

XSOFT-CODESYS-3
PLC programming system



CODESYS

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Original instructions

English

Redaction

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1 XSOFT-CODESYS V3.5.4

1.1 Release information

1 XSOFT-CODESYS V3.5.4

1.1 Release information

Product	XSOFT-CODESYS-3
Release	3.5.4
Profile specification	XSOFT-CODESYS V3.5.4
Build	2481
Setup	Setup_XSOFT_CODESYS_V3.5.4
Product Management	H. Heck
Test Management	K. Rampelt
Quality Management	P. Zuber

1.2 Version information

1.2.1 Programming system

Component	Actual Version
CODESYS V3	3.5 SP4 Patch 1

1.2.2 Target firmware

Firmware	Actual Version
RTS for XV-1xx, XV-4xx, XVS-4xx, XC-152 <i>firmware.exe</i>	3.5.4
RTS for XC-202 <i>firmware.exe (XC202.bin)</i>	3.5.4

1.2.3 Target systems

Target system	Actual Version
XV-1xx	3.5.4.0
XV-4xx	3.5.4.0
XVS-4xx	3.5.4.0
XC-202	3.5.4.0
XC-152	3.5.4.0

1 XSOFT-CODESYS V3.5.4

1.3 Features and changes

1.3

Features and changes

Components of PLC programming system CODESYS updated

Components of PLC runtime system CODESYS updated

Various firmware updates

Various device descriptions for CAN, Profibus and SWD updated

Ethernet/IP functionality is now supported

SAE J1939 functionality is now supported

Target system XV100

- CAN configuration: Support of 2nd CAN interface is now supported

1.4

Documentation

The target system specific programming manuals are not part of this distribution. They are published on our web site www.eaton-automation.com in order to provide you the latest version.

1.5

Known restrictions

Ticket	Summary
1404	Library EA_Network, EA_Network_ext: Library functions not yet included. The functions are not supported yet.
1398 CDS-36646	Target visu, alarm management: Incorrect display in the alarm table if the "Automatic line break for alarm message" is enabled.
1397 CDS-36646	Target visu, alarm management: Incorrect display in the alarm table if the "Automatic line break for alarm message" is enabled. The message text of messages with placeholders influences message texts of other alarms. A part of one alarm text also appears in the alarm text of other alarm.
1379	Task configuration: The priority of event tasks is not considered.
1342	Target system XV-1xx, XVS-4xx and XC-152, function block DiagGetBusState(): A diagnostic message which is pending before start will not be detected.
1341	Target system XV-1xx, XVS-4xx and XC-152, SWD-DP-Gateway: If a reset operation is performed with a quickly following start operation, the connection to the gateway cannot always be established. ➔ Workaround: Until this issue is fixed, use a longer break between reset and start operation
1315	Target system XV-1xx, XVS-4xx and XC-152, SWD-DP-Gateway: On initialization with baud rate 9600 bit/s and 19200 bit/s communication problems can occur.
1313	CAN: gc_bReadQueueSize has no effect on XV-1xx, XV-4xx, XC-152 => fixed value of 256 is used for Input-Queue-Sizes
1269 1498	Data server: If the PC has multiple network adapters, the connection to data server does not work as documented in the online help. ➔ The best way to get a connection is to search the target device by a network scan and to configure the specified node name of the device as data source. Please note: In the log file of the PLC with the configured data server you can see if the connection is established or with which error it fails.
1241 CDS-27947	Modbus Slave Device: Bit-Access function codes (Coils) are not implemented yet. ➔ It is recommended to use register function codes instead.
1240 CDS-28362	Modbus Slave: Unable to write Holding Register ➔ Holding registers are defined as Input Channels. Therefore the local slave application can only read these data, but is unable to update the value of the holding registers. To enable this, the register shall be mapped to a global variable.
1234	Target visu: Color Gradient is not supported yet
1233	CANopen Inputs of missing nodes keep their values and are not set to default values
1208	XSOFT-CODESYS is working only with 96 DPI display size properly.
1207	Target system XV-4xx, Profibus DPV1 functionality is not supported yet.
1162	Udp network variables: If acknowledgment is selected, the response messages are missing
1161	Target system XV-1xx, XV-4xx, XVS-4xx and XV-152, support of onboard flash is not yet included. The functions Sys_FlashInit(), Sys_FlashErase(), Sys_FlashWrite() and Sys_FlashRead() are not supported yet.

1 XSOFT-CODESYS V3.5.4

1.6 Addressed Defects and Changes

1148	RTS WinCE: GUI not yet refactored
1143 CDS-31058	Retain Persistent Array with constant index: A compiler error appears if Retain Persistent Array with constant index was renamed afterwards. ➔ Workaround: Delete the object PersistentVars to fix this bug
1138	Device editor, online view: The profibus diagnostics is only partially implemented. Not all functionalities are supported yet.
1105	On PLC reset, the handles are not closed automatically.
1094	Various documentation not yet included
1044	IOassistant not yet included

1.6

Addressed Defects and Changes

1.6.1

XSOFT-CODESYS V3.5.4

Ticket	Summary	Status
1452	CODESYS Control Win V3: The service is no longer started automatically. Start type changed from automatically to manually.	fixed
1448	Project update: If devices are updated, the error message "Unbalanced BeginCompoundAction() / EndCompoundAction()" can occur.	fixed
1446	Various device descriptions for CAN, Profibus and SWD updated.	fixed
1428	SAE J1939 functionality is now supported	fixed
1427	Ethernet/IP functionality is now supported	fixed
1426 CDS-37177	Data server: Reconnect does not longer work.	fixed
1415	Libraries EA23_easy800_en and EA23_easy800_de show warning messages	fixed
1411	Components of PLC programming system CODESYS updated. New basic version 3.5 SP4 Patch 1	fixed
1377	Library SysPlcCtrl23, function SysWdgEnable() is no longer supported. ➔ It is recommended to use the function CmplecTask.IecTaskDisableWatchdog2() instead.	fixed
1369 CDS-35459	Target visu: Not possible to use array with constant index	fixed
1265 CDS-33507	Device update: After update of IO mapping nothing is changed. Sample: If IO mapping changed from "In_32Byte" to "In_16Word" the IO mapping remains "ARRAY [0 to 31] OF BYTE".	fixed
1247 CDS-31975	Device configuration: Controls stay disabled after online mode	fixed
1213 CDS-30962	Target visu: Under the following condition, a bitmap will not be shown: The image is contained within an explicitly inserted image pool with name "ImagePool" that is located in the POU and is used in the visualization.	fixed

1.6.2

Target system XV-1xx

Ticket	Summary	Status
1500	Profibus DP-Master CMM/MPI: Mapping of I/O data can be wrong (from 2 nd TN). Especially in case of alternating byte/word configuration or when the configuration contains gaps.	fixed
1441	Profibus DP-Master CMM/MPI: Device scan is now supported	fixed
1414	SWD: Device scan is now supported	fixed
1409	Task configuration, task settings: Task type "free-wheeling" cannot be supported. Task type "free-wheeling" removed.	fixed
1147	CAN configuration: Support of 2nd CAN interface is now supported	fixed
-	Firmware updated (PLC runtime system / operating system)	fixed

1.6.3

Target system XV-4xx

Ticket	Summary	Status
1420	XV400 does not support SWD master functionality. Configuration of SWD master removed.	fixed
1409	Task configuration, task settings: Task type "free-wheeling" cannot be supported. Task type "free-wheeling" removed.	fixed
-	Firmware updated (PLC runtime system / operating system)	fixed

1.6.4

Target system XVS-4xx

Ticket	Summary	Status
1500	Profibus DP-Master CMM/MPI: Mapping of I/O data can be wrong (from 2 nd TN). Especially in case of alternating byte/word configuration or when the configuration contains gaps.	fixed
1441	Profibus DP-Master CMM/MPI: Device scan is now supported	fixed
1409	Task configuration, task settings: Task type "free-wheeling" cannot be supported. Task type "free-wheeling" removed.	fixed
-	Firmware updated (PLC runtime system / operating system)	fixed

1 XSOFT-CODESYS V3.5.4

1.6 Addressed Defects and Changes

1.6.5

Target system XC-152

Ticket	Summary	Status
1500	Profibus DP-Master CMM/MPI: Mapping of I/O data can be wrong (from 2 nd TN). Especially in case of alternating byte/word configuration or when the configuration contains gaps.	fixed
1441	Profibus DP-Master CMM/MPI: Device scan is now supported	fixed
1414	SWD: Device scan is now supported	fixed
1409	Task configuration, task settings: Task type "free-wheeling" cannot be supported. Task type "free-wheeling" removed.	fixed
-	Firmware updated (PLC runtime system / operating system)	fixed

1.6.6

Target system XC-202

Ticket	Summary	Status
1409	Task configuration, task settings: Task type "free-wheeling" cannot be supported. Task type "free-wheeling" removed.	fixed
1365	New firmware download functionality	fixed
-	Firmware updated (PLC runtime system / operating system)	fixed

1.6.7

RTS for XV-1xx, XV-4xx, XVS-4xx, XC-152

Ticket	Summary	Status
1500	Profibus DP-Master CMM/MPI: Mapping of I/O data can be wrong (from 2 nd TN). Especially in case of alternating byte/word configuration or when the configuration contains gaps.	fixed
1483	Library EA23_SwdUtil, function block Swd_AcyclicRequest(): PLC runtime system crashes if function block is called from an another function block instance.	fixed
1472	Library EA_CAN, function block CAN_ReadImage(): Reading of object with 29 bit identifier (extended frame format) is now supported.	fixed
1469	Library EA_CAN, function block CAN_ReadQueue(): Output parameter CanMessage.xIdType29Bit is always false.	fixed
1460	Retain memory cannot be allocated every time.	fixed
1444	Operating system updated new OS V2.26.7 (CE5.0) for XV-1xx, XV-4xx, XVS-4xx and XC-152	fixed
1441	Profibus DP-Master CMM/MPI: Device scan is now supported	fixed
1429	PLC runtime system updated New basic version 3.5.4.10	fixed
1414	SWD: Device scan is now supported	fixed

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1.6 Addressed Defects and Changes

1403	Modbus RTU restrictions with 9600 Baud on XV100, XC150 and XV400: Depending on the amount of transmitted data a minimum PLC cycle of 20 ms is required.	fixed
The update of operating system fixes the problem (OS V2.26.7 (CE5.0))		
1372	Switched from preemptive to nonpreemptive task management (IEC tasks with the same priority do not interrupt each other).	fixed
1331	PLC runtime system crashes with exception message CMexiton if a shutdown is called.	fixed
1301	Library EA23_DPV1, function block DPV1_ReadEx(): If the input parameter Enable is set to false or a rising edge occurs, the output parameter Error is not reset.	fixed
1204	If a stop event occurs, the reason is notified (application is stopped by GUI or by switch)	fixed

1.6.8

RTS for XC-202

Ticket	Summary	Status
1471	Library EA23_SysLibCan, function SysCanRead_29BitID(): Function returns no data.	fixed
1434	Saves communication settings during firmware update	fixed
1429	PLC runtime system updated New basic version 3.5.4.10	fixed
1316	Web visu: PLC runtime system crashes if alarm manager is used	fixed
1239	Library SysLibMem23, function SysMemAlloc() increases the cycle time even if no memory can be allocated.	fixed
1224	Saves boot project and node name during firmware update	fixed

2 XSOFTE-CODESYS V3.5.3

2.1 Release information

2 XSOFTE-CODESYS V3.5.3

2.1 Release information

Product	XSOFTE-CODESYS-3
Release	3.5.3
Profile specification	XSOFTE-CODESYS V3.5.3
Build	2292
Setup	Setup_XSOFTE_CODESYS_V3.5.3
Product Management	H. Heck
Test Management	K. Rampelt
Quality Management	P. Zuber

2.2 Version information

2.2.1 Programming system

Component	Actual Version
CODESYS V3	3.5 SP3 Patch 6

2.2.2 Target firmware

Firmware	Actual Version
RTS for XV-1xx, XV-4xx, XVS-4xx, XC-152 <i>firmware.exe</i>	3.5.3
RTS for XC-202 <i>firmware.exe (XC202.bin)</i>	3.5.3 ¹⁾

¹⁾ Format of version information (major.minor.revision.build) changed

2.2.3 Target systems

Target system	Actual Version
XV-1xx	3.5.3.0
XV-4xx	3.5.3.0
XVS-4xx	3.5.3.0
XC-202	3.5.3.0
XC-152	3.5.3.0

2 XSOFT-CODESYS V3.5.3

2.3 Features and changes

2.3

Features and changes

Components of PLC programming system CODESYS updated

Components of PLC runtime system CODESYS updated

Various firmware updates

New firmware download functionality for XC202

EDS files for SWD functionality updated

- Modules "WOE-SWD-ECS3D2D" and "WOE-SWD-MOTUS" are now supported

2.4

Documentation

The target system specific programming manuals are not part of this distribution. They are published on our web site www.eaton-automation.com in order to provide you the latest version.

2.5

Known restrictions

Ticket	Summary
1404	Library EA_Network, EA_Network_ext: Library functions not yet included. The functions are not supported yet.
1398 CDS-36646	Target visu, alarm management: Incorrect display in the alarm table if the "Automatic line break for alarm message" is enabled.
1397 CDS-36646	Target visu, alarm management: Incorrect display in the alarm table if the "Automatic line break for alarm message" is enabled. The message text of messages with placeholders influences message texts of other alarms. A part of one alarm text also appears in the alarm text of other alarm.
1342	Target system XV-1xx, XVS-4xx and XC-152, function block DiagGetBusState(): A diagnostic message which is pending before start will not be detected.
1341	Target system XV-1xx, XVS-4xx and XC-152, SWD-DP-Gateway: If a reset operation is performed with a quickly following start operation, the connection to the gateway cannot always be established. → Workaround: Until this issue is fixed, use a longer break between reset and start operation
1315	Target system XV-1xx, XVS-4xx and XC-152, SWD-DP-Gateway: On initialization with baud rate 9600 bit/s and 19200 bit/s communication problems can occur.
1313	CAN: gc_bReadQueueSize has no effect on XV-1xx, XV-4xx, XC-152 => fixed value of 256 is used for Input-Queue-Sizes
1269 1498	Data server: If the PC has multiple network adapters, the connection to data server does not work as documented in the online help. → The best way to get a connection is to search the target device by a network scan and to configure the specified node name of the device as data source. Please note: In the log file of the PLC with the configured data server you can see if the connection is established or with which error it fails.
1265 CDS-33507	Device update: After update of IO mapping nothing is changed. Sample: If IO mapping changed from "In_32Byte" to "In_16Word") the IO mapping remains "ARRAY [0 to 31] OF BYTE".
1247 CDS-31975	Profibus DP Editor: Controls stay disabled after online mode
1241 CDS-27947	Modbus Slave Device: Bit-Access function codes (Coils) are not implemented yet. → It is recommended to use register function codes instead.
1240 CDS-28362	Modbus Slave: Unable to write Holding Register → Holding registers are defined as Input Channels. Therefore the local slave application can only read these data, but is unable to update the value of the holding registers. To enable this, the register shall be mapped to a global variable.
1234	Target visu: Color Gradient is not supported yet
1233	CANopen Inputs of missing nodes keep their values and are not set to default values
1213 CDS-30962	Target visu: Under the following condition, a bitmap will not be shown: The image is contained within an explicitly inserted image pool with name "ImagePool" that is located in the POU's and is used in the visualization. → Workaround: Until this issue is fixed, the following simple workarounds can be

2 XSOFT-CODESYS V3.5.3

2.6 Addressed Defects and Changes

	used: Move the ImagePool to the application and rename the image pool.
1208	XSOFT-CODESYS is working only with 96 DPI display size properly.
1207	Target system XV-4xx, Profibus DPV1 functionality is not supported yet.
1162	Udp network variables: If acknowledgment is selected, the response messages are missing
1161	Target system XV-1xx, XV-4xx, XVS-4xx and XV-152, support of onboard flash is not yet included. The functions Sys_FlashInit(), Sys_FlashErase(), Sys_FlashWrite() and Sys_FlashRead() are not supported yet.
1148	RTS WinCE: GUI not yet refactored
1147	CAN configuration: Support of 2 nd CAN interface is not supported yet
1143 CDS-31058	Retain Persistent Array with constant index: A compiler error appears if Retain Persistent Array with constant index was renamed afterwards. → Workaround: Delete the object PersistentVars to fix this bug
1105	On PLC reset, the handles are not closed automatically.
1094	Various documentation not yet included
1044	IOassistant not yet included

2.6

Addressed Defects and Changes

2.6.1

XSOFT-CODESYS V3.5.3

Ticket	Summary	Status
1359	Remote Client updated	fixed
1358	Device repository: New device category "Local IO systems" and "XIOC" XIOC implemented.	fixed
1355	Device repository: New device category "SWD" implemented.	fixed
1354	Device repository: New device category "Easy-NET" implemented.	fixed
1353	Installation: If package manager is starting, the message "system instance of interface type _3S.CoDeSys.Core.Engine is not existing" can occur.	fixed
1351	Components of PLC programming system CODESYS updated.	fixed
1272	Target visu, alarm management: On alarm tables, line breaks are not displayed correctly.	fixed
1262	Target visu: Alarm management uses lot of system resources.	fixed
1237 CDS-31957	Device Editor: Controls with parent control stay disabled after online mode.	fixed
1216 CDS-32903	CANopen: If the PDO configuration contains gaps, I/O data contains wrong data.	fixed
1079, 1115 CDS-30769	Compile: The calculated size of persistent data is not always correct. Reorganization of persistent variables with Clean All required.	fixed

2.6.2 Target system XV-1xx

Ticket	Summary	Status
-	Firmware updated (PLC runtime system / operating system)	fixed

2.6.3 Target system XV-4xx

Ticket	Summary	Status
1346	Profibus DP-Master DPM-MC2: Default baud rate set to 1.5 kBaud.	fixed
-	Firmware updated (PLC runtime system / operating system)	fixed

2.6.4 Target system XVS-4xx

Ticket	Summary	Status
-	Firmware updated (PLC runtime system / operating system)	fixed

2.6.5 Target system XC-152

Ticket	Summary	Status
-	Firmware updated (PLC runtime system / operating system)	fixed

2.6.6 Target system XC-202

Ticket	Summary	Status
1365	New firmware download functionality	fixed
-	Firmware updated (PLC runtime system / operating system)	fixed

2.6.7 RTS for XV-1xx, XV-4xx, XVS-4xx, XC-152

Ticket	Summary	Status
1393	Firmware installation: If in the programming system a communication channel is selected as the active one, the ftp address is automatically applied.	fixed
1364	PLC runtime system crashes if a project without SWD configuration is downloaded to target system with a running SWD configuration.	fixed
1352	Operating system updated new OS V2.26.6 (CE5.0) for XV-1xx, XV-4xx, XVS-4xx and XC-152	fixed
1344	SWD functionality: Shell command "swd_setnew" allowed on states	fixed

2 XSOFT-CODESYS V3.5.3

2.6 Addressed Defects and Changes

SWD_ERROR_TARGETCONFIG /SWD_ERROR_PROJECTCONFIG		
1305	Library EA_CAN, function CAN_SetBaudrate(): Function returns an error, if CAN bus is already initialized. Now it is possible to set the baud rate if the CAN bus is already initialized.	fixed
1316 1272	Target visu, alarm management: On alarm tables, line breaks are not displayed correctly.	fixed
1262	Target visu: Alarm management uses lot of system resources.	fixed
1261 CDS-32587	Target visu: Not all tables are refreshed automatically.	fixed
1178 CDS-31968	Libraries SysFile23/SysFileAsync23, function SysFileClose(): PLC runtime system crashes if using function SysFileClose().	fixed
1108 CDS-27358	Libraries SysFile23/SysFileAsync23, function SysFileRead(): PLC runtime system crashes if using function with invalid file handle (0).	fixed
1399	PLC runtime system updated New basic version 3.5.3.60	fixed

2.6.8

RTS for XC-202

Ticket	Summary	Status
1399	PLC runtime system updated New basic version 3.5.3.60	fixed
1339	Shutdown RTS will force a reboot of the plc: RUN/STOP LED will show state "Stopped" after "EVT_PrepareStop.	fixed
1296	When creating a boot project on large projects communication timeouts can occur.	fixed

3 XSOFTE-CODESYS V3.5.2

3.1 Release information

Product	XSOFTE-CODESYS-3
Release	3.5.2
Profile specification	XSOFTE-CODESYS V3.5.2
Build	2092
Setup	Setup_XSOFTE_CODESYS_V3.5.2
Product Management	H. Heck
Test Management	A. Schmid
Quality Management	P. Zuber

3 XSOFT-CODESYS V3.5.2

3.2 Version information

3.2 Version information

3.2.1 Programming system

Component	Actual Version
CODESYS V3	3.5 SP2 Patch 2

3.2.2 Target firmware

Firmware	Actual Version
RTS for XV-1xx, XV-4xx, XVS-4xx, XC-152 <i>firmware.exe</i>	3.5.2
RTS for XC-202 <i>btsxc202_v030504.bin</i>	3.5.2 <i>resp. V03.05.04</i>

3.2.3 Target systems

Target system	Actual Version
XV-1xx	3.5.2.0
XV-4xx	3.5.2.0
XVS-4xx	3.5.2.0
XC-202	3.5.2.0
XC-152	3.5.2.0

3.3

Features

Since this is an initial release of a new generation of XSOFTE-CODESYS, there are a lot of enhancements and new features both in the programming and the runtime system. Please refer also to CODESYS 3.x documentation.

3.4

Documentation

The target system specific programming manuals are not part of this distribution. They are published on our web site www.eaton-automation.com in order to provide you the latest version.

3.5

Known restrictions

Ticket	Summary
1342	Target system XV-1xx, XVS-4xx and XC-152, function block DiagGetBusState(): A diagnostic message which is pending before start will not be detected.
1341	Target system XV-1xx, XVS-4xx and XC-152, SWD-DP-Gateway: If a reset operation is performed with a quickly following start operation, the connection to the gateway cannot always be established. → Workaround: Until this issue is fixed, use a longer break between reset and start operation
1315	Target system XV-1xx, XVS-4xx and XC-152, SWD-DP-Gateway: On initialization with baud rate 9600 bit/s and 19200 bit/s communication problems can occur.
1313	CAN: gc_bReadQueueSize has no effect on XV-1xx, XV-4xx, XC-152 => fixed value of 256 is used for Input-Queue-Sizes
1316 1272	Target visu, alarm management: On alarm tables, line breaks are not displayed correctly.
1269	Data server: If the PC has multiple network adapters, the connection to data server does not work as documented in the online help. → The best way to get a connection is to search the target device by a network scan and to configure the specified node name of the device as data source. Please note: In the log file of the PLC with the configured data server you can see if the connection is established or with which error it fails.
1262	Target visu: Alarm management uses a lot of system resources. → It is not recommended to use the alarm management with this release of the software.
1261 CDS-32587	Target visu: Not all tables are refreshed automatically.
1247 CDS-31975	Profibus DP Editor: Controls stay disabled after online mode
1241 CDS-27947	Modbus Slave Device: Bit-Access function codes (Coils) are not implemented yet. → It is recommended to use register function codes instead.
1240 CDS-28362	Modbus Slave: Unable to write Holding Register → Holding registers are defined as Input Channels. Therefore the local slave application can only read these data, but is unable to update the value of the holding registers. To enable this, the register shall be mapped to a global variable.
1237 CDS-31957	Device Editor: Controls with parent control stay disabled after online mode
1234	Target visu: Color Gradient is not supported yet
1233	CANopen Inputs of missing nodes keep their values and are not set to default values
1213 CDS-30962	Target visu: Under the following condition, a bitmap will not be shown: The image is contained within an explicitly inserted image pool with name "ImagePool" that is located in the POU and is used in the visualization. → Workaround: Until this issue is fixed, the following simple workarounds can be used: Move the ImagePool to the application and rename the image pool.

1208	XSOFTE-CODESYS is working only with 96 DPI display size properly.
1207	Target system XV-4xx, Profibus DPV1 functionality is not supported yet.
1178 CDS-31968	Libraries SysFile23/SysFileAsync23, function SysFileClose(): PLC runtime system crashes if using function SysFileClose()
1162	Udp network variables: If acknowledgment is selected, the response messages are missing
1161	Target system XV-1xx, XV-4xx, XVS-4xx and XV-152, support of onboard flash is not yet included. The functions Sys_FlashInit(), Sys_FlashErase(), Sys_FlashWrite() and Sys_FlashRead() are not supported yet.
1148	RTS WinCE: GUI not yet refactored
1147	CAN configuration: Support of 2 nd CAN interface is not supported yet
1143 CDS-31058	Retain Persistent Array with constant index: A compiler error appears if Retain Persistent Array with constant index was renamed afterwards. → Workaround: Delete the object PersistentVars to fix this bug
1108 CDS-27358	Libraries SysFile23/SysFileAsync23, function SysFileRead(): PLC runtime system crashes if using function with invalid file handle (0).
1105	On PLC reset, the handles are not closed automatically.
1094	Various documentation not yet included
1079 CDS-30769	Compile: The calculated size of persistent data is not always correct. Reorganization of persistent variables with Clean All required.
1044	IOassistant not yet included

3 XSOFT-CODESYS V3.5.2

3.6 Addressed Defects and Changes

3.6

Addressed Defects and Changes

It is an initial release version, there are no addresses defects and changes.

4 Migration guide

4.1 Introduction

If you migrate projects from CODESYS V2 to CODESYS V3 take a few minutes to review the following information.

For further information, please refer also chapter "Known restrictions" (see chap. 3.5).

4.2 Migration from CODESYS V2 to CODESYS V3

4.2.1 Retain data handling

Management

Ticket 1115

The retain data handling is not compatible to CODESYS V2.3. On the same hardware 44 bytes are less available.

Variable declarations with keyword "PERSISTENT"

Ticket 1186, 1197

Variable declarations with keyword "PERSISTENT" are not supported.

→ Use keyword "RETAIN PERSISTENT"

4.2.2 Library SysDir23

Function SysDirOpen()

Ticket 1109

Function is not compatible to CODESYS V2.3. If an error occurs, it returns -1 instead 0.

4.2.3 Library SysFile23

Various function blocks

Ticket 1177, CDS-4369

Output parameter bDone and bError are not compatible to CODESYS V2.3.

Function SysFileDelete()

Ticket 1176

Output parameter wErrorId is not compatible to CODESYS V2.3.

4 Migration guide

4.2 Migration from CODESYS V2 to CODESYS V3

Function SysFileOpen()

Ticket 1173

Function is not compatible to CODESYS V2.3. It is possible to open a file multiple times with mode "write".

Ticket 1171, CDS-22259

Function is not compatible to CODESYS V2.3. It is not possible to open a file with mode "append".

→ Use the file open function and set the file pointer to EOF to append file data.

Ticket 1106

Function is not compatible to CODESYS V2.3. If an error occurs, it returns -1 instead 0.

Function SysFileEOF()

Ticket 1172, CDS-31922

Function is not compatible to CODESYS V2.3. It returns true at different position.

4.2.4

Library SysFileAsync23

Various function blocks

Ticket 1177, CDS-4369

Output parameter bDone and bError are not compatible to CODESYS V2.3.

Function SysFileDelete()

Ticket 1176

Output parameter wErrorId is not compatible to CODESYS V2.3.

Function SysFileOpen()

Ticket 1173

Function is not compatible to CODESYS V2.3. It is possible to open a file multiple times with mode "write".

Ticket 1171, CDS-22259

Function is not compatible to CODESYS V2.3. It is not possible to open a file with mode "append".

Ticket 1106

Function is not compatible to CODESYS V2.3. If an error occurs, it returns -1 instead 0.

Function SysFileEOF()

Ticket 1172, CDS-31922

Function is not compatible to CODESYS V2.3. It returns true at different position.

4.2.5 Library SysTask23

Function SysTaskGetInfo()

Ticket 1170, CDS-31774

Function is not compatible to CODESYS V2.3. Return values SysTaskInfo.dwld and SysTaskInfo.wIECTaskNr are always 0.

→ Use library SysTask and CmplIECTask

4.2.6 Library SysTaskInfo23

Function block TaskInfo()

Ticket 1111, CDS-29769, CDS-30577

Function block is not compatible to CODESYS V2.3. Return values of output parameters are always 0.

→ Use library SysTask and CmplIECTask

4.2.7 Library SysGetAddress23

Function SysLibGetAddress()

Ticket 1110

Function is not compatible to CODESYS V2.3. It returns wrong values.

Function SysLibGetSize()

Ticket 1110

Function is not compatible to CODESYS V2.3. It returns wrong values.

4.2.8 Library SysCom23

Function SysComRead()

Ticket 1104

Function is not compatible to CODESYS V2.3. If buffer is empty and the timeout is 0, the function returns after 2000 ms.

4.2.9 Library CanUser

The CODESYS V2.3 library CanUser is available with limited functionality. Migrated functions and function blocks are available in library EA23_CanUser.

Function block CanUser_DiagInfo()

Ticket 1098

4 Migration guide

4.2 Migration from CODESYS V2 to CODESYS V3

Function block is not compatible to CODESYS V2.3. It is available with limited functionality. The functionality cannot be represented with the same interface on the CANopen stack of CODESYS V3.

Function block CanUser_ReadImage()

Ticket 1098

Projects based on plc target system XC-202, function block is not compatible to CODESYS V2.3. Output parameter xReady is also FALSE if no new data are available.

Function block CanUser_ReadQueue()

Ticket 1098

Projects based on plc target system XC-202, function block is not compatible to CODESYS V2.3. Output parameter xReady is also FALSE if no new data are available.

Output parameter iStatus = 4 is not supported (Queue full).

Function CanUser_Write()

Ticket 1098

Function is not compatible to CODESYS V2.3. If a queue overflow occurs, the function returns with value 17.

4.2.10

Library CanUser_Master

The CODESYS V2.3 library CanUser_Master is available with limited functionality. Migrated functions and function blocks are available in library EA23_CanUser.

Function block CanUser_DiagMaster()

Ticket 1098

Function block is not available anymore. The functionality cannot be represented with the same interface on the CANopen stack of CODESYS V3.

Function block CanUser_DiagNode()

Ticket 1098

Function block is not available anymore. The functionality cannot be represented with the same interface on the CANopen stack of CODESYS V3.

Function CheckPDOconfig()

Ticket 1098

Function is not available anymore. The functionality cannot be represented with the same interface on the CANopen stack of CODESYS V3.

Function block CanUser_GetEmergency()

Ticket 1098

Function block is not compatible to CODESYS V2.3. Function block is available with limited functionality. The functionality cannot be represented with the same interface on the CANopen stack of CODESYS V3.

Functions `CanUser_StartNode()` / `CanUserStartAllNodes()`

Ticket 1098

Functions are not compatible to CODESYS V2.3. Functions are available with limited functionality. The functionality cannot be represented with the same interface on the CANopen stack of CODESYS V3.

Function block `CanUser_SDOuploadBlock()`

Ticket 1098

Projects based on target system XV-1xx, XV-4xx or XC-152, the function block is not compatible to CODESYS V2.3. Input parameter `dwLenMax` must be set 7 bytes bigger than the current data length of the received data `dwLen`.

4.2.11

Library `CanUser_Sync`

Ticket 1100

The CODESYS V2.3 library `CanUser_Sync` is not available anymore. The functionality cannot be represented with the same interface on the CANopen stack of CODESYS V3.

4.2.12

Library `CanUser_Device`

Ticket 1099

The CODESYS V2.3 library `CanUser_Device` is not available anymore. The functionality cannot be represented with the same interface on the CANopen stack of CODESYS V3.

4.2.13

Library `SysLib_Add`

Ticket 1161

The CODESYS V2.3 library `SysLib_Add` is available with limited functionality. Migrated functions and function blocks are available in library `EA23_SysLib_Add`.

On target system XV-1xx, XV-4xx, XVS-4xx and XV-152, support of onboard flash is not yet included. The functions `Sys_FlashInit()`, `Sys_FlashErase()`, `Sys_FlashWrite()` and `Sys_FlashRead()` are not supported yet.

4.2.14

Library `SysLibDPV1Hilscher`

The CODESYS V2.3 library `SysLibDPV1Hilscher` is not supported yet.

4.2.15

Library `Busdiag`

Projects based on target system XC-202, only one instance of each FB is allowed.

4 Migration guide

4.2 Migration from CODESYS V2 to CODESYS V3

4.2.16 **Library SysLibPlcCtrl**

Function SysEnableScheduling()

Function is not supported yet.

Function SysWdgEnable()

Function is not supported yet.

4.2.17 **Library SymArtiLib**

Ticket 1087

The CODESYS V2.3 library SymArtiLib is not available anymore.

4.2.18 **Library TcpUdpLib**

Ticket 1085

The CODESYS V2.3 library TcpUdpLib is not available anymore.

4.2.19 **Library SysLibSocketAsync**

Ticket 1084

The CODESYS V2.3 library SysLibSocketAsync is not available anymore.

4.2.20 **Library UdpUser**

The CODESYS V2.3 library UdpUser is not available anymore.

4.2.21 **CAN network variables**

Ticket 1049

The functionality of CODESYS V2.3 CAN network variables is not available anymore.

4.2.22 **Profibus-DP configuration**

Module parameter SwapIOMode

Ticket 1135

The module parameter SwapIOMode is not available anymore. According to specification, on Profibus DP the values of word variables are sent in Motorola byte order (Siemens-compatible). Since our controllers work in Intel format, the values of word variables are swapped automatically in the driver, so in the application the values are available on Intel byte order.

→ If you use XION modules, select "LSB first" instead "MSB first".

Highest Station Address

Ticket 1248

The Highest Station Address (HSA) is now 125. User cannot select 126 anymore.

4.2.23

PLC reset

Ticket 1105

On PLC reset, the handles are not closed automatically.

4.2.24

Target visu

Object trend

If a CODESYS V2 project contains trend objects and it is converted to CODESYS V3, the trend objects are missing. The object trend is not available anymore.

→ Use object trace instead

Variable name CurrentVisu

If a CODESYS V2 project contains the variable CurrentVisu and it is converted to CODESYS V3, the variable CurrentVisu is missing.

→ Replace the variable name CurrentVisu with the variable name VisuElems.CurrentVisu.

4.2.25

IO mapping

Address alignment

Ticket 1343

The address alignment of IOs can be different.

→ If the CODESYS V2 project contains variables which are manually mapped to IO addresses (bValue AT %IBx : BYTE;), it is necessary to check the manually mapped IO addresses.