

Release Notes for Telecontrol on e!COCKPIT and CODESYS v3.5

1.	Release Mai 2024 (CODESYS v3.5 Configurator V1.4.12.3; Library V1.4.12.3)	3
1.1.	IEC60870 Slave	3
1.2.	IEC60870 Master	3
1.3.	DNP3 Slave	3
1.4.	DNP3 Master	3
1.5.	IEC61850 Server + GOOSE Publisher	4
1.6.	IEC61850 Client + GOOSE Subscriber	4
2.	Release June 2023 (e!COCKPIT / CODESYS v3.5 Configurator V1.4.2.0; Library V1.4.2.0)	4
2.1.	IEC60870 Slave	5
2.2.	IEC60870 Master	5
2.3.	IEC61850 Server + GOOSE Publisher	5
2.4.	IEC61850 Client + GOOSE Subscriber	5
3.	Release Nov 2022 (e!COCKPIT / CODESYS v3.5 Configurator V1.3.6.0; Library V1.3.6.0)	6
3.1.	IEC60870 Slave	6
3.2.	IEC60870 Master	6
3.3.	DNP3 Slave	6
3.4.	DNP3 Master	6
3.5.	IEC61850 Server + GOOSE Publisher	6
3.6.	IEC61850 Client + GOOSE Subscriber	6
4.	Release Sep 2022 (CODESYS v3.5 Configurator V1.3.5.0; Library V1.3.5.1)	6
4.1.	IEC60870 Slave	7
4.2.	IEC60870 Master	7
4.3.	DNP3 Slave	7
4.4.	DNP3 Master	7
4.5.	IEC61850 Server + GOOSE Publisher (new product in CODESYS v3.5)	7
4.6.	IEC61850 Client + GOOSE Subscriber	7
5.	Release Jul 2022 (e!COCKPIT Configurator V1.3.0.0, StandAlone Configurator V1.3.0.0; Library V1.3.0.1; Appl. V1.3.0.1)	7
5.1.	IEC60870 Slave	7
5.2.	IEC60870 Master	8
5.3.	DNP3 Slave	9
5.4.	DNP3 Master	9
5.5.	IEC61850 Client + GOOSE Subscriber	9
6.	Release Dec 2021 (e!COCKPIT Configurator V1.2.31.0, StandAlone Configurator V1.2.31.0; Library V1.2.31.0; Appl. V1.2.31.0)	9
6.1.	IEC60870 Slave	9
6.2.	IEC60870 Master	10
6.3.	DNP3 Slave	10
6.4.	DNP3 Master	10
6.5.	IEC61850 Client + GOOSE Subscriber	10
7.	Release June 2021 (e!COCKPIT Configurator V1.2.24.0, StandAlone Configurator V1.2.25.1; Library V1.2.24.0; Appl. V1.2.25.0)	10
7.1.	IEC60870 Slave	11
7.2.	IEC60870 Master	12
7.3.	DNP3 Slave	12
7.4.	DNP3 Master	12
7.5.	IEC61850 Client + GOOSE Subscriber	13
8.	Release November 2020 (e!COCKPIT Configurator V1.2.13.0, StandAlone Configurator V1.2.15.1; Library V1.2.13.1; Appl. V1.2.15.3)	14
8.1.	IEC60870 Slave	14
8.2.	IEC60870 Master (-101/-104 new product)	15
8.3.	DNP3 Slave	15
8.4.	DNP3 Master	15
8.5.	IEC61850 Client + GOOSE Subscriber (new product)	15
9.	Release Mai 2020 (Configurator V1.2.5.0 Library V1.2.4.0/Apl. V1.2.5.0)	16
9.1.	IEC60870 Slave	16
9.2.	DNP3 Slave	16

9.3.	DNP3 Master	16
10.	Release Dec 2019 (Configurator V1.1.14.0 Library/Appl. V1.1.14.0)	17
10.1.	IEC60870 Slave	17
10.2.	DNP3 Slave	17
10.3.	DNP3 Master (new product)	17
11.	Release Sep 2019 (Configurator V1.1.9.2 Library/Appl. V1.1.9.3)	18
11.1.	IEC60870 Slave	18
11.2.	DNP3 Slave	18
12.	Release July 2019 (Configurator V1.1.7.2 Library/Appl. V1.1.7.2)	19
12.1.	IEC60870-5-103 Master (new product)	19
12.2.	IEC60870 Slave	19
12.3.	DNP3 Slave	19
13.	Release March 2019	20
13.1.	IEC60870 Slave (new product)	20
13.2.	DNP3 Slave (new product)	20

1. Release Mai 2024 (CODESYS v3.5 Configurator V1.4.12.3; Library V1.4.12.3)

Feature	FERN-2117	Support of new serial IO-Module 750-1652
Feature	FERN-1879	Support of new PFC100 2. Gen devices
Feature	FERN-1858	Telecontrol code generation via button & adapted F11 implementation
Feature	FERN-1876	TLS Encryption: Also support of TLS version 1.3
Feature	FERN-1605	Replace library WagoSysSSL against CODESYS SSL implementation
Feature	FERN-1604	Replace WagoSysSQL_SQLite against CODESYS SQLite Library
Fix	FERN-1906	Load info from CODESYS Project
Fix	FERN-1873	Fix error during saving CODESYS project
Fix	FERN-2111	Dirty flag at save

1.1. IEC60870 Slave

Feature	FERN-1683	Simplifying migration from CS2.3 to CS3.5 with CSV export-import
Feature	FERN-1636	Execution model can be set separately for each information object
Feature	FERN-1701	Option to exclude individual objects from the buffer
Feature	FERN-1686	Support of 3 Scada Systems with redundancy connections (IEC104 Ed. 2)
Feature	FERN-1744	Extension of the 500k event buffer solution to two connections (IEC104 Ed.1)
Feature	FERN-1753	Extending of the 500k event buffer solution to use as a library solution
Feature	FERN-2095	Flags to disable broadcast functions
Fix	FERN-1754	Saving buffer to SD card doesn't work
Fix	FERN-1765	The 500k event buffer store 100k events only
Fix	FERN-1750	Telegrams are buffered even though buffers are deactivated for certain objects (on 2nd connection)
Fix	FERN-1762	Exception when receiving a single query (TK102) when using the 500k event buffer
Fix	FERN-1772	External timestamp cannot be set via the application interface
Fix	FERN-1780	Initialization of quality flags on application interface incorrect
Fix	FERN-2094	CSV-Import not working

1.2. IEC60870 Master

Fix	FERN-1755	Removing the execution time for setpoint commands (ASDU 48+49+50)
-----	-----------	---

1.3. DNP3 Slave

Feature	FERN-1757	Extend system limit from 2 to 4 slaves
Feature	FERN-1903	Allow request of Device attributes (group 0) with range qualifier 0
Fix	FERN-1710	DNP3 Slave sends 32-bit counters as 16-bit counters

1.4. DNP3 Master

Feature	FERN-2079	Reduce polling time to 200ms
Fix	FERN-1783	No count values (Group 20) are received via the application interface
Fix	FERN-1784	Incorrect float measurement values (Group 30) are received via the application interface
Fix	FERN-1751	Codesys crashes when importing a DNP3 slave configuration

1.5. IEC61850 Server + GOOSE Publisher

Feature	FERN-1747	DNV Certification of IEC61850 Server
Feature	FERN-2131	Trigger Option during SCL-Impot
Feature	FERN-1763	Support of Dynamic Datasets
Feature	FERN-1857	Neues Client-LogicalNode Element für Reports
Feature	FERN-1907	Store configuration of mapping IEC to PLC variables in private data of SCL-File
Feature	FERN-2083	IdName behavior at LDevice
Feature	FERN-2120	ConfDataSetMax und ConfReportControlMax für SCL-Export berechnen
Fix	FERN-1771	PSIRT: Vulnerabilities in IEC61850 Server / Telecontrol (PSI-411)
Fix	FERN-1872	GetDataDefinition bei strukturierten Objekten
Fix	FERN-1871	GetLogicalNodeDirectory für Logging
Fix	FERN-1870	CODESYS Exception while error in IEC61850CustomModel.xml (undefined CDC)
Fix	FERN-1911	Fix GOOSE ID length check

1.6. IEC61850 Client + GOOSE Subscriber

Feature	FERN-1736	Functionblock to split dwQuality into ms, qualityTime, qualityData
Feature	FERN-1739	Extend Filetransfer with functions to GetServerDirectory + DeleteFile
Feature	FERN-1627	TLS encryption for IEC61850 Client, required for IEC62351
Feature	FERN-1745	Generating IEC61850 data model structures instead of a flat variable list
Feature	FERN-1767	Option to send a GI after Report Enable
Feature	FERN-1782	Mapping of Time-Quality-Bits (on time sync mode "protocol specific")
Feature	FERN-1803	Additional Controlmodel " Automatic execution when value changes"
	FERN-1862	"Automatic execution when value changes" becomes the default Controlmodel
Feature	FERN-1863	Automatical generation of variable names also for command variables
Feature	FERN-1878	Global variablelist with system limits
Feature	FERN-1864	Gateway to IEC60870 server single and double point information objects
Feature	FERN-2107	Subscriber: Quality test flag
Feature	FERN-2105	Same IP to corresponding server could be used for multiple connections now
Feature	FERN-2103	Implementation of different log levels
Feature	FERN-2101	Extend help text for input of time values in CODESYS time format
Fix	FERN-2136	Gateway link, especially on multiply server connections
	FERN-2140	
Fix	FERN-1875	Quality bit does not change when the communications go offline
Fix	FERN-1880	GetFile doesn't work if files are stored in subdirectories
Fix	FERN-1742	Fix browsing object structure of SEL protection relay
Fix	FERN-1766	Integrity period value specified by the client is not used
Fix	FERN-1768	Writing of CtrlModel conform to standard
Fix	FERN-1777	SCL import into CDS project file is not loaded
Fix	FERN-1810	Own data point variables for Request / DataSet / Report provide static 0
Fix	FERN-1727	IEC61850 GOOSE Subscriber: AppID is not read/generated correctly

2. Release June 2023 (e!COCKPIT / CODESYS v3.5 Configurator V1.4.2.0; Library V1.4.2.0)

Feature	FERN-1490	StandAloneTool: Support of CC100 device
Feature	FERN-1417	Common Timestamp Data Format in all Telecontrol protocols for smother conversion
Feature	FERN-1416	Application interface: adjustable assignment of retain memory
Feature	FERN-1402	Window layout of Telecontrol in CS3.5 adapted to e!COCKPIT

Feature	FERN-1421	Increase system limit number of objects from 2000 to 5000 on L-Devices (EdgeController + TP600) using L-License
Feature	FERN-1484	TelecontrolConfigTool: Tag moment of code generation with time stamp in comment
Feature	FERN-1600	TelecontrolConfigTool: Option for disabling the variablenaming autocomplete function
Feature	FERN-1640	Support of new CC100 device 751-9401
Feature	FERN-1660	The new license infodialog window display the required telecontrol licenses
Fix	FERN-1436	Mapping of data points disappears
Fix	FERN-1430	Exception and crash on " only variable name"

2.1. IEC60870 Slave

Feature	FERN-1462	Option to send messages actively from the application
Feature	FERN-1509	Option: Do not inject the source address in command response telegram (deviating from IEC standard)
Feature	FERN-1496	Buffering up to 500.000 Events (possibly with SD-Card and UPS)
Feature	FERN-1597	Support of structured transmission of telegrams in reporting direction
Feature	FERN-1636	Individual parameterization of the command execution model (SBO and Direct Execute) for each type ID
Fix	FERN-1498	Receiving commands with timestamp results to a plc stop in some cases
Fix	FERN-1598	Incorrect answers may be generated for general interrogation queries

2.2. IEC60870 Master

Feature	FERN-1508	Extension of IEC60870-5-104 client to 40 server connections on L-Devices (EdgeController + TP600) using L-License
Fix	FERN-1440	-103 Master: Variables are not filled with data from -103 slave device

2.3. IEC61850 Server + GOOSE Publisher

Feature	FERN-1282	IEC 61400 Wind energy objects edition 2
Feature	FERN-1373	Additional Objects PDIS, RREC, RSYN, CSYN
Feature	FERN-1433	Update Annex Distributed Energy Resources to Ed. 2 and new LN: DHVT, DLVT, DHFT, DLFT, DHFW, DLFW, DWVC, DWGC, DWFL, DAGC, DTCD, DWMX, DWMN, DFPF
Feature	FERN-1494	Improve online help with topic specific entry markers/tags
Fix	FERN-1415	Double call of POU prgIEC61850S_Main
Fix	FERN-1393	Info messages during WTC- and SCL-File Import
Fix	FERN-1411	Exception while removing an object referenced in data set
Fix	FERN-1409	Missing license required info message in multi PLC e!COCKPIT projects
Fix	FERN-1407	Error messages was assigned to wrong PLC in multi PLC e!COCKPIT projects
Fix	FERN-1406	Exception in e!COCKPIT on adding a LD on project without Server
Fix	FERN-1405	Object counter not decrementing after deleting objects
Fix	FERN-1422	Partially faulty code generation
Fix	FERN-1429	Wrong Datastructur during browsing
Fix	FERN-1478	Force Codegeneration after installation of new version of Telecontrol Config Tool
Fix	FERN-1479,	Improved error messages when system limits are violated
	FERN-1500,	-"-
	FERN-1501	-"-
Fix	FERN-1651	On data model import the property TrgOp are not correctly pre-assigned (e.g. mxVal)

2.4. IEC61850 Client + GOOSE Subscriber

Feature	FERN-1431	DNVGL / KEMA Certification of IEC61850 Client
Feature	FERN-1053	Extension of IEC61850 client to 20 server connections

Feature	FERN-1471	Support of IEC61850 File Transmission
Feature	FERN-1632	Functionblock to simplify execution of commands
Feature	FERN-1628	Reject the connection if OSI selectors doesn't fit
Fix	FERN-1397	The assignment of BOOL data objects to variables does not work
Fix	FERN-1493	Subscriber does not receive any telegrams with a repetition time of 0s
Fix	FERN-1617	Incorrect evaluation of optional ISO 8823 parameters
Fix	FERN-1681	64-bit value (LREAL) is interpreted as 32-bit (on browsing) or error in variable mapping
Fix	FERN-1690	The IdName was be ignored during SCL File import
Fix	FERN-1727	The ApplID was be ignored during SCL File import

3. Release Nov 2022 (e!COCKPIT / CODESYS v3.5 Configurator V1.3.6.0; Library V1.3.6.0)

Fix	FERN-1384	Telecontrol projects from earlier versions (e!COCKPIT 1.10 and before) can no longer be saved in some cases
Fix	FERN-1385	CODESYS v3.5: Telecontrol configurator reports license requirement for wrong object
Known	FERN-1401	DEL key is not working in e!COCKPIT Telecontrol configurator

3.1. IEC60870 Slave

Fix	FERN-1391	IEC61850 Slave: Wrong time format when using external time stamp with fbTime
Known	FERN-1420	IEC60870 Slave: Application exception when using counter mode A

3.2. IEC60870 Master

--- ---

3.3. DNP3 Slave

Feature	FERN-1317	Execution of commands can be logged and restricted to individual master addresses through a callback method for user defined functions
---------	-----------	--

3.4. DNP3 Master

Known	FERN-973	DNP3 Master: 16 / 32 Bit Static Counter do not provide any values
-------	----------	--

3.5. IEC61850 Server + GOOSE Publisher

Feature	FERN-1372	IEC61850 Server e!COCKPIT support
Feature	FERN-1153	IEC62351: TLS Encryption of MMS communication
Fix	FERN-1392	IEC61850 Server: Switch between Standard editions in multi controller projects
Known	FERN-1422	IEC61850 Server: Wrong code generation after importing ICD file in some cases

3.6. IEC61850 Client + GOOSE Subscriber

Fix	FERN-1397	States of data attributes with R/W access are not assigned to user declared variables by using read requests
-----	-----------	--

4. Release Sep 2022 (CODESYS v3.5 Configurator V1.3.5.0; Library V1.3.5.1)

Feature	CODESYS v3.5: Telecontrol Configurator Package for CODESYS v3.5.16.3 and newer
Feature	CODESYS v3.5: Migration of e!COCKPIT projects to CODESYS by renaming of project extension (*.ecp → *.project)
Known	CODESYS v3.5: DRM Licenses (e.g. Telecontrol runtime licenses) needs to be loaded via WAGO Upload to the device (e.g. WAGO Compact Controller 100)

4.1. IEC60870 Slave

Known	FERN-1404	NTP time server monitoring is deactivated by default (the global variable TC60870_GV.gxNtpStateMonitoringActive can be used to activate this feature)
Feature	FERN-1097	External time stamp in reporting direction

4.2. IEC60870 Master

Fix	FERN-1318	-103: The max. 16 slave connections were often reached too early (wrong counting)
-----	-----------	---

4.3. DNP3 Slave

Feature	FERN-1058	Setting time stamps via the application interface
Fix	FERN-1209	Crash of the Telecontrol Configurator during opening the TLS properties window
Fix	FERN-1196	Sort function clear variables
Fix	FERN-1150	Frozen AI objects/events (group 31/33) cannot be activated via the application interface

4.4. DNP3 Master

---	---	no changes in this version
-----	-----	----------------------------

4.5. IEC61850 Server + GOOSE Publisher (new product in CODESYS v3.5)

Feature		IEC61850 Server in CODESYS v3.5
Known	WAT-34740	GOOSE communication only possible via br1 and in separate mode.

4.6. IEC61850 Client + GOOSE Subscriber

Known	FERN-1397	States of data attributes with R/W access are not assigned to user declared variables by using read requests
-------	-----------	---

5. Release Jul 2022 (e!COCKPIT Configurator V1.3.0.0, StandAlone Configurator V1.3.0.0; Library V1.3.0.1; Appl. V1.3.0.1)

Feature	FERN-1115	Migration of e!COCKPIT projects to CODESYS 3.5 by renaming of project extension
Feature	FERN-944	Usability improvements, e.g. working with array elements in input fields
Feature	FERN-945	Compile time improvement
Fix	FERN-1007	Refresh config view parameter after opening of a new project
Feature	FERN-929	Support for new device 750-8212/0040-0001
Feature	FERN-927	WagoAppRTU: Functions of application interface now also usable on devices with DRM licensing

5.1. IEC60870 Slave

Feature	FERN-734	File transfer for serial and Ethernet
---------	----------	---------------------------------------

Feature	FERN-951	Option to use an individual TCP port for each master connection
Feature	FERN-956	DNVGL (formerly known as KEMA) Conformance test certification passed
Feature	FERN-895	Support of test command TI 107
Feature	FERN-1000	IEC60870-5-104 Slave: Option for disabling connection monitoring (T3)
Feature	FERN-1019	Export/Import: Format of InfoObjAdr in CSV file again as 8-8-8 bit
Feature	FERN-1033	Option to treat all commands as persistent commands
Feature	FERN-1034	Option for command validation "ON to ON"/"OFF to OFF" (Default: disabled)
Feature	FERN-1097	Option for external time stamp for objects in monitoring direction
Feature	FERN-909	Access to the timestamp of commands
Feature	FERN-714	Changing the hysteresis of measured values by the SCADA (object type 110 to 113)
Feature	FERN-948	Implement read function with object type 102
Feature	FERN-954	Automatic setting/resetting IV bit in time stamp with NTP can be deactivated
Feature	FERN-1016	Make object types 17-19/38-40 (protection messages) parameterizable via the application interface
Fix	FERN-1020	Send time synchronization object type 103 - ACT Con with "old" time stamp
Fix	FERN-1021	Permanent commands (except setpoints) must be ended with an ACT TERM (COT=10).
Fix	FERN-1022	Counter transmission mode B, sequence number (SQ) is incremented when restoring and not when queried
Fix	FERN-1023	Meter transmission mode C - No termination (COT=10) may be sent after re-storing
Fix	FERN-1024	Aborting a general query with COT=8 does not work correctly
Fix	FERN-1025	No StopDT Con is sent if not all I-frames have been acknowledged
Fix	FERN-1029	Respond to parameter loading (TK 110-112) with unsupported objects with COT=47
Fix	FERN-1027	Read command TK 102 should be answered with COT=47 for not supported objects
Fix	FERN-1028	Counter value transmissions - In mode C and D the SQ value is not incremented correctly
Fix	FERN-1040	reverse mode telegram is evaluated incorrectly.
Fix	FERN-1014	S-frame acknowledgments are sometimes sent, although they have already been acknowledged by an I-frame
Fix	FERN-1015	Incorrect time stamp in object type 32 and 33 after query with object type 102
Fix	FERN-915	Trigger xTrgAlt does not send measured values with the cause of transmission of the archive values
Fix	FERN-934	Connection to the 2nd server can only be established if max. clients is set to ≥ 2
Fix	FERN-935	Telecontrol application interface: parameters for parity and stop bits not functional
Fix	FERN-960	Application interface: No sending of StartDT by substation
Fix	FERN-1043	IEC60870-5-101: 750-652 setting RS232 (pre/post) is not accepted

5.2. IEC60870 Master

Feature	FERN-1005	103 Master: Support of using application interface
Feature	FERN-924	103 Master: Command status variable
Feature	FERN-1031	101 Master: Support of E5 (pos. acknowledgment receipt and sending)
Feature	FERN-1008	Option to send commands automatically (on value change)
Feature	FERN-1011	104 Master: Support of object type 105 (process reset command)
Fix	FERN-1012	GA and time sync are sent cyclically, although the option is deactivated (parameter=0)
Fix	FERN-995	101 Master unbalanced: Plausibility check for slave connections with same link address
Fix	FERN-938	103 Master: Commands with private data type GRC was not sent
Fix	FERN-942	104 Master: Link variable is not reset if the slave fails
Fix	FERN-943	Status variable of command objects returns incorrect values and is difficult to evaluate
Fix	FERN-953	101 Master: Configuration of the length of the link address via the application interface is incorrect

5.3. DNP3 Slave

Feature	FERN-936	Restrict file transfer to certain directories for security reasons
Feature	FERN-972	Deactivate frozen AI and counter
Feature	FERN-992	Support of object 50 (absolute time)
Fix	FERN-1009	Code for CODESYS output variables
Fix	FERN-1039	Unsolicited messages are not generated
Feature	FERN-1059	Function blocks for converting time stamps
Fix	FERN-1209	Crash of the Config tool on opening the TLS-settings dialog
Fix	FERN-998	Confirm & Read Request in the same Ethernet frame are not evaluated correctly
Fix	FERN-686	Time synchronization is adopted despite deactivation
Fix	FERN-919	First response after establishing a connection contains the wrong master address
Fix	FERN-941	Activation of unsolicited responds messages results in sending malformed packages
Fix	FERN-996	Time synchronization was not accepted

5.4. DNP3 Master

Feature	FERN-1030	Extension to max 4 serial connections of the DNP3 master
Fix	FERN-993	Existing index of objects is overwritten when adding new objects
Fix	FERN-965	CSV Import
Fix	FERN-1196	Existing numbering of DNP3 Slave objects is overwritten when adding new objects

5.5. IEC61850 Client + GOOSE Subscriber

Feature	FERN-990	Duplicate function for server connection
Fix	FERN-1089	Wrong datatype in GVL after appending command

6. Release Dec 2021 (e!COCKPIT Configurator V1.2.31.0, StandAlone Configurator V1.2.31.0; Library V1.2.31.0; Appl. V1.2.31.0)

Feature	FERN-923	New PFC200 variant 750-8210/0040-0001 with implicit Telecontrol license
Feature	FERN-929	New PFC200 variant 750-8212/0040-0001 with implicit Telecontrol license
Feature	FERN-927	Using Application Interface of WagoAppRTU on DRM licencing divices
Feature	FERN-905	CSV-Import/Export: Signal processing for local variables

6.1. IEC60870 Slave

Feature	FERN-908	IEC60870-5-101: Support for up to four Slave instances
Feature	FERN-616	IEC60870-5-104: TLS encryption of the IEC60870 Slave communication
Feature	FERN-946	IEC60870-5-104: CSV Import
Feature	FERN-879	IEC60870-5-101: Parametrize parity and stop bit from application interface
Feature	FERN-892	StandAloneConfigTool: Support of counter I/O modules (e.g. 750-404)
Feature	FERN-889	CSV-File Import: Import of variables from user-defined GVLs
Feature	FERN-914	Initiate connection by the substation via the application interface
Feature	FERN-905	Configuration of signal processing (flutter suppression) via CSV-file
Feature	FERN-921	Integral hysteresis: Parametrizing sampling rate from application interface
Fix	FERN-835	Integral hysteresis: Revision of integral hysteresis functionality
Fix	FERN-911	Integral hysteresis: If activated, measured values are sent every 100 ms
Fix	FERN-906	Only 15 station addresses can be created (instead of 16)
Fix	FERN-904	The 2nd server only works if at least two clients are entered in the IP filter on the 1st server
Fix	FERN-903	Currently connected client IP address from the second server is not displayed

Fix	FERN-902	IP address filter does not allow unconfigured connections
Fix	FERN-837	Single command with feedback: Continuous command can no longer be switched off
Fix	FERN-883	IV bit in the time stamp remains set, despite successful NTP time synchronization
Fix	FERN-912	I/O mapping is not adopted during the CSV import
Fix	FERN-869	TI37 IV bit is always set and the counter value is not reset
Fix	FERN-815	External trigger xTrgAlt for sending measured values uses wrong cause of transmission

6.2. IEC60870 Master

Feature	FERN-857	Conversion of -103 disturbance records into COMTRADE file format (ASCII and Binary)
Feature	FERN-907	CSV Ex- and import functionality for IEC60870-5-101/-103/-104 Master
Feature	FERN-852	The status of the double command does not output an error in the event of an error (incorrect state or neg. responds).
Feature	FERN-1011	Support for TK105 process reset command
Fix	FERN-894	IEC60870-5-103 Master: Bugfix for private (real-time) measured values and commands
Fix	FERN-874	Remove adjustment option of pre-run and post-run time for RS-422, because it's only a valid option for RS-232.

6.3. DNP3 Slave

Feature	FERN-913	Configuration of TLS communication now also by application interface
Feature	FERN-831	Config setting for time zone in time stamps (local time or UTC)
Fix	FERN-120	positive acknowledgment of an operate after SBO timeout error
Fix	FERN-627	When a telegram with binary and analog commands is received, only the first one is executed
Fix	FERN-880	Class 1/2/3 flag is not set in repeated unsolicited telegrams
Fix	FERN-873	Setpoint in Group 42 Event is not plausible
Fix	FERN-862	Querying frozen analog inputs (group 31) or frozen analog input events (group 33) is not possible
Fix	FERN-861	Reading the frozen counter events (FC1 Object 23 Var 0) is answered with Object unknown
Fix	FERN-860	16-bit counters are reported as variation 1 (32-bit) when the counter is queried (Var 0)
Fix	FERN-803	Default-Variation for Group 11 (Binary Output) is always 1

6.4. DNP3 Master

Feature	FERN-926	CSV Ex- and import functionality for DNP3 Master
Fix	FERN-825	No entry in diagnostic log when an incorrect binary output command is received

6.5. IEC61850 Client + GOOSE Subscriber

Fix	FERN-928	Reading (and writing) of a DataAttribut does not work in the same request
-----	----------	---

7. Release June 2021 (e!COCKPIT Configurator V1.2.24.0, StandAlone Configurator V1.2.25.1; Library V1.2.24.0; Appl. V1.2.25.0)

Hint: For the use of the master functions of IEC60870, IEC61850 and DNP3, new Master-L licenses are available for the TP600 panels and the WAGO Edge Device.

Feature	FERN-687	Support of additional devices for telecontrol usage by WAGO DRM licensing:
	FERN-739	

		750-8212, 750-8212/025-000, 750-8212/000-100, 750-8213, 750-8213/040-0010, 750-8214, 750-8215, 750-8216, 750-8216/025-000, TP600 Panel Standard Line, Advanced Line, Marine Line Edge Controller 752-8303/8000-0002
Feature	FERN-846	e!COCKPIT Performance improvements
Bugfix	FERN-787	StandAlone Configurator: Reset of the global view options doesn't work.
Feature	FERN-851	StandAlone Configurator: Update of the SSH.NET library to release 2020.0.1 to load configuration in devices with hardered firmware (72)
Bugfix	FERN-890	StandAlone Configurator: Update license information for third-party software

7.1. IEC60870 Slave

Bugfix	FERN-641	Average values in archive data incorrect
Feature	FERN-642	Unification of creating measurement values and setpoint commands
Bugfix	FERN-648	Commands with feedback indication: confirmation activation always positive, even if no switching action was detected on the inputs
Bugfix	FERN-649	DST-Bit adjusted too early (24. March 2019, one Sunday too early)
Bugfix	FERN-772	Single command with feedback indication: No negative Activation Termination after the execution time has elapsed without switching action
Bugfix	FERN-678	Reset of counter values does not work in mode A and B
Bugfix	FERN-681	Corrected local time information in C_CS ACTCON
	FERN-688	Double commands are always executed as continuous commands / 1 out of N mode faulty
Feature	FERN-683	The reverse mode is now deactivated as default, but can be activated in the advanced settings
Feature	FERN-684	Zero point suppression / deadband option for analog values in the signal processing
Bugfix	FERN-695	Setting for Integral hysteresis is not working
Feature	FERN-699	Minimum time monitoring between two measured value transmissions (implementation in library only, parameter not available in configurator)
Bugfix	FERN-701	External trigger for sending measurement values (e.g. TI 11 or TI 36) does not work
Feature	FERN-702	Reflect the originator address of the command in the feedback indication
Feature	FERN-703	Control input for commands with feedback indication (behavior ON at ON and OFF at OFF in command/feedback message). (implementation in library only, not in config-tool)
Feature	FERN-715	Check timestamp in command (IV bit should be excluded optional)
Bugfix	FERN-716	spontaneous counter value transmission with cause of transmission 37 (counter interrogation) instead of 3
Feature	FERN-724	Time synchronization (TK103) can be deactivated via functionblock per client connection
Bugfix	FERN-772	Single command mit Rückmeldung: Does not send Activation Termination after the execution time has elapsed without switching action
Bugfix	FERN-805	Originator address in command feedback remote command (COT=11) faulty
Feature	FERN-808	Logging of the IEC104 communication
Feature	FERN-814	Callback functions to trigger command responses via application
Bugfix	FERN-815	StandAlone Configurator: External trigger xTrgAlt did send measurement values with wrong cause of transmisson
Bugfix	FERN-816	Feedback messages (COT=11) were send with wrong originator address
Bugfix	FERN-822	External time stamps were not set for types TI 34 and TI 36
Feature	FERN-823	Evaluation of plausibility bits specifically for each connected server
Feature	FERN-824	Application interface: Check option for new received time synchronization telegram (TI 103)
Feature	FERN-827	IEC60870-5-101: Setting of parity and stop bits for serial interface
Bugfix	FERN-869	StandAlone Configurator: TK37 IV-Bit is always set and the counter value is not reset

7.2. IEC60870 Master

Bugfix	FERN-77	IEC60870-5-103 Master: Execution time with ASDU 20 does not work
Feature	FERN-693	IEC60870-5-103 Master: Using vendor specific objects (private objects)
Bugfix	FERN-700	IEC60870-5-101 Master: Unbalanced link layer was not established
Bugfix	FERN-773	IEC60870-5-101 Master: Command queue only accepts 15 commands, after which command processing stops
Feature	FERN-827	IEC60870-5-101 Master: Setting of parity and stop bits for serial interface
Feature	FERN-828	IEC60870-5-101 Master balanced: add option RS422; remove option RS485
Feature	FERN-856	IEC60870-5-103 Master: reading fault data/disturbance records from protection relays ASDU's (23 .. 31)
Feature	FERN-857	StandAlone Configurator: convert fault data/disturbance records from protection relays into COMTRADE format

7.3. DNP3 Slave

Bugfix	FERN-570	Unsolicited Response should not include additional events after sleep timer has elapsed
Feature	FERN-573	Link monitoring for Ethernet connections
Feature	FERN-596	Separate event buffer for each event class
Bugfix	FERN-626	In a configuration with Ethernet and serial link, after removing the Ethernet link the serial communication was not established in all cases
Bugfix	FERN-643	Local freeze for counter objects did not work
Bugfix	FERN-645	System time was set in case of receiving a FC23 Delay Measurement telegram
Bugfix	FERN-646	Unsolicited modes B and C did not work – No BI events were transmitted
Bugfix	FERN-685	Loss of event data when using SD card as storage buffer
Feature	FERN-587	Support of additional DNP3 groups 42 (Analog Output Event)
		Support of additional DNP3 groups 43 (Analog Output Command Event)
Feature	FERN-588	Support of additional DNP3 groups 11 (Binary Output Events)
		Support of additional DNP3 groups 13 (Binary Output Command Events)
Feature	FERN-589	Support of additional DNP3 groups 23 (Frozen Counter Events)
Feature	FERN-590	Support of additional DNP3 groups 0 (Device Attributes)
Feature	FERN-598	Support of additional DNP3 groups 10, Var. 1 (Binary Output - Packet format)
Feature	FERN-600	Support of additional DNP3 groups 31 (frozen analog inputs)
Feature	FERN-601	Support of additional DNP3 groups 33 (frozen analog input events)
Feature	FERN-603	Support of additional DNP3 groups 70 (file transfer for serial and ethernet)
Feature	FERN-604	Support function code 13 (cold reset) and 31 (activate configuration)
		recognition only, resulting actions must be implemented by the user application!
Bugfix	FERN-647	Objects of the types BI/DBI/counter/AI created via application interface were not send during a Class 0 Poll
Feature	FERN-679	Default value "True" for Quality flag "Online"
Bugfix	FERN-717	Communication via UDP did not work
Feature	FERN-827	New setting of parity and stop bits for serial interface
Feature	FERN-831	StandAlone Configurator: Config setting for time zone in time stamps (local time or UTC)
Bugfix	FERN-838	In case of configuring separated event buffers for each class, the overflow flag is reset in wrong conditions (even one buffer is still full)
Bugfix	FERN-859	Overflow flag in Unsolicited messages is not set, in case telegrams were repeated when no confirmation was received from the Master

7.4. DNP3 Master

Feature	FERN-827	DNP3-Master-serial: Setting of parity and stop bits for serial interface
---------	----------	--

7.5. IEC61850 Client + GOOSE Subscriber

Feature	FERN-690	Extension of the IEC61850 Client with GOOSE Subscriber functionality
Bugfix	FERN-730	Client model window (or browse result) hides underscores in the object names
Bugfix	FERN-731	For object names with underscores, invalid variable names may be generated
Bugfix	FERN-775	IED browsing or SCL import: LD name is missing in the Request / Goose name

8. Release November 2020 (e!COCKPIT Configurator V1.2.13.0, StandAlone Configurator V1.2.15.1; Library V1.2.13.1; Appl. V1.2.15.3)

Hint: The time synchronization settings have been renewed. As a result, the settings will be reset to default values in case a project created with a version < 1.2.9.0 will be imported. Please check time synchronization settings in case of importing existing projects and possibly correct the settings.

Feature	WAT32431	Documentation: Split in separate files for IEC60870, IEC61850 and DNP3
Bugfix	WAT31766	Switch view option for local bus io image from address to module does not working
Bugfix	WAT31821	Quick Access Toolbar is not working
Bugfix	WAT31799	I/O addresses of all digital modules are corrupted after using the product catalog
Bugfix	WAT31981	e!COCKPIT: No function for button "Check the current configuration"
Bugfix	WAT31925	e!COCKPIT : Local bus I/O in TC configurator is empty if more than 1 device in project
Bugfix	WAT31934	Wrong I/O addresses after moving KBUS position of io-module in TC configurator
Bugfix	WAT32067	e!COCKPIT: Adapt e!COCKPIT code generation in the event that local VARs are used that are not write-accessible
Bugfix	WAT32373	StandAlone: Commissioning wizard refers to the non-existent WBM page
Bugfix	WAT32389	e!COCKPIT: Ribbon Labels sometimes invisible
Bugfix	WAT32417	e!COCKPIT: Insert or Remove of an IO-Module deletes all KBUS mappings
Bugfix	WAT32488	e!COCKPIT: Telecontrol cannot be configured in a new project
Bugfix	WAT32588	StandAlone: Config no longer available on PFC200 G2 devices after PowerOn Reset

8.1. IEC60870 Slave

Feature	WAT28234	Reverse Direction for info-object-types 1 .. 14 and 30 .. 36
Feature	WAT31727	Application interface extended for configuration of send-trigger, external time-stamp, COT-selection
Feature	WAT31839	IEC60870-5-101 Slave: Support of RS422 for 750-652
Feature	WAT31841	IEC60870-5-101 Slave: Separated byte input format for link layer address
Feature	WAT30318 WAT31905 WAT32478	New modes for time synchronization: no time sync, NTP, protocol specific, NTP + protocol specific. protocol specific is IEC60870 Obj103 and DNP3
Feature	WAT31933	Simultaneous use of additive and threshold hysteresis
Feature	WAT31945	Initiation of the connection by the IEC60870 slave instead of the master
Feature	WAT32192	Support byClockSource when configuration with application interface
Feature	WAT32346	Command deactivation after feedback and a predefined time
Bugfix	WAT30833	Protection equipment message with invalid type identifier outside range 17-19 or. 38-40
Bugfix	WAT31552	Diagnoses messages incomplete when configuration with application interface
Bugfix	WAT31846	CSV import is not working
Bugfix	WAT31861	Command with "Select and execute" → Command can be sent without prior Select
Bugfix	WAT31862	Command with "Select and execute" → Wrong result value
Bugfix	WAT32068	Lockout suppression for double point information messages type 3, 4, 31
Bugfix	WAT32079	The function for saving the events on the SD card does not work
Bugfix	WAT32086	Setpoint commands are only acknowledged with COT 10
Bugfix	WAT32156	e!COCKPIT: A connection to the slave cannot be established if the configuration contains IO links
Bugfix	WAT32159	Integral hysteresis sends mass telegrams without any change in value
Bugfix	WAT32456	Information object type 39 Bits SRD and SIE does not work

8.2. IEC60870 Master (-101/-104 new product)

Feature	IEC60870-101/-104 Master: First version in e!COCKPIT and StandAlone Tool. The use case is to connect IEC60870-101 or -104 devices to an IEC60870 or DNP3 scada system.
Feature WAT32451	IEC60870-5-103 Master: Support of information object type 1 and 3
Bugfix WAT31825	IEC60870-5-103 Master: Stored configuration not used after powerup

8.3. DNP3 Slave

Feature WAT27365	TLS encryption of DNP3 communication
Feature WAT30318	New modes for time synchronization: no time sync, NTP, protocol specific,
WAT31905	NTP + protocol specific. protocol specific is IEC60870 Obj103 and DNP3
WAT32478	
Feature WAT31546	Individual configuration of unsolicited Hold-Time and Hold-counter for each event classes.
Feature WAT31547	Timer for bit „Need Time“ cannot be deactivated. Improved settings: deactivated / once after powerup / cyclic with param. time
Feature WAT31713	DNP3 serial communication with TETRA Modem (SDS service)
Feature WAT31974	Automatic sorting by type of analog objects and counters when created from the application interface
Feature WAT31985	Multi grouping for DNP3 binary input objects
Feature WAT32072	Support of single responses (no fragmentation)
Feature WAT32234	Free choice of address for all information objects (before only automatic addressing), in StandAlone Configurator V1.2.15.1 only. In e!COCKPIT this feature will available not until the next Release.
Feature WAT32366	Global counter for the receipt of AO / DO direct operate commands
Feature WAT32520	Sleep timer for unsolicited messages will terminated if received FC00, 01, 02, 09 or FC11
Feature WAT32521	Local freeze for counter value objects, in StandAlone Configurator V1.2.15.1 only. In e!COCKPIT this feature will available not until the next Release.
Bugfix WAT27551	Confirm telegram from the SCADA system to Class 0123 Request does not reset the timeout timer
Bugfix WAT31577	DNP3 serial: Unsolicited messages are not activated if link test telegrams are deactivated.
Bugfix WAT31716	Application Interface: No output value of Analog Output if start-address is changed
Bugfix WAT31856	Unsolicited messages are not sent with a serial connection
Bugfix WAT31858	32-bit counter created via the application interface does not output any values
Bugfix WAT31973	In the Retain Buffer Mode, an event triggers an infinite surge of malformed packets
Bugfix WAT31983	DNP3 serial: Unsolicited message confirmation from the master is sometimes not recognized in the application
Bugfix WAT31984	Sleeptimer for unsolicited messages is checked if the initial registration of the unsolicited messages is not confirmed by the master
Bugfix WAT32232	When using serial connection without link monitoring the link status is always TRUE
Bugfix WAT32361	When unsolicited messages are sent, the sequence number is always 0 (not incremented)
Bugfix WAT32479	All binary input events are sent with the address of the first object
Bugfix WAT32482	Time synchronization via serial connection (FC23) does not work or takes on wrong time

8.4. DNP3 Master

Feature WAT31577	DNP3 Outstation: Link-Test
Feature WAT32487	Analog output control variable
Bugfix WAT32568	Status of binary input is not saved in the SQLite database

8.5. IEC61850 Client + GOOSE Subscriber (new product)

Feature	First version of the IEC61850 Client in e!COCKPIT and StandAlone Tool. The use case is to connect IEC61850 MMS IED's to an IEC60870 or DNP3 scada system.
---------	--

9. Release Mai 2020 (Configurator V1.2.5.0 Library V1.2.4.0/Apl. V1.2.5.0)

- | | | |
|---------|----------|---|
| Feature | WAT31284 | Licensing of telecontrol communication-stacks with WAGO DRM.
First time used for new 750-8210 and 750-8217 PFC's. |
| Bugfix | WAT30577 | e!COCKPIT: Deleting items from e!Cockpit message window |
| Bugfix | WAT30893 | e!COCKPIT: Headlines are shown in wrong language |
| Bugfix | WAT30935 | Standalone-config-tool: Extend the limitation to 10 IP addresses of the commissioning assistant (use of eleventh address will now overwrite the oldest address) |

9.1. IEC60870 Slave

- | | | |
|---------|----------|---|
| Feature | WAT30845 | IEC60870 Slave: Setting of originator address |
| Feature | WAT31089 | IEC60870 Slave: Multi-ASDU |
| Feature | WAT31204 | IEC60870 Slave: Change interaction in interface between config tool <-> comm. stack from file based interface to function block to support dynamic configuration of telecontrol stack at runtime. |
| Feature | WAT31232 | IEC60870-5-101 Slave: RS485/RS422 fullduplex support for serial IO modules |
| Feature | WAT31051 | IEC60870 Slave: Application interface extended for dynamic slave configuration |
| Bugfix | WAT30928 | IEC60870 Slave: IV bit in timestamp is always set with NTP time synchronization.
Workaround: IV bit will never be set with setting C60870_GV.gtyGIPar.byClockSyncMode := 2; |
| Bugfix | WAT30805 | IEC60870 Slave: Possible data loss with multi link connections |
| Bugfix | WAT31322 | IEC60870 Slave: Application interface – Will remove all objects in case of stack restart |

9.2. DNP3 Slave

- | | | |
|---------|----------|--|
| Bugfix | WAT31020 | DNP3 Slave: Variables check in the configurator inconsistent |
| Bugfix | WAT31048 | DNP3 Slave: Events were not sent from retain buffer after restart |
| Bugfix | WAT31100 | DNP3 Slave: Read Binary Output fails under certain conditions |
| Bugfix | WAT31103 | DNP3 Slave: Read Class 123 fails under certain conditions |
| Bugfix | WAT31105 | DNP3 Slave: Read Analog Output fails under certain conditions |
| Bugfix | WAT31301 | DNP3 Slave: Sleep behavior for unsolicited messages, in case they were not confirmed |
| Feature | WAT31107 | DNP3 Slave: Support for 16-Bit Quantity Qualifier in responds of the slaves.
Necessary for communication to Citect Scada (Schneider Electric) |
| Feature | WAT31483 | DNP3 Slave: Setting of external time stamps for events |
| Feature | WAT29975 | DNP3 Slave: Application interface for dynamic creation of data points |

9.3. DNP3 Master

- | | | |
|---------|----------|---|
| Feature | WAT30834 | DNP3 Master: Variables for Trip/Close at control model "Comp. two-output model" |
|---------|----------|---|

10. Release Dec 2019 (Configurator V1.1.14.0 Library/Appl. V1.1.14.0)

- | | | |
|---------|----------|--|
| Feature | WAT30456 | Definition of System limits:
1x IEC60870-5-101 Slave, 1x IEC60870-5-104 Slave Edition 1 (Multi Master),
1x IEC60870-5-104 Slave Edition 2 (Multi Link), 1x DNP3 Slave with 4x connections,
1x DNP3 Master Ethernet with 4x Slave connections,
1x DNP3 Master Serial with 1x Slave connection,
5x IEC60870-5-103 Master with 16x Slave-Connections,
2000 data points / information objects can be used in total (for the whole configuration) |
| Feature | WAT30400 | Creation of new global variables via CSV file import |
| Bugfix | WAT30078 | Reading of IEC60870 and DNP3 configuration if project directory isn't on internal flash of controller (meaning project directory is on SD-Card) |
| Bugfix | WAT30112 | Storing of configuration if working with more than one Telecontrol PLC in e!COCKPIT |

10.1. IEC60870 Slave

- | | | |
|---------|----------|---|
| Feature | WAT30499 | new option to send objects with or without timestamp after GI |
| Feature | WAT30766 | Enlarge the telegram buffer for projects with more objects and higher communication traffic |
| Feature | WAT60765 | Additional transmission intervals 1 sec and 2 sec for cyclic transmission |
| Bugfix | WAT27450 | Object 103: Synchronization of clock with local time instead of UTC |
| Bugfix | WAT29767 | Display the type information additionally to address in the object tree |
| Bugfix | WAT30144 | No transmission for measurement values if hysteresis is reached |
| Bugfix | WAT30202 | Wrong diagnostic information for command objects if on → on or off → off |
| Bugfix | WAT30299 | Config tool always uses information object 38 instead of last used information object type (17, 18, 19, 38, 39 or 40) |
| Bugfix | WAT30434 | Several fixes of CSV import |
| Bugfix | WAT30810 | Plausibility check for duplicate ASDU address only within the same slave |
| Bugfix | WAT30812 | Sending of object 70 (end-of-initialization) after establishing the communication |
| Bugfix | WAT30815 | Wrong ASDU address after switching between 1 and 2 byte ASDU addressing schema |

10.2. DNP3 Slave

- | | | |
|---------|---|---|
| Feature | WAT30256 | Support of double binary output (as an extension of binary output) |
| Feature | WAT30267 | Activation of unsolicited messages on particular class instead of all classes. |
| Feature | WAT30306 | Several improvements in the DNP3–Device-Profile export file (IP address, serial params) |
| Feature | WAT30314 | Support of Object type 34. Change hysteresis (deadband) of analog input from SCADA. |
| Bugfix | WAT30792 | Send unsolicited null responds to wrong master address |
| Bugfix | WAT30400,
WAT30401,
WAT30403,
WAT30404 | Several fixes / improvements of the CSV import |

10.3. DNP3 Master (new product)

- | | | |
|---------|-----|--|
| Feature | --- | First version of the DNP3 Master in e!COCKPIT and StandAlone Tool.
The use case is to connect DNP3 serial or TCP devices to an IEC60870 or DNP3 scada system. |
|---------|-----|--|

11. Release Sep 2019 (Configurator V1.1.9.2 Library/Appl. V1.1.9.3)

- Feature WAT25968 StandAlone: Add K-BUS modules offline (w/o using online function "scan modules")
- Feature WAT29946 Context sensitive help in StandAlone Telecontrol Configurator (Help function in e!COCKPIT without context sensitive topics)
- Feature WAT29667 Deleting objects with context menu entry alternatively possible to use of DEL-key on keyboard
- Feature WAT29973 New options dialog to collect several UI settings
- Feature WAT29974 Support of signal preprocessing now also for local variables

11.1. IEC60870 Slave

- Bugfix WAT27450 Object 103: Synchronization of clock with local time instead of UTC
- Bugfix WAT30287 Bugfix for sporadic telegram loss on slow connections (e.g. cellular radio)
- Feature WAT29396 Option to store IEC60870 event buffer on sd-card instead of volatile memory
- Feature WAT27798 Flexible addressing schema for ASDU and object address, e.g. 24 instead of 8-8-8
- Feature WAT27450 Choose between time synchronization methods UTC and local time
- Feature WAT30113 New InfoObject types 17, 18, 19, 38, 39, 40 to transmit data of protection relays to the scada system
- Feature WAT29449 Support of archive values for the scada system ProCoS from Kisters

11.2. DNP3 Slave

- Bugfix WAT30011 Sleep Timer for Unsolicited Messages (allows to suppress repetitions for a period of time in case the messages were not confirmed by SCADA)
- Bugfix WAT30001 Status of binary output was always zero
- Feature WAT30256 Support of "double binary output" object type

12. Release July 2019 (Configurator V1.1.7.2 Library/Appl. V1.1.7.2)

- Feature WAT28248 French language support of config tool, online- and pdf-documentation
Feature WAT29386 StandAlone: New Button "Scan modules" in ribbon menu to improve user experience

12.1. IEC60870-5-103 Master (new product)

- Feature --- First version of IEC60870-5-103 Master in e!COCKPIT and StandAlone Tool.
The use case is to connect -103 protection relays to an IEC60870 or DNP3 scada system.

12.2. IEC60870 Slave

- Feature WAT26499 Individual COT of archive values for measurement values and counters.
(required for scada system "Kisters")
Feature WAT28785 Configuration of a cyclic transmission interval for measurement values
Feature WAT29239 Show type-id of info objects in tree view, e.g. [TI03] for double-point info object
Feature WAT29401 IEC60870-5-101 slave with 750-652 io-module; previously PFC200 onboard serial only.

12.3. DNP3 Slave

- Feature WAT27721 Fragmentation size of telegrams parameterizable for modem connections
Feature WAT27790, Event Buffer size parameterizable up to 100.000 events
WAT29394
Feature WAT27827 Event Buffer implementation: to keep the latest events, replace linear buffer with ring buffer
Feature WAT28649 Option to store DNP3 Event buffer on sd-card instead of volatile memory.
One release later, this feature will also be available for the IEC60870 slave.
Feature WAT28419 Prevent renumbering of addresses after the user adds a new analog value
Feature WAT28726 Support external event-trigger for binary input, double binary input and analog input
Feature WAT29254 Import configuration in the DNP3 standard device profile file format

13. Release March 2019

13.1. IEC60870 Slave (new product)

Feature --- First version of IEC60870-5-101/-104 Slave in e!COCKPIT and StandAlone Tool

13.2. DNP3 Slave (new product)

Feature --- First version of DNP3 Slave (TCP and serial) in e!COCKPIT and StandAlone Tool