Easy Invoice

Creating and managing of receipts

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Contents

1 Easy Invoice

With the Easy Invoice module for CAS genesisWorld, you create and manage receipts without needing an additional ERP system.

Using Easy Invoice, you can, among other things, create quotes, invoices, and credit notes for products and services. You can easily create and manage follow-up receipts for orders or invoice cancellations. You can create a print document for each receipt.

You can create receipts for addresses or opportunities. Administrators can create custom receipts for more data record types.

Easy Invoice supports creating electronic invoices according to the XRechnung standard.

> **Tip**
>
> You can access the Easy Invoice user guide both as an online help and as a PDF document.
>
> You can find the online help pages here: Easy Invoice user guide

1.1 Important information

On this page, you can find important information on how to use Easy Invoice, especially when using the Easy Invoice module in combination with other modules.

General information

This documentation describes the Easy Invoice functions included in the standard scope of delivery. Administrators can extensively customize the Easy Invoice functions. Thus, the descriptions in this user guide can vary from the scope of features available for Easy Invoice in your company.

Duplicate Finder pro

With the **Duplicate Finder pro** module, all addresses are checked for duplicates by default. However, the addresses used by Easy Invoice should not be merged, as this could result in inconsistent data. You can exclude the corresponding addresses from the duplicate check by defining that only addresses without a customer ID are supposed to be checked by Duplicate Finder pro.

ERP connect

When using the **ERP connect** module in combination with Easy Invoice, you can only create receipts with Easy Invoice. You can import receipts from an ERP system.

Premium Edition

In CAS genesisWorld Web, you can read the receipts created with Easy Invoice, but not edit them. The receipts you create in CAS genesisWorld Web are independent of Easy Invoice.

Project

With the **Project** module, price and discount lists are available in Easy Invoice. You can bill the project items, time records, expenses, and external services belonging to a project. A print template with a work report is available for receipts with billed time records.

Report

If you use the Report module, you can customize print templates. You cannot define texts in different languages.

Project and Report

If you use the **Project** and **Report** modules in combination with Easy Invoice, you can analyze the links between order items, project items, and invoice items in a report. Moreover, you can customize print templates with work reports.

Replication

Replication is not supported in combination with Easy Invoice. If you create customer IDs or receipts on different domains and use the replication function, data inconsistencies may occur. When replicating data, make sure that customer IDs and receipts are only created on one domain.

Sales pro

If you use the **Sales pro** module, price and discount lists are available in Easy Invoice.

2 Receipt types and the statistic factor

Different receipt types are available when working with Easy Invoice, for example, quotes, invoices, or credit notes. A statistic factor is assigned to each receipt type by which the receipts are weighed in turnover statistics.

The following receipt types and corresponding statistic factors are included in Easy Invoice: quote, order, invoice, cancellation, and credit note.

> **Note**
>
> Administrators can create more receipt types and change the provided receipt types.

Topics of this chapter

2.1 Statistic factor 1: invoice

Receipts with the statistic factor 1 create turnover values and are thus relevant for billing. These receipts are added to the total turnover in turnover statistics.

After creating a print document for a receipt with the statistic factor 1, you can no longer delete but only cancel the receipt.

The included **Invoice** receipt type has the statistic factor 1.

2.2 Statistic factor 0: quote, order

Receipts with the statistic factor 0 create neither costs nor turnovers and are thus not relevant for billing. These receipts are not taken into account in turnover statistics.

The included **Quote** and **Order** receipt types have the statistic factor 0.

2.3 Statistic factor -1: cancellation, credit note

Receipts with the statistic factor -1 create costs and are thus relevant for billing. These receipts are subtracted from the total turnover in turnover statistics.

The included **Cancellation** and **Credit note** receipt types have the statistic factor -1.

The **Cancellation** receipt type is intended for cancellations of receipts with the statistic factor 1, for example, invoices. The **Cancellation** receipt type can thus only be created for receipts with the statistic factor 1. Thus, you create an offsetting entry, and all receipt items are identically adopted. The -1 statistic factor of the cancellation causes the original receipt and the cancellation receipt to cancel each other out.

The **Credit note** receipt type can only be created for addresses. You can create different types of credit notes with Easy Invoice. Contact your administrator if you want to know which credit note types are available in your company.

Possible credit notes with Easy Invoice

- **Standard credit notes** are credit notes in the business context and require a value added tax ID or a tax number of the creditor.
- **Private credit notes** are credit notes for private individuals and do not require a value added tax ID or a tax number of the creditor.

Module Project

Vendor credits are available with the **Project** module and represent a special use case to compensate contractors' time records and expenses. You can find detailed information on vendor credits in the Project user guide: User Guide Project.

3 Working with receipts

On the following pages, you can find information on how to work with receipts in the CAS genesisWorld Desktop Client.

In CAS genesisWorld Web, you can only read the receipts created with Easy Invoice, but not edit them. You can also create receipts in CAS genesisWorld Web, but these receipts are independent of the receipts you create with Easy Invoice.

Topics of this chapter

3.1 Creating receipts

You can create receipts for addresses or opportunities by default. If the administrator has created custom receipt types, you can also create receipts for more data record types.

You can only create receipts in the CAS genesisWorld Desktop Client.

Module **Project**

If you use the **Project** module, you can also create receipts for projects.

3.1.1 Receipts for addresses

You create a receipt for an address in an opened address data record. To do so, you click the **Create receipt** button in the toolbar of the data record.

You can create a receipt for a company, a contact person, or an individual contact.

Note

If you want to create a receipt relevant for billing, for example, an invoice, the address needs to contain a customer ID. You can find the **Customer ID** field on the **Billing** tab of the address.

Contact person data records do not contain the **Billing** tab as any billing goes through the corresponding company. If you want to create a receipt for a contact person, the company data record needs to contain a customer ID.

When you create a receipt for a contact person, the corresponding company, not the contact person, is linked with the receipt as the customer.

Creating receipts

1. Open the address for which you want to create a receipt.
2. Click **Create receipt** and select the receipt type.

✓ The **Create new receipt** window opens. The fields of the receipts are partly already completed with values from the initial data record.

3. Edit the receipt and save your entries.
   You can find more information on how to edit the receipt at "Editing receipts", page 13.

3.1.2 Receipts for opportunities

You can create receipts for opportunities with the statistic factor 0 (quote, order) or the statistic factor 1 (invoice). You cannot create receipts with the statistic factor -1 (credit note, cancellation).

You create a receipt for an opportunity on the Product items tab of an opened opportunity data record.

Creating receipts

1. Open the desired opportunity.
2. Open the **Product items** tab.
3. If required, select the product items you want to adopt. If you select no product items, all items are adopted.

> **Note**
>
> Optional items are only possible in receipts with the statistic factor 0 (quote, order). Optional items are transformed into regular items in the receipt data record when using receipts with the statistic factor 1 (invoice) that are relevant for billing.

4. Click **Create receipt** and select the receipt type.
5. You will receive a prompt if you had previously selected specific product items. Choose whether you want to adopt only the selected or all product items.

✓ The **Create new receipt** window opens. The fields of the receipts are partly already completed with values from the initial data record.

6. Edit the receipt and save your entries.
   You can find more information on how to edit the receipt at "Editing receipts", page 13.

3.1.3 Receipts for projects

Module | Project

If you use the **Project** module, you can also create receipts for projects.

Creating receipts

1. Open the desired project.
2. Open the **Order** tab.
3. If required, select the items you want to adopt. If you do not select any items, all items are adopted.
4. Click **Create receipt** and select the receipt type.

✓ The **Create new receipt** window opens. The fields of the receipts are partly already completed with values from the initial data record.

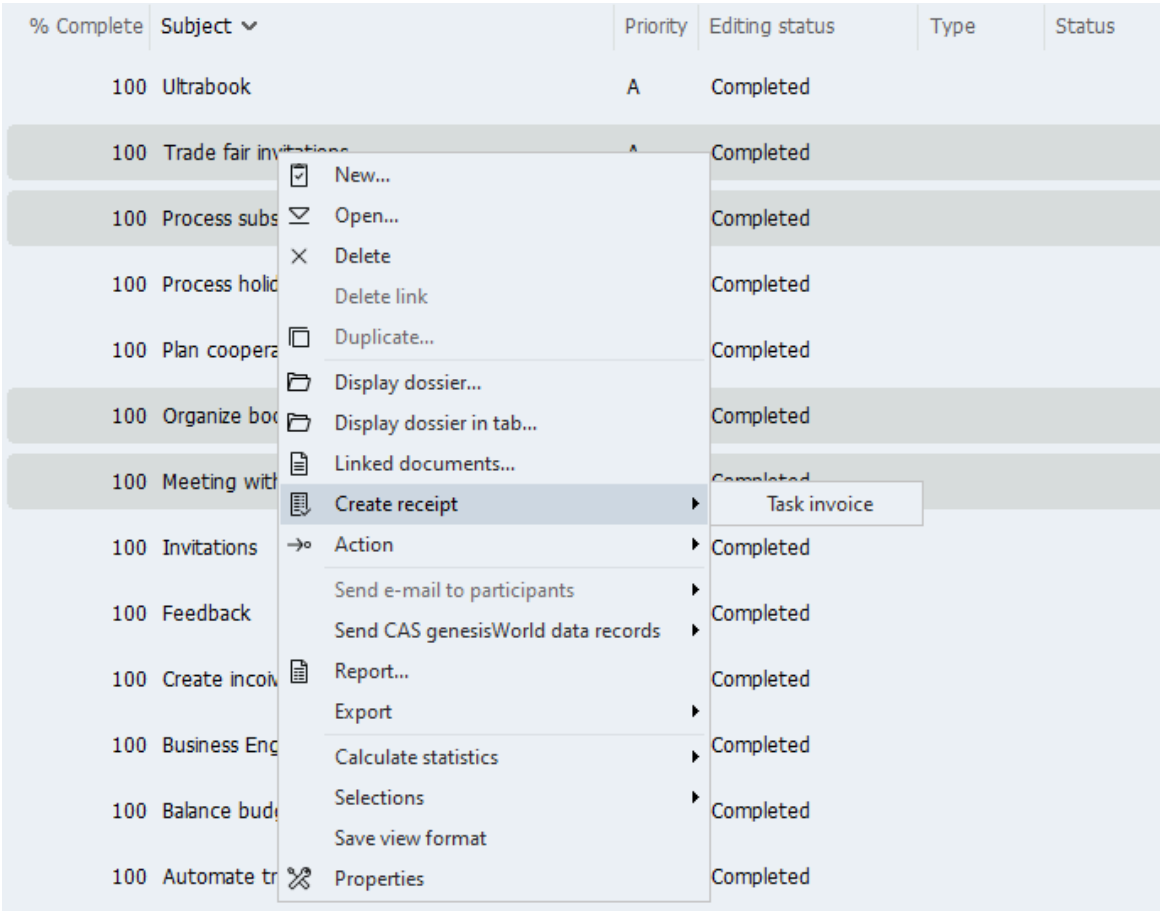
5. Edit the receipt and save your entries.
   You can find more information on how to edit the receipt at "Editing receipts", page 13.

> **Tip**
>
> You can add time records, external services, and expenses as project items so that they can be taken into account during billing.
>
> You can find more information here: "Billing projects", page 54.

3.1.4 Receipts for other data record types

In the Management Console, administrators can create more receipt types for other data record types, for example, for tasks. If you want to know whether more receipt types are available in your company, please contact your administrator.

If more receipts are available and you have been granted the necessary rights, you can create these receipts via the context menu. Example:



When creating a receipt in this way, a window will open in which the result of your receipt creation is displayed.

3.2 Editing receipts

After you have created a receipt, you can edit it.

3.2.1 General tab

On the **General** tab, you manage the most important receipt data. Some data are displayed read-only, for example, all fields for value calculation. You cannot edit these fields directly on the **General** tab.

Field	Description
Number	The number is automatically generated and entered when creating a print document. You cannot manually enter or change the number. The administrator defines the settings for number generation.
Subject	The data record is displayed under this name in views or search results. If you create the receipt for an opportunity or a project, the subject of the respective data record is automatically adopted. You can then change the adopted value. The subject is not adopted in the print document if you use the included print templates.
Date	The current date is automatically entered into the **Date** field. You can change the entered date as long as the receipt has not been forwarded to the accounting department yet.
Type/Status	In the **Type** field, you can see the receipt type. You select the receipt type when creating the receipt. You cannot change this entry. In the **Status** field, you can choose between the **open** and **closed** status. Changes to the **Status** field have an impact on the **Paid on** field on the **Details** tab. ■ If you set the status to **closed**, then the **Paid on** field is set automatically to the current date. ■ If you the set the status to **open** again, then the date in the **Paid on** field is deleted. ■ These automatic processes also apply in reverse: therefore if you enter a date in the **Paid on** field, then the status is set automatically to **closed**. If you delete the date in the **Paid on** field, then the status is set to **open**. These automatic processes do not apply to receipts with a statistic factor of 0 (Quote, Order).

Field	Description
Reference	Module Project If you use the **Project** module, the reference is automatically adopted from the project. In projects, you can find the reference on the **Details** tab.
Reference mark	Module Project If you use the **Project** module, the reference mark is automatically adopted from the project. In projects, you can find the reference on the **Details** tab.
Responsible for receipt	In the **Responsible for receipt** field, you enter the internal contact person that is responsible for the receipt. When creating a receipt, the current user is automatically entered. You can also select another user from the list.

<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td>Customer</td><td>The Customer field is completed automatically.
If you create a receipt for an address, the respective address is entered.
If you create a receipt for an opportunity, the customer of the opportunity is entered.
As long as you have not yet saved the receipt, you can still change the customer.<table><tr><td>  </td><td>Using this button, you can remove the link with the customer.</td></tr><tr><td>  </td><td>Using this button, you can search for the customer's address.

If you want to create a receipt relevant for billing, the customer's address data record must contain a customer ID. If an address does not contain a customer ID, the respective data record will not be displayed when searching in receipts relevant for billing. You enter the Customer ID on the Billing tab of an address data record.

The receipts relevant for billing include, for example, invoices or credit notes.</td></tr></table></td></tr>
<tr><td>Differing recipient</td><td>When creating a receipt, the address of the customer is adopted in the Differing recipient field if you have not defined another setting for this customer. You can define a fixed invoice recipient on the Billing tab of the customer's address data record. This invoice recipient is then automatically adopted in the Differing recipient field.

If no differing recipient can be found when creating a receipt, the field remains empty and you can manually enter a value.

You can also still change the differing recipient field after you have saved the receipt.</td></tr>
</table>

Field	Description
Currency/exchange rate	The **Currency** is set for the whole receipt after you have entered the first receipt item. You cannot change the currency at this location. You can only change the currency of the receipt if you delete all receipt items and enter new receipt items in a different currency. You can always only create a receipt in one currency. You can only define an **Exchange rate** if the currency of the receipt does not correspond to the base currency. Enter the exchange rate that is effective at the time of receipt creation.
Tax amount	The **Tax amount** is calculated automatically. The tax rate defined for this receipt type by the administrator is taken into account for the calculation. You can change the taxation settings on the **Details** tab. The administrator defines the possible taxation settings.
Net amount	The **Net amount** is the receipt total minus the tax amount. The receipt total is calculated using the receipt items.
Gross amount	The **Gross amount** is the receipt total before subtracting the tax amount. The receipt total is calculated using the receipt items.
Discount relative (%)	The **Discount relative (%)** is the percentage discount of the receipt total. The receipt total is calculated using the receipt items.
Discount	The **Discount** is the sum of the granted discounts.
Relative contribution margin (%)	The **Relative contribution margin (%)** is the percentage share of the contribution margin on the receipt total after the discount has been subtracted. The receipt total is calculated using the receipt items.
Contribution margin	The **Contribution margin** is the receipt total minus the purchase price of each receipt item. The receipt total is calculated using the receipt items.

Field	Description
Value date	The **Value date** is the date on which the invoice is billed to the customer. When creating the receipt, the current date is automatically entered. You can change the date as long as the receipt has not been forwarded to the accounting department yet.
Due date	The **Due date** is calculated using the value date and the due days. You cannot manually change the value in the **Due date** field. If you want to change the value, you need to change the value date and/or the due days.
Payment terms	You can select the appropriate **Payment terms** from the list. If payment terms have been entered in the customer's address data record, the value is adopted when creating a receipt.
Due days	In the **Due days** field, you enter the payment deadline in days. The value is adopted from the defined payment terms and can be changed.
Parent	Edition Premium Module Project The **Parent** block contains the primary links and is only available if you use the Premium Edition or the Project module. The primary links are automatically set when creating the receipt: - A receipt for an address is automatically linked with the corresponding address using a primary link. - A receipt for an opportunity automatically adopts the primary links of the opportunity. - Module Project A receipt for a project is automatically linked with the corresponding project using a primary link. Furthermore, the address that has been entered in the **Customer** field of the project is linked using a primary link.

Field	Description
Notes	In the **Notes** field, you can, for example, enter additional information, which does not fit into the remaining fields.

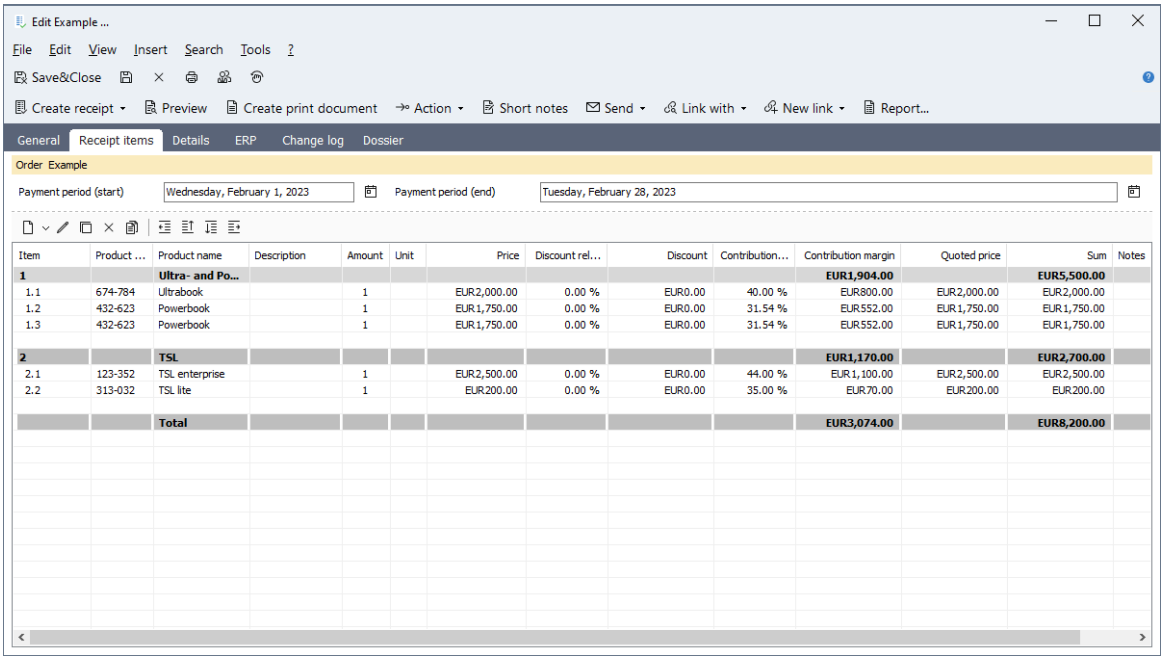
3.2.2 Receipt items tab

On the **Receipt items** tab, you edit the services that are included in the receipt. You need to enter at least one receipt item to be able to create a print document.

Receipt items must be available as product data records in CAS genesisWorld.

- If you have created a receipt for an opportunity, the product items of the opportunity are automatically adopted as receipt items. You can edit the receipt items if required.
- If you have created a receipt for an address, you need to manually enter the receipt items.

You can structure the individual receipt items using groups. Thus, you can create clearly structured receipts. The grouping is displayed in the print document and the subtotal of each group is calculated.



Item	Product ...	Product name	Description	Amount	Unit	Price	Discount rel...	Discount	Contribution...	Contribution margin	Quoted price	Sum	Notes
1		**Ultra- and Po...**								**EUR1,904.00**		**EUR5,500.00**	
1.1	674-784	Ultrabook		1		EUR2,000.00	0.00 %	EUR0.00	40.00 %	EUR800.00	EUR2,000.00	EUR2,000.00	
1.2	432-623	Powerbook		1		EUR1,750.00	0.00 %	EUR0.00	31.54 %	EUR552.00	EUR1,750.00	EUR1,750.00	
1.3	432-623	Powerbook		1		EUR1,750.00	0.00 %	EUR0.00	31.54 %	EUR552.00	EUR1,750.00	EUR1,750.00	
2		**TSL**								**EUR1,170.00**		**EUR2,700.00**	
2.1	123-352	TSL enterprise		1		EUR2,500.00	0.00 %	EUR0.00	44.00 %	EUR1,100.00	EUR2,500.00	EUR2,500.00	
2.2	313-032	TSL lite		1		EUR200.00	0.00 %	EUR0.00	35.00 %	EUR70.00	EUR200.00	EUR200.00	
		Total								**EUR3,074.00**		**EUR8,200.00**	

Payment period

Above the items, you can find the **Payment period (start)** and **Payment period (end)** fields. These fields are automatically completed with the first and last date of the current month when creating the receipt. You can change the payment period.

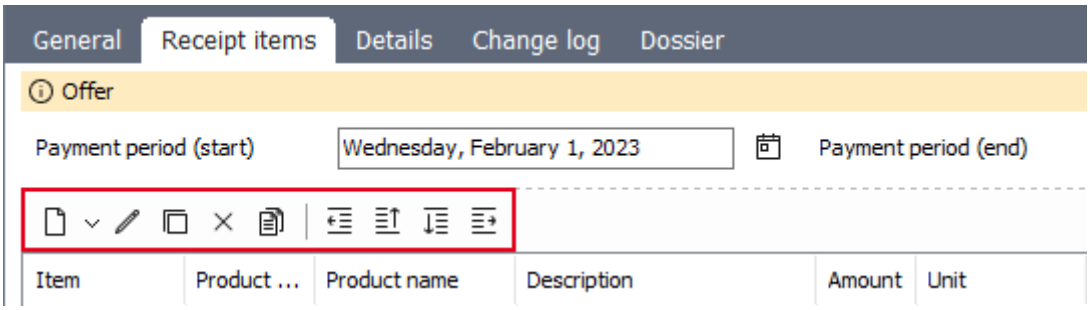
Module **Project**

If you use the **Project** module and want to bill projects, the payment period fields are completed dependent on the billed dates.

- When billing time records:
  - **Payment period (start)**: start of the first time record.
  - **Payment period (end)**: end of the last time record.
- When not billing time records:
  - **Payment period (start)**: first day of the month of the first item.
  - **Payment period (end)**: last day of the month of the last item.

Toolbar functions

In the toolbar of the Receipt items tab, you can find different functions for creating and editing items.



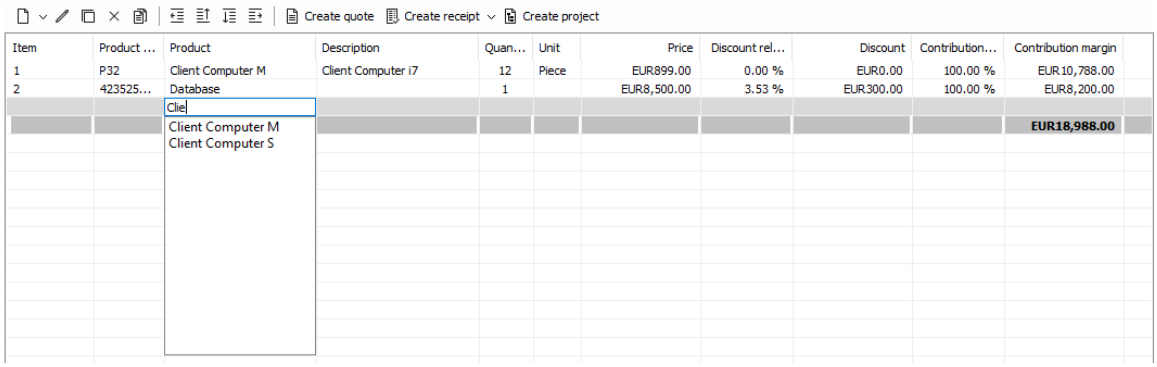
	Function	Description
🗋	**Create new item** **Create new group**	When you directly click the button, a window opens in which you create a new item. If you want to create a new group, click the arrow next to the button and select **New group**. Then, enter the name of the group.

	Function	Description
	Edit item/group	Using this button, you open a selected element for editing. Alternatively, you can edit specific fields of an item directly in the table. To do so, click the respective field and enter your changes. The following fields can be edited directly: **Quantity**, **Price**, **Discount relative**, **Discount**, **Contribution margin relative**, **Contribution margin**, and **Quoted price**. If you double-click a row that cannot be edited directly, you open the item or the group for editing.
	Duplicate item(s)	Using this button, you can duplicate all selected items. Groups are not duplicated. The duplicated items are always inserted on the highest level and can then be moved.
×	**Delete item/group**	Using this button, you can delete all selected items and groups at once. If you delete a group, all child elements are moved to the next higher level.
	Copy list to clipboard	Using this button, you can copy all items and groups to the clipboard. If you have selected individual elements, you can choose whether you want to copy the entire list or only the selected elements.

	Function	Description
	Reposition item/group	Using these buttons, you can reposition items and move them to groups. Using this button, you move an item or group up a level. The button can only be used of the item or group is currently assigned to a group. Using this button, you move the item or group up. This way, you only change the order of the items and groups but not the levels. Using this button, you move the item or group down. This way, you only change the order of the items or groups but not the levels. Using this button, you move an item or group down a level.
→∘	**Action**	If optional receipt items are allowed, you can use this button to mark the selected items as optional or remove the marking.

Quickly adding receipt items

If you want to quickly add different receipt items, you can click an empty table row in the **Product name** column and enter the product name to select the right product from a list. Alternatively, you can enter the respective number in the **Product no.** column.



You can change the fields of an item that can be edited directly in the table without opening the data record.

Receipt item settings

The receipt item fields are automatically adopted from the selected product data record if the corresponding settings have been defined for the product. You can change or customize most of the fields. However, some fields might automatically be overwritten under specific circumstances, for example, if you remove the selected product and select another one.

Module Project Module Sales pro

If you use the **Project** or **Sales pro** module, you can define custom price and discount lists for products. Using these price and discount lists, you can offer scaled prices.

If you use these price and discount lists for your products, the price and discount fields are changed according to the lists. This also means that custom changes are overwritten as soon as you change the value in the **Quantity** field.

<table>
<tr><th>Field</th><th>Description</th></tr>
<tr><td>Product</td><td>As soon as you enter something in the Product field, the system searches all product data records in CAS genesisWorld for a match. You can select the desired product from the list of search results.

If you cannot find the desired product this way, you can alternatively choose one of the following functions:

<table><tr><td>  </td><td>Using the Select product button, you open the Search: Products window and can use, for example, the extended search function to search for the product.</td></tr><tr><td>  </td><td>Using the Create new product button, you can create the desired product in CAS genesisWorld if it is not yet available in the database. The newly created product is then adopted.</td></tr></table>
After you have entered a product, the following buttons are available:

<table><tr><td>  </td><td>Using the Show product button, you open the product data record.</td></tr><tr><td>  </td><td>Using the Reset product selection button, you remove the data of the selected product from the opened window and can then select another product.

If you select a new product, the previously completed fields are overwritten with data from the new product.</td></tr></table></td></tr>
<tr><td>Product number</td><td>As soon as you enter something in the Product number field, the system searches all product data records in CAS genesisWorld for a match. You can select the desired product from the list of search results.</td></tr>
</table>

Field	Description
Optional	The **Optional** field is only available if you create a receipt that is not relevant for billing. This is the case, for example, when creating a quote. Optional items are not included in the total. For optional products, the text **Optional** is displayed instead of the sum in print documents. If you create an invoice for a data record for which optional items have already been entered, the optional items are transformed into general items in the invoice.
Alternative description	The **Alternative description** selection list is only displayed if at least one alternative description has been entered for the selected product. You can choose which description you want to adopt in the product item.
Description	The **Description** is adopted from the selected product data record and can be customized.
Quantity	You can customize the **Quantity**.
Unit	The **Unit** is adopted from the product data record and can be customized.
Price	You can customize the **Price**.
Currency	The **Currency** field is displayed behind the price. You can only change the currency when entering the first receipt item. All further receipt items automatically adopt the previously selected currency, as the currency must be identical for all items of a receipt. If you adopt another product for which only prices in a different currency are available, the product is adopted without price information. You can then manually add the prices.
Discount relative (%)	In the **Discount relative (%)** field, you can enter a percentage discount. The discount is immediately and automatically calculated, and the related fields are automatically updated.

Field	Description
Discount	The **Discount** field is usually calculated automatically after you have entered a percentage discount. However, you can also enter a custom value in the discount field. In this case, the **Discount relative (%)** field is recalculated accordingly.
Relative contribution margin (%)	The **Relative contribution margin (%)** is calculated as follows: **Contribution margin** divided by the **Sum** multiplied by 100.
Contribution margin	The **Contribution margin** is calculated as follows: **Quoted price** minus **Purchase price** multiplied by the **Quantity**. If the currency of an item differs from the product currency, the purchase price you may have entered is replaced by 0 for the calculation. You manage the purchase price in the product data record.
Quoted price	The value in the **Quoted price** field comprises the unit price including discounts.
Sum	The **Sum** is always calculated automatically and cannot be customized.
Notes	In the **Notes** field, you can, for example, enter additional information, which does not fit into the remaining fields.

3.2.3 Details tab

Field	Description
Statistic factor	The **Statistic factor** indicates how the receipt will be weighted in the turnover statistics. The following values are possible: ■ 1 = relevant for accounting, generates turnover. Example: Invoice ■ -1 = relevant for accounting, generates costs. Example: Credit note or cancellation ■ 0 = not relevant for accounting, generates neither costs nor turnover. Example: Quote or order You cannot change this field.

Field	Description
Fin. accounting transfer on	The **Fin. accounting transfer on** field is only displayed in receipts relevant for billing. You can only complete this field after creating a print document for the receipt. If you want to forward the receipt to accounting, enter the date of the transfer. As soon as you save the receipt, most fields of the receipt are locked for further editing. You can then only edit the following fields: **Receipt status**, **Partial payment**, **Paid on**, **Notes**, and **Fin. accounting transfer on**.
Person responsible (comm.)	You can automatically adopt the commercially responsible person from an address if you have created the receipt for an address data record and the corresponding field has been completed in the address. You can customize the field value. Module **Project** If you use the **Project** module and create the receipt for a project, the commercially responsible person of the project is adopted. If the corresponding field has not been completed in the project data record, the system tries to adopt the commercially responsible person from the address data record that is linked with the project.
Partial payment	In case of **Partial payment**, you enter the payment amount here.

Field	Description
Paid on	In the **Paid on** field, you enter when the receipt has been paid in full. Changes to the **Paid on** field have an impact on the **Status** field on the **General** tab: - If you set the status to **closed**, then the **Paid on** field is set automatically to the current date. - If you the set the status to **open** again, then the date in the **Paid on** field is deleted. - These automatic processes also apply in reverse: therefore if you enter a date in the **Paid on** field, then the status is set automatically to **closed**. If you delete the date in the **Paid on** field, then the status is set to **open**. These automatic processes do not apply to receipts with a statistic factor of 0 (Quote, Order).
Value added tax ID **Tax number**	The **Value added tax ID** and the **Tax number** are adopted from the address if the receipt has been created for an address. You cannot change these fields. If the fields have not been completed in the address when creating the receipt, you cannot add them retroactively.
Taxation	In the **Taxation** field, you can select the tax rate for the receipt. The tax rate always applies to the entire receipt. You cannot define differing tax rates for individual receipt items. When you create the receipt for an address, the tax rate from the address is adopted if available. If no tax rate value is available in the address, the tax rate that has been defined as the default tax rate by the administrator is used.
Tax rate	The **Tax rate** is displayed as a number in the corresponding field. The tax rate is displayed in the print document. You cannot directly change the field, only by selecting the **Taxation**.
Payment terms	You can select the appropriate **Payment terms** from the list. If payment terms have been entered in the customer's address data record, the value is adopted when creating a receipt.

Field	Description
Due days	In the **Due days** field, you enter the payment deadline in days. The value is adopted from the defined payment terms and can be changed.
Text for payment condition	The **Text for payment condition** is displayed in the print document. You can change the suggested text.
Language	Select the **Language** for the print document from the list. If the receipt is created for an address and a preferred language has been selected for the address, the system tries to adopt this preferred language for the receipt. The preferred language can only be adopted if the corresponding language package has been installed for CAS genesisWorld. If the respective language package is not available, the language with which the current user is logged-on is entered.
Print document	The **Print document** field is completed automatically after you have generated a print document for the first time. You cannot change the content of the field.  Click this button to open the PDF file. You can open the print document data record via the dossier.
Additional invoice text	In the **Additional invoice text** field, you can enter a text that is displayed in the print document.
XRechnung	The following information is displayed at this location for XRechnung electronic invoices: - **Salesperson**: link to the seller's address. The administrator defines the seller's address for XRechnung electronic invoices in the Management Console. - **XRechnung**: link to the created document data record including the XML file. - **Payment recipient**: address of the payment recipient that has been defined in the Management Console. - **Tax representative**: address of the tax representative that has been defined in the Management Console. You cannot change the contents of these fields.

3.3 Creating a follow-up receipt

You can create follow-up receipts for receipts with the 0 or 1 statistic factor. For example, you can create a follow-up receipt for a quote if the quote has been accepted and an invoice is to be created.

You always create a follow-up receipt in the receipt data record that is the basis for the follow-up.

> **Note**
>
> The cancellation of an invoice is also a follow-up receipt but does not have special effects. You can find detailed information on receipt cancellations on the following page: "Cancelling receipts", page 31.

Procedure

1. Open the receipt for which you want to create a follow-up receipt.
2. Click **Create receipt** in the toolbar.
3. Select the receipt type, for example, **Invoice**.

✓ The follow-up receipt is created and opened in a new data record window. You can now immediately save the follow-up receipt or edit it before saving.

Adopted data

Most data of the original receipt are adopted in the follow-up receipt. These include all items and the payment period. The payment period is also adopted if the values are already in the past.

If you create a follow-up receipt with a statistic factor of 1 and the original receipt contains optional items, the optional items are transformed into standard items.

Follow-up receipts are linked with the original receipt using the **Original receipt - Follow-up receipt** link type. You cannot manually enter or remove this link.

The following fields are not adopted from the original receipt:

- The **Print document** needs to be newly created for the new receipt and is not adopted from the original.
- The **Number** must be unique and can thus not be adopted. The number is automatically entered as soon as the print document is created.
- The **Date** and **Value date** are set to the current date. The Due date is also not adopted.
- The payment information on the **Details** tab is also not adopted.

3.4 Cancelling receipts

Invoices and other receipts that are relevant for accounting with a statistic factor of 1 cannot be deleted after creating a print document. To undo the entry, you must cancel the invoice.

> **Note**
>
> The administrator can customize the cancellation receipt types.
>
> A receipt can only be canceled if a print document has been created.
>
> In a cancellation receipt, most fields of the original receipt are adopted similarly to other follow-up receipts. However, the **Payment term** is not adopted and also not be selected manually as a cancellation does not require payment from the customer.

Procedure

1. Open the receipt you want to cancel.
2. Click **Create receipt** in the toolbar.
3. Select the receipt type for the cancellation, for example, **Cancellation**.

✓ The cancellation receipt is created and opened in a new data record window. You can now immediately save the cancellation receipt or edit it before saving.

Impact

A cancellation has the following impact:

- With the cancellation receipt, you create a counter entry for the original receipt and the respective receipt items are canceled.
- In the original receipt, the read-only field **Canceled by** is completed. With the button next to the field, you can open the cancellation receipt.
- The original receipt is displayed in the read-only field **Cancellation receipt for** in the cancellation receipt. With the button next to the field, you can open the original receipt.
- The receipt number of the canceled receipt is displayed in the print document of the cancellation receipt.

Module Project

If you use the **Project** module, the following effects apply during cancellation:

The links of the receipt with order items are deleted without further inquiry and can later be booked again if the order items have not been created for time records, expenses, or external services.

If the order items have been created for time records, expenses, or time records, you will receive a prompt and can choose how to process these data records. The following options are available:

- The data records remain linked with the receipt without any changes.
- The data records remain linked with the receipt and the turnover is set to zero.
- The links to the data records are removed from the receipt and the external billing is undone. The order items can then be booked again.

3.5 Fin. accounting transfer

Billed receipted can be exported to forward them to accounting. After the export, most receipt fields are locked for editing. You can then only change the following fields: **Notes**, **Fin. accounting transfer on**, **Partial payment**, and **Paid on**.

> **Tip**
>
> Receipts that have already been exported cannot be exported again. If you want to export a receipt again, you can remove the export lock by deleting the **Fin. accounting transfer on** value.

You can export receipts if the following conditions are met:

- The fin. accounting transfer has been activated by an administrator.
- You have received the necessary rights for the fin. accounting transfer.
- The receipts have a statistic factor of 1 or -1 and are thus relevant for billing.
- The receipts have not yet been forwarded to accounting.
- You have already created print documents for the receipts so that receipt numbers are available.

Procedure

1. Open a receipt list.
2. Select all receipts you want forward to accounting.
3. Open the context menu and select **Fin. accounting transfer**.

✓ A window for saving the CSV file opens.

4. Select the folder in which you want to save the file and change the file name if required.

✓ The receipts are exported. The exported receipts are locked for editing and the current date is entered into the **Fin. accounting transfer on** field on the **Details** tab.

Exported fields

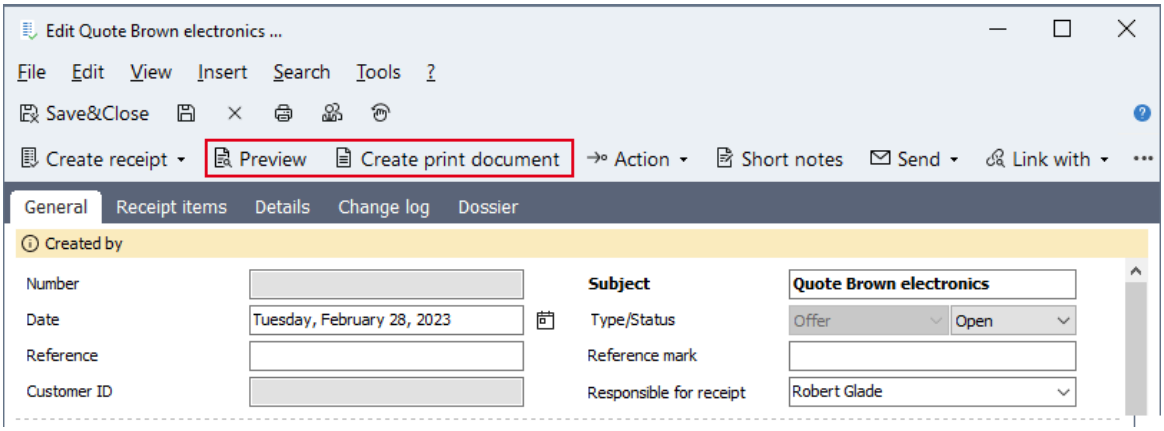
The administrator defines which fields are exported for accounting. In addition to the fields from the receipt data records, the following three values are always exported:

Field	Description
Revenue account: fin. accounting	The **Revenue account: fin. accounting** contains a text the administrator defines in the Management Console. Depending on the tax rate, the revenue account can differ.
Debit/Credit flag	The **Debit/Credit flag** is automatically entered according to the statistic factor. The following values are possible: ■ Statistic factor 1: **H** ■ Statistic factor -1: **S**
Due date (DATEV receipt field 2)	The due date of the receipt is issued in the TTMMJJ DATEV format.

4 Print documents

A print document is a PDF file that can be sent to customers. Print documents are based on print templates that are delivered with Easy Invoice.

You can find the buttons to create a preview and the print document in the receipt toolbar.



Topics of this chapter

4.1 Preview

With the **Preview** button, you create a print document for review. The generated document is temporary and not saved in CAS genesisWorld. You can use the preview, for example, if you want to check how an invoice would look. The receipt data record is not locked independent of the statistic factor and can still be deleted.

4.2 Creating a print document

With the **Create document** button, you create a print document.

Note

To be able to create a print document you need to first save the receipt. All mandatory fields of the receipt must be completed. If a field is not completed, you will receive a message.

When you create a print document for a receipt that is relevant for billing, you can subsequently no longer delete the receipt data record.

If all conditions for creating an XRechnung electronic invoice are met, an XRechnung is created in addition to the PDF.

Tip

You can create or update multiple print documents at once. To do so, select the desired receipts in a list and select the **Creating/updating print documents** function in the context menu.

When creating a print document, the following steps are executed:

- A PDF file is created. The PDF file contains the receipt data and is opened immediately.
- A document data record is created and the PDF file is saved as the archive file of the document data record. The document data record contains the receipt type and the number entered in the receipt data record during document creation in the subject field. Example: **Invoice 2023-10000**.
- The document data record is linked with the receipt. You can open and change the document data record if required via the receipt dossier.

Edition Premium

With the CAS genesisWorld Premium Edition, a primary link with the customer address is additionally entered in the print document.

Example of a print document:

NOMOSYS
Consulting company
Mrs.Gundula Morsey
Erdinger Straße 2
85609 Aschheim
Germany

Invoice

Receipt number	2015-10000
Date	3/2/2020
Customer ID	08078664
Employee	Peter Grundmann
Your VAT ID	989890000
Your tax number	5857878678888

Payment period: 1/6/2020 - 5/4/2020

Item	Product no.	Name	Quantity	Unit	Unit price	Sum
1	**Licenses**					
1.1	00500040	Database software	200	Stück	400.00	80,000.00
				Minus	5.00 %	-4,000.00
1.2	10000002	Server operating system	2	Stück	500.00	1,000.00
2	**Services**					
2.1	10200020	Conception	1	Stück	2,175.00	2,175.00
2.2	10200010	Training/Workshops	1	Stück	4,200.00	4,200.00
2.3	10200034	Software customization	1	Stück	3,537.98	3,537.98
2.4	10200034	Individual-Anpassungen Software	1	Stück	2,968.19	2,968.19
				Sub-total	EUR	89,881.17
				Turnover tax 19.00 %	EUR	17,077.42
				Total	**EUR**	**106,958.59**

Payment arrangement:

Due by 4/1/2020

Invoice with work report

Module Project

If you use the **Project** module, the print template for invoices can include a work report. The administrator defines this setting in the Management Console.

The work report is based on billed time records and includes the following information:

- Cost rate by employee
- Cost overview by workload
- Breakdown of the services by item, job, and employee

For invoices for order items of a project, the following fields are entered into the individual item data records:

- The current date is adopted in the **Invoiced** field.
- The created receipt number is adopted in the **Receipt number** field.

The created receipt number is also entered in the individual time record, expenses, and external serviced if the items are recorded in these data records. Additionally, the created print document is linked with these data records and can be accessed from each of the data records. The time records, expenses, and external services are billed externally when creating the print document.

In the following example, you can see a cost overview and a work report for an invoice. The first pages correspond with a standard invoice and are not displayed.

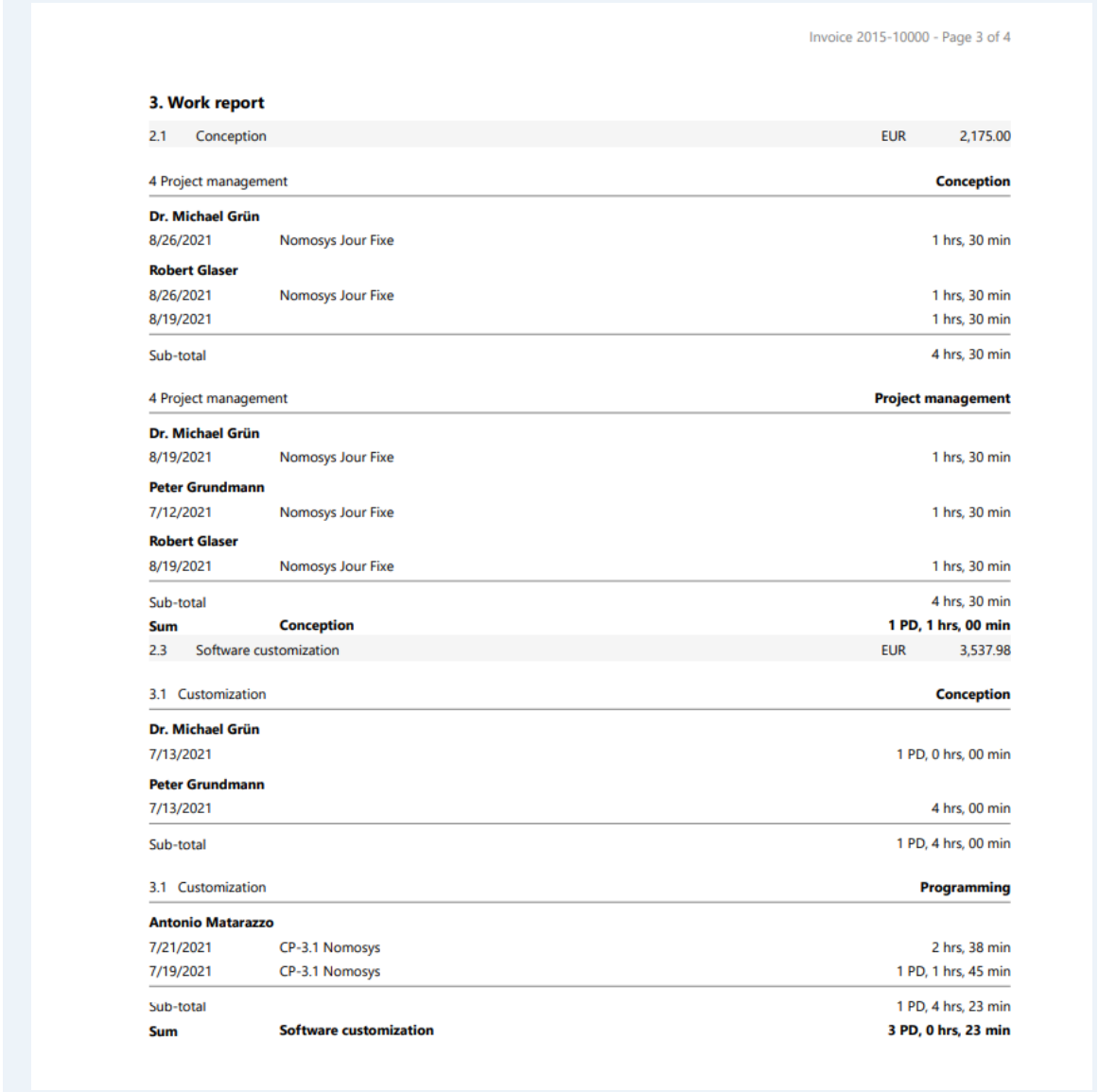
Cost overview and work report

1. Cost rate by employee

	Per hour	Per day
Antonio Matarazzo		
Programming	130.00 EUR	1,040.00 EUR
Dr. Michael Grün		
Conception	150.00 EUR	1,200.00 EUR
Project management	150.00 EUR	1,200.00 EUR
Peter Grundmann		
Conception	150.00 EUR	1,200.00 EUR
Project management	150.00 EUR	1,200.00 EUR
Robert Glaser		
Conception	150.00 EUR	1,200.00 EUR
Project management	150.00 EUR	1,200.00 EUR

2. Cost overview by workload

	1 PD = 8.00 hrs	days	Daily rate	Sum
Conception	2 PD, 0 hrs, 30 min	2.06	1,200.00 EUR	**2,475.00 EUR**
Programming	4 PD, 3 hrs, 13 min	4.40	1,040.00 EUR	**4,578.42 EUR**
Project management	4 hrs, 30 min	0.56	1,200.00 EUR	**675.00 EUR**
Total				**7,728.42 EUR**



Invoice 2015-10000 - Page 3 of 4

3. Work report

2.1	Conception	EUR	2,175.00

4 Project management — **Conception**

Dr. Michael Grün		
8/26/2021	Nomosys Jour Fixe	1 hrs, 30 min
Robert Glaser		
8/26/2021	Nomosys Jour Fixe	1 hrs, 30 min
8/19/2021		1 hrs, 30 min
Sub-total		4 hrs, 30 min

4 Project management — **Project management**

Dr. Michael Grün		
8/19/2021	Nomosys Jour Fixe	1 hrs, 30 min
Peter Grundmann		
7/12/2021	Nomosys Jour Fixe	1 hrs, 30 min
Robert Glaser		
8/19/2021	Nomosys Jour Fixe	1 hrs, 30 min
Sub-total		4 hrs, 30 min
Sum	**Conception**	**1 PD, 1 hrs, 00 min**

2.3	Software customization	EUR	3,537.98

3.1 Customization — **Conception**

Dr. Michael Grün		
7/13/2021		1 PD, 0 hrs, 00 min
Peter Grundmann		
7/13/2021		4 hrs, 00 min
Sub-total		1 PD, 4 hrs, 00 min

3.1 Customization — **Programming**

Antonio Matarazzo		
7/21/2021	CP-3.1 Nomosys	2 hrs, 38 min
7/19/2021	CP-3.1 Nomosys	1 PD, 1 hrs, 45 min
Sub-total		1 PD, 4 hrs, 23 min
Sum	**Software customization**	**3 PD, 0 hrs, 23 min**

4.3 Updating print documents

With the **Update print document** button, you generate a new version of the print document.

The **Update print document** button is only available if you have already created a print document. The updated print document is created as a version of the available document data record. You can review all print document versions already created on the **Versions** tab of the document data record.

> **Tip**
>
> You can create or update multiple print documents at once. To do so, select the desired receipts in a list and select the **Creating/updating print documents** function in the context menu.

4.4 Default template for print documents

The default template for print documents is delivered with Easy Invoice and is preconfigured.

Module Report

If you use the **Report** module, administrators and users with the necessary rights can edit the print templates. In this case, some of the listed fields may not be adopted in the print document or additional fields are available.

Contents of the default template

The following data are included in the default template.

Field	Description
Customer	Contains the complete address of the customer.
Customer ID	Contains the customer ID value from the customer's address.
Value added tax ID and tax number	Contains the value added tax ID and the tax number of the customer.
Reference mark and reference	Contains the reference mark and the reference for billing projects.
Differing recipient	Contains the complete address of the differing receipt recipient if a differing recipient is available.
Receipt type	Contains the name of the receipt type, for example, **Invoice**.
Responsible for receipt	Contains the name of the employee responsible for the receipt.
Number	Contains the receipt number.
Additional invoice text	Contains a custom text for receipts.

Field	Description
Payment arrangements including Value date, Due date, and Text for payment condition	The administrator defines the text for the payment conditions in the Management Console.
Item list including Product number, Description, Quantity, Unit, Unit price, Relative discount, Discount, and the Total per item	The administrator defines in the Management Console whether the product name or the product description is adopted in the receipt. Independent of this setting, the product name is always adopted if the product description is empty.
Item groups	Contains the item groups that have been created for the receipt.
Net amount	Contains the net total.
Tax amount and taxation text	Contains the tax rate, the tax amount, and the taxation text.
Gross amount	Contains the gross total.

4.5 Adjusting print templates

Module **Report**

If you use the **Report** module, you can customize the print templates for receipts with the Manager license and Crystal Report. You define this setting in the desktop client.

A print template that applies to all receipt types is available for Easy Invoice. The print template ist called **Easy Invoice print template**.

If you use the **Project** module, the **Easy Invoice printing template for vendor credits** and **Easy Invoice print template with work report** print templates are also available. You can also customize these print templates.

Opening print templates for editing

1. Open a receipt list in the desktop client.
2. Open the context menu of a receipt and select **Report**.

✓ The **Create report** window opens.

3. Select the **Easy Invoice print template** entry.

4. Click **Edit**.

✓ The **Edit report template** window opens. You can now customize the template.

5 XRechnung

Easy Invoice supports electronic invoices for invoices and cancellations according to the 2.3.1 XRechnung standard. Thus, you can create electronic invoices for business transactions with public authorities.

Other receipt types, such as quotes or credit notes, are not supported.

If all requirements are met, an XRechnung electronic invoice is created when generating a print document and then saved in a document data record. The document data record is linked with the receipt and can be accessed via the dossier of the receipt data record.

You can send XRechnung electronic invoices via xRM e-mails.

Requirements

The following requirements must be met to create an XRechnung electronic invoice:

- The administrator must allow the creation of XRechnung electronic invoices and define the necessary settings in the Management Console.
- The address data record of the customer or invoice recipient must contain a **Route ID** on the **Billing** tab.
- The address data record of the seller or their tax representative must contain a **Value added tax ID** on the **Billing** tab.
- If the direct debit payment method has been selected, the address of the seller or invoice recipient must contain a **Creditor ID** and a **Unique mandate reference** on the **Billing** tab.

Topics of this chapter

5.1 Embedding documents

You can embed any number of documents in the XML file of the XRechnung electronic invoice. The documents are automatically embedded as binary objects (Base64) in the XML file according to the XRechnung standard.

The following file formats are supported:

- PDF
- CSV
- PNG
- JPG/JPEG
- Excel workbook (XLSX)
- Open Office work book (ODS)

More requirements

- At least version x13.1.2.4 or x14.1.4 of CAS genesisWorld must be installed, and the database must have been updated.
- The documents you want to embed must be available as document data records in CAS genesisWorld.
- The document data records must be linked with the receipt data record using the **Invoice-justifying document** link type.
- The **Number** field on the **General** tab of the document data record must be completed.

Example

You can find an example of how to create a receipt for an XRechnung electronic invoice with embedded documents in the following instruction. The example assumes that the receipt for the XRechnung has already been created.

Procedure

1. Open the desired receipt and select **Link with** > **Document...** > **Invoice-justifying document** in the toolbar.
2. Search for the desired documents and link them with the receipt.
3. Save the receipt and click **Create print document** if you have not already, or **Update print document** if you already have.

✓ The print document is generated and opened. Additionally, a new XRechnung electronic invoice is created and linked with the receipt. You can open the XRechnung via the receipt dossier.

6 Sending receipts via XRM e-mails

Using xRM e-mails, you can send both print documents and XRechnung electronic invoices to customers. You can also send e-mails to multiple customers at once.

To be able to send these documents via xRM e-mails, a template for the **Receipts** data record type must be available. The users who have been granted the necessary rights can create such templates.

This user guide broadly outlines the procedure for creating templates and sending xRM e-mails. You can find a more detailed description of xRM e-mails here: Online help for the desktop client: xRM-E-Mails.

Topics of this chapter

6.1 Creating templates

You can create templates for xRM e-mails in the desktop client if you have been granted the necessary rights.

Procedure

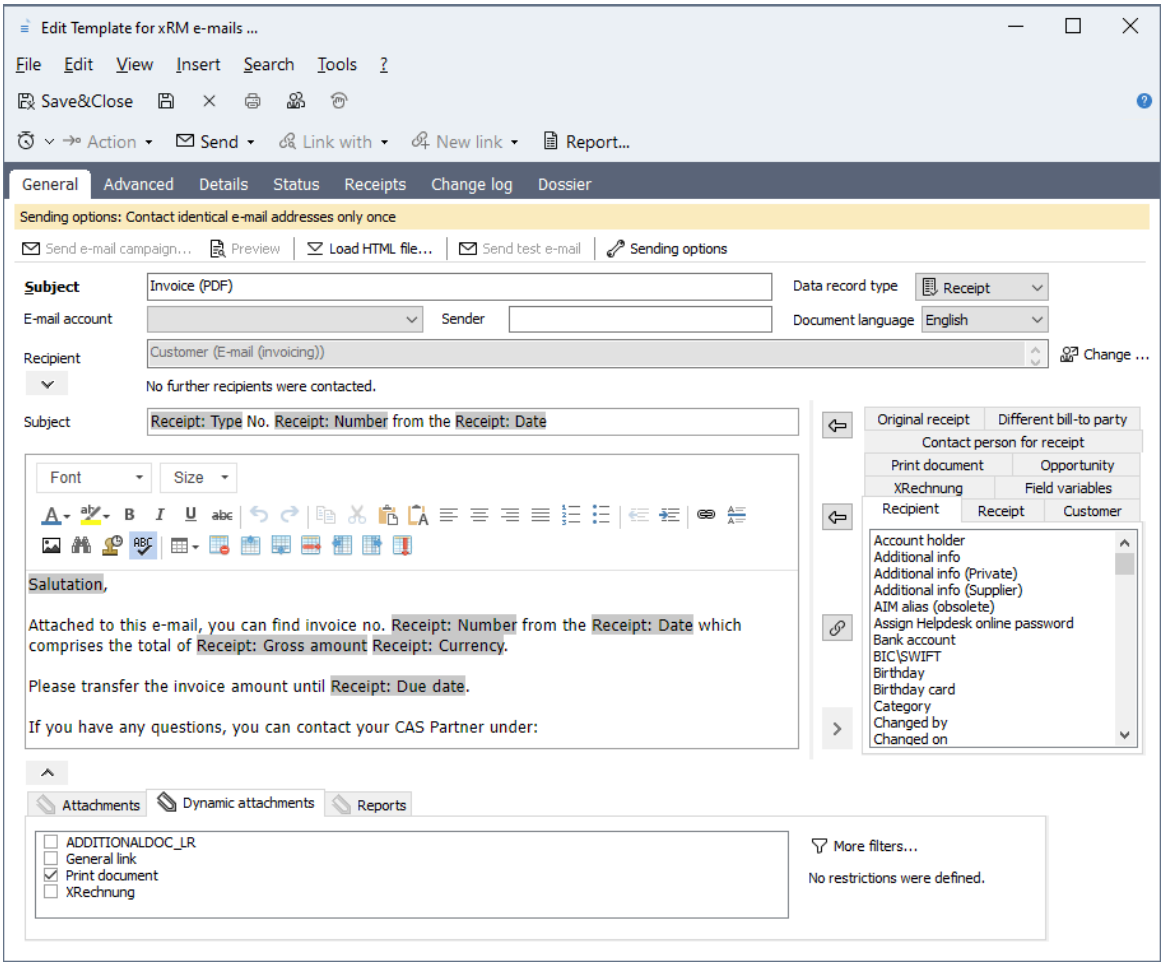
1. Open the **Tools** menu in the desktop client and select **Settings**.
2. Open the **E-mail** tab and then the subordinate **xRM e-mail** tab.
3. Click **New** in the toolbar.

✓ The **Create template for xRM e-mails** window opens.

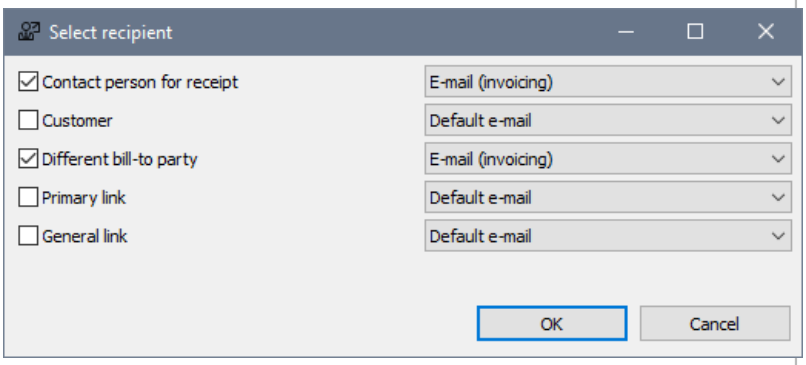
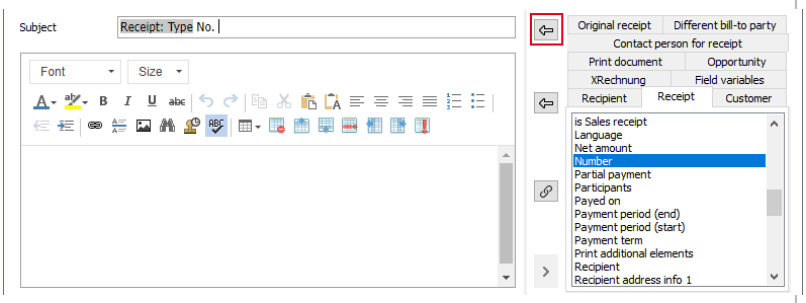
4. Edit the template and save your changes.

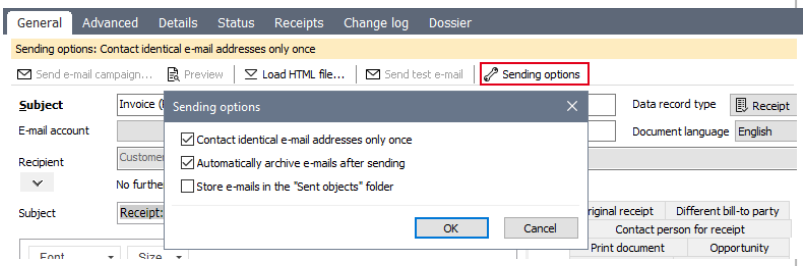
Template settings

The following table provides a broad overview of the possible settings according to the described example.



Field/Setting	Description
Subject	The template is displayed in CAS genesisWorld under the defined **Subject**.
Data record type	You need to select **Receipt** in the **Data** record type field if you want to send your receipts via e-mail.
E-mail account	Select the **E-mail account** you want to use to send the xRM e-mail. Ideally, you use an e-mail account which is available to all users of the template.

Field/Setting	Description
Recipient	Click the button next to the **Recipient** field and select which e-mail address is supposed to be contacted. You can choose between different options for receipts.  We recommend selecting the **E-mail (invoicing)** field if your customers usually require you to send their invoices to a specific e-mail address. You manage the contents of this field on the **Billing** tab of the corresponding address.
Subject	This is the **Subject** line that is used when sending the e-mail. You can use variables to create a dynamic subject line. To do so, select the variable in the right column and click the button next to the Subject field to adopt the variable in the field. 
Message text	You can also use variable in the **Message text** field. The quickest way to insert the variables is to double-click the desired variable. The variable is always inserted at the current location of your cursor.
Dynamic attachments	In the **Dynamic attachments** area, you select which attachments you want to send with your receipt. For the receipt data record type, the **Print document** and **XRechnung** dynamic attachments are available.

Field/Setting	Description
Sending options	You open the **Sending options** for the xRM e-mail by clicking the button of the same name in the toolbar. 

6.2 Sending e-mails

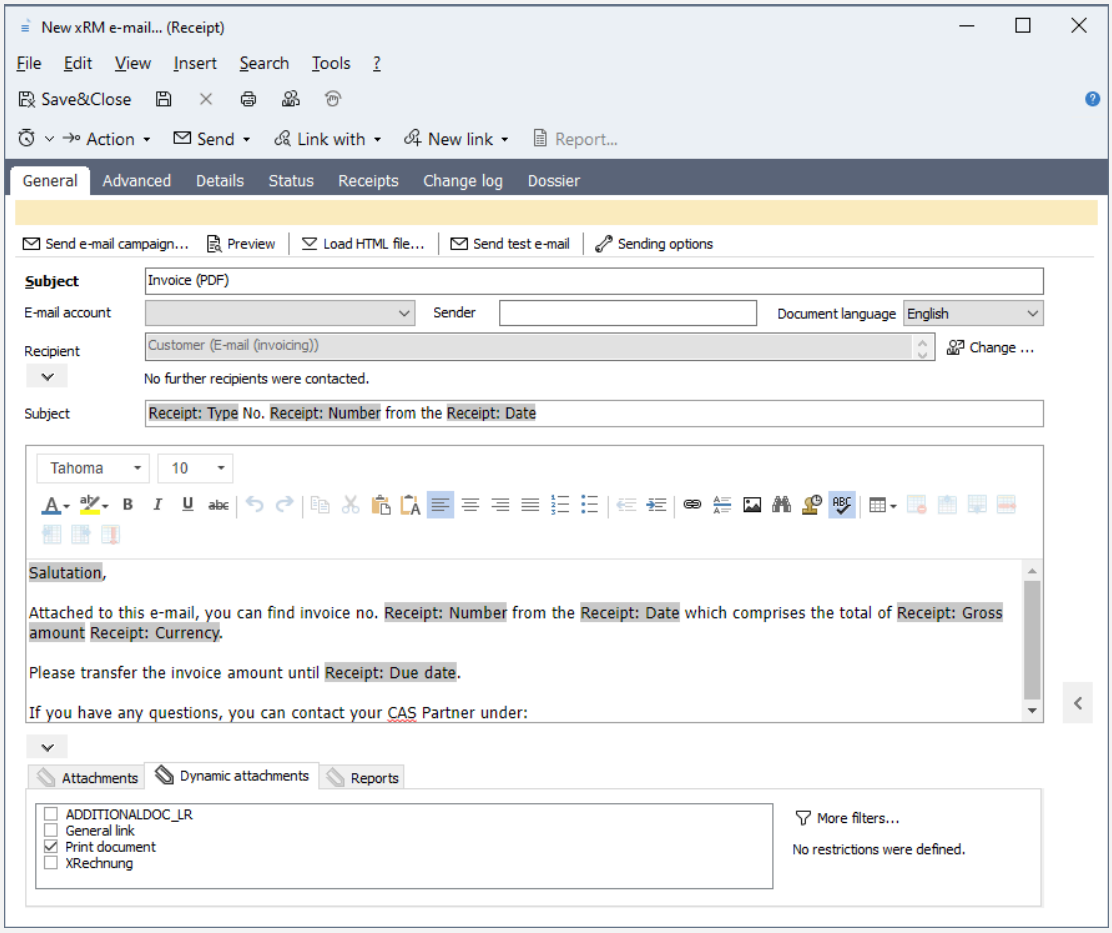
If templates for sending receipts via xRM e-mails are available, you can easily send one or multiple receipts to the desired recipients.

The templates are not included in the scope of delivery of Easy Invoice. On this page, you can find an example template.

Procedure

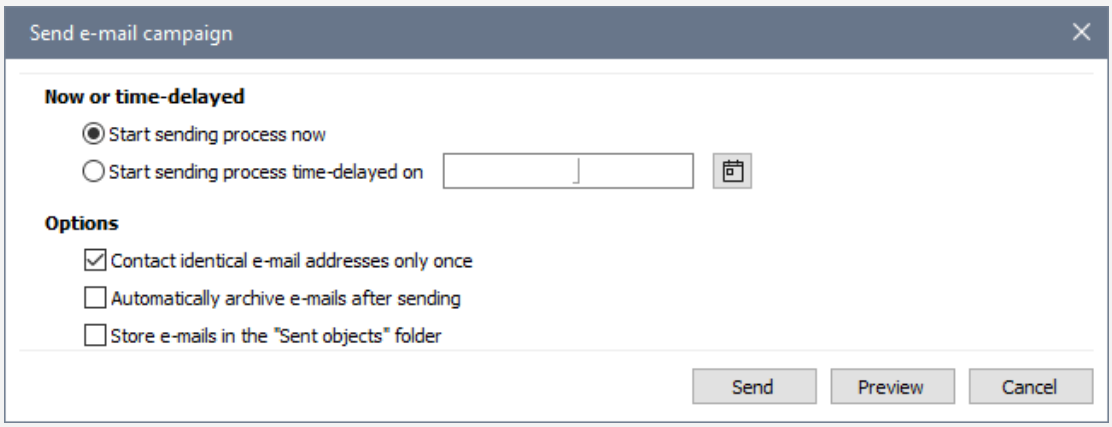
1. Open a receipt list.
2. Select one or multiple data records.
3. Open the context menu and select **Create xRM e-mail**. Then, select the name of the template, for example, **Invoice (PDF)**.

✓ The **Edit xRM e-mail** window opens.



4. If required, customize the contents and save your changes.
5. Click **Send e-mail campaign** if you want to send your e-mail campaign now or time-delayed.

✓ The **Send e-mail campaign** window opens.



6. Select the desired options and then click **Send**.

> **Tip**
>
> If you want to check the e-mail after the variables have been inserted but before sending, click **Preview**. The preview is opened containing data of one recipient of the e-mail.

7 Billing tab in addresses

When using Easy Invoice, the **Billing** tab is added to addresses. The **Billing** tab is available in companies and individual contacts. The **Billing** tab is not available in contact persons as billing goes through the company.

Users without an Easy Invoice license can only read the **Billing** tab.

Fields on the Billing tab

Field	Description
Customer ID	Click the button next to the **Customer ID** field to enter the customer ID. As soon as you have saved an address with the Customer ID completed, you can no longer change the Customer ID value. Moreover, you can no longer delete the corresponding address but only deactivate it. The contact persons belonging to this address can still be deleted. Users with administrator rights for Easy Invoice can enter random values in the **Customer number** field. However, this only applies as long as the **Customer number** field is empty.
Person responsible (comm.)	The commercially responsible person is automatically adopted in all receipts created for this customer. Module: Project With the **Project** module, this field value is adopted from the project data record if it has been completed.
Invoice recipient	In the **Invoice recipient** field, you can enter an address that is adopted as the Differing recipient in the receipts. Module: Project With the **Project** module, this field value is adopted from the project data record if it has been completed.

Field	Description
E-mail (invoicing)	The E-mail (invoicing) field can be used for sending invoices via xRM e-mails in particular. Thus, you can send both print documents and XRechnung electronic invoices to multiple customers at once.
Payment terms	Enter the appropriate **Payment terms** for this customer. The value is automatically adopted in newly created receipts.
Taxation	Enter the appropriate taxation rate for this customer. The value is automatically adopted in newly created receipts.
Value added tax ID **Tax number**	Enter the **Value added tax ID** and **Tax number** of the customer if the fields have not yet been completed on the **Details** tab. The values on the **Details** tab are automatically adopted on the **Billing** tab and vice versa. The values are automatically adopted in newly created receipts.
Route ID	Enter the **Route ID** of the customer or invoice recipient. This information is required if you want to create XRechnung electronic invoices.
Creditor ID	Enter the **Creditor ID** of the seller or payment recipient. You do not need to enter a value for customers/invoice recipients. This information is only required if you want to create XRechnung electronic invoices for direct debit.
Unique mandate reference	Enter the **Unique mandate reference** of the seller or payment recipient. You do not need to enter a value for customers/invoice recipients. This information is only required if you want to create XRechnung electronic invoices for direct debit.

Field	Description
Creditor number **Payment terms**	Module Project The **Creditor number** and **Payment terms** fields in the **Creditor** block are only available with the **Project** module. These fields must be completed if you want to create vendor credits.
Price list	Module Project Module Sales pro If you use the **Project** and **Sales pro** modules, you can use price lists. You can individually define for each address which price list applies for the respective customer. If you do not select a price list, the information defined on the **General** tab of the project applies.
Discount list	Module Project Module Sales pro If you use the **Project** and **Sales pro** modules, you can use discount lists. You can individually define for each address which discount list applies for the respective customer. If you do not select a price list, the information defined on the **General** tab of the project applies.

8 Billing projects

Module Project

If you use the **Project** module, you can use Easy Invoice to bill all time records, external services, and expenses of a project.

To bill time records, external services, or expenses, you need to add them to the project as items. To do so, you use the **Report** function in the project data record.

Module Report

Usually, you need the **Report** module and a Report Manager license to edit reports.

If you do not use the **Report** module, you can still define the basic setting to bill projects. However, you cannot access the entire scope of functions of the **Report** module but only the functions required for billing.

Topics of this chapter

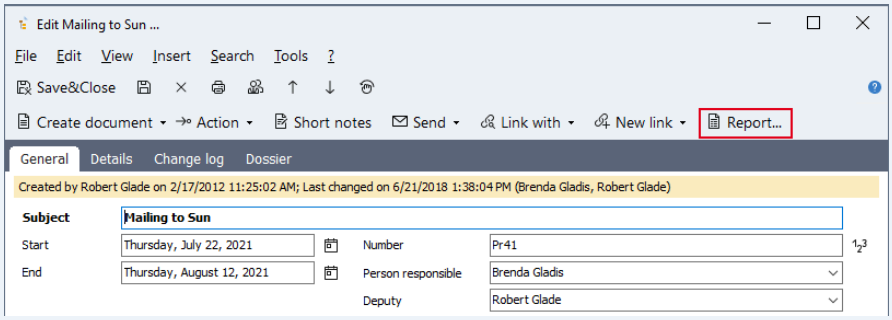
8.1 Preparing the billing process

Module Project

To be able to bill the project services, you need to first add these services to the project as items. To do so, you create a report.

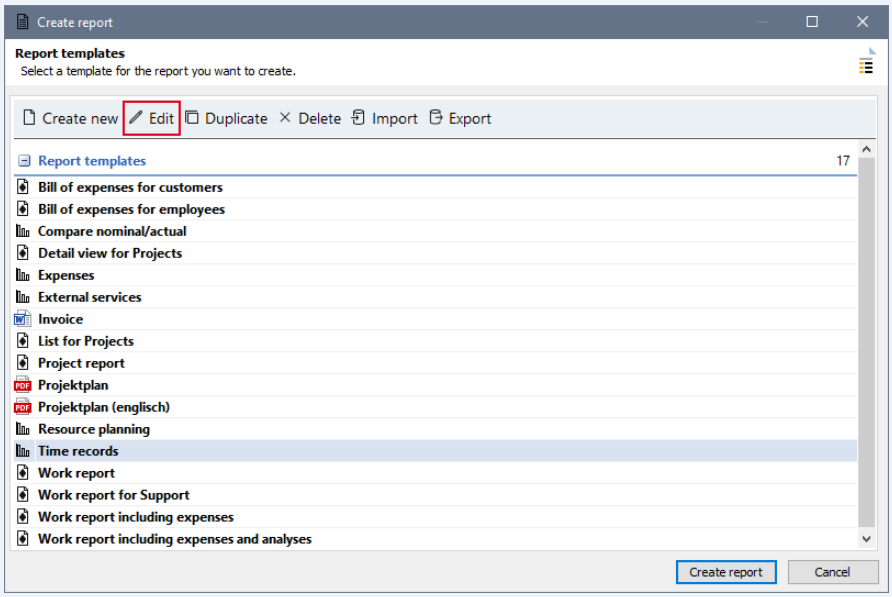
Procedure

1. Open the project for which you want to bill services.
2. Click **Report** in the toolbar of the project.



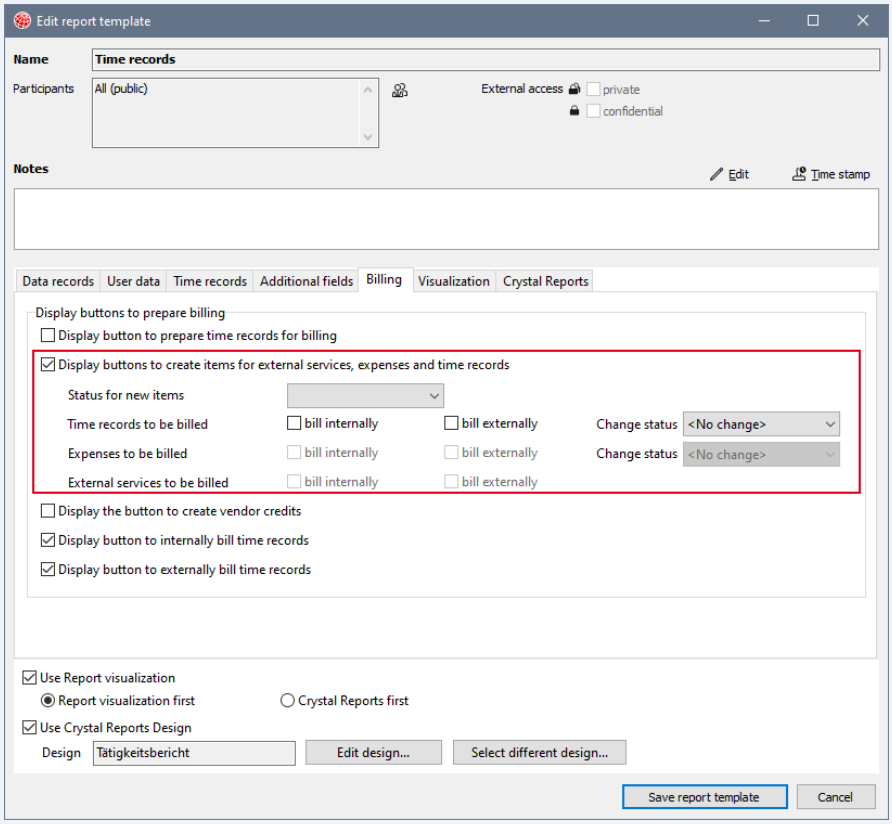
✓ The **Create report** window opens.

3. Select the data record type for which you want to create the items: **External services**, **Expenses**, or **Time records**.
4. Click **Edit** in the toolbar.



✓ The **Edit report template** window opens.

5. Open the **Billing** tab.
6. Activate the **Display buttons to create items for external services, expenses and time records** option.



> **Note**
>
> The **bill externally** option must not be activated if you want to generate items for an invoice. Externally billed data records cannot be transferred to receipts with a statistic factor of 1.

7. Click **Save report template** to save your changes.

✓ The **Edit report template** window closes.

> **Tip**
>
> If you have saved the report template once, you do not need to report these steps for this specific report template. However, you still need to define the same settings for the respective report templates for **Time records**, **External services**, and **Expenses**.

8. Click **Create report**.

✓ The report is created and opened in a new window. You can then continue with

creating the items.

8.2 Creating items

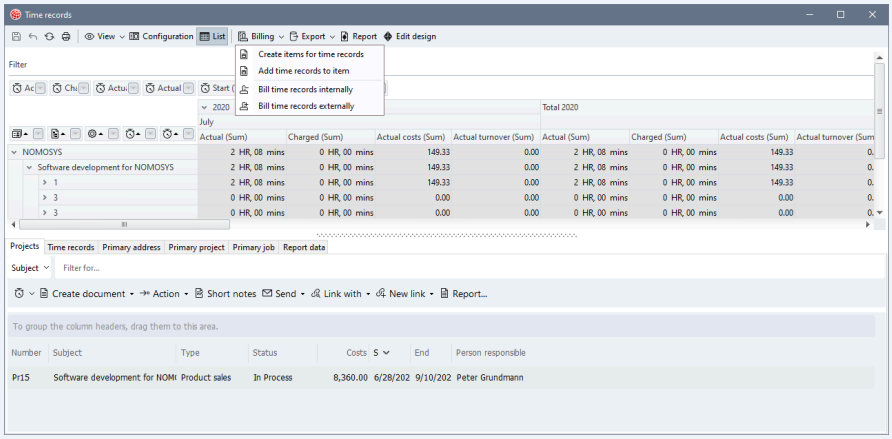
Module **Project**

In the newly generated report, you can create items for the respective services. The following instruction describes the procedure for time records. If you have created the report for external services or expenses, the names of the buttons may vary.

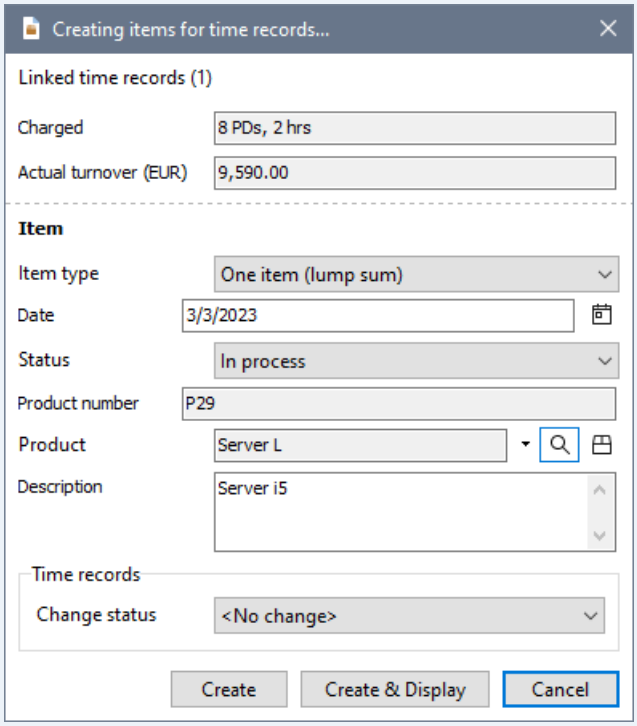
> **Note**
>
> To create an item for a time record, a turnover value must be available in the time record. The turnover is automatically calculated for each user using the **Charged** and **Type** field values.
>
> **External services** and **Expenses** must also include a turnover value for you to create items for these data records.

Procedure

1. Click **Billing** in the report and select **Create items for time records**.



2. The **Create items for time records** window opens.
3. Select the product and adjust the other data if required.



4. Then, create the item by clicking **Create** or **Create & Display**.

✓ The item is created and displayed on the **Order** tab of the project.

8.3 Billing services

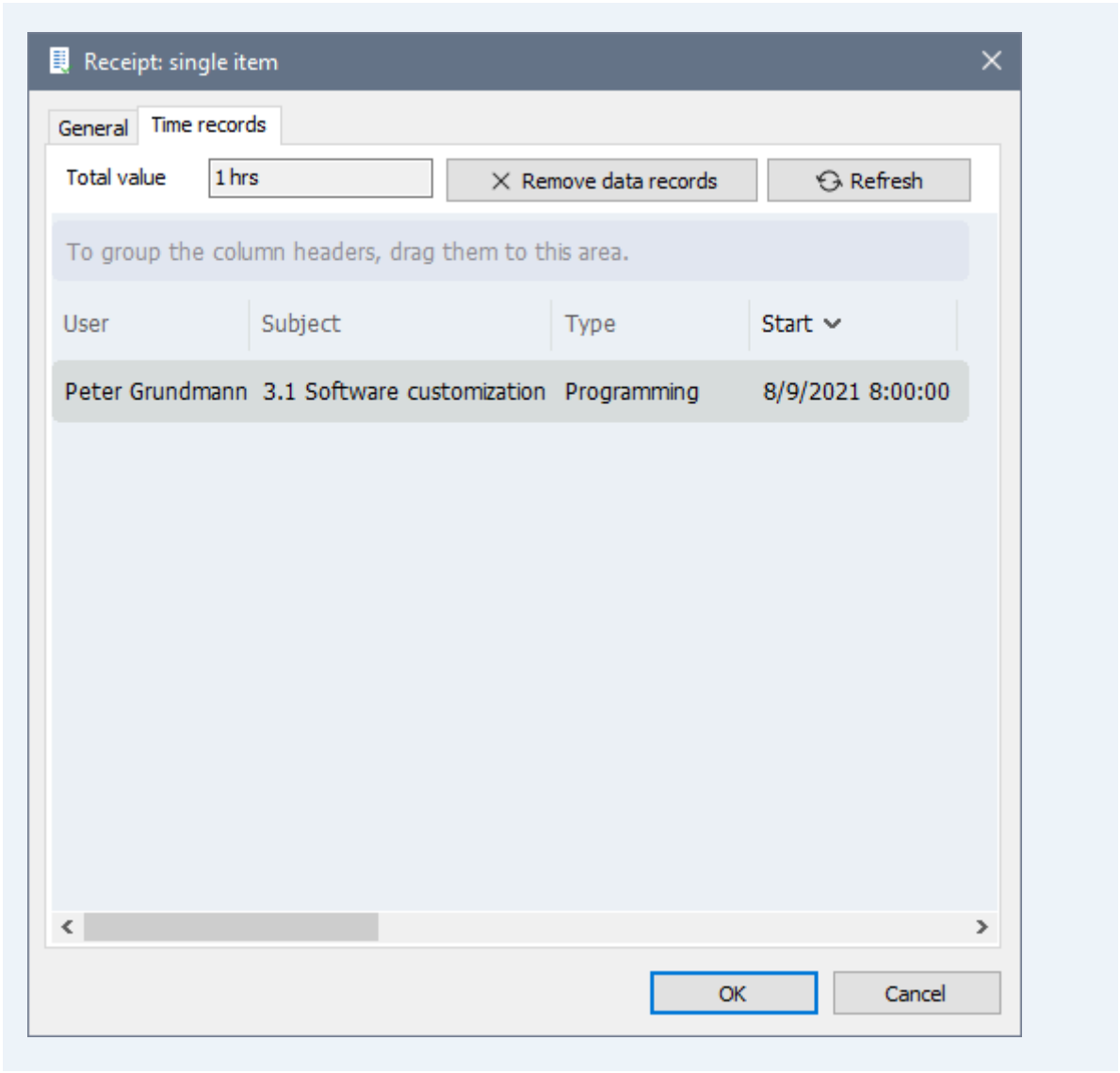
Module | Project

You bill services via the project.

Procedure

1. Open the project on the **Order** tab.
2. Select the desired item.
3. Create the receipt and save the data record.
4. Create the print document to bill the receipt.

A new tab is added to the window of the single item in the receipt if you bill time records, external services, or expenses. On this new tab, you can view the billed data records. The tab includes the name of the data record type for which the item has been created. Example:


Receipt: single item
General
Time records
Total value
1 hrs
Remove data records
Refresh
To group the column headers, drag them to this area.
User
Subject
Type
Start
Peter Grundmann
3.1 Software customization
Programming
8/9/2021 8:00:00
OK
Cancel

9 Extensions

The following extensions supplement Easy Invoice.

Topics of this chapter

9.1 Form & Database Designer module

With the Form & Database Designer, you can extend CAS genesisWorld with new data record types and add fields to existing data record types. These extensions are available for all CAS genesisWorld clients.

In addition, you can use the Form & Database Designer to customize the design of the data record windows in your desktop client so that they meet your requirements and are better adapted to your work processes. Using the Formula editor, you can define formulas.

You can find more information in the User Guide Form & Database Designer.

9.2 Sales pro module

With the **Sales pro** module, you can improve your sales process by using sophisticated sales methods. With reliable forecasts and comprehensive control functions, you can achieve your sales targets more easily and complete routine tasks considerably faster. Sales pro helps you to set the focus on sales.

You can find more information in the User Guide Sales pro.

9.3 Report module

With the **Report** module, you create report views for diverse analyses.

- Visualize indicators in tables or charts, print views, or export data in different formats.
- With the Crystal Reports Designer which you can additionally purchase, you can create your own Crystal Reports reports and export them in different formats.
- In the web client, you plan with different graphical views.
- You create customer dashboards via the Management Console to display an overview of fields, indicators, and links between individual data records.

You can find more information in the User Guide Report

9.4 Project module

With the **Project** module, you record all data, planning, and activities in clearly-structured projects from acquisition to conclusion.

- You can transfer an opportunity into a project with just one click. The product items of the opportunity are automatically adopted in the order view of the project.
- Using the tree view and the interactive Gantt chart, you can create you project with flexible job hierarchy.
- With the integrated resource planning, time recording, expenses, and external services, you plan and record costs and turnover for addresses, projects, and jobs.
- Reports keep you informed on the current status of your projects and jobs.
- Exchange project plans with Microsoft Project and Open Workbench.
- Templates for projects and jobs and automatic workflows help to encourage the consistent use and refinement of the best practice methods for project management.
- Team planning views for planning processes are available in the desktop client and the web client.

You can find more information in the User Guide Project.

9.5 Premium Edition

In the CAS genesisWorld Premium Edition, different function that extend CAS genesis-World are available. On this page, you can find a short overview of these Premium Edition functions. For more details, please contact your CAS Partner.

- CAS genesisWorld Web is included in the Premium Edition.
- Use the **Link search** to search for data records by their links. In the process, you can search for multiple linked data record types as well as specific link types.
- With **Primary links**, you can hierarchically structure related data records.
- With **Tree views** and the **Tree** tab, you gain an overview of the hierarchy of data records linked with a primary link.
- A **Group structure** is available for addresses so that you can manage and record mother-daughter relationships of companies.
- You can enter a **Project status** in project data records.
- You can define for specific data record types whether a **Number** is automatically entered when creating a new data record.
- You can create hierarchical **Input help** options.
- You can define dependencies for the **Type** and **Status** fields. This way, you can, for example, define a number of status that are only available when selecting a specific type. You can also define which tabs are hidden or displayed when selecting a specific type. Moreover, you can define that specific fields become mandatory if a specific type and/or status is selected.

10 Administration

The CAS genesisWorld administrator needs enter the license and activate Easy Invoice for you to use the Easy Invoice functions in your company. Then, the administrator can define custom settings for Easy Invoice.

> **Note**
>
> The descriptions for users in this user guide refer to the default settings of Easy Invoice. If you customize Easy Invoice, the descriptions may no longer be valid. Thus, we recommend informing the Easy Invoice users of any customizations.

10.1 Entering the license

MANAGEMENT CONSOLE > LICENSES

To be able to use Easy Invoice, you need to enter the corresponding license in the Management Console. Then, you need to define for whom you wish to activate the license.

Users without the Easy Invoice license have read rights to all receipts if the access has not bee restricted by rights. Moreover, users without the license can also create and edit quotes, order confirmations, and all other receipts that do not affect billing and have a statistic factor of 0.

Procedure

1. Open the **Licenses** area in the Management Console.
2. Click **New license** and enter the required data.
3. Select all users who are supposed to receive an Easy Invoice license in the **Activate for** window.
4. Subsequently, you need to activate Easy Invoice.

10.2 Activating Easy Invoice

MANAGEMENT CONSOLE > EASY INVOICE

After you have entered the license, you need to activate Easy Invoice.

> **Note**
>
> Before you activate the module, you should create a database backup. Without the backup, you cannot undo the activation of Easy Invoice.

Procedure

1. Open the **Easy Invoice** area in the Management Console.
2. Click **Activate**.
3. Confirm the security prompt.

✓ The changes to the database are installed. Subsequently, the Easy Invoice settings are loaded.

After you have activated Easy Invoice, you can define the settings in the Management Console.

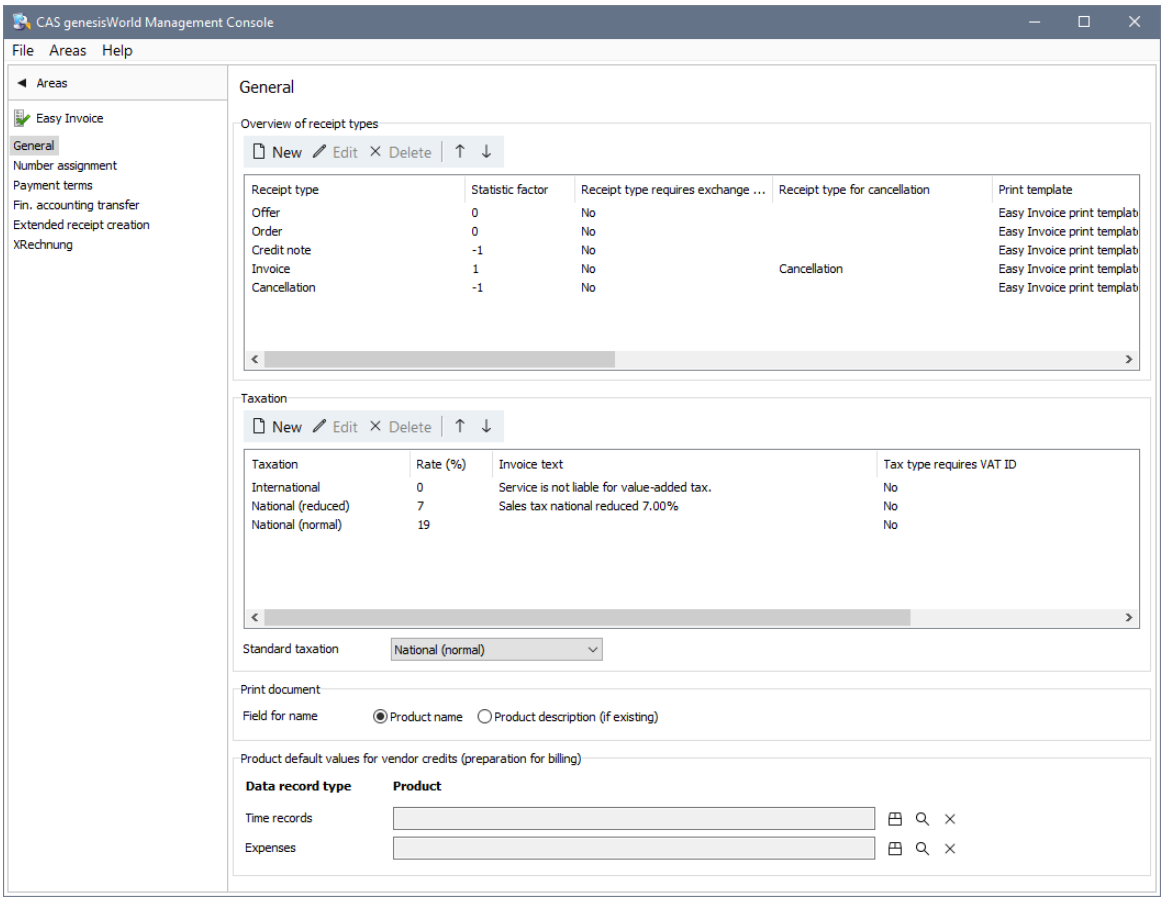
10.3 Settings in the Easy Invoice area

You define the administrative settings for Easy Invoice in the **Easy Invoice** area of the Management Console.

10.3.1 General

MANAGEMENT CONSOLE > EASY INVOICE > GENERAL

In the **General** area, you define the available receipt types and tax rates.



Overview of receipts types

MANAGEMENT CONSOLE > EASY INVOICE > GENERAL

In the **Overview of receipt types** block, you can see all receipt types that are included in the scope of delivery of Easy Invoice. The available default receipt types are: quote, order, credit note, invoice, and cancellation.

Module **Project**

If the Project module was activated before the Easy Invoice module, the print template with work reports is entered for the **Invoice** receipt type. For the work report in the print template to be automatically completed, the users need read rights to the time record data record type.

Toolbar functions

The following functions are available in the toolbar:

	Function	Description
🗋	**New**	Create a new element.
✎	**Edit**	Edit the selected element.
×	**Delete**	Delete the selected element. A deleted element cannot be restored.
↓ ↑	**Sort**	Move the selected element up or down by one position. Using these buttons, you can change the sorting of the displayed elements in the desktop client.

Settings for receipt types

When creating or editing receipt types, you can define the following settings.

Field	Description
Receipt type	Name of the receipt type. The receipt type is displayed under this name in CAS genesisWorld. ⋯ Click this button to open a window in which you can enter the text in all installed languages.
Statistic factor	The **Statistic factor** indicates how the receipt will be weighted in the turnover statistics. The following values are possible: ■ 1 = relevant for accounting, generates turnover. Example: Invoice ■ -1 = relevant for accounting, generates costs. Example: Credit note or cancellation ■ 0 = not relevant for accounting, generates neither costs nor turnover. Example: Quote or order
Print template	You can select a print template from the list. Module **Report** With the **Report** module, you can customize the print templates. You need the Manager license and Crystal Reports to do so.

Field	Description
Type for document	The type selected here is automatically entered when creating a print document. You can customize the list of input help options available for the **Type** field in the **Database** area of the Management Console.
Status for document	The status selected here is automatically entered when creating a print document. You can customize the list of input help options available for the **Status** field in the **Database** area of the Management Console.
Receipt type for cancellation	You can only select a **Receipt type for cancellation** if you have previously selected the statistic factor 1 for this receipt. The receipt type selected here is used to cancel a receipt that is relevant for billing. User only see the **Receipt type for cancellation** selected here if they click the **Create receipt** button in the corresponding receipt.
Receipt type requires exchange rate	The **Receipt type requires exchange rate** option is relevant when working with multiple currencies. If you activate this option, the **Exchange rate** field becomes mandatory in receipts for which more currencies than the base currency are used. Receipts without an exchange rate can still be saved, but users cannot create or update the print document.
Receipt type is order	The **Receipt type is order** option can only be selected if the **Statistic factor** 0 has been set.
Receipt type is a vendor credit	Module **Project** The **Receipt type is a vendor credit** option can only be selected if the **Statistic factor** -1 has been set. The option is only available if you use the **Project** module.

Field	Description
Receipt type is private credit	The **Receipt type is private credit** option can only be selected if the **Statistic factor** -1 has been set. Users can create a private credit even if the address data record does not contain a Value added tax ID or tax number.
Receipt type is XRechnung	Activate this option if the receipt type is XRechnung. The **Receipt type is XRechnung** option can be selected in both of the following cases: ■ For invoices, you first have to set the **Statistic factor** to 1 so that the **Receipt type is XRechnung** can be selected. ■ For cancelations the **Statistic factor** 1 has to be selected and the following receipt type for an invoice has to be selected: **Receipt type for cancelation**. Only then, will you be able to select the **Receipt type is XRechnung** option. You will find more information on creating the XRechnung and XStorno receipt types here: "More XRechnung settings".
Code for invoice type	Enter the code for the invoice type according to UNTDID 1001, for example, 380 for commercial invoices or 384 for cancellations. ⓘ If you need help entering the code, click the button next to the field. This setting is only necessary for XRechnung electronic invoices.
Address for seller	The address of the seller must be linked with the receipt type for users to be able to create an XRechnung electronic invoice. For this purpose, select the address from the CAS genesisWorld database here. This setting is only necessary for XRechnung electronic invoices.
Address for diverging payment recipient	The address of a different payment recipient can optionally be linked with the receipt type. This setting is only necessary for XRechnung electronic invoices.

Field	Description
Address for tax representative of payment recipient	The address of the tax representative of the payment recipient can optionally be linked with the receipt type. This setting is only necessary for XRechnung electronic invoices.

Taxation

MANAGEMENT CONSOLE > EASY INVOICE > GENERAL

In the **Taxation** block, you can find the tax rates. The following tax rates are already preset:

- International
- National (reduced)
- National (normal)

Toolbar functions

The following functions are available in the toolbar:

	Function	Description
🗋	**New**	Create a new element.
✎	**Edit**	Edit the selected element.
×	**Delete**	Delete the selected element. A deleted element cannot be restored.
↓ ↑	**Sort**	Move the selected element up or down by one position. Using these buttons, you can change the sorting of the displayed elements in the desktop client.

Taxation settings

When creating or editing a tax rate, you can define the following settings.

Field	Description
Taxation	In the **Taxation** field, you enter the name of the tax rate. ⋯ Click this button to open a window in which you can enter the text in all installed languages.
Rate (%)	Enter the tax rate as a percentage value but without the percent sign. Numbers between 0 and 100 are allowed. You can define a maximum of 2 decimal places.
Invoice text	In the **Invoice text** field, you can enter an additional text which is adopted in the receipts. ⋯ Click this button to open a window in which you can enter the text in all installed languages.
VAT category	The VAT category must be specified according to UNTDID 5303. The following codes are supported by Easy Invoice: ■ **S** for standard tax rates (19 % and 7 %) ■ **E** for VAT-exempt services (0 %) ■ **O** for services that are always not subject to VAT tax laws (0 %) ■ **AE** for reverse-charge systems (0 %) ■ **Z** for zero-rated goods (0 %) This information is required if you want to create XRechnung electronic invoices. ⓘ If you need help entering the code, click the button next to the field.
Tax type requires VAT ID	If you activate this option, the **Value added tax ID** field in the receipt becomes mandatory for this tax rate.

In the **Standard taxation** selection list, you can choose the default tax rate for new receipts. The standard taxation is always used if the address of the receipt recipient does not contain a tax rate value.

Print document

MANAGEMENT CONSOLE > EASY INVOICE > GENERAL

In the **Print document** block, you define which field is supposed to be used for the name of the print document. You can choose between **Product name** and **Product description**.

If you select the **Product description**, and the **Product description** field in the product is not completed, the product name is adopted in the print document.

Product default values for vendor credits

Management Console > Easy Invoice > General

Module **Project**

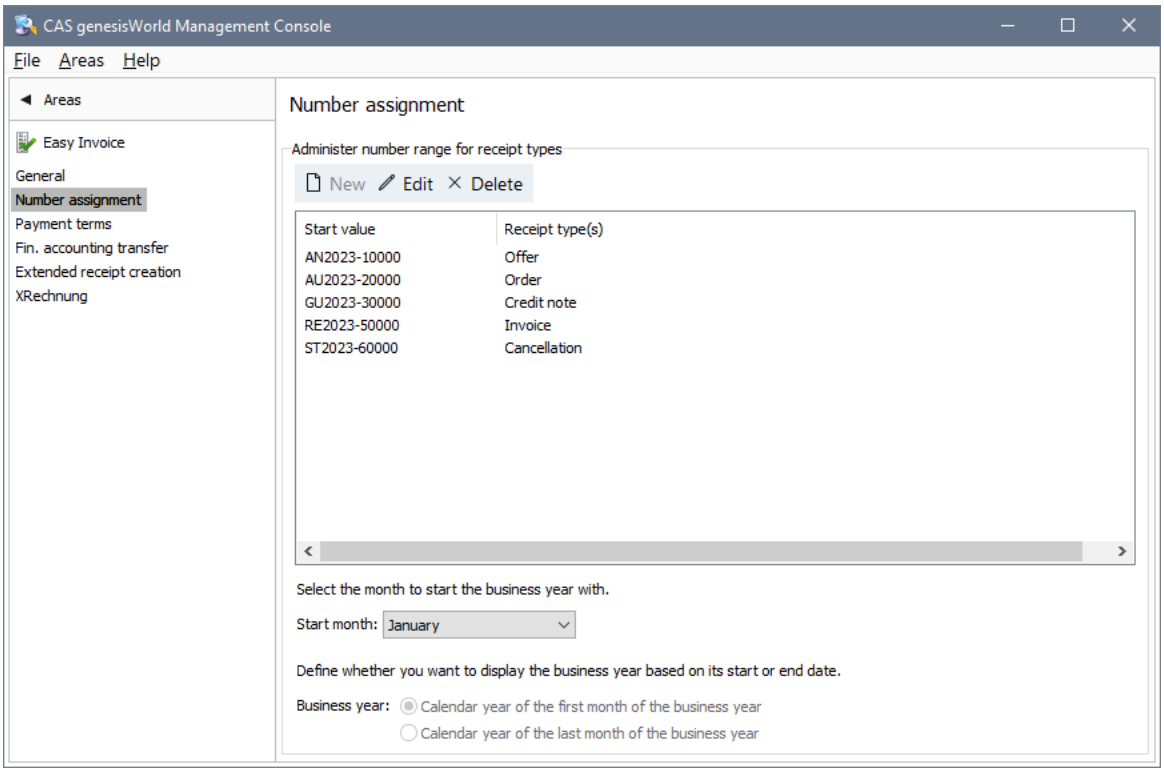
You can only define settings in the **Product default values for vendor credits (preparation for billing)** block if you use the **Project** module.

10.3.2 Number assignment

Management Console > Easy Invoice > Number assignment

In the **Number assignment** area, you define the structure of the numbers for the respective receipt types. The numbers are automatically assigned and incremented when creating receipts.

> **Note**
>
> You need to assign a number range for each receipt type. Receipt types without a number range configuration can not be used by the users.
>
> Changes to the defined number ranges will only be adopted for the next business year. This helps to prevent overlaps when assigning numbers.



The number ranges of the automatically created receipt types have already been predefined. You can customize this configuration.

Toolbar functions

The following functions are available in the toolbar:

	Function	Description
🗋	**New**	Create a new element.
✎	**Edit**	Edit the selected element.
×	**Delete**	Delete the selected element. A deleted element cannot be restored.

Creating or editing number ranges

You can only create new number ranges if the number ranges of all receipt types have not yet been defined. You can always edit number ranges.

Setting	Description
Prefix	The **Prefix** is a static text or number and is always displayed before the business year. The business year is automatically entered before the running number. You cannot change this setting. Example of a number without prefix: **2022-20031** Example of a number with prefix: **A-2022-20031**
Start value	Enter an integer as the **Start value**. The receipts are automatically incremented during receipt creation, starting with the entered start value.
Receipt type(s) for the number range	✎ Select all receipt types for which this number range applies. In the **Available receipt types** list, all receipt types that have not yet been assigned are displayed.

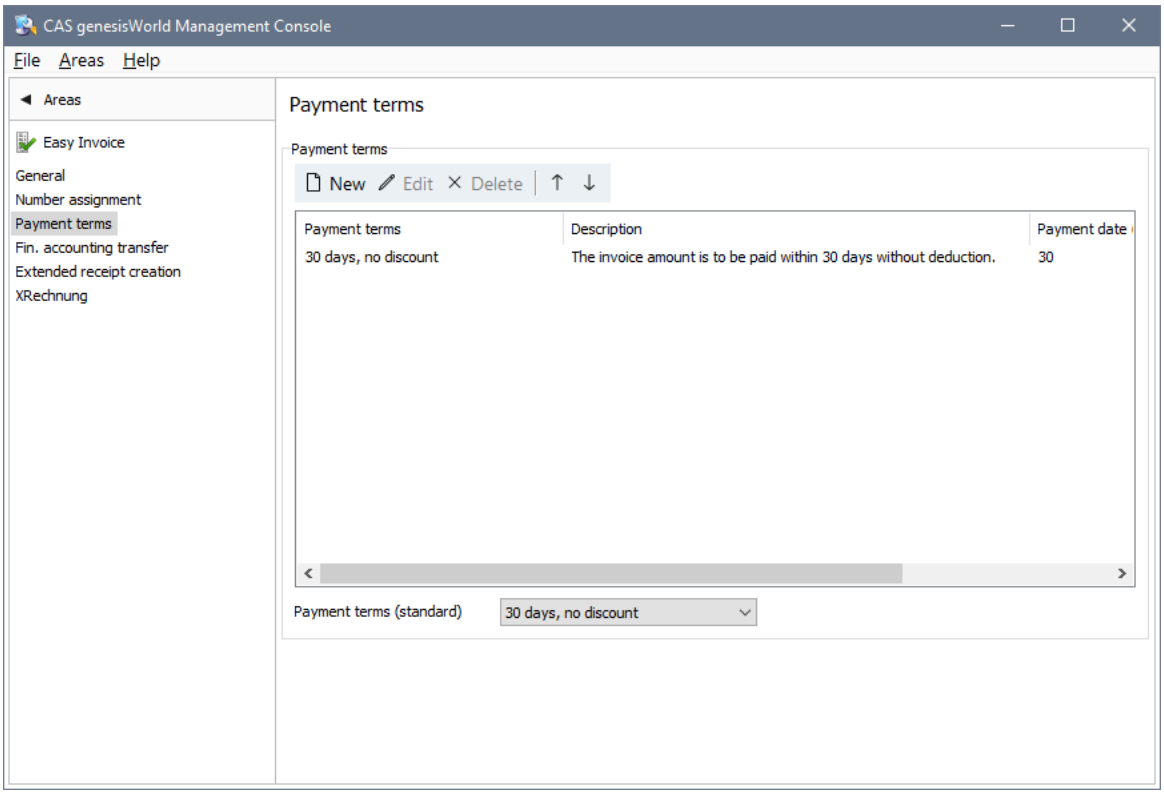
More number range settings

Setting	Description
Start month	You can enter a custom value for your business year in the **Start month** field. The default setting is January.
Business year	If you have selected another value than January as the start month, you can also define which year is automatically adopted as the business year in the defined number ranges. ■ **Calendar year of the first month of the business year** If you select May as the start month in July of 2022, 2022 is entered as the business year. ■ **Calendar year of the last month of the business year** If you select May as the start month in July of 2022, 2023 is entered as the business year.

10.3.3 Payment terms

MANAGEMENT CONSOLE > EASY INVOICE > PAYMENT TERMS

In the **Payment terms** area, you define the settings of the individual payment terms.



Toolbar functions

The following functions are available in the toolbar:

	Function	Description
🗋	**New**	Create a new element.
✎	**Edit**	Edit the selected element.
×	**Delete**	Delete the selected element. A deleted element cannot be restored.
↓ ↑	**Sort**	Move the selected element up or down by one position. Using these buttons, you can change the sorting of the displayed elements in the desktop client.

Settings for payment terms

When creating or editing payment terms, you can define the following settings:

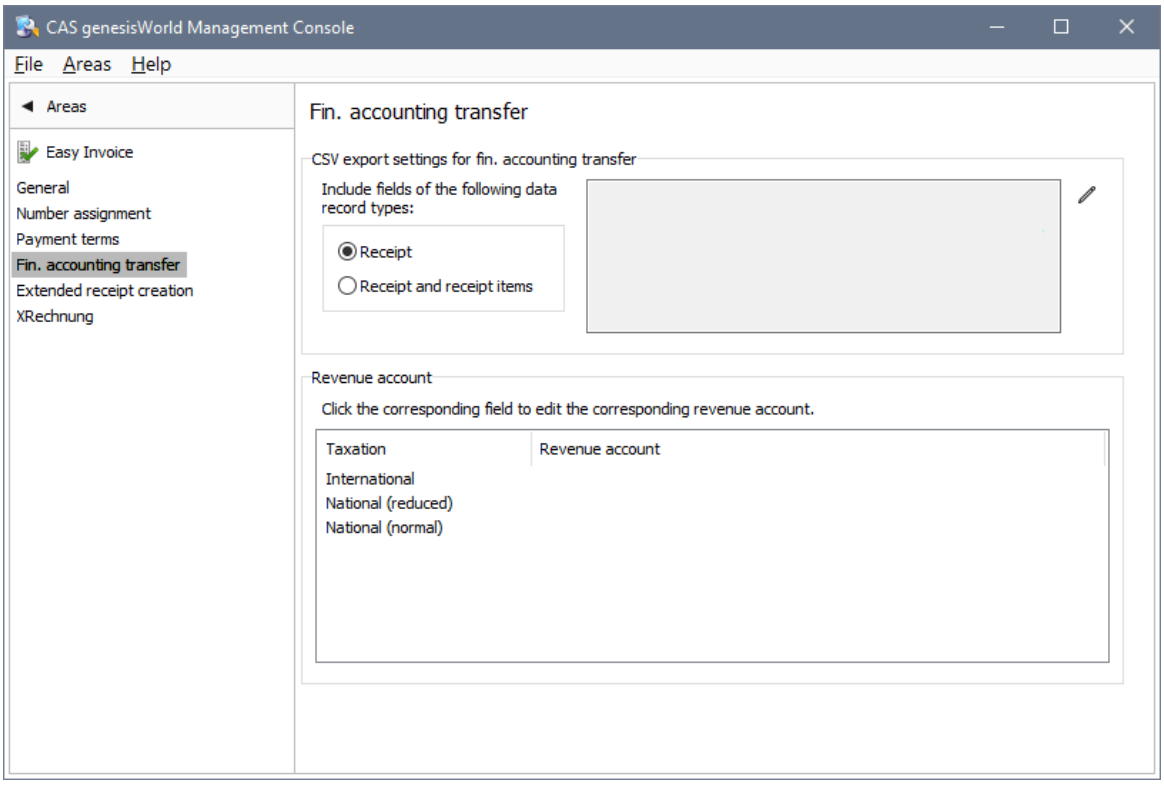
Field	Description
Payment terms	In the **Payment terms** field, you enter the name of the payment terms. ⋯ Click this button to open a window in which you can enter the text in all installed languages.
Description	In the **Description** field, you can further describe the payment terms. The contents in the **Description** field are automatically adopted in the print document when using the included print templates. ⋯ Click this button to open a window in which you can enter the text in all installed languages.
Payment date (days)	Enter the payment date in days. You can only enter positive integers.
Payment method (Code)	Enter the code of the payment method for which the payment terms apply. This information is required if you want to create XRechnung electronic invoices. ⓘ If you need help entering the code, click the button next to the field. The following codes are supported: ■ Bank transfer: **30** ■ Direct debit: **31** ■ SEPA bank transfer: **58** ■ SEPA direct debit: **59**

In the **Payment terms (standard)** selection list, you can select the default value for new receipts. The payment terms are always used if the address of the receipt recipient does not include a payment terms setting.

10.3.4 Fin. accounting transfer

MANAGEMENT CONSOLE > EASY INVOICE > FIN. ACCOUNTING TRANSFER

In the **Fin. accounting transfer** area, you define the export settings for when transferring data to accounting.



In the **CSV export settings for fin. accounting transfer** block, you define which data record types are supposed to be taken into account during export. You can choose **Receipt** and **Receipt and receipt items**.

✎ Click the button to select the fields you want to export. If you have previously selected **Receipt**, you can only choose fields from the **Receipts** data record. If you have previously selected **Receipt and receipt items**, you can choose from the fields of the **Receipts**, **Receipt items**, **Products**, and **Product groups** data record types.

As soon as you have selected at least one field, the financial accounting transfer in the desktop client is activated. For users to be able to use the financial accounting transfer function in the desktop client, the respective users need at least the following rights:

- The **Read** right to the field that are supposed to be exported.
- The **Change** right to the **Fin. accounting transfer** field in the receipts data record type.
- The other right **Export**.

Automatically exported values

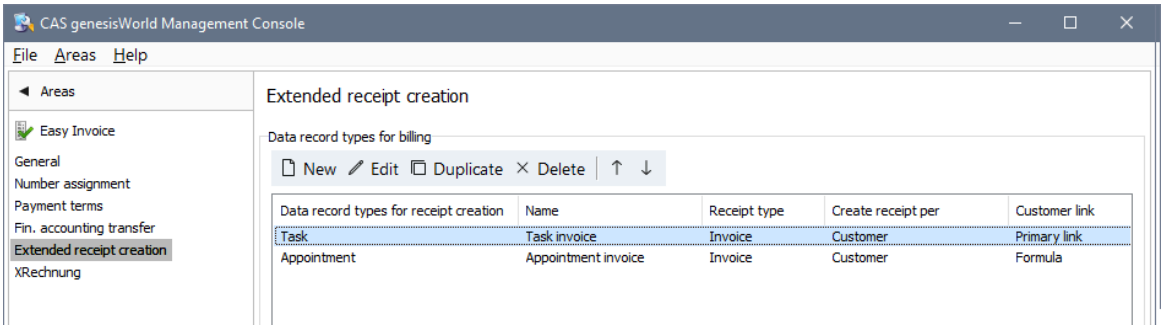
In addition to the selected fields, three more values are automatically exported. These values are not field values from the exported data record types.

Field	Description
Revenue account: fin. accounting	The revenue accounts are adopted from the table in the **Fin. accounting transfer** area. At this location in the Management Console, you can enter the corresponding revenue account for each tax rate. To do so, just click the respective row and adjust the account number.
Debit/Credit flag	The **Debit/Credit flag** is automatically entered according to the statistic factor. The following values are possible: ■ Statistic factor 1: **H** ■ Statistic factor -1: **S**
Due date (DATEV receipt field 2)	The due date of the receipt is issued in the TTMMJJ DATEV format.

10.3.5 Extended receipt creation

MANAGEMENT CONSOLE > EASY INVOICE > EXTENDED RECEIPT CREATION

In the **Extended receipt creation** area, you can create custom receipt templates and thus extend the default scope of delivery of Easy Invoice. For example, you can create custom billing templates for tasks or appointments.



In the CAS genesisWorld Desktop Client, such custom receipts are created via an option in the context menu.

Toolbar functions

The following functions are available in the toolbar:

	Function	Description
🗋	**New**	Create a new element.

	Function	Description
✎	**Edit**	Edit the selected element.
⧉	**Duplicate**	Duplicate the selected element. In the process, you adopt all settings of the selected element.
×	**Delete**	Delete the selected element. A deleted element cannot be restored.
↓ ↑	**Sort**	Move the selected element up or down by one position. Using these buttons, you can change the sorting of the displayed elements in the desktop client.

Receipt creation

MANAGEMENT CONSOLE > EASY INVOICE > EXTENDED RECEIPT CREATION

On the **Receipt creation** tab, you define the basic information for receipt creation.

Fields and settings

Field	Description
Receipt creation for	Select the data record type for which the receipt is supposed to be created.
Name	Enter the name of the new receipt template. The name is displayed in the context menu of the selected data record type. ⋯ Click this button to open a window in which you can enter the text in all installed languages.
Receipt type	Select the desired receipt type. You define the receipt types on the **General** tab.

Field	Description
Create receipt per	Choose how many receipts are supposed to be created. You can always choose from the **Customer** entry and the previously selected data record type for receipt creation. The selected option affects the field selection for formulas on the **Default value receipt** and **Set field values** tabs. It can also affect the selection of address links in the data record.

Customer link	Define the link type. Both primary links and 1:n links are possible.
	Alternatively, you can select the link via a formula which returns the ID of the linked address. Thus, you can automatically adopt the appropriate link.
	Tip
	If you have selected the **Address** data record type in the **Receipt creation for** field, you can select the **Record ID** field via the formula. In this case, the address for which the receipt was created is entered as the customer.
	If you want to make sure that the system always automatically enters the company address, you can use the following formula:
	`IF {address.is company}`
	`THEN {address.ID of data record}`
	`ELSE {address.ID of company data record}`
	The formula achieves that the company is entered when a receipt is created for a contact person. When creating a receipt for an individual contact, the corresponding individual contact is entered.
	f(x) You enter formulas using the Formula editor.
	You can find more information in the following chapter: "Formula editor", page 134.

Field	Description
Differing recipient	Select the link type using which a differing recipient is linked with the receipt. Alternatively, enter a formula to automatically complete the field. You enter formulas using the Formula editor. You can find more information in the following chapter: "Formula editor", page 134.
Primary link	Choose whether you want to adopt the customer address or the initial data record as a primary link. The **Use original data record** or **Adopt from original data record** options can only be selected under the following conditions: ■ **Use original data record**: the receipt is created for an address, a project, or a job and the customer value has not been selected in the **Create receipt per** field. ■ **Adopt from original data record**: the receipt is created for another data record type than address, receipt, or job and the customer value has not been selected in the **Create receipt per** field.
Date	Here, you define which date is entered when creating a receipt.
Bill in advance	Define whether you want to allow billing in advance without restrictions. If you want to restrict billing in advance, you can define a number of days for the limitation.
Print documents	Choose whether you want the receipts to be created with or without print documents.

Item creation

MANAGEMENT CONSOLE > EASY INVOICE > EXTENDED RECEIPT CREATION

On the **Item creation** tab, you can use formulas to define rules and preset values for product items.

With the **Aggregate identical items** option, all items of the same product are aggregated in the receipt. For example, if a receipt is created for multiple appointments that are

supposed to be billed, the appointments are considered an identical product and aggregated in one item.

Settings for item creation

You open the settings for item creation by either creating a new item creation or editing an existing item creation.

You enter formulas using the Formula editor.

You can find more information in the following chapter: "Formula editor", page 134.

Field	Description
Product	Enter a formula which issues one of the following fields: **Record ID** or **Product number**. If the product number is always the same, you can enter the product number as a string with quotation marks. Example: `"PR-010223"`
Create an item optionally	Enter the formula with which a new item is created when the conditions are met.
Default values	In the **Default values** area, you can select more fields and enter a formula for each selected field. The selected fields are automatically completed according to your settings when creating receipts.

Default value receipt

Management Console > Easy Invoice > Extended receipt creation

On the **Default value receipt** tab, you can define default values for the receipt using the Formula editor.

You enter formulas using the Formula editor.

You can find more information in the following chapter: "Formula editor", page 134.

In the following table, you can find information on default values for specific receipt fields.

Field	Description
Payment period (start) **Payment period (end)**	You can define any dates as default values. If you do not want to define default values for these fields, the system automatically enters the first date of the month as the start date and the last date of the month as the end date.
Language	The **Language** field can be completed using the available languages in CAS genesisWorld. If you do not define a value, the preferred language from the address is adopted. If the **Preferred language** field in the address data record is empty, the logon language of the user is used.
Currency **Price**	You can select a dependent currency value using a formula, for example, depending on the selected address. Multiple factors determine which **Price** is entered when creating a receipt. If a price has been predefined on the **Item creation** tab, the defined value is always adopted. If you have defined a default currency value without any pricing details, the price that has been entered for the predefined currency in the selected product is adopted. If neither the price for the predefine currency nor the price in the receipt item are available, the value 0 is entered in the **Price** field.
Exchange rate	If a predefined currency does not correspond with the base currency, you can also enter an exchange rate. If the currency corresponds with the base currency, any predefined exchange rates are not taken into account.

Set field values

MANAGEMENT CONSOLE > EASY INVOICE > EXTENDED RECEIPT CREATION

On the **Set field values** tab, you can change the fields of billed data records. Billed data records are those defined in the **Receipt creation for** field on the **Receipt creation** tab.

You enter formulas using the Formula editor.

You can find more information in the following chapter: "Formula editor", page 134.

10.3.6 XRechnung

MANAGEMENT CONSOLE > EASY INVOICE > XRECHNUNG

In the **XRechnung** area, you enter the codes for the quantity units. The codes are required to generate XRechnung electronic invoices.

The quantity unit list is empty by default. For you to be able to enter the units used in your company, you first need to define input help options for the **Quantity units** field of the **Product** data record type. Then, you can edit the list in the **XRechnung** area.

The code H87 is preset as the **Default quantity unit**, representing "Piece". You can change this default code.

ⓘ If you need help entering the code, click the button next to the field.

Creating quantity units

You create quantity units by creating input help options.

Procedure

1. Open the **Database** area of the Management Console.
2. Select the **Products** data record type.
3. Select the **Quantity unit** field.
4. Click **Input help** in the toolbar.
5. Define input help options for all desired quantity units.

Defining codes for XRechnung invoices

After you have created the quantity units, you can assign them codes for XRechnung electronic invoices.

Procedure

1. Open the **Easy Invoice** area and select **XRechnung**.
2. Click the **Code** column in the row of a quantity unit to enter the appropriate code.

   ⓘ If you need help entering the code, click the button next to the field.

More XRechnung settings

To be able to create an XRechnung electronic invoice, you need to define the following further settings in the **Easy Invoice** area of the Management Console:

- You need to create at least one receipt type for XRechnung electronic invoices on the **General** tab. Receipt types with the statistic factor 1 (invoice) and -1 (cancellation) are supported.
- You need to define the tax rates used for the VAT categories on the **General** tab, for example, **S** for 7 % or 19% or **AE** for 0 %. You can find more information in the following chapter: "Taxation".
- You need to enter the codes for the used payment methods on the **Payment terms** tab, for example **30** for bank transfers. You can find more information in the following chapter: "Payment terms".

> **Tip**
>
> If you cannot create an XRechnung electronic invoice, check the log in the **%temp%\genesisWorld\Error.log** file.

Creating the XRechnung receipt type

MANAGEMENT CONSOLE > EASY INVOICE > GENERAL

You need to change some settings for an XRechnung receipt type to work. In the step-by-step instructions set out below, you will find an example of how to create an XRechnung.

In the step-by-step instructions only the required fields are mentioned. All other details are optional. You can look up the meaning of the individual fields on the following page: "Overview of receipts types".

Procedure

1. Open the **Easy Invoice** area in the Management Console.
2. Click **New** in the **Overview of receipt types** block.
3. Enter the name of the **Receipt type**, for example, **XRechnung**.
4. In the **Statistic factor** field select the value **1**.
5. Select the desired **Print template**. The **Print template** field has to be completed so that the receipt type can be saved.
6. In the **Receipt type for cancelation** field, you can select a suitable receipt type. For an XRechnung you define the XStorno receipt type here. The receipt type for XStorno has to have already been created so that you can select it.
7. Activate the **Receipt type is XRechnung** option.
8. Enter the value **380** in the **Code for invoice type** field.

9. From the **Address for sellers** field select a suitable data record from CAS genesis-World.
10. Click **OK** to save your entries.

Creating an XStorno receipt type

MANAGEMENT CONSOLE > EASY INVOICE > GENERAL

Besides invoices, you can also create cancelations via the XRechnung standard. With the help of the XStorno receipt type you can execute cancelations for XRechnungen. A number of steps are necessary when creating an XStorno receipt type.

In the All other details are optional. You can look up the meaning of the individual fields on the following page: "Overview of receipts types".

Step 1: Create an XStorno receipt type

1. Open the **Easy Invoice** area in the Management Console.
2. In the **Overview of receipt types** block click **New**.
3. Enter a name for the **Receipt type**, for example, **XStorno**.
4. In the **Statistic factor** field select the value **-1**.
5. Save your new receipt type by clicking **OK**.

To select the XStorno receipt type option **Receipt type is XRechnung** you first have to define that the XStorno receipt type is going to be used for cancelations.

Step 2: Defining the receipt type as a cancelation receipt type for the XRechnung

1. Open the XRechnung receipt type for which the new XStorno receipt type will be used.
2. In the **Receipt type for cancelations** field enter the new XStorno receipt type.
3. Click **OK** to save your entries.

After you have changed the XRechnung receipt type you can add any changes you require to the XStorno receipt type settings.

Step 3: Activating the XRechnung for cancelations

1. Open your XStorno receipt type.

2. Activate the **Receipt type is XRechnung** option.
3. Enter the value **384** in the **Code for invoice type** field.
4. From the **Address for sellers** field select a suitable data record from CAS genesis-World. At this juncture, the same data record has to be selected as with the associated XRechnung.
5. Click **OK** to save your entries.

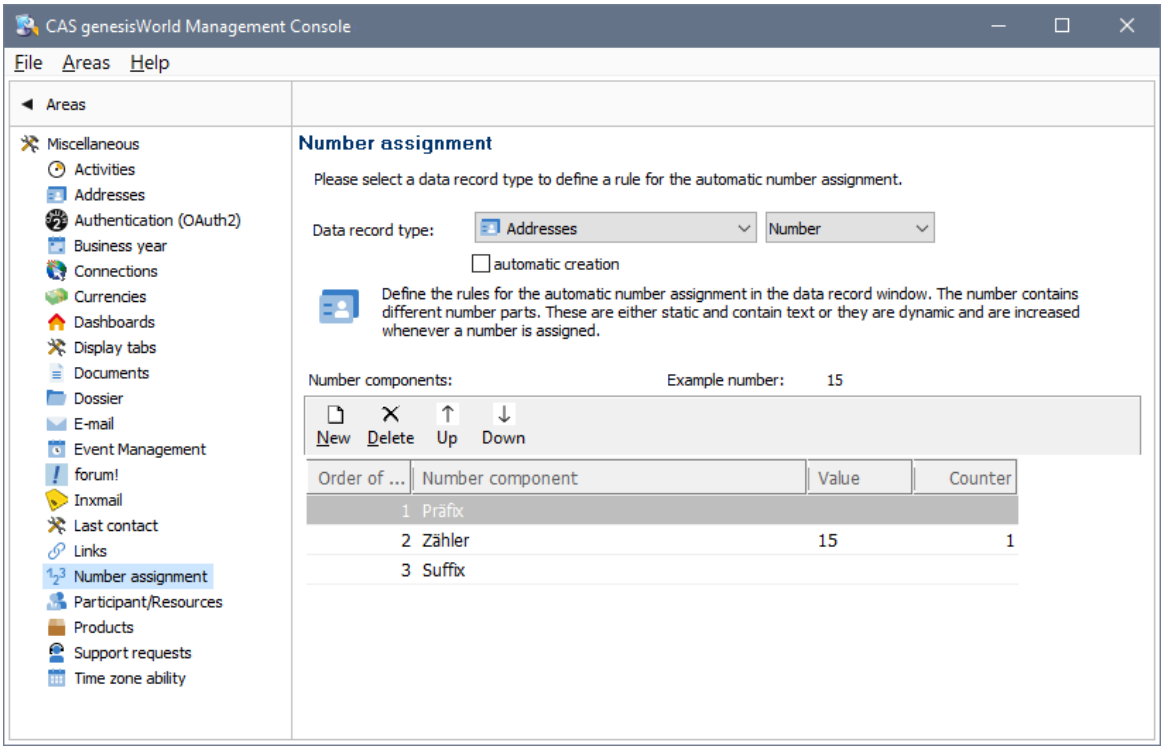
10.4 More settings in the Management Console

For Easy Invoice to work seamlessly, we recommend defining the following further settings in the Managment Console.

10.4.1 Customer IDs for addresses

MANAGEMENT CONSOLE > MISCELLANEOUS > NUMBER ASSIGNMENT

You need to define customer IDs for customers for users to be able to create receipts relevant for billing. For this purpose, you define the customer ID settings in the **Miscellaneous** area of the Management Console.



Procedure

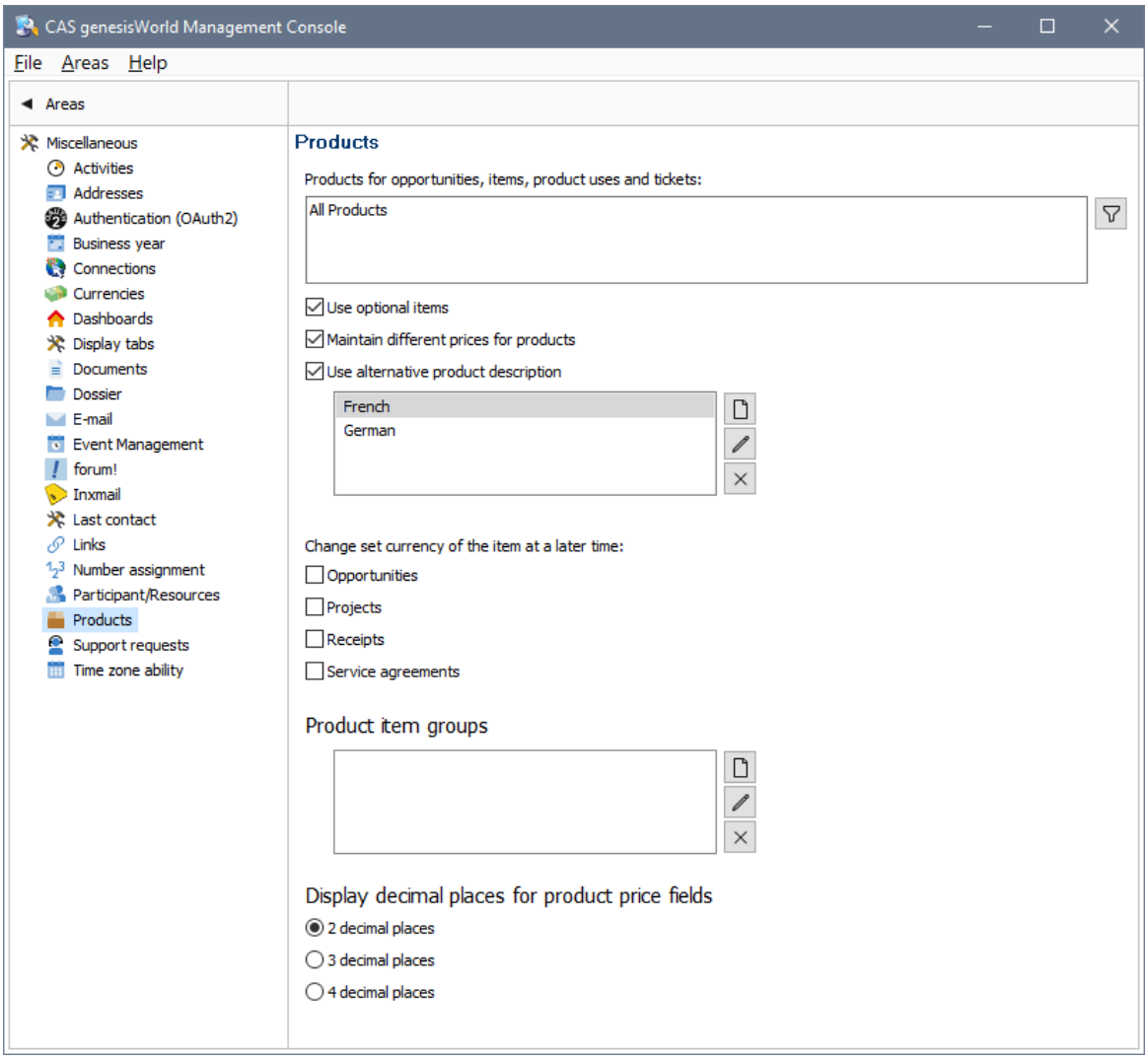
1. Open the **Miscellaneous** area in the Management Console.
2. Open the **Number assignment** tab.
3. Select the **Addresses** data record type and then the **Customer ID** entry in the next selection field.
4. Configure the customer ID as desired.

> **Note**
>
> The customer ID is displayed on the **Billing** tab of the address data record. The **Number** field on the **General** tab is not identical to the customer ID.

10.4.2 Product settings

MANAGEMENT CONSOLE > MISCELLANEOUS > PRODUCTS

The settings for products are available in the Easy invoice, Project and Helpdesk modules. In the table below, you will see the indicated effects for each of the modules.


CAS genesisWorld Management Console
File Areas Help
Areas
Miscellaneous
Activities
Addresses
Authentication (OAuth2)
Business year
Connections
Currencies
Dashboards
Display tabs
Documents
Dossier
E-mail
Event Management
forum!
Inxmail
Last contact
Links
Number assignment
Participant/Resources
Products
Support requests
Time zone ability
Products
Products for opportunities, items, product uses and tickets:
All Products
Use optional items
Maintain different prices for products
Use alternative product description
French
German
Change set currency of the item at a later time:
Opportunities
Projects
Receipts
Service agreements
Product item groups
Display decimal places for product price fields
2 decimal places
3 decimal places
4 decimal places

Setting	Description
Products for opportunities, items, product uses and tickets	With this filter setting, you can define which products can be added to data records as items. If a product does not comply with the filter setting, the product data record is not displayed or available when creating an item. In the default settings all the products are taken into account, for which the **Active** option has been selected. This setting can impact the following data record types: - Product items in opportunities - Module Easy Invoice Receipt items for receipts - Module Project Items for projects - Module Helpdesk Product usage and tickets
Use optional items	This setting can impact the following data record types: - Opportunities - Module Easy Invoice Quote receipts In the following cases, you can transfer optional items as invoice or order items: - Module Easy Invoice When creating an invoice for an opportunity. Users can select which of the optional items they wish to transfer. - Module Easy Invoice When creating an invoice for a quote receipt. In the process, all the items are always transferred automatically. Unwanted items can be deleted from the invoice at the end, before the invoice is saved. - Module Project When creating a project for an opportunity. Users can select which of the optional items they wish to transfer.

Setting	Description
Maintain different prices for products	If you activate this option, users can enter purchase and selling prices for products in different currencies. This setting can impact the following data record types: - Product items in opportunities - Module Easy Invoice Receipt items for receipts - Module Project Items for projects - Module Helpdesk Product uses for service agreements. In the default setting, the **Enter different prices for product** option is deactivated. Users can then store just one sales and purchase price for each product in one currency.
Use alternative product description	If you activate this option, users can enter alternative product descriptions. In the block below the **User alternative product description** option, you define the names of the respective product descriptions. This setting can impact the following data record types: - Product items in opportunities - Module Easy Invoice Receipt items for receipts - Module Project Items for projects
Change set currency of the item at a later time	Here, you can define whether users can retroactively change the item currency in specific data records. Users can change the currency, when you activate the option for one or more data record types. The settings for this can be found in the **Tools** menu of the data record in the desktop client, this refers to the data record into which you wish to enter the items. This setting can impact the following data record types: - Opportunities - Module Easy Invoice Receipts - Module Project Projects - Module Helpdesk Service agreements

Setting	Description
Product item groups	Here, you can define an input help for the respective product item groups in all client languages. The input help options are available when creating product item groups or opportunities or for receipts. This setting can impact the following data record types: ■ Opportunities ■ Module Easy Invoice Receipts
Display decimal places of product price fields	Here you can define the number of decimal places for product prices for the following data record types: ■ Products ■ Product items in opportunities ■ Module Easy Invoice Receipt items for receipts ■ Module Project Items for projects ■ Module Helpdesk Maintenance prices for product uses and service agreements

10.4.3 Project settings

Management Console > Project

Module Project

If you use the **Project** module, you can define settings for price and discount lists.

You can find the settings for price and discount lists in the **Project** area of the Management Console. You can find both the **Price lists** and **Discount lists** tabs on the **General** tab.

Users with the corresponding rights can define individual price and discount lists for each address in the CAS genesisWorld Desktop Client.

10.5 Fields and links

By activating Easy Invoice, you extend the database model of CAS genesisWorld.

- The **Receipts** data record type is added if the app has not already been available by using another CAS genesisWorld module.
- New fields are added to the **Addresses** data record type and displayed on the **Billing** tab of the data record window.

Some of the newly added fields have an input help which you can customize in the Management Console. Additionally, some fields are mandatory. You cannot change which fields are defined as mandatory.

10.5.1 Receipts data record type

You need to keep the following special characteristics in mind when working with the **Receipts** data record type.

Name	Description
Receipt type	The **Receipt type** field has an input help you can manage in the **Easy Invoice** area of the Management Console.
Payment terms	The **Payment terms** field has an input help you can manage in the **Easy Invoice** area of the Management Console.
Fin. accounting transfer on	The **Fin. accounting transfer on** field on the **Details** tab is only displayed in receipts with a statistic factor of 1 or -1.
Taxation	The **Taxation** field has an input help you can manage in the **Easy Invoice** area of the Management Console.

Renamed fields

You can also access the **Receipts** app when working with other CAS genesisWorld modules. If you were using such a module and the Receipts app before activating Easy Invoice, the following information is relevant for you.

Name	Description
Customer	The **Customer** link type between addresses and receipts was called **Recipient** before Easy Invoice was activated in the database.
Statistic factor	After you activate Easy Invoice, the **Statistic factor** field is displayed on the **Details** tab. The field was previously located on the **General** tab.

Mandatory fields

Depending on the statistic factor of the receipt type, different fields of the receipt are always mandatory fields.

You can find more information in the following table.

SF	Receipt types	Mandatory fields
0	**Quote** **Order**	■ Type ■ Date ■ Customer The address does not have contain a Customer ID. ■ Items At least one receipt item is required for saving.
1	**Invoice**	■ Type ■ Date ■ Customer The address must contain a Customer ID. You enter the Customer ID on the **Billing** tab of the address data record. ■ Items At least one receipt item is required for saving. ■ Payment terms ■ Payment terms text ■ Value date ■ Due date ■ Due days ■ Taxation ■ Tax rate ■ Payment period (start) ■ Payment period (end)

SF	Receipt types	Mandatory fields
-1	**Credit note** **Cancellation**	■ Type ■ Date ■ Customer The address must contain a Customer ID. You enter the Customer ID on the **Billing** tab of the address data record. ■ Items At least one receipt item is required for saving. ■ Value date ■ Due date ■ Taxation ■ Tax rate ■ Payment period (start) ■ Payment period (end)

10.5.2 Addresses data record type

The following fields are displayed on the **Billing** tab of the **Addresses** data record type.

Name	Description
Payment terms	The **Payment terms** field has an input help you can manage in the **Easy Invoice** area of the Management Console.
Taxation	The **Taxation** field has an input help you can manage in the **Easy Invoice** area of the Management Console.
Prices and discounts	Module Project Module Sales pro If you use Project or Sales pro, the **Prices and discounts** block is also displayed.

10.6 XRechnung field mapping

On the following pages, you can find information about which fields from CAS genesis-World are adopted in an XRechnung electronic invoice.

> **Tip**
>
> Optional fields can be completed with differing information if necessary.

10.6.1 Receipts

Payment period (start)

Field name data record	Payment period (start)
Field name database	SERVICEPERIODSTART
CIUS name	Invoicing period start date
XML tag/attribute	`<cac:InvoicePeriod>` `  <cbc:StartDate>`
Further information	Contains the date on which the invoicing period starts.
Is mandatory value	No

Responsible for receipt

The **Responsible for receipt** field is a link field that can include different contents.

Field name data record	Responsible for receipt
Field name database	BSVOUCHER.PERSONINCHARGEOFVOUCHER
Yes	Link to a CAS genesisWorld user.
CIUS name	Seller contact

XML tag/attribute	`<cac:AccountingSupplierParty>`
	`  <cac:Party>`
	`  <cac:Contact>`

Further information	Contains a group of information elements that contain the contact information of the seller. The information is adopted from the address that is linked with the user entered as responsible for the receipt.

Is mandatory value	Yes

Field name data record	Responsible for receipt
Field name database	BSVOUCHER.PERSONINCHARGEOFVOUCHER
Link	Link to a CAS genesisWorld user. Field: ADDRESS.CHRISTIANNAME + ADDRESS.NAME
CIUS name	Seller contact point

XML tag/attribute	`<cac:AccountingSupplierParty>`
	`<cac:Party>`
	`<cac:Contact>`
	`<cbc:Name>`

Further information	Contains information on the contact person or contact point, for example, the name of a person, or department, or an office.
Is mandatory value	Yes

Field name data record	Responsible for receipt
Field name database	BSVOUCHER.PERSONINCHARGEOFVOUCHER
Link	Link to a CAS genesisWorld user. Field: ADDRESS.PHONEFIELDSTR4
CIUS name	Seller contact telephone number

XML tag/attribute	`<cac:AccountingSupplierParty>`
	`<cac:Party>`
	`<cac:Contact>`
	`<cbc:Telephone>`

Further information	Contains the phone number of the contact person or the contact point.

Is mandatory value	Yes

Field name data record	Responsible for receipt
Field name database	BSVOUCHER.PERSONINCHARGEOFVOUCHER
Link	Link to a CAS genesisWorld user. Field: ADDRESS.MAILFIELDSTR1
CIUS name	Seller contact email address

XML tag/attribute	`<cac:AccountingSupplierParty>`
	`<cac:Party>`
	`<cac:Contact>`
	`<cbc:ElectronicMail>`

Further information	Contains an e-mail address of the contact person or the contact point.
Is mandatory value	Yes

Gross amount

The Gross amount field can contain different values.

Field name data record	Gross amount
Field name database	TOTALAMOUNT
CIUS name	Invoice total amount with VAT

XML tag/attribute	`<cac:LegalMonetaryTotal>`
	`<cbc:TaxInclusiveAmount`
	`currencyID="BSVOUCHER.CURRENCYNAT">`

Further information	Contains the total amount of the invoice, including VAT.
Is mandatory value	Yes

Field name data record	Gross amount

Field name database	TOTALAMOUNT
CIUS name	Amount due for payment

XML tag/attribute	`<cac:LegalMonetaryTotal>`
	`<cbc:PayableAmount`
	`currencyID="BSVOUCHER.CURRENCYNAT">`

Further information	Contains the remaining amount due if the invoice has been partially paid. The value is the total invoice sum including turnover tax but minus the sum of paid values. If the invoice has already been paid in full, this value equals zero. The value is negative if the paid sum exceeds the total invoice sum including turnover tax.
Is mandatory value	Yes

Date

Field name data record	Date
Field name database	VOUCHERDATE
CIUS name	Invoice issue date
XML tag/attribute	`<cbc:IssueDate>`
Further information	The date on which the invoice was issued.
Is mandatory value	Yes

Payment period (end)

Field name data record	Payment period (end)
Field name database	SERVICEPERIODEND
CIUS name	Invoicing period end date

XML tag/attribute	`<cac:InvoicePeriod>` `<cbc:EndDate>`
Further information	Contains the date on which the invoicing period ends.
Is mandatory value	Yes

Additional invoice text

Field name data record	Additional invoice text
Field name database	ADDITIONALBILLTEXT
CIUS name	Invoice note
XML tag/attribute	`<cbc:Note>`
Further information	Contains a text note with unstructured information that is relevant to the entire invoice. If required, you can enter information on the retention obligation according to § 14 paragraph 4 of the German Value Added Tax Act. If you have already invoiced the invoice, you can enter, for example, the reason for correction here.
Is mandatory value	Conditional mandatory field If the taxation type requires a hint, for example, concerning the reverse-charge procedure, this field contains a mandatory value.

Due date

Field name data record	Due date
Field name database	DUEDATE
CIUS name	Payment due date
XML tag/attribute	`<cbc:DueDate>`
Further information	Contains the due date for the invoice amount.

Is mandatory value	No

Customer

The **Customer** field is a link field.

Field name data record	Customer
Field name database	-
Link	Receipt > Customer
CIUS name	Buyer
XML tag/attribute	`<cac:AccountingCustomerParty>` `<cac:Party>`
Further information	Contains the address of the customer that has been linked with the receipt.
Is mandatory value	Yes

Field name data record	Customer
Field name database	ADDRESS.COMPNAME + ADDRESS.COMPNAME2
Link	Receipt > Customer
CIUS name	Buyer name

XML tag/attribute	`<cac:AccountingCustomerParty>`
	`<cac:Party>`
	`<cac:PartyLegalEntity>`
	`<cbc:RegistrationName>`

Further information	Contain the full name of the buyer.
Is mandatory value	Yes

Field name data record	Customer

Field name database	ADDRESS.STREET1 or ADDRESS.POBOX1
Link	Receipt > Customer
CIUS name	Buyer address line 1

XML tag/attribute	`<cac:AccountingCustomerParty>`
	`<cac:Party>`
	`<cac:PostalAddress>`
	`<cac:AddressLine>`
	`<cbc:Line>`

Further information	Contains the main row of a postal address, for example, the street and number, or the text “PO Box” followed by the PO box number.
Is mandatory value	No

Field name data record	Customer
Field name database	ADDRESS.GWMAILFIELDSTREASYINVOICE
Link	Receipt > Customer
CIUS name	Buyer electronic address

XML tag/attribute	`<cac:AccountingCustomerParty>`
	`<cac:Party>`
	`<cac:Contact>`
	`<cbc:ElectronicMail>`

Further information	Contains the buyer's electronic address to which you want to send invoices.
Is mandatory value	No

Field name data record	Customer
Field name database	ADDRESS.TOWN1
Link	Receipt > Customer

CIUS name	Buyer city

XML tag/attribute	`<cac:AccountingCustomerParty>`
	`<cac:Party>`
	`<cac:PostalAddress>`
	`<cbc:CityName>`

Further information	Contains the name of the city or town in which the buyer's postal address is located.
Is mandatory value	Yes

Field name data record	Customer
Field name database	ADDRESS.ZIP1 or ADDRESS.POBOXZIP1
Link	Receipt > Customer
CIUS name	Buyer post code

XML tag/attribute	`<cac:AccountingCustomerParty>`
	`<cac:Party>`
	`<cac:PostalAddress>`
	`<cbc:PostalZone>`

Further information	Contains the postal code.
Is mandatory value	Yes

Field name data record	Customer
Field name database	ADDRESS.COUNTRY1
Link	Receipt > Customer
CIUS name	Buyer country code

XML tag/attribute	`<cac:AccountingCustomerParty>`
	`<cac:Party>`
	`<cac:PostalAddress>`
	`<cac:Country>`
	`<cbc:IdentificationCode>`

Further information	Contains a code which identifies the country.
Is mandatory value	Yes

Field name data record	Customer
Field name database	ADDRESS.GWIBAN
Link	Receipt > Customer
CIUS name	Debited account identifier

XML tag/attribute	`<cac:PaymentMeans>`
	`<cac:PaymentMandate>`
	`<cac:PayerFinancialAccount>`
	`<cbc:ID>`

Further information	Contains an account identifier for the account that is supposed to be charged: IBAN for payments within the SEPA network, account numbers or IBAN for foreign payments.
Is mandatory value	Conditionally mandatory value The field always becomes mandatory if the payment means type code is 31 or 59. This is the case for payments via direct debit/debit transfer.

Customer ID

Field name data record	Customer ID
Field name database	DEBITORNUMBER
CIUS name	Buyer identifier

XML tag/attribute	`<cac:AccountingCustomerParty>`
	`<cac:Party>`
	`<cac:PartyIdentification>`
	`<cbc:ID>`

Further information	Contains an ID for the buyer, for example, the accounts receivable number for accounting or the customer ID for order management. The ID is usually assigned by the seller.
Is mandatory value	No

Route ID

Field name data record	Route ID
Field name database	ADDRESS.GWLEITWEGID
Link	Receipt > Customer or receipt > Differing recipient (if available)
CIUS name	Buyer reference
XML tag/attribute	`<cbc:BuyerReference>`
Further information	Contains an identifier assigned and used for internal management purposes by the buyer.
Is mandatory value	Yes

Net amount

The **Net amount** field can contain different values.

Field name data record	Net amount
Field name database	TOTALNETTOAMOUNT
CIUS name	VAT category taxable amount

XML tag/attribute	`<cac:TaxTotal>`
	`<cac:TaxSubtotal>`
	`<cbc:TaxableAmount`
	`currencyID="BSVOUCHER.CURRENCYNAT">`

Further information	Contains the sum of all taxable amounts for which a specific VAT class code and a specific VAT tax rate apply.
Is mandatory value	Yes

Field name data record	Net amount
Field name database	TOTALNETTOAMOUNT
CIUS name	Sum of Invoice line net amount

XML tag/attribute	`<cac:LegalMonetaryTotal>`
	`<cbc:LineExtensionAmount`
	`currencyID="BSVOUCHER.CURRENCYNAT">`

Further information	Contains the sum of the net amounts of all invoice items.
Is mandatory value	Yes

Field name data record	Net amount
Field name database	TOTALNETTOAMOUNT
CIUS name	Invoice total amount without VAT

XML tag/attribute	`<cac:LegalMonetaryTotal>`
	`<cbc:TaxExclusiveAmount`
	`currencyID="BSVOUCHER.CURRENCYNAT">`

Further information	Contains the total amount of the invoice without VAT.
Is mandatory value	Yes

Number

Field name data record	Number
Field name database	BVRNumber
CIUS name	Invoice Number
XML tag/attribute	`<cbc:ID>`
Further information	Contains a unique invoice ID which identifies the invoice in the seller's system.
Is mandatory value	Yes

Invoice text

Field name data record	Invoice text
Field name database	ADDITIONALTAXTEXT
CIUS name	VAT exemption reason

XML tag/attribute	`<cac:TaxTotal>`
	`  <cac:TaxCategory>`
	`  <cbc:TaxExemptionReason>`

Further information	Contains a text explaining the reason for excluding the amount from VAT. If the "AE" VAT class applies to the invoice, you need to enter the corresponding standard text in the language selected for the invoice or the following text: "Reverse charge".
Is mandatory value	Conditionally mandatory value Mandatory if the VAT class code is one of the following: "E", "AE", or "O".

Reference

Field name data record	Reference

Field name database	REFERENCENUMBER
CIUS name	Purchase order reference
XML tag/attribute	`<cac:OrderReference>` `  <cbc:ID>`
Further information	This is transferred when the **Reference number** field is completed in the receipt.
Is mandatory value	No

Tax amount

Field name data record	Tax amount
Field name database	TotalTaxAmount
CIUS name	VAT category tax amount

XML tag/attribute	`<cac:TaxTotal>`
	`  <cbc:TaxAmount`
	`currencyID="BSVOUCHER.CURRENCYNAT">`

Further information	Contains the total amount to be paid for the appropriate VAT class.
Is mandatory value	Yes

Value added tax ID

Field name data record	Value added tax ID
Field name database	TURNOVERTAXID
CIUS name	Buyer VAT identifier

XML tag/attribute	`<cac:AccountingCustomerParty>`
	`<cac:Party>`
	`<cac:PartyTaxScheme>`
	`<cbc:CompanyID>`

Further information	Contains the VAT ID of the buyer.
Is mandatory value	Conditionally mandatory value This value is mandatory of the "AE" VAT class has been selected.

Value date

Field name data record	Value date
Field name database	VALUTADATE
CIUS name	Value added tax point date
XML tag/attribute	`<cbc:TaxPointDate>`
Further information	Contains the date as of which the VAT becomes relevant for billing for the seller and the buyer.
Is mandatory value	No

Currency

Field name data record	Currency
Field name database	CurrencyNat
CIUS name	Invoice currency code
XML tag/attribute	`<cbc:DocumentCurrencyCode>`
Further information	Contains the currency in which the invoice values are provided. The total VAT value is excluded as it is to be provided in the payroll currency.

Is mandatory value	No

Text for payment condition

Field name data record	Text for payment condition
Field name database	PAYMENTCONDITIONSTEXT
CIUS name	Payment terms
XML tag/attribute	`<cac:PaymentTerms>` `  <cbc:Note>`
Further information	Contains a text description of the payment terms that apply for the due payment amount.
Is mandatory value	No

Specification field

This field is mandatory in the XML file but does not correspond with a field in receipt data records.

Field name data record	-
Field name database	-
CIUS name	Specification identifier
XML tag/attribute	`<cbc:CustomizationID>`
Further information	An identifier for the specification which contains the entire set of rules for the semantic contents, the cardinalities, and the business rules that correspond with the data included in the invoice. Note: urn:cen.eu:en16931:2017#compliant#urn:xoev-de:kosit:standard:xrechnung_1.2
Is mandatory value	Yes

Cancelation receipt for

The **Cancelation receipt for** field is a link field.

Field name data record	Number
Field name database	BSVOUCHER.BVRNUMBER
Link	Receipt > Original receipt and system field CANCELLEDVOUCHERGUID
CIUS name	Preceding Invoice number

XML tag/attribute	`<cac:BillingReference>`
	`  <cac:InvoiceDocumentReference>`
	`  <cbc:ID>`

Further information	Contains the receipt number of the canceled receipt.
Is mandatory value	No

Non-transferable fields

The fields in the following table are not transferred to the XML.

Field name data record	Field name database	Further information
Type	VOUCHERTYPE	The code for the invoice type is adopted instead. You can find more information here: page 117.
Taxation	TAXING	Detailed information is adopted from the taxation settings in the Management Console. You can find more information here: page 117.
Paid on	PAYDAY	
Contribution margin	MARGINALRETURN	

Field name data record	Field name database	Further information
Contribution margin relative	DBRELATIV	
Recipient	CONSIGNEE	
Due days	DUEDAYS	
Fin. accounting transfer on	ACCOUNTINGHANDOVERDATE	
Creditor number	CREDITORNUMBER	
is Sales receipt	IsSales	
Category	Category	
Notes	Notes2	
Discount relative	RABATTRELATIV	
Discount	TotalDiscount	
Reference	REFERENCENUMBER	
Reference mark	REFERENCEMARK	
Tags	Notes	
Language	BILLLANGUAGE	
Statistic factor	StatisticFactor	
Status	Status	
Tax number	TAXNUMBER	
Tax rate	TAXRATE	
Subject	Keyword	
Partial payment	INSTALLMENT	

Field name data record	Field name database	Further information
Person responsible (comm.)	REPRESENTATIVE	
Exchange rate	EXCHANGERATE	
Payment terms	PAYMENTTERMS	
Print additional elements	PRINTADDITIONALELEMENTS	

10.6.2 Receipt items

Quoted price

Field name data record	Quoted price
Field name database	BSVOUCHERPOS.ADJUSTEDPRICE
CIUS name	Item net price

XML tag/attribute	`<cac:InvoiceLine>`
	`<cac:Price>`
	`<cbc:PriceAmount currencyID="BSVOUCHER.CURRENCYNAT">`

Further information	Contains the price of an item without VAT after the discount has been applied and subtracted for the item.
Is mandatory value	Yes

Payment period (start) (receipt)

Field name data record	Payment period (start)
Field name database	BSVOUCHER.SERVICEPERIODSTART
CIUS name	Invoice line period start date

XML tag/attribute	`<cac:InvoiceLine>`
	`<cac:InvoicePeriod>`
	`<cbc:StartDate>`

Further information	Contains the date on which the payment period of the respective invoice item starts.
Is mandatory value	No

Description

Field name data record	Description
Field name database	BSVOUCHERPOS.PRODUCTDESCRIPTION
CIUS name	Item description

XML tag/attribute	`<cac:InvoiceLine>`
	`<cac:Item>`
	`<cbc:Description>`

Further information	Contains a description of the item.
Is mandatory value	No

Payment period (end) (receipt)

Field name data record	Payment period (end)
Field name database	BSVOUCHER.SERVICEPERIODEND
CIUS name	Invoice line period end date

XML tag/attribute	`<cac:InvoiceLine>`
	`<cac:InvoicePeriod>`
	`<cbc:EndDate>`

Further information	Contains the date on which the payment period of the respective invoice item ends.

Is mandatory value	No

Quantity

Field name data record	Quantity
Field name database	BSVOUCHERPOS.AMOUNT
CIUS name	Invoiced quantity

XML tag/attribute	`<cac:InvoiceLine>`
	`  <cbc:InvoicedQuantity`
	`unitCode="UNITCODE">`

Further information	Contains the quantity of the invoiced item in the respective row.
Is mandatory value	Yes

Unit

Field name data record	Unit
Field name database	BSVOUCHERPOS.QUANTITYUNIT
CIUS name	Invoiced quantity unit of measure code

XML tag/attribute	`<cac:InvoiceLine>`
	`  <cbc:InvoicedQuantity`
	`unitCode="UNITCODE">`

Further information	Contains the measuring unit that applies to the invoiced quantity. The code for the measuring unit is managed in the Management Console.
Is mandatory value	No

Notes

Field name data record	Notes
Field name database	BSVOUCHERPOS.NOTES2
CIUS name	Invoice line note
XML tag/attribute	`<cac:InvoiceLine>` `  <cbc:Note>`
Further information	Contains a text note with unstructured information that is relevant to the invoice item.
Is mandatory value	No

Position

Field name data record	Position
Field name database	BSVOUCHERPOS.VOUCHERPOS
CIUS name	Invoice line identifier
XML tag/attribute	`<cac:InvoiceLine>` `  <cbc:ID>`
Further information	Contains the unique name of the respective invoice item.
Is mandatory value	Yes

Price

Field name data record	Price
Field name database	BSVOUCHERPOS.SINGLENETTOPRICE
CIUS name	Item gross price

XML tag/attribute	`<cac:InvoiceLine>`
	`<cac:Price>`
	`<cac:AllowanceCharge>`
	`<cbc:BaseAmount`
	`currencyID="BSVOUCHER.CURRENCYNAT">`

Further information	Contains the item price without VAT before subtracting the item discount.
Is mandatory value	No

Price - Quoted price

Field name data record	Price - Quoted price
Field name database	BSVOUCHERPOS.SINGLENETTOPRICE - BSVOUCHERPOS.ADJUSTEDPRICE
CIUS name	Invoice line allowance amount

XML tag/attribute	`<cac:InvoiceLine>`
	`<cac:AllowanceCharge>`
	`<cbc:Amount`
	`currencyID="BSVOUCHER.CURRENCYNAT">`

Further information	Contains the discount amount without VAT.
Is mandatory value	Conditionally mandatory value Is only mandatory if the discount amount of the item is not empty.

Product name

Field name data record	Product name
Field name database	BSVOUCHERPOS.PRODUCTNAME
CIUS name	Item name

XML tag/attribute	`<cac:InvoiceLine>`
	`<cac:Item>`
	`<cbc:Name>`

Further information	Contains an item name.
Is mandatory value	Yes

Product number

Field name data record	Product number
Field name database	BSVOUCHERPOS.PRODUCTNUMBER
CIUS name	Invoice line object identifier

XML tag/attribute	`<cac:InvoiceLine>`
	`<cac:Item>`
	`<cac:SellersItemIdentification>`
	`<cbc:ID>`

Further information	Contains an identifier for an object defined by the seller to which the item refers, for example: meter number, phone number, license plate, insured person, subscription number, and so on.
Is mandatory value	No

Sum

Field name data record	Sum
Field name database	BSVOUCHERPOS.TOTALNETTOPRICE
CIUS name	Invoice line net amount

XML tag/attribute	`<cac:InvoiceLine>`
	`<cbc:LineExtensionAmount`
	`currencyID="BSVOUCHER.CURRENCYNAT">`

Further information	Contains the total of the invoice item. The value excludes VAT but includes all discounts and subtractions as well as any additional taxes that apply to the invoice item.
Is mandatory value	Yes

10.6.3 More information

Various settings defined in the Management Console are also transferred to the XML file. You define the settings for the following fields at the following locations:

Type	Setting
Receipt types	**Easy Invoice** area > **General**
Taxation	**Easy Invoice** area > **General**
Payment terms	**Easy Invoice** area > **Payment terms**
Unit	**Easy Invoice** area > **XRechnung**

Receipt types: Invoice type

Field name data record	-
Field name database	-
Link	-
CIUS name	Invoice type code
XML tag/attribute	`<cbc:InvoiceTypeCode>`
Further information	Contains a unique invoice ID which identifies the invoice in the seller's system.
Is mandatory value	Yes

Receipt types: Salesperson

Field name data record	-

Field name database	ADDRESS.COMPNAME + ADDRESS.COMPNAME2
Link	Address for seller
CIUS name	Seller name

XML tag/attribute	`<cac:AccountingSupplierParty>`
	`<cac:Party>`
	`<cac:PartyLegalEntity>`
	`<cbc:RegistrationName>`

Further information	Contains the complete name under which the seller is entered in the national registry of legal persons, as a taxable person, or under which they act as (a) person(s) in any other context, for example, in the name of a company.
Is mandatory value	Yes

Field name data record	-
Field name database	ADDRESS.STREET1 or ADDRESS.POBOX1
Link	Address for seller
CIUS name	Seller address line 1

XML tag/attribute	`<cac:AccountingSupplierParty>`
	`<cac:Party>`
	`<cac:PostalAddress>`
	`<cac:AddressLine>`
	`<cbc:Line>`

Further information	Contains the main row of a postal address, for example, the street and number, or the text “PO Box” followed by the PO box number.
Is mandatory value	No

Field name data record	-
Field name database	ADDRESS.TOWN1

Link	Address for seller
CIUS name	Seller city

XML tag/attribute	`<cac:AccountingSupplierParty>`
	`<cac:Party>`
	`<cac:PostalAddress>`
	`<cbc:CityName>`

Further information	Contains the name of the city or town in which the seller's postal address is located.
Is mandatory value	Yes

Field name data record	-
Field name database	ADDRESS.ZIP1 or ADDRESS.POBOXZIP1
Link	Address for seller
CIUS name	Seller post code

XML tag/attribute	`<cac:AccountingSupplierParty>`
	`<cac:Party>`
	`<cac:PostalAddress>`
	`<cbc:PostalZone>`

Further information	Contains the postal code of the seller's address.
Is mandatory value	Yes

Field name data record	-
Field name database	ADDRESS.COUNTRY1
Link	Address for seller
CIUS name	Seller country code

XML tag/attribute	`<cac:AccountingSupplierParty>`
	`<cac:Party>`
	`<cac:PostalAddress>`
	`<cac:Country>`
	`<cbc:IdentificationCode>`

Further information	Contains a code which identifies the country.
Is mandatory value	Yes

Field name data record	-
Field name database	ADDRESS.TURNOVERTAXID
Link	Address for seller
CIUS name	Seller VAT identifier

XML tag/attribute	`<cac:AccountingSupplierParty>`
	`<cac:Party>`
	`<cac:PartyTaxScheme>`
	`<cbc:CompanyID>`

Further information	Contains the VAT ID of the seller. If the seller has a VAT ID, you need to enter it here if you have not defined any information on the seller's tax representative.
Is mandatory value	Conditionally mandatory value The value is mandatory if the VAT class is not “O”.

Field name data record	-
Field name database	ADDRESS.TURNOVERTAXID
Link	Address for seller
CIUS name	Seller legal registration identifier

XML tag/attribute	`<cac:AccountingSupplierParty>`
	`<cac:Party>`
	`<cac:PartyLegalEntity>`
	`<cbc:CompanyID>`

Further information	Contains an identifier that has been issued by an official registrar and identifies the seller as a legal entity or person.
Is mandatory value	No

Field name data record	-
Field name database	ADDRESS.GWIBAN
Link	Address for payment recipient (if available) Alternatively: Address for seller
CIUS name	Payment account identifier

XML tag/attribute	`<cac:PaymentMeans>`
	`<cac:PayeeFinancialAccount>`
	`<cbc:ID>`

Further information	Contains an account identifier for the account that is supposed to receive payment: IBAN for payments within the SEPA network, account numbers or IBAN for foreign payments.
Is mandatory value	Conditionally mandatory value The field always becomes mandatory if the payment means type code is 30 or 58. This is the case for payments via bank transfer/debit transfer.

Field name data record	-
Field name database	ADDRESS.BANKACCOUNTHOLDER
Link	Address for payment recipient (if available) Alternatively: Address for seller

CIUS name	Payment account name

XML tag/attribute	`<cac:PaymentMeans>`
	`<cac:PayeeFinancialAccount>`
	`<cbc:Name>`

Further information	Contains the account name that is supposed to receive payment in a payment service provider's system.
Is mandatory value	Conditionally mandatory value The field always becomes mandatory if the payment means type code is 30 or 58.

Field name data record	-
Field name database	ADDRESS.GWBIC
Link	Address for payment recipient (if available) Alternatively: Address for seller
CIUS name	Payment service provider identifier

XML tag/attribute	`<cac:PaymentMeans>`
	`<cac:PayeeFinancialAccount>`
	`<cac:FinancialInstitutionBranch>`
	`<cbc:ID>`

Further information	Contains the ID of the account-holding bank.
Is mandatory value	Conditionally mandatory value The field always becomes mandatory if the payment means type code is 30 or 58 and the ADDRESS.GWBIC field is not empty.

Field name data record	-
Field name database	ADDRESS.GWMANDATEREFERENCENUMBER
Link	Address for payment recipient (if available) Alternatively: Address for seller

CIUS name	Mandate reference identifier

XML tag/attribute	`<cac:PaymentMeans>`
	`  <cac:PaymentMandate>`
	`  <cbc:ID>`

Further information	Contains a unique identifier that is assigned by the invoice recipient to reference the direct debit authorization. This identifier is the so-called mandate reference number.
Is mandatory value	Conditionally mandatory value The field always becomes mandatory if the payment means type code is 31 or 59.

Field name data record	-
Field name database	ADDRESS.GWCREDITORID
Link	Address for payment recipient (if available) Alternatively: Address for seller
CIUS name	Bank assigned creditor identifier

XML tag/attribute	`<cac:PayeeParty>`
	`  <cac:PartyIdentification>`
	`  <cbc:ID>`
	Alternatively:
	`<cac:AccountingSupplierParty>`
	`  <cac:Party>`
	`  <cac:PartyIdentification>`
	`  <cbc:ID>`

Further information	Contains the unique ID of the seller or payment recipient to take part in the SEPA direct debit scheme.
Is mandatory value	Conditionally mandatory value The field always becomes mandatory if the payment means type code is 31 or 59.

Receipt types: Differing payment recipient

Field name data record	-
Field name database	ADDRESS.COMPNAME + ADDRESS.COMPNAME2
Link	Address for payment recipient
CIUS name	Payee name

XML tag/attribute	`<cac:PayeeParty>`
	`  <cac:PartyName>`
	`  <cbc:Name>`

Further information	Contains the name of the payment recipient.
Is mandatory value	Conditionally mandatory value This value is only mandatory if the "Address for payment recipient" link is set in the Management Console.

Field name data record	-
Field name database	ADDRESS.GWIBAN
Link	Address for payment recipient (if available) Alternatively: Address for seller
CIUS name	Payment account identifier

XML tag/attribute	`<cac:PaymentMeans>`
	`  <cac:PayeeFinancialAccount>`
	`  <cbc:ID>`

Further information	Contains an account identifier for the account that is supposed to receive payment: IBAN for payments within the SEPA network, account numbers or IBAN for foreign payments.

Is mandatory value	Conditionally mandatory value The field always becomes mandatory if the payment means type code is 30 or 58.

Field name data record	-
Field name database	ADDRESS.BANKACCOUNTHOLDER
Link	Address for payment recipient (if available) Alternatively: Address for seller
CIUS name	Payment account name

XML tag/attribute	`<cac:PaymentMeans>`
	`<cac:PayeeFinancialAccount>`
	`<cbc:Name>`

Further information	Contains the account name that is supposed to receive payment in a payment service provider's system.
Is mandatory value	Conditionally mandatory value The field always becomes mandatory if the payment means type code is 30 or 58 and the ADDRESS.BANKACCOUNTHOLDER field is not empty.

Field name data record	-
Field name database	ADDRESS.GWBIC
Link	Address for payment recipient (if available) Alternatively: Address for seller
CIUS name	Payment service provider identifier

XML tag/attribute	`<cac:PaymentMeans>`
	`<cac:PayeeFinancialAccount>`
	`<cac:FinancialInstitutionBranch>`
	`<cbc:ID>`

Further information	Contains the ID of the account-holding bank.

Is mandatory value	Conditionally mandatory value The field always becomes mandatory if the payment means type code is 30 or 58 and the ADDRESS.GWBIC field is not empty.

Field name data record	-
Field name database	ADDRESS.GWMANDATEREFERENCENUMBER
Link	Address for payment recipient (if available) Alternatively: Address for seller
CIUS name	Mandate reference identifier

XML tag/attribute	`<cac:PaymentMeans>`
	`<cac:PaymentMandate>`
	`<cbc:ID>`

Further information	Contains a unique identifier that is assigned by the invoice recipient to reference the direct debit authorization.
Is mandatory value	Conditionally mandatory value The field always becomes mandatory if the payment means type code is 31 or 59.

Field name data record	-
Field name database	ADDRESS.GWCREDITORID
Link	Address for payment recipient (if available) Alternatively: Address for seller
CIUS name	Bank assigned creditor identifier

XML tag/attribute	`<cac:AccountingSupplierParty>`
	`<cac:Party>`
	`<cac:PartyIdentification>`
	`<cbc:ID>`
	Alternatively:
	`<cac:PayeeParty>`
	`<cac:PartyIdentification>`
	`<cbc:ID>`

Further information	Contains the unique ID of the seller or payment recipient to take part in the SEPA direct debit scheme.
Is mandatory value	Conditionally mandatory value The field always becomes mandatory if the payment means type code is 31 or 59.

Receipt types: Tax representative of payment recipient

Field name data record	-
Field name database	ADDRESS.COMPNAME + ADDRESS.COMPNAME2 + ADDRESS.CHRISTIANNAME + ADDRESS.NAME
Link	Address for tax representative of payment recipient
CIUS name	Seller tax representative name

XML tag/attribute	`<cac:TaxRepresentativeParty>`
	`<cac:PartyName>`
	`<cbc:Name>`

Further information	Contains the full name of the tax representative of the seller.
Is mandatory value	Conditionally mandatory value The value is only mandatory if the “Address for tax representative of payment recipient” link is set and the VAT class is not “O”.

Field name data record	-

Field name database	ADDRES.TURNOVERTAXID
Link	Address for tax representative of payment recipient
CIUS name	Seller tax representative VAT identifier

XML tag/attribute	`<cac:TaxRepresentativeParty>`
	`<cac:PartyTaxScheme>`
	`<cbc:CompanyID>`

Further information	Contains the turnover tax ID of the seller's tax representative.
Is mandatory value	Conditionally mandatory value The value is only mandatory if the “Address for tax representative of payment recipient” link is set and the VAT class is not “O”.

Field name data record	-
Field name database	ADDRESS.TOWN1
Link	Address for tax representative of payment recipient
CIUS name	Tax representative city

XML tag/attribute	`<cac:TaxRepresentativeParty>`
	`<cac:PostalAddress>`
	`<cbc:CityName>`

Further information	Contains the name of the city or town in which the tax representative's postal address is located.
Is mandatory value	No

Field name data record	-
Field name database	ADDRESS.ZIP1 or ADDRESS.POBOXZIP1
Link	Address for tax representative of payment recipient
CIUS name	Tax representative post code

XML tag/attribute	`<cac:TaxRepresentativeParty>`
	`<cac:PostalAddress>`
	`<cbc:PostalZone>`

Further information	Contains the postal code of the tax representative's address.
Is mandatory value	No

Field name data record	-
Field name database	ADDRESS.STREET1 or ADDRESS.POBOX1
Link	Address for tax representative of payment recipient
CIUS name	Tax representative address line 1

XML tag/attribute	`<cac:TaxRepresentativeParty>`
	`<cac:PostalAddress>`
	`<cac:AddressLine>`
	`<cbc:Line>`

Further information	Contains the main row of a postal address, for example, the street and number, or the text “PO Box” followed by the PO box number.
Is mandatory value	No

Field name data record	-
Field name database	ADDRES.COUNTRY1
Link	Address for tax representative of payment recipient
CIUS name	Tax representative country code

XML tag/attribute	`<cac:TaxRepresentativeParty>`
	`<cac:PostalAddress>`
	`<cac:Country>`
	`<cbc:IdentificationCode>`

Further information	Contains a code which identifies the country.

Is mandatory value	Conditionally mandatory value The value is only mandatory if the “Address for tax representative of payment recipient” link is set and the VAT class is not “O”.

Taxation: VAT category

Field name data record	VAT category
Field name database	-
Link	-
CIUS name	VAT category code
XML tag/attribute	`<cac:TaxTotal > <cac:TaxCategory> <cbc:ID>`
Further information	Contains a code for the VAT property that is to be applied to the discount on the document level.
Is mandatory value	Yes

Field name data record	VAT category
Field name database	-
Link	-
CIUS name	Invoiced item VAT category code
XML tag/attribute	`<cac:InvoiceLine> <cac:Item> <cac:ClassifiedTaxCategory> <cbc:ID>`
Further information	Contains the code for the VAT category that applies to the invoiced item.

Is mandatory value	Yes

Taxation: Rate (%)

Field name data record	Rate (%)
Field name database	-
Link	-
CIUS name	VAT category rate

XML tag/attribute	`<cac:TaxTotal>`
	`<cac:TaxCategory>`
	`<cbc:ID>`

Further information	Contains the VAT category as a percentage value applicable to the corresponding VAT category. If the invoice is excluded from VAT, the "0" is to be transferred.
Is mandatory value	Yes

Field name data record	Rate (%)
Field name database	-
Link	-
CIUS name	Invoiced item VAT rate

XML tag/attribute	`<cac:InvoiceLine>`
	`<cac:Item>`
	`<cac:ClassifiedTaxCategory>`
	`<cbc:ID>`

Further information	Contains the code for the VAT category that applies to the invoiced item.
Is mandatory value	Yes

Payment terms

Field name data record	Payment method (Code)
Field name database	-
Link	-
CIUS name	Payment means type code
XML tag/attribute	`<cac:PaymentMeans>` `<cbc:PaymentMeansCode>`
Further information	Contains the expected or used payment method expressed as a code.
Is mandatory value	Yes

Unit

Field name data record	UNITCODE = BSVOUCHERPOS.QUANTITYUNIT + Quantity units (Code)
Field name database	-
Link	-
CIUS name	Item price base quantity

XML tag/attribute	`<cac:InvoiceLine>`
	`<cac:Price>`
	`<cbc:BaseQuantity unitCode="UNITCODE">1</cbc:BaseQuantity>`

Further information	Contains the number of units for which the item price applies.
Is mandatory value	No

Field name data record	UNITCODE = BSVOUCHERPOS.QUANTITYUNIT + Quantity units (Code)

Field name database	-
Link	-
CIUS name	Item price base quantity unit of measure

XML tag/attribute	`<cac:InvoiceLine>`
	`<cac:Price>`
	`<cbc:BaseQuantity unitCode="UNITCODE">1</cbc:BaseQuantity>`

Further information	Contains the code of the unit.
Is mandatory value	No

Field name data record	UNITCODE = BSVOUCHERPOS.QUANTITYUNIT + Quantity units (Code)
Field name database	-
Link	-
CIUS name	Invoiced quantity
XML tag/attribute	`<cac:InvoiceLine>` `<cbc:InvoicedQuantity unitCode="UNITCODE">`
Further information	Contains the quantity of the individual items that are invoiced in the respective row.
Is mandatory value	Yes

Field name data record	UNITCODE = BSVOUCHERPOS.QUANTITYUNIT + Quantity units (Code)
Field name database	-
Link	-
CIUS name	Invoiced quantity unit of measure code

XML tag/attribute	`<cac:InvoiceLine>`
	`  <cbc:InvoicedQuantity`
	`unitCode="UNITCODE">`

Further information	Contains the measuring unit that applies to the invoiced quantity.
Is mandatory value	Yes

10.6.4 Documents

Embedded documents are created with the following structure:

```
<cac:AdditionalDocumentReference>
  <cbc:ID>[Number of the document in CAS genesisWorld]</cbc:ID>
  <cac:Attachment>
    <cbc:EmbeddedDocumentBinaryObject mimeCode="[File type,
 e. g. 'image/jpeg']" filename="[File name.extension]>[binary data]</
cbc:EmbeddedDocumentBinaryObject>
  </cac:Attachment>
</cac:AdditionalDocumentReference>
```

10.7 Formula editor

With the Formula editor, you can create different formulas and thus flexibly manage data in CAS genesisWorld. You enter the formulas in formula fields.

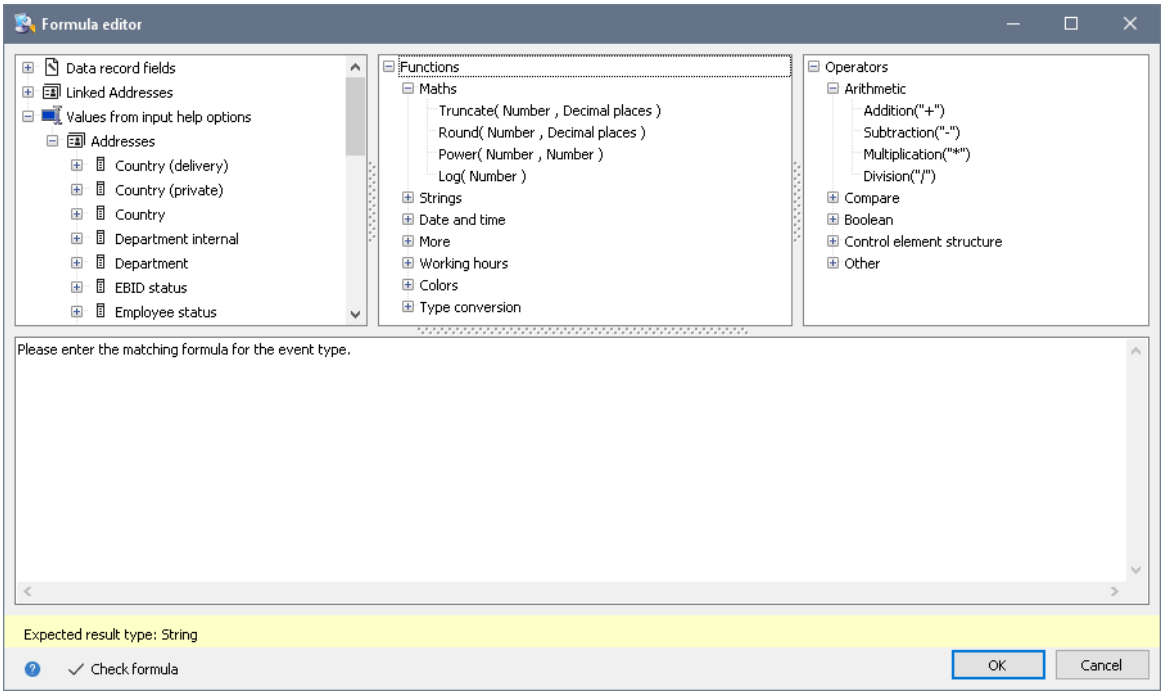
Thus, you can, for example, use a formula to add the field values of two numerical fields or check the values of input helps.

> **Note**
>
> When creating a formula, the system checks to see if permanent loops are created. If this is the case, the corresponding formula becomes invalid.
>
> An invalid formula is, for example: formula field A contains the function A = B + 1, formula field B contains the function B = A + 1. These formulas result in a loop and can thus not be valid.

Topics of this chapter

10.7.1 Entering and checking formulas

You enter the formulas in the Formula editor. The available fields, values, functions, and operators are displayed above the input field and can be adopted into the input field with a double-click.



Click the **Check formula** button to check whether you have correctly entered the formula. The following is checked:

- Is the formula's result type correct?
- Do the functions and operators contain the appropriate parameters?
- Are all brackets and quotation marks closed correctly?

If the system finds errors, the cursor automatically jumps to the first error.

> **Tip**
>
> Click **OK** to also check the formula. If the system finds no errors, the formula is saved and the Formula editor closes.

10.7.2 Fields

With the Formula editor, you can access data from different fields. Depending on the formula field type and the data record type, you can choose from different fields as your data sources.

You can always select the fields of the data record type for which you create the formula. Additionally, you can select the fields of linked data records with the cardinality n:1, for example, the parent company in a company structure.

Special fields

- The **Data record ID** field contains the GUID (Globally Unique Identifier) of a data record and is available for all data record types. You can, for example, use the `IsNull()` function to check whether a linked data record is available.
- The **ID of the company data record** field is additionally available for addresses. Using this field, the system issues the **Record ID** value of the corresponding company in contact person data records. The system issues the value zero for companies and individual contacts.
- For data records with fields for a user selection, additional fields of the linked employee address are available.

Form & Database Designer module

With the **Form & Database Designer** module, you can create your own formula fields. These formula fields are also available in the Easy Invoice form editor.

Input help values

When using international input assistance options, you can insert the associated values independently of the used language. If a CAS genesisWorld user uses another language, the translation is automatically accessed in the database.

> ### Example
>
> Use the following formula to check whether the Department field in an address contains the Development value.
>
> ```
> {Address.Department} = {^Address.Department.Development}
> ```
>
> If a CAS genesisWorld user uses another language, the translation of the **Development** input help value is automatically accessed in the database.

10.7.3 Data types in the Formula editor

The Formula editor comprises a collection of different CAS genesisWorld data types. You can find information on which CAS genesisWorld data types are available under which name in the Formula editor in the following table.

Data types in the Formula editor	Data type in CAS genesisWorld
Floating-point number	decimal, float, money
Integer	bigint, int, smallint, tinyint
Boolean value	bit
String	char, nchar, varchar, nvarchar
Date/Time	datetime

Note

The binary and varbinary data record types are not supported by the Formula editor.

Some default ID fields of the binary type, such as **Record ID**, are available for use in formulas. When interpreting a formula, these fields are transformed into character strings in hexadecimal notation.

Floating-point number

Floating-point numbers support a greater range of values than integers but are only precise to 15 digits. These 15 digits comprise the entire floating-point number including the digits before and after the decimal point.

The number of digits after the decimal point depends on the respective setting for database fields and calculated fields.

When entering floating-point numbers in the Formula editor, the decimal point is always used as separator.

Thousands separators are not supported when entering data.

Example	19999.99
Area	2,23E-308 to 1,79E+308
Accuracy	15 digits

Integer

Calculations with the **Integer** result type always result in integers. Thus, you need to use the **Floating-point number** result type if you do not want to issue the result of the calculation as an integer.

Thousands separators are not supported when entering data.

Example	1250
Area	-9.223.372.036.854.775.808 to 9.223.372.036.854.775.807

Boolean value

Boolean values are encoded using `true` and `false` values without quotation marks.

String

When working with strings in the Formula editor, the following rules apply:

- String constants need to be within double quotation marks. Example: `"string"`
- To chain string fields and string constants, use the + operator. Example: `{field} + "string"`
- You insert line breaks using `\n`. Example: `line1\nline2`
- If your string includes special characters, such as " and \, you need to insert a \ before these special characters. Example: `Example: C:\\Users\""`

Date/Time

Fields of the **Date/Time** type are internally displayed as floating-point numbers. The part before the decimal point indicates the date, and the part after the decimal point the time as a fraction of 24 hours. Fields of the Date/Time type can thus be used for calculations. Example: With the formula `{field} + 8/24`, you add 8 hours.

If you want to enter a date, use the `EncodeDate` or `StringToDate` function.

`CurrentDate()` issues the current date and `CurrentTime()` issues the current time. You can combine date and time using `CurrentDate() + ToFloat(CurrentTime())`.

10.7.4 Functions

Using the Formula editor, you can use different formulas from different areas.

Different rules apply when entering formulas.

- When entering floating point numbers you have to use a dot as a decimal separator, commas are not permitted.
- Thousands separators are not supported when entering numbers.

- The region and country settings you selected in Microsoft Windows apply for the display of results and date values. The especially applies to the decimal separators for floating-point numbers and for thousands separators.
- If quotation marks are required in a formula, the you should enter a backslash before the quotation mark. `\"`
- If you require a backslash for a folder, then you should enter an additional backslash. For example: \\public\document would entered as follows: `\\\\public\\document`
- Line breaks in the output can be displayed using `\n`. Example: `line1\nline2`
- Constants are written in double quotation marks. For example: `"Constant"`
- Chains or fields and constants are linked using the + operator. For example: `{Data record type.field} + "Constant"`

Maths

The following formulas area available in the Maths area.

Truncate

Cuts off the floating-point number so that only the defined number of decimal places remains.

Module | Report

If you use this function in a calculated field, want to display the field in a report view, and group by another field, the function is applied to each data record in the group before calculating the group sum.

Formula structure

```
Truncate(number, decimal places)
```

Parameter

Parameter	Data type	Description
Number	Floating-point number (decimal, float, money)	A number whose decimal places are supposed to be cut off.
Decimal places	Integer (bigint, int, smallint, tinyint)	Number of remaining decimal places.

Example

Input	`Truncate(999.999,2)`
Result	`999.99`

Round

Rounds a floating-point number to a specified number of decimal places. The mathematical rules for rounding numbers up or down are taken into account.

Module **Report**

If you use this function in a calculated field, want to display the field in a report view, and group by another field, the function is applied to each data record in the group before calculating the group sum.

Formula structure

```
Round(number, decimal places)
```

Parameter

Parameter	Data type	Description
Number	Floating-point number (decimal, float, money)	Number that is supposed to be round up or down.
Decimal places	Integer (bigint, int, smallint, tinyint)	Number of remaining decimal places.

Example

Input	`Round(123.4567,3)`
Result	`123,457`

Power

Executes an exponential calculation.

> **Note**
>
> Executing calculations with very large numbers can result in memory overflow in CAS genesisWorld.

Formula structure

```
Power(number, number)
```

Parameter

Parameter	Data type	Description
Number	Floating-point number (decimal, float, money)	Basis
Number	Floating-point number (decimal, float, money)	Exponent

Example

Input	`Power(1.1, 3)`
Result	`1,331`

Log

Returns the natural logarithm for the entered number.

Using the Log(x)/Log(y) formula, you can calculate the logarithm of x to the base y.

Formula structure

```
Log(number)
```

Parameter

Parameter	Data type	Description
Number	Floating-point number (decimal, float, money)	Number whose natural logarithm you want to find.

Example

Input	`Log(100)/Log(10)`
Result	`2`

Strings

The following formulas are available in the **Strings** area.

Strings always have to be enclosed in quotation marks in the Formula editor, for example: `"my string"`.

Length

Returns the length of a string.

Formula structure

```
Length(string)
```

Parameter

Parameter	Data type	Description
String	String (char, nchar, varchar, nvarchar)	The string whose length is to be determined.

Example

Input	`Length("Hello world")`
Result	`10`

Trim

Cuts off leading spaces and the spaces at the end of the string.

Formula structure

```
Trim(string)
```

Parameter

Parameter	Data type	Description
String	String (char, nchar, varchar, nvarchar)	The string to be shortened.

Example

Input	`Trim(" Hello world ");`
Result	`Hello world`

LowerCase

Transforms all upper case characters in a string into lower case characters.

Formula structure

```
LowerCase(strong)
```

Parameter

Parameter	Data type	Description
String	String (char, nchar, varchar, nvarchar)	The string to be transformed.

Example

Input	`LowerCase("Hello world")`
Result	`hello world`

UpperCase

Transforms all lower case characters in a string into upper case characters.

Formula structure

```
UpperCase(string)
```

Parameter

Parameter	Data type	Description
String	String (char, nchar, varchar, nvarchar)	The string to be transformed.

Example

Input	`UpperCase("Hello world")`
Result	`HELLO WORLD`

Left

Returns as many characters as specified in length, counting from the first string character.

Formula structure

```
Left(string, length)
```

Parameter

Parameter	Data type	Description
String	String (char, nchar, varchar, nvarchar)	The string to be shortened.
Length	Integer (bigint, int, smallint, tinyint)	Number of issued characters.

Example

Input	`Left("Hello world", 5)`
Result	`Hello`

Right

Returns as many characters as specified in length, counting from the last string character.

Formula structure

```
Right(string, length)
```

Parameter

Parameter	Data type	Description
String	String (char, nchar, varchar, nvarchar)	The string to be shortened.
Length	Integer (bigint, int, smallint, tinyint)	Number of issued characters.

Example

Input	`Right("Hello world", 5)`
Result	`world`

Replace

Replaces each instance of a specified character string in a searched string by another character string.

Formula structure

```
Replace(input sequence, search sequence, replace sequence)
```

Parameter

Parameter	Data type	Description
Input sequence	String (char, nchar, varchar, nvarchar)	The string to be searched.
Search sequence	String (char, nchar, varchar, nvarchar)	The string to be replaced. Upper and lower case is ignored when searching for the character string.

Parameter	Data type	Description
Replace sequence	String (char, nchar, varchar, nvarchar)	New character string to be inserted.

Example

Input	`Replace("Hello world", "hello", "world")`
Result	`world world`

Search

Searches a string for a search sequence and issues the first position of the found character string.

If the search sequence cannot be found, the system issues a 0.

Formula structure

```
Search(input sequence, search sequence)
```

Parameter

Parameter	Data type	Description
Input sequence	String (char, nchar, varchar, nvarchar)	The string to be searched.
Search sequence	String (char, nchar, varchar, nvarchar)	The string you are searching for. Upper and lower case is ignored.

Example

Input	`Search("Hello world", "world")`
Result	`7`

Contains

Searches a string and issues a boolean value indicating whether the string was found.

If the string was found, the system issues **true** otherwise **false**.

Formula structure

```
Contains(input sequence, search sequence)
```

Parameter

Parameter	Data type	Description
Input sequence	String (char, nchar, varchar, nvarchar)	The string to be searched.
Search sequence	String (char, nchar, varchar, nvarchar)	The string you are searching for. Upper and lower case is ignored.

Example

Input	`Contains("Hello world", "world")`
Result	`true`

Substring

Issues part of a string.

Formula structure

```
Substring(string, start, length)
```

Parameter

Parameter	Data type	Description
String	String (char, nchar, varchar, nvarchar)	The string to be searched.

Parameter	Data type	Description
Start	Integer (bigint, int, smallint, tinyint)	Position of the last issued character.
Length	Integer (bigint, int, smallint, tinyint)	Number of issued characters.

Example

Input	`Substring("Hello world", 7, 5)`
Result	`world`

Date and time

The following formulas are available in the **Date and time** area.

You can use the date and time functions in formulas, for example, to subtract two dates or times. The difference is issued in 24-hour-days as a floating-point number. You can also add values.

CurrentDate

Returns the current date. The time is not returned.

Formula structure

```
CurrentDate()
```

Example

Input	`CurrentDate()`
Result	`2022-10-31 00:00:00`

CurrentTime

Returns the current time. The date is not returned.

Formula structure

```
CurrentTime()
```

Example

Input	`CurrentTime()`
Result	`1899-12-30 08:32:57`

YearOf

Returns the year of a date as a number.

Formula structure

```
YearOf(DateTime)
```

Parameter

Parameter	Data type	Description
DateTime	Date/Time (datetime)	Date and time value to be processed.

Example

Input	`YearOf(CurrentDate())`
Result	`2022`

MonthOf

Returns the month of a date as a number.

Formula structure

```
MonthOf(DateTime)
```

Parameter

Parameter	Data type	Description
DateTime	Date/Time (datetime)	Date and time value to be processed.

Example

Input	`MonthOf(CurrentDate())`
Result	10

MonthName

Returns the month of a date as a text.

Formula structure

```
MonthName(DateTime)
```

Parameter

Parameter	Data type	Description
DateTime	Date/Time (datetime)	Date and time value to be processed.

Example

Input	`MonthName(CurrentDate())`
Result	`October`

DayOfTheMonth

Returns the day of the month of a date as a number.

Formula structure

```
DayOfTheMonth(DateTime)
```

Parameter

Parameter	Data type	Description
DateTime	Date/Time (datetime)	Date and time value to be processed.

Example

Input	`DayOfTheMonth(CurrentDate())`

Result	`31`

DayOfTheWeek

Returns the weekday of a date as a number. In this formula, Monday is considered the first day of the week. Thus, a 1 stands for Monday.

Formula structure

```
DayOfTheWeek(DateTime)
```

Parameter

Parameter	Data type	Description
DateTime	Date/Time (datetime)	Date and time value to be processed.

Example

Input	`DayOfTheWeek(CurrentDate())`
Result	`1`

WeekDayName

Returns the name of a weekday of a date.

Formula structure

```
WeekDayName(DateTime)
```

Parameter

Parameter	Data type	Description
DateTime	Date/Time (datetime)	Date and time value to be processed.

Example

Input	`WeekDayName(CurrentDate())`

Result	`Monday`

HourOfTheDay

Returns the hour of a time as a number.

Formula structure

```
HourOfTheDay(DateTime)
```

Parameter

Parameter	Data type	Description
DateTime	Date/Time (datetime)	Date and time value to be processed.

Example

Input	`HourOfTheDay(CurrentTime())`
Result	`8`

MinuteOf

Returns the minute of a time as a number.

Formula structure

```
MinuteOf(DateTime)
```

Parameter

Parameter	Data type	Description
DateTime	Date/Time (datetime)	Date and time value to be processed.

Example

Input	`MinuteOf(CurrentTime())`

Result	`32`

SecondOf

Returns the second of a time as a number.

Formula structure

```
SecondOf(DateTime)
```

Parameter

Parameter	Data type	Description
DateTime	Date/Time (datetime)	Date and time value to be processed.

Example

Input	`SecondOf(CurrentTime())`
Result	`57`

AddDay

AddDay

Adds the specified number of days to the entered date.

Formula structure

```
AddDate(DateTime, number)
```

Parameter

Parameter	Data type	Description
DateTime	Date/Time (datetime)	Date and time value to be processed.

Parameter	Data type	Description
Number	Integer (bigint, int, smallint, tinyint)	Number of days you want to add.

Example

Input	`AddDay(CurrentDate(), 1)`
Result	`2022-11-01 00:00:00`

AddMonth

Adds the specified number of months to the entered date.

Formula structure

```
AddMonth(DateTime, number)
```

Parameter

Parameter	Data type	Description
DateTime	Date/Time (datetime)	Date and time value to be processed.
Number	Integer (bigint, int, smallint, tinyint)	Number of months you want to add.

Example

Input	`AddMonth(CurrentDate(), 1)`
Result	`2022-11-30 00:00:00`

AddYear

Adds the specified number of years to the entered date.

Formula structure

```
AddYear(DateTime, number)
```

Parameter

Parameter	Data type	Description
DateTime	Date/Time (datetime)	Date and time value to be processed.
Number	Integer (bigint, int, smallint, tinyint)	Number of years you want to add.

Example

Input	`AddYear(CurrentDate(), 1)`
Result	`2023-10-31 00:00:00`

AddInterval

Adds an interval entered as a string to the entered date.

When defining the interval, please check whether CAS genesisWorld is used in multiple languages at your company.

- If all users use CAS genesisWorld in one language, you do not need to keep any special characteristics in mind. In this case, you can simply enter the intervals in the one language your company uses.
- If you use CAS genesisWorld in multiple languages in your company, you always need to enter the interval in the respective language. You can do so, for example, by defining a field with an international input help, such as the **Bill per** field in service agreements.

Formula structure

```
AddInterval(Datetime, interval)
```

Parameter

Parameter	Data type	Description
DateTime	Date/Time (datetime)	Date and time value to be processed.

Parameter	Data type	Description
Interval	String (char, nchar, varchar, nvarchar)	Interval to be added. Possible values: month, quarter, half-year, or year. Alternatively, a field with an international input help, for example, Bill per in service agreements.

Example

Input	`AddInterval(CurrentDate(), "Half-year")`
Result	`2023-04-30 00:00:00`

EncodeDate

Returns a date. You need to consider the following restrictions:

- Any dates before 1753 cannot be created.
- The year value must contain four digits.

Incorrect input values will result in NULL outputs.

Formula structure

```
EncodeDate(year, month, day)
```

Parameter

Parameter	Data type	Description
Year	Integer (bigint, int, smallint, tinyint)	The year as a number.
Month	Integer (bigint, int, smallint, tinyint)	The month as a number. You do not need to enter a leading 0.

Parameter	Data type	Description
Day	Integer (bigint, int, smallint, tinyint)	The day as a number. You do not need to enter a leading 0.

Example

Input	`EncodeDate(2022,10,31)`
Result	`2022-10-31 00:00:00`

More

The following formulas are available in the More area.

NULL

Returns the NULL value.

Formula structure

```
NULL()
```

Example

Input	`NULL()`
Result	`NULL`

IsNull

Returns information on whether the value to be checked is NULL. The information is issued as a boolean value.

Using this function, you can check whether a specific link is available. To do so, check whether the data record ID is NULL. If the ID is not NULL, a linked data record is available.

Formula structure

```
IsNull(value)
```

Parameter

Parameter	Data type	Description
Value	Any data type	Value to be checked.

Examples

- Checking whether a net amount has been paid

Input	`IsNull({Receipts.Net amount}) OR {Receipts.Net amount} = 0`
Result	`true` if no net amount has been entered, otherwise `false`.

- Checking whether a linked address is available

Input	`NOT IsNull({Addresses.Record ID})`
Result	`true` if a linked address is available, otherwise `false`.

CurrentUser

Returns the user name of the currently logged-on user as a string.

Formula structure

```
CurrentUser()
```

Example

Input	`CurrentUser()`
Result	`"Peter Grayhound"`

UserNameForId

Returns the name of a user according to a specific ID. If the system cannot find a user name for the entered ID, the formula returns the NULL value.

Formula structure

```
UserNameForId(user ID)
```

Parameter

Parameter	Data type	Description
User ID	String (char, nchar, varchar, nvarchar)	ID of the address that is assigned to the user.

Example

Input	`UserNameForId({Address.User ID})`
Result	`"Brenda Gladis"`

IsCurrentUserInGroup

Checks whether the current user is member of a group. The information is issued as a boolean value.

Module Replication

If you use the Replication module, you can enter the domain to which the group belongs. You separate the domain value from the group name using a double backslash, for example, **domain\\group**. If you want to reference the domain of the current user, you can enter a double backslash without the domain name. Example: **\\group**.

If you do not provide a domain name, the condition is considered met if the searched group is found in any domain and the user is a member of the group.

Formula structure

```
IsCurrentUserInGroup(group)
```

Parameter

Parameter	Data type	Description
Group	String (char, nchar, varchar, nvarchar)	Name of the group to be checked.

Example

Input	`IsCurrentUserInGroup("Sales")`

Result	`true`

CurrentLanguage

Returns the language with which the current user is logged on. The returned value contains the two-digit ISO code of the language as a character string.

Formula structure

```
CurrentLanguage()
```

Example

Input	`CurrentLanguage()`
Result	`en`

ToBaseCurrency

Converts the entered value from the provided currency into the base currency.

You enter currencies and conversion rates in the Management Console in the Miscellaneous area under Currencies.

Formula structure

```
ToBaseCurrency(value, currency)
```

Parameter

Parameter	Data type	Description
Value	Floating-point number (decimal, float, money)	Amount to be converted.
Currency	String (char, nchar, varchar, nvarchar)	Currency of the amount that is to be converted. You need to provide the currency as a three-digit ISO code.

Example

Input	`ToBaseCurrency(100, "USD")`

Result	`93.12`

FromBaseCurrency

Converts the entered value from the base currency into the entered currency.

You enter currencies and conversion rates in the Management Console in the Miscellaneous area under Currencies.

Formula structure

```
FromBaseCurrency(value, currency)
```

Parameter

Parameter	Data type	Description
Value	Floating-point number (decimal, float, money)	Amount to be converted.
Currency	String (char, nchar, varchar, nvarchar)	Currency into which the amount is to be converted. You need to provide the currency as a three-digit ISO code.

Example

Input	`FromBaseCurrency(100, "USD")`
Result	`107.47`

Working hours

The following formulas are available in the Working hours area.

WorkingTimeForUser

Calculates the working hours of the entered user in person days.

The person days are issued as a floating-point number.

Formula structure

```
WorkingTimeForUser(User ID, Start date, End date)
```

Parameter

Parameter	Data type	Description
User ID	String (char, nchar, varchar, nvarchar)	ID of the address that is assigned to the user.
Start date	Date/Time (datetime)	Date as of which you want to calculate the working hours.
End date	Date/Time (datetime)	Date up to which you want to calculate the working hours.

Example

Input	`WorkingTimeForUser({Address.User ID} , {Address.Hiring date} , {Address.Leaving date})`
Result	`80.5`

Type conversion

The following formulas are available in the Type conversion area.

ToString

Converts the provided value into a string.

- Boolean values are converted into Yes or No.
- Date values are converted into the following format: dd.mm.yyyy. If you want to issue another format, use the `DateToString` function.
- Floating-point numbers are rounded to two decimal places.

Formula structure

```
ToString(value)
```

Parameter

Parameter	Data type	Description
Value	Any	Value to be converted.

Examples

- Boolean value

Input	`ToString(true)`
Result	`"Yes"`

- Date value

Input	`ToString(CurrentDate())`
Result	`"31.10.2022"`

- Numbers: Calculations

Input	`ToString(1/8)`
Result	`"0.13"`

ToInt

Converts a value into an integer.

- Floating-point numbers are cut off and not rounded.
- For date values, the system calculates the number of days since the date 30.12.1899 if the entered date is not before the date 1.1.1900. This function is not defined for date values before 1.1.1900.
- The characters defined for thousands and decimal separators in Microsoft Windows are accepted as input values when correctly used in strings.
- Input values beyond the valid number range return NULL as a value.
- Incorrect input values will result in NULL outputs.

Formula structure

```
ToInt(value)
```

Parameter

Parameter	Data type	Description
Value	All numbers, boolean value	Value to be converted.

Examples

- Floating-point number with thousands separator and decimal separator

Input	`ToInt("1.423,21")`
Result	`1423`

- Boolean value

Input	`ToInt(true)`
Result	`1`

- Number beyond value range

Input	`ToInt(1234567890123.23)`
Result	`NULL`

ToFloat

Converts the entered value into a floating-point number.

- The number of decimal places depends on the settings with which the field was created.
- For date values, the system calculates the number of days since the date 30.12.1899 if the entered date is not before the date 1.1.1900. This function is not defined for date values before 1.1.1900.
- The characters defined for thousands and decimal separators in Microsoft Windows are accepted as input values when correctly used in strings.
- Input values beyond the valid number range return NULL as a value.
- Incorrect input values will result in NULL outputs.

Formula structure

```
ToFloat(value)
```

Parameter

Parameter	Data type	Description
Value	All numbers, boolean value	Value to be converted.

Examples

- Floating-point number with thousands separator and decimal separator

Input	`ToFloat("1.423,21")`
Result	`1423.21`

- Boolean value

Input	`ToFloat(false)`
Result	`0.00`

- Number beyond value range

Input	`ToInt(1234567890123.23)`
Result	`NULL`

StringToFloat

Converts a string into a floating-point number.

- € and $ are only accepted behind a sequence of numbers and are removed during conversion.
- If the string does not contain thousands and decimal separators (empty string), the Microsoft Windows settings are adopted.
- Input values beyond the valid number range return NULL as a value.
- Incorrect input values will result in NULL outputs.

Formula structure

```
StringToFloat(String, Thousands separator, Decimal separator)
```

Parameter

Parameter	Data type	Description
String	String (char, nchar, varchar, nvarchar)	String to be converted.

Parameter	Data type	Description
Decimal separator	String (char, nchar, varchar, nvarchar)	Thousands separator used in the string to be converted.
Decimal separator	String (char, nchar, varchar, nvarchar)	Decimal separator used in the string to be converted.

Example

Input	`StringToFloat("3.000,23€", ".", ",")`
Result	`3000.23`

ToBool

Converts a value into a boolean value. The value can both a number as well as a string. The string conversion is not case-sensitive.

- If you enter a string value, the following strings result in `true`:
  `"true"`, `"wahr"`, `"1"`, `"-1"`, `"y"`, `"yes"`, `"j"`, `"ja"`
- The following strings result in `false`:
  `"false"`, `"falsch"`, `"0"`, `"n"`, `"no"`, `"nein"`
- All other strings return NULL.
- If you enter a number, the 0 is interpreted as `false`. All other positive or negative integers and floating-point numbers result in `true`.

Formula structure

```
ToBool(value)
```

Parameter

Parameter	Data type	Description
Value	Any	Value to be converted.

Examples

- The following examples all result in `true`:

Input	`ToBool(1)`
	`ToBool(-10.0)`
	`ToBool("YES")`

Result	`true`

- The following examples all result in `false`:

Input	`ToBool(0)`
	`ToBool(0.0)`
	`ToBool("no")`

Result	`false`

- The following examples all result in NULL:

Input	`ToBool("0.0")`
	`ToBool("10")`
	`ToBool("")`

Result	`NULL`

DateToString

Converts a date or time into a string.

Formula structure

```
DateToString(DateTime, Output format)
```

Parameter

Parameter	Data type	Description
DateTime	Date/Time (datetime)	Value to be converted.

Parameter	Data type	Description
Output format	String (char, nchar, varchar, nvarchar)	Format of the issued string. The issued value is not case-sensitive. The following options are possible: ■ d: day, one digit ■ dd: day, two digits ■ m: month, one digit ■ mm: month, two digits ■ yy: year, two digits ■ yyyy: year, four digits ■ hh: hours, two digits ■ mm: minutes, two digits ■ ss: seconds, two digits

Example

Input	`DateToString(CurrentDate(), "dd.mm.yyyy hh:nn:ss")`
Result	`31.10.2022 00:00:00`

StringToDate

Converts a string into date and time.

- Any dates before 1753 cannot be converted.
- You need to enter a four-digit year.
- Times which do not have dates cannot be converted.
- Incorrect values return NULL.

Formula structure

```
StringToDate(String, Input format)
```

Parameter

Parameter	Data type	Description
String	String (char, nchar, varchar, nvarchar)	String to be converted.
Input format	String (char, nchar, varchar, nvarchar)	Formatting of the string. The issued value is not case-sensitive. The following options are possible: - d: day, one digit - dd: day, two digits - m: month, one digit - mm: month, two digits - yy: year, two digits - yyyy: year, four digits - hh: hours, two digits - mm: minutes, two digits - ss: seconds, two digits

Examples

- Successful date conversion

Input	`StringToDate("31.10.2022 08:32:57", "dd.mm.yyyy hh:nn:ss")`
Result	`31.10.2022 08:32:57`

- Example for incorrect input:

Input	`StringToDate("31.10.22", "dd.mm.yy ")` `StringToDate("08:32", "hh:nn")`
Result	`NULL`

ToCurrencyString

Converts a number into a string which represents a sum of money.

- Floating-point numbers are rounded up to just 2 decimal places if there are more decimal places.
- A thousands separator is added to numbers as of 1000.

Formula structure

```
ToCurrencyString(value)
```

Parameter

Parameter	Data type	Description
Value	Integer or floating-point number	Value to be converted.

Example

Input	`ToCurrencyString(1999.999)`
Result	`2,000.00`

10.7.5 Operators

In the Formula editor, you can use different operators from different areas.

- **Arithmetic**

  In the **Arithmetic** area, you can find the operators for adding, subtracting, multiplying, and dividing.
- **Compare**

  In the **Compare** area, you can find compare operators, for example, greater, less, or not equal.
- **Boolean**

  In the **Boolean** area, you can find operators for checking boolean values: `AND`, `OR`, and `NOT`.
- **Control element structure**

  In the **Control element structure** area, you can find the code for the if-then-condition with the following structure: `if then else`.
- **Other**

  In the **Other** area, you can insert brackets or // to enter comments.

Prefix operators

Prefix operators are located before the expression to which they apply. The following prefix operators are available in the Formula editor:

Operator	Description
`+`	Positive prefix that is applied to numbers by default and can thus be left out. Example: `+5` is the same as `5`.
`-`	Negative prefix for representing negative values. Example: `-2.3`
`NOT`	Logical negation which returns a boolean value. Example: `NOT {Addresses.is company}` results in `true` for contact persons and `false` for companies and individual contacts.

Infix operators

Infix operators are located between both expressions to which they apply. The following infix operators are available in the Formula editor:

Arithmetic operators

Arithmetic operators are allowed between integers and floating-point numbers. Additionally, some arithmetic operators can be allowed for date/time values and strings. For more details, see the following table:

Operator	Description
`+`	Add two numerical values, dates/times, or chain strings. Example: `0.5 + 7` results in `7.5`
`-`	Subtract numerical values or dates/times. Example: `7.5 - 7` results in `0.5`
`*`	Multiply numerical values. Example: `2.5 * 4` results in `10`

Operator	Description
`/`	Divide numerical values. Example: `10 / 4` results in `2.5`

Compare

Compare operators are allowed between expressions of the same type. You can also compare integers, floating-point numbers, as well as numbers and expressions of the Date/Time type.

Operator	Description
`=`	Equal Example: `1 + 1 = 2` results in `true`
`<>`	Unequal Example: `1 + 1 <> 3` results in `true`
`<`	Less Example: `1 < 2` results in `true`
`>`	Greater Example: `2 > 1` results in `true`
`<=`	Less or equal Example: `1 <= 1` results in `true`
`>=`	Greater or equal Example: `1 >= 1` results in `true`

Boolean operators

Boolean operators are allowed for boolean expressions.

Operator	Description
`AND`	Logical AND Example: `{Addresses.is company} AND {Addresses.is contact person}` results in `true` for individual contacts and `false` for companies and contact persons.
`OR`	Logical OR Example: `{Addresses.Birthday card} OR {Addresses.Christmas card}` results in `true` for addresses that receive either a birthday or a Christmas card and `false` for addresses that receive neither of the cards.

Special operators

The following special operators are additionally available:

Operator	Description
`if then else`	Using `if then else`, you can create logical queries. Example: `if NOT {Addresses.is contact person} then {Addresses.Company} else {Addresses.Name}` issues the company name for companies and the last name for contact persons and individual contacts. You can arbitrarily nest your queries. Example: `IF {Opportunities.Probability} = 100 THEN 1 ELSE IF {Opportunities.Probability} >= 50 THEN 0.5 ELSE IF {Opportunities.Probability} >= 25 THEN 0.25 ELSE 0`
`()`	With brackets, you manage the order in which the operators are applied. The operators follow the usual mathematical rules, such as the order of operation rule. For example: `({Contracts.Credit balance} + {Contracts.Subsidized amount}) * 1.03`

Operator	Description
`//`	Comments are for internal documentation purposes only and are not processed. Example: `//Result + 3 %`

Combining data types and operators

On the following pages, you can find information on how to combine the data types and operators.

Prefix operators

You can use the prefix operators as follows:

Plus +

Formula editor

You can combine these data types with the operator in the Formula editor.

Integer	Yes
Floating-point number	Yes
Date/Time	-
String	-
Boolean value	-

Run time

These data types are issued when combining with this operator.

Integer	Integer
Floating-point number	Floating-point number
Date/Time	-
String	-
Boolean value	-

Integer (NULL)	-
Floating-point number (NULL)	-
Date/Time (NULL)	-
String (NULL)	-
Boolean value (NULL)	-

Minus -

Formula editor

You can combine these data types with the operator in the Formula editor.

Integer	Yes
Floating-point number	Yes
Date/Time	-
String	-
Boolean value	-

Run time

These data types are issued when combining with this operator.

Integer	Integer
Floating-point number	Floating-point number
Date/Time	-
String	-
Boolean value	-
Integer (NULL)	-

Floating-point number (NULL)	-
Date/Time (NULL)	-
String (NULL)	-
Boolean value (NULL)	-

NOT

Formula editor

You can combine these data types with the operator in the Formula editor.

Integer	-
Floating-point number	-
Date/Time	-
String	-
Boolean value	Yes

Run time

These data types are issued when combining with this operator.

Integer	-
Floating-point number	-
Date/Time	-
String	-
Boolean value	Boolean value
Integer (NULL)	-
Floating-point number (NULL)	-

Date/Time (NULL)	-
String (NULL)	-
Boolean value (NULL)	Boolean value `NOT NULL` results in `true`, `NULL = false` results in `false`

Infix operators

You can use the infix operators as follows:

Plus +

Formula editor

You can combine these data types with the operator in the Formula editor.

	Integer	Floating-point number	Date/Time	String	Boolean value
Integer	Yes	Yes	Yes	-	-
Floating-point number	Yes	Yes	Yes	-	-
Date/Time	Yes	Yes	-	-	-
String	-	-	-	Yes	-
Boolean value	-	-	-	-	-

Run time

These data types are issued when combining with this operator.

	Integer	Floating-point number	Date/Time	String	Boolean value	Integer (NULL)	Floating-point number (NULL)	Date/Time (NULL)	String (NULL)	Boolean value (NULL)
Integer	IN	FN	D/T	-	-	IN	FN	D/T(N)	-	-

	Integer	Floating-point number	Date/ Time	String	Boolean value	Integer (NULL)	Floating-point number (NULL)	Date/ Time (NULL)	String (NULL)	Boolean value (NULL)
Floating-point number	FN	FN	D/T	-	-	FN	FN	D/T(N)	-	-
Date/ Time	D/T	D/T	-	-	-	D/T	D/T	-	-	-
String	-	-	-	ST	-	-	-	-	ST	-
Boolean value	-	-	-	-	-	-	-	-	-	-
Integer (NULL)	IN	FN	D/T	-	-	IN(N)	FN(N)	D/T(N)	-	-
Floating-point number (NULL)	FN	FN	D/T	-	-	FN(N)	FN(N)	D/T(N)	-	-
Date/ Time (NULL)	D/T(N)	D/T(N)	-	-	-	D/T(N)	D/T(N)	-	-	-
String (NULL)	-	-	-	ST	-	-	-	-	ST(N)	-
Boolean value (NULL)	-	-	-	-	-	-	-	-	-	-

Meaning of the abbreviations: IN = Integer, FN = Floating-point number, D/T = Date/ Time, ST = String, BO = Boolean value, (N) = (NULL)

Minus -

Formula editor

You can combine these data types with the operator in the Formula editor.

	Integer	Floating-point number	Date/Time	String	Boolean value
Integer	Yes	Yes	-	-	-
Floating-point number	Yes	Yes	Yes	-	-
Date/Time	Yes	Yes	Yes	-	-
String	-	-	-	-	-
Boolean value	-	-	-	-	-

Run time

These data types are issued when combining with this operator.

	Integer	Floating-point number	Date/Time	String	Boolean value	Integer (NULL)	Floating-point number (NULL)	Date/Time (NULL)	String (NULL)	Boolean value (NULL)
Integer	IN	FN	-	-	-	IN	FN	-	-	-
Floating-point number	FN	FN	-	-	-	FN	FN	-	-	-
Date/Time	D/T	D/T	FN	-	-	D/T	D/T	FN(N)	-	-
String	-	-	-	-	-	-	-	-	-	-
Boolean value	-	-	-	-	-	-	-	-	-	-
Integer (NULL)	IN	FN	-	-	-	IN(N)	FN(N)	-	-	-
Floating-point number (NULL)	FN	FN	-	-	-	FN(N)	FN(N)	-	-	-
Date/Time (NULL)	D/T(N)	D/T(N)	FN(N)	-	-	D/T(N)	D/T(N)	FN(N)	-	-

	Integer	Floating-point number	Date/Time	String	Boolean value	Integer (NULL)	Floating-point number (NULL)	Date/Time (NULL)	String (NULL)	Boolean value (NULL)
String (NULL)	-	-	-	-	-	-	-	-	-	-
Boolean value (NULL)	-	-	-	-	-	-	-	-	-	-

Meaning of the abbreviations: IN = Integer, FN = Floating-point number, D/T = Date/Time, ST = String, BO = Boolean value, (N) = (NULL)

Multiply *

Formula editor

You can combine these data types with the operator in the Formula editor.

	Integer	Floating-point number	Date/Time	String	Boolean value
Integer	Yes	Yes	-	-	-
Floating-point number	Yes	Yes	-	-	-
Date/Time	-	-	-	-	-
String	-	-	-	-	-
Boolean value	-	-	-	-	-

Run time

These data types are issued when combining with this operator.

	Integer	Floating-point number	Date/ Time	String	Boolean value	Integer (NULL)	Floating-point number (NULL)	Date/ Time (NULL)	String (NULL)	Boolean value (NULL)
Integer	IN	FN	-	-	-	IN(N)	FN(N)	-	-	-
Floating-point number	FN	FN	-	-	-	FN(N)	FN(N)	-	-	-
Date/ Time	-	-	-	-	-	-	-	-	-	-
String	-	-	-	-	-	-	-	-	-	-
Boolean value	-	-	-	-	-	-	-	-	-	-
Integer (NULL)	IN(N)	FN(N)	-	-	-	IN(N)	FN(N)	-	-	-
Floating-point number (NULL)	FN(N)	FN(N)	-	-	-	FN(N)	FN(N)	-	-	-
Date/ Time (NULL)	-	-	-	-	-	-	-	-	-	-
String (NULL)	-	-	-	-	-	-	-	-	-	-
Boolean value (NULL)	-	-	-	-	-	-	-	-	-	-

Meaning of the abbreviations: IN = Integer, FN = Floating-point number, D/T = Date/ Time, ST = String, BO = Boolean value, (N) = (NULL)

Divide /

Formula editor

You can combine these data types with the operator in the Formula editor.

	Integer	Floating-point number	Date/Time	String	Boolean value
Integer	Yes	Yes	-	-	-
Floating-point number	Yes	Yes	-	-	-
Date/Time	-	-	-	-	-
String	-	-	-	-	-
Boolean value	-	-	-	-	-

Run time

These data types are issued when combining with this operator.

	Integer	Floating-point number	Date/Time	String	Boolean value	Integer (NULL)	Floating-point number (NULL)	Date/Time (NULL)	String (NULL)	Boolean value (NULL)
Integer	FN	FN	-	-	-	FN(N)	FN(N)	-	-	-
Floating-point number	FN	FN	-	-	-	FN(N)	FN(N)	-	-	-
Date/Time	-	-	-	-	-	-	-	-	-	-
String	-	-	-	-	-	-	-	-	-	-
Boolean value	-	-	-	-	-	-	-	-	-	-
Integer (NULL)	FN(N)	FN(N)	-	-	-	FN(N)	FN(N)	-	-	-
Floating-point number (NULL)	FN(N)	FN(N)	-	-	-	FN(N)	FN(N)	-	-	-
Date/Time (NULL)	-	-	-	-	-	-	-	-	-	-

	Integer	Floating-point number	Date/Time	String	Boolean value	Integer (NULL)	Floating-point number (NULL)	Date/Time (NULL)	String (NULL)	Boolean value (NULL)
String (NULL)	-	-	-	-	-	-	-	-	-	-
Boolean value (NULL)	-	-	-	-	-	-	-	-	-	-

Meaning of the abbreviations: IN = Integer, FN = Floating-point number, D/T = Date/Time, ST = String, BO = Boolean value, (N) = (NULL)

Equal = and not equal <>

Formula editor

You can combine these data types with the operator in the Formula editor.

	Integer	Floating-point number	Date/Time	String	Boolean value
Integer	Yes	Yes	Yes	-	-
Floating-point number	Yes	Yes	Yes	-	-
Date/Time	Yes	Yes	Yes	-	-
String	-	-	-	Yes	-
Boolean value	-	-	-	-	Yes

Run time

These data types are issued when combining with this operator.

	Integer	Floating-point number	Date/ Time	String	Boolean value	Integer (NULL)	Floating-point number (NULL)	Date/ Time (NULL)	String (NULL)	Boolean value (NULL)
Integer	BO	BO	BO	-	-	BO	BO	BO	-	-
Floating-point number	BO	BO	BO	-	-	BO	BO	BO	-	-
Date/ Time	BO	BO	BO	-	-	BO	BO	BO	-	-
String	-	-	-	BO	-	-	-	-	BO	-
Boolean value	-	-	-	-	BO	-	-	-	-	BO
Integer (NULL)	BO	BO	BO	-	-	BO	BO	BO	-	-
Floating-point number (NULL)	BO	BO	-	-	-	BO	BO	BO	-	-
Date/ Time (NULL)	BO	BO	BO	-	-	BO	BO	BO	-	-
String (NULL)	-	-	-	BO	-	-	-	-	BO	-
Boolean value (NULL)	-	-	-	-	BO	-	-	-	-	BO

Meaning of the abbreviations: IN = Integer, FN = Floating-point number, D/T = Date/ Time, ST = String, BO = Boolean value, (N) = (NULL)

With this operator, comparisons with `NULL` almost always result in a `false` value. Exceptions:

- `NULL = NULL` results in `true`
- `Value <> NULL` results in `true` if the value does not correspond with `NULL`.

Less <, greater >, less or equal <=, greater or equal >=

Formula editor

You can combine these data types with the operator in the Formula editor.

	Integer	Floating-point number	Date/Time	String	Boolean value
Integer	Yes	Yes	Yes	-	-
Floating-point number	Yes	Yes	Yes	-	-
Date/Time	Yes	Yes	Yes	-	-
String	-	-	-	Yes	-
Boolean value	-	-	-	-	-

Run time

These data types are issued when combining with this operator.

	Integer	Floating-point number	Date/Time	String	Boolean value	Integer (NULL)	Floating-point number (NULL)	Date/Time (NULL)	String (NULL)	Boolean value (NULL)
Integer	BO	BO	BO	-	-	BO	BO	BO	-	-
Floating-point number	BO	BO	BO	-	-	BO	BO	BO	-	-
Date/Time	BO	BO	BO	-	-	BO	BO	BO	-	-
String	-	-	-	BO	-	-	-	-	BO	-
Boolean value	-	-	-	-	-	-	-	-	-	-
Integer (NULL)	BO	BO	BO	-	-	BO	BO	BO	-	-

	Integer	Floating-point number	Date/Time	String	Boolean value	Integer (NULL)	Floating-point number (NULL)	Date/Time (NULL)	String (NULL)	Boolean value (NULL)
Floating-point number (NULL)	BO	BO	-	-	-	BO	BO	BO	-	-
Date/Time (NULL)	BO	BO	BO	-	-	BO	BO	BO	-	-
String (NULL)	-	-	-	BO	-	-	-	-	BO	-
Boolean value (NULL)	-	-	-	-	-	-	-	-	-	-

Meaning of the abbreviations: IN = Integer, FN = Floating-point number, D/T = Date/Time, ST = String, BO = Boolean value, (N) = (NULL)

With this operator, comparisons with NULL almost always result in a false value. Exceptions:

- `NULL <= NULL` results in `true`
- `NULL >= NULL` results in `true`

AND and OR

Formula editor

You can combine these data types with the operator in the Formula editor.

	Integer	Floating-point number	Date/Time	String	Boolean value
Integer	-	-	-	-	-
Floating-point number	-	-	-	-	-
Date/Time	-	-	-	-	-

	Integer	Floating-point number	Date/Time	String	Boolean value
String	-	-	-	-	-
Boolean value	-	-	-	-	Yes

Run time

These data types are issued when combining with this operator.

	Integer	Floating-point number	Date/Time	String	Boolean value	Integer (NULL)	Floating-point number (NULL)	Date/Time (NULL)	String (NULL)	Boolean value (NULL)
Integer	-	-	-	-	-	-	-	-	-	-
Floating-point number	-	-	-	-	-	-	-	-	-	-
Date/Time	-	-	-	-	-	-	-	-	-	-
String	-	-	-	-	-	-	-	-	-	-
Boolean value	-	-	-	-	BO	-	-	-	-	BO
Integer (NULL)	-	-	-	-	-	-	-	-	-	-
Floating-point number (NULL)	-	-	-	-	-	-	-	-	-	-
Date/Time (NULL)	-	-	-	-	-	-	-	-	-	-
String (NULL)	-	-	-	-	-	-	-	-	-	-

	Integer	Floating-point number	Date/ Time	String	Boolean value	Integer (NULL)	Floating-point number (NULL)	Date/ Time (NULL)	String (NULL)	Boolean value (NULL)
Boolean value (NULL)	-	-	-	-	BO	-	-	-	-	BO

Meaning of the abbreviations: IN = Integer, FN = Floating-point number, D/T = Date/ Time, ST = String, BO = Boolean value, (N) = (NULL)