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1. Firmware Release 02.08.35 (11)

1.1 System

- | | | |
|---------|-----------------------|---|
| [FIXED] | WAT24029,
WAT24097 | Controller stops working after an indefinite period of time. |
| [KNOWN] | WAT26968 | ADI DAL mode "Unconfigured" does not work. Only C/C++ programmers are affected. |

1.2 Runtime System

- | | | |
|---------|----------|--|
| [FIXED] | WAT26608 | SymARTI communication does not work without login |
| [FIXED] | WAT26483 | "Online Change" download may result in a short flickering of the outputs. |
| [FIXED] | WAT25908 | e!Runtime: Modbus TCP master does not send request if slave was not available during start up. |
| [NEW] | WAT | e!Runtime: WagoSysSSL, connection to the original OpenSSL library |

1.3 Fieldbus Interface & Protocols

Cloud Connectivity

- | | | |
|---------|----------|---|
| [FIXED] | WAT26510 | Loss of data during offline logging. |
| [FIXED] | WAT26870 | High memory usage on bad radio conditions |

1.4 Libraries

- | | | |
|---------|----------|---|
| [FIXED] | WAT26587 | WagoLibNetSNMP: Register of custom IDs does not work |
| [FIXED] | WAT24127 | WagoLibNetSNMP: Excessive settings of OIDs could cause connection aborts in debug mode. |

2. Firmware Release 02.08.31 (11)

2.1 System

- | | | |
|---------|----------|---|
| [FIXED] | WAT25630 | SMTP is not supported. |
| [FIXED] | WAT24264 | Bandwidth and broadcast limitation does not work. |
| [FIXED] | WAT26118 | 750-8207: Memory leak in the modem daemon. |

2.2 Fieldbus Interface & Protocols

CANopen

[FIXED]	WAT25792	NMT-Master doesn't start the slaves correctly after "Bus Off".
[FIXED]	WAT25815	Slave does not work properly when Runtime is in Stop.
[FIXED]	WAT24216	High jitter of the sync telegram.
[FIXED]	WAT25418	CAN task stops after some time.
[FIXED]	WAT25204	CAN transmission error when using Heartbeat.

OPC-UA

[FIXED]	WAT25214	Object "Service Level" is set to "0". (now "200")
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3. Firmware Release 02.08.26 (11)

3.1 System

[FIX]	WAT25608	PFC100: Controller cannot read the DIP Switch settings.
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4. Firmware Release 02.08.25 (11)

Affected articles/Available for		Supported PLC	
Article Number	Designation	CDS2.3	e!Runtime
750-8100	PFC100 CS 2ETH ECO		X
750-8101	PFC100 CS 2ETH		X
750-8101/025-000	PFC100 CS 2ETH /T		X
750-8102	PFC100 CS 2ETH RS		X
750-8102/025-000	PFC100 CS 2ETH RS /T		X
750-8101/000-010	PFC100 FG0 2ETH		X
750-8202	PFC200 CS 2ETH RS	X	X
750-8203	PFC200 CS 2ETH CAN	X	X
750-8204	PFC200 CS 2ETH RS CAN	X	X
750-8206	PFC200 CS 2ETH RS CAN DPS	X	X
750-8207	PFC200 CS 2ETH RS 3G	X	X
750-8208	PFC200 CS 2ETH RS CAN DPM	X	
750-8202/025-000	PFC200 CS 2ETH RS /T	X	X
750-8202/025-001	PFC200 CS 2ETH RS Telecontrol /T	X	(X) ¹
750-8202/025-002	PFC200 CS 2ETH RS ECO Telecontrol /T	X	(X) ¹
750-8203/025-000	PFC200 CS 2ETH CAN /T	X	X
750-8204/025-000	PFC200 CS 2ETH RS CAN /T	X	X
750-8206/025-000	PFC200 CS 2ETH RS CAN DPS /T	X	X
750-8206/025-001	PFC200 CS 2ETH RS CAN DPS Telecontrol /T	X	(X) ¹
750-8207/025-000	PFC200 CS 2ETH RS 3G /T	X	X

750-8207/025-001	PFC200 CS 2ETH RS 3G Telecontrol /T	X	(X) ¹
750-8208/025-000	PFC200 CS 2ETH RS CAN DPM /T	X	
750-8208/025-001	PFC200 CS 2ETH RS CAN DPM Telecontrol /T	X	
750-8202/040-000	PFC200 CS 2ETH RS /XTR	X	X
750-8202/040-001	PFC200 CS 2ETH RS Telecontrol /XTR	X	(X) ¹
750-8206/040-000	PFC200 CS 2ETH RS CAN DPS /XTR	X	X
750-8206/040-001	PFC200 CS 2ETH RS CAN DPS Telecontrol /XTR	X	(X) ¹
750-8202/000-011	PFC200 FG1 2ETH RS	X	X
750-8202/000-012	PFC200 FG2 2ETH RS	X	X
750-8202/000-022	PFC200 FGE 2ETH RS	X	X
750-8207/000-022	PFC200 FGE 2ETH RS 3G	X	X
750-8212	PFC200 G2 2ETH RS	X	X
750-8213	PFC200 G2 2ETH CAN	X	X
750-8214	PFC200 G2 2ETH RS CAN	X	X
750-8216	PFC200 G2 2ETH RS CAN DPS	X	X
750-8212/025-000	PFC200 G2 2ETH RS /T	X	X
750-8212/025-001	PFC200 G2 2ETH RS Telecontrol /T	X	(X) ¹
750-8212/025-002	PFC200 G2 2ETH RS ECO Telecontrol /T	X	(X) ¹
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS /T	X	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Telecontrol /T	X	(X) ¹

Important:

(X)¹ In this version the Telecontrol feature is not available in e!RUNTIME.

4.1 System

[NEW]	WAT	MQTT support is part of the standard firmware package
[FIXED]	WAT22634	Memory leak in the mdmd
[FIXED]	WAT24268	GSM-Modem reports "Error while Reading SIM-Data" when automatic switch from UMTS to GSM is performed
[FIXED]	WAT23086	Controller may crash while scanning with e!COCKPIT
[FIXED]	WAT21999	Memory leak in the LED server daemon
[FIXED]	WAT	Several security leaks, see also WAGO homepage for further details on known security vulnerabilities
[KNOWN]	WAT25270	The LED stops blinking after long term at times
[KNOWN]	WAT24264	Ethernet broadcast and bandwidth limitation does not work properly
[KNOWN]	WAT25246	IPsec implementation is not conform according to the RFC
[KNOWN]	WAT22573	SNMP exceptions while sending messages from different tasks
[KNOWN]	WAT22155	Installation of IPK packages may fail because of timeouts

4.2 Runtime System

[NEW]	WAT	CODESYS 3.5 SP11 Patch 1
[FIXED]	WAT24228	The "plclinux_rt" service accepts different unauthenticated actions. For further information see Wago homepage Security

[FIXED]	WAT25401	If port authentication of CODESYS 2.3 is activated, OPC communication is not possible if you are logged in at the same time as the CODESYS 2.3 GUI. Furthermore, only the login from an OPC server is possible at the same time.
[FIXED]	WAT22955	e!RUNTIME: MODBUS RTU Master does not communicate with all Slaves
[KNOWN]	WAT25161	The Runtime is terminated by SNMP GET call if the OID value is greater than 40 characters
[KNOWN]	WAT25006	Character loss on onboard RS485 with e! RUNTIME at 115200 Baud and 57600 Baud
[KNOWN]	WAT24697	Boot project will be deleted at runtime startup if inconsistency is detected
[KNOWN]	WAT24346	e!RUNTIME Crash when combining forced variables, single cycle, complex terminals and online change
[KNOWN]	WAT25099	e!RUNTIME: For projects with modules according to the list (WAT25099_ModuleList.docx) rest cold and warm causes a crash.
[KNOWN]	WAT24326	With CODESYS V2.3, the SNMP_GET function no longer works after online change

4.3 Web Based Management

[NEW]	WAT	Configuration for router / NAT / IP masquerading
[KNOWN]	WAT25527	Incorrect access rights for routing page

4.4 Operating System

[NEW]	WAT	Linux Kernel Version 4.9.47-rt37
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4.5 Fieldbus Interface & Protocols

Modbus

[NEW]	WAT	Improvement of Diagnosis : TCP connection status, errors, error reactions (Hold Last Value/Set to Zero)
[FIXED]	WAT22571	The Modbus process image is not consistent in itself when using ARRAY.
[KNOWN]	WAT22592	Controller may crash while using BOOL as RETAIN via MODBUS Configurator

CAN/CANopen

[FIXED]	WAT25204	CAN transmission error when using Heartbeat telegrams
[KNOWN]	WAT24358	CANopen Baudrate 800 kB not supported on new controllers 750-821x

Profibus

[FIXED]	WAT23591	PROFIBUS: timing problems with 12 Mbaud
[FIXED]	WAT23828	750-8206 PROFIBUS Slave Array of Bool Mapping Master Slave not complete
[KNOWN]	WAT25074	750-8208: Problems with recalculation of PROFIBUS addresses while add-

- ing new modules inside PROFIBUS Master configurator
- [KNOWN] WAT25529 750-8208: A Project download fails if profibus I/O data size is greater than 3528 byte. (The documented I/O data size of the Profibus master is reduced in this firmware)
- [KNOWN] WAT25517 The use of BusDiag.lib is limited to older hardware according to buffer size limitation. Strictly recommended is the use of the wago library WAGO_BusDiag_01.lib.

OPC UA (3S runtime component)

- [KNOWN] WAT25214 OPC UA Object "Service Level" default value is 0
- [KNOWN] WAT23100 OPC UA low update rate in case of more than 1000 variables
- [KNOWN] WAT22546 OPC UA: Wrong note IDs when handling with 2D Arrays

4.6 Libraries

- [FIXED] WAT WagoLibModbus_IP_01.lib: MODBUS does not reconnect after connection error
- [FIXED] WAT21649 CODESYS 2.3: K-Bus does not synchronize when used with sercom.lib or WagoLibKBus.lib
- [KNOWN] WAT22438 WagoConfigToolLIB.lib cannot read some networking settings when configured with DHCP

5. Firmware Release 02.07.07 (10)

Affected articles/Available for		Supported PLC	
Article Number	Designation	CDS2.3	e!Runtime
750-8100	PFC100 CS 2ETH ECO		X
750-8101	PFC100 CS 2ETH		X
750-8101/025-000	PFC100 CS 2ETH /T		X
750-8102	PFC100 CS 2ETH RS		X
750-8102/025-000	PFC100 CS 2ETH RS /T		X
750-8202	PFC200 CS 2ETH RS	X	X
750-8203	PFC200 CS 2ETH CAN	X	X
750-8204	PFC200 CS 2ETH RS CAN	X	X
750-8206	PFC200 CS 2ETH RS CAN DPS	X	X
750-8207	PFC200 CS 2ETH RS 3G	X	X
750-8208	PFC200 CS 2ETH RS CAN DPM	X	
750-8202/025-000	PFC200 CS 2ETH RS /T	X	X
750-8202/025-001	PFC200 CS 2ETH RS Telecontrol /T	X	
750-8202/025-002	PFC200 CS 2ETH RS ECO Telecontrol /T	X	
750-8203/025-000	PFC200 CS 2ETH CAN /T	X	X
750-8204/025-000	PFC200 CS 2ETH RS CAN /T	X	X
750-8206/025-000	PFC200 CS 2ETH RS CAN DPS /T	X	X

750-8206/025-001	PFC200 CS 2ETH RS CAN DPS Telecontrol /T	X	
750-8207/025-000	PFC200 CS 2ETH RS 3G /T	X	X
750-8207/025-001	PFC200 CS 2ETH RS 3G Telecontrol /T	X	
750-8208/025-000	PFC200 CS 2ETH RS CAN DPM /T	X	
750-8202/040-000	PFC200 CS 2ETH RS /XTR	X	X
750-8202/040-001	PFC200 CS 2ETH RS Telecontrol /XTR	X	
750-8206/040-000	PFC200 CS 2ETH RS CAN DPS /XTR	X	X
750-8206/040-001	PFC200 CS 2ETH RS CAN DPS Telecontrol /XTR	X	
750-8202/000-012	PFC200 FG2 2ETH RS	X	X
750-8202/000-022	PFC200 FGE 2ETH RS	X	X

5.1 System

- [FIXED] WAT22022 Sometimes NTP settings were overwritten after reboot.
- [FIXED] WAT23465 Permanent debugging with IO-Check or e!COCKPIT over several days could result into a system crash.

5.2 Runtime System

- [FIXED] WAT23029 Security Advisory (ICSA-17-087-02)
CoDeSys V2.3 Webserver updated to V1.1.9.18

5.3 Web Based Management

None

5.4 Operating System

None

5.5 Fieldbus Interface & Protocols

Modbus

- [FIXED] WAT22571 Modbus process data consistency was not ensured for larger arrays

CAN/CANopen

- [FIXED] WAT22728 Error message "PDO-Mapping 1601-1 Failed" after download of an e!Cockpit project
- [FIXED] WAT21010 Library CIA405_NMT showed a wrong error message "0x25" for a non-existing device
- [FIXED] WAT20942 Bus OFF LED was switching back to green also if there is no physical connection
- [FIXED] WAT20890 Function block CANOPEN_DIAG showed STATE UNKNOWN if a device(node guarding) was stopped

Profibus

None

OPC UA (3S runtime component)

None

5.6 Libraries

[NEW] -/- WagoAppSMI – Library for SMI modules 753-1630/-1631
 [FIXED] WAT22189 WagoSysCurl now support up to 1023 characters

6. Firmware Release 02.06.20 (09)

Affected articles/Available for		Supported PLC	
Article Number	Designation	CDS2.3	e!Runtime
750-8100	PFC100 CS 2ETH ECO		X
750-8101	PFC100 CS 2ETH		X
750-8101/025-000	PFC100 CS 2ETH /T		X
750-8102	PFC100 CS 2ETH RS		X
750-8102/025-000	PFC100 CS 2ETH RS /T		X
750-8202	PFC200 CS 2ETH RS	X	X
750-8203	PFC200 CS 2ETH CAN	X	X
750-8204	PFC200 CS 2ETH RS CAN	X	X
750-8206	PFC200 CS 2ETH RS CAN DPS	X	X
750-8207	PFC200 CS 2ETH RS 3G	X	X
750-8208	PFC200 CS 2ETH RS CAN DPM	X	
750-8202/025-000	PFC200 CS 2ETH RS /T	X	X
750-8202/025-001	PFC200 CS 2ETH RS Telecontrol /T	X	
750-8202/025-002	PFC200 CS 2ETH RS ECO Telecontrol /T	X	
750-8203/025-000	PFC200 CS 2ETH CAN /T	X	X
750-8204/025-000	PFC200 CS 2ETH RS CAN /T	X	X
750-8206/025-000	PFC200 CS 2ETH RS CAN DPS /T	X	X
750-8206/025-001	PFC200 CS 2ETH RS CAN DPS Telecontrol /T	X	
750-8207/025-000	PFC200 CS 2ETH RS 3G /T	X	X
750-8207/025-001	PFC200 CS 2ETH RS 3G Telecontrol /T	X	

750-8208/025-000	PFC200 CS 2ETH RS CAN DPM /T	X	
750-8202/040-000	PFC200 CS 2ETH RS /XTR	X	X
750-8202/040-001	PFC200 CS 2ETH RS Telecontrol /XTR	X	
750-8206/040-000	PFC200 CS 2ETH RS CAN DPS /XTR	X	X
750-8206/040-001	PFC200 CS 2ETH RS CAN DPS Telecontrol /XTR	X	
750-8202/000-012	PFC200 FG2 2ETH RS	X	X
750-8202/000-022	PFC200 FGE 2ETH RS	X	X

6.1 System

[FIXED]	WAT22713	Tcpdump Packages updated to 4.9.0
[FIXED]	WAT22505	OpenVPN – After time x no communication possible despite established connection
[FIXED]	WAT22021	PFC200 loses NTP client settings
[FIXED]	WAT22219	Failure to execute the PING via FBPing can result in connection problems via Ethernet
[FIXED]	WAT22158	Insecure encryption algorithms in FTPS server
[FIXED]	WAT22021	PFC200 loses NTP client settings
[FIXED]	WAT21503	The firewall does not allow the IEC60870-5-104 and IEC61850 protocols
[FIXED]	WAT21487	Malfunction with RS485 and parity none on onboard serial interface
[FIXED]	WAT21457	Syslog server accessible from outside
[FIXED]	WAT21407	Various security problems in the configtools scripts
[FIXED]	WAT21313	PFC100 : Inaccuracy of the real-time clock
[FIXED]	WAT20915	PFC100: Data corruption when reading the retentive data
[FIXED]	WAT16121	PHP Version is sent inside HTTP header
[FIXED]	WAT15970	Reflected cross site scripting
[FIXED]	WAT21999	The LED server daemon has a memory leak.
[NEW]	WAT21777	Libcurl updated to version 7.51.0
[NEW]	-/-	OpenVPN updated to version 2.3.7
[NEW]	WAT21966	IPsec Strongswan updated to version 5.3.5
[NEW]	-/-	Firewall iptables updated to version 1.4.16.3
[NEW]	-/-	SSH Server dropbear updated to version 2016.74
[NEW]	WAT21774	SFTP client function makes it possible to exchange files with devices in the delivery state
[NEW]	WAT21391	750-8207: Read IMEI by WBM and Ethernet-Settings
[NEW]	-/-	PHP server updated to version 5.6.27
[NEW]	-/-	Older insecure encryption algorithms are removed
[NEW]	-/-	TLS 1.2 support implemented
[NEW]	-/-	SCEP (Simple Certificate Enrollment Protocol) client implemented
[NEW]	-/-	Auto log off when the console is inactive
[KNOWN]	-/-	MySQL is not compatible with PHP server version 5.6.27 update

6.2 Runtime System

[FIXED]	WAT22214	Improved performance in combination with complex modules
[FIXED]	WAT21806	DoS attack on CoDeSys V2 through freely available Python scripts

[NEW]	-/-	e!RUNTIME: CODESYS runtime updated to version 3.5.9.1
[NEW]	WAT21478	Default value changed with KBus startup behavior (configured/actual comparison)
[NEW]	WAT19293	Number of PLC-Handler connections increased to 16 (old = 4)

6.3 Web Based Management

[FIXED]	WAT21973	Security documentation about TLS configuration inaccurate
[NEW]		Auto log off when the WBM is inactive

6.4 Operating System

[KNOWN]	WAT22712	Cannot update software via Package Manager while firewall is activated
[KNOWN]	WAT17785	Update from FW04: The controller has to be restarted once by PowerOff/On after the successful firmware update and to verify that the firmware update has been successful

6.5 Fieldbus Interface & Protocols

Modbus

[KNOWN]	WAT22571	The Modbus process image in is not consistent with use of data type ARRAY
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CAN/CANopen

[FIXED]	WAT20635	The PFC200 as a CANopen master sends reset node to all nodes after a break.
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Profibus

None

OPC UA (3S runtime component)

[FIXED]	CDS-46860	OPCUA Server: Compliance test fails for Linux / PPC because browsing is impossible
[FIXED]	CDS-46188	OPC UA Server: on slow ARM devices, error messages appear in logger
[FIXED]	CDS-46049	OPC UA Server: no data refresh after reset of the PLC
[FIXED]	CDS-39725	SymbolConfiguration: Allow configuration of export of comments for OPC/UA
[FIXED]	WAT22171	OPC UA server cannot be disabled

[FIXED] WAT20332 OPC UA Cannot be connected from Xenon OPC-Client

6.6 Libraries

[FIXED] WAT22595 WagoLibSSL: SSL_CTX_set_method does not work

[NEW] -/- Ethernet/IPAdapter Library implemented

[NEW] -/- WagoLibFTP with SFTP support implemented

[KNOWN] WAT22595 By updating the OpenSSL with the CoDeSys V2.3 library WagoLibSSL it is no longer possible to use the methods of the SSLv2. Instead, use SSLv23 or higher. The default is TLS V1.2

7. Firmware Release 02.05.23 (08)

Affected articles/Available for		Supported PLC	
Article Number	Designation	CDS2.3	e!Runtime
750-8100	PFC100 CS 2ETH ECO		X
750-8101	PFC100 CS 2ETH		X
750-8101/025-000	PFC100 CS 2ETH /T		X
750-8102	PFC100 CS 2ETH RS		X
750-8102/025-000	PFC100 CS 2ETH RS /T		X
750-8202	PFC200 CS 2ETH RS	X	X
750-8203	PFC200 CS 2ETH CAN	X	X
750-8204	PFC200 CS 2ETH RS CAN	X	X
750-8206	PFC200 CS 2ETH RS CAN DPS	X	X
750-8207	PFC200 CS 2ETH RS 3G	X	X
750-8202/025-000	PFC200 CS 2ETH RS /T	X	X
750-8202/025-001	PFC200 CS 2ETH RS Telecontrol /T	X	
750-8202/025-002	PFC200 CS 2ETH RS ECO Telecontrol /T	X	
750-8203/025-000	PFC200 CS 2ETH CAN /T	X	X
750-8204/025-000	PFC200 CS 2ETH RS CAN /T	X	X
750-8206/025-000	PFC200 CS 2ETH RS CAN DPS /T	X	X
750-8206/025-001	PFC200 CS 2ETH RS CAN DPS Telecontrol /T	X	
750-8207/025-000	PFC200 CS 2ETH RS 3G /T	X	X
750-8207/025-001	PFC200 CS 2ETH RS 3G Telecontrol /T	X	
750-8202/040-000	PFC200 CS 2ETH RS /XTR	X	X
750-8202/040-001	PFC200 CS 2ETH RS Telecontrol /XTR	X	
750-8206/040-000	PFC200 CS 2ETH RS CAN DPS /XTR	X	X
750-8206/040-001	PFC200 CS 2ETH RS CAN DPS Telecontrol /XTR	X	

7.1 System

[FIXED]	WAT20045	Tool "Ethernet Settings" failed to finish the write command
[FIXED]	WAT19844	750-8207: Signal strength LED didn't work
[FIXED]	WAT18914	Mounting the SD card after pull out/in during file access
[NEW]	WAT18216	IO-Check: Setting of module parameters
[FIXED]	WAT18494	Not accessible caused by alternating the switch mode to separated
[NEW]	WAT16609	Firewall user filter allow white and black listing
[FIXED]	WAT15953	Firewall VPN interface not selectable
[NEW]	WAT14096	New error code for number of modules to high (1 + 16)
[NEW]	WAT13149	Dedicated routes for the two gateways

7.2 Runtime System

[NEW]		e!RUNTIME: New CODESYS runtime version 3.5.8.1
[FIXED]	WAT20915	PFC100: Data corruption when reading the retentive data
[FIXED]	WAT18339	Short local bus interruption caused by SNMP queries
[FIXED]	WAT17256	Self-made SNMP OIDs accepted not initialized TLV parameter
[New]	WAT12500	TCM mode for configuration of the 750-647 in run mode
[FIXED]	WAT10903	SysFileDelete ignore write protection

7.3 Web Based Management

None

7.4 Operating System

[FIXED]	WAT15975	Warning "In-band Error seen by USB_OTG at address0"
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7.5 Fieldbus Interface & Protocols

Modbus

[NEW]		Alternative watchdog as with the 750-88X implemented
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CAN/CANopen

[NEW]	WAT16803	Supports CANopen device profile DS405
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Profibus

None

7.6 Libraries

[FIXED]	WAT20227	Sercom.lib: ACCESS VIOLATION if used COM port number >=2
[FIXED]	WAT20022	e!Runtime WagoAppSocket: FbUdpPcketClient didn't reset the trigger input
[FIXED]	WAT19383	e!Runtime WagoSysFileDir: Folder creation on a not existing media caused system crash

[FIXED] WAT18322 e!Runtime WagoAppTime: Caused segmentation faults

8. Firmware Release 02.04.24 (07)

Not released.

9. Firmware Release 02.04.22 (06)

Affected articles/Available for	
Article Number	Designation
750-8100	PFC100 CS 2ETH ECO
750-8101	PFC100 CS 2ETH
750-8102	PFC100 CS 2ETH RS
750-8202	PFC200 CS 2ETH RS
750-8203	PFC200 CS 2ETH CAN
750-8204	PFC200 CS 2ETH RS CAN
750-8206	PFC200 CS 2ETH RS CAN DPS
750-8207	PFC200 CS 2ETH RS 3G
750-8202/025-000	PFC200 CS 2ETH RS /T
750-8202/025-001	PFC200 CS 2ETH RS Telecontrol /T
750-8202/025-002	PFC200 CS 2ETH RS ECO Telecontrol /T
750-8203/025-000	PFC200 CS 2ETH CAN /T
750-8204/025-000	PFC200 CS 2ETH RS CAN /T
750-8206/025-000	PFC200 CS 2ETH RS CAN DPS /T
750-8206/025-001	PFC200 CS 2ETH RS CAN DPS Telecontrol /T
750-8207/025-000	PFC200 CS 2ETH RS 3G /T
750-8207/025-001	PFC200 CS 2ETH RS 3G Telecontrol /T
750-8202/040-000	PFC200 CS 2ETH RS /XTR
750-8202/040-001	PFC200 CS 2ETH RS Telecontrol /XTR
750-8206/040-000	PFC200 CS 2ETH RS CAN DPS /XTR
750-8206/040-001	PFC200 CS 2ETH RS CAN DPS Telecontrol /XTR

9.1 System

[NEW] WAT12376 Add localdomain.lan as default domain

[NEW] WAT13150 Use the NTP server address from DHCP request answer

[NEW] WAT13933 Target memory size is selectable if Create Boot Image is used

[NEW] WAT13970 Change default assignment of the serial Interface to unassigned

[NEW] WAT13980 Extend the service interface with Linux console

[NEW] openVPN/ipsec configuration via web page of web based management

[NEW]		starting phases of the device are better signalled by LEDs, boot phase is represented by flashing SYS LED
[FIXED]	WAT9839	Create Boot Image does not work with SD Cards greater or equal than 16 GB with FAT formatting cards
[FIXED]	WAT11931	Error in flow control of the serial interface avoid the reconfiguration
[FIXED]	WAT14196	Updated SSH-Daemon dropbear to latest release version 2015-67.
[FIXED]	WAT14473	Switching terminal bus extension does not work
[FIXED]	WAT15752	Correction of the SYS-LED blink codes
[FIXED]	WAT15896	Security: to many internal or detailed information in error messages
[FIXED]	WAT16500	DHCP Settings override static parameter
[FIXED]	WAT16515	Missing data file synchronization by FTP put command
[FIXED]	WAT16854	Memory leaks in internal diagnostic system
[FIXED]	WAT17099	Failure of all LED on the controller in continuous operation at high CPU load off
[FIXED]	WAT17271	Auto mount of the SD Card does not work sometimes
[KNOWN]	WAT12485	FW05 downgrade to <= FW04 in flash returns an error message. A special image of the relevant firmware is needed to downgrade

9.2 Runtime System

[NEW]	WAT12486	e!RUNTIME: New CODESYS runtime version 3.5.6.0
[NEW]	WAT10429	Configuration file is stored in the same directory as the boot project – this allows the boot project as be copied via FTP
[NEW]	WAT10430	e!RUNTIME: Revised calculation of the load of the system
[NEW]	WAT12489	Revised behavior of RUN LED
[NEW]	WAT12490	Reset button functionality has been revised
[NEW]	WAT17034	e!RUNTIME: performance improvement in the webserver that is used for web visualization
[FIXED]	WAT11508 a.o.	Fixed various visualization errors to 3.5.6.0 (SP6, P0)
[FIXED]	WAT12077	Access to files caused latency in the RT tasks
[FIXED]	WAT12492	Directories “codesys” and “codesys3” merged to directory “runtime”
[FIXED]	WAT14603	e!RUNTIME: Storage of alarms in a file does not work
[FIXED]	WAT15408	CODESYS V2.3: Web-Visualization does not work with disabled CODESYS port.
[FIXED]	WAT15619	Task system with large time leads to long delays in project download
[FIXED]	WAT15781	KBus stops when logging on with an active port authentication
[FIXED]	WAT15787	Create boot application influences the task execution
[FIXED]	WAT16049	handling boot project location faulty when SD card is not plugged but configured
[FIXED]	WAT16062	Error message License expired in Web visu appears when boot project

		location on SD card
[FIXED]	WAT16234	e!RUNTIME: occasional crash during download of a project
[FIXED]	WAT16294	Incorrect privileges at USER and ADMIN for files that are generated by the RUNTIME
[FIXED]	WAT16317	Failure of all LED in continuous operation at very high CPU load
[FIXED]	WAT16431	e!RUNTIME: Task watchdog can lead to the disconnection to the device
[FIXED]	WAT16810	e!RUNTIME: runtime exception while debugging with breakpoints
[FIXED]	WAT17161	CODESYS V2.3: Multicast address for network variables does not work
[KNOWN]	WAT17595	e!RUNTIME: A string variable which is declared in the retain declaration part of a program forces an error while downloading if the string length is equal (i.e. 80). Workaround: use a different odd length like 79. <pre> PROGRAM POU VAR RETAIN myString1: STRING; (* with error *) myString2: STRING(79); (* working *) END_VAR </pre> All variables in structures must be declared with a 4-byte alignment and string variables in structures must use an odd length.
[KNOWN]		The Telecontrol functionality is only available together with CODESYS V2.3 on the devices.

9.3 Web Based Management

[NEW]	WAT10544	Built configuration pages for 3G modem
[NEW]	WAT12308	Added information field of related parameters via DHCP
[NEW]	WAT13981	Built configuration page for openVPN/IPsec
[FIXED]	WAT10763	Inserted a new field for the currently used PROFIBUS address
[FIXED]	WAT14048	Firewall configuration page is too slow

9.4 Operating System

[NEW]	WAT12513++	Use Linux Kernel 3.18.13 rt10
[FIXED]	WAT15348	During the download of certain projects, the K-Bus stops shortly
[FIXED]	WAT15407	In the recipe selection within the WebVisu, wtc files cannot be loaded or deleted

9.5 Fieldbus Interface & Protocols

Modbus

[FIXED]	WAT15738	Problems with FC66 data length. The length is limited to 700 registers
[FIXED]	WAT16769	RTU Slave: Error occurred during program download with active flow control

[FIXED] WAT17187 CODESYS V2.3: Incorrect Modbus configuration (Stop bit == 1 and Parity == None) crashes the Runtime

CAN/CANopen

[FIXED] WAT13692 Master does not start guarding with setting "No initialization"

[FIXED] WAT14076 Master does not restart slave after guarding error

[FIXED] WAT14359
WAT16298 No automatic restart at bus error

[FIXED] WAT14373 Master does not assume sync consuming parameters

[FIXED] WAT14570 CODESYS V2.3: PFC200 as CAN-Layer2 device can't receive telegrams after program download

[FIXED] WAT15121 Master treated slaves without static configuration in the IDE wrong

[FIXED] WAT15648 The blink code of the CAN LED is incorrect when Guarding Error

Profibus

[] None

9.6 Libraries

[NEW] WAT10385 e!RUNTIME: Implementation of the dynamic K-Bus configuration

[NEW] WAT10539 CODESYS V2.3: SMS transfer via IEC Library SMS_01.lib and e!RUNTIME: WagoAppSerial_Sms.lib supported

[NEW] WAT12372 e!RUNTIME: WagoAppSNMP.Lib.was added

[NEW] WAT12373 e!RUNTIME: WagoAppFTP.Lib was added

[NEW] WAT13928 Using the new toolchain for documentation creation of e!RUNTIME libraries leading to better content presentation

[NEW] WAT16393 CODESYS V2.3: BusDiag.lib: New implementation of the error codes for Bus fault → PreOp and Stopped
Bus not communicating → Bus off

[FIXED] WAT10772 Compatible implementation of the interface RS232 at Online Change

[FIXED] WAT11484 e!RUNTIME: WagoSysAtomic Interface compatible newly created

[FIXED] WAT11780 CODESYS V2.3: WagoConfigTool.Lib function IP_TO_STRING provides false return value

[FIXED] WAT13882 CODESYS V2.3: Expansion of the WagoLibSSL.lib result of new TLS1.2

[FIXED] WAT14610 Error process data access in WagoLibKBus.lib after online change

[FIXED] WAT14718 Incorrect handling of parity errors in WagoSysCom.

[FIXED] WAT14899 CODESYS V2.3: Function SysDirRead treats the file pointer wrong

[FIXED] WAT15665 Frame Error or Parity Error in the on board serial interface

[FIXED] WAT16103 CODESYS V2.3: SNMP when sending a trap with version v2c via a host name the Runtime may crash

[FIXED] WAT16627 CODESYS V2.3: WagoLibSSL.lib After online change a connection is not possible

[FIXED] WAT16734 CODESYS V2.3: Functions of the SyslibSocketsAsync.lib return error

[FIXED]	WAT16746	CODESYS V2.3: WagoLibLed.lib: Function LED_GET_STATE always provides the value 0 for the LED color
[FIXED]	WAT17161	CODESYS V2.3: SysSockSetOptions() supports no Multicast groups
[KNOWN]	WAT18533	Requesting the signal strength form the 750-8207 modem may hold the calling CODESYS task.

10. Firmware Release 02.04.21 (05)

Because of a serious error, the firmware has been blocked again.

11. Firmware Release 02.03.23 (04)

Affected articles/Available for	
Article Number	Designation
750-8202	PFC200 CS 2ETH RS
750-8203	PFC200 CS 2ETH CAN
750-8204	PFC200 CS 2ETH RS CAN
750-8206	PFC200 CS 2ETH RS CAN DPS
750-8202/025-000	PFC200 CS 2ETH RS /T
750-8203/025-000	PFC200 CS 2ETH CAN /T
750-8204/025-000	PFC200 CS 2ETH RS CAN /T
750-8206/025-000	PFC200 CS 2ETH RS CAN DPS /T

11.1 System

[NEW]	WAT10540	Firewall IP / Ports
[NEW]	WAT9785	Broadcast Protection / ICMP Protection
[NEW]	WAT10549	Traffic Limitation, Port Mirroring
[NEW]	WAT10538	MAC Address Filter
[NEW]	WAT10462	Local DHCP Server (not activated by default)
[NEW]	WAT10462	Local DNS Server (not activated by default)
[NEW]	WAT10463	NTP-Client supports up to 4 NTP-Servers
[NEW]	WAT	Domain name und gateway are taken from the DHCP Request
[FIXED]	WAT9204	CpuUsage: monitoring requires excessive CPU load
[FIXED]	WAT9972	WAGO Ethernet-Settings / IO-Check: communication speed is low
[FIXED]	WAT10504	IO-Update: communication speed is low
[FIXED]	WAT11377	Security improvement: Port of WAGO tools can be deactivated by user
[FIXED]	WAT11799	Local bus with only end module leads to usage of 100% cpu load
[FIXED]	WAT11912	WAGO-Ethernet-Settings communication with controller temporary stops

[FIXED]	WAT11939	Factory Reset does not reset all parameters
[FIXED]	WAT12452	Security improvement: bash code injection vulnerability (shellshock)
[FIXED]	WAT12819	Security improvement: OpenSSL update to 1.0.0o
[FIXED]	WAT13289	WAGO-Ethernet-Settings: COM port is disabled after writing the settings.
[FIXED]	WAT13291	WAGO-Ethernet-Settings: IP settings are activated in sequence. This makes it possible that devices lose their connection to the network.
[FIXED]	WAT13839	SNMP: Traps in SNMP V3 are transmitted twice.
[FIXED]	WAT13911	IO-LED: When booting the error code "Recoverable Error" is blinking.
[FIXED]	WAT14079	Internal flash file system saves changes too late (data security in case of unforeseen shut down)
[KNOWN]	WAT13366	Ethernet-Settings: Cannot setup the second default gateway.
[KNOWN]	WAT13838	Please use WAGO-Ethernet-Settings with at least version 06.03.01 (01).

11.2 Runtime System

[NEW]		e!RUNTIME (CODESYS 3 based) runtime system released for the first time.
[NEW]		CODESYS runtime can be selected or disabled
[FIXED]	WAT11400	CODESYS V2.3: Bit access to same byte within different Tasks does not work
[FIXED]	WAT11957	CODESYS V2.3: PLC configuration: Process data assigned to wrong addresses after 512 bytes
[FIXED]	WAT12509	RS485 onboard interface receives character send by itself
[FIXED]	WAT12564	Control Mode could be activated while PLC in run
[FIXED]	WAT13195	Compiler Error with nested function calls
[FIXED]	WAT12782	Control Mode does not work if eth port X1 is not connected
[FIXED]	WAT12786	CODESYS V2.3: if PLC is started by PLC switch, task at breakpoint regardless runs
[FIXED]	WAT13202	CODESYS V2.3: Cannot open COM port after CODESYS reset.
[FIXED]	WAT14246	CODESYS V2.3: Cyclical, frequent call of function KBUS_ERROR_INFORMATION from WagoLibKbus.lib leads to task freeze.
[FIXED]	WAT14851	The Webvisu Applet does not work if the boot project location is on memory card. INFO: Controller sets the USEURLCONNECTION = TRUE after project download internally.
[FIXED]	WAT15378	Error in calculation in function REAL_TO_DWORD(-2); Expected result value is 4294967294(FFFFFFFE), calculated result value is 4294967295(FFFFFFF).
[KNOWN]	WAT10777 WAT11008	CODESYS V2.3: project download with many persistent variables (> 10000) leads to communication timeout. Work-around: try to reconnect until success
[KNOWN]	WAT15320	e!RUNTIME: Boot project will only be saved when the runtime is ready for

		RUN.
[KNOWN]	WAT15348	e!RUNTIME: While project download modules can signal a bus error by LED on the module.
[KNOWN]	WAT15407	e!RUNTIME: Error with WebVisu and recipe selection upon reading and deleting *.wtc files.
[KNOWN]	WAT15408	CODESYS V2.3: Webvisu does not work with deactivated CODESYS port. i.e. 2455.
[KNOWN]	WAT13195	CODESYS V2.3: the use of CODESYS 2.3.9.47 is recommended in order to resolve compiler-related problems with CONCAT string functions and nested functions.
[KNOWN]		CODESYS V2.3: various known issues in the 3S visualization.

11.3 Web Based Management

[NEW]	WAT10468	Activate / deactivate the Runtime system CODESYS / e!RUNTIME
[FIXED]	WAT9629 WAT13208	Password does not allow special characters
[FIXED]	WAT	Several security leaks
[FIXED]	WAT9784	Package Server does not work if system boot from SD card
[FIXED]	WAT11386	Security improvement: Login within WBM websites
[FIXED]	WAT12000	Security improvement: Command injection in WBM
[FIXED]	WAT12200	Page Diagnostics: list items not sorted by date
[FIXED]	WAT12459	Diagnostic: time stamp ignores time zone settings
[FIXED]	WAT12748	Page areas were shown twice occasionally
[FIXED]	WAT14121	Cannot remove all DNS Servers from list. Last item remains.
[KNOWN]	WAT14073	SNMP: Authentication Key is displayed in WBM in plain text.

11.4 Operating System

[NEW]	WAT10436	File system NTFS supported on SD card
[FIXED]	WAT11907	Multicast packet transmission does not work

11.5 Fieldbus Interface & Protocols

Modbus

[FIXED]	WAT12785	RTU: PLC access interface is not locked with Linux Console
[FIXED]	WAT15459	RTU: Upon receipt of erroneous frames the Modbus slave takes a long time until it synchronizes again on frames.

CAN/CANopen

[NEW]	WAT10982	CODESYS V2.3: CAN Layer2 as device in dialog "PLC configuration"
[FIXED]	WAT9475	CANopen Slave Sync monitoring does not work with Object 0x1006
[FIXED]	WAT	WagoCANopen_02.lib – several bugs
[FIXED]	WAT12770	WagoCANLayer2_01.lib – several bugs
[FIXED]	WAT9535	BusDiag.lib – STATE variable delivers wrong values
[FIXED]	WAT9556	CANopen Master starts the slaves not reliable
[FIXED]	WAT11359	Memory leak while project download
[FIXED]	WAT12120	PFC200 sends message START_ALL_NODES instead of START_NODE to projected slaves
[FIXED]	WAT12744	CANopen Master start of slaves after short BusOff not reliable
[FIXED]	WAT14128	CAN Bus Startup is unstable with many slaves.
[FIXED]	WAT14161	In case of short-term bus errors, the slave startup again unreliable.

Profibus

[FIXED]	WAT12975	GSD settings use wrong byte order (Motorola/Intel)
[FIXED]	WAT14148	Modul parameter uses wrong byte orientation (motorola/intel format) in gsd file for third party plcs (Siemens S7).

11.6 Libraries

[NEW]	WAT10837	CODESYS V2.3: WagoLibNetSnmpManager.lib with support of Traps, Notification and Inform.
[FIXED]	WAT	Kbus Lib
[FIXED]	WAT9332	SerComm.lib: support new feature in 750-652 (SW04, DMX data transfer)
[FIXED]	WAT9992	SerComm.lib: communication via onboard interface cannot transmit data if more than 512 bytes should send
[FIXED]	WAT11765	SysLibFile.lib: Function SysFileDelete does not release file handles
[FIXED]	WAT12128	IEC61850: Goose communication as publisher not possible
[FIXED]	WAT12157	WagoLibKbus.lib: crash after multiple registration of data
[FIXED]	WAT13353	CODESYS V2.3: Wrong digital offset calculation in system libraries mod-com.lib and WagoLibKBus.lib.
[FIXED]	WAT13993	CODESYS V2.3: WagoLibNetSnmpManager.lib SNMPM_NULL_TO_TLV can not be used.
[FIXED]	WAT13999	CODESYS V2.3: Serial_Interface_01.lib FB_Serial_Interface does not work after online change.
[FIXED]	WAT14085	CODESYS V2.3 Sercomm.lib: wrong configuration handling of unconfigurable serial module (750-653)
[FIXED]	WAT14728 WAT14729	CODESYS V2.3 BusDiag.lib: DiagGetBusState does not return an error if DEVICENUMBER is invalid.

- [FIXED] WAT14731 CODESYS V2.3 BusDiag.lib: DiagGetState does not return an error if BUSMEMBERID is invalid.
- [FIXED] WAT15418 CODESYS V2.3 modb_i05.lib with Modbus RS485: After program download, the interface cannot be opened sporadically.

12. Firmware Release 02.02.20 (03)

Affected articles/Available for	
Article Number	Designation
750-8202	PFC200 CS 2ETH RS
750-8203	PFC200 CS 2ETH CAN
750-8204	PFC200 CS 2ETH RS CAN
750-8206	PFC200 CS 2ETH RS CAN DPS
750-8202/025-000	PFC200 CS 2ETH RS /T
750-8203/025-000	PFC200 CS 2ETH CAN /T
750-8204/025-000	PFC200 CS 2ETH RS CAN /T
750-8206/025-000	PFC200 CS 2ETH RS CAN DPS /T
750-8202/025-001	PFC200 CS 2ETH RS TELE /T
750-8202/025-002	PFC200 CS 2ETH RS ECO TELE /T
750-8206/025-001	PFC200 CS 2ETH RS CAN DPS TELE/T

12.1 System

- [NEW] WAT10466 SSL3.0 and TLS1.1 is provided (RFC6101, RFC5246) (openssl) for use in other library services
- [NEW] WAT10465 SNMP extension in WagoLibNetSnmpManager library.
- [NEW] WAT10461 Dual-LAN is configurable / activated by WBM
- [NEW] WAT9679 LED signals an error even though CANopen is not configured/used.

12.2 Runtime System

- [NEW] WAT11632 New TargetIDs for all PFC200 controllers
Projects must be recompiled, so an erroneous instruction sequence can be found.
- [FIXED] WAT12586 Incorrect data on the K-Bus at breakpoint / single-step / debugging
- [FIXED] WAT12224 Error in downloading projects with big visuals
- [FIXED] WAT10147 Download as file blocked K-Bus

12.3 Web Based Management

- [NEW] Performance improvement on reaction time

[NEW] HTTPS for web visualisation

12.4 Operating System

[NEW] Kernel features for IPsec, VPN, OpenVPN activated
[FIXED] WAT11874 LED-server crashes sporadically
[FIXED] WAT11945 SYS-LED turns red after several resets (Overload detection is incorrect)

12.5 Fieldbus Interface & Protocols

[NEW] Modbus configurable response delay
[FIXED] WAT11378 TCP Keep-Alive
[FIXED] WAT12779 DALI Configurator (753-647 DALI Multi-Master-clamp) and I/O-check work
WAT12644 at 4 times the speed communication.
[FIXED] WAT11703 Access error with simultaneous Word and Bit access of adjoining K-Bus
variables.
[FIXED] WAT9944 Modbus RTU Slave reimplementation of the RTU parser caused by lost
data bytes.
[FIXED] various WAT fixed various CANopen errors

12.6 Libraries

[NEW] WagoLibKBus.lib
This library supports the reading and writing of data points in synchronism
with the task K-Bus
[NEW] WagoCANLayer2_02.lib
This library supports the reading and writing of data on Layer 2 level
[FIXED] WAT9677 WagoCANopen_02.lib changes the behavior to meet the documentation
[FIXED] WAT10106 SysLibCom: SysComWrite does not send all data on the line

13. Firmware Release 02.01.10 (02)

Affected articles/Available for	
Article Number	Designation
750-8202	PFC200 CS 2ETH RS
750-8203	PFC200 CS 2ETH CAN
750-8204	PFC200 CS 2ETH RS CAN
750-8206	PFC200 CS 2ETH RS CAN DPS
750-8202/025-001	PFC200 CS 2ETH RS TELE /T
750-8202/025-002	PFC200 CS 2ETH RS ECO TELE /T

13.1 System

No updates

13.2 Runtime System

No updates

13.3 Web Based Management

No updates

13.4 Operating System

No updates

13.5 Fieldbus Interface & Protocols

[NEW] changes to pass comdec test

13.6 Libraries

No updates

14. Firmware Release 02.01.04 (01)

Affected articles/Available for	
Article Number	Designation
750-8202	PFC200 CS 2ETH RS
750-8203	PFC200 CS 2ETH CAN
750-8204	PFC200 CS 2ETH RS CAN
750-8206	PFC200 CS 2ETH RS CAN DPS

14.1 System

[NEW] Firmware released first time
CODESYS Version: 2.4.7.x
LINUX Version: 3.6.11