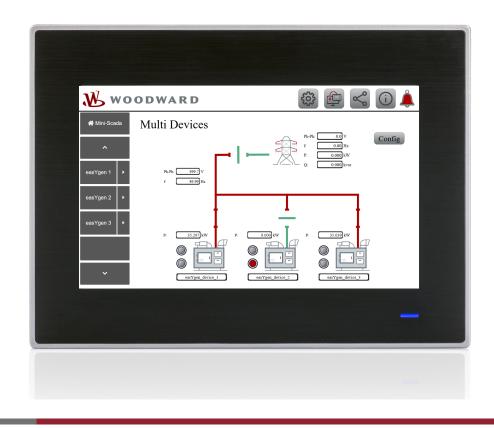


# APPLICATION NOTE **#B37949\_D**, **02/2025**



easYview

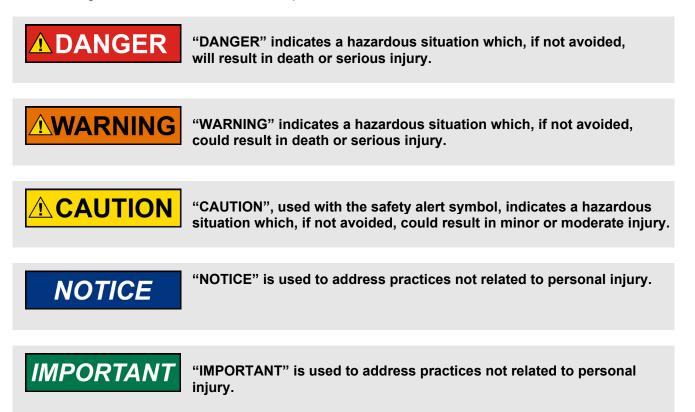
# Customize your easYview-xx-yyy Rel. 2.2 or higher

**Optional Supplementary Information** 

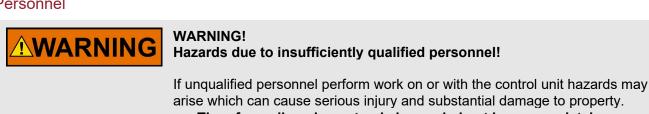


#### Alert boxes

The following alert boxes can be used in this publication:



#### Personnel



Therefore, all work must only be carried out by appropriately qualified personnel.

For further Product Support Options, Product Service Options, Returning Equipment for Repair, and/or Engineering Services please download application note #37573.



#### Documentation itself

# 

Read this entire application note and all other publications pertaining to the work to be performed before installing, operating, or servicing this equipment. Practice all plant and safety instructions and precautions.

Failure to follow instructions can cause personal injury and/or property damage!

Any unauthorized modifications to or use of this equipment outside its specified mechanical, electrical, or other operating limits may cause personal injury and/or property damage, including damage to the equipment.

Any such unauthorized modifications: constitute "misuse" and/or "negligence" within the meaning of the product warranty thereby excluding warranty coverage for any resulting damage and invalidate product certifications or listings.



This publication may have been revised or updated since this copy was produced. If the cover of the publication states "Translation of the Original Instructions", the original source may have been updated since this translation was made.

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If a specific publication is not there, please contact a customer service representative to get the latest copy.



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# 2 General

This document contains instructions that enables you to customize the Many-2-One (mini-SCADA) visualization of your easYview-07-030, 10-060 or 15-150 Release 2.x

# NOTICE

Please read the Technical Manual of the easYview (37945) before reading this document.

The used integrated development environment (IDE) is the Atvise Toolset from Bachmann Visutec GmbH.

This document will give a short overview about the Atvise software tools. Additional some examples shall help to do small modifications without spending too much time in learning the IDE.

We still recommend participating in a Atvise training course and work with the existing Atvise help and training material available on the Atvise homepage.

# 3 Software Tools

#### 3.1 Atvise Server

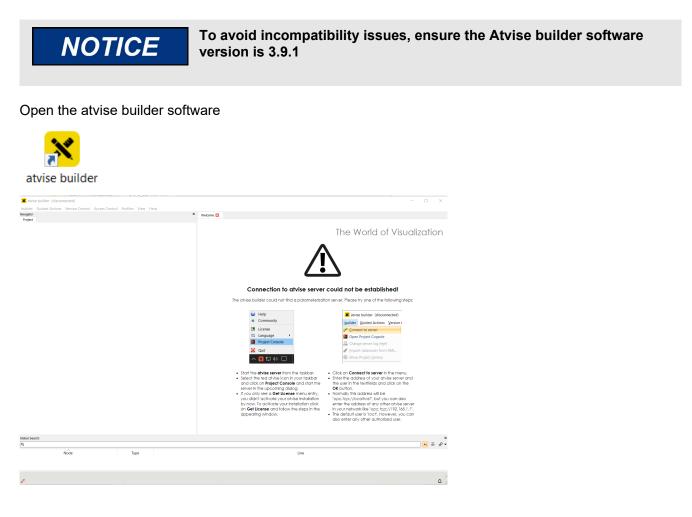
The Atvise Server is pre-installed on the easYview and already licensed. The Atvise Server is mainly responsible for sending and receiving data to external devices over OPC. For Modbus connection to the easYgen-XT, the Atvise connect software must be used. The atvise connect software is a Modbus-to-OPC interface and is described under chapter 3.3.



#### 3.2 Ativse builder software

The Atvise builder software must be used to modify the existing mini-SCADA visualization.

The installation file can be downloaded direct from <u>https://customer.atvise.com/</u>  $\rightarrow$  atvise <sup>®</sup> download  $\rightarrow$  atvise <sup>®</sup>  $\rightarrow$  atvise <sup>®</sup> 3.9, or from the easYview documentation site, <u>http://wwdmanuals.com/easYview</u>. Run the installation file and follow the instruction of the installation wizard. For the installation, administrator rights are required.



To connect to the easYview go to tab "builder" and select "Connect to server".

Released



×	atvis	se builder (discon	nected)		
bu	ilder	Guided Actions	Version Contr	rol	Access Contro
ø	Con	nect to server			
	Ope	n Project Console			
Log	Char	nge server log leve			
ď	Impo	ort (absolute) from	n XML		
€	Shov	w Project History			
<b>(</b>	atvis	e live			
ø	Prefe	erences			
Q	Lang	juage	•		
×	Exit				

To establish the connection, enter the following parameters and press "Ok":

- Server: "opc.tcp://<IP address of easYview>:4840"
- User: "root"
- Password: no password needed
- Security: Best matching

🗙 Conne	ect to Server	×
Server:	opc.tcp://192.168.1.50:4840	~
User:	root	
Password:		Ø
Security:	Best matching	$\sim$
	OK Canc	el

After connected to the Atvise server, the Atvise builder tree is shown on the left as shown below. The window on the left shows the content of the selected node in the tree.

This tree represents the whole content of the mini-SCADA visualization which is also saved in one file (nodes.db). More details about the nodes.db are described in <u>File System (SFTP)</u>. Open a node (double click) in the atvise builder tree will open the content in the right window and can be directly modified.

How to use the atvise builder is explained below in the Example chapters.



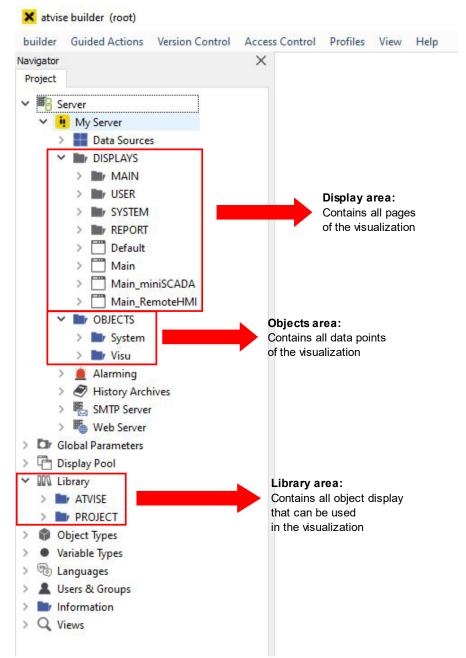


Figure 1 Atvise builder project tree with the most important areas

The following three areas are the most import parts in the atvise builder project tree. There are some more areas which has different functionality. To fully understand how to work with the atvise builder we recommend participating in a training course from Bachmann Visutec GmbH and to use the atvise builder help and trainings material. In this document, only parts of the atvise builder are explained which are needed to understand the following example chapters.

#### Display area:

In this area all pages of the visualization are located. Each page can be individual filled with values, texts, colors, and other various display objects. A page is not automatically shown in the visualization, there must be also a reference created which allows to navigate to it. This can be through the navigation or any button



of any other page. The "Default" page defines the frame of the visualization. It is always shown around the actual pages.

Each page in this folder structure is somewhere used in the visualization. Some will be launched through the navigation, some through a button from the frame or from other pages.

Help

× atvise	builder (root)				
builder	<b>Guided Actions</b>	Version Control	Access Control	Profiles	View
Navigator					
Project					
-					
✓ ■ Se					
	My Server				
	Data Source	5	_		
~	DISPLAYS				
	Y MAIN				
	Sen Gen				
	> 🗂 🗸				
	> 🛄 F	C			
	> 🗂 s	ettings			
	Y 🖿 MUL				
	> 🛄 N	AultiDeviceView			
		Connection			
	> 🗂 F	Reboot			
	> 🗂 (	Connection_easYge	en		
	> 🗂 (	Connection_LS6			
	V DEVI	CES			
	× 🖿 E	G_1			
	F	Home			
	× 🖿 E				
		Home			
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		Home			
		PrepareHMI			
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	× 🖿 7				
		SingleHMI			
	× 🖿 1				
		MultiHMI			
		SingleHMI			
	× m 1				
		SingleHMI			
		MultiHMI			
		DefaultPage			
		VoDeviceSelected			
		repareSingleHMI			
		repareMultiHMI			
		VoFreeVncPort			
		rrorPage			
		inorpage			
	> SYSTEM				
	> REPORT				
	> Default				
	> 🗍 Main				
	> Main_mi				
	> 🗂 Main_Re	moteHMI			
>	OBJECTS				

#### Object area:

In the Object area are all available datapoint located. A datapoint is a node which saves data. Those data are mostly measurement values which are received via Modbus. But it can also be values which are created internally. For example, any configuration settings which need to be saved.

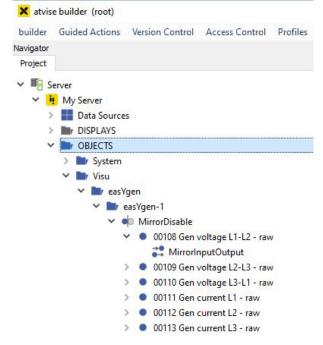
In the "**Visu**" folder are all datapoints located which save received Modbus values from 1-8 easYgens. The structure and the Modbus connections are also prepared for 1-8 LS6-XT devices. But no LS6 datapoint is create because LS6 devices are not used in the default visualization. Refer to <u>Example: Add</u> <u>new datapoint from Modbus list</u> for more information about how to add easYgen or LS6 datapoints. Released



× atvis	e builder (root)		
builder	Guided Actions	Version Control	Access Control
Navigator			
Project			
~ 🖷 s	erver		
~ 1	My Server		
>	Data Source	s	
>	DISPLAYS		
~	OBJECTS		
	> 🖿 System		
	🗸 📄 Visu		
	🗸 📑 easY	gen	
	> 🖿 e	easYgen-1	
	> 🖿 e	easYgen-2	
	> 🖿 e	easYgen-3	
	✓ ► LS6		
	> 🖿 L	.S6-1	
	> 🖿 L	.\$6-2	
	> 🖿 L	.S6-3	

The used Modbus protocol for receiving easYgen data is 5016 and for LS6 data 5300. The nodes in the easYgen 1-3 folders are activated by default because they are used in the default visualization. All other data folder (LS6 1-3) are disabled by default. Refer to the easYview manual on how to enable additonal device connections.

In each easYgen folder there is the same list of datapoints which are sorted by database index.



Data points with the extension "- raw" are the main data points which have exact the value like transmitted from the easYgen-3000XT. These data point may needs to be formatted to match the easYgen data before transmitted via Modbus. To show the data formatted, use the parameter "value\_postdecimalposition" and "value\_forcedecimalfractionposition". For details about the data format, refer to the easYgen manual → Protocol 5016.



E.	■ ■ • 50	ݱ 🖻 ≫ 📋   ▓ • @, • ⋟   🖪 🐂 🛃 • 🔕 • 🌾 🛃   🧎	• 🖗 • (None) •	?
Graphic	R	0 · · · · · · · · · · · · · · · · · · ·	Property V Parameters	Value
-			base	[base] + .00135 Gen total power - raw
	/	Generator	text	T{P:}
Script		Generator	text_fontfamily	Noto Sans
0.5	0		text_fontsize	18px
	0		text_color	#000000
W	0		value_fontfamily	Noto Sans
×	0 1	Power	value_fontsize	18px
		1 offer	value_color	#000000
	N 1		value_postdecimalpositions	3
		$T(\mathbf{D}_{1})$ $(\mathbf{O}_{1}+\mathbf{M}_{2}+\mathbf{D}_{2})$ $T(\mathbf{M}_{1})$	value_forcedecimalfractionpo	3
		T{P:} (Out ∀alue} T{kW}	unit	T{kW}
	TI		unit_fontfamily	Noto Sans
	â l		unit_fontsize	18px
			unit_color	#000000
		T{Q:} [Out Value}]T{kvar	visible	[visible]
	8-		> SVG	

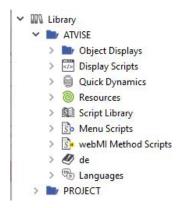
The MirrorInputOutput subnode defines the reference to the according Modbus address.

In the "**System**" folder are all datapoint located which are internally used or for saving configuration settings.

#### Library area:

The Library area contains mostly visualization object (Object Displays) and scripts (Display scripts). Object Display are needed to show the value of a datapoint on a page. Therefore, an Object Display must be placed on a page and referenced to a datapoint. This can be a simple object which just shows a value as text or a more complex object like Gauge or Bar-graph. Each object can be modified and changed to the desired view and functionality. To add functionality to an object, JavaScript code can be added directly to the objects. If there is functionality which want to be used in different kind of objects, a Display script can be created which can then be reused multiple times.

In the "ATVISE" folder all standard Atvise objects and scripts are located. Note: Do not change here anything because with an update to a newer Atvise version this folder will be overridden, and all changes are lost.



The "PROJECT" folder is the place where to start modifying objects and scripts.

A common use-case would be to copy an object from the "Atvise" folder which is like what is needed and paste it into the "Project" folder where it can be modified to the appropriate needs.

Released



~	000	Lik	orary	
	>		AT	/ISE
	~		PR	OJECT
		>	-	Object Displays
		>		Display Scripts
		>	0	Quick Dynamics
		>	0	Resources
		>	SI	Script Library
		>	so	Menu Scripts
		>	S.	webMI Method Scripts
	-			

#### 3.3 Atvise Connect

With the Atvise Connect software from Bachmann Visutec GmbH all Modbus connections to external devices like easYgen-XT, LS6-XT etc can be modified. The atvise connect software also converts the received Modbus data to OPC which can then be processed by the atvise server on the easYview.

For each external device at least one connection must be created. If different sample rates are needed multiple connections per device must be created because every connection has only one fix defined sample rate. This will be explained more in <u>Example: Add a new device to the project</u>.

#### Installing Atvise connect software on your PC

Note: This software only needs to be installed for changes on device connections and/or Modbus variable lists.

The installation file can be downloaded direct from <u>https://customer.atvise.com/</u>  $\rightarrow$  atvise® download  $\rightarrow$  atvise® connect  $\rightarrow$  atvise® connect 2.6.7, or from the easYview documentation site, http://wwdmanuals.com/easYview.

Note: To install Atvise connect on your PC you need Administrator rights.



After launching it the following window is shown.



Device Configuration     File Station Settings Help			×
i atvise® Configure product over	netw	ork	
i atvise <sup>®</sup> Configure product on	this P	РС	

#### **Troubleshooting**

If the error message "The ordinal number 414 could not be found in DLL" pops-up instead when starting the software.

Configu	rationi64.exe - Ordnungszahl nicht gefunden	×
8	Die Ordnungszahl 414 wurde in der DLL "C:\WINDOWS\system32\Tani\WmkLicGui2i64.dll" nicht gefunden.	
	ОК	

Delete folder "C:\WINDOWS\System32\Tani", uninstall the software, restart the PC, and install it again.

#### First time start

When starting atvise connect, select "Configure product over network". A list of available stations is shown. If atvise connect is started the first time, the list of stations is empty.



Se	Pic	Name	Туре	Destination 1	Destination 2	TCP-Port	Order Number
<mark>::</mark> atvise <sup>®</sup>		-> STGT-HMGBTT2	atvise connect	10.31.128.10	FE80::C132:EB7A:8813:7B50	2468	
=		** XDY0VGC2	atvise connect	10.31.128.12	FE80::F5D6:D8DA:7FBE:5475	2468	
	1						
New station							
Change address	Í.						
Delete station							
Settings	1						
lelp 💿 Language	1						
Cancel	1						

Define the easYview as a station and set its IP address by clicking the "New station" button, here the easYview is named "Panel1".

ise	Pic	Name	Туре	Destination 1	Destination 2	TCP-Port	Order Number
11 atvise <sup>®</sup>		-> STGT-HMGBTT2	atvise connect	10.31.128.10	FE80::C132:EB7A:8813:7B50	2468	
=		** XDY0VGC2	atvise connect	10.31.128.12	FE80::F5D6:D8DA:7FBE:5475	2468	
	2	Panel1		192.168.0.50		2468	
New station							
Edit							
Delete station							
Settings							

How to use the Atvise connect software is explained in Example: Add a new device to the project.

#### 3.4 File System (SFTP)

It is possible to connect to the easYview via SFTP client. On the file system there are some areas which are free accessible.

The default username and password are: Username: user Password: user

We highly recommend changing the default password to have a better protection and to avoid unintending changes. How to change the password is described in the easYview manual, see <a href="http://wwdmanuals.com/easYview">http://wwdmanuals.com/easYview</a>.



userdata/user/				_
Name	Größe	Geändert	Rechte	Besitze
t		24.03.2021 11:28:06	rwxr-xr-x	root
DeviceScanner		24.03.2021 11:28:15	rwxr-sr-x	root
etc		24.03.2021 11:28:15	rwxsx	root
project		15.12.2023 11:34:00	rwxr-xr-x	user
Vnc2Web1		31.10.2023 11:21:49	rwxr-sr-x	root
Vnc2Web2		24.03.2021 11:28:15	rwxr-sr-x	root
Vnc2Web3		24.03.2021 11:28:15	rwxr-sr-x	root
Vnc2Web4		24.03.2021 11:28:15	rwxr-sr-x	root
Vnc2Web5		31.10.2023 11:21:59	rwxr-sr-x	root
CopyConnectini	1 KB	24.03.2021 11:28:15	r-xr-xr-x	root
setDate	1 KB	24.03.2021 11:28:15	r-xr-xr-x	root
startWebApi	1 KB	24.03.2021 11:28:15	r-xr-xr-x	root
stopWebApi	1 KB	24.03.2021 11:28:15	r-xr-xr-x	root

Under /home/user there are three important files located which can be used as ssh commands.

- copyConnectini: is used to create a copy of the DeviceConfig.ini file from the restricted area to the /home/user folder. The DeviceConfig.ini file contains all connections to external devices. The original file is still in restricted area. This command is needed if the connections to external devices are changed with the atvise connect tool, see <u>Example: Add a new device to</u> <u>the project</u>.
- 2. **startWebApi**: starts the atvise server and the visualization. This is needed after the application was updated (nodes.db)
- 3. **stopWebApi**: is used to stop the atvise server and the visualization. This is needed before updating the application (nodes.db).

To run one of the commands, follow these instructions:

- 1. Open the command window (cmd)
- 2. Establish a ssh connection:
  - a. Enter the command 'ssh user@<ip-address>' (replace <ip-address> by the IP address of the easYview)
  - b. Enter the default password "user" (if not changed).
- 3. Enter "./" followed by the command to use.
  - a. Example: user@tcp71wn10pa:~\$ ./copyConnectini
    - $\rightarrow$  this will copy the file 'DeviceConfig.ini' to the folder /home/user folder.

In the /home/user/project folder are additional files which can be used/updated.

- 1. **atserver\_std.log**: is the server log file. This may be helpful to look at in case of troubleshooting.
- 2. atserver.ini: This file contains server parameter. For more information refer to the atvise help.
- 3. **Symbol.png**: Is the logo in the upper left corner of the Remote HMI screen.
- Logo.png: Is the logo in the upper left corner of the visualization. This can be replaced by a customized logo. Therefore, refer to personalization application note under <u>http://wwdmanuals.com/easYview</u>
- 5. nodes.db: This is a database file which has the whole application of the visualization included. If this file gets deleted a new empty nodes.db is generated after boot up. The nodes.db can be replaced by another nodes.db to update/change the mini-SCADA visualization. Before replacing the node.db the server and the application must be stopped, like described above (stopWebApi) and started afterwards (startWebApi).



- 6. TempDeviceConfig.ini: This file is needed if there was a change made in the connection page (changed IP address of an easYgen, for instance). The TempDeviceConfig.ini has the same structure like the DeviceConfig.ini (which is the actual config file). But the TempDeviceConfig.ini has some variable names (for IP, Slave ID, enable flag) inside. When a reboot is triggered over the connection page the variables in the TempDeviceConfig.ini gets replaced with the actual values and the original DeviceConfig.ini gets replaced. The DeviceConfig.ini is not free accessible but can be copied to the free accessible area like described above.
- 7. VncSettings.json: Saves the settings for the VNC connection. This file must not be changed.
- 8. **Connection.json**: Saves the settings of the easYgen connections. This file must not be changed.
- 9. Configuration.json: Saves the settings of the EasYview (Ip address, Brightness, etc.).
- 10. **GetSettings.json**: Has same information about the Device. This file may gets deleted and created internally. This file must not be changed.
- 11. ModeSettings.json: Saves the application mode settings including the Auto Connection.
- 12. index.html: Start page which is shown during boot up. This file must not be changed.

Name	Größe	Größe Geändert Rechte		Besitze	
<b>t</b>		24.03.2021 11:28:15	rwxr-sr-x	root	
database		24.03.2021 11:29:45	rwxr-xr-x	user	
lost+found		24.03.2021 11:28:15	rwx	user	
trunk		07.12.2023 08:34:01	rwxr-xr-x	user	
atserver.ini	1 KB	24.03.2021 11:28:15	rw-rr	user	
atserver_cnv.log	86 KB	13.12.2023 14:22:54	rw-rr	user	
atserver_std.log	810 KB	13.12.2023 14:23:06	rw-rr	user	
Configuration.json	1 KB	21.11.2023 10:45:57	rw-rr	user	
Connection.json	2 KB	08.12.2023 15:03:31	rw-rr	user	
GetSettings.json	1 KB	13.12.2023 14:34:01	rw-rr	root	
hardwarecode.txt	1 KB	24.03.2021 11:29:29	rw-rr	user	
🕑 index.html	3 KB	12.10.2023 08:39:55	rw-rr	user	
Logo.png	18 KB	02.10.2023 11:15:09	rw-rw-rw-	user	
ModeSettings.json	1 KB	12.12.2023 15:24:09	rw-rr	user	
🗟 nodes.db	30,356 KB	15.12.2023 11:33:57	rw-rr	user	
Symbol.png	36 KB	02.10.2023 11:15:09	rw-rr	user	
TempDeviceConfig.ini	15 KB	13.12.2023 14:22:21	rw-rr	user	
VncSettings.json	1 KB	12.12.2023 15:24:09	rw-rr	user	

# 4 Example: Add a new page

The following steps will show how to create a new page to the visualization, add a value to it and include it to the navigation.

Note: If creating any node, please consider the naming restrictions of atvise (not allowed are "?", "." and "/")

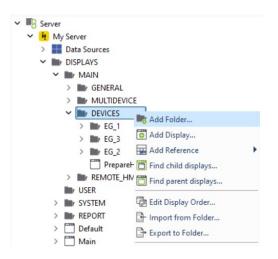
#### 4.1 Create a new page

#### Step 1:

Create the folder structure for the new page if needed. Here we right click on the folder "DISPLAY\Main\Devices" and select "Add Folder".

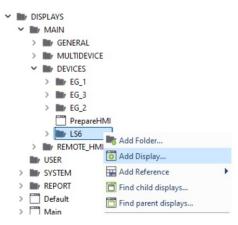


We will name the folder "LS6".



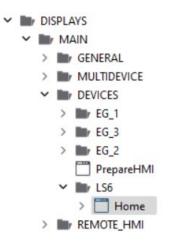
#### Step 2:

Create a new Display (page) by right click on the appropriate folder. Here right click on "LS6" and select "Add Display" and enter the name of the page. Here we name it "Home".



#### 4.2 Add a value to a page

Double click on the just created page.





Now we want to place a new datapoint on the page.

Drag and Drop a new "text\_in\_out\_value\_unit" object into the new page. The object can be found at "PROJECT\Object Displays\WWDisplays\".

V PROJECT
V Displays
> TAtviseDisplays
> Er LAYOUTS
V WWDisplays
> 🛅 alarm_common
> 🛅 alarm_leds
> 🛅 breaker
> 🛅 busbar_line
button_back
button_connection
> 🛅 button_forward
> 🛄 button_info
> button_long
> button_pc_mode
button_settings
> button_short
button_vnc
> container_busbar
> container_genset
container_mains
device_connection_settings     dialog_apply
> [iii] dialog_apply > [iiii] dialog_config
> dialog_reboot
> easYgen_home
> avigation
> 🛅 navigation_prepare
> select_device
> 🛅 select_device_full
iselect_device_full_7_inch
> 🛅 system_home
text_4_toggle_radiobutton
> text_combobox
text_in_out_value_IP
Text_in_out_value_Name
text_in_out_value_unit
text_rocker_switch
text_text
<ul> <li>         text_toggle_radiobutton      </li> <li>         text_toggle_radiobutton_2     </li> </ul>
<ul> <li>itext_toggle_radiobutton_2</li> <li>itext_toggle_radiobutton_2_row</li> </ul>
text_toggle_radiobutton_2_row
VNC_View
> VNC_View_Single

If the Object Display is placed and selected the Attribute window is shown to right.



,	~	Value
-	✓ Parameters	
	base	
1	text	
	text_fontfamily	Noto Sans
	text_fontsize	18px
-	text_color	#000000
	value_fontfamily	Noto Sans
1	value_fontsize	18px
	value_color	#000000
1 0 0-	value_postdecimal	
∳\$T\$ ∮Out ∀alue}}\$U\$ ↓	value_forcedecima	
	unit	
	unit_fontfamily	Noto Sans
	unit_fontsize	18px
	unit_color	#000000
o-	visible	
1	> SVG	

Enter the needed attributes for "base", "text" and "unit". To enter the "base" (reference to the datapoint) click on the three dots to select a datapoint from a list.

Property		Value
∽ P	arameters	
	base	R
	text	
	text_fontfa	Noto Sans
	text_fontsize	18px
	text_color	#000000
	value_fontf	Noto Sans
value_fontsize		18px
	value_color	#000000
	value_postd	
	value_force	
	unit	
	unit_fontfa	Noto Sans
	unit_fontsize	18px
	unit_color	#000000
	visible	
> s	VG	

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Objects Ot	ojectTypes
Information	-
Alarming	,
Objects on My Server	
> by System	
🗸 🖿 Visu	
✓ ■ easYgen	
✓ ■ easYgen-1	
✓ Intervention ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	
> 00108 Gen voltage L1-I	L2 - raw
> 💿 00109 Gen voltage L2-I	L3 - raw
> 💿 00110 Gen voltage L3-I	
> • 00111 Gen current L1 -	raw
> 💿 00112 Gen current L2 -	raw
> 💿 00113 Gen current L3 -	raw
> 💿 00114 Gen voltage L1-l	N - raw
> 🔹 00115 Gen voltage L2-I	N - raw
> 💿 00116 Gen voltage L3-I	N - raw
> 💿 00135 Gen total power	- raw
> 🔹 00136 Gen total react p	wr - raw
> 🔹 00140 Mains total pow	er - raw
> 💿 00144 Gen frequency -	COM .

Here we choose the datapoint "00269 Act power LSx".

Refer to Example: Add new datapoint from Modbus list how to add a new Modbus value to the project.

Objects		ObjectTypes	
>	•	00147 Mains frequency - raw	^
>	•	00150 Mains tot react pwr - raw	
>	•	00155 Gen max current L1 - raw	
>	•	00156 Gen max current L2 - raw	
>	•	00157 Gen max current L3 - raw	
>	•	00160 Gen power factor - raw	
>	•	00174 Mns aver ph-ph volt - raw	
>	•	00209 Busbar 1 frequency - raw	
>	•	00216 Busb1 avph-ph volt - raw	
>	•	00267 Aver LSx volt L-L - raw	
~	•	00269 Act power LSx - raw	
	>	June 20 MirrorInputOutput	
>	•	00270 React power LSx - raw	
	-		

At "text" and "unit" we entered here: "P" and "kW". For the formatting we enter to

"value\_postdecimalposition" the value 3 and for "value\_forcedecimalfractionposition" also the value 3. This will divide the value by 1000 and show 3 decimal positions after the comma. Finally, the attributes look like this.

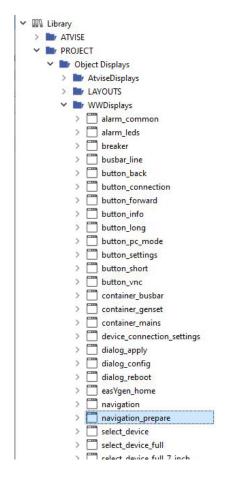


Property	Value
Parameters	
base	AGENT.OBJECTS.Visu.easYgen.easYgen-1.MirrorDisable.00269 Act power LSx - raw
text	T{P}
text_fontfamily	Noto Sans
text_fontsize	18px
text_color	#000000
value_fontfamily	Noto Sans
value_fontsize	18px
value_color	#000000
value_postdecimalpositions	3
value_forcedecimalfraction	3
unit	T{kW}
unit_fontfamily	Noto Sans
unit_fontsize	18px
unit_color	#000000
visible	
SVG	

Save the "Home" page.

#### 4.3 Add a page to the navigation

Open (double click) the "navigation\_prepare" object which is located under: "Library\PROJECT\Object Displays\WWDisplays\navigation\_prepare".

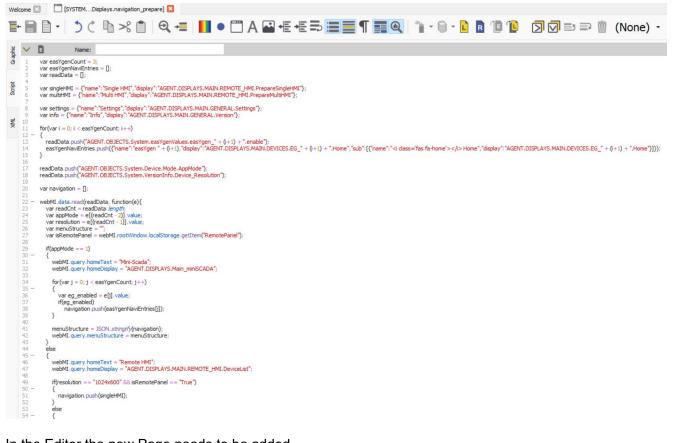


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Welcome 🔟 🗍 [SYSTEMDisplays.navigation_prepare] 🗵	
Ē+ 🗎 Ē -   ⊅ Č ो >\$ ≜   ▓ - €, - ⋟   🖪 🐜 🖬	- [

Open the "Code Editor" by selecting the "Script" tab on the left.



In the Editor the new Page needs to be added.

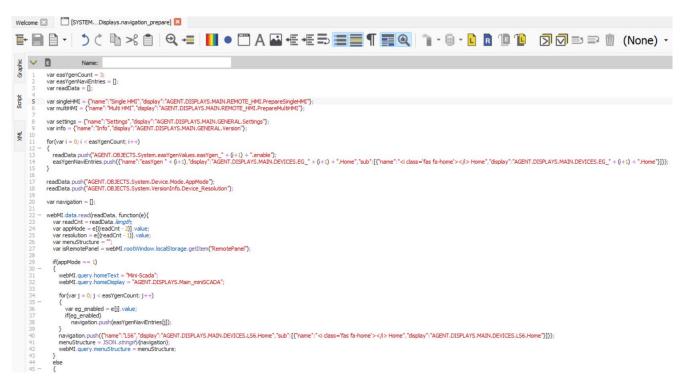


Add in line 40 the following line:

"navigation.push({"name":"LS6","display":"AGENT.DISPLAYS.MAIN.DEVICES.LS6.Home","sub":[{"name": "<i class='fas fa-home'></i> Home","display":"AGENT.DISPLAYS.MAIN.DEVICES.LS6.Home"}]});".

This defines how the button in the navigation is named and which page shall be launched if the button is pressed. For more information about the JSON structure for navigation, refer to the atvise help.

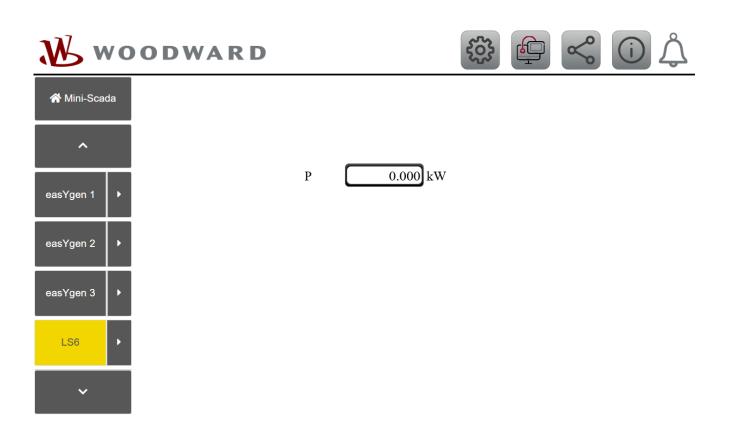
The code in the Editor should look now like this:



Save the Code Editor. Since the changes effect the Visualization frame, a simple navigating between pages is not enough to see the changes. The Visualization needs to be fully reloaded. Power cycle the easYview to refresh the Visualization or press the Woodward Logo. If working on the PC a refresh with F5 is also possible.

The navigation has now an additional Button for "LS6". After pressing the "LS6" button, the new created page is shown.





# 5 Example: Add new datapoint from Modbus list

In this example we want to add a new easYgen Modbus value to the project.

In the easYview there are 6 predefined connection (3 for easYgen-XT devices and 3 for LS6-XT devices). By default, only the connections for easYgen 1-3 are enabled because they are used in the visualization. In this example we show how to add a new Modbus datapoint from the easYgen-1 connection. The steps are the same for adding a datapoint for any other easYgen or LS6-XT device. Disabled connections must be enabled first over the Connection Settings Page (refer to Technical Manual of the easYview) before the steps of this example can be done. Please be aware that in total only 3 connections (3 easYgen-XT or 2 easYgen-XT with 1 LS6-XT, etc.) can be enabled.

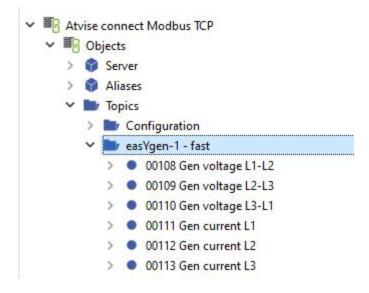
#### Step 1:

Right click on Server\My Server\Atvise connect Modbus TCP.



Berver	
🗙 🤑 My Server	
V Data Sources	
🗙 📑 Atvise connect Mo	
> DISPLAYS	S Browse
V DBJECTS	🗳 Edit Data Source
> 🖿 System	🌇 Remove 🛛 Del
🗸 🖿 Visu	Version Control
<ul> <li></li></ul>	Node Actions
✓ 🍁 Mirror[	Disable Q Show Access Rights
> • 001	08 Gen vi 📿 Refresh
> 💿 001	09 Gen voltage L2-L3 - raw
> • 001	10 Gen voltage L3-L1 - raw
> 🔵 001	11 Gen current L1 - raw
> • 001	12 Gen current L2 - raw

Select "Browse" and navigate the Modbus list of easYgen – 1 fast. This list shows all Modbus values from the 5016 Protocol.



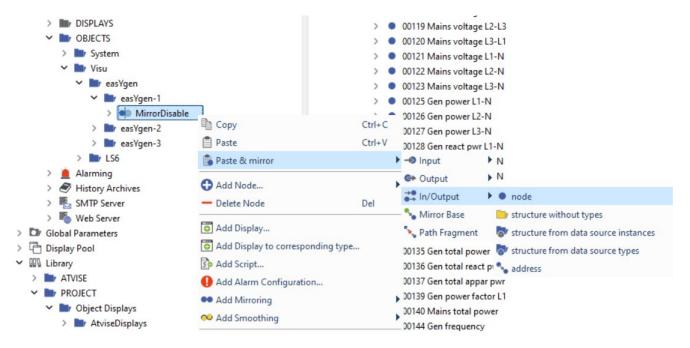
In this example we want to add the Generator average voltage.

Right click on "00171 Gen aver ph-ph volt" and select "Copy".



>	٠	00160 Gen power factor
>	٠	00161 Meas ground current
>	٠	00170 Gen aver ph-n volt
>	٠	00171 Gen aver ph-ph volt
>	•	00173 Mns aver ph-n volt
>	٠	00174 Mns aver ph-ph volt
>	٠	00181 Ph ang busb1-gen L12
ς.		00102 D

Right click on OBJECTS\Visu\easYgen\easYgen-1\MirrorDisable. Select Paste & Mirror  $\rightarrow$  In/Output  $\rightarrow$  node



Enter a name for the new datapoint. In this example, we take the same name from the Modbus list and add the extension "- raw" because it is the raw Modbus value without formatting.

× Paste Node					
New Browse Name:					
00171 Gen aver ph-ph volt - raw					
Yes Yes to All No Cancel					

#### Step 2:

Now we have created a new datapoint which refers to an easYgen Modbus value.



00157 Gen max current L3 - raw
 00160 Gen power factor - raw
 00171 Gen aver ph-ph volt - raw
 MirrorInputOutput
 00174 Mns aver ph-ph volt - raw
 00209 Busbar 1 frequency - raw

This datapoint has the raw Modbus value without formatting. For a nice value representation, we need to adjust the format parameters, refer to <u>Example: Adjust the existing easYgen page</u> (*Step 3*).

#### Step 3:

Repeat Step 1 and Step 2 for easYgen 2 – 3 if needed.

# 6 Example: Adjust the existing easYgen page

This example will show how to add an additional datapoint to the existing easYgen home page.

#### **Pre-Information:**

There are three easYgen home pages available (1-3). To avoid the maintenance effort of three pages, there is an object display created under Library\PROJECT\Object Display\WWDisplays\easYgen\_home. The object display contains all values which are shown on the easYgen home page with relative addresses. This object display is added to each easYgen home page. To distinguish between the three easYgens only a few parameters must be adjusted. That way a change in the object display will automatically update all three easYgen home pages (Object Orientated Programming).

#### Step 1:

Open (double click) the object display "easYgen\_home" from Library\PROJECT\Object Display\WWDisplays\easYgen\_home.

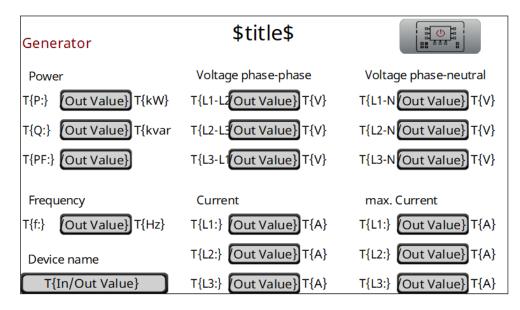
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v 🖿	PROJE	ст	
× 1	Dr Ob	ject	Displays
	> 🖿	Atv	viseDisplays
	> 🖿	LAY	YOUTS
	-	WW	VDisplays
	>		alarm_common
	>		alarm_leds
	>		breaker
	>		busbar_line
	>		button_back
	>		button_connection
	>		button_forward
	>		button_info
	>		button_long
	>		button_pc_mode
	>		button_settings
	>		button_short
	>		button_vnc
	>		container_busbar
			container_genset
	>		container_mains
	>		device_connection_settings
	>		dialog_apply
	>		dialog_config
	>		dialog_reboot
	~		easYgen_home
	>	_	navigation
	>		navigation_prepare
	>	_	select_device
	>	_	select_device_full
	>	_	select_device_full_7_inch
	>		system_home
		_	text_4_toggle_radiobutton
	>	_	text_combobox
	>	_	text_in_out_value_IP
			text_in_out_value_Name
	>	_	text_in_out_value_unit
	>	_	text_rocker_switch
	>		text_text
	>		text_toggle_radiobutton
	>		text_toggle_radiobutton_2
	>		text_toggle_radiobutton_2_row
	>		text_toggle_radiobutton_3_row
	>		VNC_View

> VNC\_View\_Single

It opens the Object Display for editing, see below.



#### Step 2:

Add an object display which shall show the new value to the easYgen\_home object display. In this example we choose the object "text\_in\_out\_value\_unit". It can be found under "PROJECT\Object Displays\WWDisplays\ text\_in\_out\_value\_unit". This object display shows a text followed by the actual value and units. This is already used multiple time in the easYgen\_home object. Drag and drop the object to the desired place of the eaYgen\_home object, see below.

Generator	\$title\$	
Power	Voltage phase-phase	Voltage phase-neutral
T{P:} Out Value} T{kW}	T{L1-L2Out Value} T{V}	T{L1-N(Out Value)}T{V}
T{Q:} Out Value} T{kvar	T{L2-L3Out Value} T{V}	T{L2-N(Out Value)}T{V}
T{PF:} Out Value}	T{L3-L1(Out Value}) T{V}	T{L3-N(Out Value)}T{V}
Frequency T{f:} Out Value} T{Hz}	T{L1:} Out Value} \$U\$	STEM.LIBRARY.PROJECT.OBJECTDISPLA
Device name	T{L2:} Out Value} T{A}	T{L2:} (Out Value) T{A}
T{In/Out Value}	T{L3:} Out Value} T{A}	T{L3:} Out Value} T{A}

#### Step 3:

If the new Object is selected the properties are shown in the "Property" view.

Under "base" we must define the reference to the datapoint:

Press the three "..." to open the Object Selector.

h	Property		Value
1	ΥP	arameters	
		base	R
		text	
		text_fontfamily	Noto Sans
		text_fontsize	18px

Choose the new created datapoint "0071 Gen aver ph-ph volt" of <u>Example: Add new datapoint from</u> <u>Modbus list</u>.



Objects	l)	ObjectTypes	
> 🖿 Information			^
Alarming			
🖌 📄 Objects on My	Server		
> 📄 System			
🛩 🖿 Visu			
👻 🖿 easYge	n		
👻 🖿 eas	Ygen-1		
<b>∽</b> •	MirrorDisable		
>	• 00108 Gen	voltage L1-L2 - raw	
>	• 00109 Gen	voltage L2-L3 - raw	
>	00110 Gen	voltage L3-L1 - raw	
>	00111 Gen	current L1 - raw	
>	00112 Gen	current L2 - raw	
>	00113 Gen	current L3 - raw	
>	00114 Gen	voltage L1-N - raw	
>	00115 Gen	voltage L2-N - raw	
>	00116 Gen	voltage L3-N - raw	
>	• 00135 Gen	total power - raw	
>	00136 Gen	total react pwr - raw	
>	00140 Mair	ns total power - raw	
>	00144 Gen	frequency - raw	
>	00147 Mair	ns frequency - raw	
>	00150 Mair	ns tot react pwr - raw	
>	00155 Gen	max current L1 - raw	
>		max current L2 - raw	
>	• 00157 Gen	max current L3 - raw	
>	,	power factor - raw	
>		aver ph-ph volt - raw	
>		aver ph-ph volt - raw	
>		par 1 frequency - raw	
>		o1 avph-ph volt - raw	
>		LSx volt L-L - raw	
>		power LSx - raw	
>	00270 Read	t power LSx - raw	~

We need a relative address because we have three easYgens. Delete the part "AGENT.OBJECTS.Visu.easYgens.Fast.easYgen-1.MirrorDisable" of the reference.

Property	Value
Parameters	
base	R AGENT.OBJECTS.Visu.easYgen.easYgen-1.MirrorDisable.00171 Gen aver ph-ph volt - raw
text	
text_fontfamily	Noto Sans
text_fontsize	18px
text_color	#000000



Press R and select "base". This defines a relative reference. The "base" parameter is already defined in the single easYgen home pages where the easYgen home object is added. It is the first part of the full path of the datapoint which depends on easYgen 1-3.

Under "text" we type "Avg". Under "unit" we type "V".

For the same format representation like in the easYgen-XT need to divide the value by 10 with one decimal position. Therefore, under "value\_postdecimalpositions" and "value\_forcedecimalfractionpostion" we type "1".

The attributes look then like:

Property	Value
Parameters	
base	[base] + .00171 Gen aver ph-ph volt - raw
text	T{Avg}
text_fontfamily	Noto Sans
text_fontsize	18px
text_color	#000000
value_fontfamily	Noto Sans
value_fontsize	18px
value_color	#000000
value_postdecimalpositions	1
value_forcedecimalfraction	1
unit	T{V}
unit_fontfamily	Noto Sans
unit_fontsize	18px
unit_color	#000000
visible	[visible]

> SVG

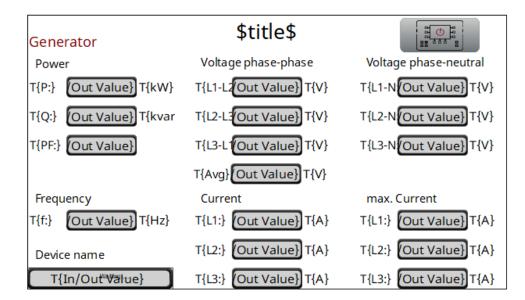
Note: The "[", "]" and "+" at the base parameter will be added automatically. **Note:** The "T{ }" at the text parameter (text, unit) will be added automatically.

#### Step 4:

The last step is then just to move the objects around for better appearance, see below. Save everything. After refreshing the easYview, by switching between pages, the new datapoint is shown on each easYgen home page.

**Note:** If there is an easYgen home page open in the atvise Builder, it will not refresh it automatically. Opened pages in the atvise builder needs to be closed and re-open to see effecting changes.





# 7 Example: Add a new device to the project

#### 7.1 Create a new connection

To create a new connection to an external device the atvise connect must be used.

**Note**: Make sure the easYview is connected to the same network as the PC where atvise connect is installed.

#### Step 1:

Open atvise connect,



Select 'Configure product over network'.



🗩 Device Configuration	- [	1 ×
File Station Settings Help		
* 0		
atvise <sup>®</sup> Configure product	over network	
gai - p		
atvise <sup>®</sup> Configure produce	ct on this PC	
g		

To connect to the easYview, double click on the row which represents the easYview, here it is "Panel1".

Select a station in yo	ur network v	ia TCP/IP				
'ise <sup>®</sup>	Pic	Name	Туре	Destination 1	Destination 2	TCP-Port
ati		-> ST	atvise connect	10.31.128.10	FE80::C132:EB7A:8813:7B50	2468
=		** XD	atvise connect	10.31.128.12	FE80::F5D6:D8DA:7FBE:5475	2468
		Panel1		192.168.0.50		2468

After connected all existing connections are shown.

≤ atvise con	nnect [eamb9918-cc827f2f0	9e8] Connecti	on Paths —		$\times$
File View (	Connection Diagnostics	Variables St	ation Settings Help		
∿- ₩ ₩	🎬 🍪 🛟 🖉 🏛 🛃	) 🕹 📑 🔎			
Pic	Name	Тур	Parameters		
Conf	Configuration	Config fun	Read/write, OPC Read 7 Write 7		
M	easYgen-1 - fast	Ip Modbus	TCP/IPClient 192.168.1.1 Port 502 Tcp Polltime 1000, Read/write, OPC Read	7 Write 7	
	easYgen-2 - fast	Ip Modbus	TCP/IPClient 192.168.1.2 Port 502 Tcp Polltime 1000, Read/write, OPC Read	7 Write 7	
M	easYgen-3 - fast	Ip Modbus	TCP/IPClient 192.168.1.3 Port 502 Tcp Polltime 1000, Read/write, OPC Read	7 Write 7	
M	LS6-1 - fast	Ip Modbus	TCP/IPClient 192.168.1.33 Port 502 Tcp Polltime 1000, Read/write, OPC Read	17 Write	7
M	LS6-2 - fast	Ip Modbus	TCP/IPClient 192.168.1.34 Port 502 Tcp Polltime 1000, Read/write, OPC Read	17 Write	7
M	LS6-3 - fast	Ip Modbus	TCP/IPClient 192.168.1.35 Port 502 Tcp Polltime 1000, Read/write, OPC Read	17 Write	7
ment	Memory	Memory	Read/write, OPC Read 7 Write 7		
ŪA	OPC UA Server	OPC UA Se	TCP/IPServer localhost Port 4855 Tcp Write		
uaitem	OPC UA System Items	UA Item a	Read/write, OPC Read 7 Write 7		
	System	System data	Read/write, OPC Read 7 Write 7		
_					

If the connection view is not shown, click on the connection icon.



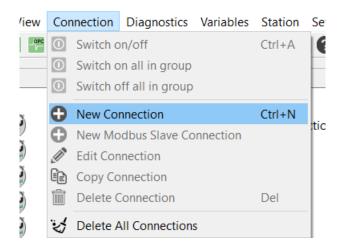
<

The connection view shows all available easYgen and LS6 connections. Enabled connections are shown in black and disabled connections are shown in gray.

To add a new connection for any external device click the plus icon or use the Connection tab and select "New connection":



...or...



...and follow the instruction of the New Connection Wizard, refer to the Atvise help for more information.

≤ New Connection			?	×
Name of the Connection New C	Connection		Ne	ext
Group Name	2		Ba	ack
Active Data Request	Data Server	Other		
Active Data Request	1.1			
PLC Access     Raw     OPC Pipe Client     OPC I	data connection	Client O MQTT Client	Car	ncel
Enable Redundancy	0		He	elp

#### 7.2 Avoid connection override



If there was a new connection added to the project, the DeviceConfig.ini file has changed (it includes all connections). That means it doesn't match with the TempDeviceConifg.ini anymore. If now a reboot is triggered from the "Connection Page", the DeviceConifg.ini gets replaced by the TempDeviceConfig.ini (like described in <u>File System (SFTP)</u>). This will lead to lose the new created LS6 connection. To avoid an override through an accidently triggered reboot, it is recommended to delete the reboot button from the Connection Page.

**Note:** All future changes to the connections must be done by atvise connect (also means IP address changes, Slave ID, etc).

Open the Connection Page by double click on DISPLAY\MAIN\MULTIDEVICES\Connection.

Project
✓ 🐻 Server
🗡 🤑 My Server
> Data Sources
V DISPLAYS
V MAIN
> Er GENERAL
✓ ■ MULTIDEVICE
> MultiDeviceView
> 🛅 Connection
> 🛅 Reboot
> 🛅 Connection_easYgen
> Connection_LS6
> DEVICES
> Er REMOTE_HMI
USER

Select the Reboot button, right click and select "Delete Item". The description text on the left side of the button can be deleted the same way.

Connecti	on Settings		
{easYgen-XT	T{LS6-XT}	)	
<b>P</b>	ge to apply changes (reb	pot)!	
	eboc Copy >% Cut Paste	Ctrl+C Ctrl+X Ctrl+V	
	Delete     Delete     Group item(s)     Transform     Arrange	Del Ctrl+G	

Now it is still possible to show the Connection Page with the actual connection settings (at least for the easYgens) but they cannot be changed anymore.

Of course, it is possible to adjust the Connection Page for the new created connection. But this is not described in this document. Contact your local support for more information.



We appreciate your comments about the content of our publications. Please send comments to: <u>marketing\_PG@woodward.com</u> Please reference publication 37949.

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