

# RUPLAN EVU-Module

## News 4.90

01/29/2018

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# 1 New Features in EVU Module 4.90

The most important news in the EVU module compared to EVU module 4.82 are:

## **Copy sheets including merge of the wiring material tables**

This feature supplies support when combining plans that were created with different wiring material tables: When copying a circuit manual into a target project, the wiring material table of the copied plans is merged into the target wiring material table, and the position numbers in the copied plans are adapted accordingly.

See chapter 7.3.1, NEW: Copy sheets incl. merge of the wiring material tables

## **Cable destination editor**

For cable definition sheets and for cable overview sheets the cable destination editor may be started; it offers the switch of sides for the destinations and a change or entry of their plain texts. Started on cable overview sheets, a plausibility check of the destinations of the cables and the designations of the target symbols UJ\* is performed.

See chapter 7.8.1.2, NEW: Cable destination editor

If an assignment table of plain text to designations does exist in the bay, then the plain texts of this table are offered for selection.

See chapter 6.1, NEW: Table "Assignment Plain Text to Designation" and 10.1.1, New reference symbols

## **Cable list: Plain text in 1<sup>st</sup> line only**

Via a switch in the project options the user can decide whether in a cable list with several lines per cable plain text for the targets is entered only in the 1<sup>st</sup> line or in all lines to a cable.

See chapter 7.8.1.1, Cable def.sheets/cable list

## **Terminal diagram: Data transfer TDR -> CDR for the internal target**

Up to now for 2-pole terminals only the connection information for the external target had been transferred to the circuit diagram. Repeatedly this led to problems if the number of targets at a 2-pole terminal was altered. Therefore, from now on as well the connection information for the internal target is transferred to the terminal in the circuit diagram.

See chapter 7.7.1.2, Create terminal diagram

See chapter 7.7.1.3, Data transfer TDR -> CDR

See chapter 10.1.2, Changes on reference symbols

### **Improved text search**

The tracing of texts has been improved in a lot of aspects; esp. symbols and objects can now be searched as well, and navigating from the text list to an address really opens the address, not only displays it.

See chapter 4.3, Evaluations in the symbol library

See chapter 5.2, Evaluations in the object library

See chapter 7.3.2, NEW: Find text / edit address

### **Resource schedules with office links**

If the technical specification for a device (partial function in a TEC-object) contains a link to an office document, this link is entered in the resource schedule for this device. A special office link symbol is placed on the device symbol of this device and designated with the link information.

See chapter 5.1, Object editing / Graphics

See chapter 7.6.1.1, NEW: Resource schedules with office links

### **Automatic preset of the object class**

If the automatic preset of the object class is activated, then the fitting object class is offered if a symbol is designated with "Device data check during symbol editing".

See chapter 6.2, Sheet editing / Graphics

### **New text symbol for item groups**

Often the location group text symbol GJ512 is not quite rightly used to display plain texts of item groups. Therefore, an identical symbol GJ522, with the additional text fields '-' and '-1', was made available.

See chapter 6.2, Sheet editing / Graphics

See chapter 10.1.1, New reference symbols

## 2 RUPLAN Environment

### 2.1 Installation file

#### GROUP AWTs FOR ADDRESS ACTIONS

To fully apply the new improved text search as well in the symbol as in the object library, you must perform the following changes in the installation file for the EVU module:

1. Change: group AWT for action **S** for objects (library type **G**) at position **3**: change from A&AHG1A\_EVU to **A&NXF\_EVU**
2. New: group AWT for action **S** for symbols (library type **S**) at position **3**: insert **A&NXF\_EVU**

GROUP AWTs FOR ADDRESS ACTIONS						
File Edit Extras View ?						
	Group AWT	A	P	DB	D	A
S0	S1	S2	S3	S4	S5	S6
7	A&NXF_EVU	S	3	B		W
8	A&NXFE_EVU	E	3	B		W
9	A&AKTU_RAH	C	3	B		W
10	A&AKTU_RAH	U	3	B		W
11	A&AKTU_RAH	V	3	B		W
12	A&AKTU_RAH	R	3	B		W
13	A&AKTU_RAH	M	3	B		W
14	A&W04_EVU	S	1	B		W
15	A&W04_EVU	E	1	B		W
16	A&DEL	D	2	B	*	W
17	A&NXF_EVU	S	3	G		W
18	A&AHG1A_EVU	E	3	G		W
19	A&CIT	C	2	G		W
20	A&CIT	R	2	G		W
21	A&IBO	E	1	G		W
22	A&AHG7_EVU	C	3	G		W
23	A&AHG7_EVU	R	3	G		W
24	A&NXF_EVU	S	3	S		W

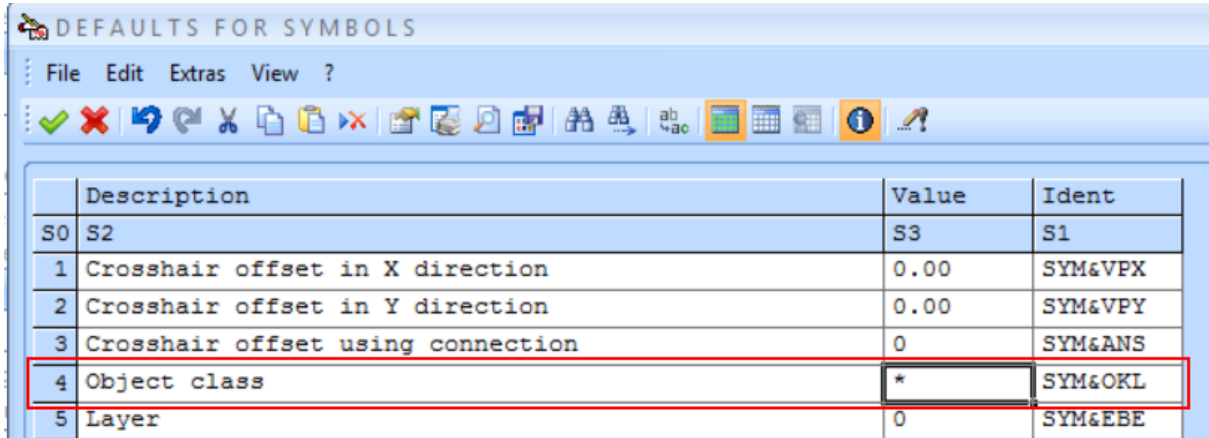
RUPLAN INST.FILE:C:\Aucosoft\Ruplan490\Conf\Ruinst490engevu.dat



## DEFAULTS FOR SYMBOLS

With update no. 1 for EVU-module 4.82 the automatic preset of the object class, with **Device data check during symbol editing** switched on, was provided; this feature may be switched on and off via icon.

The feature now is preset in the installation file by setting the field **Object class** to the value "\*":



	Description	Value	Ident
S0	S2	S3	S1
1	Crosshair offset in X direction	0.00	SYM&VPX
2	Crosshair offset in Y direction	0.00	SYM&VPY
3	Crosshair offset using connection	0	SYM&ANS
4	Object class	*	SYM&OKL
5	Layer	0	SYM&EBE

## 2.2 Standard text files

### Eng490Rkz\_EVU.txt, Eng490Std\_EVU.txt

The following clear text to an ident text was supplemented:

INT                      pin number of the internal side

### Eng490Rkz\_EVU\_FORM.txt, Eng490\_Std\_EVU\_FORM.txt

The following codes were supplemented:

\_ALL147                  Assignment Plain Text to Designation

\_ALL148                  Designation

\_ALL149                  Plain Text

\_ALL150                  Install. Site

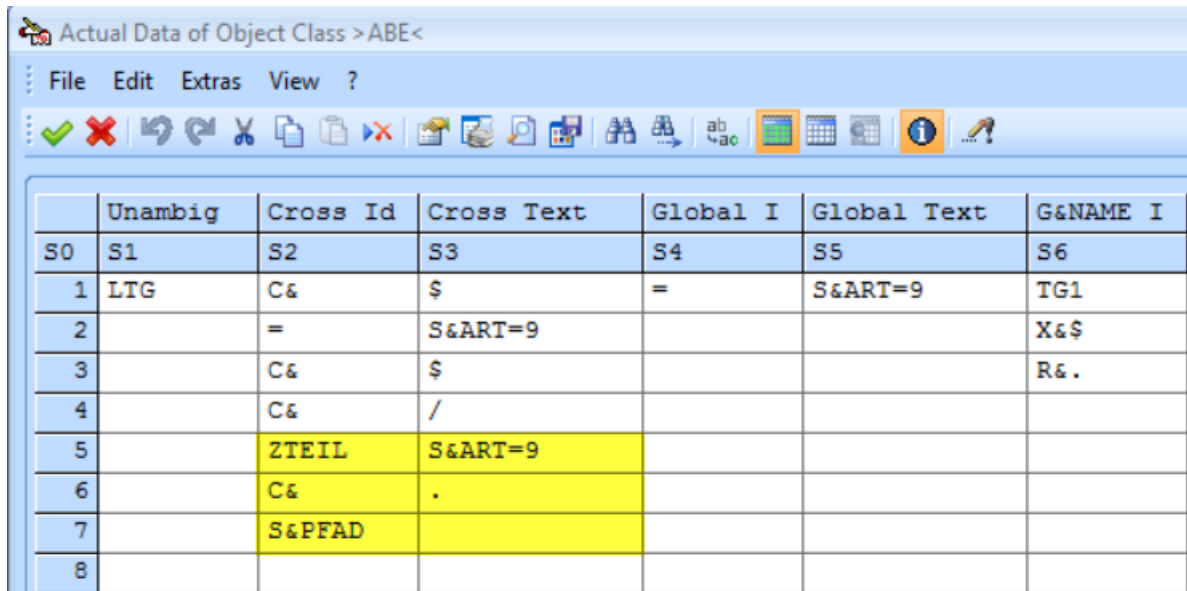
The following code was missing in the IEC file and was supplemented:

\_KAB049                  Cab. Route

## 2.3 RUPLAN Data

### 2.3.1 Project Templates

The online V record for the object class ABE was altered in every project template: The sheet name is no longer omitted when equal on both sides:



	Unambig	Cross Id	Cross Text	Global I	Global Text	G&NAME I
S0	S1	S2	S3	S4	S5	S6
1	LTG	C&	\$	=	S&ART=9	TG1
2		=	S&ART=9			X&\$
3		C&	\$			R&.
4		C&	/			
5		ZTEIL	S&ART=9			
6		C&	.			
7		S&PFAD				
8						

### 2.3.2 Reference Projects

The online V record for the object class ABE was altered: The sheet name is no longer omitted when equal on both sides (see chapter above Project Templates). This concerns the reference projects X00490E and X00490E\_IEC.

## 2.4 Sample project EVU490E

- The description of the project and its libraries was altered to "EVU sample project".
- At the item groups of the disconnectors -Q1. -Q2. -Q8 and -Q9 on circuit diagram Q02 (both bays) the group corner symbol GJ505 was changed to GJ506, for lack of space for the clear text. The GJ506 displays the clear texts vertical, on the left side outside the group frame.
- To enable the group corner symbol change described above, the object for the disconnector had to be supplied with this additional variant. On the fly the name of the object was altered according to guidelines: From Q21\_01A0 to Q21001A0AUC. The device symbol name was altered accordingly.

## 3 Project editing

### 3.1 Project Set Up

If in an existing project not only the documentation structure is to be edited, but if as well the online V-records should be adapted to EVU-module-rules, a corresponding feature is available as user command (project: **Open with User Menu / Administration Cmds**).

This feature was updated in so far as the V-record for the object class ABE has been altered: The sheet designation in 'ZTEIL' is kept now in any case, even if the sheet designations are identical. (This was done on the grounds of the fact that usually the identically designated sheets are part of different documentation units.)

See as well chapters 2.3.1 Project Templates and 2.3.2 Reference Projects.

## 4 Symbol editing

### 4.1 New symbols

#### **NEW: text symbol for item groups: GJ522**

Besides the text symbol for location groups (GJ512) now a similar text symbol for item groups is available: **GJ522** (see chapter 6.2, Graphics).

### 4.2 Graphics

#### **Fixed bug**

- The EVU-module guidelines could not be displayed via graphic toolbox.

### 4.3 Evaluations in the symbol library

#### **Delete symbols not in use**

##### **Fixed bug**

- Logic symbols still in use were offered for deleting.

#### **Delete double reference sym.**

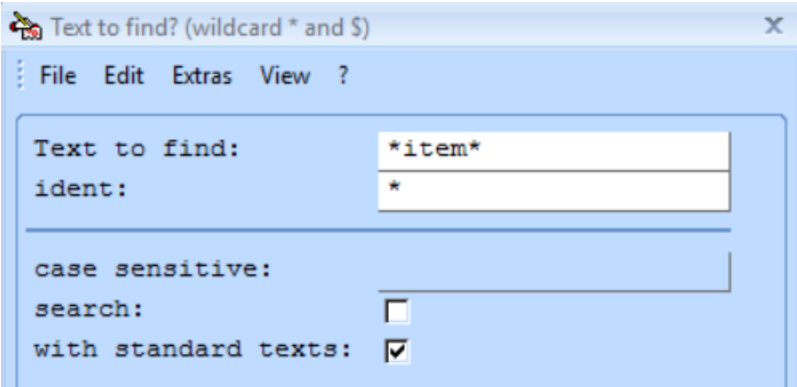
##### **Fixed bug**

- This evaluation offers the possibility in the parameter mask header: to make a general selection to delete all the symbols that already exist in a certain symbol reference library. This selection did only function for short symbol library names; the bug was dependent on language, and in German occurred for symbol library names with more than 8 characters.

**NEW: Find text / edit address**

In the symbol library now, a comfortable text search is available which may be started from the evaluation menu.

Following the start, a pre-selection mask is displayed:



Texts contained in the marked symbols that fit to the entries of this pre-selection mask are displayed, listing the most important text features and information about the origin of the text:

	.	Text	ident	Visib	Layer	T&ART	STX Code	Symbol	S&ARTKZ	S&ART	T&X	T&Y
1	+	< item def. symbo	CODE	N	0	synd		WJ553_G	G	4	22.00	219.00
2	+	< item def. symbo	CODE	N	0	synd		WJ553_G	G	4	4.00	212.00
3	+	< item def. symbo	CODE	N	0	synd		WJ553_G	G	4	4.00	219.00
4	+	< item def. symbo	CODE	N	0	synd		WJ553_G	G	4	22.00	212.00
5		Cross references to the item groups 1...	F&TEXT	Y	0	free		GJ00503A0	A	10	203.00	209.00
6		Item designation	F&TEXT	Y	0	free		GJ00503A0	A	10	150.00	192.95
7		item designation	F&TEXT	Y	0	free		GQ21_01A0	A	10	150.00	212.95

Via double click navigation to the presentation of the text in the symbol is performed. In case of an invisible text, navigation leads to the superior element. After exiting the symbol, the text list is displayed again.



Jumping back from the symbol graphics to the text list is performed by a group AWT for the address action **S** (graphical editing) that must be inserted in the installation file. See chapter 2.1 Installation file.

## 5 Object editing

### 5.1 Graphics

#### **NEW: "Assign Office File" for technical data symbols**

- For technical data symbols now, the function "Assign Office File" is offered in the context menu. – If already an office link is entered at the technical data symbol, this function in the context menu is replaced by "Open Office File".  
See chapter 7.6.1.1, NEW: Resource schedules with office links, and chapter 10.1.2, Changes on reference symbols.

#### **Fixed bug**

The EVU-module guidelines could not be displayed via graphic toolbox.

### 5.2 Evaluations in the object library

#### **TEC: copy TEC into 1<sup>st</sup> db**

##### **Fixed bug**

- If TEC-objects were unknown and no TEC-objects were copied, the unhelpful general message "Technical data objects are missing in reference libraries!" was shown. Now the list of the missing TEC-objects is displayed.

#### **Obj.: graphical preparation**

##### **Fixed bugs**

- If a title block symbol with a partial function other than 998 was enclosed the evaluation aborted.
- Objects with names starting with a blanc were processed, but were then stored as object without a leading blanc.  
Now such objects are not altered, but instead they are listed with error code 5 in the error list.
- With TEC-objects it could happen that single partial function designation texts were deleted during the preparation.
- When saving an object after alphanumerical editing (address action "E"), the following abortion message was produced:

```
RAMODL 480-I_009 | :--< s t a r t >AHG18_LOTEVU< in mode >O<
RAVWBA 461-I_103 | : AWT buffer is empty
BC00VW 481-W_001 | Ident text >C&ADRKEN< not known
AHHLAT 440-E_008 | Data error fetching >A&ADRKEN<
RAMODL 480-W_009 | AWT >AHG18_LOTEVU< aborted
RAEXEA 473-E_009 | Element group AWT >A&AHG1A_EVU < aborted
```

## NEW: Find text / edit address

In the object library now, a comfortable text search is available which may be started from the evaluation menu.

Following the start, a pre-selection mask is displayed:

Text to find? (wildcard \* and \$)

File Edit Extras View ?

Text to find:

ident:

case sensitive: ☐

search: ☐

with standard texts: ☒

Texts contained in the marked objects that fit to the entries of this pre-selection mask are displayed, listing the most important text features and information about the origin of the text:

	.	Text	ident	Visib	Layer	T&ART	STX Code	OCL	Object	PNO	VNO	T&X	T&Y
1		2 NOC, with relay te	TD1	Y	0	synd		TEC	K02001AO	531	1	98.00	273.00
2		2 NOC, with relay te	TD1	Y	0	synd		TEC	K02001AO	531	2	98.00	269.00
3		2 NOC, with relay te	TD1	Y	0	synd		TEC	K02001AO	531	3	98.00	265.00
4		Relay, 3NOC, 1NCC	A4721 OBE	Y	0	synd		GER	K04002DO	998	98	234.00	7.00
5		auxiliary relay	GERART	N	0	synd		TEC	K02001AO	531	1	12.00	231.00
6		auxiliary relay	GERART	N	0	synd		TEC	K02001AO	531	2	12.00	227.00
7		auxiliary relay	GERART	N	0	synd		TEC	K02001AO	531	3	12.00	223.00
8		auxiliary relay, 2 NOC	F&TEXT	Y	0	free		TEC	K02001AO			80.00	284.00
9		component: relay terminal block	F&TEXT	Y	0	free		TEC	K01002_1AUC			80.00	284.00
10		component: relay terminal block	F&TEXT	Y	0	free		TEC	K02001_1			80.00	284.00
11		relay terminal	GERART	N	0	synd		TEC	K01002AOAUC	531	1	12.00	231.00
12		relay terminal block	BK1	N	0	synd		TEC	K01002AOAUC	531	1	138.00	231.00
13		relay terminal block	TD1	Y	0	synd		TEC	K01002_1AUC	531	1	98.00	273.00
14		relay terminal block	BK1	N	0	synd		TEC	K02001AO	531	1	138.00	231.00
15		relay terminal block	BK1	N	0	synd		TEC	K02001AO	531	2	138.00	227.00
16		relay terminal block	BK1	N	0	synd		TEC	K02001AO	531	3	138.00	223.00
17		relay terminal block	TD1	Y	0	synd		TEC	K02001_1	531	1	98.00	273.00
18		relay terminal, 1 NCC	F&TEXT	Y	0	free		TEC	K01002AOAUC			80.00	284.00
19		terminal relay, 1NCC	OBE	Y	0	synd		GES	K01002AOAUC	998	98	234.00	7.00

Via double click navigation to the presentation of the text in the object is performed. In case of an invisible text, navigation leads to the superior element. After exiting the object, the text list is displayed again.



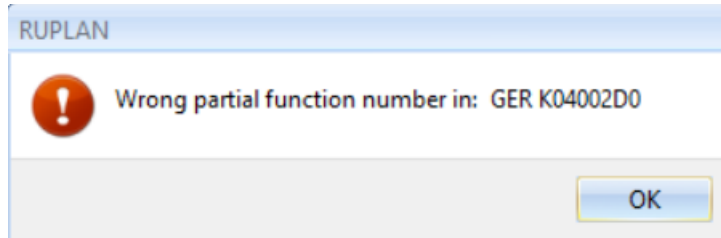
Even if the project options switch **Objects: automatic graphical preparation when saving** is activated, this graphical preparation is **not** executed when the object is edited by navigation from a text list!

A corresponding message is displayed after saving the object.



If the project options switch **Funct objects: automatical entries when saving** is activated, these entries are carried out after saving and before reloading the text list.

If during those entries an error is detected, an unspecific error message is displayed:



Jumping back from the object graphics to the text list is performed by a special group AWT for the address action S (graphical editing); the original group AWT for action S must be altered in the installation file. See chapter 2.1 Installation file.



## 6 Sheet editing

### 6.1 NEW: Table "Assignment Plain Text to Designation"

Since update no. 1 for EVU-module 4.82 new table symbols are available: VT710 / VT711 and VT710KKS / VT711KKS, see 10.1.1, Changes on reference symbols. With these symbols a table may be built that lists locations and items with their corresponding plain texts, as required.

Example for the structure of a table "Assignment Plain Text to Designation":


Assignment Plain Text To Designation					
Designation			Plain Text		
=E11	+S1		Control cubicle		
=E11	+KF01		Relay plate		
=E11	+S1	-A100	Faulty switch protection		
=E11	+S1	-Q0	Power circuit breaker		
=E11	+W1	-Q1	BB isolating switch I		
=E11	+W1	-Q2	BB isolating switch II		
=E11	+W1	-Q8	Earthing switch		
=E11	+W1	-Q9	Disconnecter		
=E11	+W1		Central control panel		
=E12	+S1		Adjacent bay no. 2		

Usually such a table is created for one bay. It is either included in a bay documentation as a survey sheet and in this case starts with letter "A" or letter "B". If it is only meant to be used as information source for the cable destination editor (chapter 7.8.1.2, NEW: Cable destination editor) it may be created as a "C"-sheet.

## 6.2 Graphics

### NEW: Automatic preset of the object class

If the automatic preset of the object class is activated, and the control "Device data check during symbol editing" is set, then a fitting object class is preset when designating a symbol.

The automatic OCL-preset is activated by clicking the icon  in the icon bar **Object classes(EVU)**:







The activation of the automatic OCL-preset is set as default in the installation file of the EVU-module.

The recognition of the fitting object class to certain symbols is programmed in the AWT-address **M#OKL**. This address relates combinations of symbol name and symbol type to the fitting object classes:

Menu Table > M#OKL<					
File Edit Extras View ?					
<div> <div>✓ ✗ ↺ ↻ ↵ ↶ ↷ ↸ ↹ ↺ ↻ ↵ ↶ ↷ ↸ ↹</div> <div>ab 4ac</div> <div>📊 📅 📁 📄 📌 📎 📏 📐 📑 📒 📓 📔 📕 📖 📗 📘 📙 📚 📛 📜 📝 📞 📟 📠 📡 📢 📣 📤 📥 📦 📧 📨 📩 📪 📫 📬 📭 📮 📯 📰 📱 📲 📳 📴 📵 📶 📷 📸 📹 📺 📻 📼 📽 📾 📿</div> </div>					
	Ident	Menu	Code	Tooltip Text	Statusbar Text
S0	S1	S2	S3	S4	S5
1	KLE &NOOBJ	8	GX501*	Klemme	Klemme
2	KLE &NOOBJ	8	GX502*	Klemme	Klemme
3	KLE &NOOBJ	8	GX503*	Klemme	Klemme
4	KLE &NOOBJ	8	GX504*	Klemme	Klemme
5	STE	8	GX505*	Stecker	Stecker
6	GER	8	GX509*	Gerät	Gerät
7	KLE &NOOBJ	1	VX*	Klemmenzeile	Klemmenzeile
8	KAB &NOOBJ	1	GW011*	Kabel	Kabel
9	KAB &NOOBJ	1	VW512*	Kabelzeile	Kabelzeile

Default is that terminals, cables and cable cores are not scheduled for online control; thus, with the OCL preset the term "&NOOBJ" is entered (see screenshot above).

If terminals or cables and cable cores or all of these are meant to be put under online control the user may copy the fitting template from the X00490E evaluation library as **M#OKL** to the project evaluation library:

	M#OKL_E00	OKL-Vorbelegung EVU	A483
	M#OKL_E01	OKL-Vorbelegung EVU, mit KAB	A483
	M#OKL_E10	OKL-Vorbelegung EVU, mit KLE	A483
	M#OKL_E11	OKL-Vorbelegung EVU, mit KLE+KAB	A483

## NEW: text symbol for item groups: GJ522

Since a long time, the text symbol GJ512, meant for use with location groups, is available. It is positioned at the left bottom corner of a group with the purpose to display the clear text describing the location.

This symbol frequently was unfittingly used for the display of clear text for an item group.

This leads to problems with the migration: The migration assumes that for a location designation there exists exactly one set of clear texts ('T1' / 'T1\_E') and therefore delivers exactly one pair of texts for all the item groups belonging to the same location.

Thus, for use with item groups now the symbol **GJ522** was made available, which graphically is identical to the symbol GJ512:

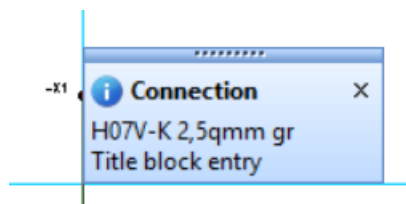
inscription symbols	T1 T1_E	T1 T1_E	T1 T1_E T2 T2_E	
	GJ512	GJ522	GJ513	GJ5
	location group	item group	general inscription	



If these item group text symbols are used they either must be defined as additional partial functions of the functional objects concerned, or they must be excluded from online control via "&NOOB".

## Tooltip at connections

Up to now the tooltip at a connection only displayed the material entered directly at the connection. Now for a connection the wiring material supplied via the title block is shown; example:



## Fixed bugs

- The symbols for potentially disconnected terminals (GX503\_G, GX504L\_G und GX504P\_G) as well as some of the symbols for device terminals (GX519\_G etc.) could produce a network error when following a certain workflow. This error could only be repaired by RIS-export and -re-import. This bug is now avoided by changing the symbols concerned (see chapter 10.1.2, Changes on reference symbols).
- The EVU-module guidelines could not be displayed via graphic toolbox.

## 6.3 Advanced RIS-export

### Fixed Bugs

- Blanks in the file name were not checked during the parameter entry and led to an abortion later in the run of the evaluation.

## 6.4 Context menus

### Potentially disconnected terminals: "Delete completely (IEC)"

#### Fixed bug:

By this feature a potentially disconnected terminal is deleted completely, with both "half" terminals and the graphics in between. – This did not function in IEC-projects, because of faulty definitions.

### Cable definition symbol: Destination: view/edit

The altering of descriptive text for the destinations 1 and 2 was not accepted if the cable definition symbol had been put under online control. Likewise, in cable overview plans a complete switch of destinations could not be performed because this includes changing the symbol angle by 180°.

Now if the cable definition symbol is under online control, the online control is removed before the changes and restored afterwards.

### Cable definition symbol: switch of sides

See above: **Destinations: view/edit**: In cable overview plans, for cable symbols under online control a switch of destinations could not be performed because this includes changing the symbol angle by 180°. Furthermore, in definition sheets the descriptive texts for the destinations 1 and 2 could not be switched for cable symbols under online control.

Now if the cable definition symbol is under online control, the online control is removed before the changes and restored afterwards.

## 6.5 Toolbars and icons

### Symbol menu "Devices" icon : Symbol selection using device

This feature didn't function properly in the EVU-module and does as well not really fit into the EVU-module workflow. Therefore, the feature was disabled for the EVU-module. A click on this icon now produces the message: "EVU-Module: Evaluation is not available".

**IEC only: toolbar "Circuit diagram" / "Frames, groups, tables" / "Circuit paths / frames" / "Update corner symbols"**

**Fixed Bug**

This feature aborted if a text attached to a reference designation polygon was not a reference designation (that means: was not '-', '=', '+' or '=Y').

## 7 Evaluations

### 7.1 General Information

#### Change of language sessions and parameter masks

In some parameter masks and as well in some other AWT dialogs prose text is saved in the underlying (parameter) file. The name of this file contains the workstation name. As usually different workstations are used for sessions in different languages, as a rule there are no problems with such prose texts.



If for sessions in different languages the same workstation is used it can happen that prose texts in AWT dialogs are displayed in the wrong language!

A workaround can be to delete the (parameter) file in TempAWT that is displayed in the dialog, and then restart the evaluation.

Nevertheless, the recommendation is to use different workstations for different language sessions.

### 7.2 Menu "List of documents"

#### 7.2.1 Create list of documents

##### Fixed bug

- If the marked plans did not supply data (mostly because of the title block symbols set to S&A=1) the evaluation aborted.

### 7.3 Menu "General diagram processing"

#### 7.3.1 **NEW: Copy sheets incl. merge of the wiring material tables**

If supplier's data are to be integrated into a project of the operating company, problems arise if supplier and operating company work with different wiring material tables.

The newly available evaluation "Copy sheets incl. merge of the wiring material tables" offers help with these problems: When copying a circuit manual into a target project, the wiring material table of the copied plans is merged into the wiring material table of the target project, and the wiring material position numbers in the plans are adapted accordingly.

The procedure is as follows:

1. The supplier's sheet library is attached to the target project (project of the operating company) as 2<sup>nd</sup> or higher sheet library (thus in reading mode).
2. If need be, that is if the supplier has used specific, project related symbols, the supplier's symbol library is attached to the target project.

3. The target project is opened, and in the supplier's sheet library the plans to be copied are marked.
4. For the marked plans, in the evaluation menu "General diagram processing" the evaluation "Copy sheets incl. merge of the wiring material tables" is started.
5. The evaluation compares the wiring material tables in the target sheet library and the supplier's sheet library and offers the material of the supplier's table that are missing in the target table for integration into the target wiring material table:

Overview over the new material

File Edit Extras View ?

New material: ☒ add to existing table ☐ create new sheet

Sort wir. mat. table: \_\_\_\_\_

(over position no.): ☐

	Import?	Original	New	Material	Diameter	Colour
S0	S1	S2	S3	S4	S5	S6
1	<input checked="" type="checkbox"/>	11	5	H07V-K	4mm <sup>2</sup>	GN/YE
2	<input checked="" type="checkbox"/>	12	6	H07V-K	10mm <sup>2</sup>	RD
3						
4	A			LMAT_MASTER_TEST	List 1 BLA	
5						
6	A	0	0	H07V-K	1,5mm <sup>2</sup>	BK
7	A	1	1	H07V-K	2,5mm <sup>2</sup>	GY
8	A	2	2	H05V-K	0,75mm <sup>2</sup>	BK
9	A	3	3	H07V-K	4mm <sup>2</sup>	BL
10	A	4	4	H05V-K	1mm <sup>2</sup>	BK

On "Cancel" the evaluation displays a message and then jumps to the end.

6. On "OK" the evaluation performs the described actions:

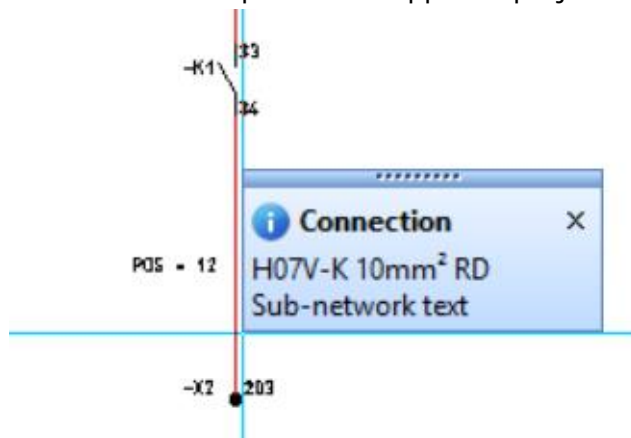
- Supplementing the target wiring material table:  
Sheet 2 before:

3	H07V-K	4mm <sup>2</sup>	BL
4	H05V-K	1mm <sup>2</sup>	BK

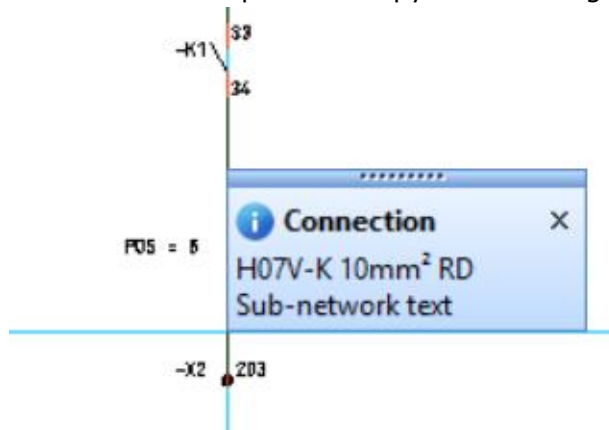
Sheet 2 after:

3	H07V-K	4mm <sup>2</sup>	BL
4	H05V-K	1mm <sup>2</sup>	BK
5	H07V-K	4mm <sup>2</sup>	GN/YE
6	H07V-K	10mm <sup>2</sup>	RD

- Adapting the position numbers in the copied plans:  
Connection example in the supplier's project:



Connection example after copy into the target project:





More hints:

1. If material of the supplier's table does exist in the target table, but with a different position number, this material is listed in the table of the new material and mapped with the target position number. In this case the position number cannot be altered.
2. The suggested position numbers for the new material may be altered.
3. The user may trigger that the target wiring material table is sorted according to the position numbers.

Example:

Overview over the new material

File Edit Extras View ?

New material: ☒ add to existing table ☐ create new sheet

Sort wir. mat. table:

(over position no.): ☐ ←

	Import?	Original	New	Material	Diameter	Colour
S0	S1	S2	S3	S4	S5	S6
1	<input checked="" type="checkbox"/>	3	21	YV1	0,8mm²	BR
2	<input checked="" type="checkbox"/>	4	22	YV1	1,4mm²	GY
3	<input checked="" type="checkbox"/>	11	7	H05Z-K	6mm²	VI
4	<input type="checkbox"/>	12	3	H07V-K	4mm²	BL
5	<input type="checkbox"/>	13	4	H05V-K	1mm²	BK
6	<input type="checkbox"/>	14	5	H07V-K	4mm²	GN/YE
7						
8	A			LMAT_MASTER_TEST	List 1	BLA
9						
10	A	0	0	H07V-K	1,5mm²	BK
11	A	1	1	H07V-K	2,5mm²	GY
12	A	2	2	H05V-K	0,75mm²	BK
13	A	3	3	H07V-K	4mm²	BL
14	A	4	4	H05V-K	1mm²	BK
15	A	5	5	H07V-K	4mm²	GN/YE
16	A	6	6	H07V-K	10mm²	RD

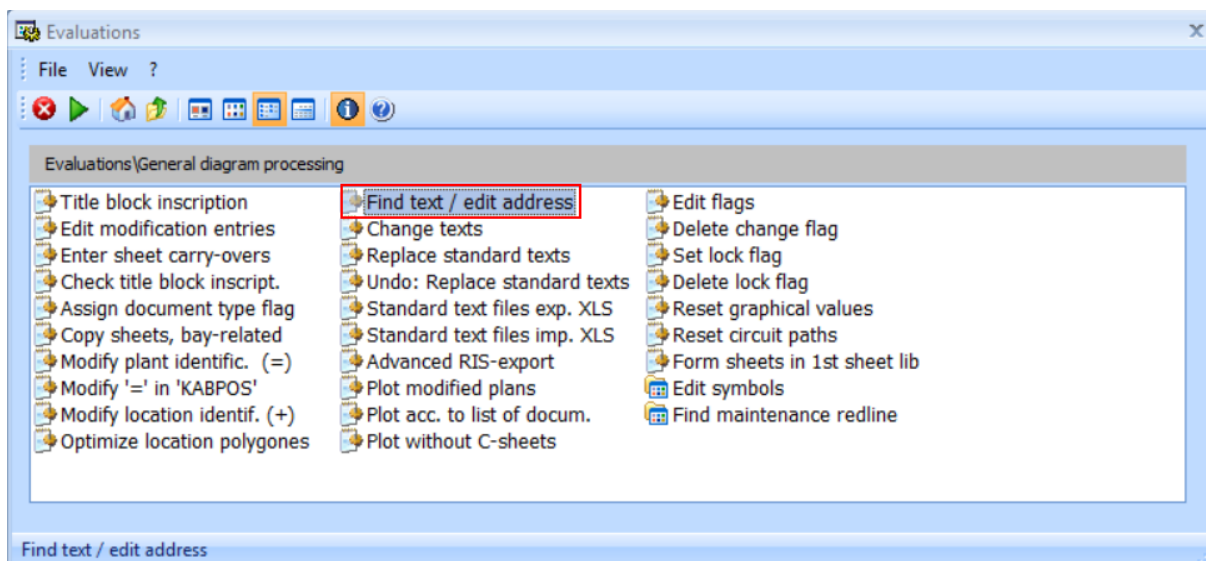
③  
②  
①

Result:

3	H07V-K	4mm²	BL
4	H05V-K	1mm²	BK
5	H07V-K	4mm²	GN/YE
6	H07V-K	10mm²	RD
7	H05Z-K	6mm²	VI
21	YV1	0,8mm²	BR
22	YV1	1,4mm²	GY

### 7.3.2 NEW: Find text / edit address

The old text search was replaced by an improved version:



Following the start, a pre-selection mask is displayed:



Texts contained in the marked sheets that fit to the entries of this pre-selection mask are displayed, listing the most important text features and information about the origin of the text:

	Text	ident	Visib	Layer	Online	T&ART	STX Code	Function	Sheet	T&X	T&Y
1	2 NOC, with relay te	TD1	Y	0	-	symb		=E01	ZSK01	35.00	279.50
2	Master control relay	T1	Y	0	-	symb	0512	=E01	MA01	189.00	101.00
3	Master control relay	T1	N	0	-	symb	0512	=E01	MA01	265.00	101.00
4	auxiliary relay	GERART	Y	0	-	symb		=E01	ZKK01	35.00	287.75
5	auxiliary relay	GERART	Y	0	-	symb		=E01	ZSK01	35.00	287.75
6	relay cubicle	T1	Y	0	-	symb		=E01	GO1	51.00	109.00
7	relay plate	T1	Y	0	-	symb		=E01	CO1	43.00	33.00
8	relay plate	ZTX2	Y	0	U&-text	symb		=E01	CW1	173.50	129.50
9	relay plate	ZTX2	Y	0	U&-text	symb		=E01	CW1	173.50	193.50
10	relay plate	T1	Y	0	-	symb		=E01	Q01	31.00	49.00
11	relay plate	ZTX2	Y	0	-	symb		=E01	W01	168.75	170.75
12	relay plate	ZTX2	Y	0	-	symb		=E01	W01	168.75	194.75
13	relay terminal	GERART	Y	0	-	symb		=E01	ZSK01	35.00	287.75
14	relay terminal block	K1TD1	Y	0	-	symb		=E01	ZSK01	35.00	262.00
15	relay terminal block	K1TD1	Y	0	-	symb		=E01	ZSK01	35.00	262.00
16	relays	T3	Y	0	-	symb		=E01	CO1	156.00	281.00
17	time relay	GERART	Y	0	-	symb		=E01	ZSK01	35.00	235.75

Via double click navigation to the presentation of the text in the sheet is performed. In case of an invisible text, navigation leads to the superior element. After exiting the sheet, the text list is displayed again.



If the project options switch **Address description from title block texts BENENN\*** is activated, the address description of a sheet that was saved is adapted accordingly. Subsequently the text list is displayed again.

### 7.3.3 Further changes in the main menu

#### Modify plant identific. (=)

##### Fixed bug

- Since update no. 1 for EVU-module 4.81, during this evaluation, for all external connectors without online references a cross reference entry in 'L' is replaced by the cross-substitution text ".".  
Excluded from this reset should be external connectors with manual entries that are not supposed to be put under online control. As a criterion for this exclusion so far only the designation with "&NOOBJ" was used, the symbol class S&A=1 was not considered.

#### IEC only: Adjust reference frames

##### Fixed Bug

This feature aborted if a text attached to a reference designation polygon was not a reference designation (that means: was not '-', '=', '+' or '=Y').

#### IEC only: Typical: edit convers. table

##### Fixed bug

- The cover sheet entries made by this evaluation did still use the old title block symbol idents instead of the new table symbols TA002.

### 7.3.4 Submenu "Edit symbols"

#### Delete symbols not in use

##### Fixed bug

- Logic symbols still in use were offered for deleting.

#### Delete double reference sym.

##### Fixed bug

- This evaluation offers the possibility in the parameter mask header: to make a general selection to delete all the symbols that already exist in a certain symbol reference library. This selection did only function for short symbol library names; the bug was dependent on language, and in German occurred for symbol library names with more than 8 characters.

## 7.4 Menu "Circuit diagram commands"

### 7.4.1 Main menu

#### Delete surplus polygon symb.

- The new corner symbol for item polygons GJ522 is now considered by this evaluation: GJ522 is deleted if it is not under online-control and has no designation in 'T1' or 'T1\_E'.

### 7.4.2 Submenu "Connections and connectors"

#### CON: missing ident./potent.

- If a plan contained connectors without connection points that for this reason were not connected to a network, the check did not list these. This bug was fixed.

## 7.5 Menu "Online control"

### 7.5.1 Submenu "Checks preceding obj. ref."

#### CON: missing ident./potent.

- If a plan contained connectors without connection points that for this reason were not connected to a network, the check did not list these. This bug was fixed.


## 7.6 Menu "Device documents"

### 7.6.1 Create resource schedules

#### 7.6.1.1 NEW: Resource schedules with office links

If TEC-objects contain links to office documents, then these links are transferred to the resource schedules.

At a partial function of a TEC-object an office link may be entered, e.g. a data sheet or a photo (see chapter 5.1, Object editing / Graphics); this can be done for main devices as well as for components.

The evaluation creating the resource schedules reads those data from the TEC-objects. For every office link it enters an office link symbol  (Q0003, see chapter 10.1.1, New reference symbols) into the device symbol, in the upper area the link for the main device, in the component list the link for the corresponding component:

3	Fuse	Herst. : Siemens Best.Nr.: 5SF4230	Typ: 5SF4	
	Fuse socket, 1-pole, Size DIII		, E33	
	Rating voltage	: 750V AC	Rating current	: 63A
	Technische Komponenten pro Gerät		Typ	Bestellnummer
1	Fuse inlay	DIII, E33	Diazed 6A gL/g6	5SD8006
1	Screw cap	DIII, E33	Ceramics	5SH1161
1	Fitting ring	DIII, E33	6A	5SH3081
	Verwendungszweck	Einstelldaten	Einbauort	BTM-Kennzeichen

At the office link symbol, the linked office file may be opened via context menu.

Office link symbols are entered into the resource schedule if there exists an office link in the proper TEC partial function.



The user may generally switch off the office link entry into the resource schedule; see chapter 7.11.1.1, Project options: "EVU module".

### 7.6.1.2 Further Changes

#### Fixed bug

- Occasionally it occurred that certain partial function properties in the used objects were interpreted by the evaluation as symbol class S&A=1, which subsequently was transferred to the device symbols in the newly created resource schedules. This led to unjustified QS error messages because those device symbols were excluded from QS checks (see chapter 8.6.2 "Item definition ⇔ resource schedules").

### 7.6.2 Sub menu "Preparation/after-treatment"

#### TEC: copy TEC into 1<sup>st</sup> db

#### Fixed bug

- If TEC-objects were unknown and no TEC-objects were copied, the unhelpful general message "Technical data objects are missing in reference libraries!" was shown. Now the list of the missing TEC-objects is displayed.

## 7.7 Menu "Terminal diagram"

### 7.7.1 Main menu

#### 7.7.1.1 Export terminal data

As the output formats "Phoenix" and "Wago" were out-of-date and could not be read by the current versions of ClipProject resp. SmartDesigner, they are now omitted and cannot be selected anymore.

### 7.7.1.2 Create terminal diagram

#### Application of the information in 'INT'

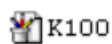
All terminal symbols are newly equipped with the text node 'INT' (see chapter 10.1.2, Changes on reference symbols). This text node is the counterpart to the text node 'EXT': Just as 'EXT' receives the connection point number that leads to the external destination of a 2-pole terminal, the text node 'INT' receives the connection point number that leads to the internal destination; this entry is now considered by the creation of terminal diagrams.

The data transfer from terminal diagram to circuit diagram was enabled accordingly (see chapter 7.7.1.3, Data transfer TDR -> CDR).

#### More Changes

- The address description of the terminal diagram automatically obtains location and terminal block designation. Now the designation of sub-device and connection means are integrated as well.

Example:



=E03+S1

Terminal Diagram +S1-Q0-X1



Something that was never checked might happen more often with this change: The string built for the address description is cut to 40 characters because that is the maximum length of the address description:

A string **Terminal Diagram +9 1BBG09.AA001-A100-F13-X1** will be reduced in the address description to **Terminal diagram +9 1BBG09.AA001-A100-F1**.

### 7.7.1.3 Data transfer TDR -> CDR

#### Application of the information in 'INT'

For 2-pole terminals that do not use the connection designation additives "A"/"B", up to now only the connection point leading to the external destination was captured at the terminal in the circuit diagram.

From now on the evaluation as well writes back to the terminal in the circuit diagram which connection point leads to the internal destination. This information is entered in the new text node 'INT' (see chapter 10.1.2, Changes on reference symbols).

### 7.7.1.4 Sub menu "Special cases of term. Dgr."

#### 7.7.1.4.1 Term.dgr.: freeze destinat.

##### New feature

When freezing the destinations, now the form sheet is marked at the header symbol as a formatted terminal diagram and thus excluded from the QC-check "Free graphics in result. doc".



Generally, it is recommended to deposit form sheet for formatted terminal diagrams in a function VDR....

Hint: This recommendation only applies to form sheets that exist as separate form sheets. Formatted terminal diagrams existing directly in the plant documentation are of course not moved to a VDR-function.

## 7.8 Menu "Cable documents"

### 7.8.1 Main menu

#### 7.8.1.1 Cable def.sheets/cable list

##### **New feature: Target texts in successor lines**

Via the project options (see chapter 7.11.1.1, Project options: "EVU module") the user may decide whether in a multiple line cable list, the target texts should be written in all lines, or in the 1<sup>st</sup> line for each cable only.

##### **Fixed bugs**

- If in the parameter window a non-fitting value was entered for the "name of defin. sheet", the follow-up window "Cable definition sheets already exist!" was skipped.
- If the search criterion for the cable definition / overview sheets addressed other plans as well, and if "Overwrite" was chosen for the cable definition / overview sheets, all the other plans were deleted as well!
- If the search criterion for the cable definition / overview sheets addressed other plans as well, it could happen that these other sheets were chosen as source of the title block inscription of the cable list instead – as expected – the definition / overview sheets.
- The pre-set of the parameter mask when created newly did not consider the project setting for "Cable in cable list with several lines?". This applied for the interactive start as well as for the start via super-AWT.
- IEC only: If the definition / overview sheets had online references and were to be updated, the evaluation aborted because of a wrong jump address.
- IEC only: If the definition / overview sheets had online references at the start of the evaluation, these online references were not restored by the evaluation.

#### 7.8.1.2 **NEW: Cable destination editor**

This evaluation supports the interactive processing of the cable definition sheets / cable overview sheets with cable destination entries that were entered by the evaluation "Cable definition sheets / cable list".

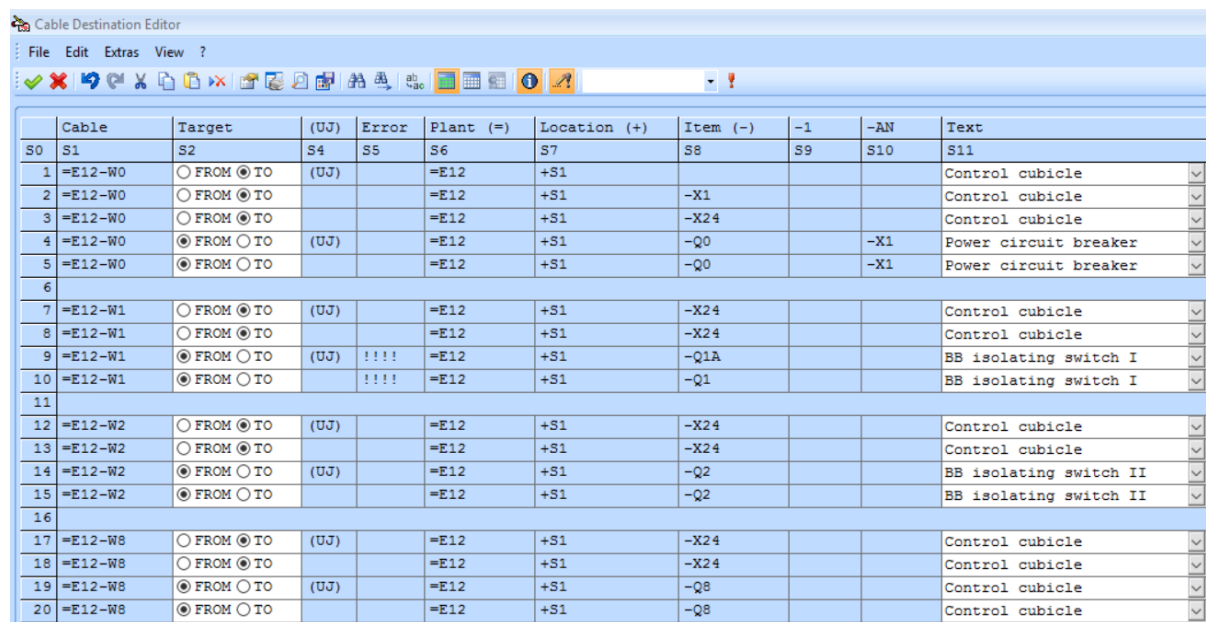
The cable destination editor permits to switch destinations from the FROM- to the TO-side of the cable and vice versa.

In the window of the editor the plain texts for the destinations can be processed comfortably. If the bay documentation contains an assignment table plain text ⇔ designation, then all plain texts of this table are offered for selection.

For cable overview sheets the FROM- and the TO-destinations are compared with the designation of the target symbol connected to the corresponding side of the cable symbol. If the entries don't fit they are marked in the editor window.

The cable designation editor is started at the definition / overview sheets via the evaluation menu "Cable documents".

The editor window for cable overview sheets in a DIN project looks as follows:



	Cable	Target	(UJ)	Error	Plant (=)	Location (+)	Item (-)	-1	-AN	Text
S0	S1	S2	S4	S5	S6	S7	S8	S9	S10	S11
1	=E12-W0	○ FROM ● TO	(UJ)		=E12	+S1				Control cubicle
2	=E12-W0	○ FROM ● TO			=E12	+S1	-X1			Control cubicle
3	=E12-W0	○ FROM ● TO			=E12	+S1	-X24			Control cubicle
4	=E12-W0	● FROM ○ TO	(UJ)		=E12	+S1	-Q0		-X1	Power circuit breaker
5	=E12-W0	● FROM ○ TO			=E12	+S1	-Q0		-X1	Power circuit breaker
6										
7	=E12-W1	○ FROM ● TO	(UJ)		=E12	+S1	-X24			Control cubicle
8	=E12-W1	○ FROM ● TO			=E12	+S1	-X24			Control cubicle
9	=E12-W1	● FROM ○ TO	(UJ)	!!!!	=E12	+S1	-Q1A			BB isolating switch I
10	=E12-W1	● FROM ○ TO		!!!!	=E12	+S1	-Q1			BB isolating switch I
11										
12	=E12-W2	○ FROM ● TO	(UJ)		=E12	+S1	-X24			Control cubicle
13	=E12-W2	○ FROM ● TO			=E12	+S1	-X24			Control cubicle
14	=E12-W2	● FROM ○ TO	(UJ)		=E12	+S1	-Q2			BB isolating switch II
15	=E12-W2	● FROM ○ TO			=E12	+S1	-Q2			BB isolating switch II
16										
17	=E12-W8	○ FROM ● TO	(UJ)		=E12	+S1	-X24			Control cubicle
18	=E12-W8	○ FROM ● TO			=E12	+S1	-X24			Control cubicle
19	=E12-W8	● FROM ○ TO	(UJ)		=E12	+S1	-Q8			Control cubicle
20	=E12-W8	● FROM ○ TO			=E12	+S1	-Q8			Control cubicle

For cable definition sheets the columns S4 ((UJ) Destin. Symbol) and S5 (Error) are omitted.

If an assignment table plain text ⇔ designation (see chapter 6.1, NEW: Table "Assignment Plain Text to Designation") exists within the bay documentation, then the text column S11 is a selection / entry field as in the screenshot above, if no such table exists, the S11 is a simple entry field.



At the time being standard text codes are not yet decoded to plain text, in the entry window and in the selection list only the codes are displayed as seen in the designation mask.

The same applies to permanent text automatic codes.

### Fixed bug since update no. 1 for EVU-module 4.82

- Dummy cables IW400 were exported as well and appeared in the entry mask with an empty column "Cable".

#### 7.8.1.3 Cable list from def. sheets

##### Fixed bug

The title block designation was taken from the last marked sheet instead of the source sheet (cable definition sheet or cable overview sheet).



#### **7.8.1.4 Create cable connection dgr.**

##### **Fixed bug**

- When started via super-AWT the background pre-set of the parameter mask did not consider the project setting for "Determine "int"/"ext"-marking:" in the settings for "More wiring documents".

#### **7.8.2 Submenu "Preparation"**

##### **Fixed bug**

- IEC only: The submenu contained a DIN-evaluation: "Modify '=' in 'KABPOS' ".

### **7.9 Menu "Wiring diagrams"**

#### **7.9.1 Cross connection diagram**

##### **Fixed bugs**

- When started via super-AWT the background pre-set of the parameter mask did not consider the project setting for "Determine "int"/"ext"-marking:".
- If no wiring material position number at all existed in the circuit diagrams then no wiring material at all was entered in the cross-connection diagram, not even – as was meant to – the material of the wiring material table header symbol.
- If a dot "." was entered as wiring material position number to screen out a material entry in the cross-connection diagram, instead the entry "(LPOS=.)" was made.

#### **7.9.2 Wiring diagram**

##### **Fixed bugs**

- When started via super-AWT the background pre-set of the parameter mask did not consider the project setting for "Determine "int"/"ext"-marking:".
- If no wiring material position number at all existed in the circuit diagrams then no wiring material at all was entered in the wiring diagram, not even – as was meant to – the material of the wiring material table header symbol.
- If a dot "." was entered as wiring material position number to screen out a material entry in the wiring diagram, instead the entry "(LPOS=.)" was made.

#### **7.9.3 Plug connection diagram**

##### **Fixed bug**

- Cable cores that were connected to the plug pins via connectors were missing occasionally.

## 7.10 Menu "Derived documents generator"





### 7.10.1 Super-AWT

#### New feature

The data processing of the super-AWT is bay-oriented. The first step therefore is to extract the bay designation from the RUPLAN-functions of the marked sheets.

For DIN projects with at structure according to '=' the rule is that the first special character following the prefix "=" is interpreted as a separator to the document type or an informational code.

Thus, bays where a dot "." is a part of the designation are not found by the super-AWT; example:

 =K11.01	The bays =K11A and =K11B were processed correctly by the Super-AWT, whereas the bays =K11.01 und =K11.02 were not recognized by it.
 =K11.02	
 =K11A	
 =K11B	

For this reason, now, the option is available to permit a dot "." in the bay designation via the project settings (project options; see 7.11.1.1, Project options: "EVU module").

#### Fixed bugs

- For the cable list the project setting for "Cable in cable list with several lines?" was not considered for the creation of the parameter mask.
- For the cable connection diagram, the cross-connection diagram and the wiring diagram the project setting for "Determine "int"-/"ext."-marking:" was not considered for the creation of the parameter mask.

## 7.11 Menu "Administration commands"

### 7.11.1 Submenu "Project administration"

#### 7.11.1.1 Project options: "EVU module"

##### New option variables

- Device Documents / Resource schedule:**

The new entry of office links in resource schedules can be generally de-activated for the whole project:

Explaining Text	Standard	Customer
Width of cross reference fields	normal width of cross reference	broad width of cross referenc
Normal width of cross refer. fields when working with KKS?	<input type="checkbox"/>	<input type="checkbox"/>
Component with designation?	<input type="checkbox"/>	<input type="checkbox"/>
Move up components?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
If language = GER: set 'ident_E' invisible?	<input type="checkbox"/>	<input type="checkbox"/>
Suppress error messages concerning TEC-objects?	<input type="checkbox"/>	<input type="checkbox"/>
Enter office link in resource schedule?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

For more information about this feature of the resource schedule see chapter 7.6.1.1  
NEW: Resource schedules with office links.

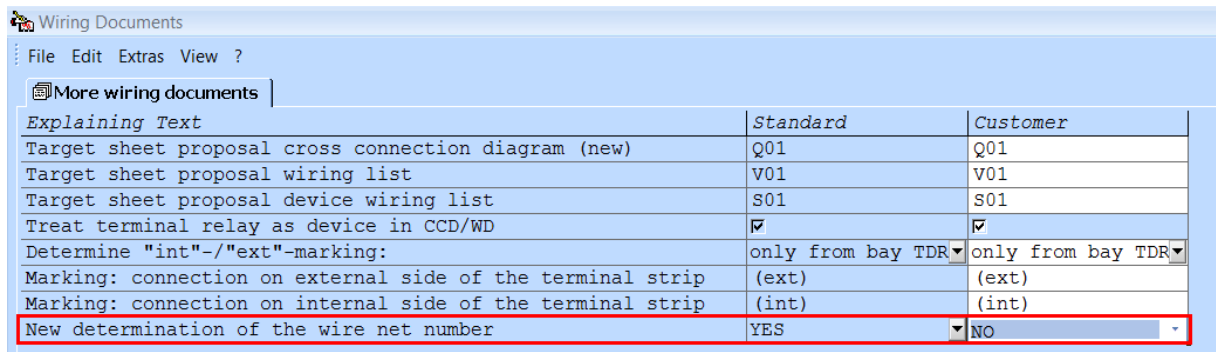
- Wiring Documents / Cable documents:**

Now the user can decide whether in a multiple line cable list the target texts should be written in all lines, or in the 1<sup>st</sup> line to each cable only:

Explaining Text	Standard	Customer
Application of cable definition or of cable overview sheets?	Cable definition sheets	Cable survey diagrams
Searching term for cable definition / overview sheets	CW*	A*
Starting value for cable definition / overview sheets	CW1	A01
Target function proposal cable def. sheets (bay-overlapping)	CABLE_LISTS	CABLE_LISTS
Cable list: Title block texts taken from	Cable def. sheet/survey diagr	Cable def. sheet/survey diagr
Cable list: Number of lines in the form sheet	21	21
Target sheet proposal cable list	W01	W01
Target sheet proposal cable list (bay-overlapping)	W01	W01
Target function proposal cable list (bay-overlapping)	CABLE_LISTS	CABLE_LISTS
Cable in cable list with several lines?	<input type="checkbox"/>	<input type="checkbox"/>
CBL with sev. lines: Target text in successor line?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Target sheet proposal cable connection diagram	XW01	XW01

- **Wiring Documents / More wiring documents:**

The new AWT-method to create the wire net number can now be switched off:



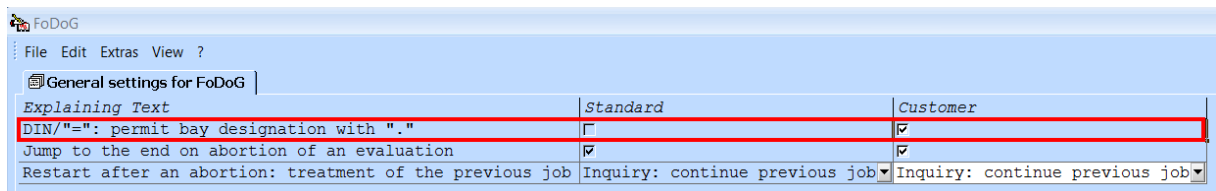
This setting is used with the cross connection and the wiring diagram as well as with the cable connection diagram and the device wiring list.

If this setting is active, under certain connector pair constellations the start of the named evaluations may lead into an infinite loop.

If this setting is inactive, under certain (rare) conditions single cross connections may be missing.

- **FoDoG / General settings for FoDoG:**

If in DIN projects with a structure according to '=' the dot "." is used within bay designations, this can be permitted with this new switch; otherwise the super-AWT will not recognize the bays in question:



## 7.11.2 Submenu "Administrat. addresses/files"

### Delete double evaluations

#### Changes

- The following evaluations in the 1st AWT-library are not any more listed for deletion because they are rightly kept in the 1st AWT-library:
  - customer's evaluation menus (A#PRV\*, A#BMxx\_PRV)
  - object class presets (M#OKL)

### Delete symbols not in use

#### Fixed bug

- Logic symbols still in use were offered for deleting.

## Delete double reference sym.

### Fixed bug

- This evaluation offers the possibility in the parameter mask header: to make a general selection to delete all the symbols that already exist in a certain symbol reference library. This selection did only function for short symbol library names; the bug was dependent on language, and in German occurred for symbol library names with more than 8 characters.

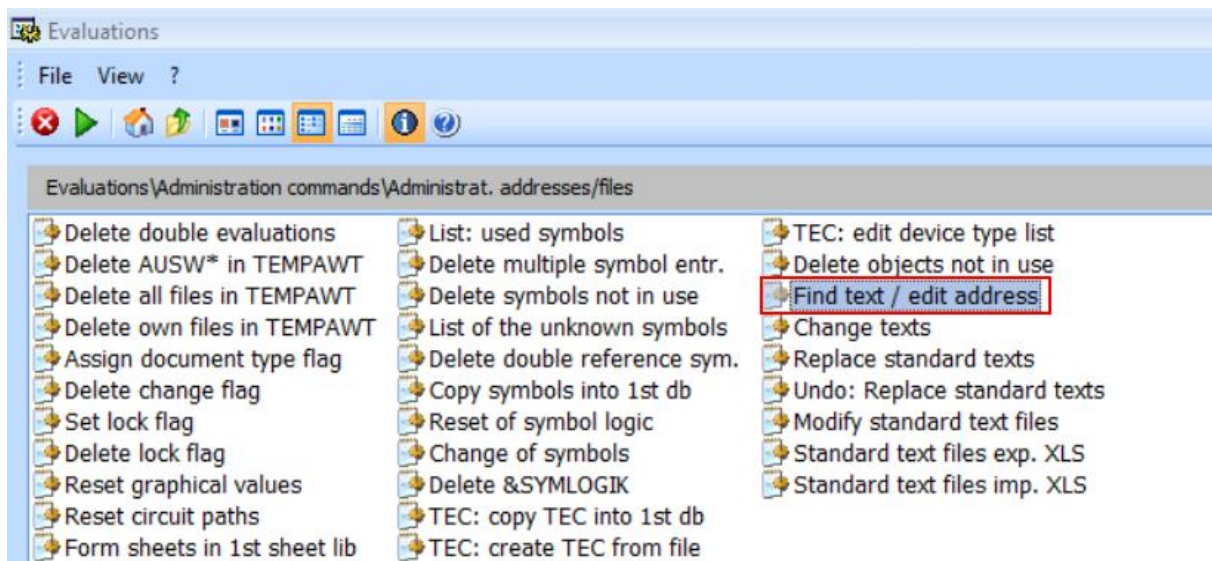
## TEC: copy TEC into 1<sup>st</sup> db

### Fixed bug

- If TEC-objects were unknown and no TEC-objects were copied, the unhelpful general message "Technical data objects are missing in reference libraries!" was shown. Now the list of the missing TEC-objects is displayed.

## NEW: Find text / edit address

The old text search was replaced by an improved version:



This improved text search also is available in the menu **General diagram processing**; see chapter 7.3.2, NEW: Find text / edit address. There you find a short description of this new feature.

## 7.12 Menu "Revision index management"

### 7.12.1 Release documentation

#### Fixed bug

- The evaluation was aborted because of a coding error.

## 8 QS-tools

### 8.1 QS-tools: Overall

#### Status sheet

- When trying to display help information from within the QS-status sheet the message was shown that the help information file could not be found. This bug was fixed.
- Projects with longer project names (> 17 characters) are entered in the table of the constellation of libraries with a tighter width-height-ratio:

Project: LONGER_PROJECT_NAME						
Constellation Of Libraries						
	Blattbank	Symbolbank	Objektbank	Onlinebank	AWT-Bank	STX-Datei
lib 1	LONGER_PROJECT_NAME	LONGER_PROJECT_NAME	LONGER_PROJECT_NAME	LONGER_PROJECT_NAME	LONGER_PROJECT_NAME	
lib 2	CUSTOMER-DATA	TFS_167506_TEXTSUCHE	CUSTOMER-DATA		NOETOOLS	
lib 3	COMPANY	CUSTOMER-DATA	COMPANY		CUSTOMER-DATA	
lib 4	X00482E	COMPANY	X00482E		COMPANY	
lib 5		BSB027			EVUQS482	
lib 6		X00482E			TFS_167506_TEXTSUCHE	
lib 6					X00482E	
lib 7					STA482	
lib 9						

### 8.2 General data check

#### 8.2.1 Incomplete data

##### Fixed bug

- There were problems if the name of the path of an external document became too long: Either the evaluation aborted, or existing external documents were listed as missing.

### 8.3 Objects and devices

#### 8.3.1 Device check

##### Fixed bug

- If no additional list (= list of TEC-objects with device types differing from the device type list only in case-sensitive comparison) was created, nonetheless such a list was offered for viewing at the check line. When trying to open this list, rightly a message was displayed saying that the file didn't exist.

## 8.4 Symbols and designations

### 8.4.1 Title block inscription

#### Fixed bug

- If no data were found, e.g. because all plans were organized in a RUPLAN function like "=TEST" which is excluded from QS-checks, the evaluation aborted. Now this situation creates the message "Correct ?Data?".

### 8.4.2 Item captioning

#### Fixed bugs

- If no additional list (= list of reserve devices without representation in the circuit diagram: 'TX3' = "BTM=0") was created, nonetheless such a list was offered for viewing at the check line. When trying to open this list, rightly a message was displayed saying that the file didn't exist.
- The output of the item designation especially in IEC-projects was distorted.

### 8.4.3 Captioning of termin./plugs

#### Fixed bug

- Terminals that are excluded from online control via "&NOOBJ" are nevertheless fully considered by the terminal diagram evaluation; online control for terminals is neither mandatory nor general standard. But up to now such terminals were excluded from this QS check.

### 8.4.4 Check object references

#### Fixed bug

- If no additional list (= list of devices excluded from online control: &NOOBJ or S&A=1) was created, nonetheless such a list was offered for viewing at the check line. When trying to open this list, rightly a message was displayed saying that the file didn't exist.

## 8.5 Connections and potentials

### 8.5.1 Faulty pot./cross ref. symb.

#### Fixed bugs

- If the connector found first was not attached to a network the evaluation aborted with the message "Ident text >C&CUPOS < not known".
- If a plan contained connectors without connection points that for this reason were not connected to a network, the check did not list these.
- Because of an unfavorable sort, the potential cross references were not listed in the order of their sheets.
- In update no. 1 the change was made that connector symbols which were entered into the plan without electrical connections are now listed in the error list. This change caused as well the listing of standard symbols QJ\* which are no real connector symbols and have no electrical connections by definition.

This bug was fixed by adding a selection according to the symbol type: from now on only potential cross references (S&ART=11) are examined by this check.

## 8.6 Circuit dgr. ⇔ accomp. docu.

### 8.6.1 Term.: circuit diagram ⇔ terminal diagram

#### Fixed bugs

- If for a terminal there existed an end plate before this terminal (EXTDA...), and if this terminal was connected with the following terminal via jumper, the check produced the error message "A(O): Partition element crossing jumper".
- For the detection of the error "A(O): Partition element crossing jumper" only line symbol names VX\$\$2\* und VX\$\$4\* were treated properly. Now the exact name of the line symbol no longer is relevant for this error.
- For the detection of the error "A(O): Partition element crossing jumper" terminals with identical number in ':1', but differing in 'LFDKNR', were mixed up, thus occasionally leading to unjustified error messages.



## 8.6.2 Item definition ↔ resource schedules

### Fixed bugs

- It could occur that device symbols in resource schedules were entered with symbol class S&A=1. Because thus the device symbols were excluded from the check, unjustified error messages were created:

Check: Item Definition <=> Plant Resource Schedules							Result: Incorrect											
-----																		
Error:	1: The item line symbol VG* is missing in the resource schedule. 2: The item definition symbol GJ50* is missing in the C-sheet or is marked as "not in resource schedule" (TX3=BTM=0) 3: The ident number NO in item line VG* and in definition symbol GJ50* do not match. 4: The object name TGl in item line VG* and definition in symbol GJ50* do not match. 5: The ident number NO in item line VG* and in device symbol G* do not match. 6: Manual entries in device symbol G*. 7: Manual entries in item line VG*. 8: The ident number NO in definition symbol GJ50* and in device symbol G* do not match. 9: The component ident numbers NOK1..6 in definition symbol GJ50* and in device symbol G* do not match.																	
-----																		
Search Terms										#		Error						
-----																		
Function	Sheet	Symb. Name	X	Y	Location (+)	-	Item (-1)	-AN	#	1	2	3	4	5	6	7	8	9
-----																		
=U00	C 1	GJ501	4	A	+XW01	-G200			#									X X
=U00	ZXWG01	VG612	1	B	+XW01	-G200			#				X					
=U00	C 1	GJ501	7	A	+XW01	-D941			#									X X
=U00	ZXWD01	VG650	1	C	+XW01	-D941			#				X					

This was no malfunction of the QS check, but a bug in the resource schedules. With a correction of the evaluation "Create resource schedules" a solution was provided (see chapter 7.6.1 "Create resource schedules"). The resource schedules with the bug as described must be created newly by the modified resource schedule evaluation.

- If no additional list (= list of items without representation in the resource schedule: 'TX3' = "BTM=R") was created, nonetheless such a list was offered for viewing at the check line. When trying to open this list, rightly a message was displayed saying that the file didn't exist.

## 8.6.3 Item definition ↔ cross conn. diagram

### Fixed bug

- With certain setups of the documentation structure, the installation sheet VL for the cross-connection diagram in the VDR-function was examined and the 2 lines it contained were reported in the error list.

## 9 QS-tools acc. to previous versions

### 9.1 QS-tools acc. to EVU-module 4.62, update no. 3

For EVU-module 4.62, after update no. 3, bugfixes were released. Thus, for part of the QS-checks there was a discrepancy between the results depending on whether they were started in RUPLAN EVU 4.62 or in RUPLAN EVU 4.90 acc. to the state of version 4.62, update no. 3.

To eliminate this discrepancy, the changes of the bugfixes for EVU-module 4.62 update no. 3 were integrated into the QS-library EVUQS462U3\_490.

The fixed bugs in detail:

- **General:** In KKS-projects the form sheets were searched in VDR instead of VDR\_KKS.
- **Symbols within the grid:** Symbols to put into switch board were not recognized by the check if their names did not commence with "B", and thus they were reported as errors.
- **Title block inscription:** The RUPLAN-functions \*INFO\*, \*DOKU\* and \* DUMMY\* were not excluded from the check.
- **Item captioning:**
  - IEC only: Big devices that in the circuit diagram are represented only by the item group corner symbols, were listed as errors with "The item is only available in the item definition sheet."
  - IEC only: Terminals that were excluded from online-control via "GER &NOOBJ" or "STE &NOOBJ", were listed in the error list with the error message "The item is only available in the circuit diagram."
- **Check object references:** Symbols to put into switch board which names did not commence with "B" were examined by this check, though the functional objects only contained symbols to put into switch board with the names "B\*".
- **Term.: circ.dgr. ⇔ term.dgr.:**
  - Formatted terminal diagrams: Occasionally, frozen accessory symbols were reported as an error.
  - Formatted terminal diagrams: If 'TG1' and 'NO' were provided in the form sheet, they were reported as faulty manual entries.
  - IEC only: With error messages concerning accessories the first letter of the accessory symbols was displaced in the column area of the connection designation.
- **Item def. ⇔ resource sche.:** If there were gaps between the component IDs (e.g. 'NOK1', 'NOK3', 'NOK6'), the component IDs were shifted differently for definition symbols and for device symbols. Thus, unjustified error messages were produced.

## 10 Reference data of EVU module 4.90

### 10.1 Symbols

#### 10.1.1 New reference symbols

All reference symbols listed below were newly built for the symbol libraries X00490/X00490\_IEC and X0032 (German) as well as for the symbol libraries X00490E/X00490E\_IEC (English), resp. for update no. 1 of the symbol libraries of version 4.82. Form sheet symbols were likewise supplemented in X00490\_FORM\_STX and X00490\_IEC\_FORM\_STX.

GJ522	text symbol for item groups (corresponding to GJ512, text symbol for location groups)
Q0003	symbol for receiving an office link in resource schedules (see 7.6.1.1, NEW: Resource schedules with office links)
VT710	header symbol for new plain text ⇔ designation table (see 6.1, NEW: Table "Assignment Plain Text to Designation")
VT710KKS	DIN only: header symbol for new plain text ⇔ designation table (see 6.1, NEW: Table "Assignment Plain Text to Designation"), for KKS application
VT711	line symbol for new plain text ⇔ designation table (see 6.1, NEW: Table "Assignment Plain Text to Designation")
VT711KKS	DIN only: line symbol for new plain text ⇔ designation table (see 6.1, NEW: Table "Assignment Plain Text to Designation"), for KKS application
VX560	X00482_IEC_FORM_STX only: bugfix: symbol had been missing in this symbol library

#### 10.1.2 Changes on reference symbols

If not specified otherwise, the changes listed below were performed for the symbols in X00490/X00490\_IEC and X0032 (German) as well as for the symbols in X00490E/X00490E\_IEC (English). Form sheet symbols were likewise changed in X00490\_FORM\_STX and X00490\_IEC\_FORM\_STX

GX501	DIN only: text node 'INT' supplemented (see 7.7.1.2, Create terminal diagram, and 7.7.1.3, Data transfer TDR -> CDR)
GX501D	DIN only: ditto
GX502L	all: ditto
GX502LD	all: ditto
GX502P	all: ditto
GX502PD	all: ditto
GX503_G	DIN only: adjacent connection points avoided (see 6.2, Graphics)

GX504L	- all: text node 'INT' supplemented (see 7.7.1.2, Create terminal diagram, and 7.7.1.3, Data transfer TDR -> CDR) - IEC only: discrepancies between the position of the connection points and the text nodes ':ZUSn' were fixed
GX504LU	ditto
GX504L_G	- X0032/IEC only: adjacent connection points avoided (see 6.2, Graphics) - IEC only: reset of the logic of the corrected (see above) GX504L*-terminals
GX504P	- all: text node 'INT' supplemented (see 7.7.1.2, Create terminal diagram, and 7.7.1.3, Data transfer TDR -> CDR) - IEC only: discrepancies between the position of the connection points and the text nodes ':ZUSn' were fixed
GX504PU	ditto
GX504P_G	- X0032/IEC only: adjacent connection points avoided (see 6.2, Graphics) - IEC only: reset of the logic of the corrected (see above) GX504L*-terminals
GX519_G	all: only: adjacent connection points avoided (see 6.2, Graphics)
GX519L_G	X0032/IEC only: ditto
GX520_G	all: ditto
GX520L_G	X0032/IEC only: ditto
GX522_G	all: ditto
GX522L_G	X0032/IEC only: ditto
GX523_G	all: ditto
GX523L_G	X0032/IEC only: ditto
L001503 *	all: text node 'INT' supplemented (see 7.7.1.2, Create terminal diagram, and 7.7.1.3, Data transfer TDR -> CDR)
L001504 *	all: ditto
L001505 *	all: ditto
L001506 *	all: ditto
L002501 *	all: ditto
L002502 *	all: ditto
L002508 *	DIN only: ditto
L002509 *	all: ditto
L002511 *	all: ditto
L002513 *	all: ditto
L002516 *	all: ditto
L002517 *	all: ditto
L002518 *	all: ditto
L002521 *	all: ditto
L002525 *	all: ditto

L002531 *	DIN only: ditto
L002531U *	DIN only: ditto
L002555 *	all: ditto
M_U1	symbols for reserve cable targets in cable overview plans were supplemented (copy from M_UJ)
TJ100	text nodes for an office link were supplemented ('DATEI', 'PFAD', 'PFAD2', 'PFAD3') as well as a header line for these ('DUMMY7')
TJ410	ditto
TJ411	ditto
TJ420	ditto
TJ421	ditto
TJ511	ditto
VX250	DIN only: "No." for the cable list in the upper left area: Justification was altered from centered to left-oriented: when replaced by e.g. the FORM standard text code "@_ALL031" the text does not exceed the left symbol border
VX252S6B	DIN only: part of the marking lines for the 7 slots were missing
VX550	"No" for the cable list in the upper left area: Justification was altered from centered to left-oriented: when replaced by e.g. the FORM standard text code "@_ALL030" the text does not exceed the left symbol border
VX560	"No" for the cable list in the upper left area: Justification was altered from centered to left-oriented: when replaced by e.g. the FORM standard text code "@_ALL030" the text does not exceed the left symbol border

## 10.2 Objects

### 10.2.1 Changes on reference objects

If not specified otherwise, the changes listed below were performed for the objects in X00490/X00490\_IEC (German) as well as for the objects in X00490E/X00490E\_IEC (English).

KLE	X51501A0, X51501A1	DIN only: 4 "forgotten" KKS line symbols were supplied (VX212TD, VX254U, VX256U, VX258U).
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