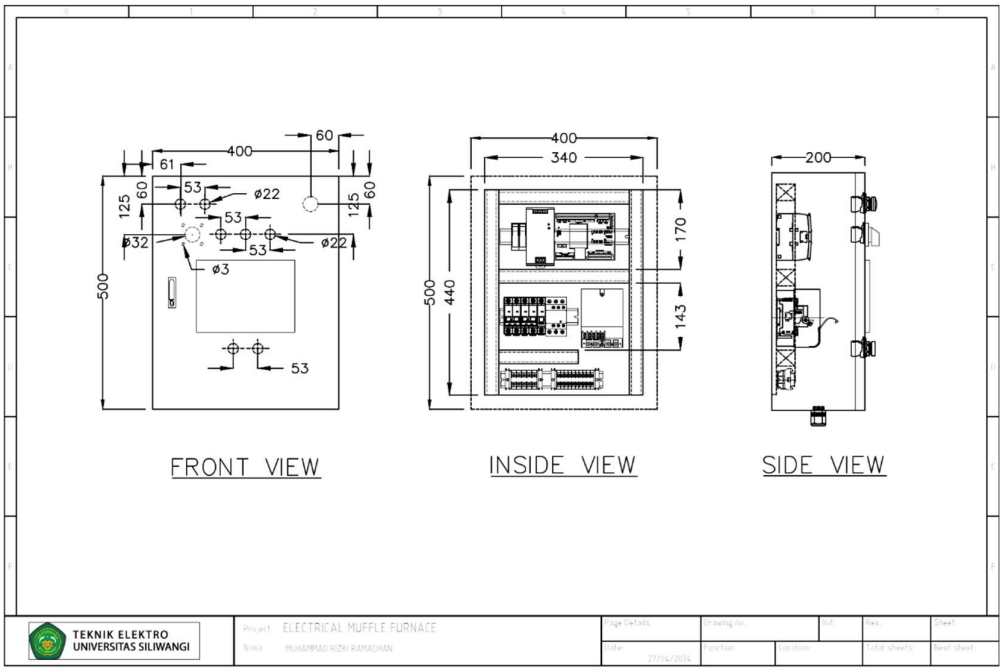
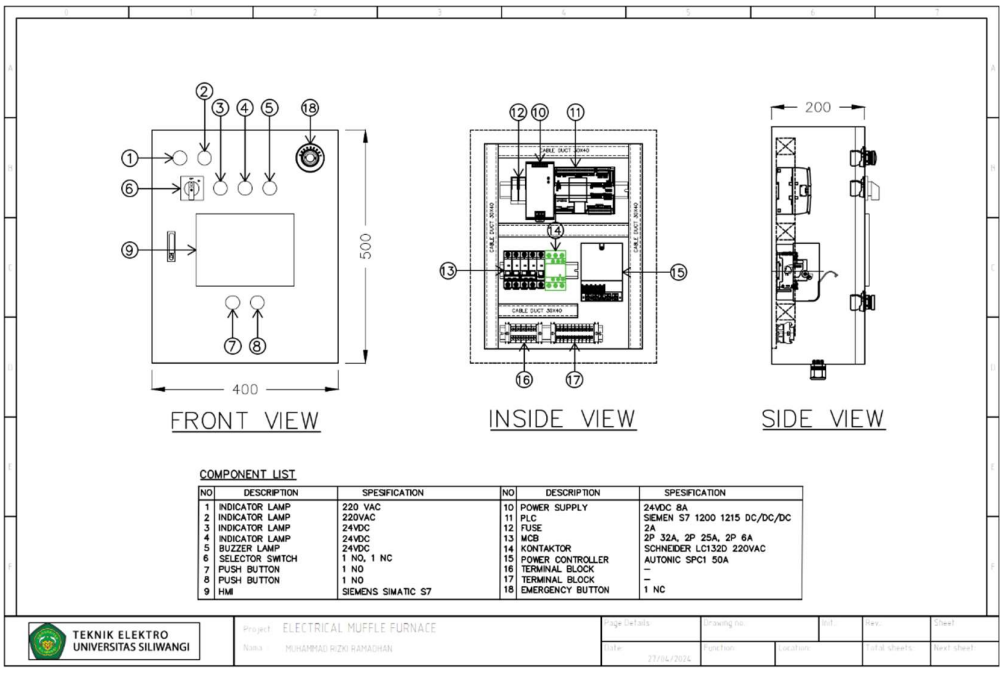
LAMPIRAN

Lampiran 1. *Layout* Panel

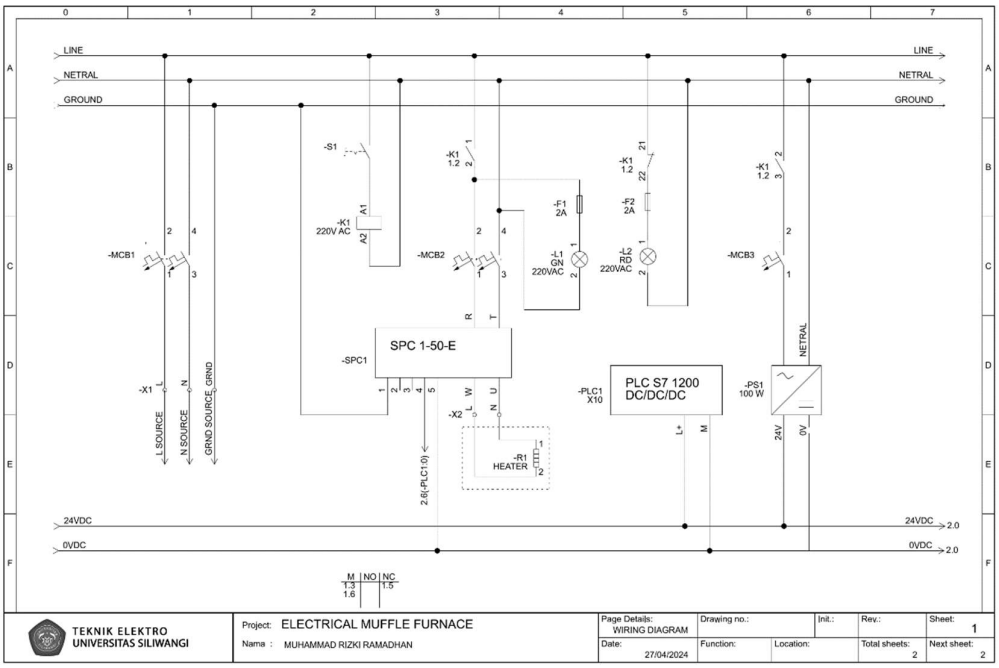


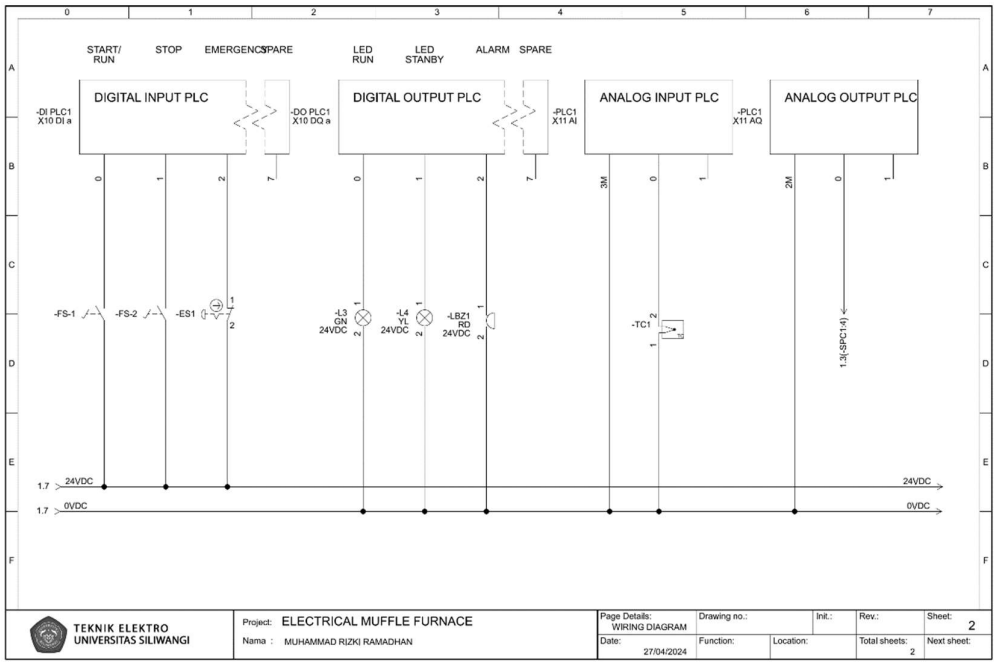


COMPONENT LIST

NO	DESCRIPTION	SPESIFICATION	NO	DESCRIPTION	SPESIFICATION
1	INDICATOR LAMP	220 VAC	10	POWER SUPPLY	24VDC 8A
2	INDICATOR LAMP	220VAC	11	PLC	SIEMEN S7 1200 1215 DC/DC/DC
3	INDICATOR LAMP	24VDC	12	FUSE	2A
4	INDICATOR LAMP	24VDC	13	MCB	2P 32A, 2P 25A, 2P 6A
5	BUZZER LAMP	24VDC	14	KONTAKTOR	SCHNEIDER LC132D 220VAC
6	SELECTOR SWITCH	1 NO, 1 NC	15	POWER CONTROLLER	AUTONIC SPC1 50A
7	PUSH BUTTON	1 NO	16	TERMINAL BLOCK	–
8	PUSH BUTTON	1 NO	17	TERMINAL BLOCK	–
9	HMI	SIEMENS SIMATIC S7	18	EMERGENCY BUTTON	1 NC

Lampiran 2. *Wiring Diagram Electric Muffle Furnace*





Lampiran 3. Program *Furnace* Pada PLC Siemens

Totally Integrated Automation Portal		

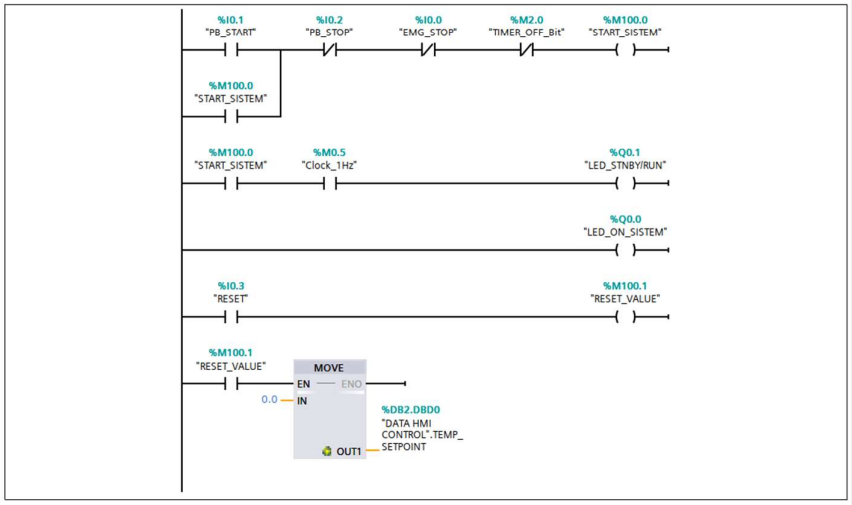
Program blocks

Main [OB1]

Main Properties					
General					
Name	Main	**Number**	1	**Type**	OB
Language	LAD	**Numbering**	Automatic		
Information					
Title	"Main Program Sweep (Cycle)"	**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

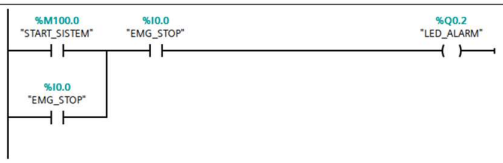
Name	Data type	Default value	Comment
▼ Input			
Initial_Call	Bool		Initial call of this OB
Remanence	Bool		=True, if remanent data are available
▼ Temp			
NORMX_TEMP_OUT	Real		
Constant			

Network 1: START SISTEM

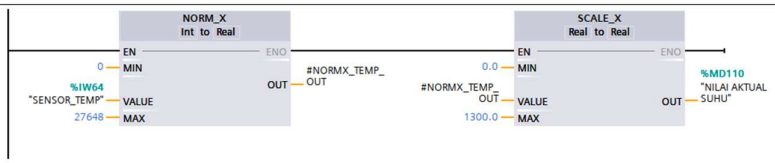


Network 2: ALARM

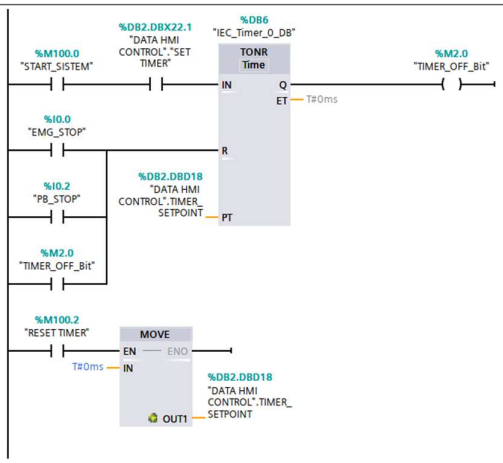
Totally Integrated Automation Portal



Network 3: CONVERT ANALOG TO ACTUAL TEMPERATUR



Network 4: TIMER OFF



Totally Integrated Automation Portal		

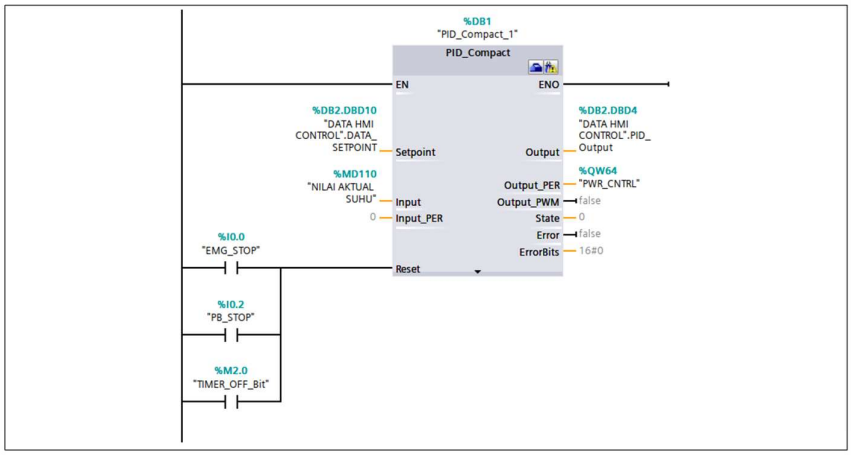
Program blocks

PID [OB30]

PID Properties					
General					
Name	PID	**Number**	30	**Type**	OB
Language	LAD	**Numbering**	Automatic		
Information					
Title		**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

Name	Data type	Default value	Comment
Input			
Initial_Call	Bool		Initial call of this OB
Event_Count	Int		Events discarded
Temp			
Constant			

Network 1:



Totally Integrated Automation Portal		

Program blocks

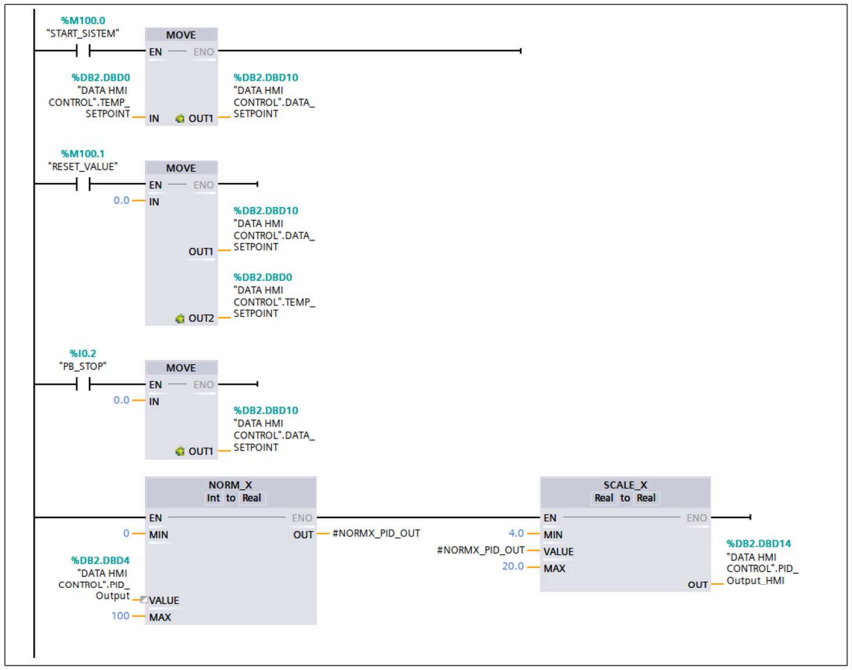
Data [OB31]

Data Properties					
General					
Name	Data	**Number**	31	**Type**	OB
Language	LAD	**Numbering**	Automatic		
Information					
Title		**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

Name	Data type	Default value	Comment
▼ Input			
Initial_Call	Bool		Initial call of this OB
Event_Count	Int		Events discarded
▼ Temp			
NORMX_PID_OUT	Real		
Constant			

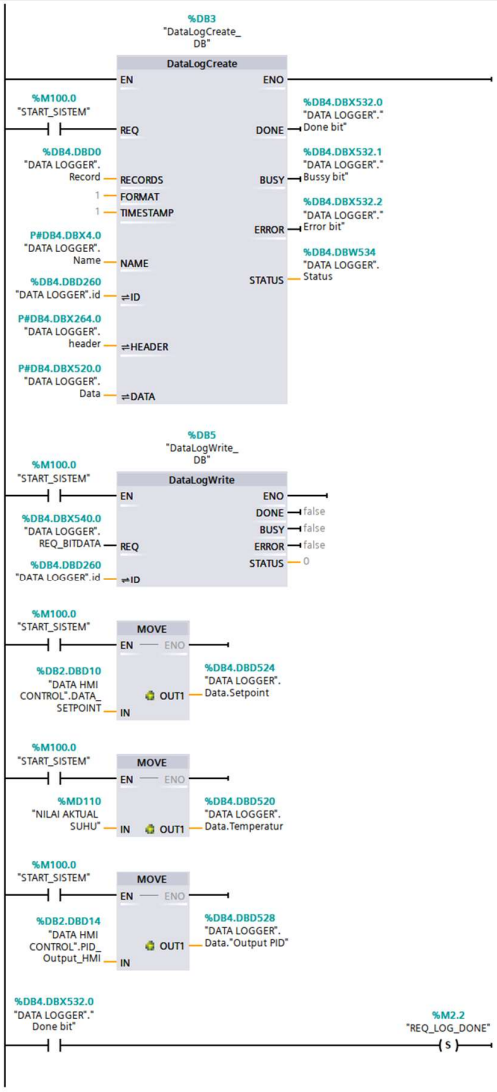
Network 1:

Totally Integrated Automation Portal



Network 2: DATA LOGGER

Totally Integrated Automation Portal

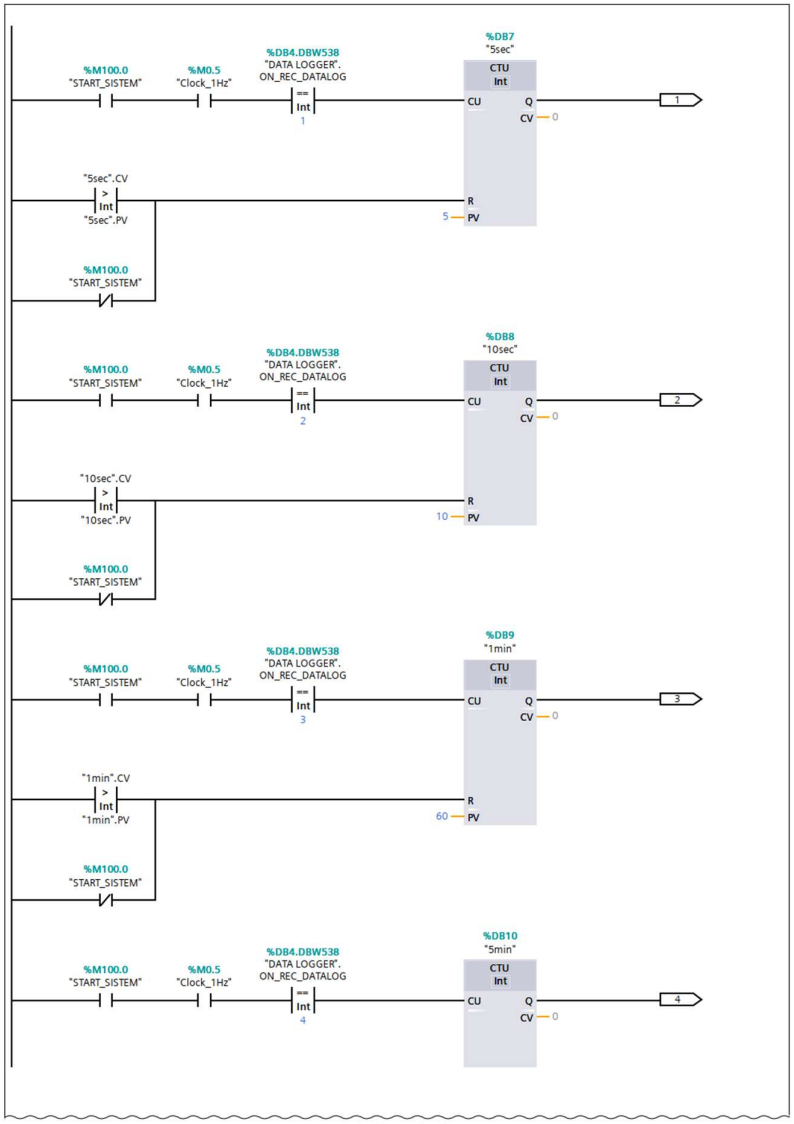


Network 3: INTERVAL TIME DATA LOGGING

1s, 5s, 10s, 1min, 5min

Totally Integrated Automation Portal

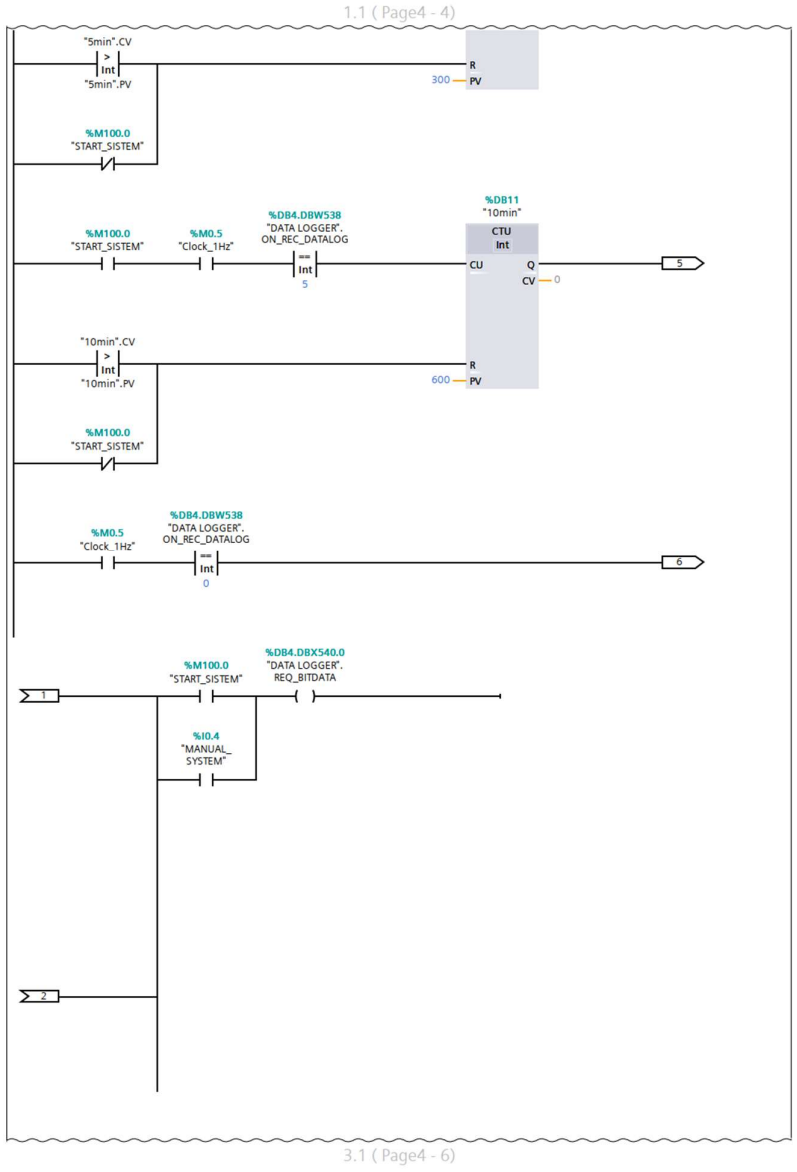
Network 3: INTERVAL TIME DATA LOGGING (1.1 / 4.1)

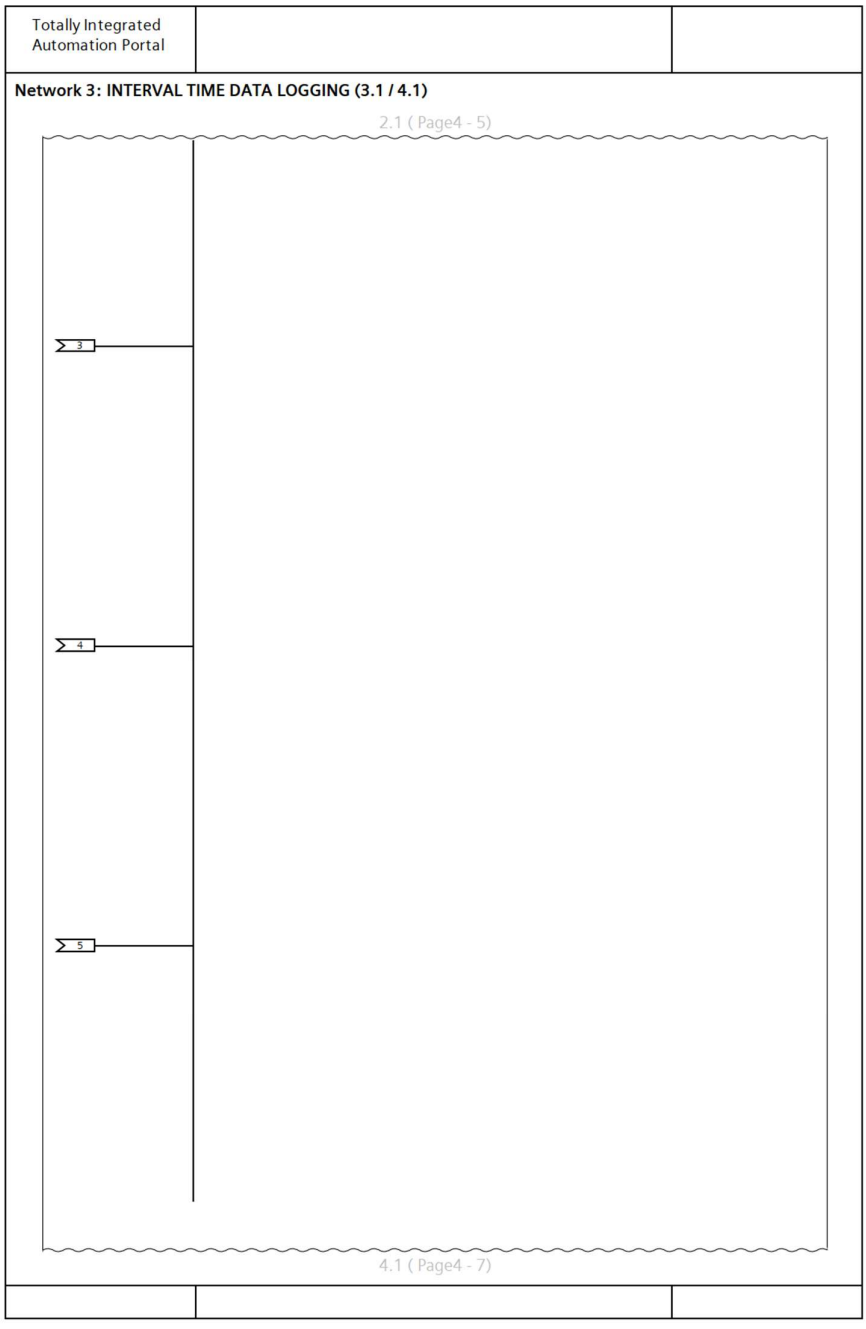


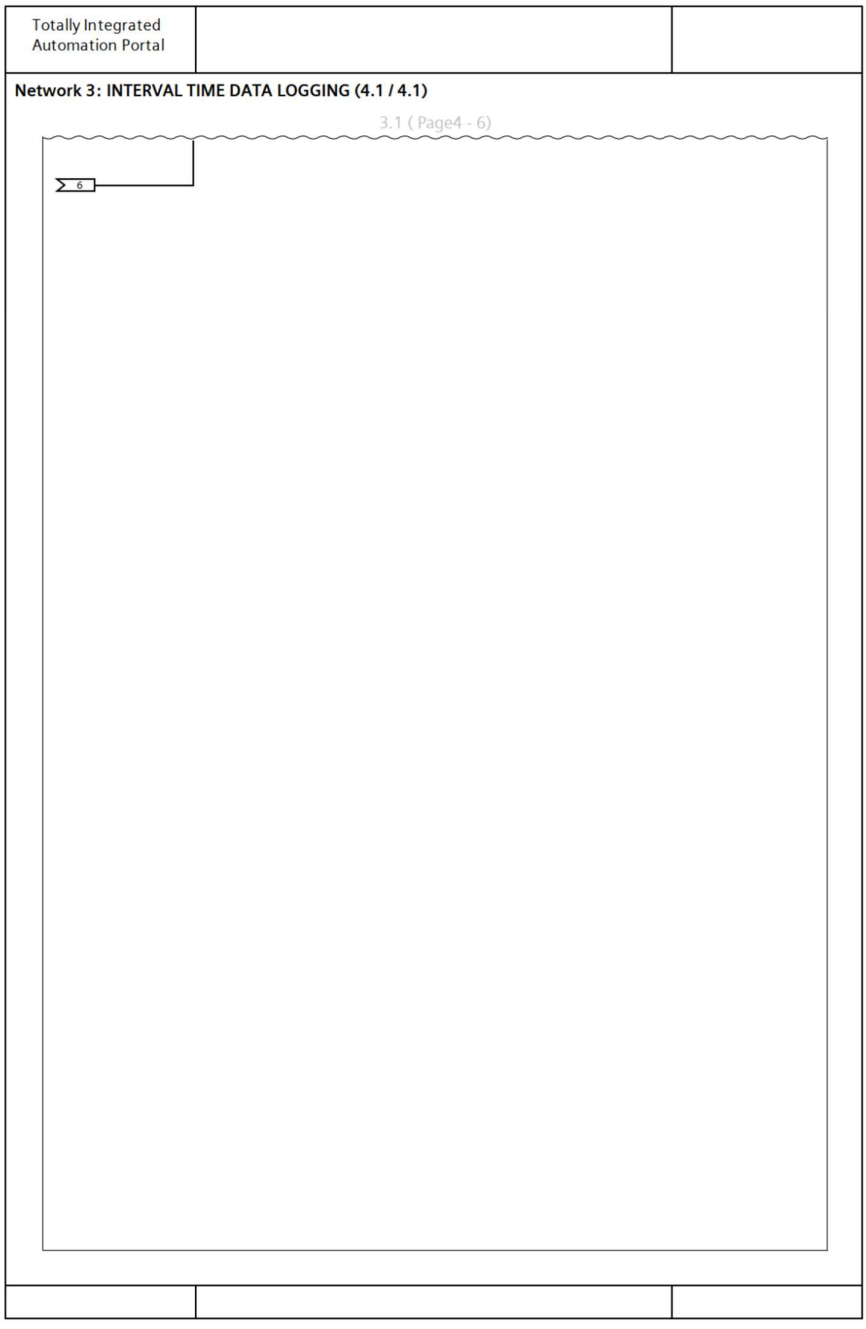
2.1 (Page4 - 5)

Totally Integrated Automation Portal

Network 3: INTERVAL TIME DATA LOGGING (2.1 / 4.1)

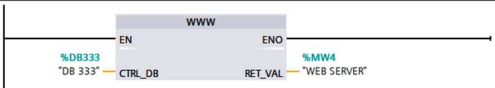



Totally Integrated
Automation Portal
Network 3: INTERVAL TIME DATA LOGGING (3.1 / 4.1)
2.1 (Page4 - 5)
3
4
5
4.1 (Page4 - 7)


Totally Integrated
Automation Portal
Network 3: INTERVAL TIME DATA LOGGING (4.1 / 4.1)
3.1 (Page4 - 6)
6

Totally Integrated Automation Portal		

Network 4:



Totally Integrated Automation Portal		

Program blocks

TIMER [OB123]

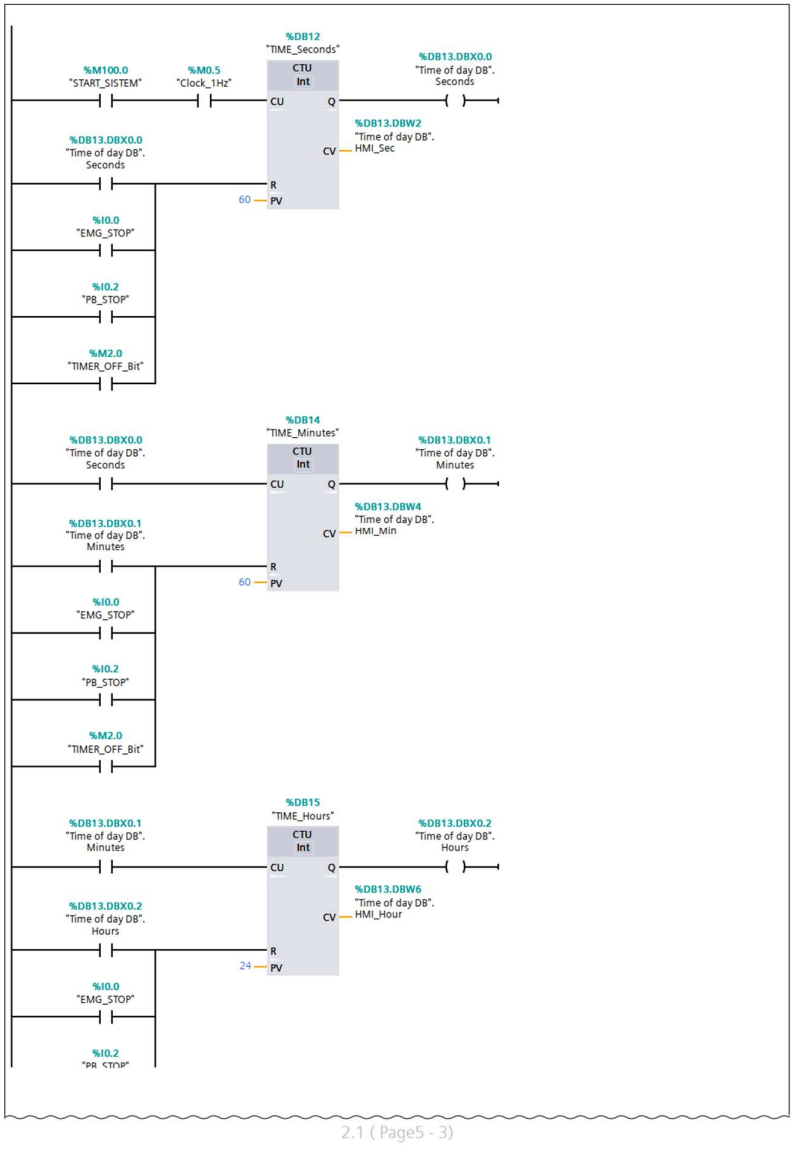
TIMER Properties					
General					
Name	TIMER	**Number**	123	**Type**	OB
Language	LAD	**Numbering**	Automatic		
Information					
Title	"Main Program Sweep (Cycle)"	**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

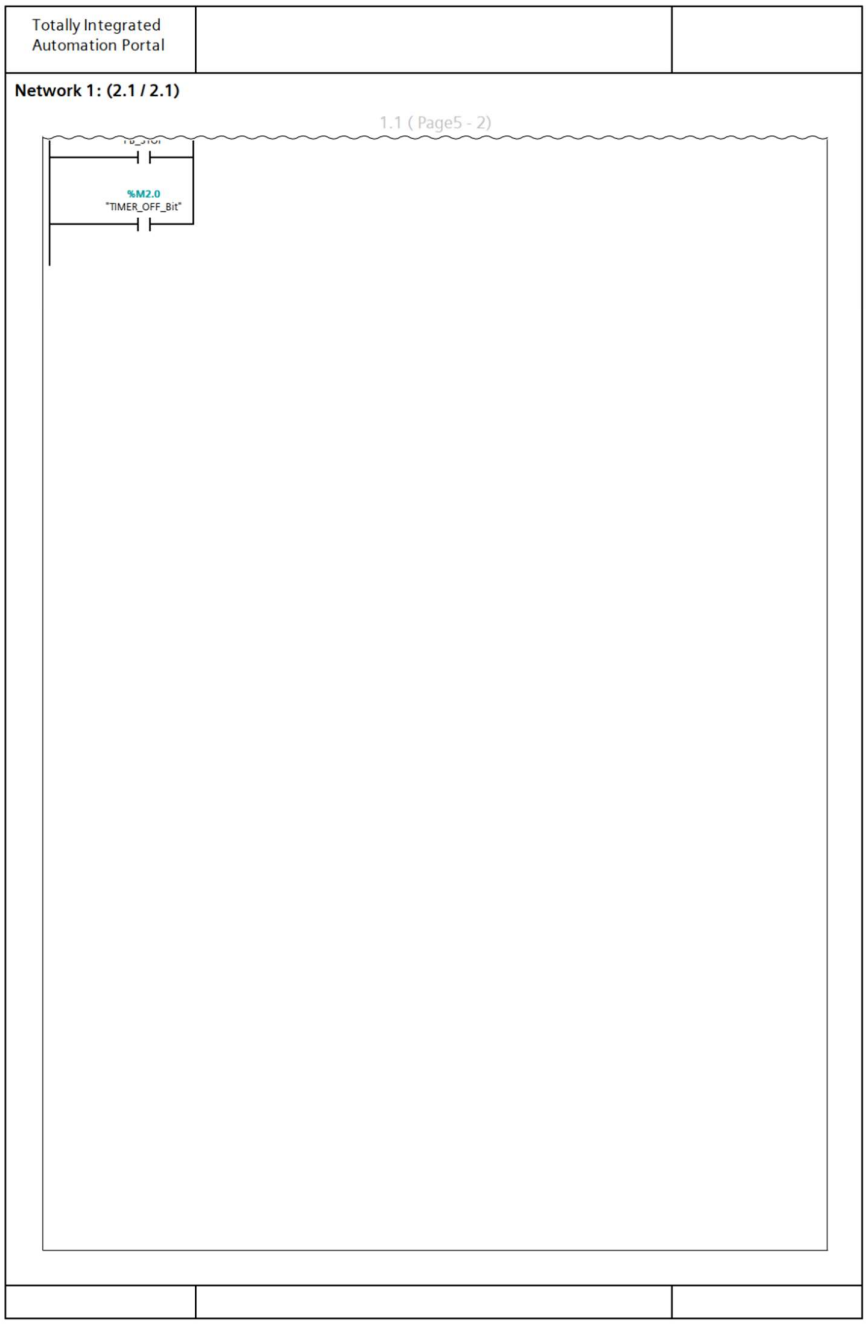
Name	Data type	Default value	Comment
▼ Input			
Initial_Call	Bool		Initial call of this OB
Remanence	Bool		=True, if remanent data are available
Temp			
Constant			

Network 1:

Totally Integrated Automation Portal

Network 1: (1.1 / 2.1)




Totally Integrated
Automation Portal
Network 1: (2.1 / 2.1)
1.1 (Page5 - 2)
%M2.0
"TIMER_OFF_Bit"

Totally Integrated Automation Portal		

Program blocks

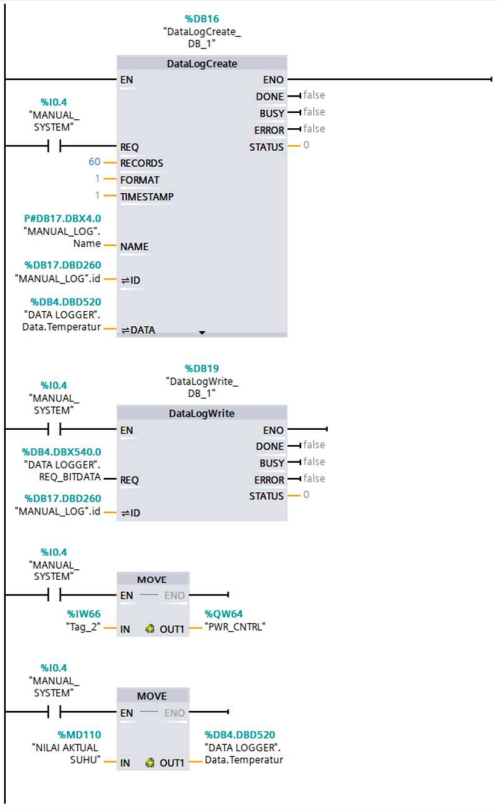
MANUAL [OB124]

MANUAL Properties					
General					
Name	MANUAL	**Number**	124	**Type**	OB
Language	LAD	**Numbering**	Automatic		
Information					
Title	"Main Program Sweep (Cycle)"	**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

Name	Data type	Default value	Comment
▼ Input			
Initial_Call	Bool		Initial call of this OB
Remanence	Bool		=True, if remanent data are available
Temp			
Constant			

Network 1:

Totally Integrated
Automation Portal



Totally Integrated Automation Portal

Program blocks

DATA HMI CONTROL [DB2]

DATA HMI CONTROL Properties					
General					
Name	DATA HMI CONTROL	**Number**	2	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

Name	Data type	Offset	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
▼ Static										
TEMP_SETPOINT	Real	0.0	0.0	False	True	True	True	False		
PID_Output	Real	4.0	0.0	False	True	True	True	False		
RESET	Bool	8.0	false	False	True	True	True	False		
DATA_SETPOINT	Real	10.0	0.0	False	True	True	True	False		
PID_Output_HMI	Real	14.0	0.0	False	True	True	True	False		
TIMER_SETPOINT	Time	18.0	T#0ms	False	True	True	True	False		
RESET TIMER	Bool	22.0	false	False	True	True	True	False		
SET TIMER	Bool	22.1	false	False	True	True	True	False		

Totally Integrated Automation Portal

Program blocks

DATA LOGGER [DB4]

DATA LOGGER Properties					
General					
Name	DATA LOGGER	**Number**	4	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

Name	Data type	Offset	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Set-point	Supervision	Comment
▼ Static										
Record	UDInt	0.0	0	False	True	True	True	False		
Name	String	4.0	'Data'	False	True	True	True	False		
id	DWord	260.0	1	False	True	True	True	False		
header	String	264.0	'Temperatur,SV,PID'	False	True	True	True	False		
▼ Data	Struct	520.0		False	True	True	True	False		
Temperatur	Real	520.0	0.0	False	True	True	True	False		
Setpoint	Real	524.0	0.0	False	True	True	True	False		
Output PID	Real	528.0	0.0	False	True	True	True	False		
Done bit	Bool	532.0	false	False	True	True	True	False		
Bussy bit	Bool	532.1	false	False	True	True	True	False		
Error bit	Bool	532.2	false	False	True	True	True	False		
Status	Int	534.0	0	False	True	True	True	False		
1sec	Bool	536.0	false	False	True	True	True	False		
5sec	Bool	536.1	false	False	True	True	True	False		
10sec	Bool	536.2	false	False	True	True	True	False		
1min	Bool	536.3	false	False	True	True	True	False		
5min	Bool	536.4	false	False	True	True	True	False		

Totally Integrated Automation Portal

Name	Data type	Offset	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
ON_REC_DATA-LOG	Int	538.0	0	False	True	True	True	False		
REQ_BITDATA	Bool	540.0	false	False	True	True	True	False		

Totally Integrated Automation Portal

Program blocks

Time of day DB [DB13]

Time of day DB Properties					
General					
Name	Time of day DB	**Number**	13	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

Name	Data type	Offset	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision			Comment
▼ Static												
Seconds	Bool	0.0	false	False	True	True	True	False				
Minutes	Bool	0.1	false	False	True	True	True	False				
Hours	Bool	0.2	false	False	True	True	True	False				
Days	Bool	0.3	false	False	True	True	True	False				
HMI_Sec	Int	2.0	0	False	True	True	True	False				
HMI_Min	Int	4.0	0	False	True	True	True	False				
HMI_Hour	Int	6.0	0	False	True	True	True	False				

Totally Integrated Automation Portal

Program blocks

MANUAL_LOG [DB17]

MANUAL_LOG Properties					
General					
Name	MANUAL_LOG	**Number**	17	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**		**Comment**	
Family		**Version**	0.1	**User-defined ID**	

Name	Data type	Offset	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Set-point	Supervision	Comment
▼ Static										
Record	DInt	0.0	0	False	True	True	True	False		
Name	String	4.0	'MANUAL'	False	True	True	True	False		
id	DWord	260.0	1	False	True	True	True	False		
header	String	264.0	'Temperatur'	False	True	True	True	False		
▼ Data	Struct	520.0		False	True	True	True	False		
Temperatur	Real	520.0	0.0	False	True	True	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

PID_Compact [FB1130]

PID_Compact Properties					
General					
Name	PID_Compact	**Number**	1130	**Type**	FB
Language	SCL	**Numbering**	Automatic		
Information					
Title	Compact PID_Controller with self-tuning	**Author**	SIMATIC	**Comment**	
Family	COMPPID	**Version**	2.3	**User-defined ID**	PID_Cmpt

Name	Data type	Default value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
▼ Input									
Setpoint	Real	0.0	Non-retain	True	True	True	False		controller setpoint input
Input	Real	0.0	Non-retain	True	True	True	False		current value from process in REAL format
Input_PER	Int	0	Non-retain	True	True	True	False		current value from peripheral input
Disturbance	Real	0.0	Non-retain	True	True	True	False		disturbance intrusion
ManualEnable	Bool	false	Non-retain	True	True	True	False		activate manual value to overwrite output value
ManualValue	Real	0.0	Non-retain	True	True	True	False		manual value
ErrorAck	Bool	false	Non-retain	True	True	True	False		reset error message
Reset	Bool	false	Non-retain	True	True	True	False		reset the controller
ModeActivate	Bool	false	Non-retain	True	True	True	False		enable mode
▼ Output									
ScaledInput	Real	0.0	Non-retain	True	False	True	False		current value after scaling
Output	Real	0.0	Non-retain	True	False	True	False		output value in REAL format
Output_PER	Int	0	Non-retain	True	False	True	False		analog output value
Output_PWM	Bool	false	Non-retain	True	False	True	False		pulse width modulated output value
SetpointLimit_H	Bool	false	Non-retain	True	False	True	False		setpoint reached upper limit
SetpointLimit_L	Bool	false	Non-retain	True	False	True	False		setpoint reached lower limit

Totally Integrated Automation Portal

Name	Data type	Default value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
InputWarning_H	Bool	false	Non-retain	True	False	True	False		current value reached upper warning level
InputWarning_L	Bool	false	Non-retain	True	False	True	False		current value reached lower warning level
State	Int	0	Non-retain	True	False	True	False		current mode of operation (0-Inactive, 1-SUT, 2-TIR, 3-Automatic, 4-Manual, 5-Substitute output)
Error	Bool	false	Non-retain	True	False	True	False		error flag
ErrorBits	DWord	16#0	Retain	True	False	True	False		error message
▼ InOut									
Mode	Int	4	Retain	True	True	True	False		mode selection
▼ Static									
InternalDiagnostic	DWord	0	Non-retain	False	False	False	False		internal diagnostic and version handling
InternalVersion	DWord	DW#16#02030003	Non-retain	True	False	True	False		version of controller
InternalRTVersion	DWord	0	Non-retain	False	False	False	False		version of runtime
IntegralResetMode	Int	4	Non-retain	True	True	True	True		0 smooth, 1 clear, 2 keep, 3 overwrite initial output, 4 like setpoint change
OverwriteInitialOutputValue	Real	0.0	Non-retain	True	True	True	False		initialisation of output value for override control
RunModeByStartup	Bool	true	Non-retain	True	True	True	True		activate Mode after CPU restart
LoadBackUp	Bool	false	Non-retain	True	True	True	False		restore last parameter set
SetSubstituteOutput	Bool	true	Non-retain	True	True	True	True		assignment of output value in State = 5 (FALSE - last valid value, TRUE - SubstituteOutput)
PhysicalUnit	Int	0	Non-retain	True	False	True	True		unit of measurement of the process value and setpoint

Totally Integrated Automation Portal

Name	Data type	Default value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
PhysicalQuantity	Int	0	Non-retain	True	False	True	True		physical quantity of the process value and setpoint
ActivateRecoverMode	Bool	true	Non-retain	True	True	True	True		FALSE - go to inactive by error, TRUE - activate error treatment
Warning	DWord	16#0	Retain	True	False	True	False		warning message
WarningInternal	DWord	16#0	Retain	True	False	True	False		warning message
Progress	Real	0.0	Non-retain	True	False	True	False		progress of current phase in percent
CurrentSetpoint	Real	0.0	Non-retain	True	False	True	False		current active setpoint value
CancelTuningLevel	Real	10.0	Non-retain	True	True	True	True		cancel level for setpoint change during tuning
SubstituteOutput	Real	0.0	Non-retain	True	True	True	True		substitute output value in case of error
▼ Config	PID_CompactConfig		Non-retain	True	True	True	True		configuration data set
InputPerOn	Bool	true	Non-retain	True	True	True	True		activate peripheral input
InvertControl	Bool	false	Non-retain	True	True	True	True		invert control direction
InputUpperLimit	Real	120.0	Non-retain	True	True	True	True		input (process value) upper limit
InputLowerLimit	Real	0.0	Non-retain	True	True	True	True		input (process value) lower limit
InputUpperWarning	Real	3.402822e+38	Non-retain	True	True	True	True		input (process value) upper level warning
InputLowerWarning	Real	-3.402822e+38	Non-retain	True	True	True	True		input (process value) lower level warning
OutputUpperLimit	Real	100.0	Non-retain	True	True	True	True		output value upper limit
OutputLowerLimit	Real	0.0	Non-retain	True	True	True	True		output value lower limit
SetpointUpperLimit	Real	3.402822e+38	Non-retain	True	True	True	True		setpoint upper limit value
SetpointLowerLimit	Real	-3.402822e+38	Non-retain	True	True	True	True		setpoint lower limit value
MinimumOnTime	Real	0.0	Non-retain	True	True	True	True		PWM minimum on time
MinimumOffTime	Real	0.0	Non-retain	True	True	True	True		PWM minimum off time

Totally Integrated Automation Portal

Name	Data type	Default value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
▼ InputScaling	PID_Scaling		Non-retain	True	True	True	True		input scaling
UpperPointIn	Real	27648.0	Non-retain	True	True	True	True		high value (input range of scaling)
LowerPointIn	Real	0.0	Non-retain	True	True	True	True		low value (input range of scaling)
UpperPointOut	Real	100.0	Non-retain	True	True	True	True		high value (output range of scaling)
LowerPointOut	Real	0.0	Non-retain	True	True	True	True		low value (output range of scaling)
▼ CycleTime	PID_CycleTime		Non-retain	True	True	True	True		data set for cycle time estimation
StartEstimation	Bool	true	Non-retain	True	True	True	False		start automatic estimation of call cycle time
EnEstimation	Bool	true	Non-retain	True	True	True	True		enable estimation of call cycle time
EnMonitoring	Bool	true	Non-retain	True	True	True	True		enable monitoring of call cycle time
Value	Real	0.1	Non-retain	True	True	True	True		call cycle time
▼ CtrlParamsBackUp	PID_CompactControlParams		Non-retain	True	True	True	True		saved parameter set
Gain	Real	1.0	Non-retain	True	True	True	True		proportional gain
Ti	Real	20.0	Non-retain	True	True	True	True		reset time
Td	Real	0.0	Non-retain	True	True	True	True		derivative time
TdFiltRatio	Real	0.2	Non-retain	True	True	True	True		filter coefficient for derivative part
PWeighting	Real	1.0	Non-retain	True	True	True	True		weigthing of proportional part in direct, feedback path
DWeighting	Real	1.0	Non-retain	True	True	True	True		weigthing of derivative part in direct, feedback path
Cycle	Real	1.0	Non-retain	True	True	True	True		PID Controller cycle time
▼ PIDSelfTune	PID_CompactSelfTune		Non-retain	True	True	True	True		data set for self tuning
▼ SUT	PID_Compact_SUT		Non-retain	True	True	True	True		data set for start up tuning
CalculateParams	Bool	false	Non-retain	True	True	True	False		recalculate control parameters with parameters of startup tuning

Totally Integrated Automation Portal

Name	Data type	Default value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
TuneRule	Int	0	Non-retain	True	True	True	True		tuning rule for SUT (0-CHR PID,1-CHR PI)
State	Int	0	Non-retain	True	False	True	False		current phase of start up tuning
▼ TIR	PID_Compact_TIR		Non-retain	True	True	True	True		data set for tuning in run
RunIn	Bool	false	Non-retain	True	True	True	False		activate run in set-point without controling
CalculateParams	Bool	false	Non-retain	True	True	True	False		recalculate control parameters with parameters of tuning in run
TuneRule	Int	0	Non-retain	True	True	True	True		tuning rule for TIR (0-2-A PID auto,fast,slow;3-ZN PID;4-ZN PI;5-ZN P)
State	Int	0	Non-retain	True	False	True	False		current phase of tuning in run
▼ PIDCtrl	PID_CompactControl		Non-retain	True	True	True	True		data for controling part
PIDInit	Bool	false	Non-retain	True	True	True	False		initialization of controller
IntegralSum	Real	0.0	Non-retain	True	True	True	False		signal of integral part
▼ Retain	PID_CompactRetain		Retain	True	True	True	True		retain data
▼ CtrlParams	PID_CompactControlParams		Retain	True	True	True	True		actual parameter set
Gain	Real	1.0	Retain	True	True	True	True		proportional gain
Ti	Real	20.0	Retain	True	True	True	True		reset time
Td	Real	0.0	Retain	True	True	True	True		derivative time
TdFiltRatio	Real	0.2	Retain	True	True	True	True		filter coefficient for derivative part
PWeighting	Real	1.0	Retain	True	True	True	True		weigthing of proportional part in direct, feedback path
DWeighting	Real	1.0	Retain	True	True	True	True		weigthing of derivative part in direct, feedback path
Cycle	Real	1.0	Retain	True	True	True	True		PID Controller cycle time

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

DataLogCreate_DB [DB3]

DataLogCreate_DB Properties					
General					
Name	DataLogCreate_DB	**Number**	3	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**	SIMATIC	**Comment**	
Family	DataLog	**Version**	1.0	**User-defined ID**	DL_Creat

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Set-point	Supervision	Comment
▼ Input									
REQ	Bool	false	False	True	True	True	False		
Records	UDInt	1	False	True	True	True	False		
Format	UInt	1	False	True	True	True	False		
Timestamp	UInt	1	False	True	True	True	False		
Name	Variant		False	False	False	False	False		
▼ Output									
DONE	Bool	false	False	True	True	True	False		
BUSY	Bool	false	False	True	True	True	False		
ERROR	Bool	false	False	True	True	True	False		
STATUS	Word	0	False	True	True	True	False		
▼ InOut									
ID	DWord	0	False	True	True	True	False		
Header	Variant		False	False	False	False	False		
Data	Variant		False	False	False	False	False		
Static									

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

DataLogWrite_DB [DB5]

DataLogWrite_DB Properties					
General					
Name	DataLogWrite_DB	**Number**	5	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**	SIMATIC	**Comment**	
Family	DataLog	**Version**	1.0	**User-defined ID**	DL_Write

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
▼ Input									
REQ	Bool	false	False	True	True	True	False		
▼ Output									
DONE	Bool	false	False	True	True	True	False		
BUSY	Bool	false	False	True	True	True	False		
ERROR	Bool	false	False	True	True	True	False		
STATUS	Word	0	False	True	True	True	False		
▼ InOut									
ID	DWord	0	False	True	True	True	False		
Static									

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

IEC_Timer_0_DB [DB6]

IEC_Timer_0_DB Properties					
General					
Name	IEC_Timer_0_DB	**Number**	6	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**	Simatic	**Comment**	
Family	IEC	**Version**	1.0	**User-defined ID**	IEC_TMR

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
▼ Static									
PT	Time	T#0ms	False	True	True	True	False		
ET	Time	T#0ms	False	True	False	True	False		
IN	Bool	false	False	True	True	True	False		
Q	Bool	false	False	True	False	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

5sec [DB7]

5sec Properties					
General					
Name	5sec	**Number**	7	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**	Simatic	**Comment**	
Family	IEC	**Version**	1.0	**User-defined ID**	CNTR

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
▼ Static									
CU	Bool	false	True	True	True	True	False		
CD	Bool	false	True	True	True	True	False		
R	Bool	false	True	True	True	True	False		
LD	Bool	false	True	True	True	True	False		
QU	Bool	false	True	True	True	True	False		
QD	Bool	false	True	True	True	True	False		
PV	Int	0	True	True	True	True	False		
CV	Int	0	True	True	True	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

10sec [DB8]

10sec Properties					
General					
Name	10sec	**Number**	8	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**	Simatic	**Comment**	
Family	IEC	**Version**	1.0	**User-defined ID**	CNTR

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
▼ Static									
CU	Bool	false	True	True	True	True	False		
CD	Bool	false	True	True	True	True	False		
R	Bool	false	True	True	True	True	False		
LD	Bool	false	True	True	True	True	False		
QU	Bool	false	True	True	True	True	False		
QD	Bool	false	True	True	True	True	False		
PV	Int	0	True	True	True	True	False		
CV	Int	0	True	True	True	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

1min [DB9]

1min Properties					
General					
Name	1min	**Number**	9	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**	Simatic	**Comment**	
Family	IEC	**Version**	1.0	**User-defined ID**	CNTR

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Set-point	Supervision	Comment
▼ Static									
CU	Bool	false	True	True	True	True	False		
CD	Bool	false	True	True	True	True	False		
R	Bool	false	True	True	True	True	False		
LD	Bool	false	True	True	True	True	False		
QU	Bool	false	True	True	True	True	False		
QD	Bool	false	True	True	True	True	False		
PV	Int	0	True	True	True	True	False		
CV	Int	0	True	True	True	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

5min [DB10]

5min Properties					
General					
Name	5min	**Number**	10	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**	Simatic	**Comment**	
Family	IEC	**Version**	1.0	**User-defined ID**	CNTR

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
▼ Static									
CU	Bool	false	True	True	True	True	False		
CD	Bool	false	True	True	True	True	False		
R	Bool	false	True	True	True	True	False		
LD	Bool	false	True	True	True	True	False		
QU	Bool	false	True	True	True	True	False		
QD	Bool	false	True	True	True	True	False		
PV	Int	0	True	True	True	True	False		
CV	Int	0	True	True	True	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

10min [DB11]

10min Properties					
General					
Name	10min	**Number**	11	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**	Simatic	**Comment**	
Family	IEC	**Version**	1.0	**User-defined ID**	CNTR

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
▼ Static									
CU	Bool	false	True	True	True	True	False		
CD	Bool	false	True	True	True	True	False		
R	Bool	false	True	True	True	True	False		
LD	Bool	false	True	True	True	True	False		
QU	Bool	false	True	True	True	True	False		
QD	Bool	false	True	True	True	True	False		
PV	Int	0	True	True	True	True	False		
CV	Int	0	True	True	True	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

TIME_Seconds [DB12]

TIME_Seconds Properties					
General					
Name	TIME_Seconds	**Number**	12	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**	Simatic	**Comment**	
Family	IEC	**Version**	1.0	**User-defined ID**	CNTR

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
▼ Static									
CU	Bool	false	True	True	True	True	False		
CD	Bool	false	True	True	True	True	False		
R	Bool	false	True	True	True	True	False		
LD	Bool	false	True	True	True	True	False		
QU	Bool	false	True	True	True	True	False		
QD	Bool	false	True	True	True	True	False		
PV	Int	0	True	True	True	True	False		
CV	Int	0	True	True	True	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

TIME_Minutes [DB14]

TIME_Minutes Properties					
General					
Name	TIME_Minutes	**Number**	14	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**	Simatic	**Comment**	
Family	IEC	**Version**	1.0	**User-defined ID**	CNTR

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
Static									
CU	Bool	false	True	True	True	True	False		
CD	Bool	false	True	True	True	True	False		
R	Bool	false	True	True	True	True	False		
LD	Bool	false	True	True	True	True	False		
QU	Bool	false	True	True	True	True	False		
QD	Bool	false	True	True	True	True	False		
PV	Int	0	True	True	True	True	False		
CV	Int	0	True	True	True	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

TIME_Hours [DB15]

TIME_Hours Properties					
General					
Name	TIME_Hours	**Number**	15	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**	Simatic	**Comment**	
Family	IEC	**Version**	1.0	**User-defined ID**	CNTR

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
▼ Static									
CU	Bool	false	True	True	True	True	False		
CD	Bool	false	True	True	True	True	False		
R	Bool	false	True	True	True	True	False		
LD	Bool	false	True	True	True	True	False		
QU	Bool	false	True	True	True	True	False		
QD	Bool	false	True	True	True	True	False		
PV	Int	0	True	True	True	True	False		
CV	Int	0	True	True	True	True	False		

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

DataLogCreate_DB_1 [DB16]

DataLogCreate_DB_1 Properties					
General					
Name	DataLogCreate_DB_1	**Number**	16	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**	SIMATIC	**Comment**	
Family	DataLog	**Version**	1.0	**User-defined ID**	DL_Creat

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Set-point	Supervision	Comment
▼ Input									
REQ	Bool	false	False	True	True	True	False		
Records	UDInt	1	False	True	True	True	False		
Format	UInt	1	False	True	True	True	False		
Timestamp	UInt	1	False	True	True	True	False		
Name	Variant		False	False	False	False	False		
▼ Output									
DONE	Bool	false	False	True	True	True	False		
BUSY	Bool	false	False	True	True	True	False		
ERROR	Bool	false	False	True	True	True	False		
STATUS	Word	0	False	True	True	True	False		
▼ InOut									
ID	DWord	0	False	True	True	True	False		
Header	Variant		False	False	False	False	False		
Data	Variant		False	False	False	False	False		
Static									

Totally Integrated Automation Portal

Program blocks / System blocks / Program resources

DataLogWrite_DB_1 [DB19]

DataLogWrite_DB_1 Properties					
General					
Name	DataLogWrite_DB_1	**Number**	19	**Type**	DB
Language	DB	**Numbering**	Automatic		
Information					
Title		**Author**	SIMATIC	**Comment**	
Family	DataLog	**Version**	1.0	**User-defined ID**	DL_Write

Name	Data type	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Set-point	Supervision	Comment
▼ Input									
REQ	Bool	false	False	True	True	True	False		
▼ Output									
DONE	Bool	false	False	True	True	True	False		
BUSY	Bool	false	False	True	True	True	False		
ERROR	Bool	false	False	True	True	True	False		
STATUS	Word	0	False	True	True	True	False		
▼ InOut									
ID	DWord	0	False	True	True	True	False		
Static									

Totally Integrated Automation Portal

Program blocks / System blocks / Web server

DB 333 [DB333]

DB 333 Properties					
General					
Name	DB 333	**Number**	333	**Type**	DB
Language	DB	**Numbering**	Manual		
Information					
Title		**Author**	AWP_S7P	**Comment**	
Family	WEB	**Version**	1.0	**User-defined ID**	

Name	Data type	Offset	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
▼ Static										
magic	DWord	0.0	DW#16#41575043	False	False	False	False	False		
consistency_tag	DWord	4.0	DW#16#1E40E4E4	False	False	False	False	False		
db_version	Word	8.0	W#16#0001	False	False	False	False	False		
length	UInt	10.0	110	False	False	False	False	False		
pagetab_of	UInt	12.0	92	False	False	False	False	False		
pagetab_count	UInt	14.0	0	False	False	False	False	False		
excludetab_of	UInt	16.0	92	False	False	False	False	False		
exclude-tab_count	UInt	18.0	0	False	False	False	False	False		
fragmentlist_of	UInt	20.0	92	False	False	False	False	False		
fragment-list_count	UInt	22.0	0	False	False	False	False	False		
fragmenttab_of	UInt	24.0	98	False	False	False	False	False		
fragment-tab_count	UInt	26.0	0	False	False	False	False	False		
datatab_of	UInt	28.0	98	False	False	False	False	False		
datatab_count	UInt	30.0	0	False	False	False	False	False		
usenametab_of	UInt	32.0	98	False	False	False	False	False		
username-tab_count	UInt	34.0	0	False	False	False	False	False		
enumreftab_of	UInt	36.0	98	False	False	False	False	False		

Totally Integrated Automation Portal

Name	Data type	Offset	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
enumref-tab_count	UInt	38.0	0	False	False	False	False	False		
enumtab_of	UInt	40.0	98	False	False	False	False	False		
enumtab_count	UInt	42.0	0	False	False	False	False	False		
textlist_of	UInt	44.0	98	False	False	False	False	False		
textlist_count	UInt	46.0	12	False	False	False	False	False		
lan-guage_frag_tab_of	UInt	48.0	92	False	False	False	False	False		
lan-guage_frag_tab_count	UInt	50.0	6	False	False	False	False	False		
applica-tion_name	UInt	52.0	1	False	False	False	False	False		
application_url	UInt	54.0	2	False	False	False	False	False		
application_desc	UInt	56.0	12	False	False	False	False	False		
enum_defs_frag-ment_start	UInt	58.0	0	False	False	False	False	False		
enum_defs_frag-ment_count	UInt	60.0	0	False	False	False	False	False		
▼ commandstate	Struct	62.0		False	False	False	False	False		
last_error	Int	62.0	0	False	False	False	False	False		
debug_mode	Int	64.0	0	False	False	False	False	False		
init	Bool	66.0	True	False	False	False	False	False		
deactivate	Bool	66.1	False	False	False	False	False	False		
initializing	Bool	66.2	False	False	False	False	False	False		
error	Bool	66.3	False	False	False	False	False	False		
deactivating	Bool	66.4	False	False	False	False	False	False		
deactivated	Bool	66.5	False	False	False	False	False	False		
initialized	Bool	66.6	False	False	False	False	False	False		
reserved1	Bool	66.7	False	False	False	False	False	False		
reserved2	Byte	67.0	B#16#00	False	False	False	False	False		

Totally Integrated Automation Portal

Name	Data type	Offset	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
requesttab	Array[1..4] of Struct	68.0		False	False	False	False	False		
requesttab[1]	Struct	68.0		False	False	False	False	False		
page_index	UInt	68.0	0	False	False	False	False	False		
fragment_index	UInt	70.0	0	False	False	False	False	False		
continue	Bool	72.0	False	False	False	False	False	False		
repeat	Bool	72.1	False	False	False	False	False	False		
abort	Bool	72.2	False	False	False	False	False	False		
finish	Bool	72.3	False	False	False	False	False	False		
idle	Bool	72.4	False	False	False	False	False	False		
waiting	Bool	72.5	False	False	False	False	False	False		
sending	Bool	72.6	False	False	False	False	False	False		
aborting	Bool	72.7	False	False	False	False	False	False		
reserved3	Byte	73.0	B#16#00	False	False	False	False	False		
requesttab[2]	Struct	74.0		False	False	False	False	False		
page_index	UInt	74.0	0	False	False	False	False	False		
fragment_index	UInt	76.0	0	False	False	False	False	False		
continue	Bool	78.0	False	False	False	False	False	False		
repeat	Bool	78.1	False	False	False	False	False	False		
abort	Bool	78.2	False	False	False	False	False	False		
finish	Bool	78.3	False	False	False	False	False	False		
idle	Bool	78.4	False	False	False	False	False	False		
waiting	Bool	78.5	False	False	False	False	False	False		
sending	Bool	78.6	False	False	False	False	False	False		

Totally Integrated Automation Portal

Name	Data type	Offset	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
aborting	Bool	78.7	False	False	False	False	False	False		
reserved3	Byte	79.0	B#16#00	False	False	False	False	False		
▼ requesttab[3]	Struct	80.0		False	False	False	False	False		
page_index	UInt	80.0	0	False	False	False	False	False		
fragment_index	UInt	82.0	0	False	False	False	False	False		
continue	Bool	84.0	False	False	False	False	False	False		
repeat	Bool	84.1	False	False	False	False	False	False		
abort	Bool	84.2	False	False	False	False	False	False		
finish	Bool	84.3	False	False	False	False	False	False		
idle	Bool	84.4	False	False	False	False	False	False		
waiting	Bool	84.5	False	False	False	False	False	False		
sending	Bool	84.6	False	False	False	False	False	False		
aborting	Bool	84.7	False	False	False	False	False	False		
reserved3	Byte	85.0	B#16#00	False	False	False	False	False		
▼ requesttab[4]	Struct	86.0		False	False	False	False	False		
page_index	UInt	86.0	0	False	False	False	False	False		
fragment_index	UInt	88.0	0	False	False	False	False	False		
continue	Bool	90.0	False	False	False	False	False	False		
repeat	Bool	90.1	False	False	False	False	False	False		
abort	Bool	90.2	False	False	False	False	False	False		
finish	Bool	90.3	False	False	False	False	False	False		
idle	Bool	90.4	False	False	False	False	False	False		
waiting	Bool	90.5	False	False	False	False	False	False		
sending	Bool	90.6	False	False	False	False	False	False		

Totally Integrated Automation Portal

Name	Data type	Offset	Start value	Retain	Accessible from HMI/OPC UA/Web API	Writable from HMI/OPC UA/Web API	Visible in HMI engineering	Setpoint	Supervision	Comment
aborting	Bool	90.7	False	False	False	False	False	False		
reserved3	Byte	91.0	B#16#00	False	False	False	False	False		
▼ language_frag_tab	Struct	92.0		False	False	False	False	False		
max_language	UInt	92.0	0	False	False	False	False	False		
fragment_count	UInt	94.0	0	False	False	False	False	False		
nolang_offset	UInt	96.0	0	False	False	False	False	False		
▼ textlist	Array[1..12] of Byte	98.0		False	False	False	False	False		
textlist[1]	Byte	98.0	16#0	False	False	False	False	False		
textlist[2]	Byte	99.0	16#69	False	False	False	False	False		
textlist[3]	Byte	100.0	16#6E	False	False	False	False	False		
textlist[4]	Byte	101.0	16#64	False	False	False	False	False		
textlist[5]	Byte	102.0	16#65	False	False	False	False	False		
textlist[6]	Byte	103.0	16#78	False	False	False	False	False		
textlist[7]	Byte	104.0	16#2E	False	False	False	False	False		
textlist[8]	Byte	105.0	16#68	False	False	False	False	False		
textlist[9]	Byte	106.0	16#74	False	False	False	False	False		
textlist[10]	Byte	107.0	16#6D	False	False	False	False	False		
textlist[11]	Byte	108.0	16#0	False	False	False	False	False		
textlist[12]	Byte	109.0	16#0	False	False	False	False	False		