b>
	= 0 if parameter belongs to ApplicationProgramm1 = 1 if device uses a second ApplicationProgramm (PEI-Programm) and parameter belong to ApplicationProgram2	
<b>Text</b>	<b>localized Text</b>	<b>optional</b>
<b>ParameterType</b>	<b>Text, different values like Text, SignedInt, UnsignedInt, Float, Time, Date, Picture</b>	<b>optional</b>
<b>ParameterType</b>	<b>For type restriction all permitted values are listed</b>	
<b>IsWritable</b>	<b>for user access "true" or "false"</b>	<b>optional (true for default)</b>

### Example:

```
<ParameterInstance ParameterRefId="P-273_R-273" Name="InvertDisableLogic" Text="Invert enable/disable logic" ParameterType="No 0, Yes 1" Value="0" />
```

Optional element without any attributes, below [<ModuleInstance>](#), contains at least one and up to unlimited elements of [<ComObjectInstance>](#), representing the active group objects of device module/submodule instance.

### Example:

```
<ComObjectInstances>
```

```

<ComObjectInstance Text="Channel J" Number="96" FunctionText="Switching ON/OFF"
Priority="Low" ReadFlag="Disabled" WriteFlag="Enabled" CommunicationFlag="Enabled"
TransmitFlag="Disabled" UpdateFlag="Disabled" ReadOnInitFlag="Disabled"
DatapointType="DPT_Switch" >
  <Connectors>
    <Send GroupAddressRefId="P-0335-0_GA-3" />
  </Connectors>
</ComObjectInstance>
...
</ComObjectInstances>

```

The following properties are stored in these attributes (**mandatory** attributes are formatted **bold**, *deprecated* attributes are formatted *italic*):

<i>Name</i>	<i>name</i>	<i>text, up to 50 characters</i>	<i>optional, deprecated</i>
<i>Id</i>	<i>internal ID (invisible in ETS)</i>	<i>special formatted text, unique</i>	<i>optional, deprecated</i>
<b>Number</b>	<b>number</b>	<b>number &gt;= 0, unique within &lt;ComObjectInstances&gt;</b>	<b>mandatory</b>
Text	text	text, up to 255 characters	optional
FunctionText	object function	text, up to 255 characters	optional
Priority	priority	possible values: "Low" "High" "Alert" "System" (not allowed in ETS5.6)	optional
ReadFlag	read flag	"Enabled" or "Disabled"	optional
WriteFlag	write flag	"Enabled" or "Disabled"	optional
CommunicationFlag	communication flag	"Enabled" or "Disabled"	optional
TransmitFlag	transmit flag	"Enabled" or "Disabled"	optional
UpdateFlag	update flag	"Enabled" or "Disabled"	optional
ReadOnInitFlag	read on init flag	"Enabled" or "Disabled" (only for SystemB devices)	optional
DatapointType	Id(s) or name(s) of datapoint(s)	Id(s) or name(s) of datapoint(s) (see masterdata) several datapoints separated by spaces	optional
<i>IsActive</i>	<i>is active flag</i>	<i>"true" or "false"</i>	<i>optional, deprecated</i>
Description	description	text	optional
<i>LengthInBits</i>	<i>length of group object in bit</i>	<i>special formatted text</i>	<i>optional, deprecated</i>
Size	length of group object	special formatted text: number + "Bit", "Bits", "Byte" or "Bytes"	optional
ComObjectReferenceId	ReferenceId of group object in product data (without applicationId)	special formatted text	optional
ChannelName	channel name, empty for channel independent group objects	text	optional
Roles	role name (for building functions), not yet supported	text	optional

As subelement there can be an optional element [<Connectors>](#), with exactly one element [<Send>](#) and no or up to unlimited elements of [<Receive>](#) for information about all linked group addresses.

### Example:

```
<ComObjectInstance Text="Buttons 1 / 2" Number="0" FunctionText="Dimming On/Off"
Priority="Low" ReadFlag="Enabled" WriteFlag="Disabled" ReadOnInitFlag="Disabled"
TransmitFlag="Enabled" CommunicationFlag="Enabled" UpdateFlag="Disabled"
DatapointType="DPST-1-1" ComObjectRefId="MD-1_M-57_MI-1_O-2-0_R-1"
LengthInBits="1 Bit" Size="1 Bit">
  <Connectors>
    <Send GroupAddressRefId="$PUID-GA-109" Acknowledge="false" />
    <Receive GroupAddressRefId="$PUID-GA-28" Acknowledge="false" />
    <Receive GroupAddressRefId="$PUID-GA-111" Acknowledge="false" />
  </Connectors>
</ComObjectInstance>
```

Optional element without any attributes, below [<ComObjectInstance>](#), contains information about linked group addresses in

- exactly one element [<Send>](#) for the sending group address
- no or up to unlimited elements of [<Receive>](#) for all other (=not sending) group addresses.

### Example:

```
<Connectors>
  <Send GroupAddressRefId="P-0335-0_GA-3" />
  <Receive GroupAddressRefId="P-0335-0_GA-32" />
  <Receive GroupAddressRefId="P-0335-0_GA-7" />
  ..
</Connectors>
```

[<Send>](#) contains information about the sending group address. For one element [<Connectors>](#) there can be only one element [<Send>](#)-Element. **Mandatory** attributes are formatted **bold**.

<b>GroupAddrreference ID to a group</b>	<b>text mandatory</b>
<b>essRefId address</b> <a href="#">&lt;GroupAddress Id&gt;</a>	
Acknowledged flag for acknowledge	true / optional
ge	false

### Example:

```
<Send GroupAddressRefId="P-0335-0_GA-3" />
```

[<Receive>](#) contains information about a not-sending group address. If there are any elements of [<Receive>](#) in current element [<Connectors>](#) an element [<Send>](#) is mandatory. **Mandatory** attributes are formatted **bold**.

**GroupAddressRefId** ID to a group address **text mandatory**  
**Address** address [<GroupAddress Id>](#)  
 Acknowledged flag for acknowledge true / optional  
 ge false

### Example:

```
<Receive GroupAddressRefId="P-0335-0_GA-32" />
```

<TemplateDevice> below [<DeviceInstance>](#) contains only a reference to an element of [<TemplateDevice>](#) listed below <TemplateDevices>:

**RefId** reference ID to an element of [<TemplateDevice Id>](#) **text mandatory**

**Note:** although this element's name is the same as the subelements' name below [<TemplateDevices>](#), here it is only a reference element with other attributes.

### Example:

```
<TemplateDevice RefId="DI-ADBEA496-75A2-4CCB-B78F-F7B598BBC55C" />
```

<IPConfig> contains properties of IP Configuration of the current device and must be present at most once in [<DeviceInstance>](#).

The following properties are stored in these attributes (**mandatory** attributes are formatted **bold**):

Assign	Obtainment type for IP address	"Auto" for obtain an IP Address automatically "Fixed" for use a static IP Address	optional
IPAddress	IP Address	special formatted text	optional
DefaultGateway	Default Gateway	special formatted text	optional
SubnetMask	Subnet Mask	special formatted text	optional
MacAddress	MAC Address	special formatted text	optional

<Segment> contains properties of a segment in ETS (since ETS6) and there may exist up to 127 elements of <Segment> in a [<Line>](#)

The following properties are stored in these attributes (**mandatory** attributes are formatted **bold**, *deprecated* attributes are formatted *italic*):

Name	name of segment	text, up to 255 characters	optional
Id	internal ID (invisible in ETS)	special formatted text	optional
<b>Number</b>	<b>segment number</b>	<b>number between 1 and 127, unique within <a href="#">&lt;Line&gt;</a></b>	<b>mandatory</b>
Comment	comment	text	optional
CompletionStatus	Status	possible values: <ul style="list-style-type: none"> <li>• "Undefined"</li> <li>• "Editing"</li> <li>• "FinishedDesign"</li> <li>• "FinishedCommissioning"</li> <li>• "Tested"</li> </ul>	optional



Description	description	text	optional
MediumTypeRefId	ID of medium type	possible values: <ul style="list-style-type: none"> <li>• "Accepted"</li> <li>• "Locked" (since ETS5.6)</li> <li>• "MT-0" for Twisted Pair</li> <li>• "MT-1" for PowerLine</li> <li>• "MT-2" for KNX RF</li> <li>• "MT-5" for KNXnet/IP</li> </ul>	mandatory
DomainAddress	domain address	number	optional

As subelements there may be no or more elements [<DeviceInstance>](#), representing the devices in segment. However, total number of devices can not exceed the maximum limit of Parent [<Line>](#). Which means if a line has child devices and child segments with devices, then total number of devices with in a parent line can not exceed 256.

### Example:

```
<Segment Id="P-0335-0_S-23" Name="TP segment 1" Number="1" MediumTypeRefId="MT-0" CompletionStatus="Editing"/>
```

or

```
<Segment Id="P-0335-0_S-23" Name="TP Segment 1" Number="1" MediumTypeRefId="MT-0" CompletionStatus="Editing">
  <DeviceInstance Id="DI-1015F245-81DA-49AD-8722-4027DB2FBF16" Name="PSupp
    640mA - HV A1" Description="Control, KNX Power supply with choke 640mA REG 6 TE"
    CompletionStatus="Undefined" ManufacturerID="291" LastModified="2014-05-25T08:14:55"
    Hardware2ProgramRefId="M-0123_H-82-0_HP" OrderNumber="STV-0640.01"
    Address="1" />
  ..
</Segment>
```

[<DeviceInstance>](#) contains properties of a device in ETS.

The following properties are stored in these attributes (**mandatory** attributes are formatted **bold**, *deprecated* attributes are formatted *italic*):

Name	device's name	text, up to 255 characters	optional
Id	internal ID (invisible in ETS)	special formatted text, unique in file (may occur only once in <a href="#">&lt;TemplateDevices&gt;</a> )	optional
Address	address	number between 0 and 15, unique within <a href="#">&lt;Line&gt;</a>	optional
Comment	comment	text	optional
CompletionStatus	status	possible values: <ul style="list-style-type: none"> <li>• "Undefined"</li> <li>• "Editing"</li> <li>• "FinishedDesign"</li> <li>• "FinishedCommissioning"</li> <li>• "Tested"</li> <li>• "Accepted"</li> <li>• "Locked" (since ETS5.6)</li> </ul>	optional
Description	description	text	optional
ManufacturerID	ID of manufacturer	number between 0 and 65535, see list of manufacturer IDs e.g. at <a href="http://www.it-">http://www.it-</a>	optional

		gmbh.de/fileadmin/redaktion/document s/de/reconstruction/Hersteller-ID.pdf	
OrderNumber	order number of product	text	optional
LastModified	date of last modification	date/time formatted as YYYY-MM-DDThh:mm:ss	optional
InstallationHints	hints for installation etc.	text	optional
Hardware2ProgramRefId	reference ID for combination of product and application program	special formatted text	optional
IgnoreParameters	<i>indicates if parameter values has to be set or not</i>	<i>"true" = all parameters with default settings</i>	<i>optional, deprecated</i>
SerialNumber	since ETS5.6: if supported by the manufacturer: unique number for device	special formatted text	optional
ApplicationName	name of application program	text	optional
ProductName	name of product	text	optional
IndividualAddressLoaded	programming flag address loaded (ETS: Adr flag)	true / false	optional
ApplicationProgramLoaded	programming flag application program loaded (ETS: Prg flag)	true / false	optional
CommunicationPartLoaded	programming flag group object part loaded (ETS: Grp flag)	true / false	optional
ParametersLoaded	programming flag parameters loaded (ETS: Par flag)	true / false	optional
MediumConfigurationLoaded	programming flag medium configuration loaded (ETS: Cfg flag) (used only on the medium PL and RF)	true / false	optional
UsesPlugin	flag indicates usage of plugins	true / false	optional
RequiresExternalSoftware	flag indicates usage of additional external software	true / false	optional

As optional subelements there may be:

- one [<ComObjectInstances>](#) element with at least one [<ComObjectInstance>](#) element containing information about device group objects
- at most one [<TemplateDevice>](#) element referencing a [<TemplateDevice>](#) element
- one [<ParameterInstances>](#) element with at least one [<ParameterInstance>](#) element containing information about device parameter
- at most one [<IPConfig>](#) element with information about IP Configuration

Optional element without any attributes, below [<DeviceInstance>](#), contains at least one and up to unlimited elements of [<ParameterInstance>](#), representing the device parameters with not-default value.

### Example:

```

<ParameterInstances>
  <ParameterInstance ParameterRefId = "P-9_R-9" Name="P_Funktion" Value="1" />
  <ParameterInstance ParameterRefId = "P-564_R-564" Name="P_Funktion" Value="8" />

  <ParameterInstance ParameterRefId = "UP-750_R-750" Name="P_Wert_A_1Bit"
    Value="0" />
</ParameterInstances>

```

<ParameterInstance> contains information about a device parameter with not-default parameter value. **Mandatory** attributes are formatted **bold**, *deprecated* attributes are formatted *italic*.

<i>ParameterId</i>	<i>reference ID to ETS special formatted text parameter in product data (invisible in ETS)</i>		<i>optional, deprecated</i>
<b>ParameterRefId</b>	<b>reference ID to ETS reference parameter in product data (without applicationProgramId)</b>	<b>special formatted text</b>	<b>mandatory</b>
Name	internal parameter name	text	optional
<b>Value</b>	<b>parameter value</b>	<b>text</b>	<b>mandatory</b>
ApplProgIndex	index for associated application program	= 0 if parameter belongs to ApplicationProgramm1 = 1 if device uses a second ApplicationProgramm (PEI-Programm) and parameter belong to ApplicationProgram2	optional (0 for default)
Text	localized Text	Text	optional
ParameterType	ParameterType	Text, different values like Text, SignedInt, UnsignedInt, Float, Time, Date, Picture For type restriction all permitted values are listed	optional
IsUserWritable	flag for user access	"true" or "false"	optional (true for default)

### Example:

```

<ParameterInstance ParameterRefId="P-273_R-273" Name="InvertDisableLogic" Text="Invert enable/disable logic" ParameterType="No 0, Yes 1" Value="0" />

```

Optional element without any attributes, below [<DeviceInstance>](#), contains at least one and up to unlimited elements of [<ComObjectInstance>](#), representing the active group objects of device.

### Example:

```

<ComObjectInstances>
  <ComObjectInstance Text="Channel J" Number="96" FunctionText="Switching ON/OFF"
    Priority="Low" ReadFlag="Disabled" WriteFlag="Enabled" CommunicationFlag="Enabled"

```

```

TransmitFlag="Disabled" UpdateFlag="Disabled" ReadOnInitFlag="Disabled"
DatapointType="DPT_Switch" >
  <Connectors>
    <Send GroupAddressRefId="P-0335-0_GA-3" />
  </Connectors>
</ComObjectInstance>
...
</ComObjectInstances>

```

<ComObjectInstance> contains information about an active group object in ETS.  
The following properties are stored in these attributes (**mandatory** attributes are formatted **bold**, *deprecated* attributes are formatted *italic*):

<i>Name</i>	<i>name</i>	<i>text, up to 50 characters</i>	<i>optional, deprecated</i>
<i>Id</i>	<i>internal ID (invisible in ETS)</i>	<i>special formatted text, unique</i>	<i>optional, deprecated</i>
<b>Number</b>	<b>number</b>	<b>number &gt;= 0, unique within &lt;ComObjectInstances&gt;</b>	<b>mandatory</b>
Text	text	text, up to 255 characters	optional
FunctionText	object function	text, up to 255 characters	optional
Priority	priority	possible values: "Low" "High" "Alert" "System" (not allowed in ETS5.6)	optional
ReadFlag	read flag	"Enabled" or "Disabled"	optional
WriteFlag	write flag	"Enabled" or "Disabled"	optional
CommunicationFlag	communication flag	"Enabled" or "Disabled"	optional
TransmitFlag	transmit flag	"Enabled" or "Disabled"	optional
UpdateFlag	update flag	"Enabled" or "Disabled"	optional
ReadOnInitFlag	read on init flag	"Enabled" or "Disabled" (only for SystemB devices)	optional
DatapointType	Id(s) or name(s) of datapoint(s)	Id(s) or name(s) of datapoint(s) (see masterdata) several datapoints separated by spaces	optional
<i>IsActive</i>	<i>is active flag</i>	<i>"true" or "false"</i>	<i>optional, deprecated</i>
Description	description	text	optional
<i>LengthInBits</i>	<i>length of group object in bit</i>	<i>special formatted text</i>	<i>optional, deprecated</i>
Size	length of group object	special formatted text: number + "Bit", "Bits", "Byte" or "Bytes"	optional
ComObjectReferenceId	ReferenceId of group object in product data (without applicationId)	special formatted text	optional
ChannelName	channel name, empty for channel independent group objects	text	optional
Roles	role name (for building functions), not yet supported	text	optional

As subelement there can be an optional element [<Connectors>](#), with exactly one element [<Send>](#) and no or up to unlimited elements of [<Receive>](#) for information about all linked group addresses.

### Example:

```
<ComObjectInstance Text="Buttons 1 / 2" Number="0" FunctionText="Dimming On/Off"
Priority="Low" ReadFlag="Enabled" WriteFlag="Disabled" ReadOnInitFlag="Disabled"
TransmitFlag="Enabled" CommunicationFlag="Enabled" UpdateFlag="Disabled"
DatapointType="DPST-1-1" ComObjectRefId="O-0_R-10004" LengthInBits="1 Bit" Size="1
Bit">
  <Connectors>
    <Send GroupAddressRefId="$PUID-GA-109" Acknowledge="false" />
    <Receive GroupAddressRefId="$PUID-GA-28" Acknowledge="false" />
    <Receive GroupAddressRefId="$PUID-GA-111" Acknowledge="false" />
  </Connectors>
</ComObjectInstance>
```

Optional element without any attributes, below [<ComObjectInstance>](#), contains information about linked group addresses in

- exactly one element [<Send>](#) for the sending group address
- no or up to unlimited elements of [<Receive>](#) for all other (=not sending) group addresses.

### Example:

```
<Connectors>
  <Send GroupAddressRefId="P-0335-0_GA-3" />
  <Receive GroupAddressRefId="P-0335-0_GA-32" />
  <Receive GroupAddressRefId="P-0335-0_GA-7" />
  ..
</Connectors>
```

[<Send>](#) contains information about the sending group address. For one element [<Connectors>](#) there can be only one element [<Send>](#)-Element. **Mandatory** attributes are formatted **bold**.

<b>GroupAddrreference ID to a group</b>	<b>text mandatory</b>
<b>essRefId address</b> <a href="#">&lt;GroupAddress Id&gt;</a>	
Acknowledged flag for acknowledge	true / optional
ge	false

### Example:

```
<Send GroupAddressRefId="P-0335-0_GA-3" />
```

[<Receive>](#) contains information about a not-sending group address. If there are any elements of [<Receive>](#) in current element [<Connectors>](#) an element [<Send>](#) is mandatory. **Mandatory** attributes are formatted **bold**.

<b>GroupAddressRefId</b>	ID to a group address	text	mandatory
<b>Acknowledge</b>	flag for acknowledge	true / optional	false

**Example:**

```
<Receive GroupAddressRefId="P-0335-0_GA-32" />
```

Optional element without any attributes, below [<DeviceInstance>](#), contains at least one and up to unlimited elements of [<ModuleInstance>](#), representing the device module instance or submodule instance.

**Example:**

```
<ModuleInstances>
  <ModuleInstance ModuleInstanceId = "MD-1_M-56_MI-1" />
  <ModuleInstance ModuleInstanceId = "MD-1_M-57_MI-1" />
  <ModuleInstance ModuleInstanceId = "MD-2_M-1_MI-1_SM-1_M-1_MI-1" />
</ModuleInstances>
```

[<ModuleInstance>](#) contains information about a device module/submodule instance . It has only one attribute

ModuleInst	module instance Id	special formatted text	mandatory
------------	--------------------	------------------------	-----------

**Example:**

```
<ModuleInstance ModuleInstanceId = "MD-1_M-56_MI-1" />
```

or

```
<ModuleInstance ModuleInstanceId = "MD-1_M-57_MI-1" />
```

or

```
<ModuleInstance ModuleInstanceId = "MD-2_M-1_MI-1_SM-1_M-1_MI-1" />
```

Optional element without any attributes, below [<ModuleInstance>](#), contains at least one and up to unlimited elements of [<ParameterInstance>](#), representing the device module/submodule instance parameters with not-default value.

**Example:**

```
<ParameterInstances>
```

```

<ParameterInstance ParameterRefId = "MD-1_M-57_MI-1_P-1_R-1"
Name="P_Funktion" Value="1" />
<ParameterInstance ParameterRefId = "MD-1_M-57_MI-1_P-2_R-2"
Name="P_Funktion" Value="8" />
<ParameterInstance ParameterRefId = "MD-1_M-57_MI-1_P-3_R-6"
Name="P_Wert_A_1Bit" Value="0" />
</ParameterInstances>

```

or

```

<ParameterInstances>
  <ParameterInstance ParameterRefId = "MD-2_M-1_MI-1_SM-1_M-1_MI-1_P-1_R-1"
Name="P_Funktion" Value="1" />
  <ParameterInstance ParameterRefId = "MD-2_M-1_MI-1_SM-1_M-1_MI-1_P-2_R-2"
Name="P_Funktion" Value="8" />
  <ParameterInstance ParameterRefId = "MD-2_M-1_MI-1_SM-1_M-1_MI-1_P-3_R-6"
Name="P_Wert_A_1Bit" Value="0" />
</ParameterInstances>

```

<ParameterInstance> contains information about a device module instance parameter with not-default parameter value. **Mandatory** attributes are formatted **bold**, *deprecated* attributes are formatted *italic*.

<i>ParameterId</i>	<i>reference ID to ETS special formatted text</i>	<i>optional, deprecated</i>
<i>d</i>	<i>parameter in product data (invisible in ETS)</i>	
<b>ParameterRefId</b>	<b>reference ID to ETS reference parameter in product data (without applicationProgramId)</b>	<b>mandatory</b>
Name	internal parameter name	optional
<b>Value</b>	<b>parameter value</b>	<b>mandatory</b>
ApplProgIndex	index for associated application program = 0 if parameter belongs to ApplicationProgramm1 = 1 if device uses a second ApplicationProgramm (PEI-Programm) and parameter belong to ApplicationProgram2	optional (0 for default)
Text	localized Text	optional
ParameterType	Text, different values like Text, SignedInt, UnsignedInt, Float, Time, Date, Picture For type restriction all permitted values are listed	optional
IsUserWritable	for user access "true" or "false"	optional (true for default)

### Example:

```

<ParameterInstance ParameterRefId="P-273_R-273" Name="InvertDisableLogic" Text="Invert enable/disable logic" ParameterType="No 0, Yes 1" Value="0" />

```

Optional element without any attributes, below [<ModuleInstance>](#), contains at least one and up to unlimited elements of [<ComObjectInstance>](#), representing the active group objects of device module/submodule instance.

### Example:

```
<ComObjectInstances>
  <ComObjectInstance Text="Channel J" Number="96" FunctionText="Switching ON/OFF"
    Priority="Low" ReadFlag="Disabled" WriteFlag="Enabled" CommunicationFlag="Enabled"
    TransmitFlag="Disabled" UpdateFlag="Disabled" ReadOnInitFlag="Disabled"
    DatapointType="DPT_Switch" >
    <Connectors>
      <Send GroupAddressRefId="P-0335-0_GA-3" />
    </Connectors>
  </ComObjectInstance>
  ...
</ComObjectInstances>
```

The following properties are stored in these attributes (**mandatory** attributes are formatted **bold**, *deprecated* attributes are formatted *italic*):

Name	name	text, up to 50 characters	optional, deprecated
<i>Id</i>	<i>internal ID (invisible in ETS)</i>	<i>special formatted text, unique</i>	<i>optional, deprecated</i>
<b>Number</b>	<b>number</b>	<b>number &gt;= 0, unique within &lt;ComObjectInstances&gt;</b>	<b>mandatory</b>
Text	text	text, up to 255 characters	optional
FunctionText	object function	text, up to 255 characters	optional
Priority	priority	possible values: "Low" "High" "Alert" "System" (not allowed in ETS5.6)	optional
ReadFlag	read flag	"Enabled" or "Disabled"	optional
WriteFlag	write flag	"Enabled" or "Disabled"	optional
CommunicationFlag	communication flag	"Enabled" or "Disabled"	optional
TransmitFlag	transmit flag	"Enabled" or "Disabled"	optional
UpdateFlag	update flag	"Enabled" or "Disabled"	optional
ReadOnInitFlag	read on init flag	"Enabled" or "Disabled" (only for SystemB devices)	optional
DatapointType	Id(s) or name(s) of datapoint(s)	Id(s) or name(s) of datapoint(s) (see masterdata) several datapoints separated by spaces	optional
<i>IsActive</i>	<i>is active flag</i>	<i>"true" or "false"</i>	<i>optional, deprecated</i>
Description	description	text	optional
<i>LengthInBits</i>	<i>length of group object in bit</i>	<i>special formatted text</i>	<i>optional, deprecated</i>
Size	length of group object	special formatted text: number + "Bit", "Bits", "Byte" or "Bytes"	optional



ComObjectReferenceId	ReferenceId of group object in product data (without applicationId)	special formatted text	optional
ChannelName	channel name, empty for channel independent group objects	text	optional
Roles	role name (for building functions), not yet supported	text	optional

As subelement there can be an optional element [<Connectors>](#), with exactly one element [<Send>](#) and no or up to unlimited elements of [<Receive>](#) for information about all linked group addresses.

### Example:

```
<ComObjectInstance Text="Buttons 1 / 2" Number="0" FunctionText="Dimming On/Off"
Priority="Low" ReadFlag="Enabled" WriteFlag="Disabled" ReadOnInitFlag="Disabled"
TransmitFlag="Enabled" CommunicationFlag="Enabled" UpdateFlag="Disabled"
DatapointType="DPST-1-1" ComObjectRefId="MD-1_M-57_MI-1_O-2-0_R-1"
LengthInBits="1 Bit" Size="1 Bit">
  <Connectors>
    <Send GroupAddressRefId="$PUID-GA-109" Acknowledge="false" />
    <Receive GroupAddressRefId="$PUID-GA-28" Acknowledge="false" />
    <Receive GroupAddressRefId="$PUID-GA-111" Acknowledge="false" />
  </Connectors>
</ComObjectInstance>
```

Optional element without any attributes, below [<ComObjectInstance>](#), contains information about linked group addresses in

- exactly one element [<Send>](#) for the sending group address
- no or up to unlimited elements of [<Receive>](#) for all other (=not sending) group addresses.

### Example:

```
<Connectors>
  <Send GroupAddressRefId="P-0335-0_GA-3" />
  <Receive GroupAddressRefId="P-0335-0_GA-32" />
  <Receive GroupAddressRefId="P-0335-0_GA-7" />
  ..
</Connectors>
```

[<Send>](#) contains information about the sending group address. For one element [<Connectors>](#) there can be only one element [<Send>](#)-Element. **Mandatory** attributes are formatted **bold**.

<b>GroupAddressReference ID to a group addressRefId</b>	address	<b>&lt;GroupAddress Id&gt;</b>	text mandatory
Acknowledge	flag for acknowledge		true / optional
			false

**Example:**

```
<Send GroupAddressRefId="P-0335-0_GA-3" />
```

<Receive> contains information about a not-sending group address. If there are any elements of <Receive> in current element [<Connectors>](#) an element [<Send>](#) is mandatory. **Mandatory** attributes are formatted **bold**.

<b>GroupAddrreference ID to a group essRefId address</b>	<b>text mandatory</b>
<b>&lt;GroupAddress Id&gt;</b>	
Acknowledged flag for acknowledge	true / optional
ge	false

**Example:**

```
<Receive GroupAddressRefId="P-0335-0_GA-32" />
```

<TemplateDevice> contains information about template devices.

These attributes are available (**mandatory** attributes are formatted **bold**):

Name	name	text	mandatory
<b>Id</b>	<b>internal ID, for identification</b>	<b>special formatted text</b>	<b>mandatory, unique in TemplateDevices</b>
ApplicationName	name of application program	text	optional
ManufacturerName	manufacturer's name	text up to 50 characters	optional
ManufacturerRefId	manufacturer ID	special formatted text	optional
ProductRefId	reference ID for product	special formatted text	optional
OrderNumber	order number	text	optional
Hardware2ProgramRefId	reference ID for combination of product and application program (ETS specific, with 0000 instead of Fingerprint)	special formatted text	optional

**Example:**

```
<TemplateDevice Id="DI-ADBEA496-75A2-4CCB-B78F-F7B598BBC55C" Name="PSupp  
640mA - HV A1" ManufacturerName="Manufacturer123" ManufacturerRefId="M-0123"  
ProductRefId="M-0123_H-82-0_P-STV.2D0640.2E01" OrderNumber="B123-898"  
Hardware2ProgramRefId="M-0123_H-82-0_HP" />
```

<IPConfig> contains properties of IP Configuration of the current device and must be present at most once in [<DeviceInstance>](#) .

The following properties are stored in these attributes (**mandatory** attributes are formatted **bold**):

Assign	Obtainment type for IP address	"Auto" for obtain an IP Address automatically "Fixed" for use a static IP Address	optional
IPAddress	IP Address	special formatted text	optional
DefaultGateway	Default Gateway	special formatted text	optional
SubnetMask	Subnet Mask	special formatted text	optional

MacAddress	MAC Address	special formatted text	optional
------------	-------------	------------------------	----------

### 3.5.1.2.1.2 <UnassignedDevices>

Optional element without any attributes, below [<Topology>](#), contains at least one and up to unlimited elements of [<DeviceInstance>](#) representing devices which are not placed in any area or line.

#### Example:

```
<UnassignedDevices>
  <DeviceInstance Id="DI-F0C96E92-4759-43E7-8116-F7C117F92A99" Name="2;1;EC-
    031209-022" Description="Sensor KNX binary input, 4 x" CompletionStatus="Undefined"
    ManufacturerID="291" LastModified="2014-04-01T10:38:54" Hardware2ProgramRefId="M-
    0291_H-2.20.2F.2F.20GHQ.20631.200070-1_HP-A001-13-4A29" OrderNumber="XX 78-
    0090 X0141" />
  ...
</UnassignedDevices>
```

### 3.5.1.2.2 <Buildings>

Mandatory element without any attributes, below [<Installation>](#), contains no or up to unlimited elements of [<BuildingPart>](#).

#### Example:

```
<Buildings>
  <BuildingPart Id="PP-2531506A-79B5-4C6A-AD42-81037970FD39" Name="Main
    Building" Type="Building" Number="1">
    <BuildingPart Id="PP-78B56934-3B9A-4E65-B332-2494F670DF99" Name="Ground
      Floor" Type="BuildingPart" Number="2">
        <BuildingPart Id="PP-1CBAFEE8-7996-4D15-90D2-AF0C0C569147"
          Name="Reception" Type="Room" Number="6">
          <DeviceInstanceRef RefId="DI-1015F245-81DA-49AD-8722-
            4027DB2FBF16" />
          <DeviceInstanceRef RefId="DI-45143765-0DB4-41AE-A61E-
            30EA35E00E0E" />
        </BuildingPart>
      </BuildingPart>
    </BuildingPart>
  </Buildings>
```

#### 3.5.1.2.2.1 <BuildingPart>

<BuildingPart> contains information about a building part in ETS.

Following properties are stored in these attributes (**mandatory** attributes are formatted **bold**):

Name	name	text, up to 255 characters	optional
Id	internal ID (invisible in special formatted text ETS)		optional
Type	<b>type</b>	<b>text, possible values:</b>	<b>mandatory</b>

		<ul style="list-style-type: none"> <li>• "Building"</li> <li>• "BuildingPart"</li> <li>• "Floor"</li> <li>• "Room"</li> <li>• "Stairway"</li> <li>• "Corridor"</li> <li>• "DistributionBoard"</li> </ul>	
Number	number	text, up to 255 characters, unique with ETS project	optional
Comment	comment	text	optional
CompletionStatus	status	possible values: <ul style="list-style-type: none"> <li>• "Undefined"</li> <li>• "Editing"</li> <li>• "FinishedDesign"</li> <li>• "FinishedCommissioning"</li> <li>• "Tested"</li> <li>• "Accepted"</li> <li>• "Locked" (since ETS5.6)</li> </ul>	optional
Description	description	text	optional
Usage	usage	(since ETS5) language dependent text, may be empty or possible values <ul style="list-style-type: none"> <li>• "Kitchen"</li> <li>• "Bedroom"</li> <li>• "Staircase"</li> <li>• "Living room"</li> <li>• "Dining room"</li> <li>• "Nursery"</li> <li>• "Bathroom"</li> <li>• "Hallway"</li> <li>• "Corridor"</li> <li>• "Utility room"</li> <li>• "Office"</li> <li>• "Meeting room"</li> <li>• "Garage"</li> <li>• "Terrace/Balcony"</li> <li>• "Garden"</li> <li>• "Parking place"</li> <li>• "Store room"</li> <li>• "Swimming pool"</li> <li>• "Wellness"</li> </ul>	optional

As subelements there may be:

- up to unlimited elements of [<DeviceInstanceRef>](#) for devices placed in building part
- up to unlimited elements of [<BuildingPart>](#) representing more detailed spatial subdivision.
- any number of [<BuildingFunction>](#) elements representing building functions

Depending on type there are restrictions for values and combinations in ETS , e.g. a "Building" may only contain a "BuildingPart", but no "Building" or devices. Or a "Room" must not contain a "Floor"...

### Example:

```

<BuildingPart Id="PP-2531506A-79B5-4C6A-AD42-81037970FD39" Name="Main Building"
Type="Building" Number="1">
  <BuildingPart Id="PP-78B56934-3B9A-4E65-B332-2494F670DF99" Name="Ground Floor"
Type="BuildingPart" Number="2">
    <BuildingPart Id="PP-1CBAFEE8-7996-4D15-90D2-AF0C0C569147"
Name="Reception" Type="Room" Number="6">
      <DeviceInstanceRef RefId="DI-1015F245-81DA-49AD-8722-
4027DB2FBF16" />
      <DeviceInstanceRef RefId="DI-45143765-0DB4-41AE-A61E-30EA35E00E0E" />
    </BuildingPart>
  </BuildingPart>
</BuildingPart>

```

or

```

<BuildingPart Id="PP-2531506A-79B5-4C6A-AD42-81037970FD39" Name="Main Building"
Type="Building" Number="1">
  <BuildingPart Id="PP-78B56934-3B9A-4E65-B332-2494F670DF99" Name="Ground Floor"
Type="BuildingPart" Number="1">
    <BuildingPart Id="PP-1CBAFEE8-7996-4D15-90D2-AF0C0C569147"
Name="Reception" Type="Room" Number="6">
      <DeviceInstanceRef RefId="DI-1015F245-81DA-49AD-8722-4027DB2FBF16" />
      <DeviceInstanceRef RefId="DI-45143765-0DB4-41AE-A61E-30EA35E00E0E" />
      <BuildingFunction Id="$PUIID-BF-77" Name="Sun protection"
CompletionStatus="Undefined" Implements="FT-7">
        <GroupAddressRef RefId="$PUIID-GA-78" Id="$PUIID-GF-79"
Role="MoveUpDown" />
        <GroupAddressRef RefId="$PUIID-GA-80" Id="$PUIID-GF-81"
Role="StopStepUpDown" />
        <GroupAddressRef RefId="$PUIID-GA-82" Id="$PUIID-GF-83"
Role="WindAlarm" />
        <GroupAddressRef RefId="$PUIID-GA-84" Id="$PUIID-GF-85"
Role="RainAlarm" />
        <GroupAddressRef RefId="$PUIID-GA-86" Id="$PUIID-GF-87"
Role="CurrentAbsolutePositionBlindsPercentage" />
        <GroupAddressRef RefId="$PUIID-GA-88" Id="$PUIID-GF-89"
Role="CurrentAbsolutePositionSlatPercentage" />
      </BuildingFunction>
    </BuildingPart>
  </BuildingPart>
</BuildingPart>

```

<DeviceInstanceRef> only contains a reference to a device defined below <Topology><Area><Line> or <Topology><UnassignedDevices>:

<b>RefIdreference ID for device</b>	<b>text</b>	<b>mandatory</b>
<a href="#">&lt;DeviceInstance Id&gt;</a>		

**Example:**

```
<DeviceInstanceRef RefId="DI-1015F245-81DA-49AD-8722-4027DB2FBF16" />
```

<BuildingFunction> contains information about a building function in ETS5.

Following properties are stored in these attributes (**mandatory** attributes are formatted **bold**):

Name	name	text, up to 255 characters	optional																						
Id	internal ID (invisible inspecial formatted text ETS)		optional																						
Number	number	text, up to 255 characters, unique in ETS project	optional																						
Comment	comment	text	optional																						
CompletionStatus	status	possible values: <ul style="list-style-type: none"> <li>• "Undefined"</li> <li>• "Editing"</li> <li>• "FinishedDesign"</li> <li>• "FinishedCommissioning"</li> <li>• "Tested"</li> <li>• "Accepted"</li> <li>• "Locked" (since ETS5.6)</li> </ul>	optional																						
Description	description	text	optional																						
Implements	function types	text ID of the function type. In ETS 5.6, the following function types are defined: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>ID</th> <th>Text</th> </tr> </thead> <tbody> <tr><td>FT-0</td><td>custom</td></tr> <tr><td>FT-1</td><td>switchable light</td></tr> <tr><td>FT-2</td><td>dimmable light</td></tr> <tr><td>FT-3</td><td>sun protection</td></tr> <tr><td>FT-4</td><td>heating radiator</td></tr> <tr><td>FT-5</td><td>heating floor</td></tr> <tr><td>FT-6</td><td>dimmable light</td></tr> <tr><td>FT-7</td><td>sun protection</td></tr> <tr><td>FT-8</td><td>heating (switching variable)</td></tr> <tr><td>FT-9</td><td>heating (continuous variable)</td></tr> </tbody> </table>	ID	Text	FT-0	custom	FT-1	switchable light	FT-2	dimmable light	FT-3	sun protection	FT-4	heating radiator	FT-5	heating floor	FT-6	dimmable light	FT-7	sun protection	FT-8	heating (switching variable)	FT-9	heating (continuous variable)	optional
ID	Text																								
FT-0	custom																								
FT-1	switchable light																								
FT-2	dimmable light																								
FT-3	sun protection																								
FT-4	heating radiator																								
FT-5	heating floor																								
FT-6	dimmable light																								
FT-7	sun protection																								
FT-8	heating (switching variable)																								
FT-9	heating (continuous variable)																								

Subelements are possible:

- any number of [<GroupAddressRef>](#) elements representing linking with group addresses

**Example:**

```
<BuildingFunction Id="$PUIID-BF-77" Name="sun protection" CompletionStatus="Undefined"
Implements="FT-7">
  <GroupAddressRef RefId="$PUIID-GA-78" Id="$PUIID-GF-79"
Role="MoveUpDown" />
  <GroupAddressRef RefId="$PUIID-GA-80" Id="$PUIID-GF-81"
Role="StopStepUpDown" />
  <GroupAddressRef RefId="$PUIID-GA-82" Id="$PUIID-GF-83"
Role="WindAlarm" />
  <GroupAddressRef RefId="$PUIID-GA-84" Id="$PUIID-GF-85" Role="RainAlarm" />
```

```

    <GroupAddressRef RefId="$PUID-GA-86" Id="$PUID-GF-87"
    Role="CurrentAbsolutePositionBlindsPercentage" />
    <GroupAddressRef RefId="$PUID-GA-88" Id="$PUID-GF-89"
    Role="CurrentAbsolutePositionSlatPercentage" />
  </BuildingFunction>

```

<GroupAddressRef> contains information about the linked group address and its role .  
Following properties are stored in these attributes (**mandatory** attributes are formatted **bold**):

RefId	ReferenceId	text	mandatory
<b>of a GroupAddress</b>			
<b>&lt;GroupAddresses Id&gt;</b>			
Name	name	text, up to 255 characters	optional
Role	name of role	text, up to 255 characters	optional

One of the values listed below for standard functions, or a Guid for user-defined roles:

FT-1 switchable light:

SwitchOnOff	switching
InfoOnOff	status

FT-6 dimmable light:

SwitchOnOff	switching
InfoOnOff	status
RelativeSetvalueControl	dimming (relative)
AbsoluteSetvalueControl	value (absolute dimming)
ActualDimmingValue	dimming value (value status)

FT-7 sun protection:

MoveUpDown	movement
StopStepUpDown	step/stop
WindAlarm	wind alert
RainAlarm	rain alert
CurrentAbsolutePositionBlindsPercentage	blinds position
CurrentAbsolutePositionSlatslatPercentage	slat position

FT-8 heating (switching variable):

TempRoom	current temperature
TempRoomSetpoint	setpoint temperature
ValveSwitch	switching variable
HVACMode	operation mode
WindowStatus	window contact

FT-8 heating (continuous variable):

TempRoom	current temperature
TempRoomSetpoint	setpoint temperature
ValvePosition	continuous variable
HVACMode	operation mode
WindowStatus	window contact

**Example:**

```
<GroupAddressRef RefId="$PUIID-GA-82" Id="$PUIID-GF-83" Role="WindAlarm" />
```

or:

```
<GroupAddressRef RefId="$PUIID-GA-1785" Id="$PUIID-GF-1794" Role="409c7ad9-faa4-4ce0-b158-c9c7a36df491" />
```

## 3.5.1.2.3 &lt;Trades&gt;

Mandatory element without any attributes, below [<Installation>](#), contains no or up to unlimited elements of [<Trade>](#).

**Example:**

```
<Trades>
  <Trade Id="$PUIID-T-12" Name="Trade 1" />
  <Trade Id="$PUIID-T-13" Name="Trade 2">
    <Trade Id="$PUIID-T-14" Name="Subtrade 2.1">
      <DeviceInstanceRef RefId="$PUIID-DI-15" />
      <DeviceInstanceRef RefId="$PUIID-DI-16" />
    </Trade>
  </Trade>
</Trades>
```

## 3.5.1.2.3.1 &lt;Trade&gt;

<Trade> contains information about a trade in ETS.

Following properties are stored in these attributes (**mandatory** attributes are formatted **bold**):

Name	name	text, up to 255 characters	optional
Id	internal ID (invisible inspecial formatted text ETS)		optional
Number	number	text, up to 255 characters, unique with ETS project	optional
Comment	comment	text	optional
CompletionStatus	status	possible values: <ul style="list-style-type: none"> <li>• "Undefined"</li> <li>• "Editing"</li> <li>• "FinishedDesign"</li> <li>• "FinishedCommissioning"</li> <li>• "Tested"</li> <li>• "Accepted"</li> <li>• "Locked" (since ETS5.6)</li> </ul>	optional
Description	description	text	optional

As subelements there may be:

- up to unlimited elements of [<DeviceInstanceRef>](#) for devices placed in building part



- up to unlimited elements of <Trade> representing more detailed spatial subdivision.

### Example:

```
<Trade Id="$PUID-T-14" Name="Trade 1">
  <DeviceInstanceRef RefId="$PUID-DI-15" />
  <DeviceInstanceRef RefId="$PUID-DI-16" />
</Trade>
```

<DeviceInstanceRef> only contains a reference to a device defined below <Topology><Area><Line> or <Topology><UnassignedDevices>:

**RefId** reference ID for device    text            mandatory  
     <DeviceInstance Id>

### Example:

```
<DeviceInstanceRef RefId="DI-1015F245-81DA-49AD-8722-4027DB2FBF16" />
```

#### 3.5.1.2.4 <GroupAddresses>

Mandatory element without any attributes, below <Installation>, contains no or up to 65535 elements of <GroupAddress>.

### Example:

```
<GroupAddresses>
  <GroupAddress Id="P-0335-0_GA-82" Address="4886" Name="heating guest room 1 -
  EA" />
  ...
</GroupAddresses>
```

#### 3.5.1.2.4.1 <GroupAddress>

<GroupAddress> contains informations about one group address in ETS. For every <Installation> there are allowed between 0 and 65535 elements of <GroupAddress>.

These attributes are available (**mandatory** attributes are formatted **bold**, *deprecated* attributes are formatted *italic*):

Name	name of group address	text, up to 255 characters	optional
Id	internal ID (invisible in ETS)	special formatted text	optional
<b>Address</b>	<b>address of group address</b>	<b>number between 1 and 65535, mandatory unique within &lt;Installation&gt;</b>	
Unfiltered	flag unfiltered	"true" for pass-through, otherwise optional "false"	
Central	flag central	"true" for central, otherwise optional "false"	
Global	flag global	"true" or "false"	optional
DatapointType	name or id of datapoint type	text, id or name of datapoint type optional (for details see master data)	

Description	description text	section DatapointTypes)	optional
Comment	comment	text	optional
<i>LengthInBits</i>	<i>Objektlänge in Bits</i>	<i>special formatted text</i>	<i>optional, deprecated</i>
Size	Objektlänge	special formatted text: number + optional "Bit" , "Bits", "Byte" or "Bytes"	

**Example:**

```
<GroupAddress Id="P-0335-0_GA-82" Address="4886" Name="heating guest room 1 - EA" />
```

## 3.5.1.2.5 &lt;GroupRanges&gt;

Optional element without any attributes, below [Installation](#), contains elements of [GroupRange](#).

**Example:**

```
<GroupRanges>
  <GroupRange Id="P-0335-0_GR-3" Name="heating" Address="2" RangeStart="4096"
    RangeEnd="6143" Unfiltered="false">
    <GroupRange Id="P-0335-0_GR-13" Name="FF" Address="3" RangeStart="4864"
      RangeEnd="5119" Unfiltered="false" />
  </GroupRange>
</GroupRanges>
```

## 3.5.1.2.5.1 &lt;GroupRange&gt;

<GroupRange> contains information about a group address range in ETS in following attributes (**mandatory** attributes are formatted **bold**):

Name	name	text, up to 255 characters	optional
Id	internal ID (invisible in ETS)	special formatted text	optional
<b>RangeStart</b>	<b>minimum valid group address in range, depending on RangeStart / RangeEnd of parent &lt;GroupRange&gt;</b>	<b>number &gt; 0</b>	<b>mandatory</b>
<b>RangeEnd</b>	<b>maximum valid group address in range, depending on RangeStart / RangeEnd of parent &lt;GroupRange&gt;</b>	<b>number &gt; 0</b>	<b>mandatory</b>
Address	Only for TwoLevel or ThreeLevel structure: MainGroup Address / MiddleGroup Address	number between 0 and 31	optional
Unfiltered	flag unfiltered	"true" for pass-through, otherwise "false"	optional
Description	description text	text	optional
Comment	comment	text	optional

As subelements there are <GroupRange> elements, representing the further refinement of the group address structure

### Example:

```
<GroupRange Id="P-0335-0_GR-3" Name="heating" Address="2" RangeStart="4096"
RangeEnd="6143" Unfiltered="false"/>
```

or:

```
<GroupRange Id="P-0335-0_GR-3" Name="heating" Address="2" RangeStart="4096"
RangeEnd="6143" Unfiltered="false">
  <GroupRange Id="P-0335-0_GR-13" Name="OG" Address="3" RangeStart="4864"
  RangeEnd="5119" Unfiltered="false" />
</GroupRange>
```

### 3.5.1.3 <TemplateDevices>

Optional element without any attributes, contains at least one and up to unlimited elements of [<TemplateDevice>](#) for devices, which are used as template devices to insert new devices from import file. Template devices should be part of the current project, assignment can be modified in import preview pane.

### Example:

```
<TemplateDevices>
  <TemplateDevice Id="DI-ADBEA496-75A2-4CCB-B78F-F7B598BBC55C"
  Name="PSupp 640mA - HV A1" ApplicationName="" ManufacturerName="Manufacturer123"
  ManufacturerRefId="M-0123" ProductRefId="M-0123_H-82-0_P-STV.2D0640.2E01"
  OrderNumber="B123-898" Hardware2ProgramRefId="M-0123_H-82-0_HP" />
  ...
</TemplateDevices>
```

#### 3.5.1.3.1 <TemplateDevice>

<TemplateDevice> contains information about template devices.

These attributes are available (**mandatory** attributes are formatted **bold**):

Name	name	text	mandatory
<b>Id</b>	<b>internal ID, for identification</b>	<b>special formatted text</b>	<b>mandatory, unique in TemplateDevices</b>
ApplicationName	name of application program	text	optional
ManufacturerName	manufacturer's name	text up to 50 characters	optional
ManufacturerRefId	manufacturer ID	special formatted text	optional
ProductRefId	reference ID for product	special formatted text	optional
OrderNumber	order number	text	optional
Hardware2ProgramRefId	reference ID for combination of product and application program (ETS specific, with 0000 instead of Fingerprint)	special formatted text	optional

### Example:

```
<TemplateDevice Id="DI-ADBEA496-75A2-4CCB-B78F-F7B598BBC55C" Name="PSupp
640mA - HV A1" ManufacturerName="Manufacturer123" ManufacturerRefId="M-0123"
ProductRefId="M-0123_H-82-0_P-STV.2D0640.2E01" OrderNumber="B123-898"
Hardware2ProgramRefId="M-0123_H-82-0_HP" />
```

### 3.5.1.4 <ProductDataList>

Optional element without any attributes with any number of [<ProductData>](#) elements with information about products used in the ETS project..  
Only exported, ignored during import.

#### Example:

```
<ProductDataList>
  <ProductData Hardware2ProgramRefId="M-0083_H-2.2E34-1_HP-0086-10-0000"
ProductRefId="M-0083_H-2.2E34-1_P-BE.2DGT04x.2E01" OrderNumber="BE-
GT04x.01" ManufacturerRefId="M-0083" ManufacturerName="MDT technologies"
ManufacturerId="131" ApplicationName="Glass push button 4f/ Plus" ProductName="BE-
GT04x.01 Glass Push Button 4-fold Plus" ApplicationProgramNumber="134"
ApplicationProgramVersion="16" />
  <ProductData Hardware2ProgramRefId="M-00E1_H-3003-1_HP-3003-22-0000"
ProductRefId="M-00E1_H-3003-1_P-DIM4FU.2D2.2DFW" OrderNumber="DIM4FU-2-
FW" ManufacturerRefId="M-00E1" ManufacturerName="Lingg & Janke"
ManufacturerId="225" ApplicationName="4x dimming-FW, meters, scenes, sequences 3003-
22" ProductName="eibDuo dimmer switch 2 4f 570W universal hand"
ApplicationProgramNumber="12291" ApplicationProgramVersion="34" />
</ProductDataList>
```

#### 3.5.1.4.1 <ProductData>

In <ProductData> the information about a product used in the ETS project is stored (**mandatory** attributes are marked **bold**).

The element is only created during export and ignored during import.

<b>Hardware2ProgramRefId</b>	reference ID for combination of product and application program (ETS specific, with 0000 instead of Fingerprint)	text	<b>mandatory</b>
<b>ProductRefId</b>	reference ID of product	text	<b>mandatory</b>
<b>OrderNumber</b>	order number	text	<b>mandatory</b>
<b>ManufacturerRefId</b>	reference ID of manufacturer (see master data, section Manufacturers)	special formatted text	<b>mandatory</b>
<b>ManufacturerName</b>	manufacturer's name	text	<b>mandatory</b>
<b>ManufacturerID</b>	manufacturer's ID	number 1 - 65535	<b>mandatory</b>
ApplicationName	name of application program	text	optional
ProductName	name of product	text	optional
ApplicationProgramNumber	number (DeviceType) of application program	number 1 - 65535	optional
ApplicationProgramVersion	version of application program	number 0 - 255	optional

ApplicationProgram2Name	if used: name of second application program (PEI program)	text	optional
ApplicationProgram2Number	if used: number (DeviceType) of second application program (PEI program)	number 1 - 65535	optional
ApplicationProgram2Version	if used: version of second application program (PEI program)	number 0 - 255	optional
RequiresExternalSoftware	flag indicates usage of additional external software	true or empty	optional
UsesPlugins	flag indicates usage of Plugins	true or empty	optional
DeviceCounter	counter for product's usage	number	optional

Example:

```
<ProductData Hardware2ProgramRefId="M-0083_H-2.2E34-1_HP-0086-10-0000"
ProductRefId="M-0083_H-2.2E34-1_P-BE.2DGT04x.2E01" OrderNumber="BE-
GT04x.01" ManufacturerRefId="M-0083" ManufacturerName="MDT technologies"
ManufacturerId="131" ApplicationName="Glass push button 4f/ Plus" ProductName="BE-
GT04x.01 Glass Push Button 4-fold Plus" ApplicationProgramNumber="134"
ApplicationProgramVersion="16" DeviceCounter = "2" />
```

### 3.5.1.5 <IdMap>

Optional element without any attributes with any number of mappings [<Id>](#) between the external identifiers of the individual items and their identifiers in the ETS.  
Only exported, ignored during import.

**Example:**

```
<IdMap>
  <Id ExternalId="fd6735d4dcd14a67bd9025fa4973cf7b" EtsId="$PUID-GA-39" />
  <Id ExternalId="e5aaccd0bef946cbcd90cbe12a5ef90b" EtsId="$PUID-GA-40" />
  <Id ExternalId="7ec76db0d16e4940a0e06bbaa03ad708" EtsId="$PUID-GA-41" />
  .....
</IdMap>
```

#### 3.5.1.5.1 <Id>

This element is only created during export and contains the assignments between external ID and internal ETS ID in following attributes  
(**mandatory** attributes are formatted **bold**):

<b>ExternalId</b>	external Id of item	text, up to 255 characters	mandatory
<b>EtsId</b>	internal ID ETS4 and previous versions of PDE: Id of item ETS5: Puid of item (formatted)	special formatted text	mandatory

Beispiel:

```
<IdMap>
  <Id ExternalId="fd6735d4dcd14a67bd9025fa4973cf7b" EtsId="$PUID-GA-39" />
  <Id ExternalId="e5aaccd0bef946cbcd90cbe12a5ef90b" EtsId="$PUID-GA-40" />
```

```
<Id ExternalId="7ec76db0d16e4940a0e06bbaa03ad708" EtsId="$PUID-GA-41" />  
.....  
</IdMap>
```

**Chapter**



**Imprint**

## 4 Imprint

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Issued: Mai 2023

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**Chapter**



**Contact**

## 5 Contact

### Orders

ETS App ProjectDataExchange is available only at KNX Onlineshop,  
[ProjectDataExchangeConverter](#) is available at IT GmbH

For information please contact our sales office.

Phone: +49 (0) 911 518349-0 (Mo-Fr 9AM to 4PM)

Email: [vertrieb@it-gmbh.de](mailto:vertrieb@it-gmbh.de)

### Support Service

If you have questions or problems, you may contact our Support:

Phone: +49 (0) 911 518349-10 (Mo-Fr 9AM to 4PM)

Email: [support@it-gmbh.de](mailto:support@it-gmbh.de)

WEB: [problem report](#)

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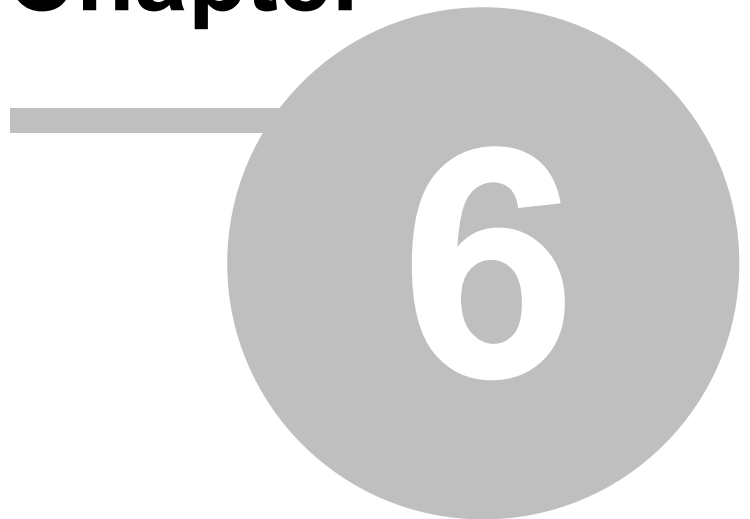
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**Chapter**



**Feedback**

## 6 Feedback

Please help us to improve our ETS Apps. Your feedback may influence further development so that in subsequent versions and manual editions your wishes and requirements may be taken into consideration.

We look forward to receiving your comments and wishes on the content, representation of associations as well as comprehensibility regarding the program parts or the documentation. Please also let us know if you have any improvement suggestions with regard to support, training or sales.

[Feedback via IT Website](#)

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