OPC-UA variables

Version 1.05

SIMATIC S7-1500 OPC-UA Server (opc.tcp)

Server

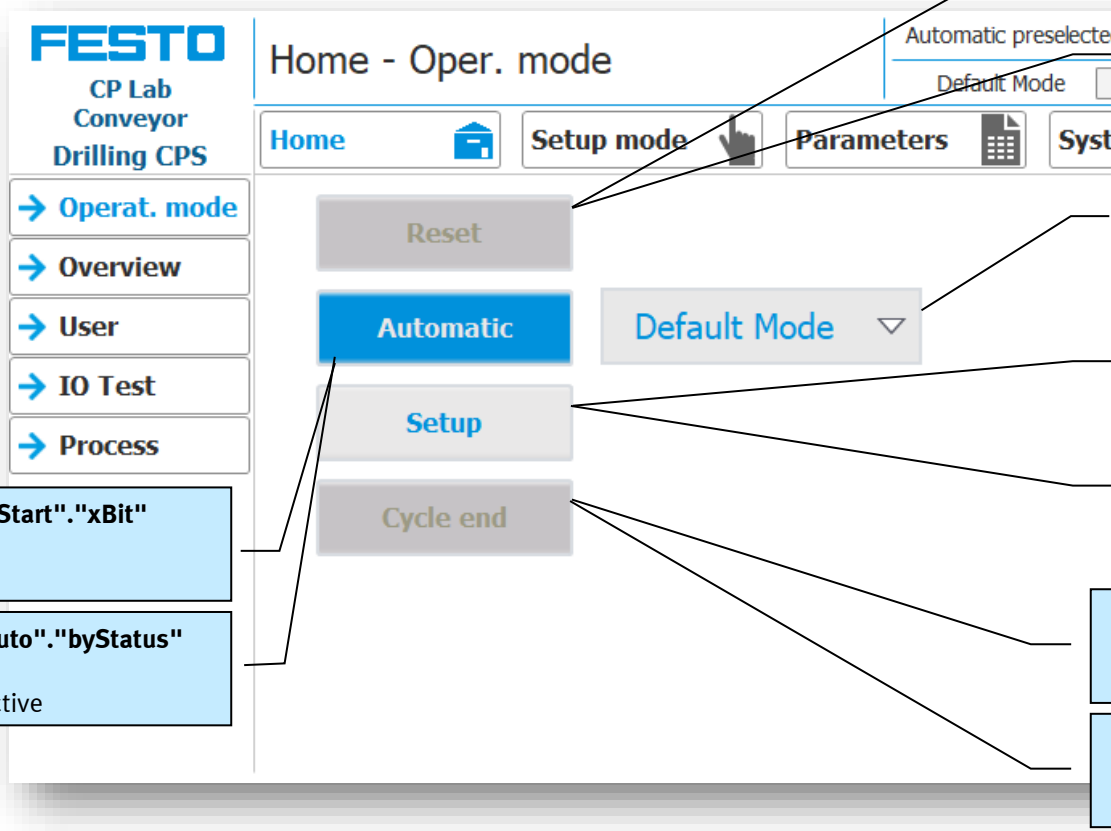
• Endpoint URL:	**opc.tcp://‹*IP address*›:4840**				
• Security policy:	**none**	/	**Basic256**	/	**Basic256**
• Message security mode:	**none**	/	**Sign**	/	**Sign & Encrypt**
• Authentication settings:	**Anonymous**				

Node ID

• Namespace Index	**3**
• Identifier Type	**String**

SIMATIC S7-1500 OPC-UA Server (opc.tcp)

Home / Operation mode



Node ID Identifier: **"dbVar"."Hmi"."Btn"."Reset"."xBit"**
Data type: **Boolean**
Function: To press the button

Node ID Identifier: **"dbVar"."OpMode"."Reset"."byStatus"**
Data type: **Byte**
Function: 0 – disabled / 1 – enabled / 2 – active

Node ID Identifier: **"dbVar"."OpMode"."iMode"**
Data type: **Int16**
Function: 0 – Default Mode / 1 – MES Mode

Node ID Identifier: **"dbVar"."Hmi"."Btn"."AutoMan"."xBit"**
Data type: **Boolean**
Function: To press the button

Node ID Identifier: **"dbVar"."OpMode"."Man"."byStatus"**
Data type: **Byte**
Function: 0 – disabled / 1 – enabled / 2 – active

Node ID Identifier: **"dbVar"."Hmi"."Btn"."Start"."xBit"**
Data type: **Boolean**
Function: To press the button

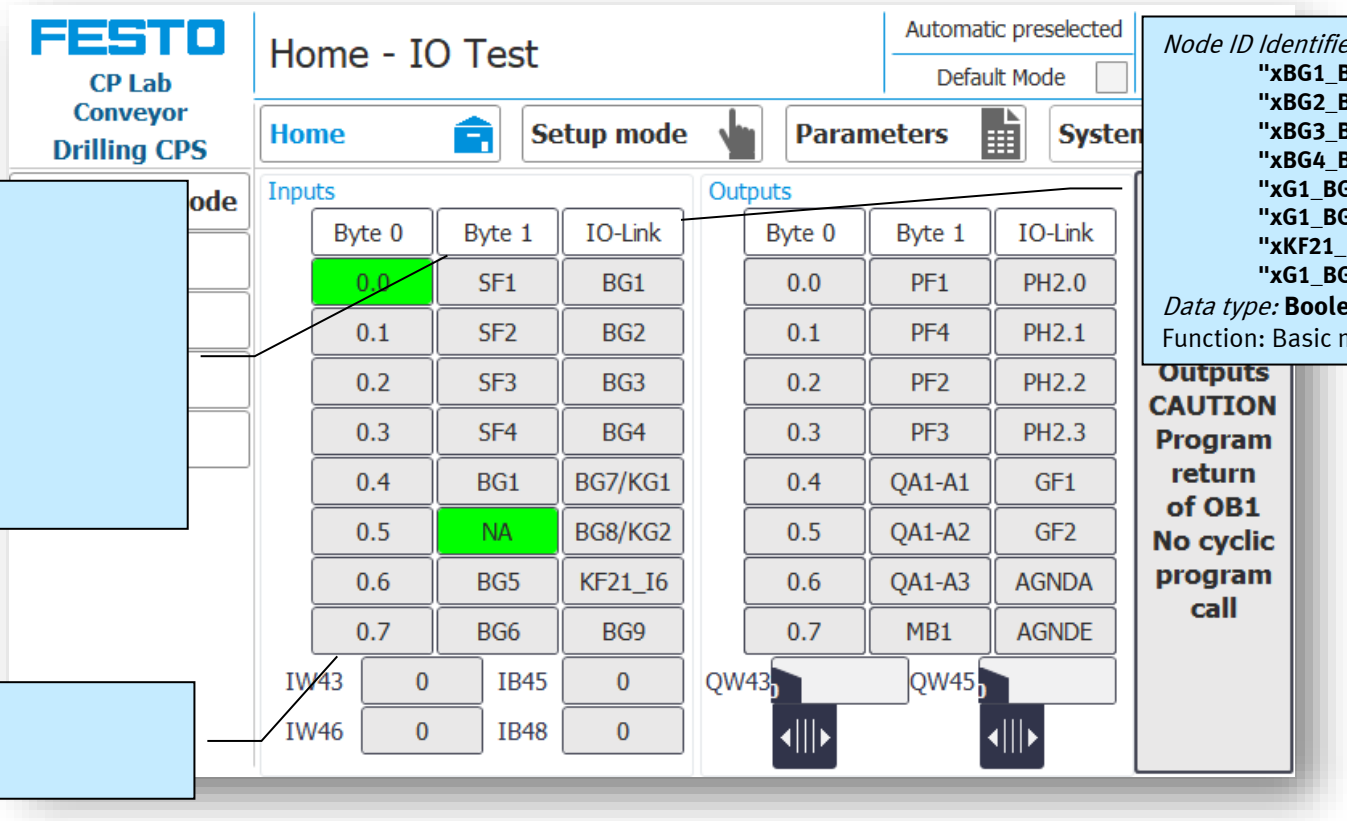
Node ID Identifier: **"dbVar"."OpMode". "Auto"."byStatus"**
Data type: **Byte**
Function: 0 – disabled / 1 – enabled / 2 – active

Node ID Identifier: **"dbVar"."Hmi"."Btn"."Stop"."xBit"**
Data type: **Boolean**
Function: To press the button

Node ID Identifier: **"dbVar"."OpMode"."CycleEnd"."byStatus"**
Data type: **Byte**
Function: 0 – disabled / 1 – enabled / 2 – active

SIMATIC S7-1500 OPC-UA Server (opc.tcp)

Home / IO Test



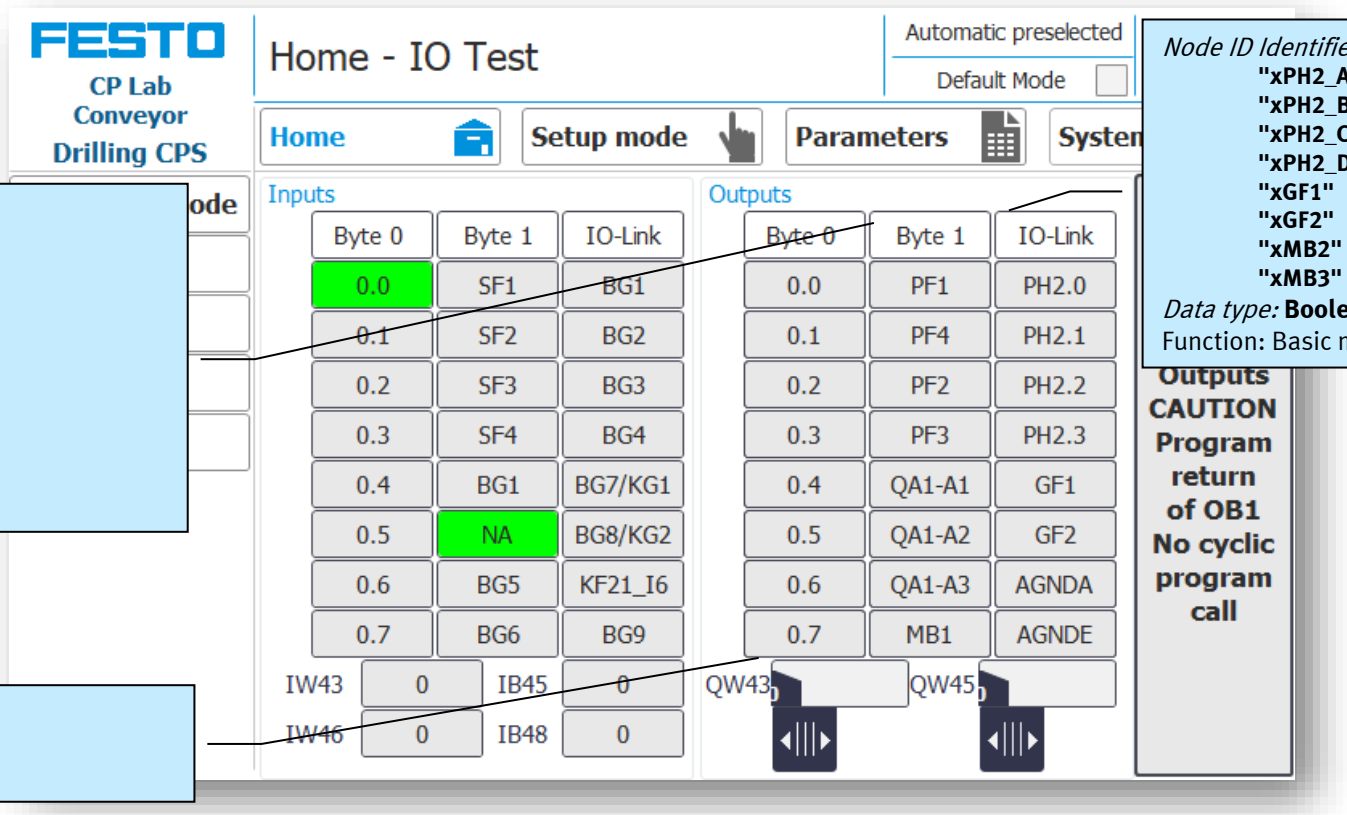
Node ID Identifiers:
"xSF1"
"xSF2"
"xSF3"
"xSF4"
"xBG1"
"xSF5"
"xBG5"
"xBG6"
Data type: **Boolean**
Function: Basic module inputs

Node ID Identifier: **"IB0"**
Data type: **Byte**
Function: Application module input byte

Node ID Identifiers:
"xBG1_BCD0"
"xBG2_BCD1"
"xBG3_BCD2"
"xBG4_BCD3"
"xG1_BG7_KG1"
"xG1_BG8_KG2"
"xKF21_IN6"
"xG1_BG9"
Data type: **Boolean**
Function: Basic module inputs via IO-Link module

SIMATIC S7-1500 OPC-UA Server (opc.tcp)

Home / IO Test



Node ID Identifiers:
"xPF1"
"xPF2"
"xPF3"
"xPF4"
"xQA1_A1"
"xQA1_A2"
"xQA1_A3"
"xMB1"
Data type: **Boolean**
Function: Basic module outputs

Node ID Identifiers:
"xPH2_A"
"xPH2_B"
"xPH2_C"
"xPH2_D"
"xGF1"
"xGF2"
"xMB2"
"xMB3"
Data type: **Boolean**
Function: Basic module outputs via IO-Link module

Node ID Identifier: **"QB0"**
Data type: **Byte**
Function: Application module output byte

SIMATIC S7-1500 OPC-UA Server (opc.tcp)

Home / Overview

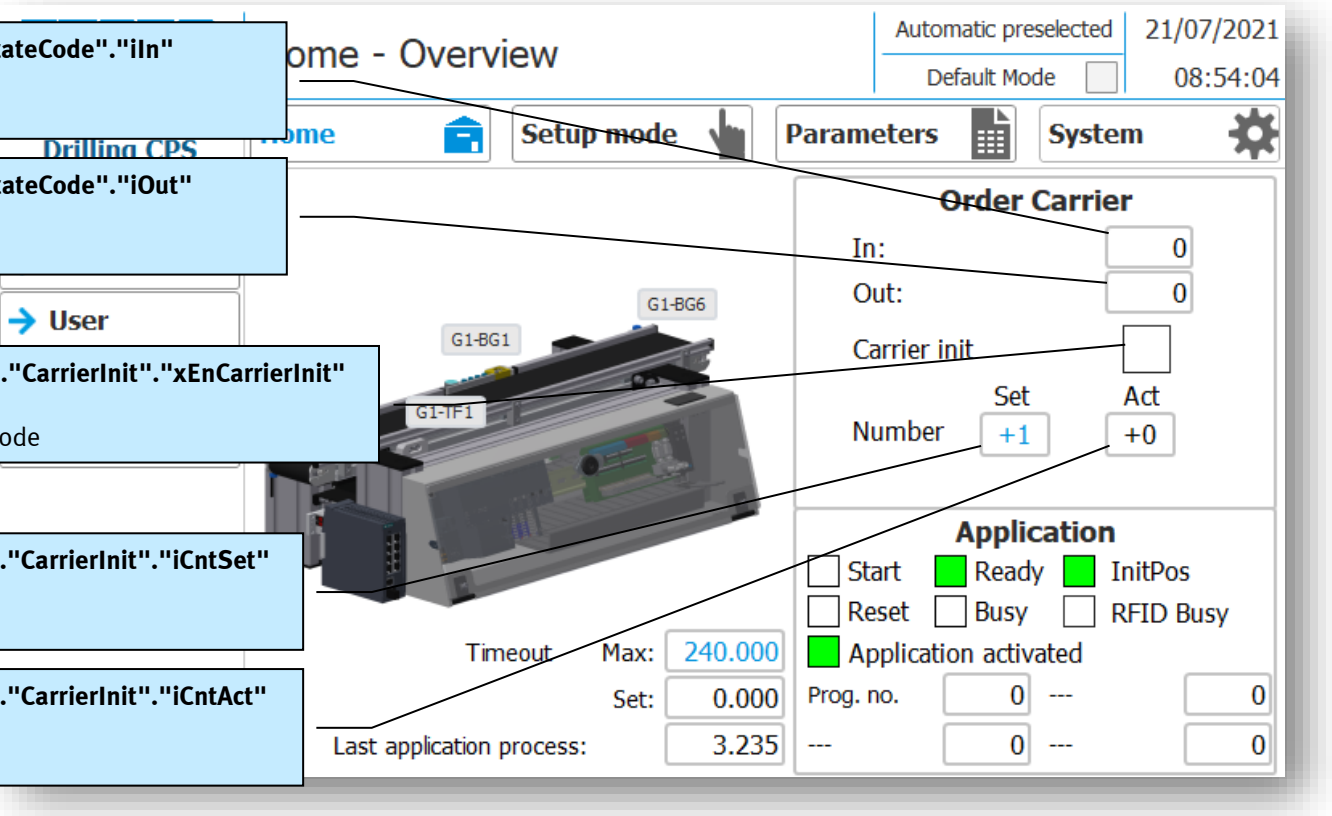
Node ID Identifier: **"dbVar"."Hmi"."StateCode"."iIn"**
Data type: **Int16**
Function: Status code in

Node ID Identifier: **"dbVar"."Hmi"."StateCode"."iOut"**
Data type: **Int16**
Function: Status code out

Node ID Identifier: **"dbVar"."Options"."CarrierInit"."xEnCarrierInit"**
Data type: **Boolean**
Function: Initialize Carrier in Default Mode

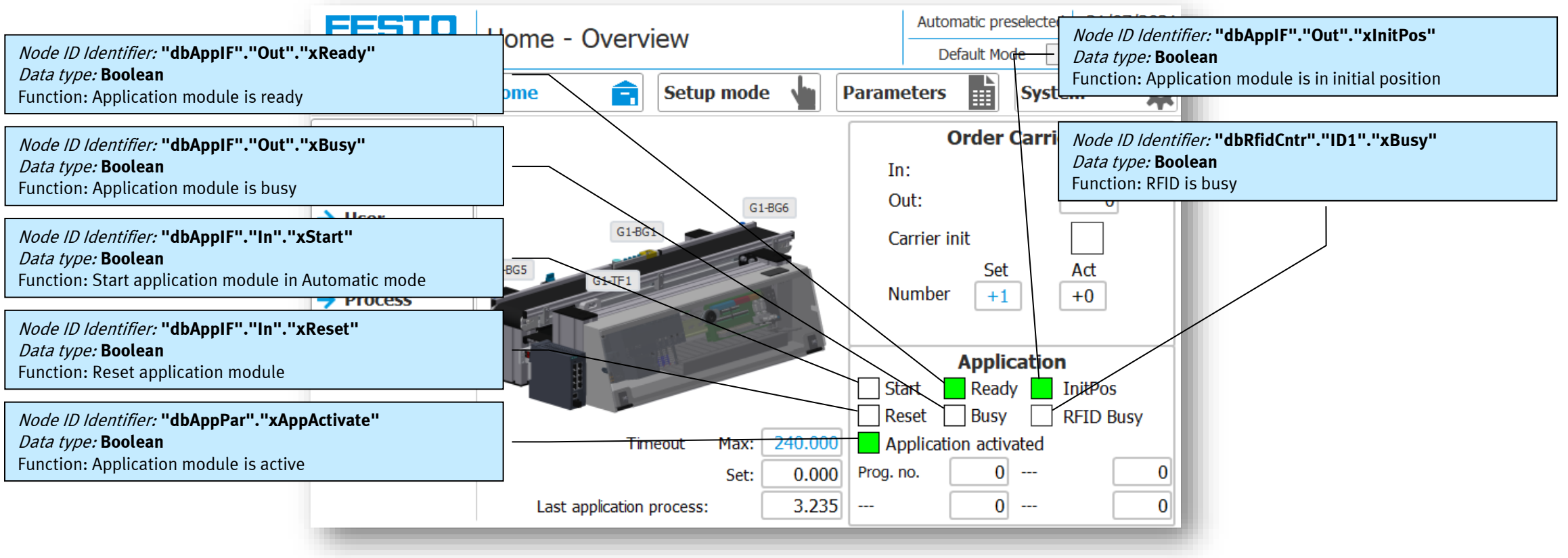
Node ID Identifier: **"dbVar"."Options"."CarrierInit"."iCntSet"**
Data type: **Int16**
Function: Setpoint of init counter

Node ID Identifier: **"dbVar"."Options"."CarrierInit"."iCntAct"**
Data type: **Int16**
Function: Actual counter of init



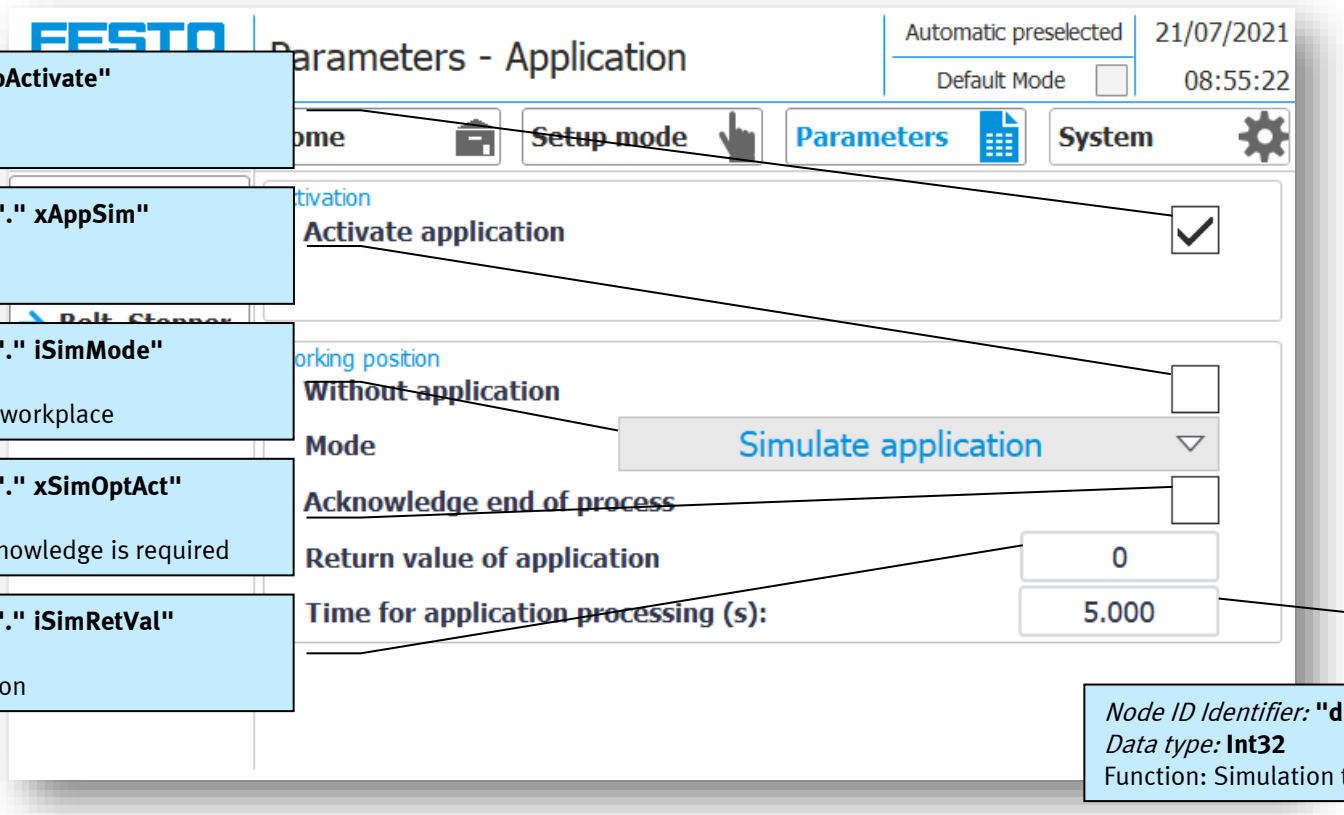
SIMATIC S7-1500 OPC-UA Server (opc.tcp)

Home / Overview



SIMATIC S7-1500 OPC-UA Server (opc.tcp)

Parameter / Application



Node ID Identifier: **"dbAppPar"."xAppActivate"**
Data type: **Boolean**
Function: Activate application module

Node ID Identifier: **"dbAppPar"."Sim"." xAppSim"**
Data type: **Boolean**
Function: Simulate application

Node ID Identifier: **"dbAppPar"."Sim"." iSimMode"**
Data type: **Int16**
Function: 0 – Simulation / 1 – Manual workplace

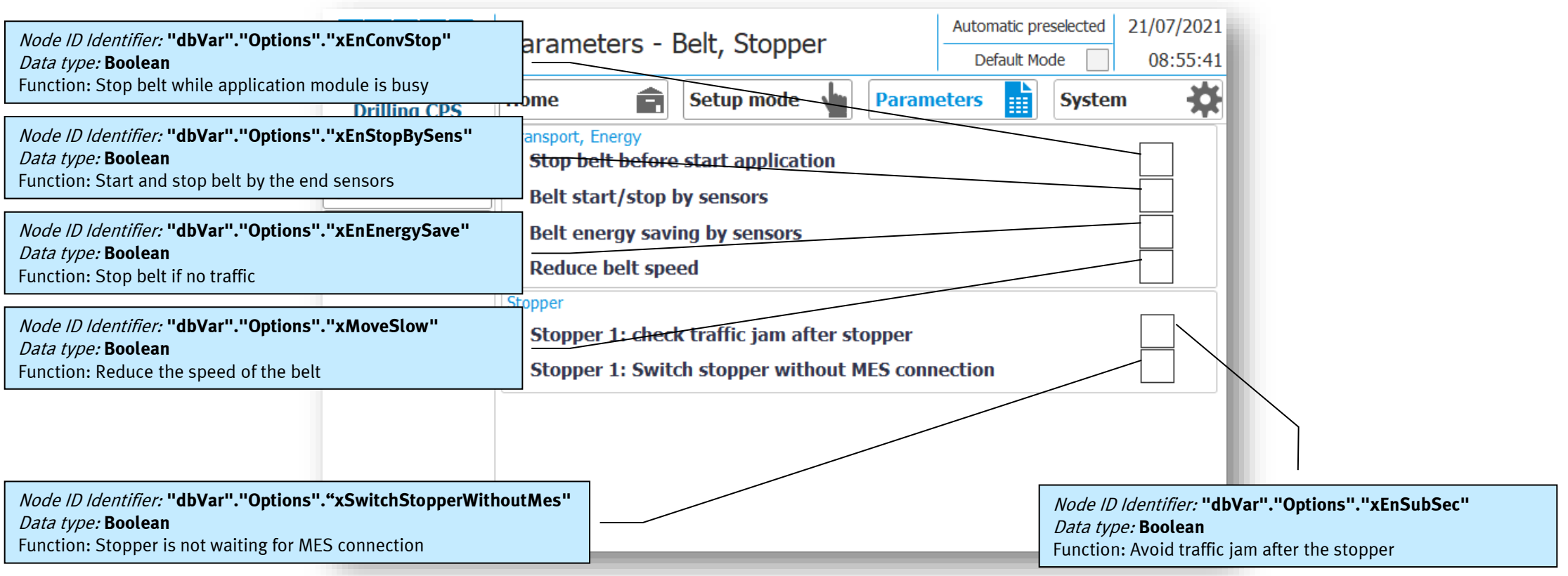
Node ID Identifier: **"dbAppPar"."Sim"." xSimOptAct"**
Data type: **Boolean**
Function: In the end of simulation acknowledge is required

Node ID Identifier: **"dbAppPar"."Sim"." iSimRetVal"**
Data type: **Int16**
Function: Set return value for simulation

Node ID Identifier: **"dbAppPar"."Sim"."tSimTimeNom"**
Data type: **Int32**
Function: Simulation time [ms]

SIMATIC S7-1500 OPC-UA Server (opc.tcp)

Parameter / Belt, Stopper



Node ID Identifier: **"dbVar"."Options"."xEnConvStop"**
Data type: **Boolean**
Function: Stop belt while application module is busy

Node ID Identifier: **"dbVar"."Options"."xEnStopBySens"**
Data type: **Boolean**
Function: Start and stop belt by the end sensors

Node ID Identifier: **"dbVar"."Options"."xEnEnergySave"**
Data type: **Boolean**
Function: Stop belt if no traffic

Node ID Identifier: **"dbVar"."Options"."xMoveSlow"**
Data type: **Boolean**
Function: Reduce the speed of the belt

Node ID Identifier: **"dbVar"."Options"."xSwitchStopperWithoutMes"**
Data type: **Boolean**
Function: Stopper is not waiting for MES connection

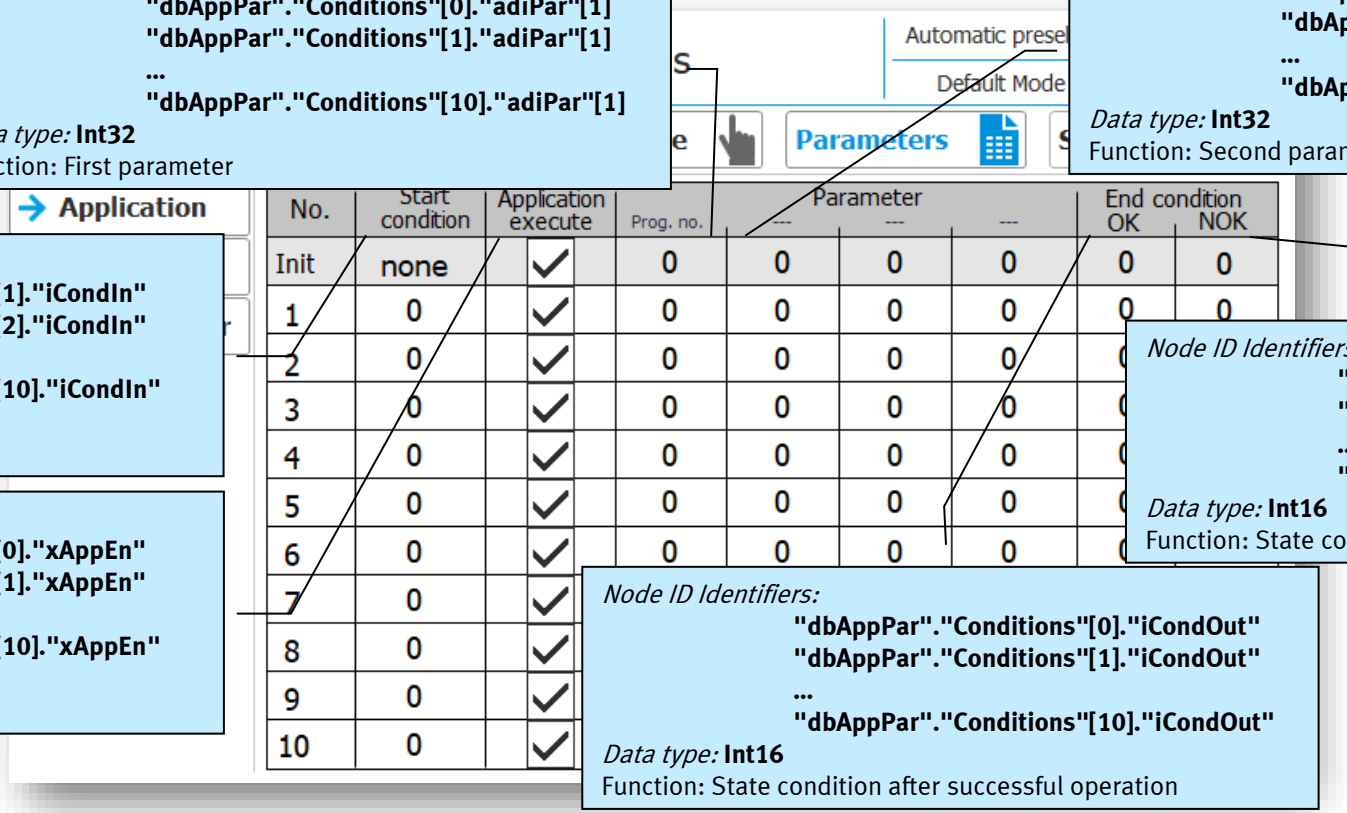
Node ID Identifier: **"dbVar"."Options"."xEnSubSec"**
Data type: **Boolean**
Function: Avoid traffic jam after the stopper

SIMATIC S7-1500 OPC-UA Server (opc.tcp)

Parameter / Transitions

Node ID Identifiers:
"dbAppPar"."Conditions"[0]."adiPar"[1]
"dbAppPar"."Conditions"[1]."adiPar"[1]
...
"dbAppPar"."Conditions"[10]."adiPar"[1]
Data type: **Int32**
Function: First parameter

Node ID Identifiers:
"dbAppPar"."Conditions"[0]."adiPar"[2]
"dbAppPar"."Conditions"[1]."adiPar"[2]
...
"dbAppPar"."Conditions"[10]."adiPar"[2]
Data type: **Int32**
Function: Second parameter



Node ID Identifiers:
"dbAppPar"."Conditions"[1]."iCondIn"
"dbAppPar"."Conditions"[2]."iCondIn"
...
"dbAppPar"."Conditions"[10]."iCondIn"
Data type: **Int16**
Function: Start state condition

Node ID Identifiers:
"dbAppPar"."Conditions"[0]."iCondAbort"
"dbAppPar"."Conditions"[1]."iCondAbort"
...
"dbAppPar"."Conditions"[10]."iCondAbort"
Data type: **Int16**
Function: State condition after unsuccessful operation

Node ID Identifiers:
"dbAppPar"."Conditions"[0]."xAppEn"
"dbAppPar"."Conditions"[1]."xAppEn"
...
"dbAppPar"."Conditions"[10]."xAppEn"
Data type: **Boolean**
Function: Enable row to execute

Node ID Identifiers:
"dbAppPar"."Conditions"[0]."iCondOut"
"dbAppPar"."Conditions"[1]."iCondOut"
...
"dbAppPar"."Conditions"[10]."iCondOut"
Data type: **Int16**
Function: State condition after successful operation

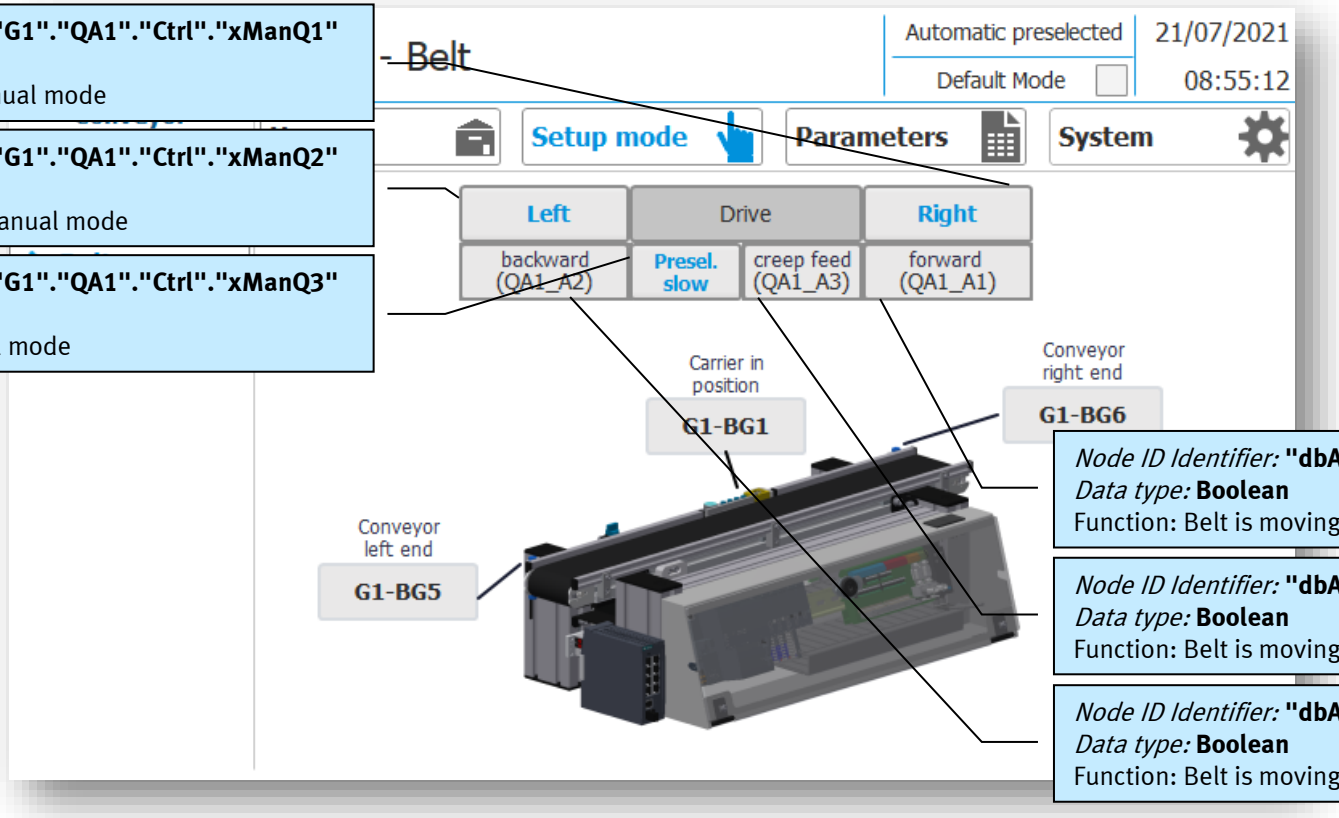
SIMATIC S7-1500 OPC-UA Server (opc.tcp)

Setup mode / Belt

Node ID Identifier: **"dbActuators"."G1"."QA1"."Ctrl"."xManQ1"**
Data type: **Boolean**
Function: Move belt forward in Manual mode

Node ID Identifier: **"dbActuators"."G1"."QA1"."Ctrl"."xManQ2"**
Data type: **Boolean**
Function: Move belt backward in Manual mode

Node ID Identifier: **"dbActuators"."G1"."QA1"."Ctrl"."xManQ3"**
Data type: **Boolean**
Function: Move belt slow in Manual mode



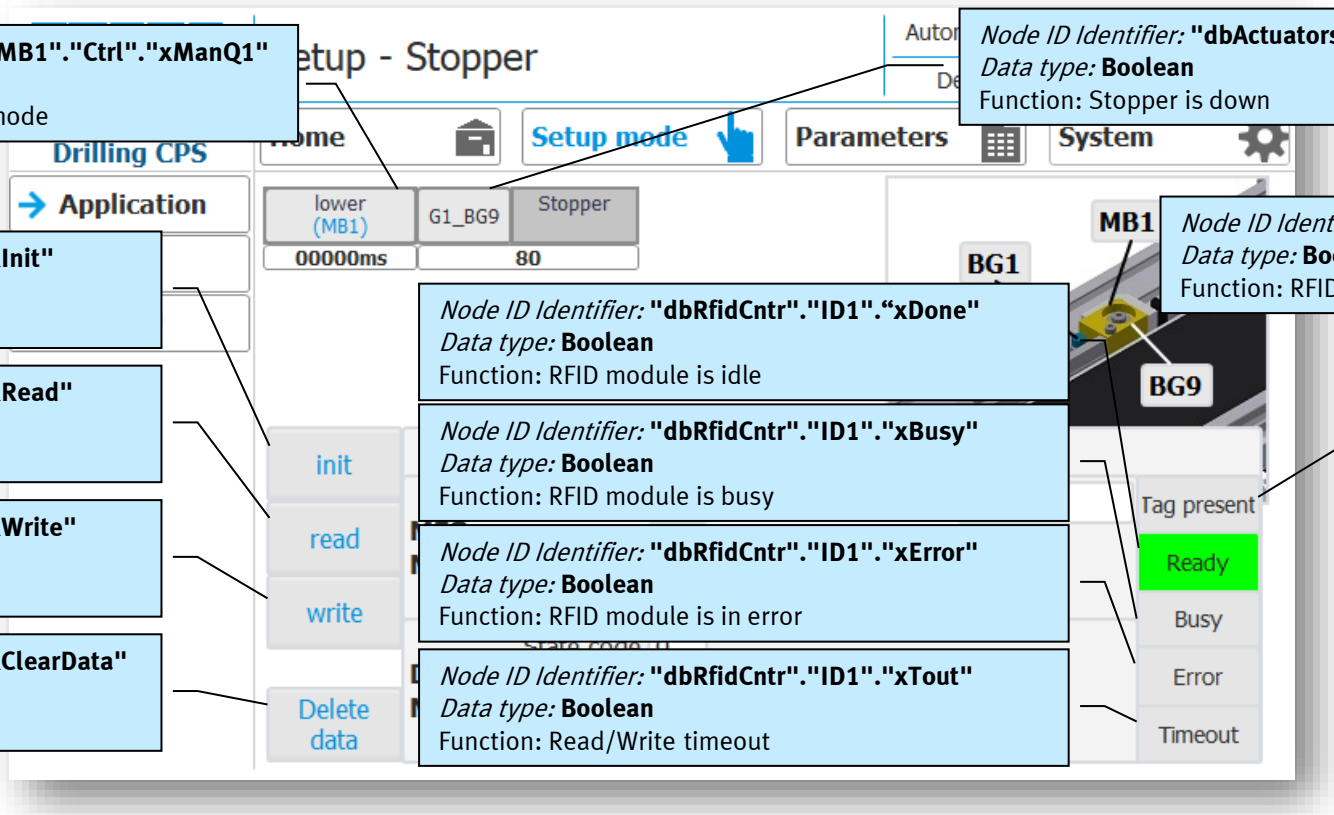
Node ID Identifier: **"dbActuators"."G1"."QA1"."Hmi"."xQA1_A1"**
Data type: **Boolean**
Function: Belt is moving forward

Node ID Identifier: **"dbActuators"."G1"."QA1"."Hmi"."xQA1_A3"**
Data type: **Boolean**
Function: Belt is moving slow

Node ID Identifier: **"dbActuators"."G1"."QA1"."Hmi"."xQA1_A2"**
Data type: **Boolean**
Function: Belt is moving backward

SIMATIC S7-1500 OPC-UA Server (opc.tcp)

Setup mode / Stopper



Node ID Identifier: **"dbActuators"."G1"."MB1"."Ctrl"."xManQ1"**
Data type: **Boolean**
Function: Move stopper down in Manual mode

Node ID Identifier: **"dbActuators"."G1"."MB1"."Hmi"."xSens1"**
Data type: **Boolean**
Function: Stopper is down

Node ID Identifier: **"dbRfidCntr"."ID1"."xInit"**
Data type: **Boolean**
Function: Initialize RFID head

Node ID Identifier: **"dbRfidCntr"."ID1"."xTP"**
Data type: **Boolean**
Function: RFID chip is available above the head

Node ID Identifier: **"dbRfidCntr"."ID1"."xRead"**
Data type: **Boolean**
Function: Read data from RFID

Node ID Identifier: **"dbRfidCntr"."ID1"."xDone"**
Data type: **Boolean**
Function: RFID module is idle

Node ID Identifier: **"dbRfidCntr"."ID1"."xBusy"**
Data type: **Boolean**
Function: RFID module is busy

Node ID Identifier: **"dbRfidCntr"."ID1"."xWrite"**
Data type: **Boolean**
Function: Write data to RFID

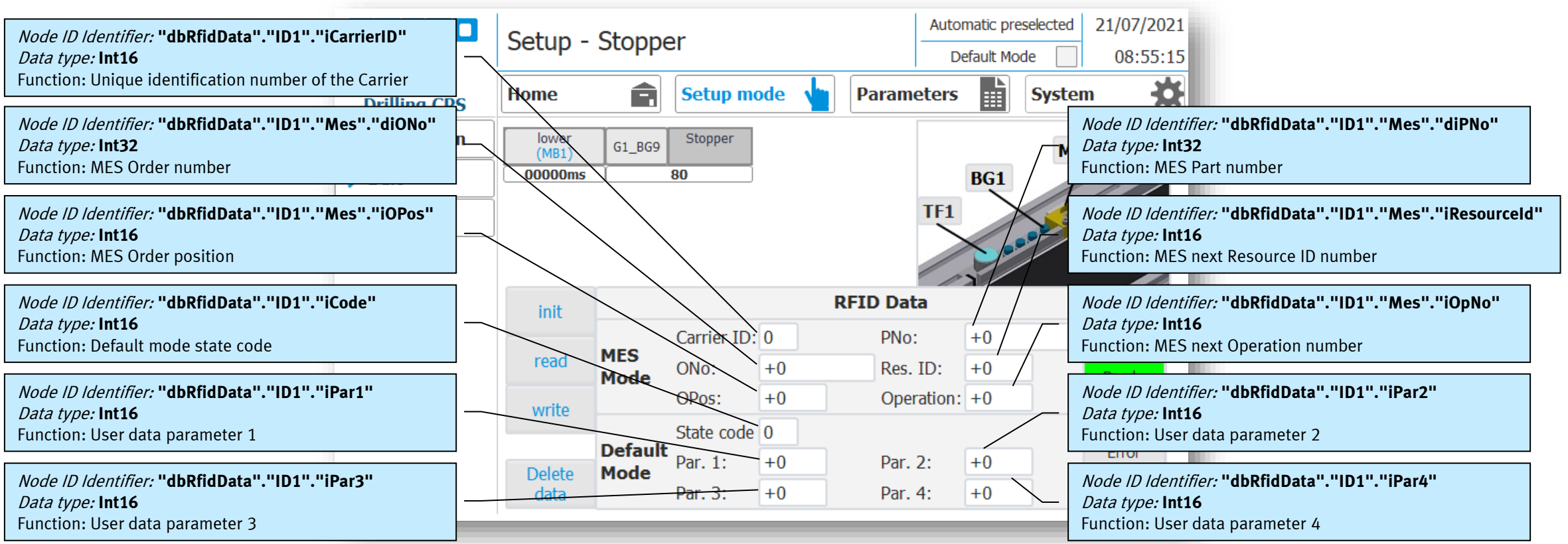
Node ID Identifier: **"dbRfidCntr"."ID1"."xError"**
Data type: **Boolean**
Function: RFID module is in error

Node ID Identifier: **"dbRfidCntr"."ID1"."xClearData"**
Data type: **Boolean**
Function: Delete RFID data on the HMI

Node ID Identifier: **"dbRfidCntr"."ID1"."xTout"**
Data type: **Boolean**
Function: Read/Write timeout

SIMATIC S7-1500 OPC-UA Server (opc.tcp)

Setup mode / Stopper



Node ID Identifier: **"dbRfidData"."ID1"."iCarrierID"**
Data type: **Int16**
Function: Unique identification number of the Carrier

Node ID Identifier: **"dbRfidData"."ID1"."Mes"."diONo"**
Data type: **Int32**
Function: MES Order number

Node ID Identifier: **"dbRfidData"."ID1"."Mes"."iOPos"**
Data type: **Int16**
Function: MES Order position

Node ID Identifier: **"dbRfidData"."ID1"."iCode"**
Data type: **Int16**
Function: Default mode state code

Node ID Identifier: **"dbRfidData"."ID1"."iPar1"**
Data type: **Int16**
Function: User data parameter 1

Node ID Identifier: **"dbRfidData"."ID1"."iPar3"**
Data type: **Int16**
Function: User data parameter 3

Node ID Identifier: **"dbRfidData"."ID1"."Mes"."diPNo"**
Data type: **Int32**
Function: MES Part number

Node ID Identifier: **"dbRfidData"."ID1"."Mes"."iResourceId"**
Data type: **Int16**
Function: MES next Resource ID number

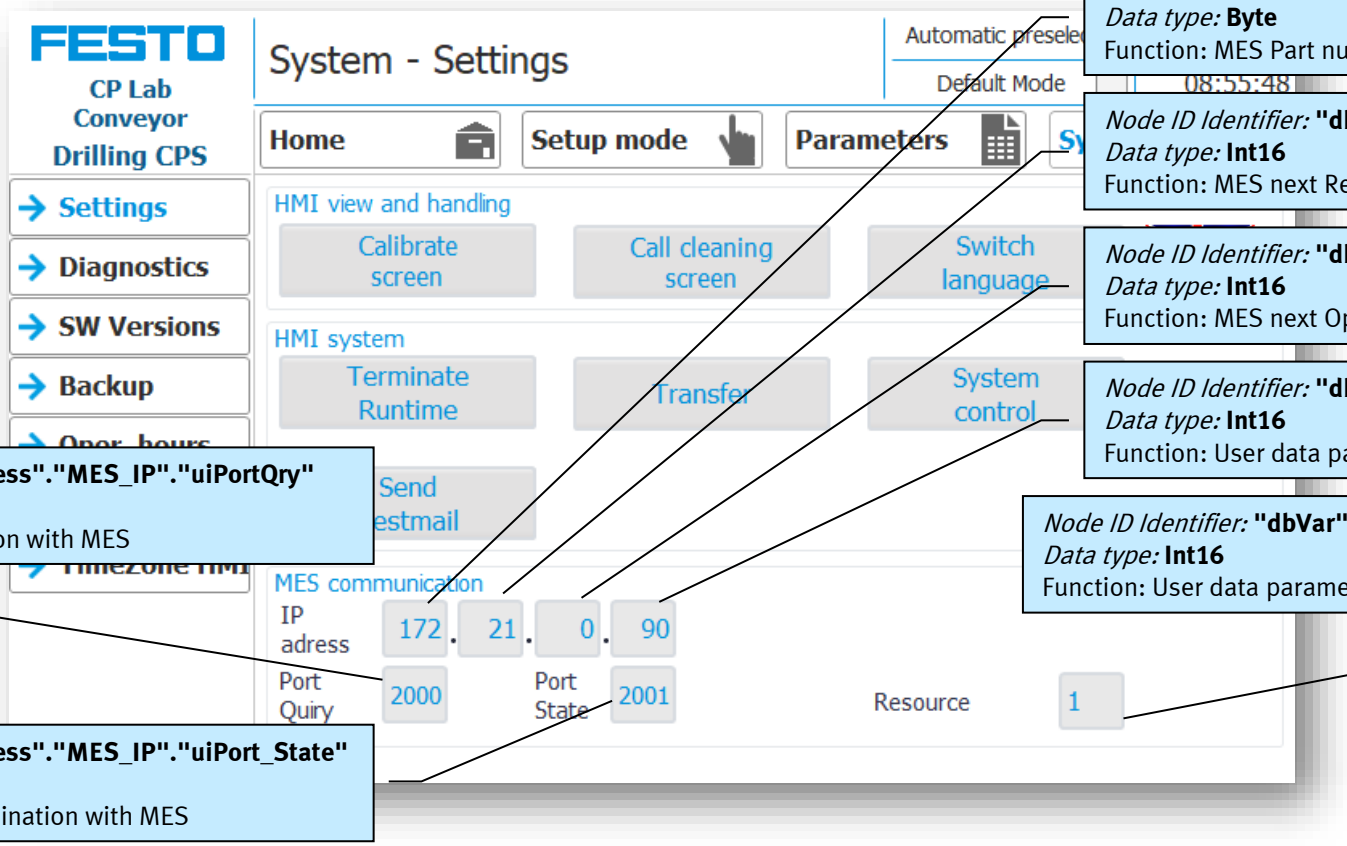
Node ID Identifier: **"dbRfidData"."ID1"."Mes"."iOpNo"**
Data type: **Int16**
Function: MES next Operation number

Node ID Identifier: **"dbRfidData"."ID1"."iPar2"**
Data type: **Int16**
Function: User data parameter 2

Node ID Identifier: **"dbRfidData"."ID1"."iPar4"**
Data type: **Int16**
Function: User data parameter 4

SIMATIC S7-1500 OPC-UA Server (opc.tcp)

System/ Settings



Node ID Identifier: **"dbVar"."Hmi"."Address"."MES_IP"."bIP1"**
Data type: **Byte**
Function: MES Part number

Node ID Identifier: **"dbRfidData"."ID1"."Mes"."iResourceId"**
Data type: **Int16**
Function: MES next Resource ID number

Node ID Identifier: **"dbRfidData"."ID1"."Mes"."iOpNo"**
Data type: **Int16**
Function: MES next Operation number

Node ID Identifier: **"dbRfidData"."ID1"."iPar2"**
Data type: **Int16**
Function: User data parameter 2

Node ID Identifier: **"dbVar"."Hmi"."Address"."MES_IP"."iResource"**
Data type: **Int16**
Function: User data parameter 4

Node ID Identifier: **"dbVar"."Hmi"."Address"."MES_IP"."uiPortQry"**
Data type: **UInt16**
Function: TCP/IP port of query commination with MES

Node ID Identifier: **"dbVar"."Hmi"."Address"."MES_IP"."uiPort_State"**
Data type: **UInt16**
Function: TCP/IP port of cyclic state commination with MES

iDrill - CODESYS OPC UA Server (opc.tcp)

Server

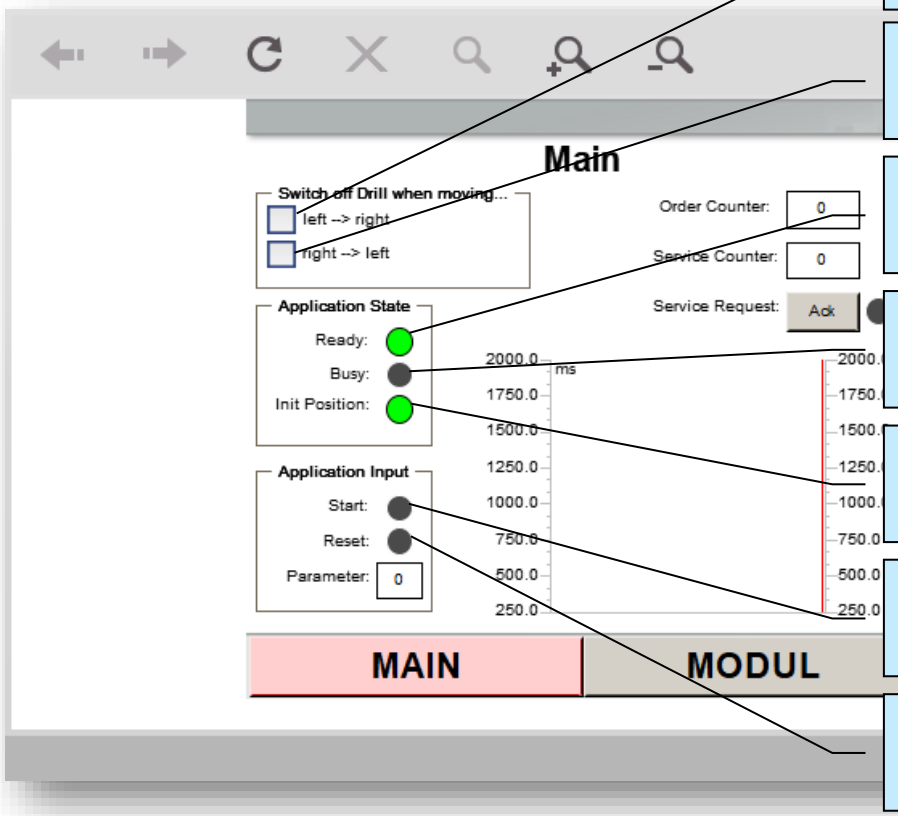
- Endpoint URL: **opc.tcp://‹*IP address*›:4840**
- Security policy: **none**
- Message security mode: **none**
- Authentication settings: **Anonymous**

Node ID

- Namespace Index **4**
- Identifier Type **String**

iDrill - CODESYS OPC UA Server (opc.tcp)

Main



Node ID Identifier: **Ivar|CECC-LK.Application.VarRetain.xDrillOffLeftRight**
Data type: **Boolean**
Function: Switch off drilling unit while moving from left to right

Node ID Identifier: **Ivar|CECC-LK.Application.VarRetain.xDrillOffRightLeft**
Data type: **Boolean**
Function: Switch off drilling unit while moving from right to left

Node ID Identifier: **Ivar|CECC-LK.Application.Standard.stAppIF.OUT.xReady**
Data type: **Boolean**
Function: Application is ready

Node ID Identifier: **Ivar|CECC-LK.Application.Standard.stAppIF.OUT.xBusy**
Data type: **Boolean**
Function: Application is busy

Node ID Identifier: **Ivar|CECC-LK.Application.Standard.stAppIF.OUT.xInitPos**
Data type: **Boolean**
Function: Application is initialized

Node ID Identifier: **Ivar|CECC-LK.Application.Standard.stAppIF.IN.xStart**
Data type: **Boolean**
Function: Start signal from main controller

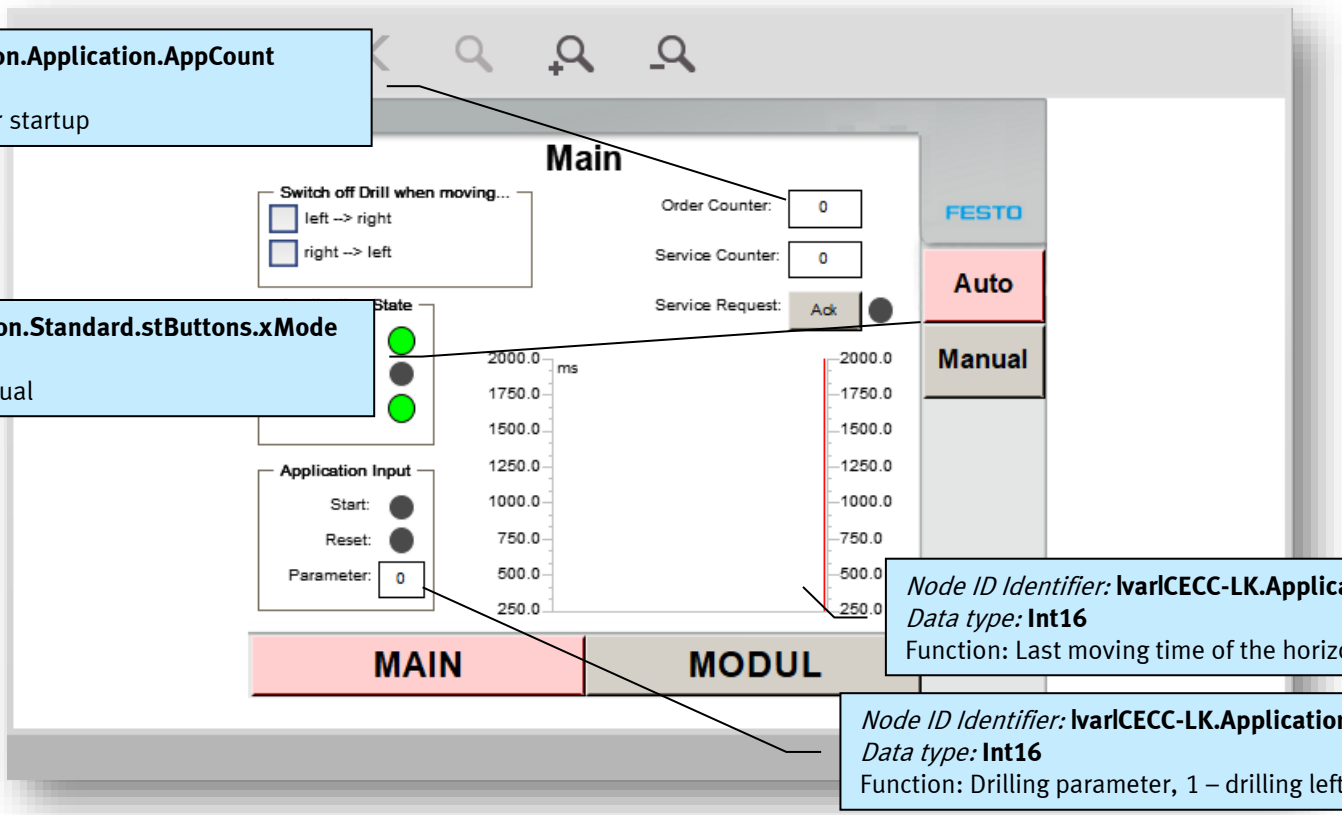
Node ID Identifier: **Ivar|CECC-LK.Application.Standard.stAppIF.IN.xReset**
Data type: **Boolean**
Function: Reset signal from main controller

iDrill - CODESYS OPC UA Server (opc.tcp)

Main

Node ID Identifier: **IvarlCECC-LK.Application.Application.AppCount**
Data type: **UInt16**
Function: Number of executed orders after startup

Node ID Identifier: **IvarlCECC-LK.Application.Standard.stButtons.xMode**
Data type: **Boolean**
Function: TRUE – automatic / FALSE - manual



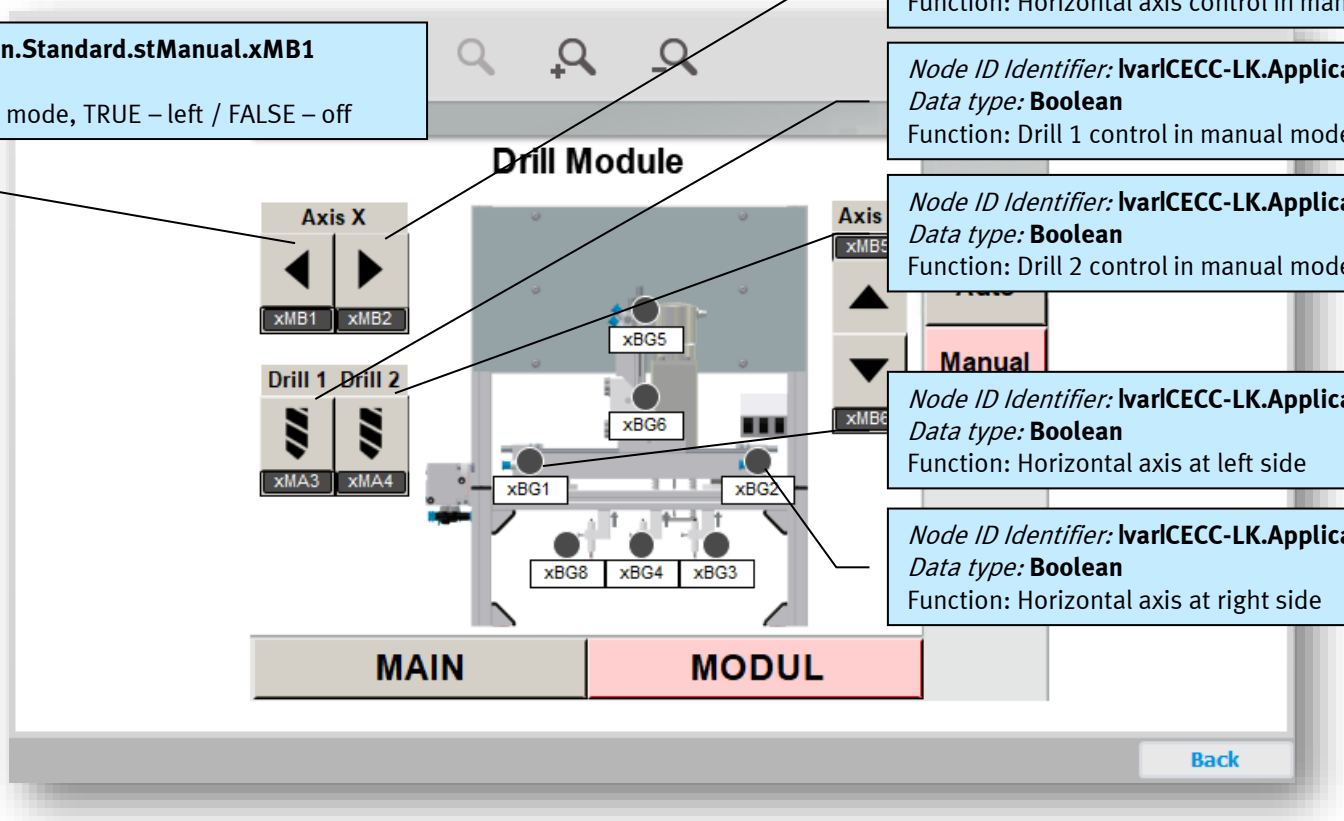
Node ID Identifier: **IvarlCECC-LK.Application.TimeForAxis.i**
Data type: **Int16**
Function: Last moving time of the horizontal axis

Node ID Identifier: **IvarlCECC-LK.Application.Standard.stAppIF.IN.iPar1**
Data type: **Int16**
Function: Drilling parameter, 1 – drilling left / 2 – drilling right / 3 – drilling both

iDrill - CODESYS OPC UA Server (opc.tcp)

Modul

Node ID Identifier: **lvarICECC-LK.Application.Standard.stManual.xMB1**
Data type: **Boolean**
Function: Horizontal axis control in manual mode, TRUE – left / FALSE – off



Node ID Identifier: **lvarICECC-LK.Application.Standard.stManual.xMB2**
Data type: **Boolean**
Function: Horizontal axis control in manual mode, TRUE – right / FALSE – off

Node ID Identifier: **lvarICECC-LK.Application.Standard.stManual.xMA3**
Data type: **Boolean**
Function: Drill 1 control in manual mode

Node ID Identifier: **lvarICECC-LK.Application.Standard.stManual.xMA4**
Data type: **Boolean**
Function: Drill 2 control in manual mode

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xBG1**
Data type: **Boolean**
Function: Horizontal axis at left side

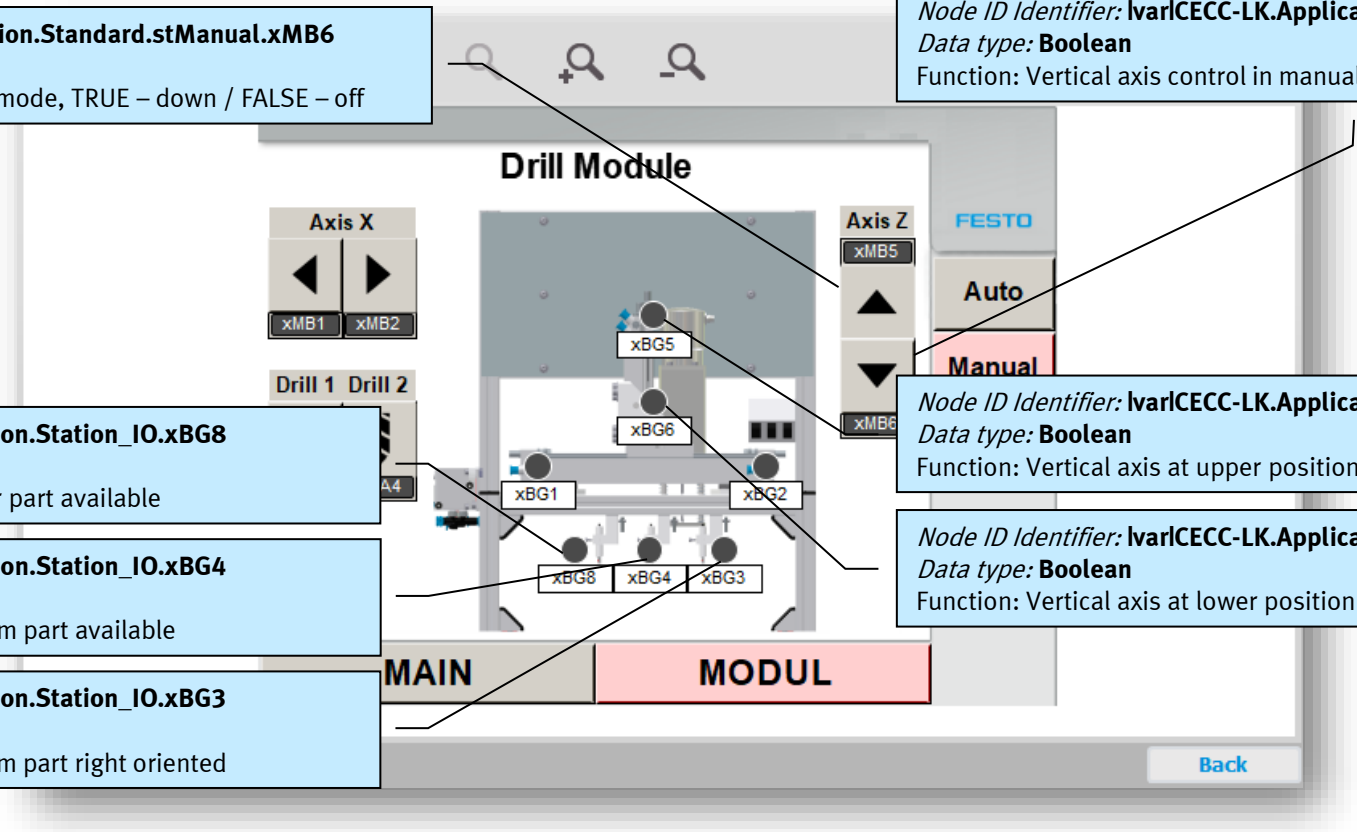
Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xBG2**
Data type: **Boolean**
Function: Horizontal axis at right side

iDrill - CODESYS OPC UA Server (opc.tcp)

Modul

Node ID Identifier: **lvarICECC-LK.Application.Standard.stManual.xMB6**
Data type: **Boolean**
Function: Vertical axis control in manual mode, TRUE – down / FALSE – off

Node ID Identifier: **lvarICECC-LK.Application.Standard.stManual.xMB5**
Data type: **Boolean**
Function: Vertical axis control in manual mode, TRUE – up / FALSE – off



Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xBG5**
Data type: **Boolean**
Function: Vertical axis at upper position

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xBG8**
Data type: **Boolean**
Function: Workpiece check, TRUE – Upper part available

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xBG6**
Data type: **Boolean**
Function: Vertical axis at lower position

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xBG4**
Data type: **Boolean**
Function: Workpiece check, TRUE – Bottom part available

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xBG3**
Data type: **Boolean**
Function: Workpiece check, TRUE – Bottom part right oriented

iDrill - CODESYS OPC UA Server (opc.tcp)

Inputs

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xBG1**
Data type: **Boolean**
Function: Horizontal axis at left side

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xBG2**
Data type: **Boolean**
Function: Horizontal axis at right side

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xBG3**
Data type: **Boolean**
Function: Workpiece check, TRUE – Bottom part right oriented

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xBG4**
Data type: **Boolean**
Function: Workpiece check, TRUE – Bottom part available

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xBG5**
Data type: **Boolean**
Function: Vertical axis at upper position

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xBG6**
Data type: **Boolean**
Function: Vertical axis at lower position

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xBG8**
Data type: **Boolean**
Function: Workpiece check, TRUE – Upper part available

Outputs

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xMB1**
Data type: **Boolean**
Function: Horizontal axis left, TRUE – left / FALSE – off

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xMB2**
Data type: **Boolean**
Function: Horizontal axis right, TRUE – right / FALSE – off

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xMA3**
Data type: **Boolean**
Function: Drill 1 on

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xMA4**
Data type: **Boolean**
Function: Drill 2 on

Node ID Identifier: **lvarICECC-LK.Application.Station_IO.xMB5**
Data type: **Boolean**
Function: Vertical axis control in manual mode, TRUE – up / FALSE – down

Node ID Identifier: **lvarICECC-LK.Application.Standard.stManual.xMB6**
Data type: **Boolean**
Function: Vertical axis control in manual mode, TRUE – down / FALSE – off

Node ID Identifier: **lvarICECC-LK.Application.Standard.stManual.xMB7**
Data type: **Boolean**
Function: Brakes for vertical axis, TRUE – open / FALSE – close