

ProjektPIDKuligowski



Project name:	ProjektPIDKuligowski
Project version:	1.00.0
Directory:	C:\Projekt4\ProjektPIDKuligowski\
Description:	
Automation Studio:	4.7.2.98
Date:	2021.05.27 22:18:40

1 Logical View

















Object Name	Description
ProjektPIDKuligowski	
Global.typ	Global data types
Global.var	Global variables
Libraries	Global libraries
operator	This library contains function interfaces for IEC 61131-3 operator functions. For the most part, these are mathematical and logical functions.
operator.fun	
operator.typ	
operator.var	
runtime	This library contains runtime functions for IEC tasks.
runtime.fun	
runtime.typ	
runtime.var	
astime	The AsTime Library supports DATE_AND_TIME and TIME data types.
astime.fun	
astime.typ	
astime.var	
AslecCon	This library contains function interfaces for IEC 61131-3 conversion functions.
AslecCon.fun	
AslecCon.typ	
AslecCon.var	
LoopConR	This library contains control algorithms.
LoopConR.var	
LoopConR.typ	
LoopConR.fun	
sys_lib	The SYS_LIB library contains functions for memory management and operating system manipulation as well as hardware-specific functions.
sys_lib.fun	
sys_lib.typ	
sys_lib.var	
brsystem	The BRSystem library provides the user with a number of system functions for e.g. handling permanent memory, accessing exception information, etc.
brsystem.fun	
brsystem.typ	
brsystem.var	
MTBasics	This mechatronics library contains basic control function blocks.
MTBasics.fun	
MTBasics.typ	
MTBasics.var	
MTTypes	This mechatronics library contains different system datatypes and general error numbers.
MTTypes.fun	
MTTypes.typ	
MTTypes.var	
Program	
Init.st	Init code
Cyclic.st	Cyclic code
Exit.st	Exit code
Types.typ	Local data types
Variables.var	Local variables
mappView	
Layouts	Layouts
Widgets	Widgets
Resources	Resources
Texts	Texts
Snippets	Snippets
Themes	Themes
Media	Media

Object Name	Description
<div><div><div></div></div><div>Visualization</div></div>	
<div><div><div></div></div><div>Pages</div></div>	Pages
<div><div><div><div></div></div><div>AreaContents</div></div></div>	AreaContents
<div><div><div><div><div></div></div><div>Navigation.con tent</div></div></div></div>	
<div><div><div><div></div></div><div>Glowna</div></div></div>	
<div><div><div><div><div></div></div><div>main.page</div></div></div></div>	Page description
<div><div><div><div><div></div></div><div>G.content</div></div></div></div>	
<div><div><div><div></div></div><div>NastawyPID</div></div></div>	
<div><div><div><div><div></div></div><div>PID.page</div></div></div></div>	Page description
<div><div><div><div><div></div></div><div>PID.content</div></div></div></div>	
<div><div><div></div></div><div>Variables</div></div>	Variables
<div><div><div></div></div><div>Expressions</div></div>	Expressions
<div><div><div></div></div><div>Layouts</div></div>	Layouts
<div><div><div><div></div></div><div>Layout.layout</div></div></div>	
<div><div><div><div></div></div><div>Dialogs</div></div></div>	Dialogs
<div><div><div><div></div></div><div>AreaContents</div></div></div>	AreaContents
<div><div><div><div></div></div><div>Resources</div></div></div>	Resources
<div><div><div><div></div></div><div>Texts</div></div></div>	Texts
<div><div><div><div></div></div><div>Snippets</div></div></div>	Snippets

1.1 \Logical\Global.typ

Name	Type	 Reference	 Replicable	Value	Description [1]
------	------	---	--	-------	-----------------

1.2 \Logical\Global.var

Name	Type	 Constant	 Retain	 Replicable	Value	Description [1]
 TrybManual	BOOL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 IO_PoziomZbiornik	REAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 IO_PoziomZadany	REAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 IO_ZaworCV	REAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 IO_Start	BOOL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 IO_Reset	BOOL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 IO_Stop	BOOL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 TrybAuto	BOOL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 CV_zadane	REAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 TrybPracy	BOOL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 Kp	REAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 Ti	REAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 Td	REAL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

1.3 \Logical\Program\Init.st

```
1
2
3 PROGRAM _INIT
4   (* Insert code here *)
5   (* Init variables *)
6   licz := 0;
7   IO_PoziomZadany := 0.0;
8   IO_Start := FALSE;
9   paraEnter := FALSE;
10  TrybPracy := TRUE;
11  IO_Reset;
12  IO_Stop;
13  CV_zadane := 0;
14
15  (* PID parameters *)
16  // W = SP, X - PV, Y - CV
17  PID_parametry.WX_max := 10.0; //wartosc max zadana - SP
18  PID_parametry.WX_min := 0.0;
19  PID_parametry.invert := FALSE;
20  PID_parametry.deadband := 0.0;
21  PID_parametry.dY_max := 0.0;
22  PID_parametry.Kp := 1;
23  Kp := 1;
24  PID_parametry.Tn := 1;
25  Ti := 1;
26  PID_parametry.Tv := 1;
27  Td := 1;
28  PID_parametry.Tf := 0.1;
29  PID_parametry.Kw := 1.0;
30  PID_parametry.Kfbk := 0.0; (* windup damping disabled *)
31  PID_parametry.fbk_mode := LCRPID_FBK_MODE_INTERN;
32  PID_parametry.d_mode := LCRPID_D_MODE_E;
33
34  (* Parameters for PID controller *)
35  PID_zawor.Y_max := 10.0; //
36  PID_zawor.Y_min := 0.0;
37  PID_zawor.A := 0.0; //feed forward - wartosc do przodu
38  PID_zawor.Y_man := 0.0;
39  PID_zawor.Y_fbk := 0.0;
40  PID_zawor.hold_I := FALSE;
41  PID_zawor.mode := LCRPID_MODE_AUTO;
42
43
44 END_PROGRAM
45
```









1.4 \Logical\Program\Cyclic.st

```
1
2 PROGRAM _CYCLIC
3   (* Insert code here *)
4
5   IF IO_Stop = TRUE THEN
6     IO_Start := FALSE;
7   END_IF;
8
9   (* PID parameters *)
10  PID_parametry.invert := TrybPracy; //tryb revers gdy TRYB = ON
11  PID_parametry.enable := IO_Start;
12  PID_parametry.enter  := paraEnter;
13  PID_parametry.Kp     := Kp;
14  PID_parametry.Tn     := Ti;
15  PID_parametry.Tv     := Td;
16  PID_parametry.Tf     := 0.1*Td;
17  PID_parametry();      (* LCRPIDpara function block call *)
18  paraEnter := TRUE;
19
20  (* PID controller *)
21  PID_zawor.enable := IO_Start;
22
23  TrybManual := NOT TrybAuto;
24  IF TrybAuto = TRUE THEN
25    PID_zawor.mode := LCRPID_MODE_AUTO;
26  ELSE
27    PID_zawor.mode := LCRPID_MODE_MAN;
28    PID_zawor.Y_man := CV_zadane;
29  END_IF;
30
31  PID_zawor.ident := PID_parametry.ident; (* ident of PIDpara -> provides parameters (Kp, Tn, Tv,
... *)
32  PID_zawor.W := IO_PoziomZadany; //wczytanie SP - wartosci zadanej
33  PID_zawor.X := IO_PoziomZbiornik; //wczytanie PV - wartosci regulowanej
34  PID_zawor(); (* LCRPID function block call *)
35
36  IO_ZaworCV := PID_zawor.Y; //ustawienie CV - wartosci sterowanej
37
38  licz := licz +1;
39
40 END_PROGRAM
41
42
```






































































































1.5 \Logical\Program\Exit.st




















```
1  
2  
3 PROGRAM _EXIT  
4     (* Insert code here *)  
5  
6 END_PROGRAM  
7
```


1.6 \\Logical\\Program\\Variables.var

Name	Type	 Reference	 Constant	 Retain	 Replicable	Value	Description [1]
 licz	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 paraEnter	BOOL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 PID_zawor	LCRPID	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
 PID_parametry	LCRPIDpara	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

1 Logical View

Object Name	Description
 ProjektPIDKuligowski	
  Global.typ	Global data types
  Global.var	Global variables
  Libraries	Global libraries
  operator	This library contains function interfaces for IEC 61131-3 operator functions. For the most part, these are mathematical and logical functions.
  operator.fun	
  operator.typ	
  operator.var	
  runtime	This library contains runtime functions for IEC tasks.
  runtime.fun	
  runtime.typ	
  runtime.var	
  astime	The AsTime Library supports DATE_AND_TIME and TIME data types.
  astime.fun	
  astime.typ	
  astime.var	
  AslecCon	This library contains function interfaces for IEC 61131-3 conversion functions.
  AslecCon.fun	
  AslecCon.typ	
  AslecCon.var	
  LoopConR	This library contains control algorithms.
  LoopConR.var	
  LoopConR.typ	
  LoopConR.fun	
  sys_lib	The SYS_LIB library contains functions for memory management and operating system manipulation as well as hardware-specific functions.
  sys_lib.fun	
  sys_lib.typ	
  sys_lib.var	
  brsystem	The BRSystem library provides the user with a number of system functions for e.g. handling permanent memory, accessing exception information, etc.
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  brsystem.var	
  MTBasics	This mechatronics library contains basic control function blocks.
  MTBasics.fun	
  MTBasics.typ	
  MTBasics.var	
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  MTTypes.fun	
  MTTypes.typ	
  MTTypes.var	
  Program	
  Init.st	Init code
  Cyclic.st	Cyclic code
  Exit.st	Exit code
  Types.typ	Local data types
  Variables.var	Local variables
  mapView	
 Layouts	Layouts
 Widgets	Widgets
  Resources	Resources
 Texts	Texts
 Snippets	Snippets
 Themes	Themes
 Media	Media

Object Name	Description
 Visualization	
 Pages	Pages
 AreaContents	AreaContents
 Navigation.content	
 Glowna	
 main.page	Page description
 G.content	
 NastawyPID	
 PID.page	Page description
 PID.content	
 Variables	Variables
 Expressions	Expressions
 Layouts	Layouts
 Layout.layout	
 Dialogs	Dialogs
 AreaContents	AreaContents
 Resources	Resources
 Texts	Texts
 Snippets	Snippets

Konfiguracja regulatora

Kp

CV.manual

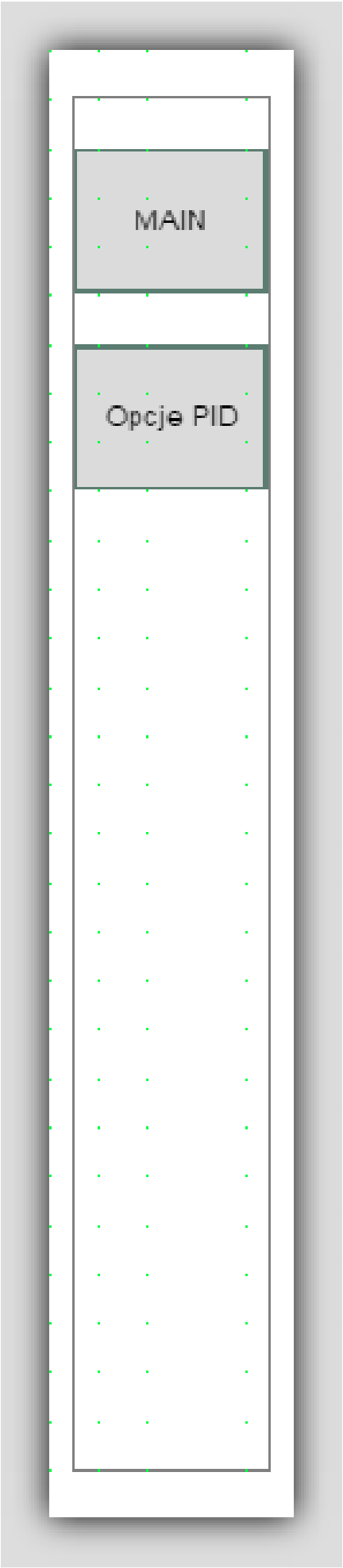
Ti

☐ Tryb auto ☒ Manual

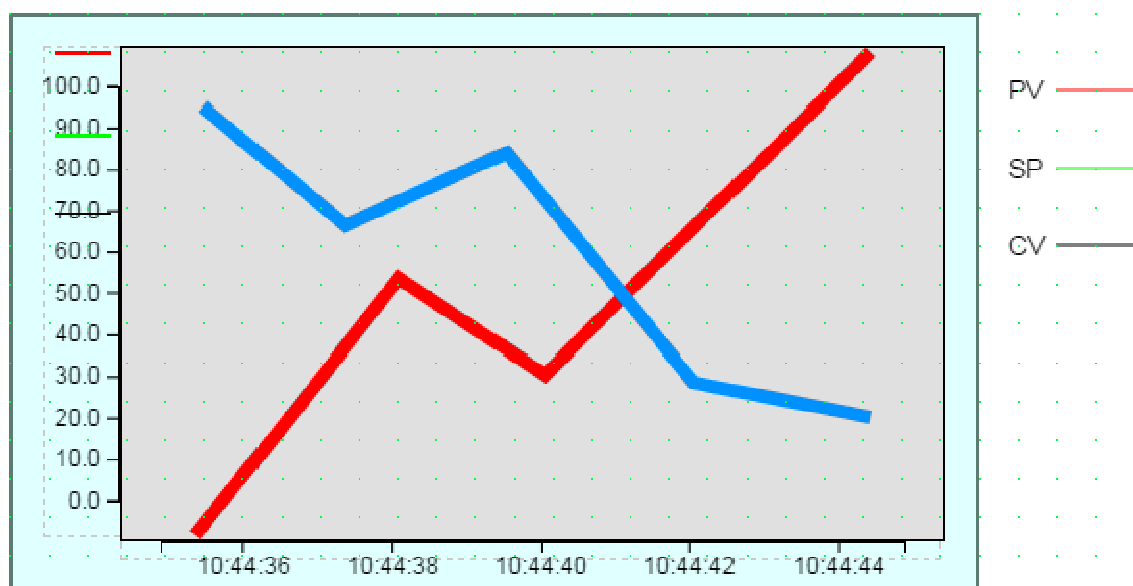
Td

☒ Tryb reverse

1.1 \Logical\mapView\Visualization\Pages\AreaContents\Navigation.content



PV - poziom w zbiorniku



START

STOP

SP - wartosc zadana

0.00

1.1 \\Logical\\mapView\\Visualization\\Layouts\\Layout.layout

```
1  <?xml version="1.0" encoding="utf-8"?>
2  <ldef:Layout id="layout_1" height="600" width="800" xmlns:ldef="http://www.br-automation.com/iat2015/
   layoutDefinition/v2">
3    <Areas>
4      <Area id="AreaMain" height="600" width="700" left="0" top="0" />
5      <Area id="AreaNavigation" height="600" width="100" left="700" top="0" />
6    </Areas>
7  </ldef:Layout>
8
```

Configuration	Batch	Description
SIM [Active]		
Hardware.hw		Hardware configuration
Hardware.hwl		Hardware topology
PC		
Cpu.sw		Software configuration
Cpu.per		Permanent variables
IoMap.iom		I/O mapping
PvMap.vvm		Variable mapping
Connectivity		
OpcUA		
OpcUaMap.uad		
TextSystem		
UnitSystem		
AccessAndSecurity		
UserRoleSystem		
Role.role		
User.user		
CertificateStore		
OwnCertificates		
Certificates		
PrivateKeys		
ThirdPartyCertificates		
SoftwareCertificates		
CertificateRevocationLists		
CertificateSigningRequests		
TransportLayerSecurity		
Firewall		
Rules.firewallRules		
mappControl		
mappMotion		
mappServices		
mappView		
Visualizat.vis		
Config.mappviewcfg		
Binding.binding		
mappCockpit		
Hardware.jpg		

1.1 SIM

1.1.1 \PhysicalSIM\Hardware.hwl




1.1.2 \PhysicalSIMPC\Cpu.sw

Object Name	Version	Transfer To	Size (bytes)	Date	Source	Source File	Description
<CPU>							
Cyclic #1 - [100 ms]							
Cyclic #2 - [200 ms]							
Program	1.00.0	UserROM	5732	5/27/2021 8:42:46 PM	Program	SIM\PC\Cpu.sw	
Cyclic #3 - [500 ms]							
Cyclic #4 - [1000 ms]							
Cyclic #5 - [2000 ms]							
Cyclic #6 - [3000 ms]							
Cyclic #7 - [4000 ms]							
Cyclic #8 - [5000 ms]							
Data Objects							
Nc Data Objects							
Visualization							
Binary Objects							
FWRules	1.00.0	UserROM	456	5/27/2021 8:43:06 PM		SIM\PC\Cpu.sw	
mvLoader	1.00.0	UserROM	4736	1/14/2019 8:44:36 AM		SIM\PC\Cpu.sw	
udbdef	0.01.0	UserROM	70264	4/10/2014 10:00:00 AM		SIM\PC\Cpu.sw	
TCData	1.00.0	SystemROM	3875472	5/27/2021 8:43:11 PM		SIM\PC\Cpu.sw	
Library Objects							
LoopConR	4.10.0	UserROM	139032	3/22/2017 8:19:34 AM	Libraries.LoopConR	SIM\PC\Cpu.sw	This library contains control algorithms.
sys_lib	4.72.0	UserROM	19832	11/23/2019 3:06:10 AM	Libraries.sys_lib	SIM\PC\Cpu.sw	The SYS_LIB library contains functions for memory management and
brsystem	4.72.0	UserROM	23844	11/23/2019 2:59:32 AM	Libraries.brsystem	SIM\PC\Cpu.sw	The BRSystem library provides the user with a number of system f
runtime	4.72.0	UserROM	29340	11/23/2019 3:05:27 AM	Libraries.runtime	SIM\PC\Cpu.sw	This library contains runtime functions for IEC tasks.

Object Name	Version	Transfer To	Size (bytes)	Date	Source	Source File	Description
 MTBasics	5.06.0	UserROM	80536	1/3/2019 6:00:24 AM	Libraries.MTBasics	SIM\PC\Cpu.sw	This mecha tronics library contai ns basic control functio n blocks
 MTTypes	1.03.4	UserROM	364	2/21/2017 11:08:12 AM	Libraries.MTTypes	SIM\PC\Cpu.sw	This mecha tronics library contai ns differe nt syste m dataty pes an
 astime	4.72.0	UserROM	24304	11/23/2019 9 2:57:00 AM		SIM\PC\Cpu.sw	
 asiecon	4.72.0	UserROM	17420	11/23/2019 9 2:43:24 AM		SIM\PC\Cpu.sw	
 fileio	4.72.0	UserROM	25328	11/23/2019 9 3:03:58 AM		SIM\PC\Cpu.sw	
 Source Objects							
 reACTION Technology Objects							
 Configuration Objects							
 arconfig	1.00.0	SystemROM	448	5/27/2021 8:42:51 PM		SIM\PC\Cpu.sw	
 User	1.00.0	UserROM	648	5/27/2021 8:43:06 PM		SIM\PC\Cpu.sw	
 Role	1.00.0	UserROM	760	5/27/2021 8:43:06 PM		SIM\PC\Cpu.sw	
 iomap	1.00.0	UserROM	304	5/27/2021 8:42:52 PM		SIM\PC\Cpu.sw	
 asfw	1.00.0	SystemROM	128	5/27/2021 8:42:57 PM		SIM\PC\Cpu.sw	
 ashwac	1.00.0	UserROM	212	5/27/2021 8:43:06 PM		SIM\PC\Cpu.sw	
 ashwd	1.00.0	SystemROM	524	5/27/2021 8:42:57 PM		SIM\PC\Cpu.sw	
 sysconf	4.72.0	SystemROM	69632	11/23/2019 1:56:13 AM		SIM\PC\Cpu.sw	





1.1.3 \PhysicalSIMPC\Cpu.per

Name	Data Type	Length	Offset	Description
 Variables				







1.1.5 \Physical\SIM\PC\PvMap.vvm

Source PV Name	Task Class Source PV	Destination PV Name	Task Class Destination PV	Description [1]
----------------	----------------------	---------------------	---------------------------	-----------------







1.1.6 \PhysicalSIM\PC\Connectivity\OpcUA\OpcUaMap.uad

Name	Datatype
 Default View	
 <Default>	
 Global Variables	
 Program	

1.1.1.7 \PhysicalSIM\PC\AccessAndSecurity\UserRoleSystem\Role.role

Name	Value	Description
 Administrators		
 Role ID	1	
 Description	Role for..	
 Everyone		
 Role ID	2	
 Description	Role for..	

1.1.8 \PhysicalSIM\PC\AccessAndSecurity\UserRoleSystem\User.user

Name	Value	Description
 Anonymous		
 User ID	1	
 Password		
 Roles		
 Assigned Role [1]	Everyone	
 Assigned Role [2]		






















1.1.9 \\PhysicalSIMPC\\mapView\\Visualizat.vis

```

1  <?xml version="1.0" encoding="utf-8"?>
2  <vdef:Visualization id="vis_1" xmlns:vdef="http://www.br-automation.com/iat2015/
   visualizationDefinition/v2">
3      <StartPage pageRefId="page_1" />
4      <Pages>
5          <Page refId="page_1" />
6          <Page refId="page_3" />
7      </Pages>
8      <Navigations>
9          <!--<Navigation refId="" />-->
10     </Navigations>
11     <BindingsSets>
12         <BindingsSet refId="binding_1" />
13     </BindingsSets>
14     <EventBindingsSets>
15         <!--<EventBindingsSet refId="" />-->
16     </EventBindingsSets>
17     <Dialogs>
18         <!--<Dialog refId="" />-->
19     </Dialogs>
20     <Contents>
21         <!--<Content refId="" />-->
22     </Contents>
23     <SnippetsSets>
24         <!--<SnippetsSet refId="" />-->
25     </SnippetsSets>
26     <ExpressionsSets>
27         <!--<ExpressionsSet refId="" />-->
28     </ExpressionsSets>
29     <VariablesSets>
30         <!--<VariablesSet refId="" />-->
31     </VariablesSets>
32     <!--<StartTheme themeRefId="" />
33     <Themes>
34         <Theme refId="" />
35     </Themes>-->
36     <Configurations>
37         <Configuration key="activityCount" value="false" />
38         <Gestures>
39             <!--<SystemGesture1 touchPoints="2" />
40             <SystemGesture2 touchPoints="2" />
41             <SystemGesture3 touchPoints="2" />-->
42         </Gestures>
43         <VirtualKeyboards>
44             <!--<InputProcessing onKeyDown="false" />-->
45         </VirtualKeyboards>
46     </Configurations>
47 </vdef:Visualization>
48

```

1.1.10 \\Physical\\SIM\\PC\\mappView\\Config.mappviewcfg

Name	Value	Unit	Description
 MappViewConfiguration			
 Server configuration			
 Protocol	HTTP		use secure communication protocol
 Port Number	81		Portnumber of mapp View webserver
 Maximal client connections	1		Number of maximum permitted client connections in value range 0-16
 Maximal B&R client connections	0		Number of maximum permitted B&R client connections in value range 0-16
 Client connections licensing mode	by configured max clients		Licensing mode for maximum permitted client connections
 OPC-UA system			
 Server connection timeout	5000	ms	Timeout to connect to the OpcUa-servers before the visualization is shown.
 Sampling rate groups			Groups for different opcUa-Binding variable sampling intervals
 default	200	ms	
 slow	1000	ms	
 fast	100	ms	
 Initial ValueChanged Events	FALSE		ValueChanged events are also triggered for the initial value.
 Session Timer			Timer objects for Events & Action System
 Timer 1			
 TimerId	Timer1		Unique identification that can be referenced in event binding
 Interval	1000		Time in milliseconds in steps of 100 until the timer elapses
 Timer mode	repetitive		
 Client configuration			
 ID of default visualization			ID of default visualization

1.1.11 \Physical\SIM\PC\mappView\Binding.binding

```

1  <?xml version="1.0" encoding="utf-8"?>
2  <BindingsSet id="binding_1" xmlns="http://www.br-automation.com/iat2015/binding/engineering/v2" xmlns:
   bt="http://www.br-automation.com/iat2015/bindingListTypes/engineering/v2" xmlns:be="http://www.br-
   automation.com/iat2015/bindingListEmbedded/engineering/v2" xmlns:xsi="http://www.w3.org/2001/
   XMLSchema-instance">
3      <Bindings>
4          <Binding mode="twoWay">
5              <Source xsi:type="opcUa" refId="::AsGlobalPV:TrybManual" attribute="value" />
6              <Target xsi:type="brease" contentRefId="content_5" widgetRefId="Rectangle1_auto" attribute="visible" />
7          </Binding>
8          <Binding mode="twoWay">
9              <Source xsi:type="opcUa" refId="::AsGlobalPV:TrybAuto" attribute="value" />
10             <Target xsi:type="brease" contentRefId="content_5" widgetRefId="CheckBox1" attribute="value" />
11         </Binding>
12         <Binding mode="twoWay">
13             <Source xsi:type="opcUa" refId="::AsGlobalPV:TrybManual" attribute="value" />
14             <Target xsi:type="brease" contentRefId="content_5" widgetRefId="Label5" attribute="visible" />
15         </Binding>
16         <Binding mode="twoWay">
17             <Source xsi:type="opcUa" refId="::AsGlobalPV:TrybPracy" attribute="value" />
18             <Target xsi:type="brease" contentRefId="content_5" widgetRefId="CheckBox2" attribute="value" />
19         </Binding>
20
21         <Binding mode="twoWay">
22             <Source xsi:type="opcUa" refId="::AsGlobalPV:Kp" attribute="value" />
23             <Target xsi:type="brease" contentRefId="content_5" widgetRefId="NumericInput1_Kp" attribute="value" />
24         </Binding>
25         <Binding mode="twoWay">
26             <Source xsi:type="opcUa" refId="::AsGlobalPV:Ti" attribute="value" />
27             <Target xsi:type="brease" contentRefId="content_5" widgetRefId="NumericInput2_Ti" attribute="value" />
28         </Binding>
29         <Binding mode="twoWay">
30             <Source xsi:type="opcUa" refId="::AsGlobalPV:Td" attribute="value" />
31             <Target xsi:type="brease" contentRefId="content_5" widgetRefId="NumericInput3_td" attribute="value" />
32         </Binding>
33
34         <Binding mode="twoWay">
35             <Source xsi:type="opcUa" refId="::AsGlobalPV:IO_Start" attribute="value" />
36             <Target xsi:type="brease" contentRefId="content_3" widgetRefId="PushButton1" attribute="value" />
37         </Binding>
38         <Binding mode="twoWay">
39             <Source xsi:type="opcUa" refId="::AsGlobalPV:IO_Stop" attribute="value" />
40             <Target xsi:type="brease" contentRefId="content_3" widgetRefId="ToggleButton1" attribute="value" />
41         </Binding>
42         <Binding mode="twoWay">
43             <Source xsi:type="opcUa" refId="::AsGlobalPV:IO_PoziomZadany" attribute="value" />
44             <Target xsi:type="brease" contentRefId="content_3" widgetRefId="NumericInput1" attribute="value" />
45         </Binding>
46         <Binding mode="oneWay">
47             <Source xsi:type="opcUa" refId="::AsGlobalPV:IO_PoziomZadany" attribute="value" />
48             <Target xsi:type="brease" contentRefId="content_3" widgetRefId="OnlineChartGraph1" attribute="value" />
49         </Binding>
50         <Binding mode="oneWay">
51             <Source xsi:type="opcUa" refId="::AsGlobalPV:IO_PoziomZbiornik" attribute="value" />
52             <Target xsi:type="brease" contentRefId="content_3" widgetRefId="PV1" attribute="value" />
53         </Binding>
54         <Binding mode="oneWay">
55             <Source xsi:type="opcUa" refId="::AsGlobalPV:IO_ZaworCV" attribute="value" />
56             <Target xsi:type="brease" contentRefId="content_3" widgetRefId="OnlineChartGraph2" attribute="value" />
57         </Binding>
58
59         <Binding mode="twoWay">
60             <Source xsi:type="opcUa" refId="::AsGlobalPV:CV_zadane" attribute="value" />
61             <Target xsi:type="brease" contentRefId="content_5" widgetRefId="NumericInput1" attribute="value" />
62         </Binding>
63     </Bindings>
64 </BindingsSet>
65

```

2 Physical View

2.1 SIM

2.1.1 \PhysicalSIM\Hardware.hwl



2.1.2 Physical View

Name	Legacy	Position	Version	Description
PC			1.1.0.0	Standard PC
Serial		IF1		Communication Port
Serial		IF2		Communication Port
ETH		IF3		Ethernet
ETH		IF4		Ethernet
SL1		SL1		
SL2		SL2		
SL3		SL3		
SL4		SL4		
SL5		SL5		
SL6		SL6		
SL7		SL7		
SL8		SL8		

2.1.3 PC: Software

Object Name	Transfer To	Size (bytes)	Description
<CPU>			
Cyclic #1 - [100 ms]			
Cyclic #2 - [200 ms]			
Program	UserROM	5732	
Cyclic #3 - [500 ms]			
Cyclic #4 - [1000 ms]			
Cyclic #5 - [2000 ms]			
Cyclic #6 - [3000 ms]			
Cyclic #7 - [4000 ms]			
Cyclic #8 - [5000 ms]			
Data Objects			
Nc Data Objects			
Visualization			
Binary Objects			
FWRules	UserROM	456	
mvLoader	UserROM	4736	
udbdef	UserROM	70264	
TCData	SystemROM	3875472	
Library Objects			
LoopConR	UserROM	139032	This library contains control algorithms.
sys_lib	UserROM	19832	The SYS_LIB library contains functions for memory management and
brsystem	UserROM	23844	The BRSystem library provides the user with a number of system f
runtime	UserROM	29340	This library contains runtime functions for IEC tasks.
MTBasics	UserROM	80536	This mechatronics library contains basic control function blocks
MTTypes	UserROM	364	This mechatronics library contains different system datatypes an
astime	UserROM	24304	
asiecon	UserROM	17420	
fileio	UserROM	25328	

Object Name	Transfer To	Size (bytes)	Description
Source Objects			
reACTION Technology Objects			
Configuration Objects			
arconfig	SystemROM	448	
User	UserROM	648	
Role	UserROM	760	
iomap	UserROM	304	
asfw	SystemROM	128	
ashwac	UserROM	212	
ashwd	SystemROM	524	
sysconf	SystemROM	69632	

2.1.4 PC: I/O Mapping

Channel Name	Process Variable	Data Type	Description [1]
I/O Mapping is not supported for this configuration or this Automation Runtime version			

2.1.5 PC: Configuration

Name	Value	Unit	Description
PC			
Automation Runtime type	AR Simulation		
Configuration ID	ProjektPIDKuligowski_SIM		Unique configuration ID. Required format: Spaces at the beginning or end of the string are not permitted.
Configuration version	1.0.0		Configuration version for conditional install. Required format: X.Y.Z where X, Y, Z are in range of 0 to 4,294,967,295
Module system on target			
Memory configuration			
System			
Reboot			
Communication			
Timing			
Resources			
File devices			
Internet file system			
DNS parameters			
Online parameters			
FTP Server			
Additionally supported hardware			
Web Server			
System diagnostics			
OPC-UA System			
















2.1.6 PC: Permanent Variables

Name	Data Type	Length	Offset	Description
Variables				
















2.1.7 PC: Variable Mapping

Source PV Name	Task Class Source PV	Destination PV Name	Task Class Destination PV	Source File	Description [1]
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











2.1.8 PC.IF1: Configuration








Name	Value	Unit	Description
 IF1			
 Device parameters			
 Type	RS232		
 Baud rate	57,600		
 Receive idle time	5		characters
 Parity	even		
 Bits per character	8		
 Stop bits	1		
 Activate interface	off		
 Modem parameters			
 Activate modem configuration	off		
 Network parameters			
 Protocol	Disable		
 INA parameters			
 Activate online communication	off		

2.1.9 PC.IF2: Configuration

Name	Value	Unit	Description
 IF2			
 Device parameters			
 Type	RS232		
 Baud rate	57,600		
 Receive idle time	5		characters
 Parity	even		
 Bits per character	8		
 Stop bits	1		
 Activate interface	off		
 Modem parameters			
 Activate modem configuration	off		
 Network parameters			
 Protocol	Disable		
 INA parameters			
 Activate online communication	off		

2.1.10 PC.IF3: Configuration



Name	Value	Unit	Description
 IF3			
 Device parameters			For global Ethernet and DNS settings (e.g. Host name, DNS server address) see CPU configuration.
 IP address	127.0.0.1		
 INA parameters			
 Activate online communication	on		
 Port number	11160		
 INA node number	2		
 ANSL parameters			
 Activate online communication	on		
 VNC Servers			
 VNC Server 1			
 VC Mapping			
 VC object name			
 Key mapping file			
 Passwords			
 Authentication	off		

Name	Value	Unit	Description
 Port number	5900		
 Max. connections	1		Maximum allowed number of concurrent connections to this VNC server
 Refresh rate	1000	ms	Time between refreshes of the remote display
 Connection timeout	4	s	Time until server is closed if client doesn't respond.
 Title			Title of VNC client Window
 Modbus parameters			
 Activate Modbus communication	off		

2.1.11 PC.IF4: I/O Mapping

Channel Name	Process Variable	Data Type	Description [1]
I/O Mapping is not supported for this configuration or this Automation Runtime version			

2.1.12 PC.IF4: Configuration

Name	Value	Unit	Description
 IF4			
 Activate interface	off		

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