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Engineering with CODESYS 3 then use Firmware 04.xx.xx
Engineering with CODESYS 2 then use Firmware 03.xx.xx
Engineering with e!COCKPIT then use Firmware 03.xx.xx

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1 Firmware Release 04.08.14 (30) – CODESYS 3

Engineering by CODESYS IDE V. 3.5 is supported
Engineering by e!COCKPIT IDE is not supported
CODESYS 2.3 is not supported

Migration Guide – from e!COCKPIT to CODEYS V3.5:

- https://techdocs.wago.com/Software/eCOCKPIT_Migration/en-US/index.html#index_content

BUG FIX | SECURITY RELEVANT | NEW FEATURES

Tested and released with:	
CODESYS IDE 64 Bit version	3.5.21.5
Device description CODESYS	2.0.9.0
CODESYS Communication	4.6.1.0
CODESYS EtherCAT	4.10.0.0
CODESYS PROFINET	4.7.2.0
CODESYS EtherNet/IP	4.8.0.0
CODESYS Modbus	4.5.0.0
CODESYS IO-Link	4.3.0.0
CODESYS EDS Import	4.2.0.0
CODESYS Application Composer	4.4.0.0
CODESYS Core Dump	4.2.0.0
CODESYS Memory Tools	4.1.0.0
CODESYS RISC Front End	4.0.2.0
CODESYS Recipes	4.7.0.0
CODESYS Visualization	4.9.1.0
CODESYS Visualization Support	4.7.0.0
CODESYS Ladder	1.2.0.0
CODESYS LD/FBD	4.6.0.0
CODESYS SFC	4.4.0.0

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Affected articles/Available for		Supported PLC
Article Number	**Designation**	**CODESYS Runtime**
750-8110	PFC100 G2 2ETH ECO	X
750-8111	PFC100 G2 2ETH	X
750-8112	PFC100 G2 2ETH RS	X
750-8112/025-000	PFC100 G2 2ETH RS T	X
750-8210	PFC200 G2 4ETH	X
750-8210/025-000	PFC200 G2 4ETH T	X
750-8210/040-000	PFC200 G2 4ETH XTR	X
750-8211	PFC200 G2 2ETH 2SFP	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X
750-8212	PFC200 G2 2ETH RS	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP	X
750-8212/025-000	PFC200 G2 2ETH RS T	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X
750-8213	PFC200 G2 2ETH CAN	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X
750-8214	PFC200 G2 2ETH RS CAN	X
750-8215	PFC200 G2 4ETH CAN USB	X
750-8216	PFC200 G2 2ETH RS CAN DPS	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X
750-8302	PFC300 2ETH RS	X

This firmware will be released via GitHub: https://github.com/WAGO

1.1 System

[DEPRECATED]		The network feature rate limiting is deprecated and will be removed in future versions
[Note]	ADVICE	Code generation from WDA OpenAPI is possible via Postman
[DEPRECATED]		Webserver module PHP-PAM will be removed in future versions

1.2 Runtime System

[FIXED]	SECURITY	CVE-2025-41738, CVE-2025-41739
[NEW]		Runtime update to CODESYS 3.5.21.5

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[FIXED]	WAT-37871	IDE error message “System.AggregateException”. Caused by flag (Merker) access to outputs.
[FIXED]	WAT-38718	Byte order of CODESYS boot project checksum in WBM and WDx.
[FIXED]	WAT-38732	CODESYS boot project checksum displayed without leading zero
[FIXED]	WAT-38678	[FATAL ERROR] Unresolved reference: 'SYSTIMERTCSETTIMEZONE2'
[NEW]		CODESYS PAM connection is set up by default. Group “codesyscontroladmin” replaces “codesys3” as default administrator group.

1.3 Fieldbus Interface & Protocols

[FIXED]	WAT-38686	
	WAT-38464	OPC UA Server: Connection drops with BadSessionIdInvalid error message.
	WAT-38590	

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BUG FIX | SECURITY RELEVANT | NEW FEATURES

Tested and released with:	
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Device description CODESYS	2.0.8.8
CODESYS Communication	4.6.1.0
CODESYS EtherCAT	4.10.0.0

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750-8110	PFC100 G2 2ETH ECO	X
750-8111	PFC100 G2 2ETH	X

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2.1 System

[FIXED]	WAT-38536	After update to FW30 only DHCP is working. No static IP-address or DIP-switch IP-address is working.
[FIXED]	WAT-38515	Docker Daemon is not running
[DEPRECATED]		The network feature rate limiting is deprecated and will be removed in future versions
[Note]	ADVICE	Code generation from WDA OpenAPI is possible via Postman
[DEPRECATED]		Webserver module PHP-PAM will be removed in future versions

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3 Firmware Release 04.08.09 (30) – CODESYS 3

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750-8210/025-000	PFC200 G2 4ETH T	X
750-8210/040-000	PFC200 G2 4ETH XTR	X
750-8211	PFC200 G2 2ETH 2SFP	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X
750-8212	PFC200 G2 2ETH RS	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP	X
750-8212/025-000	PFC200 G2 2ETH RS T	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X
750-8213	PFC200 G2 2ETH CAN	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X
750-8214	PFC200 G2 2ETH RS CAN	X

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750-8215	PFC200 G2 4ETH CAN USB	X
750-8216	PFC200 G2 2ETH RS CAN DPS	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X
750-8302	PFC300 2ETH RS	X

This firmware will be released via GitHub: https://github.com/WAGO

3.1 System

[NEW]		DHCP-Vendor-Class-ID can be set in the electronic plate
[NEW]	WAT-37496	Disabling operating switch and reset taster via WBM
[FIXED]	WAT-36654	
	WAT-37458	Broadcast/Multicast storm protection for 4-port devices missing
[FIXED]	WAT-38350	PFC300: Randomly disconnection by link down
[FIXED]	WAT-37271	PFC300: Cannot be operated with the DALI configurator
[FIXED]	WAT-37583	PFC300: Randomly flickering outputs in some special applications
[FIXED]	WAT-36811	Ethernet Settings displays wrong error code
[FIXED]	WAT-37624	FW update stops at 71%
[FIXED]		
[FIXED]	WAT-37397	Outsourced home directory to sd could not be used by SFTP user Solution: set up WBM configuration “Home directory on sd card enabled”
[DEPRECATED]		The network feature rate limiting is deprecated and will be removed in future versions
[Note]	ADVICE	Code generation from WDA OpenAPI is possible via Postman
[DEPRECATED]		Webserver module PHP-PAM will be removed in future versions

3.2 Operating System

[FIXED]	SECURITY	CVE-2024-10525, CVE-2022-4127, CVE-2022-3567, CVE-2022-3566, CVE-2022-3523, CVE-2022-2785, CVE-2022-3170, CVE-2022-2977, CVE-2024-53085, CVE-2024-21891, CVE-2025-21796, CVE-2025-21792, CVE-2025-21791, CVE-2025-21699, CVE-2025-21697, CVE-2025-21692, CVE-2025-21692, CVE-2025-21690, CVE-2025-21689, CVE-2024-57900, CVE-2024-57896, CVE-2024-53142, CVE-2024-57896, CVE-2024-53142, CVE-2024-53141, CVE-2024-53088, CVE-2024-53079, CVE-2024-50063, CVE-2024-50062, CVE-2024-50061, CVE-2024-50059, CVE-2024-50058, CVE-2024-50057, CVE-

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		2024-41007, CVE-2024-41006, CVE-2024-41001, CVE-2023-52926, CVE-2023-52878, CVE-2023-52877, CVE-2023-52876, CVE-2023-52876, CVE-2023-52875, CVE-2023-52873, CVE-2023-52872, CVE-2023-4208, CVE-2023-4207, CVE-2023-4206, CVE-2023-42753, CVE-2023-2163, CVE-2023-42755, CVE-2023-42754, CVE-2023-39194, CVE-2023-43945, CVE-2023-2156, CVE-2023-2860, CVE-2023-3773, CVE-2023-2430, CVE-2023-3776, CVE-2023-3609, CVE-2023-0160, CVE-2023-6932, CVE-2023-1206, CVE-2023-6931, CVE-2023-6531, CVE-2023-51043, CVE-2024-25739, CVE-2023-52340, CVE-2024-47674, CVE-2023-3090, CVE-2023-0386, CVE-2023-34256, CVE-2023-0458, CVE-2023-2235, CVE-2023-2006, CVE-2023-22997, CVE-2023-1077, CVE-2022-47929, CVE-2022-3114, CVE-2024-5742, CVE-2016-9840, CVE-2024-52633, CVE-2025-24855, CVE-2023-0725, CVE-2025-31115, CVE-2024-52533, CVE-2023-0725, CVE-2024-28085, CVE-2024-12797, CVE-2025-26466, CVE-2024-5535, CVE-2024-2398, CVE-2025-46394, CVE-2024-58251, CVE-2025-32463, CVE-2024-38428
[NEW]		Update to Linux Kernel 6.6.49-rt41
[NEW]		Update PTXdist to 2024.12.0
[FIXED]	WAT-37320	Update Mosquitto to 2.0.21
[FIXED]	WAT-37046	Update nano to 8.0
[FIXED]	WAT-37444	Update zlib to 1.3.1 and boost to 1.83.0
[FIXED]	WAT-37139	Update gnome to 2.82.2
[FIXED]	WAT-38258	Update libxslt to 1.1.43
[FIXED]	WAT-36500	Update util-linux to 2.40.2
[FIXED]	WAT-37339	Update OpenSSL to 3.2.4
[FIXED]	WAT-37386	Update OpenSSH to 9.9p1
[FIXED]	WAT-36501	Update libcurl to 8.10.1
[FIXED]	WAT-37509	Update BusyBox to 1.37.0
[FIXED]	WAT-37757	Update sudo to 1.19.17p1
[FIXED]	WAT-37047	Update GNU Wget to 1.25.0
[NEW]		Update sqlite to 3.50.4

3.3 Runtime System

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[FIXED]	SECURITY	CVE-2025-2595, CVE-2025-41659, CVE-2025-41658, CVE-2025-41691, CVE-2024-8175, CVE-2025-1468, CVE-2024-5000, CVE-2025-0694
[NEW]		Runtime update to CODESYS 3.5.21.2 Hotfix 1
[FIXED]	WAT-37129	PFC300: WDA query to “0-0-codesys3-applications” does not work.
[FIXED]	WAT-37912	Update OpenSSL to 3.2.4
[FIXED]	WAT-37358	PFC300: Sporadic exceptions when using retain memory
[FIXED]	WAT-37236	
	WAT-37222	PFC300: Exception in WebVisu writing retain memory
[FIXED]	WAT-35317	
	WAT-37285	Separate user for OPC UA access
[FIXED]	WAT-37964	CODESYS application checksum is not displayed
[NEW]		CODESYS PAM connection can be setup in “etc/codesys3.d/RtsCore.cfg”
[NOTE]	ADVICE	PFC300: The behavior of the DAL watchdog may change on multicore systems. If a high-priority IEC task on a core displaces all other IEC tasks on this core, the BUS is no longer driven into a defined state via the watchdog, as the system and therefore other IEC tasks on other cores can still be executed. For controlled behavior, it is recommended to use the CODESYS internal task watchdog.

3.4 Fieldbus Interface & Protocols

[FIXED]	WAT-38064	
	WAT-36953	
	WAT-36466	OPC UA Server: Denial of service after several link down
[FIXED]	WAT-36983	OPC UA Server: Restore settings with a backup don’t work.
[FIXED]	WAT-34974	OPC UA Client: Datasource client doesn’t set string variables correctly
[FIXED]	WAT-35200	OPC UA Server: Changing the AccessRights of the CommunicationManager doesn't show any changes
[FIXED]	WAT-35222	OPC UA Server: Exception after reset cold with new symbol configuration
[FIXED]	WAT-37262	OPC UA Server: Exception runtime received SIGABRT
[FIXED]	WAT-35039	OPC UA PubSub: Communication no longer starts after reset cold.
[FIXED]	WAT-37946	OPC UA PubSub: Exception when generating security key
[NEW]	WAT-37330	CANopen: Expansion to 16 parallel channels

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[FIXED]	WAT-38374	BACnet: Creating BACnet file objects using relative path.
[FIXED]	WAT-37233	BACnet: Trendlog log buffer didn't save to SD card

3.5 Libraries

[FIXED]	WAT-37330	WagoAppCanOpen: Delays when querying multiple CAN devices
[FIXED]	WAT-38002	WagoAppJSON: Support for the Czech character set
[FIXED]	WAT-35079	FbCanRX29BitFrameAll: Stops working after a longer period.
[FIXED]	WAT-36884 / 37408	WagoAppConfigTool: Usage could lead to timeouts or downtime
[FIXED]	WAT-37271	Libpackbus: Dali configurator didn't work properly

3.6 Web Based Management

[FIXED]	SECURITY	CVE-2024-41968, CVE-2025-25264
[FIXED]	WAT-36823	Privileged escalation docker settings
[FIXED]	WAT-38080	SNMPv3 could not be set up in the firewall
[FIXED]	WAT-37113	User "user" can change runtime settings.
[FIXED]	WAT-37110	CORS configuration for WDA REST API - You can set which "Cross Origin" accesses the webserver transmits to the presenting browser as permitted.
[KNOWN]	WAT-36520	Mass Storage - Format memory card: If one or more USB sticks are connected to the device, the memory card is not always formatted, but the last connected medium. Workaround: Remove USB stick(s).

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CODESYS Recipes	4.6.0.0
CODESYS Visualization	4.8.0.0
CODESYS Visualization Support	4.6.0.0
CODESYS Ladder	1.2.0.0
CODESYS LD/FBD	4.6.0.0
CODESYS SFC	4.4.0.0

Affected articles/Available for		**Supported PLC**
Article Number	**Designation**	**CODESYS Runtime**
750-8217	PFC200 G2 2ETH RS 4G EU	X
750-8217/025-000	PFC200 G2 2ETH RS 4G EU T	X
750-8217/600-000	PFC200 G2 2ETH RS 4G Global	X
750-8217/625-000	PFC200 G2 2ETH RS 4G Global T	X

4.1 System

[CHANGED] Password suggestions disabled

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[KNOWN]	WAT37135	Passwords in WBM can only be changed one times

5 Firmware Release 04.07.50 (29) – CODESYS 3

Engineering by CODESYS IDE V. 3.5 is supported
Engineering by e!COCKPIT IDE is not supported
CODESYS 2.3 is not supported

Migration Guide – from e!COCKPIT to CODEYS V3.5:

- https://techdocs.wago.com/Software/eCOCKPIT_Migration/en-US/index.html#index_content

BUG FIX | SECURITY RELEVANT | NEW FEATURES

Tested and released with:	
CODESYS IDE 64 Bit version	3.5.21.1
Device description CODESYS	2.0.7.5
CODESYS Communication	4.6.0.0
CODESYS EtherCAT	4.9.0.0
CODESYS PROFINET	4.7.0.0
CODESYS EtherNet/IP	4.7.1.0
CODESYS Modbus	4.4.0.0
CODESYS IO-Link	4.3.0.0
CODESYS EDS Import	4.2.0.0
CODESYS Application Composer	4.3.2.0
CODESYS Core Dump	4.2.0.0
CODESYS Memory Tools	4.1.0.0
CODESYS RISC Front End	4.0.2.0
CODESYS Recipes	4.6.0.0
CODESYS Visualization	4.8.0.0
CODESYS Visualization Support	4.6.0.0
CODESYS Ladder	1.2.0.0
CODESYS LD/FBD	4.6.0.0
CODESYS SFC	4.4.0.0

Affected articles/Available for		**Supported PLC**
Article Number	**Designation**	**CODESYS Runtime**
750-8217	PFC200 G2 2ETH RS 4G EU	X
750-8217/025-000	PFC200 G2 2ETH RS 4G EU T	X
750-8217/600-000	PFC200 G2 2ETH RS 4G Global	X
750-8217/625-000	PFC200 G2 2ETH RS 4G Global T	X

5.1 System

[CHANGED]	Firewall is setup by default as active.

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[NEW]		Forcing password rules. 8 characters containing special character, upper/lower case, 1 digit
[NEW]		Password history, 3 passwords
[CHANGED]		User User is deactivated for console access
[CHANGED]		User Root is deactivated for ssh console and WBM
[CHANGED]		User User cannot change the password in the WBM settings
[NEW]		Groups WagoUpload and FWupdate
[CHANGED]		User User has limited access rights for the WBM
[CHANGED]		Open IP-ports by default: https 443, ssh 22
[CHANGED]		Open VPN IP-ports by default: https 443, ssh 22
[CHANGED]		No WAN IP ports by default
[CHANGED]		Service interface is unassigned by default
[CHANGED]		Commissioning service is deactivated by default
[KNOWN]	WAT37135	Passwords in WBM can only be changed one times

6 Firmware Release 04.07.03 (29) – CODESYS 3

Engineering by CODESYS IDE V. 3.5 is supported
Engineering by e!COCKPIT IDE is not supported
CODESYS 2.3 is not supported

Migration Guide – from e!COCKPIT to CODEYS V3.5:

- https://techdocs.wago.com/Software/eCOCKPIT_Migration/en-US/index.html#index_content

BUG FIX | SECURITY RELEVANT | NEW FEATURES

Tested and released with:	
CODESYS IDE 64 Bit version	3.5.21.1
Device description CODESYS	2.0.7.5
CODESYS Communication	4.6.0.0
CODESYS EtherCAT	4.9.0.0
CODESYS PROFINET	4.7.0.0
CODESYS EtherNet/IP	4.7.1.0
CODESYS Modbus	4.4.0.0
CODESYS IO-Link	4.3.0.0
CODESYS EDS Import	4.2.0.0
CODESYS Application Composer	4.3.2.0
CODESYS Core Dump	4.2.0.0
CODESYS Memory Tools	4.1.0.0
CODESYS RISC Front End	4.0.2.0
CODESYS Recipes	4.6.0.0
CODESYS Visualization	4.8.0.0
CODESYS Visualization Support	4.6.0.0
CODESYS Ladder	1.2.0.0
CODESYS LD/FBD	4.6.0.0
CODESYS SFC	4.4.0.0

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Affected articles/Available for		Supported PLC
Article Number	**Designation**	**CODESYS Runtime**
750-8110	PFC100 G2 2ETH ECO	X
750-8111	PFC100 G2 2ETH	X
750-8112	PFC100 G2 2ETH RS	X
750-8112/025-000	PFC100 G2 2ETH RS T	X
750-8210	PFC200 G2 4ETH	X
750-8210/025-000	PFC200 G2 4ETH T	X
750-8210/040-000	PFC200 G2 4ETH XTR	X
750-8211	PFC200 G2 2ETH 2SFP	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X
750-8212	PFC200 G2 2ETH RS	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP	X
750-8212/025-000	PFC200 G2 2ETH RS T	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X
750-8213	PFC200 G2 2ETH CAN	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X
750-8214	PFC200 G2 2ETH RS CAN	X
750-8215	PFC200 G2 4ETH CAN USB	X
750-8216	PFC200 G2 2ETH RS CAN DPS	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X
750-8217	PFC200 G2 2ETH RS 4G EU	X
750-8217/025-000	PFC200 G2 2ETH RS 4G EU T	X
750-8217/600-000	PFC200 G2 2ETH RS 4G Global	X
750-8217/625-000	PFC200 G2 2ETH RS 4G Global T	X
750-8302	PFC300 2ETH RS	-

This firmware will be released via GitHub: https://github.com/WAGO

6.1 Runtime System

[NEW] Update to CODESYS version 3.5.21.1

6.2 Fieldbus Interface & Protocols

[FIXED]	WAT-37539	OPC UA Server: Exception after several anonymous login/logout
[FIXED]	WAT-36983	OPC UA Server: After restoring, the saved value is not set
[FIXED]	WAT-37080	OPC UA Server: Long reconnection time
[FIXED]	WAT-36867	OPC UA Server: Unhandled exception
[FIXED]	WAT-36484	OPC UA Client: Error Failed (7001) in state Busy
[FIXED]	WAT-**3**7233	BACnet: Permanent saving BACnet Trendlog Logbuffer to SD card

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7 Firmware Release 04.06.01 (28) – CODESYS 3

Engineering by CODESYS IDE V. 3.5 is supported
Engineering by e!COCKPIT IDE is not supported
CODESYS 2.3 is not supported

Migration Guide – from e!COCKPIT to CODEYS V3.5:

- https://techdocs.wago.com/Software/eCOCKPIT_Migration/en-US/index.html#index_content

BUG FIX | SECURITY RELEVANT | NEW FEATURES

Tested and released with:	
CODESYS IDE 64 Bit version	3.5.19.7
Device description CODESYS	2.0.5.6
CODESYS Communication	4.5.1.0
CODESYS EtherCAT	4.7.0.0
CODESYS PROFINET	4.5.0.0
CODESYS EtherNet/IP	4.5.1.0
CODESYS Modbus	4.4.0.0
CODESYS IO-Link	4.3.0.0
CODESYS EDS Import	4.2.0.0
CODESYS Application Composer	4.3.2.0
CODESYS Core Dump	4.2.0.0
CODESYS Memory Tools	4.1.0.0
CODESYS RISC Front End	4.0.2.0
CODESYS Recipes	4.4.0.0
CODESYS Visualization	4.5.0.0
CODESYS Visualization Support	4.3.1.0
CODESYS Ladder	1.0.0.0
CODESYS LD/FBD	4.4.0.0
CODESYS SFC	4.3.0.0

Affected articles/Available for		**Supported PLC**
Article Number	**Designation**	**CODESYS Runtime**
750-8110	PFC100 G2 2ETH ECO	X
750-8111	PFC100 G2 2ETH	X
750-8112	PFC100 G2 2ETH RS	X
750-8112/025-000	PFC100 G2 2ETH RS T	X
750-8210	PFC200 G2 4ETH	X
750-8210/025-000	PFC200 G2 4ETH T	X
750-8210/040-000	PFC200 G2 4ETH XTR	X
750-8211	PFC200 G2 2ETH 2SFP	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X
750-8212	PFC200 G2 2ETH RS	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP	X
750-8212/025-000	PFC200 G2 2ETH RS T	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X

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750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X
750-8213	PFC200 G2 2ETH CAN	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X
750-8214	PFC200 G2 2ETH RS CAN	X
750-8215	PFC200 G2 4ETH CAN USB	X
750-8216	PFC200 G2 2ETH RS CAN DPS	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X
750-8217	PFC200 G2 2ETH RS 4G EU	X
750-8217/025-000	PFC200 G2 2ETH RS 4G EU T	X
750-8217/600-000	PFC200 G2 2ETH RS 4G Global	X
750-8217/625-000	PFC200 G2 2ETH RS 4G Global T	X
750-8302	PFC300 2ETH RS	X

This firmware will be released via GitHub: https://github.com/WAGO

7.1 System

[NEW]		The login form of the Auth service displays configurable text with system usage information. This text is empty by default and must be set up by the end customer and customized to their specific needs. The configuration is possible via WDx.
[NEW]		External authentication with OAuth2 for the WDX parameter service
[FIXED]	WAT-36957	Merge of /etc/shadow during firmware update via WUP
[FIXED]	SECURITY	CVE-2024-41970, CVE-2024-41974
[FIXED]	WAT-36824	VDE-2024-047: Improper Access Control
[FIXED]	WAT-36825	VDE-2024-047: Improper Access Control
[FIXED]	WAT-34176	IODrvDal: Enhanced watchdog to detect multiple short-term errors (can be disabled via config file).
[FIXED]	WAT-35335	Missing iptables bridge netfiltering for Docker
[FIXED]	WAT-35113	Error using Docker Swarm
[FIXED]	WAT-36872	Long waiting times during boot process if firewall and dhcp is activated
[REMOVED]		Cloud Connectivity: IBM cloud specific functionality is removed
[DEPRECATED]		Webserver module PHP-PAM will be removed in future versions
[DEPRECATED]		The network feature rate limiting is deprecated and will be removed in future versions
[Note]	ADVICE	Code generation from WDA OpenAPI is possible via Postman

7.2 Operating System

[FIXED]	SECURITY	CVE-2024-34397, CVE-2024-34459, CVE-2024-6387, CVE-2024-37676
[FIXED]	WAT-36596	Update glib to v2.78.6

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[FIXED]	WAT-36601	Update xmllint to 2.13.2
[FIXED]	WAT-36777	Update OpenSSH to v9.8 p1
[FIXED]	WAT-36787	Update htop to 3.0.1

7.3 Runtime System

[NOTE]	ADVICE	PFC300: The behavior of the DAL watchdog may change on multicore systems. If a high-priority IEC task on a core displaces all other IEC tasks on this core, the BUS is no longer driven into a defined state via the watchdog, as the system and therefore other IEC tasks on other cores can still be executed. For controlled behavior, it is recommended to use the CODESYS internal task watchdog.
[FIXED]	WAT-34361	Port authentication for the CODESYS WebVisu can be switched off separately

7.4 Fieldbus Interface & Protocols

[FIXED]	WAT-36466	OPC UA Server: Denial of service after several link down for a specific time
[FIXED]	WAT-36203	OPC UA Server: Stop publishing if the system time is set backward
[KNOWN]	WAT-36971	Writing SNMPUser via WDA-API is only possible with Security Level "AuthPriv

7.5 Web Based Management

[KNOWN]	WAT-36520	Mass Storage - Format memory card: If one or more USB sticks are connected to the device, the memory card is not always formatted, but the last connected medium. Workaround: Remove USB stick(s).

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8 Firmware Release 04.05.10 (27) – CODESYS 3

Engineering by CODESYS IDE V. 3.5 is supported
Engineering by e!COCKPIT IDE is not supported
CODESYS 2.3 is not supported

Migration Guide – from e!COCKPIT to CODEYS V3.5:

- https://techdocs.wago.com/Software/eCOCKPIT_Migration/en-US/index.html#index_content

BUG FIX | SECURITY RELEVANT | NEW FEATURES

Tested and released with:	
CODESYS IDE 64 Bit version	3.5.19.7
Device description CODESYS	2.0.5.6
CODESYS Communication	4.5.1.0
CODESYS EtherCAT	4.7.0.0
CODESYS PROFINET	4.5.0.0
CODESYS EtherNet/IP	4.5.1.0
CODESYS Modbus	4.4.0.0
CODESYS IO-Link	4.3.0.0
CODESYS EDS Import	4.2.0.0
CODESYS Application Composer	4.3.2.0
CODESYS Core Dump	4.2.0.0
CODESYS Memory Tools	4.1.0.0
CODESYS RISC Front End	4.0.2.0
CODESYS Recipes	4.4.0.0
CODESYS Visualization	4.5.0.0
CODESYS Visualization Support	4.3.1.0
CODESYS Ladder	1.0.0.0
CODESYS LD/FBD	4.4.0.0
CODESYS SFC	4.3.0.0

Affected articles/Available for		**Supported PLC**
Article Number	**Designation**	**CODESYS Runtime**
750-8110	PFC100 G2 2ETH ECO	X
750-8111	PFC100 G2 2ETH	X
750-8112	PFC100 G2 2ETH RS	X
750-8112/025-000	PFC100 G2 2ETH RS T	X
750-8210	PFC200 G2 4ETH	X
750-8210/025-000	PFC200 G2 4ETH T	X
750-8210/040-000	PFC200 G2 4ETH XTR	X
750-8211	PFC200 G2 2ETH 2SFP	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X
750-8212	PFC200 G2 2ETH RS	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP	X
750-8212/025-000	PFC200 G2 2ETH RS T	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X
750-8213	PFC200 G2 2ETH CAN	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X
750-8214	PFC200 G2 2ETH RS CAN	X

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750-8215	PFC200 G2 4ETH CAN USB	X
750-8216	PFC200 G2 2ETH RS CAN DPS	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X
750-8217	PFC200 G2 2ETH RS 4G EU	X
750-8217/025-000	PFC200 G2 2ETH RS 4G EU T	X
750-8217/600-000	PFC200 G2 2ETH RS 4G Global	X
750-8217/625-000	PFC200 G2 2ETH RS 4G Global T	X
750-8302	PFC300 2ETH RS	X

This firmware will be released via GitHub: https://github.com/WAGO

8.1 System

[NEW]		Support for Spanning Tree Protocols STP/RSTP
[NEW]	WAT-35711	Support for VS code
[NEW]		Support for DHCP/DNS. Controller can act as DHCP/DNS server
[NEW]		Support for WAGO Device Sphere
[FIXED]	WAT-21892	Didn’t show all NTP Servers assigned via DHCP in WBM including statically configured NTP servers.
[FIXED]	WAT-36597	Placeholder in WDX response for IO LED diagnostic request
[FIXED]	WAT-36420	Pre-mature end of blink sequence during firmware update via SD card
[FIXED]	WAT-36635	Updated TZ-String for China to CST-9 and for Japan to JST-9
[FIXED]	WAT-36431	Devices with two Ethernet interfaces: Loss of Ethernet connection on one Ethernet interface leads to communication interruption on the other Ethernet interface
[FIXED]	WAT-36006	IP address of the Docker Bridge0 in connection with temporary IP addresses
[CHANGED]	WAT-36240	Backup created with WAGO Upload does not contain docker related files
[CHANGED]	WAT-35865	Auto-Update via sd card: update of CODDESYS application will clear retain data by default.
[REMOVED]		Cloud Connectivity: IBM cloud specific functionality is removed
[DEPRECATED]		The network feature rate limiting is deprecated and will be removed in future versions
[Note]	ADVICE	Code generation from WDA OpenAPI is possible via Postman

8.2 Operating System

[FIXED]	SECURITY	CVE-2024-23651, CVE-2024-23652, CVE-2024-23653, CVE-2024-21626, CVE-2022-48624, CVE-2023-42465, CVE-2023-48795, CVE-

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		2023-29491, CVE-2023-45853, CVE-2023-28321, CVE-2023-28322, CVE-2023-28320, CVE-2023-28319, CVE-2023-4527, CVE-2023-5156, CVE-2023-4911, CVE-2023-28320, CVE-2023-28319, CVE-2023-37464, CVE-2023-28484, CVE-2023-29469, CVE-2022-23471, CVE-2022-48303, CVE-2024-25062, CVE-2023-48795, CVE-2023-2603, CVE-2023-38545, CVE-2023-41913, CVE-2023-38545, CVE-2023-38546, CVE-2019-11358, CVE 2020-11022, CVE-2020-11023, CVE-2020-23064,
[FIXED]	WAT-36233	Update jQuery to 3.7.1
[CHANGED]		Update OpenSSL to v3.13
[NEW]	WAT-35711	Add libatomic
[CHANGED]		Updated ncurses to version 6.4
[CHANGED]		PFC300: Kernel update 6.6.15 rt22

8.3 Runtime System

[NEW]		CODESYS3 Runtime-System 3.5.19.50
[NOTE]	ADVICE	PFC300: The behavior of the DAL watchdog may change on multicore systems. If a high-priority IEC task on a core displaces all other IEC tasks on this core, the BUS is no longer driven into a defined state via the watchdog, as the system and therefore other IEC tasks on other cores can still be executed. For controlled behavior, it is recommended to use the CODESYS internal task watchdog.
[FIXED]	WAT-36527	Flickering of LEDs when plugging Ethernet cables.
[CHANGED]		Fix scheduling policy for all background tasks of CODESYS runtime system (e.g. Webserver, OPCUA-Server) and customer application that was accidentally changed in FW26.
[FIXED]	WAT-36306	Creation of directory /media/sd directory even without sd card mounted.
[FIXED]	SECURITY	CVE-2024-5000, CVE-2023-6357,

8.4 Fieldbus Interface & Protocols

[NEW]	BACnet: Support of BACnet/SC DRM License BACnet/SC Hub: 2759-2223_0211-1000 Runtime BACnet 300 Single License Plus

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		2759-2226_0211-1000 Runtime BACnet 600 Single License Plus DRM License BACnet/SC Node: 2759-2273_0211-1000 Runtime BACnet 300 Single License 2759-2276_0211-1000 Runtime BACnet 600 Single License
[NEW]		BACnet: Support for PFC100 G2 devices. (750-8110, -8111, -8112)
[FIXED]	WAT-36652	CAN: Improve CAN Layer2 bus fault recovery to solve possible restart problem after partial disruption
[FIXED]	WAT-36604	CAN: Fix high task cycle time when using CAN layer2 frame transmission methods in Bus Off state.
[KNOWN]	WAT-36466	OPC UA Server: Denial of service after several link down for a specific time
[KNOWN]	WAT-36203	OPC UA Server: Stop publishing if the system time is set backward

8.5 Libraries

[NEW]		WagoAppSparkplug: NBIRTH message without alias for Node Control/Rebirth
[FIXED]	WAT-36493	CAA File: DirOpen leads to error message “Wrong Parameter”
[FIXED]	WAT-36624	WagoSysCom_Internal_PFC: Incompatibility with WagoSysPlainMem v.1.5.3.0.
[NOTE]	WAT-36624	When porting existing projects it is necessary to update the device or set placeholder manually to WagoSysCom_Internal_PFC v1.0.2.7.
[FIXED]	WAT-36190	WagoAppFielDir: Access failure for creation of directories on SD card from CODESYS application.

8.6 Web Based Management

[NEW]	SECURITY	Changeover to the central authentication service with new login form
[FIXED]	SECURITY	CVE-2023-4089
[KNOWN]	WAT-36520	Mass Storage - Format memory card: If one or more USB sticks are connected to the device, the memory card is not always formatted, but the last connected medium. Workaround: Remove USB stick(s).

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9 Firmware Release 04.04.03 (26) – CODESYS 3

Engineering by CODESYS IDE V. 3.5 is supported
Engineering by e!COCKPIT IDE is not supported
CODESYS 2.3 is not supported

Migration Guide – from e!COCKPIT to CODEYS V3.5:

- https://techdocs.wago.com/Software/eCOCKPIT_Migration/en-US/index.html#index_content

BUG FIX | SECURITY RELEVANT | NEW FEATURES

Tested and released with:	
CODESYS 64 Bit version	3.5.19.2
Device description CODESYS	2.0.4.2

Affected articles/Available for		Supported PLC
Article Number	**Designation**	**CODESYS Runtime**
750-8110	PFC100 G2 2ETH ECO	X
750-8111	PFC100 G2 2ETH	X
750-8112	PFC100 G2 2ETH RS	X
750-8112/025-000	PFC100 G2 2ETH RS T	X
750-8210	PFC200 G2 4ETH	X
750-8210/025-000	PFC200 G2 4ETH T	X
750-8210/040-000	PFC200 G2 4ETH XTR	X
750-8211	PFC200 G2 2ETH 2SFP	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X
750-8212	PFC200 G2 2ETH RS	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP	X
750-8212/025-000	PFC200 G2 2ETH RS T	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X
750-8213	PFC200 G2 2ETH CAN	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X
750-8214	PFC200 G2 2ETH RS CAN	X
750-8215	PFC200 G2 4ETH CAN USB	X
750-8216	PFC200 G2 2ETH RS CAN DPS	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X
750-8217	PFC200 G2 2ETH RS 4G EU	X
750-8217/025-000	PFC200 G2 2ETH RS 4G EU T	X
750-8217/600-000	PFC200 G2 2ETH RS 4G Global	X
750-8217/625-000	PFC200 G2 2ETH RS 4G Global T	X

This firmware will be released via GitHub: https://github.com/WAGO

9.1 System

[FIXED]	WAT-35959	Sporadic failure of data communication to the cloud
[FIXED]	WAT-35833	NTP client timeout too short. Increased to 8 sec.

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[FIXED]	WAT-35777	If the device is in separate mode and no web server is running, the fire wall blocks the webserver after armed, regardless of how the firewall is set
[FIXED]	WAT-35759	APN configuration leads to modem reset
[FIXED]	WAT-35816	FTP didn't support NOOP command
[FIXED]	WAT-35837	Ensure UTF-8 encoding for log files
[DEPRECATED]		The network feature rate limiting is deprecated and will be removed in future versions
[Note]	ADVICE	Code generation from WDA OpenAPI is possible via Postman

9.2 Operating System

[FIXED]	SECURITY	CVE-2023-27533, CVE-2023-27534, CVE-2023-27535, CVE-2023-27536, CVE-2023-27537, CVE-2023-27538,
[CHANGED]		Update rauc to v1.9

9.3 Runtime System

[NEW]		CODESYS3 Runtime-System 3.5.19.20
[NEW]		CODESYS Redundancy. Needs DRM license 2759-249/210-1000 or 2759-249/211-1000
[FIXED]	WAT-35499	Data Sources Manager didn't support Application V3
[CHANGED]		Access blocking for 1h after 5 login failures
[CHANGED]	WAT-36061	Runtime file access is limited to /home/codesys, /media/sd, /tmp
[CHANGED]		The restriction to WAGO Ethernet Sub Devices has been removed for compatibility reasons
[FIXED]	SECURITY	CVE-2022-4224, CVE-2022-47378, CVE-2022-47379, CVE-2022-47380, CVE-2022-47381, CVE-2022-47382, CVE-2022-47383, CVE-2022-47384, CVE-2022-47385, CVE-2022-47386, CVE-2022-47387, CVE-2022-47388, CVE-2022-47389, CVE-2022-47390, CVE-2022-47392, CVE-2022-47393, CVE-2022-47391, CVE-2023-37545, CVE-2023-37546, CVE-2023-37547, CVE-2023-37548, CVE-2023-37549, CVE-2023-37550, CVE-2023-37551, CVE-2023-37552, CVE-2023-37553, CVE-2023-37554, CVE-2023-37555, CVE-2023-37556, CVE-2023-37557, CVE-2023-37558, CVE-2023-37559, CODESYS IDE: CVE-2023-3662, CVE-2023-3663, CVE-2023-3669,

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9.4 Fieldbus Interface & Protocols

[NEW]		Modbus RTU: CODESYS configurator for the onboard serial interface
[NEW]		PROFINET: Limited support of CODESYS PROFINET controller and device
[NOTE]	IMPORTANT	PROFINET: no MRP ring redundancy, no LLDP support, no Daisy Chain wiring, limited to one Ethernet port
[NOTE]	ADVICE	PROFINET: do not use the controller with more than 5 devices
[FIXED]	WAT-36007	BACnet: Max/Min Pres Value Property in Analog Input Objects
[FIXED]	WAT-35967	BACnet: Sporadic missing synchronicity between runtime and BACnet objects
[FIXED]	WAT-35896	BACnet: Synchronization if an override configuration file exists with objects that have more properties defined in the configuration file than in CODESYS
[FIXED]	WAT-35861	BACnet: Non alphanumeric characters in Trendlog object name
[FIXED]	WAT-35428	OPC UA Client: CmpOPCUAClient stops the runtime if the connected server is shut down.

9.5 Libraries

[NEW]	WAT-35633	WagoSysModem 2.0.1.0: Send SMS in text mode
[NEW]	WAT-35576	WagoSyCurl: Support for WSTRING
[NEW]	WAT-35445	WagoAppCloud: Support for data types SINT, LINT, ULINT and LWORD

9.6 Web Based Management

[FIXED]	WAT-35775	Automatically redirect to application didn’t work if separate ports are enabled for WBM and WebVisu.
[FIXED]	SECURITY	CVE-2023-3379, CVE-2023-3378
[CHANGED]	SECURITY	Page SNMP v3 the keys are now only displayed masked

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10 Firmware Release 04.03.03 (25) – CODESYS 3

Engineering by CODESYS IDE V. 3.5 is supported
Engineering by e!COCKPIT IDE is not supported
CODESYS 2.3 is not supported

Migration Guide – from e!COCKPIT to CODEYS V3.5:

- https://techdocs.wago.com/Software/eCOCKPIT_Migration/en-US/index.html#index_content

BUG FIX | SECURITY RELEVANT | NEW FEATURES

Tested and released with:	
CODESYS 64 Bit version	3.5.18.4 / 3.5.18.5
Device Description CODESYS	2.0.2.9

Affected articles/Available for		Supported PLC
Article Number	**Designation**	**CODESYS Runtime**
750-8210	PFC200 G2 4ETH	X
750-8210/025-000	PFC200 G2 4ETH T	X
750-8210/040-000	PFC200 G2 4ETH XTR	X
750-8211	PFC200 G2 2ETH 2SFP	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X
750-8212	PFC200 G2 2ETH RS	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP	X
750-8212/025-000	PFC200 G2 2ETH RS T	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X
750-8213	PFC200 G2 2ETH CAN	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X
750-8214	PFC200 G2 2ETH RS CAN	X
750-8215	PFC200 G2 4ETH CAN USB	X
750-8216	PFC200 G2 2ETH RS CAN DPS	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X
750-8217	PFC200 G2 2ETH RS 4G EU	X
750-8217/025-000	PFC200 G2 2ETH RS 4G EU T	X
750-8217/600-000	PFC200 G2 2ETH RS 4G Global	X
750-8217/625-000	PFC200 G2 2ETH RS 4G Global T	X

This firmware will be released via GitHub: https://github.com/WAGO

10.1 System

[NEW]		Support for Azure IoT Hub Device Provisioning Service (DSP)
[NEW]		VLAN and Dummy interfaces can be configured via WAGO Device Manager (WDM)
[FIXED]	WAT-35470	Does not try to connect to all configurated NTP servers after a connection failure with the original server
[FIXED]	WAT-35369	Sometimes it does not load all firewall rules and block legitimate traffic

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[KNOWN]	WAT-35777	If separated ports are setup for WebVisu and WBM and no CODESYS webserver is running, the WebVisu port will be blocked by the firewall as soon as the firewall is armed, regardless of the setting of the firewall. Workaround: 1) temporally disable the firewall, 2) switch on CODESYS web server, 3) switch on the firewall again
[REMOVED]		DNS-server and DHCP-server (dnsmasq) are removed
[CHANEGED]		The library for the device abstraction layer (DAL) will be changed from a static (libdal.a) to a dynamic library (libdal.so). Libdal.a is deprecated and will be removed in future versions. Users should link against libdal.so
[RELEASED]		"Wago Device Access" for parametrization and configuration. REST-API is active under path "<host>/wda" on port 443. File-Access-API is active under path "<host>/files" on port 443. To disable the service, delete symlink "/etc/rc.d/S11_paramd" or move it to subdirectory "disabled"
[RELEASED]		A documentation for the REST-API of "Wago Device Access" is available from device by calling specified URL: OpenAPI-JSON: <ip/hostname>/openapi/wda.openapi.json HTML format: <ip/hostname>/openapi/wda.openapi.html

10.2 Operating System

[FIXED]	WAT-35575	Update curl to v8.0.1
[FIXED]	WAT-35630	Update OpenSSH to v9.3p1
[FIXED]	SECURITY	CVE-2023-23914, CVE-2023-23915, CVE-2023-23916, CVE-2023-28531

10.3 Runtime System

[NEW]		Codesys3 Runtime-System 3.5.18.40
[NEW]	WAT-35417	Add support for CODESYS 3 CoreDumps
[NEW]		Add support of PROFIBUS Device configuration for 750-8216
[FIXED]	SECURITY	CVE-2022-4048, CVE-2022-22515, CVE-2022-22508

10.4 Fieldbus Interface & Protocols

[FIXED]	WAT-35734	EtherNet/IP scanner 4.3.0.0 generates exception during simulation
[FIXED]	WAT-35600	SIGABRT exception on RESET COLD of MODBUS slave applications Workaround: Disable PLC Settings “always update variables”

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[FIXED]	WAT-35635	WagoSysVisuBACnet library is supported with FW25

10.5 Libraries

[NEW]		Support of CODESYS IoT Libraries (Royalty free)
[NEW]		WagoSysModule_75x_511

10.6 Web Based Management

		Network configuration for vlan and dummy interfaces
[NEW]		New option on page “Port and Services – PLC Runtime Services” set
[NEW]		a separate the interface for the PLC WebVisu
[FIXED]	WAT-35423	The representation of UII number does not comply with the company standard
[KNOWN]	WAT-35775	With separate ports for the WebVisu and WBM there is no redirect to the set option WBM or WebVisu Workaround: add “/wbm” or “/webvisu” to the URL

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11 Firmware Release 04.02.13 (24) – CODESYS 3

Engineering by CODESYS IDE V. 3.5 is supported
Engineering by e!COCKPIT IDE is not supported
CODESYS 2.3 is not supported

Migration Guide – from e!COCKPIT to CODEYS V3.5:

- https://techdocs.wago.com/Software/eCOCKPIT_Migration/en-US/index.html#index_content

BUG FIX | SECURITY RELEVANT | NEW FEATURES

Tested and released with:	
CODESYS 64 Bit version	3.5.18.2
Device Description CODESYS	2.0.1.7

Affected articles/Available for		Supported PLC
Article Number	**Designation**	**CODESYS Runtime**
750-8210	PFC200 G2 4ETH	X
750-8210/025-000	PFC200 G2 4ETH T	X
750-8210/040-000	PFC200 G2 4ETH XTR	X
750-8211	PFC200 G2 2ETH 2SFP	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X
750-8212	PFC200 G2 2ETH RS	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP	X
750-8212/025-000	PFC200 G2 2ETH RS T	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X
750-8213	PFC200 G2 2ETH CAN	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X
750-8214	PFC200 G2 2ETH RS CAN	X
750-8215	PFC200 G2 4ETH CAN USB	X
750-8216	PFC200 G2 2ETH RS CAN DPS	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X
750-8217	PFC200 G2 2ETH RS 4G EU	X
750-8217/025-000	PFC200 G2 2ETH RS 4G EU T	X
750-8217/600-000	PFC200 G2 2ETH RS 4G Global	X
750-8217/625-000	PFC200 G2 2ETH RS 4G Global T	X

This firmware will be released via GitHub: https://github.com/WAGO

11.1 System

[FIXED]	WAT33700	WAT-33700 Fixed erroneous logrotate configuration which leads to crash of CODESYS runtime when OpenVPN is used.
[DEPRECATED]		Config tool “config_mdmd” and “update_modem_firmware” will be removed in future firmware versions
[CHANGED]		Reduced CBM functionality to basic use cases

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11.2 Operating System

[FIXED]	WAT-34644	Replaced Busybox wget by upstream wget
[FIXED]	SECURITY	CVE-2022-0529, CVE-2022-0530, CVE-2022-35260, CVE-2022-32221, CVE-2013-4235, CVE-2022-43995, CVE-2022-44792, CVE-2022-44793, CVE-2022-43680, CVE-2022-2309, CVE-2022-40303 , CVE-2022-40304, CVE-2022-40476, CVE-2022-2905, CVE-2022-35252, CVE-2022-40674, CVE-2022-40284, CVE-2022-1012, CVE-2022-37434, CVE-2021-33656, CVE-2022-2327, CVE-2022-36879, CVE-2022-1671, CVE-2022-34494, CVE-2022-34495, CVE-2020-35501, CVE-2022-1998, CVE-2022-30788, CVE-2022-30789, CVE-2022-30783,CVE-2022-30785, CVE-2022-30786, CVE-2022-30784, CVE-2022-1882, CVE-2022-32296, CVE-2022-29581, CVE-2022-30594, CVE-2022-1015, CVE-2022-1048, CVE-2022-1353, CVE-2022-29824, CVE-2022-29824, CVE-2022-1055, CVE-2022-28391, CVE-2022-37434, CVE-2021-45868, CVE-2022-27666, CVE-2022-23219, CVE-2022-23219, CVE-2022-1348, CVE-2022-23471, CVE-2022-31030, CVE-2022-45137, CVE-2022-45139, CVE-2022-45140
[KNOWN]	SECURITY	Improper handling of unicode string could crash unzip 6.0(CVE-2021-4217)

11.3 Runtime System

[NEW]		Codesys3 Runtime-System 3.5.18.20
[FIXED]	WAT34984	Sporadic error while running the Codesys3 WebVisu with HTTP
[FIXED]	WAT-35177	“PLC load watchdog” might not work as espected: the plc load watchdog will detect (e.g. an endless loop) but the IEC task might not be stopped in any case. This might lead to a complete stop of the runtime process. As workaround and improve “hardening” of your IEC application we recommend to use an IEC Task watchdog on all your relevant IEC tasks in your IEC application.
[FIXED]	SECURITY	CVE-2022-22516, CVE-2021-21863, CVE-2021-21864, CVE-2021-21865, CVE-2021-21866, CVE-2021-21867, CVE-2021-21868, CVE-2021-21869, CVE-2022-1794, CVE-2022-22517, CVE-2022-22518, CVE-2022-22513, CVE-2022-22514, CVE-2022-22519, CVE-2022-30791, CVE-2022-30792

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11.4 Fieldbus Interface & Protocols

[NEW]		Support of CODESYS OPC UA Server and OPC UA Client
[NEW]		Support of CODESYS OPC UA PubSub Libraries
[KNOWN]	WAT-35428 WAT-35373	If the subscription of the CmpOPCUAClient cannot be established correctly and the OPC UA server is then shut down, a SIGABRT occurs in Runtime.
[KNOWN]		The “WagoSysVisuBACnet” library is not support with firmware 24
[CHANGED]		Saving trap receiver address after firmware up-/downgrade

11.5 Libraries

[NEW]		Support of CODESYS OPC UA PubSub Libraries (Royalty free)
[FIXED]	WAT-35113	Docker Bridge Networking not working with Docker Swarm
[REMOVED]		WagoAppEtherNetIP_Adapter and WagoSysEtherNetIP_Adapter Please use native CODESYS 3.5 EtherNet/IP adapter
[KNOWN]	WAT-34389	Simulation might fail with some libraries within IDE

11.6 Web Based Management

[NEW]		Update to PHP 8.1.9
[NEW]		Diagnostic information for Cloud-Connectivity on status page
[FIXED]	WAT-35149	Do not start a restore of the system package if the device has booted from the memory card
[FIXED]	WAT-34837	Leading digits for host names
[FIXED]	WAT-34741	Backup & Restore is executable by user “root”
[FIXED]	WAT-31492	Added note text to explain the hostname behavior
[REMOVED]		“guest” access
[CHANGED]		Description for the certificate folder and configuration

11.7 Beta functionalities

[BETA]	"Wago Device Access" for parametrization and configuration. REST-API is active under path "<host>/wda" on port 443. File-Access-API is active under path "<host>/files" on port 443. To disable the service, delete symlink "/etc/rc.d/S11_paramd" or move it to subdirectory "disabled"
[BETA]	A documentation for the REST-API of "Wago Device Access" is available from device by calling specified URL:

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OpenAPI-JSON: <ip/hostname>/openapi/wda.openapi.json

HTML format: <ip/hostname>/openapi/wda.openapi.html

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12 Firmware Release 04.01.10 (23) – CODESYS 3

Engineering by CODESYS IDE V. 3.5 is supported
Engineering by e!COCKPIT IDE is not supported
CODESYS 2.3 will no longer be supported

Migration Guide – from e!COCKPIT to CODEYS V3.5:

- https://techdocs.wago.com/Software/eCOCKPIT_Migration/en-US/index.html#index_content

BUG FIX | SECURITY RELEVANT | NEW FEATURES

Tested and released with:	
CODESYS 64 Bit version	3.5.17.2
Device Description CODESYS	2.0.0.9

Affected articles/Available for		Supported PLC
Article Number	**Designation**	**CODESYS Runtime**
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750-8210/025-000	PFC200 G2 4ETH T	X
750-8210/040-000	PFC200 G2 4ETH XTR	X
750-8211	PFC200 G2 2ETH 2SFP	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X
750-8212	PFC200 G2 2ETH RS	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP	X
750-8212/025-000	PFC200 G2 2ETH RS T	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X
750-8213	PFC200 G2 2ETH CAN	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X
750-8214	PFC200 G2 2ETH RS CAN	X
750-8215	PFC200 G2 4ETH CAN USB	X
750-8216	PFC200 G2 2ETH RS CAN DPS	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X
750-8217	PFC200 G2 2ETH RS 4G EU	
750-8217/025-000	PFC200 G2 2ETH RS 4G EU T	
750-8217/600-000	PFC200 G2 2ETH RS 4G Global	
750-8217/625-000	PFC200 G2 2ETH RS 4G Global T	

This firmware will be released via GitHub: https://github.com/WAGO

12.1 System

[NEW]	WAT-34301	The client ID for all running DHCP clients can be specified using the config tool network_config. The assignment of the client ID via WBM/WDM is not supported.
[FIXED]	WAT-34828	It is possible to downgrade to a hardened FW-Image without network connection lost.

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[NEW]	WAT-34811	Allow to access legacy serial number via config tool: get_coupler_details serial-number-legacy
[DEPRECATED]		PHP 7 will be replaced by PHP 8.

12.2 Operating System

[FIXED]	WAT-34301	Fixed erroneous logrotate configuration which leads to crash of CODESYS runtime when OpenVPN is used.
[DEPRECATED]	WAT-35120	The config tool "activate_download" is deprecated an will be removed in future versions.
[FIXED]	WAT-34783	MAC Address filter configuration is loaded at boot time not only in event of changed configuration.
[FIXED]	WAT-34796	MAC Address filter was active by default, from now on it is off as default (cf. IP firewall).
[FIXED]	WAT-34501	Fixed error that prevents restore of system backup when Docker is activated.

12.3 Runtime System

[REMOVED]		Codesys2 Runtime-System is no longer available on PFC Plattform
[CHANGED]		Codesys3 Runtime-System supported on PFC Plattform
[KNOWN]	WAT-35177	“PLC load watchdog” might not work as espected: the plc load watchdog will detect (e.g. an endless loop) but the IEC task might not be stopped in any case. This might lead to a complete stop of the runtime process. As workaround and improve “hardening” of your IEC application we recommend to use an IEC Task watchdog on all your relevant IEC tasks in your IEC application.

12.4 Fieldbus Interface & Protocols

[REMOVED]		The OPC UA Server and Client are not included in this Firmware. -Will be available in an upcoming Firmware.
[REMOVED]		PROFINET and PROFIBUS are not included in this Firmware. -Will be available in an upcoming Firmware.
[CHANGED]		MODBUS TCP changed to CODESYS solution
[CHANGED]		MODBUS RTU available only by IEC library

12.5 Libraries

[KNOWN	WAT-34389	Simulation might fail with some libraries within IDE
[KNOWN]	WAT-34680	WagoAppEtherNetIP_Adapter: CommonPacketFormat Interfaces 4.2.0.0 causes compile errors. CommonPacketFormat Interfaces

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3.5.17.0 must be used instead. In order to use the correct version CommonPacketFormat Interfaces 4.2.0.0 needs to be deinstalled via CODESYS library manager.

12.6 Web Based Management

[NEW]		SNMPv3: Add support for strong privacy and encryption. Authentication: SHA224, SHA256, SHA384, SHA512 Encryption: AES128, AES192, AES192C, AES256, AES256C
[CHANGED]		Codesys 2 no longer available in "Information - PLC Runtime", "Configuration - PLC Runtime" and "Ports and Services - PLC Runtime Services". Removed WBM page "Fieldbus - Modbus" (WAGO Modbus implementation).
[NEW]		WBM - Firewall - MAC Address Filter Whitelist: For the default entries, an additional description text is displayed to avoid incorrect operation.
[FIXED]	WAT-34837	Update WDx and Config Tools to allow leading digits for host names.

12.7 Beta functionalities

[BETA]		"Wago Device Access" for parametrization and configuration. REST-API is active under path "<host>/wda" on port 443. File-Access-API is active under path "<host>/files" on port 443. To disable the service, delete symlink "/etc/rc.d/S11_paramd" or move it to subdirectory "disabled"
[BETA]		A documentation for the REST-API of "Wago Device Access" is available from device by calling specified URL: OpenAPI-JSON: <ip/hostname>/openapi/wda.openapi.json HTML format: <ip/hostname>/openapi/wda.openapi.html

The Release Note(s) and the corresponding update(s) are provided free of charge. The statutory warranty and liability regulations of §§ 521, 523 BGB apply to possible errors in the Release Note(s) or possible defects in the update (CISG is excluded). The update(s) is (are) intended to further enhance and / or to enrich our product(s), but does not mean that the previous software version was defective. In order to benefit from the improvements, we generally recommend the implementation of the update(s), but we cannot assume the final responsibility for the installation of the update(s) or their costs. Since we know neither the concrete application nor the individual conditions of use.

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13 Firmware Release 03.10.10 (22) – e!COCKPIT and CODESYS 2

BUG FIX SECURITY RELEVANT

Compatible from e!COCKPIT Version	1.11	Compatible from WAGO I/O PRO Version	2.3.9.61

Affected articles/Available for		Supported PLC	
Article Number	**Designation**	**CDS2.3**	**e!Runtime**
750-8210	PFC200 G2 4ETH	X	X
750-8210/025-000	PFC200 G2 4ETH T	X	X
750-8210/040-000	PFC200 G2 4ETH XTR	X	X
750-8211	PFC200 G2 2ETH 2SFP	X	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X	X
750-8212	PFC200 G2 2ETH RS	X	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP		X
750-8212/025-000	PFC200 G2 2ETH RS T	X	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X	X
750-8213	PFC200 G2 2ETH CAN	X	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X	X
750-8214	PFC200 G2 2ETH RS CAN	X	X
750-8215	PFC200 G2 4ETH CAN USB		X
750-8216	PFC200 G2 2ETH RS CAN DPS	X	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X	X
750-8217	PFC200 G2 2ETH RS 4G EU		X
750-8217/025-000	PFC200 G2 2ETH RS 4G EU T		X
750-8217/600-000	PFC200 G2 2ETH RS 4G Global		X
750-8217/625-000	PFC200 G2 2ETH RS 4G Global T		X

This firmware will be released via GitHub: https://github.com/WAGO

13.1 System

[FIXED]	WAT-34925	Extended HTTP security header options in lighttpd (X-Content-Type-Options, Referrer-Policy).
[FIXED]	WAT-34893	Fixed CVE-2022-0529 , CVE-2022-0530
[FIXED]	WAT-34885	Updates libcurl to version 7.84.0; Fixes CVE-2022-22576 , CVE-2022-27782, CVE-2022-30115, CVE-2022-27775, CVE-2022-27781, CVE-2022-27776, CVE-2022-27779, CVE-2022-27780, CVE-2022-27774, CVE-2022-32205, CVE-2022-32206, CVE-2022-32207, CVE-2022-32208
[FIXED]	SECURITY	CVE-2022-45137, CVE-2022-45139, CVE-2022-45140
[FIXED]	WAT-34878	Fix timing problem in SIM card detection after modem restart

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[FIXED]	WAT-34828	It is possible to downgrade to a hardened FW-Image without network connection lost.
[FIXED]	WAT-34356	WBM Modem configuration (e.g. APN) allows special characters now
[FIXED]	WAT-34878	Fix timing problem in SIM card detection after modem restart

13.2 Operating System

[FIXED]	WAT-35076	Fixed CVE-2022-40476
[FIXED]	WAT-35071	Fixed CVE-2022-2905
[FIXED]	WAT-34965	Updated expat to 2.4.9 (fixes CVE-2022-40674)
[FIXED]	WAT-34932	MAC Address filter was active by default, from now on it is off as default (cf. IP firewall).
[FIXED]	WAT-34930	Updated OpenLDAP to V2.6.2 (fixes CVE-2022-29155)
[FIXED]	WAT-34929	Fixed CVE-2022-2097 (update OpenSSL to 1.1.1q)
[FIXED]	WAT-34926	Fixed CVE-2022-0547 (OpenVPN)
[FIXED]	WAT-34920	Fixed CVE-2022-1671
[FIXED]	WAT-34918	Fixed CVE-2021-33656, CVE-2022-2327, CVE-2022-36879, CVE-2022-1671
[FIXED]	WAT-34917	Fixed CVE-2021-33656, CVE-2022-2327, CVE-2022-36879, CVE-2022-1671
[FIXED]	WAT-34915	Fixed CVE-2022-34495
[FIXED]	WAT-34914	Fixed CVE-2022-34494,
[FIXED]	WAT-34913	Fixed CVE-2022-1998
[FIXED]	WAT-34911	Fixed CVE-2022-29581
[FIXED]	WAT-34910	Fixed CVE-2022-32250
[FIXED]	WAT-34908	Fixed CVE-2022-32296
[FIXED]	WAT-34906	Fixed CVE-2022-30594
[FIXED]	WAT-34905	Fixed CVE-2022-1353
[FIXED]	WAT-34904	Fixed CVE-2022-1048
[FIXED]	WAT-34902	Fixed CVE-2022-29968
[FIXED]	WAT-34900	Fixed CVE-2022-29582
[FIXED]	WAT-34899	Fixed CVE-2021-45868, CVE-2022-27666
[FIXED]	WAT-34898	Fixed CVE-2021-45868, CVE-2022-27666
[FIXED]	WAT-34895	Fixed CVE-2022-28391
[FIXED]	WAT-34891	Fixed error that prevents restore of system backup when Docker is activated.
[FIXED]	WAT-34889	Updated zlib to V1.2.12 (fixes CVE-2022-37434)
[FIXED]	WAT-34888	Updated libarchive to V3.6.1.

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[FIXED]	WAT-34887	Updated libxml2 to V2.9.14 (fixes CVE-2022-29824) Updated libxslt to V1.1.36 (fixes CVE-2022-29824)
[FIXED]	WAT-34886	Updated ntfs-3g to V2022.05.17 (fixes CVE-2022-30788, CVE-2022-30789, CVE-2022-30783,CVE-2022-30785, CVE-2022-30786, CVE-2022-30784)
[FIXED]	WAT-34884	MAC Address filter configuration is loaded at boot time not only in event of changed configuration.
[FIXED]	WAT-33700	Fixed erroneous logrotate configuration which leads to crash of CODESYS runtime when OpenVPN is used.
[NEW]	WAT-34890	Updated logrotate to version 3.20.1.

13.3 Runtime System

[KNOWN]	WAT-35177	"PLC load watchdog" might not work as espected: the plc load watchdog will detect (e.g. an endless loop) but the IEC task might not be stopped in any case. This might lead to a complete stop of the runtime process. As workaround and improve "hardening" of your IEC application we recommend to use an IEC Task watchdog on all your relevant IEC tasks in your IEC application.

13.4 Fieldbus Interface & Protocols

OPC UA

[FIXED]	WAT-34744	Fixed security issue in OPC UA

13.5 Web Based Management

[FIXED]	WBM-6869	Enhanced webserver security - check correct content type in request.
[FIXED]	WAT-34837	Allow leading digits for host names.
[FIXED]	WAT-34741	Backup and Restore is executable by user "root".
[NEW]		SNMPv3: Add support for strong privacy and encryption. Authentication: SHA224, SHA256, SHA384, SHA512 Encryption: AES128, AES192, AES192C, AES256, AES256C

13.6 Functional change

[DEPRECATED]	Config tool function get_telecontrol_state will be removed in future releases.

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	The config tool was used to determine whether a device is a telecontrol. Since telecontrol services can be added by dynamic licensing, the tool is no longer needed.
[DEPRECATED]	DHCP and DNS Server will be removed in future releases. For the transition, it will be included for now. In the next release, the servers will still be part of the firmware.
[REMOVED]	No more unauthenticated guest access possible in WBM. No more unauthenticated configtool call possible via WBM HTTP/HTTPS interface.

13.7 Beta functionalities

[BETA]	"Wago Device Access" for parametrization and configuration. The service is available and can already be tested. Changes in the model and behavior are possible for future versions. REST-API is active under path "<host>/wda" on port 443. File-Access-API is active under path "<host>/files" on port 443. To disable the service, delete symlink "/etc/rc.d/S11_paramd" or move it to subdirectory "disabled". Compared to the last firmware, many more parameter providers have been added.
[BETA]	A documentation for the REST-API of "Wago Device Access" is available from device by calling specified URL: OpenAPI-JSON: <ip/hostname>/openapi/wda.openapi.json HTML format: <ip/hostname>/openapi/wda.openapi.html

14 Firmware Release 03.10.08 (22) – e!COCKPIT and CODESYS 2

BUG FIX | SECURITY RELEVANT | NEW FEATURES

Compatible from e!COCKPIT Version	1.11	Compatible from WAGO I/O PRO Version	2.3.9.61

Starting with firmware 19, the PFC100 and the PFC200 of the first generation have their own image and release notes.

Affected articles/Available for		Supported PLC	
Article Number	**Designation**	**CDS2.3**	**e!Runtime**
750-8210	PFC200 G2 4ETH	X	X

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750-8210/025-000	PFC200 G2 4ETH T	X	X
750-8210/040-000	PFC200 G2 4ETH XTR	X	X
750-8211	PFC200 G2 2ETH 2SFP	X	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X	X
750-8212	PFC200 G2 2ETH RS	X	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP		X
750-8212/025-000	PFC200 G2 2ETH RS T	X	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X	X
750-8213	PFC200 G2 2ETH CAN	X	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X	X
750-8214	PFC200 G2 2ETH RS CAN	X	X
750-8215	PFC200 G2 4ETH CAN USB		X
750-8216	PFC200 G2 2ETH RS CAN DPS	X	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X	X
750-8217	PFC200 G2 2ETH RS 4G EU		X
750-8217/025-000	PFC200 G2 2ETH RS 4G EU T		X
750-8217/600-000	PFC200 G2 2ETH RS 4G Global		X
750-8217/625-000	PFC200 G2 2ETH RS 4G Global T		X

This firmware will be released via GitHub: https://github.com/WAGO

14.1 System

[NEW]	WAT-34301	Uptdated lighttpd to version 1.4.64 Updated PHP to version 7.4.28
[NEW]	WAT-34555	Allow to specify NTP server via hostname (additonal to IP address)
[NEW]	WAT-34471	Updated ca-certificates to version NSS_3_78_RTM
[NEW]		It is possible to disable access to WBM while WebVisu is still available. WAGO Device Access Service is necessary to enable or disable Web Based Management.
[NEW]	WAT-26465	Allow to configure NTP servers by hostname also (previously only IP addresses were allowed).
[FIXED]	WAT-34341	OpenSSL updated to 1.1.1n
[FIXED]	WAT-34439	Fixed CVE-2021-29155
[FIXED]	WAT-34387	Fixed data race during restore (WAGOupload failed to complete restore during controller reboot).
[FIXED]	WAT-34291	Updated libxml2 to 2.9.13 (fixes CVE-2022-23308)
[FIXED]	WAT-34290	Updated expat to 2.4.7 (fixes CVE-2022-25235, CVE-2022-25236, CVE-2022-25313, CVE-2022-25314, CVE-2022-25315)
[FIXED]	WAT-34185	Fixed integer in XML_GetBuffer

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[FIXED]	WAT-30029	8217 Modem Parameter for Network Selection is not in PFC Settings Backup & Restore

14.2 Operating System

[NEW]		Updated Kernel to version 5.15 (LTS). Fixes CVE-2022-23222.
[FIXED]	WAT-34342	Fixed CVE-2021-4023, CVE-2021-3732
[FIXED]	WAT-34284	Fixed CVE-2022-0847
[FIXED]	WAT-34508	Fixed CVE-2021-22600
[FIXED]	WAT-34402	Fixed CVE-2021-4150, CVE-2021-4148, CVE-2021-4197, CVE-2022-0995
[FIXED]	WAT-34397	Fixed CVE-2021-45868, CVE-2022-27666

14.3 Runtime System

[NEW]		e!RUNTIME Upgrade to version 3.5.17.3 (based on CODESYS 3.5, SP 17, Patch 3) Fixed CVE-2021-29242, CVE-2021-36765, CVE-2021-33485, CVE-2021-36763, CVE-2021-36764, CVE-2022-1989

14.4 Fieldbus Interface & Protocols

CAN

[FIXED]	WAT-34398	PFC CANopen Slave sends no heartbeat when bus detection fails

14.5 Web Based Management

[NEW]		root now has the same access rights to WBM like user "admin". By login with username "root", the user can change the password of linux user root and is not in need to change root password via SSH. For security reasons, only users which are part of a WBM user group are able to access WBM. All other users will rejected at WBM login.
[NEW]		WBM provides information about the used trademarks.
[NEW]		Force booting from the internal flash only and prohibit booting from SD card.

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		Notice: if you force booting from internal flash, an update is only possible via ETHERNET. There is a risk that you will no longer be able to connect to the device if there are any problems.
[FIXED]	WAT-34138	No Cross-site Scripting via wrong configtool name.
[FIXED]	WAT-32553	Enhanced user guidance and error message in case of wrong/missing label text while creating new filesystem on memory card.

14.6 Functional change

[CHANGED]	The Fast Aging function has been replaced by the MAC Learning function. A device with MAC Learning enabled on all ethernet interfaces behaves in the same way as a device with Fast Aging disabled behaved in the past. NEW: MAC Learning is also available on all 4-port devices (0750-8210, 750-8211 and 750-8215).
[CHANGED]	WBM - "Information": Remove display of "Serial Number", show "Unique Item Identifier (UII)" instead (only on devices which deliver an UII).
[CHANGED]	Update of the Sparkplug integration supporting Sparkplug devices connected to a Sparkplug node. IEC library seperated from Wago-AppCloud to WagoAppSparkplug. ATTENTION: Incompatible to previous version. Exising projects need to be adapted manually.
[DEPRECATED]	Config tool function get_telecontrol_state will be removed in future releases. The config tool was used to determine whether a device is a telecontrol. Since telecontrol services can be added by dynamic licensing, the tool is no longer needed.
[DEPRECATED]	DHCP and DNS Server will be removed in future releases. For the transition, it will be included for now. In the next release, the servers will still be part of the firmware.

14.7 Beta functionalities

[BETA]	"Wago Device Access" for parametrization and configuration. The service is available and can already be tested. Changes in the model and behavior are possible for future versions.

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	REST-API is active under path "<host>/wda" on port 443. File-Access-API is active under path "<host>/files" on port 443. To disable the service, delete symlink "/etc/rc.d/S11_paramd" or move it to subdirectory "disabled". Compared to the last firmware, many more parameter providers have been added.
[BETA]	A documentation for the REST-API of "Wago Device Access" is available from device by calling specified URL: OpenAPI-JSON: <ip/hostname>/openapi/wda.openapi.json HTML format: <ip/hostname>/openapi/wda.openapi.html

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15 Firmware Release 03.09.05 (21) – e!COCKPIT and CODESYS 2

BUG FIX SECURITY RELEVANT

Compatible from e!COCKPIT Version	1.10*	Compatible from WAGO I/O PRO Version	2.3.9.61

* Service Pack 2 (2021-12) required

Starting with firmware 19, the PFC100 and the PFC200 of the first generation have their own image and release notes.

Affected articles/Available for		Supported PLC	
Article Number	**Designation**	**CDS2.3**	**e!Runtime**
750-8210	PFC200 G2 4ETH	X	X
750-8210/025-000	PFC200 G2 4ETH T	X	X
750-8210/040-000	PFC200 G2 4ETH XTR	X	X
750-8211	PFC200 G2 2ETH 2SFP	X	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X	X
750-8212	PFC200 G2 2ETH RS	X	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP		X
750-8212/025-000	PFC200 G2 2ETH RS T	X	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X	X

Please attend that this release note is only valid with the documentation 750-8xxx on http://www.wago.com
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750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X	X
750-8213	PFC200 G2 2ETH CAN	X	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X	X
750-8214	PFC200 G2 2ETH RS CAN	X	X
750-8215	PFC200 G2 4ETH CAN USB		X
750-8216	PFC200 G2 2ETH RS CAN DPS	X	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X	X
750-8217	PFC200 G2 2ETH RS 4G EU		X
750-8217/025-000	PFC200 G2 2ETH RS 4G EU T		X
750-8217/600-000	PFC200 G2 2ETH RS 4G Global		X
750-8217/625-000	PFC200 G2 2ETH RS 4G Global T		X

This firmware will be released via GitHub: https://github.com/WAGO

15.1 System

[FIXED] WAT34284 “Dirty Pipe" enables root privileges
CVE-2022-0847

15.2 Fieldbus Interface & Protocols

[FIXED] WAT33430 New e!Cockpit projects for 750-8217 automatically contains WagoSysModem as required library

16 Firmware Release 03.09.04 (21) – e!COCKPIT and CODESYS 2

BUG FIX | SECURITY RELEVANT | NEW FEATURES

Compatible from e!COCKPIT Version	1.10*	Compatible from WAGO I/O PRO Version	2.3.9.61

* Service Pack 2 (2021-12) required

Starting with firmware 19, the PFC100 and the PFC200 of the first generation have their own image and release notes.

FW not for 750-8217 usable.

Affected articles/Available for		**Supported PLC**	
Article Number	**Designation**	**CDS2.3**	**e!Runtime**
750-8210	PFC200 G2 4ETH	X	X
750-8210/025-000	PFC200 G2 4ETH T	X	X
750-8210/040-000	PFC200 G2 4ETH XTR	X	X
750-8211	PFC200 G2 2ETH 2SFP	X	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X	X
750-8212	PFC200 G2 2ETH RS	X	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP		X
750-8212/025-000	PFC200 G2 2ETH RS T	X	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X	X
750-8213	PFC200 G2 2ETH CAN	X	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X	X

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750-8214	PFC200 G2 2ETH RS CAN	X	X
750-8215	PFC200 G2 4ETH CAN USB		X
750-8216	PFC200 G2 2ETH RS CAN DPS	X	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X	X
~~750-8217~~	~~PFC200 G2 2ETH RS 4G EU~~		~~X~~
~~750-8217/025-000~~	~~PFC200 G2 2ETH RS 4G EU T~~		~~X~~
~~750-8217/600-000~~	~~PFC200 G2 2ETH RS 4G Global~~		~~X~~
~~750-8217/625-000~~	~~PFC200 G2 2ETH RS 4G Global T~~		~~X~~

This firmware will be released via GitHub: https://github.com/WAGO

16.1 System

[NEW]	WAT32833	Improved robustness of application control with operating mode switch and additional detection of invalid states.
[NEW]		IP forwading is activated implicitly when Docker is activated.
[NEW]	WAT34079	Libcurl update to version 7.81.0
[NEW]		Bootloader update to version 2021.10.0
[FIXED]	WAT33827	Sender of SNMP "Informs" could be changed
[FIXED]	WAT33547	deactivate Multicast Snooping by default
[FIXED]	WAT33914	4-Port PFCs now forwarding BPDU packets
[FIXED]	WAT34053	Security-Fix in config-tool print_log.
[FIXED]	WAT34123	Network bridges discard their IP address when all associated network ports are disconnected.
[FIXED]	WAT34284	“Dirty Pipe" enables root privileges CVE-2022-0847

16.2 Fieldbus Interface & Protocols

OPC UA

[NEW]		OPC UA client that can establish a connection to an OPC UA server via standardized PLCopen function blocks.

CAN

[FIXED]	WAT34135	CAN interface goes into BusOff by TxOverflow

BACnet

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[NEW]	The BACnet revision has been updated from revision 14 to revision 22
Cloud	
[NEW]	Proxy configuration for MS Azure + Wago Cloud in WBM configurable

16.3 Functional change

[DEPRECATED]	Config tool function get_telecontrol_state will be removed in future releases. The config tool was used to determine whether a device is a telecontrol. Since telecontrol services can be added by dynamic licensing, the tool is no longer needed.
[DEPRECATED]	DHCP and DNS Server will be removed in future releases. For the transition, it will be included for now. In the next release, the servers will still be part of the firmware.

16.4 Beta functionalities

[BETA]	"Wago Device Access" for parametrization and configuration. The service is available and can already be tested. Changes in the model and behavior are possible for future versions. REST-API is active under path "<host>/wda" on port 443. File-Access-API is active under path "<host>/files" on port 443. To disable the service, delete symlink "/etc/rc.d/S11_paramd" or move it to subdirectory "disabled". Compared to the last firmware, many more parameter providers have been added.

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17 Firmware Release 03.08.08 (20)

BUG FIX | SECURITY RELEVANT | NEW HARDWARE | NEW FEATURES

Compatible from e!COCKPIT Version	1.10*	Compatible from WAGO I/O PRO Version	2.3.9.61

* Service Pack 1 (2021-12) required

This firmware will be released via GitHub: https://github.com/WAGO

17.1 System

[FIXED] WAT33793 IPsec: SHA512 based ESP algorithms not available.

17.2 Fieldbus Interface & Protocols

[FIXED] WAT33827 Sender of SNMP "Informs" not changeable via IEC Libraries.

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18 Firmware Release 03.08.07 (20)

SECURITY RELEVANT | NEW HARDWARE | NEW FEATURES

Compatible from e!COCKPIT Version	1.10*	Compatible from WAGO I/O PRO Version	2.3.9.61

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* Service Pack 1 (2021-12) required

Starting with firmware 19, the PFC100 and the PFC200 of the first generation have their own image and release notes.

Affected articles/Available for		Supported PLC	
Article Number	**Designation**	**CDS2.3**	**e!Runtime**
750-8210	PFC200 G2 4ETH	X	X
750-8210/025-000	PFC200 G2 4ETH T	X	X
750-8210/040-000	PFC200 G2 4ETH XTR	X	X
750-8211	PFC200 G2 2ETH 2SFP	X	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X	X
750-8212	PFC200 G2 2ETH RS	X	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP		X
750-8212/025-000	PFC200 G2 2ETH RS T	X	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X	X
750-8213	PFC200 G2 2ETH CAN	X	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X	X
750-8214	PFC200 G2 2ETH RS CAN	X	X
750-8215	PFC200 G2 4ETH CAN USB		X
750-8216	PFC200 G2 2ETH RS CAN DPS	X	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X	X
750-8217	PFC200 G2 2ETH RS 4G EU		X
750-8217/025-000	PFC200 G2 2ETH RS 4G EU T		X
750-8217/600-000	PFC200 G2 2ETH RS 4G Global		X
750-8217/625-000	PFC200 G2 2ETH RS 4G Global T		X

This firmware will be released via GitHub: https://github.com/WAGO

18.1 System

[NEW] Integration of Docker Deamon. Docker now can be installed and activited via. WBM.

[NEW] Users of WBM and Linux where harmonized.

User "user" and "admin" can still be used for authorization in WBM as default, but they are no longer exclusive for WBM.
Every WBM user can only change his own password now.

To use WBM, linux user can be added to group "wbm-admin" or "wbm-user". All other users where treated as "guest".

Note:

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		Configuration/change of password in WBM will directly change the configuration of the corresponding linux user and vice versa. After upgrade to FW 20, login in WBM is not possible with the old WBM passwords; you must use the passwords of the corresponding linux users. After a following downgrade to FW 19 (or less), WBM will use the WBM default passwords.
[NEW]		"Codesys port authentication password" can no longer be changed via WBM.
[NEW]		From FW20 the HTTPS port is always active and cannot be disabled via WBM or configtool. Please note that this will be the state after a firmware update, regardless which state was configured before. If necessary, the HTTPS port can be blocked via the firewall.
[NEW]		PTXdist update to version 2020.8.0
[NEW]		openSSL update to version 1.1.1.L
[NEW]	WAT33917	Busybox update to version 1.34.1 CVE-2021-42378, CVE-2021-42379, CVE-2021-42380, CVE-2021-42381, CVE-2021-42382, CVE-2021-42383, CVE-2021-42384, CVE-2021-42385, CVE-2021-42386
[FIXED]		PFC200 with 4G: Fix issue with sporadic high system load leading to a KBus watchdog timeout when modem starts unexpected re-initialisation of SIM card in operational state.
[KNOWN]	WAT33180	PFC200 with 4G: 2kB Memoryleak for each Modem-Reset.

18.1.1

18.2 Runtime System

[FIXED]	WAT33476	Fix possible deadlock when using multiple tasks in an e!Cockpit application on PFC based controllers leading to a KBus watchdog timeout (signalled by IO LED error blinkcode 9-5)
[FIXED]		Fixed CODESYS 2.3 webserver vulnerabilities regarding CODESYS advisory 2021-15_LCDS-358: CVE-2021-34583, CVE-2021-34584, CVE-2021-34585, CVE-2021-34586
[FIXED]		Fixed CODESYS 2.3 runtime vulnerability regarding CODESYS advisory 2021-16_LCDS-361: CVE-2021-34593
[FIXED]		Fixed CODESYS 2.3 runtime vulnerabilities regarding CODESYS advisory 2021-17_LCDS-362: CVE-2021-34595, CVE-2021-34596

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18.3 Fieldbus Interface & Protocols

OPC UA

[FIXED]	WAT32891	The OPC UA port is now correctly opened in the firewall after restart.

CAN

[NEW]		It is now possible to use extended CAN configuration in e!COCKPIT

BACnet

[FIXED]	WAT33683	When using BACnet, there is no longer an increase in open file descriptors.

Cloud Connectivity

[NEW]		Cloud Connectivity: Update Azure SDK to 1.6.0

18.4 Functional change

[DEPRECATED]	Config tool function get_telecontrol_state will be removed in future releases. The config tool was used to determine whether a device is a telecontrol. Since telecontrol services can be added by dynamic licensing, the tool is no longer needed.
[REMOVED]	Removed Telnet server, use SSH instead.
[REMOVED]	Removed TFTP server.

18.5 Beta functionalities

[BETA]	"Wago Device Access" for parametrization and configuration. The service is available and can already be tested. Changes in the model and behavior are possible for future versions. REST-API is active under path "<host>/wda" on port 443. File-Access-API is active under path "<host>/files" on port 443. To disable the service, delete symlink "/etc/rc.d/S11_paramd" or move it to subdirectory "disabled".

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19 Firmware Release 03.07.14 (19)

SECURITY RELEVANT | NEW HARDWARE | NEW FEATURES

Compatible from e!COCKPIT Version	1.9*	Compatible from WAGO I/O PRO Version	2.3.9.61

* Service Pack 1 (2021-08) required

Starting with firmware 19, the PFC100 and the PFC200 of the first generation have their own image and release notes.

Affected articles/Available for		Supported PLC	
Article Number	**Designation**	**CDS2.3**	**e!Runtime**
750-8210	PFC200 G2 4ETH	X	X
750-8210/025-000	PFC200 G2 4ETH T	X	X
750-8210/040-000	PFC200 G2 4ETH XTR	X	X
750-8211	PFC200 G2 2ETH 2SFP	X	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X	X
750-8212	PFC200 G2 2ETH RS	X	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP		X
750-8212/025-000	PFC200 G2 2ETH RS T	X	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X	X
750-8213	PFC200 G2 2ETH CAN	X	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X	X
750-8214	PFC200 G2 2ETH RS CAN	X	X
750-8215	PFC200 G2 4ETH CAN USB		X
750-8216	PFC200 G2 2ETH RS CAN DPS	X	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X	X
750-8217	PFC200 G2 2ETH RS 4G EU		X
750-8217/025-000	PFC200 G2 2ETH RS 4G EU T		X
750-8217/600-000	PFC200 G2 2ETH RS 4G Global		X
750-8217/625-000	PFC200 G2 2ETH RS 4G Global T		X

This firmware will be released via GitHub: https://github.com/WAGO

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19.1 System

[NEW]		Extend routing functionality: routing over an interface.
[NEW]	WAT25306	The configuration of a default gateway can now be set on the TCP/IP configuration page in the WBM together with the IP configuration.
[NEW]	WAT32943	Extend the Fix-IP-Feature to address all configured bridges. (Not only bridge 0)
[NEW]		Updated kernel to version 5.10
[FIXED]	WAT22710	SEC: Disabled local and remote port forwarding for SSH server by default (conforming to in BDEW whitepaper)
[FIXED]	WAT27285	Fixed invalid progress of 30% during firmware update.
[FIXED]	WAT32419	Prevent dropbear from logging "no such file or directory"
[FIXED]	WAT33149 WAT30279	Allow PN connection up to 64 modules.
[FIXED]	WAT32675	Fix synchronisation error while using WagoLibNetSnmpManager and WagoLibNetSnmp.
[FIXED]	WAT28783	PFC is not sending coldstart trap via SNMP
[FIXED]	WAT27060	WagoConfigToolLib could not be used to read DHCP assignees DNS server and default gateway
[FIXED]	WAT32606 WAT32832	Fix port mirroring visualisation error in WBM.
[FIXED]		SEC: Updated dnsmasq to 2.83; Fixed CVE-2020-25684, CVE-2020-25685, CVE-2020-25686
[FIXED]		SEC: Updated sudo to 1.9.5p2; Addresses CVE-2021-3156
[FIXED]	WAT32065	Fixed issue displaying the wrong timezone after select timezone CET via WBM.
[FIXED]	WAT32817	Fix SNMP v2c Inform Notification function (extend FB)
[FIXED]		Updated ca-certificates to NSS.3.60.1.RTM
[FIXED]	WAT33002	Updated webserver lighttpd to version 1.4.59
[FIXED]	WAT32618	DRM evaluation mode is not signaled by SYS-LED for firmware functions that needs a license (e.g. Multi-Cloud, BACnet)
[FIXED]	WAT33412	Fix temporary network loop/network bridge within the FW update process, if the network is separated and connected to more than one network
[KNOWN]	WAT33180	PFC200 with 4G: 2kB Memoryleak for each Modem-Reset.

19.1.1

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19.2 Runtime System

[NEW]		e!RUNTIME Upgrade to version 3.5.16.3 (based on CODESYS 3.5, SP 16, Patch 3)
[FIXED]	WAT31861 WAT31959	Bootproject with e!Cockpit application doesn't start when using retain variables and changing application without download.
[FIXED]	WAT33491	CODESYS2 WebVisu doesn't show variable values when port authentication is enabled since FW18 Patch3

19.3 Fieldbus Interface & Protocols

OPC UA

[FIXED]		The OPC UA port is now correctly opened in the firewall.

Modbus

[NEW]		Bidirectional access to address ranges adjustable
[FIXED]	WAT33049 WAT33166	Fix Modbus Master (Client) mode OnValueChange to write data in Modbus Slave (Server) registers.

CAN

[FIXED]	WAT-32262	PFC sends unexpected CAN emergency telegram.
[FIXED]	WAT-32399	CAN layer2 receive does not work when calling FbCanL2Open in each SPS cycle.
[FIXED]	WAT-32995	CAN layer2 keeps sockets open / memory leak
[FIXED]	WAT-32771	CAN layer2 memory leak when opening CAN socket in disconnected state

BACnet

[NEW]		All log files under /var/log can be selected and displayed on the WBM Diagnostic page. The guest user is excluded

Cloud Connectivity

[NEW]		Add support for cache mode SD-Card for NativeMQTT
[NEW]		IEC retain data is not deleted during transfer of boot application. Retain data may be reused if it is still compatible to boot application.
[FIXED]		Use exponential backoff for retry interval if connection fails due to failing certificate validation

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19.4 Libraries

[FIXED]	WAT-33313	Set path to standard certificate store (/etc/ssl/certs) for curl library.
[FIXED]	WAT-32886	Restore behavior of WagoSysProcess library for PFC firmware release 17 and older.

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19.5 Functional change

[DEPRECATED]	Config tool function get_telecontrol_state will be removed in future releases. The config tool was used to determine whether a device is a telecontrol. Since telecontrol services can be added by dynamic licensing, the tool is no longer needed.
[REMOVED]	3S OPC UA Server removed from the firmware. (Can be installed for firmware 19, available via support: support@wago.com).
[CHANGED]	In future releases, HTTPS-Port is always active and can only be switched off by the firewall.

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20 Firmware Release 03.06.19 (18)

SECURITY RELEVANT | NEW FEATURES

Compatible from e!COCKPIT Version	1.8	Compatible from WAGO I/O PRO Version	2.3.9.61

This firmware will be released via GitHub: https://github.com/WAGO

20.1 System

[NEW]		PFC200 with 4G: Send and receive SMS via e!COCKPIT IEC-Library
[NEW]		PFC200 with 4G: Modem configuration can now be prepared in WBM even when SIM is not inserted or locked
[NEW]		PFC200 with 4G: Manual configuration of net type and provider via WBM
[NEW]		PFC200 with 4G: Networkscan of available mobile radio networks via WBM
[NEW]		PFC200 with 4G: CID/LAC to determine the location of the cell tower
[FIXED]		PFC200 with 4G: Stabilization for applications with massive cell changes
[FIXED]	WAT-32751	PFC200 with 4G: Authentication type "PAP or CHAP" can now be configured correctly

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[KNOWN]	PFC200 with 4G: 2kB Memoryleak for each Modem-Reset.

Attention!
To be able to use the new features for the PFC200 with 4G, e!COCKPIT v1.9 is required. In addition, a small change must be made in the Library Manager of the e!COCKPIT project. The placeholder WagoSysModem_Internal must be set to WagoSysModem_Internal_PFC_1.1.4.0.

20.2 Fieldbus Interface & Protocols

OPC UA

[FIXED]	WAT-32826	Nested IEC structures are now supported
[NEW]		The Endpoint URL can be set in the WBM between the Hostname and the IP addresses of the bridges StructureFields are now supported.
[NEW]		Structured DataType is used to provide the metadata for a field of a custom Structure DataType. (OPC UA Specification Part 3 - 8.51 StructureField)

Cloud Connectivity

[FIXED]	CC-2133	Fixed issues which may lead to crash or deadlock of cloud connection.
[FIXED]	CC-2247	native MQTT: Fixed blocked data transmission if more than 20 subscriptions are used and broker is not available during initial connect.

20.3 Runtime System

[NEW]	SEC, CDS2: CODESYS Advisory 2021-06 (Security update for CODESYS Control V2 communication)
[NEW]	SEC, CDS2: CODESYS Advisory 2021-07 (Security update for CODESYS V2 web server)

20.3.1

21 Firmware Release 03.06.11 (18)

BUG FIX

Compatible from e!COCKPIT Version	1.8	Compatible from WAGO I/O PRO Version	2.3.9.61

This firmware will be released via GitHub: https://github.com/WAGO

21.1 System

[FIXED]	WAT32767	Fixed system freeze on frequent access to retain memory.

21.1.1

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22 Firmware Release 03.06.09 (18)

SECURITY RELEVANT | NEW HARDWARE | NEW FEATURES

Compatible from e!COCKPIT Version	1.8	Compatible from WAGO I/O PRO Version	2.3.9.61

Affected articles/Available for		Supported PLC	
Article Number	**Designation**	**CDS2.3**	**e!Runtime**
750-8100	PFC100 2ETH ECO		X
750-8101	PFC100 2ETH		X
750-8101/025-000	PFC100 2ETH T		X
750-8102	PFC100 2ETH RS		X
750-8102/025-000	PFC100 2ETH RS T		X
750-8101/000-010	PFC100 FG0 2ETH		X
750-8202	PFC200 2ETH RS [2, 3, 4]	X	X
750-8203	PFC200 2ETH CAN [2, 3, 4]	X	X
750-8204	PFC200 2ETH RS CAN [2, 3, 4]	X	X
750-8206	PFC200 2ETH RS CAN DPS [2, 3, 4]	X	X
750-8207	PFC200 2ETH RS 3G [4]	X	X
750-8208	PFC200 2ETH RS CAN DPM [4]	X	
750-8202/025-000	PFC200 2ETH RS T [2, 3, 4]	X	X
750-8202/025-001	PFC200 2ETH RS Tele T [2, 3, 4]	X	(X)[1]
750-8202/025-002	PFC200 2ETH RS ECO Tele T [2, 3, 4]	X	(X)[1]
750-8203/025-000	PFC200 2ETH CAN T [2, 3, 4]	X	X
750-8204/025-000	PFC200 2ETH RS CAN T [2, 3, 4]	X	X
750-8206/025-000	PFC200 2ETH RS CAN DPS T [2, 3, 4]	X	X
750-8206/025-001	PFC200 2ETH RS CAN DPS Tele T [2, 3, 4]	X	(X)[1]
750-8207/025-000	PFC200 2ETH RS 3G T [4]	X	X
750-8207/025-001	PFC200 2ETH RS 3G Tele T [4]	X	(X)[1]
750-8208/025-000	PFC200 2ETH RS CAN DPM T [4]	X	
750-8208/025-001	PFC200 2ETH RS CAN DPM Tele T [4]	X	
750-8202/040-000	PFC200 2ETH RS XTR [4]	X	X
750-8202/040-001	PFC200 2ETH RS Tele XTR [4]	X	(X)[1]
750-8206/040-000	PFC200 2ETH RS CAN DPS XTR [4]	X	X
750-8206/040-001	PFC200 2ETH RS CAN DPS Tele XTR [4]	X	(X)[1]
750-8202/000-011	PFC200 FG1 2ETH RS [4]	X	X
750-8202/000-012	PFC200 FG2 2ETH RS [4]	X	X
750-8202/000-022	PFC200 FGE 2ETH RS [4]	X	X
750-8207/000-022	PFC200 FGE 2ETH RS 3G [4]	X	X
750-8210	PFC200 G2 4ETH	X	X
750-8211	PFC200 G2 2ETH 2SFP	X	X

Please attend that this release note is only valid with the documentation 750-8xxx on http://www.wago.com
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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
750-8215	PFC200 G2 4ETH CAN USB		X
750-8216	PFC200 G2 2ETH RS CAN DPS	X	X
750-8217	PFC200 G2 2ETH RS 4G		X
750-8210/025-000	PFC200 G2 4ETH T	X	X
750-8212/025-000	PFC200 G2 2ETH RS T	X	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP		X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X	X
750-8217/025-000	PFC200 G2 2ETH RS 4G T		X
750-8210/040-000	PFC200 G2 4ETH XTR	X	X
750-8211/040-000	PFC200 G2 2ETH 2SFP T	X	X
750-8211/040-001	PFC200 G2 2ETH 2SFP Tele T	X	X
750-8212/040-000	PFC200 G2 2ETH RS XTR	X	X
750-8212/040-001	PFC200 G2 2ETH RS Tele XTR	X	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X	X
750-8216/040-000	PFC200 G2 2ETH RS CAN DPS XTR	X	X

Important:

1 e!RUNTIME available for devices produced 07/2017 or later
2 Product discontinued, last call on 31.12.2020
3 Firmware is guaranteed to be maintained until the last FW release 2021
4 New features not guaranteed for next firmware versions

This firmware will be released via GitHub: https://github.com/WAGO

22.1 System

[NEW]		PFC200 with 4G: Modem reset possible
[NEW]		The invalid IP adress 0.0.0.0 is not accepted by the system.
[NEW]		In case of IP missconfguration a corresponding error message is displayed in the WBM dialog.
[NEW]		Compiler Update to Linaro GCC 9.2
[FIXED]	WAT31972W AT32325	WBM: Not all TZ strings can be set and displayed
[FIXED]	WAT32141	Communication over service port could not established.
[FIXED]	WAT31951	750-8207: Connection problems with roaming SIM cards
[FIXED]	WAT32108	750-8212: Config tool bootproject argument not available
[FIXED]	WAT32262	PFC sends undocumented emergency telegram
[REMOVED]		Removed deprecated function ct_liblog_reportError

22.2 Runtime System

[NEW]		e!RUNTIME Upgrade to Version 3.5.15.4 (based on CODESYS 3.5, SP 15, Patch 4)
[FIXED]	WAT30855	RUN-LED stays red when application restarts itself
[FIXED]	WAT30841	Wrong time stamp for alarms.

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22.3 Fieldbus Interface & Protocols

OPC UA

[NEW]		Integration of the WAGO OPC UA server into the Firmware.
[NEW]		Import of a customer-specific information model possible. (WAGO Mapping Editor is required.)
[REMOVED]		Discontinue 3S OPC UA Server in the firmware. (Can be installed for firmware 19, available via support: support@wago.com).

CAN

[FIXED]	WAT32038	CAN continues to run even if the Runtime crashes
[FIXED]	WAT31936	750-8215: Missing EDS file for CAN

BACnet

[NEW]		BACnet S license added to the BACnet Stack.
[NEW]		BACnet: Added further error code information on incorrect user input.

Cloud Connectivity

[NEW]		Cloud Connectivity: Use Azure specific system properties to provide content type and content encoding of device2cloud messages for message routing
[FIXED]		Cloud Connectivity: WBM: Minor usability issues
[FIXED]		Cloud Connectivity: Improve robustness in scenarios with high transmission rate and high data volume
[FIXED]		Cloud Connectivity: Resend DeviceHello message with interval of 30 seconds if corresponding CloudHello message is not received
[REMOVED]		Cloud Connectivity: Discontinue support of WAGO Protocol 1.0
[REMOVED]		Cloud Connectivity: Discontinue support of Cloud Connectivity with WagoLibCloud_02.lib for Codesys 2.3

SFTP

[FIXED]	WAT31270	SFTP Client freezes

22.4 Libraries

[NEW]	WAT31930	Updated libssh (1.8.0 -> 1.9.0)
[NEW]		Library for monitoring and controlling the modem.
[FIXED]	WAT32098	CDS2 configToolFb is blocking while error handling.

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23 Firmware Release 03.05.10 (17)

Compatible from e!COCKPIT Version	1.7*	Compatible from WAGO I/O PRO Version	2.3.9.61

* Service Pack 1 (2020-07) required

Affected articles/Available for		Supported PLC	
Article Number	**Designation**	**CDS2.3**	**e!Runtime**
750-8100	PFC100 2ETH ECO		X
750-8101	PFC100 2ETH		X
750-8101/025-000	PFC100 2ETH T		X
750-8102	PFC100 2ETH RS		X
750-8102/025-000	PFC100 2ETH RS T		X
750-8101/000-010	PFC100 FG0 2ETH		X
750-8202	PFC200 2ETH RS [2, 3, 4]	X	X
750-8203	PFC200 2ETH CAN [2, 3, 4]	X	X
750-8204	PFC200 2ETH RS CAN [2, 3, 4]	X	X
750-8206	PFC200 2ETH RS CAN DPS [2, 3, 4]	X	X
750-8207	PFC200 2ETH RS 3G [4]	X	X
750-8208	PFC200 2ETH RS CAN DPM [4]	X	
750-8202/025-000	PFC200 2ETH RS T [2, 3, 4]	X	X
750-8202/025-001	PFC200 2ETH RS Tele T [2, 3, 4]	X	(X)[1]
750-8202/025-002	PFC200 2ETH RS ECO Tele T [2, 3, 4]	X	(X)[1]
750-8203/025-000	PFC200 2ETH CAN T [2, 3, 4]	X	X
750-8204/025-000	PFC200 2ETH RS CAN T [2, 3, 4]	X	X
750-8206/025-000	PFC200 2ETH RS CAN DPS T [2, 3, 4]	X	X
750-8206/025-001	PFC200 2ETH RS CAN DPS Tele T [2, 3, 4]	X	(X)[1]
750-8207/025-000	PFC200 2ETH RS 3G T [4]	X	X
750-8207/025-001	PFC200 2ETH RS 3G Tele T [4]	X	(X)[1]
750-8208/025-000	PFC200 2ETH RS CAN DPM T [4]	X	
750-8208/025-001	PFC200 2ETH RS CAN DPM Tele T [4]	X	
750-8202/040-000	PFC200 2ETH RS XTR [4]	X	X
750-8202/040-001	PFC200 2ETH RS Tele XTR [4]	X	(X)[1]
750-8206/040-000	PFC200 2ETH RS CAN DPS XTR [4]	X	X
750-8206/040-001	PFC200 2ETH RS CAN DPS Tele XTR [4]	X	(X)[1]
750-8202/000-011	PFC200 FG1 2ETH RS [4]	X	X
750-8202/000-012	PFC200 FG2 2ETH RS [4]	X	X
750-8202/000-022	PFC200 FGE 2ETH RS [4]	X	X
750-8207/000-022	PFC200 FGE 2ETH RS 3G [4]	X	X
750-8210	PFC200 G2 4ETH	X	X
750-8212	PFC200 G2 2ETH RS	X	X
750-8213	PFC200 G2 2ETH CAN	X	X

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750-8214	PFC200 G2 2ETH RS CAN	X	X
750-8215	PFC200 G2 4ETH CAN USB		X
750-8216	PFC200 G2 2ETH RS CAN DPS	X	X
750-8217	PFC200 G2 2ETH RS 4G		X
750-8210/025-000	PFC200 G2 4ETH T	X	X
750-8212/025-000	PFC200 G2 2ETH RS T	X	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP		X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X	X
750-8217/025-000	PFC200 G2 2ETH RS 4G T		X
750-8210/040-000	PFC200 G2 4ETH XTR	X	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X	X

Important:

[1] e!RUNTIME available for devices produced 07/2017 or later
[2] Product discontinued, last call on 31.12.2020
[3] Firmware is guaranteed to be maintained until the last FW release 2021
[4] New features not guaranteed for next firmware

This firmware will be released via GitHub: https://github.com/WAGO

23.1 System

[NEW]	Each bridge contains its own MAC address for 2nd generation PFC200(750-821X)
[NEW]	PFC 4G: Configurable data service
[NEW]	PFC 4G: Activate SIM card with PIN/PUK
[NEW]	PFC 4G: Determine signal strength from the mobile network
[NEW]	WBM-NG: Extension by the area "Package Server”
[NEW]	WBM-NG: Password length increased to maximum 100 characters
[NEW]	WBM: Discontinuation of the legacy WBM
[NEW]	Config-tool no longer uses /etc/specific/network-interfaces.xml (do not use this file anymore - it will be removed in future versions)
[NEW]	config-tool ipdatacheck option --subnet-check is removed
[NEW]	CBM: TCP/IP settings show bridge names instead of ethernet interface labels
[NEW]	CBM: Ethernet port physical settings now support 4-port PFCs (X1, X2, X11, X12)
[NEW]	Cloud Connectivity: Add support for two parallel cloud connections
[NEW]	Cloud Connectivity: Add statically configuration of protocol version
[NEW]	Cloud Connectivity: Add support for certificate based authentification for Azure IoT Hub connections
[NEW]	Cloud Connectivity: Add option for application specific property for Azure IoT Hub connections

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[FIXED]	CC-1900	Cloud Connectivity: Improve robustness of Azure IoT hub connection when using an unreliable network connection
[FIXED]	WAT31159	SEC: WBM-NG: Cookies can no longer be deleted or modified over an insecure connection
[FIXED]	WAT26409	PFC 3G: The options PREFER_GSM and PREFER_UMTS for mobile networks are no longer supported because they are not correctly considered by the modem
[FIXED]	WAT31612	PFC 3G: Visibility of the signal strength restored
[FIXED]	WAT31625	PFC 3G: Provider list for manual selection is also displayed if a SIM card without PIN is used
[FIXED]	WAT31910	Fixed restore of NTP server settings
[FIXED]	WAT31537	SEC: PPPD update
[KNOWN]	WAT31818	Under Firefox, the old WBM allowed to accept passwords of any length but only the first 32 characters were saved. In order to use these passwords in WBM-NG, only the first 32 characters of these passwords must be entered.

23.2 Runtime System

[FIXED]	WAT30312	PFC200: CODESYS2: No access after double download FW13

23.3 Fieldbus Interface & Protocols

OPC UA

[NEW]		Structures are supported
[NEW]		Security Policy Base128Rsa15 is supported
[NEW]		Activation of the Commissioning Mode
[NEW]		Change of factory settings • The device starts with the highest security policy (Base256Sha256). • Trust all clients is deactivated • Unlimited anonymous access is deactivated

Modbus

[FIXED]	WAT31520	ModbusSlave: Overwriting of registers / variables

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24 Firmware Release 03.04.10 (16)

Compatible from e!COCKPIT Version	1.7	Compatible from WAGO I/O PRO Version	2.3.9.55

Affected articles/Available for		Supported PLC	
Article Number	**Designation**	**CDS2.3**	**e!Runtime**
750-8100	PFC100 2ETH ECO		X
750-8101	PFC100 2ETH		X
750-8101/025-000	PFC100 2ETH T		X
750-8102	PFC100 2ETH RS		X
750-8102/025-000	PFC100 2ETH RS T		X
750-8101/000-010	PFC100 FG0 2ETH		X
750-8202	PFC200 2ETH RS [2, 3]	X	X
750-8203	PFC200 2ETH CAN [2, 3]	X	X
750-8204	PFC200 2ETH RS CAN [2, 3]	X	X
750-8206	PFC200 2ETH RS CAN DPS [2, 3]	X	X
750-8207	PFC200 2ETH RS 3G	X	X
750-8208	PFC200 2ETH RS CAN DPM	X	
750-8202/025-000	PFC200 2ETH RS T [2, 3]	X	X
750-8202/025-001	PFC200 2ETH RS Tele T [2, 3]	X	(X)[1]
750-8202/025-002	PFC200 2ETH RS ECO Tele T [2, 3]	X	(X)[1]
750-8203/025-000	PFC200 2ETH CAN T [2, 3]	X	X
750-8204/025-000	PFC200 2ETH RS CAN T [2, 3]	X	X
750-8206/025-000	PFC200 2ETH RS CAN DPS T [2, 3]	X	X
750-8206/025-001	PFC200 2ETH RS CAN DPS Tele T [2, 3]	X	(X)[1]
750-8207/025-000	PFC200 2ETH RS 3G T	X	X
750-8207/025-001	PFC200 2ETH RS 3G Tele T	X	(X)[1]
750-8208/025-000	PFC200 2ETH RS CAN DPM T	X	
750-8208/025-001	PFC200 2ETH RS CAN DPM Tele T	X	
750-8202/040-000	PFC200 2ETH RS XTR	X	X
750-8202/040-001	PFC200 2ETH RS Tele XTR	X	(X)[1]
750-8206/040-000	PFC200 2ETH RS CAN DPS XTR	X	X
750-8206/040-001	PFC200 2ETH RS CAN DPS Tele 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
750-8210	PFC200 G2 4ETH	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
750-8215	PFC200 G2 4ETH CAN USB		X
750-8216	PFC200 G2 2ETH RS CAN DPS	X	X

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750-8217	PFC200 G2 2ETH RS 4G		X
750-8210/025-000	PFC200 G2 4ETH T	X	X
750-8212/025-000	PFC200 G2 2ETH RS T	X	X
750-8212/025-001	PFC200 G2 2ETH RS Tele T	X	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP		X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X	X
750-8217/025-000	PFC200 G2 2ETH RS 4G T		X
750-8210/040-000	PFC200 G2 4ETH XTR	X	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X	X

Important:

[1] e!RUNTIME available for devices produced 07/2017 or later
[2] Product discontinued, last call on 31.12.2020
[3] Firmware is guaranteed to be maintained until the last FW release 202

This firmware will be released via GitHub: https://github.com/WAGO

24.1 System

[NEW]		New Web Based Management integrated. WBM has a contemporary look and feel such as an improved handling.
[NEW]		WBM-NG: network configuration adopted to support 4 ports
[NEW]		WBM-NG: configuration is based on bridges, instead of interfaces
[NEW]		WBM-NG: Improved DIP switch logic
[NEW]		SSH host keys are taken over during firmware update
[NEW]		Custom OpenVPN data is regarded during backup
[NEW]		Added curl command line tool
[NEW]		Updated tcpdump (4.9.2 -> 4.9.3)
[NEW]		Updated dropbear (2018.76 -> 2019.78)
[NEW]		Updated libcurl/curl (7.65.0 -> 7.67.0)
[NEW]		Updated net-snmp (5.7.3 -> 5.8)
[NEW]		Updated sudo (1.8.28 -> 1.8.31)
[NEW]		Updated PHP (7.3.5 -> 7.3.15)
[NEW]		Updated mdmd (0.5.3 -> 0.7.6)
		Several and improvements for configuration of internal 3G modem and additional failure diagnostics (see new version of 750-8207 manual)
[NEW]	WAT31394	Added EXT4 filesystem as SD card formatting option.
[NEW]	WAT29230	Enlargement of the CANopen master configuration memory now enables more complex CANopen project planning.
[FIXED]	WAT30870	Internal MAC address translation.
[FIXED]	WAT29930	Conflicted IP configurations.
	WAT31094	

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[FIXED]	WAT31179	Missing routing table update.
	WAT31114	
[FIXED]	WAT30885	Changing third DIP switch octetts is not possible.
[FIXED]	WAT30573	Modem cannot be addressed after several resets.
	WAT30910	
[FIXED]	WAT31166	Modem swichtover to GSM not possible.
[FIXED]	WAT31218	Possible loss of internal 3G modem parameter on power cycle.
[FIXED]	WAT31543	IP remains on bridge after link loss on interfaces
[FIXED]	WAT31072	Fixed CVE-2019-5134, 5135, -5155, -5156. 5157, -5166, -5167, -5168,
	WAT31071	-5169, -5170, -5171, -5172, -5173, -5174, -5175, -5176, -5177, 5178,
	WAT31068	-5179, -5180, -5181, -5182, -5185, -5186
		More information: www.wago.com/security

24.2 Fieldbus Interface & Protocols

OPC UA

[NEW]		WAGO OPC UA Server available. New Server can be installed via ipk. File is available through website and support: support@wago.com

BACnet

[NEW]		Add BACnet Support for PFC200 G2 (750-8212, 750-8212/025-00X, 750-8213) and Control Panel Devices (762-430X/8000-002, 762-530X/8000-002)

CAN

[FIXED]	WAT31136	Added method CAN_RX_ALL in Codesys2 CANLayer2 library. This method allows processing of CAN telegrams in order of their receiption. New version of WagoCANLayer2_03.lib is required.

MQTT

[FIXED]		Fixed timestamp creation for Sparkplug NDATA messages: Use data creation time instead of transmission time
[FIXED]		Increased handshake timeout for WAGO protocol
[FIXED]		Try to reconnect automatically if MQTT broker denies connection
[KNOWN]	31190	Limit for maximum number of Trend Log (Multiple) Objects is set to 300

25 Firmware Release 03.03.11 (15)

Compatible from e!COCKPIT Version	1.6.1	Compatible from WAGO I/O PRO Version	2.3.9.55

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Important:
(X)[1] e!RUNTIME available for devices produced 07/2017 or later

This firmware will be released via GitHub: https://github.com/WAGO

25.1 System

[FIXED] WAT31102 Improved robustness by heavy ethernet traffic.

26 Firmware Release 03.03.10 (15)

Compatible from e!COCKPIT Version	1.6.1	Compatible from WAGO I/O PRO Version	2.3.9.55

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 Tele T	X	(X)[1]
750-8202/025-002	PFC200 CS 2ETH RS ECO Tele 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 Tele 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 Tele 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 Tele T	X	
750-8202/040-000	PFC200 CS 2ETH RS XTR	X	X
750-8202/040-001	PFC200 CS 2ETH RS Tele 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 Tele 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

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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
750-8215	PFC200 G2 4ETH CAN USB		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 Tele T	X	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP		X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X	X
750-8212/040-010	PFC200 G2 2ETH M12 RS XTR	X	X
750-8213/040-010	PFC200 G2 2ETH M12 CAN XTR	X	X

Important:
(X)[1] e!RUNTIME available for devices produced 07/2017 or later

This firmware will be released via GitHub: https://github.com/WAGO

26.1 System

[NEW]		The switch mode on 4-port PFC devices (750-8215) may now be configured like 2-port devices for ports X1 & X2 via WBM. The default switch configuration on 750-8215 has changed from a fixed separated to an all switched setting. It is now possible to configure all 4 ports, as you like via config-tool. Our next release will make this feature available via WBM.
[NEW]		By download of the CDS3 PROFINET i-Device functionality, the PROFINET-designated ports X11 & X12 are automatically combined in one bridge.
[FIXED]	WAT30375	Cloud-Connectivity: Improve robustness of Azure IoT hub connection when using an unreliable network connection.
[FIXED]	WAT30253	Correct impact of SMS method calls and modem status requests from Codesys IEC application to modem data service for PFC 750-8207.

26.2 Runtime System

[FIXED]	WAT30561	Correct directory handling in e!Cockpit SysDirLinux library for PFC.

26.3 Fieldbus Interface & Protocols

Profibus

[FIXED]	WAT28297	Correct mapping of PROFIBUS Bool variables for PFC. Possible wrong configuration of Bool arrays is now blocked in the CODESYS 2.3 PROFIBUS configurator (requires new TSP).

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The Release Note(s) and the corresponding update(s) are provided free of charge. The statutory warranty and liability regulations of §§ 521, 523 BGB apply to possible errors in the Release Note(s) or possible defects in the update (CISG is excluded). The update(s) is (are) intended to further enhance and / or to enrich our product(s), but does not mean that the previous software version was defective. In order to benefit from the improvements, we generally recommend the implementation of the update(s), but we cannot assume the final responsibility for the installation of the update(s) or their costs. Since we know neither the concrete application nor the individual conditions of use.

27 Firmware Release 03.02.02 (14)

Compatible from e!COCKPIT Version	1.6	Compatible from WAGO I/O PRO Version	2.3.9.55

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 Tele T	X	(X)[1]
750-8202/025-002	PFC200 CS 2ETH RS ECO Tele 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 Tele 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 Tele 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 Tele T	X	
750-8202/040-000	PFC200 CS 2ETH RS XTR	X	X
750-8202/040-001	PFC200 CS 2ETH RS Tele 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 Tele XTR	X	(X)[1]
750-8202/000-011	PFC200 FG1 2ETH RS	X	X

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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
750-8215	PFC200 G2 4ETH CAN USB		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 Tele T	X	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP		X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X	X

Important:
(X)[1] e!RUNTIME available for devices produced 07/2017 or later

This firmware will be released via GitHub: https://github.com/WAGO

27.1 System

[FIXED]	WAT29498	e!COCKPIT BlkDrvTcp Exception
[FIXED]	WAT30282	"force" on the Software Uploads page in the Web based Management does not work

27.2 Runtime System

[NEW]		e!RUNTIME Upgrade to Version 3.5.14.3

27.3 Fieldbus Interface & Protocols

Cloud Connectivity

[NEW]		Compression method integrated
[NEW]		WAGO protocol extended by data type String
[NEW]		Recovery of an application backup via WAGO Cloud (application update)
[NEW]		Restoring an application backup via WAGO Cloud in the context of a firmware update (device update)

OPC UA

[FIXED]	WAT29993	OPC UA inactive after firewall activation.

Profibus

[FIXED]	WAT30087	e!COCKPIT: Profibus Slave: wrong input data when mapping to existing variables
[FIXED]	WAT30170	Profibus slave: no correct data transmission of array slots when accessing via addresses / existing variables

27.4 Libraries

[FIXED]	WAT30132	WagoSysCurl does not consider the udiStringLength of the method curl_easy_setopt_STRING2

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28 Firmware Release 03.01.07 (13)

Compatible from e!COCKPIT Version	1.5.1	Compatible from WAGO I/O PRO Version	2.3.9.55

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 Tele T	X	(X)[1]
750-8202/025-002	PFC200 CS 2ETH RS ECO Tele 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 Tele 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 Tele 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 Tele T	X	
750-8202/040-000	PFC200 CS 2ETH RS XTR	X	X
750-8202/040-001	PFC200 CS 2ETH RS Tele XTR	X	X
~~750-8206/040-000~~	~~PFC200 CS 2ETH RS CAN DPS XTR~~	~~X~~	~~X~~
~~750-8206/040-001~~	~~PFC200 CS 2ETH RS CAN DPS Tele XTR~~	~~X~~	~~X~~
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
750-8215	PFC200 G2 4ETH CAN USB		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 Tele T	X	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X	X
750-8212/000-100	PFC200 G2 2ETH RS BACnet/IP		X
~~750-8216/025-000~~	~~PFC200 G2 2ETH RS CAN DPS T~~	~~X~~	~~X~~
~~750-8216/025-001~~	~~PFC200 G2 2ETH RS CAN DPS Tele T~~	~~X~~	~~X~~

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Important:
(X)[1] e!RUNTIME available for devices produced 07/2017 or later

This firmware will be released via GitHub: https://github.com/WAGO

Firmware 03.01.07 (13) is not permitted to be used for Profibus Slave Devices. (750-8206, 750-8216, and variants; see above)

28.1 System

[NEW]	New Device: PFC200 with BACnet (750-8212/000-100)
[NEW]	Backups can be encrypted via password.
[NEW]	PHP updated to 7.3
[NEW]	OpenSSL updated to 1.0.2q
[NEW]	OpenSSH updated to 7.9p1
[NEW]	OpenVPN updated to 2.4.6
[NEW]	CA certificated updated to 2019.02.11
[NEW]	CURL updated to 7.65
[NEW]	lighttpd updated to 1.4.53

28.2 Runtime System

[FIXED]	WAT26804	CODESYS 2.3: No access after double download.

28.3 Fieldbus Interface & Protocols

28.3.1 BACnet

[NEW]	Integration of BACnet profile B-BC (can only be used with 750-8212/000-100)
[NEW]	Firmware version 13 is officially listed at BACnet International with the BTL mark.

Cloud Connectivity

[NEW]	WebSockets are supported for the WAGO protocol.

28.4 Libraries

[FIXED]	WAT29373	WagoAppHttp: Data sporadically in header.
[FIXED]	WAT29513	WagoAppFTP: FTP/FTPS client freezes during processing.

29 Firmware Release 03.00.39 (12)

Compatible from e!COCKPIT Version	1.5	Compatible from WAGO I/O PRO Version	2.3.9.55

This firmware will be released via GitHub: https://github.com/WAGO

29.1 System

[FIXED]	WAT28151 WAT28953	Unreliable behavior of the mobile connection (750-8207)

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	WAT28822 WAT28853	
[FIXED]	WAT29247	Directory structure of /home folder was destroyed after system backup
[NEW]	WAT29453	Checksum of CODESYS 2.3 project is shown in WBM
[NEW]	WAT29454	Advanced Intrusion Detection Environment (AIDE) can be used to identify changes of filesystem

29.2 Operating System

[NEW]	Kernel Update to version 4.9.146

29.3 Fieldbus Interface & Protocols

Cloud Connectivity

[NEW]		Support of SAP Cloud
[NEW]		Azure SDK uses websockets
[NEW]		Retain-parameter visible in WBM
[NEW]		Backup / Restore extended by parameter migration

Profibus

[FIXED]	WAT29313 WAT28790	Using Bool and Real variables under Profibus does not work properly.

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30 Firmware Release 03.00.35 (12)

Compatible from e!COCKPIT Version	1.5	Compatible from WAGO I/O PRO Version	2.3.9.55

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 Tele T	X	(X)[1]
750-8202/025-002	PFC200 CS 2ETH RS ECO Tele 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 Tele 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 Tele 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 Tele T	X	
750-8202/040-000	PFC200 CS 2ETH RS XTR	X	X
750-8202/040-001	PFC200 CS 2ETH RS Tele 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 Tele 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
750-8215	PFC200 G2 4ETH CAN USB		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 Tele T	X	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X	X

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(X)[1] e!RUNTIME available for devices produced 07/2017 or later

This firmware will be released via GitHub: https://github.com/WAGO

30.1 System

[FIXED]	WAT29498	Net-LED shows wrong connection state
[FIXED]	WAT25828	Restricted remote connectivity between e!Cockpit and 750-8207 via 3G modem and VPN
[FIXED]	WAT26533	WebVisu may open too many sockets
[FIXED]	WAT27038	/va/log/access.log may grow up to 4 MBytes
[KNOWN]	WAT27110	SNMP exceptions while sending Messages from different Tasks
[KNOWN]	WAT27216	Ethernet Broadcast and Bandwidth limitation does not work properly.

30.2 Runtime System

[NEW]		e!RUNTIME Upgrade to Version 3.5.13.2
[FIXED]	WAT27447	Download of e!Runtime project may fail, if WagoSysKbusTerminalControl is used
[FIXED]	WAT27748	e!Runtime may crash, when SD card is plugged or removed

30.3 Operating System

[NEW]		Integraton of kernel features for Docker (Docker Ready)
[NEW]		Compiler Update to Linaro GCC 5.5
[NEW]		ptxdist-Update to Version 2017.11.1
[FIXED]	WAT26710	Access of SD card may procude kernel log entries
[KNOWN]	WAT21386	Pointer operation in retain memory with wrong alignment forces execption

30.4 Fieldbus Interface & Protocols

EtherCAT

[NEW]		Integration of EtherCAT Master (can only be used with license)

Cloud Connectivity

[NEW]		Handshake between WAGO Cloud and PFCx00 (Cloud Connecitvity)
[NEW]		Event-based publishing of data via the Wago protocol
[NEW]		Integration of native MQTT
[NEW]		Support of Sparkplug protocol (can only be used with license)

OPC UA

[FIXED]	WAT23100	OPC UA low update rate in case of more than 1000 variables

Profibus

[KNOWN]	WAT29313	Using BOOL variables under Profibus does not work properly.

30.5 Libraries

[NEW]		SQlite Databas Management System (including IEC Library)
[KNOWN]	WAT26085	WagoAppProcessorLoad returns invalid cpu load value, calculation includes not all system processes
[KNOWN]	WAT27060	WagoConfigToolLIB.lib cannot read some networking settings when configured with DHCP

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31 Firmware Release 02.08.35 (11)

31.1 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.

31.2 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

31.3 Fieldbus Interface & Protocols

31.3.1 Cloud Connectivity

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

31.4 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.

32 Firmware Release 02.08.31 (11)

32.1 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.

32.2 Fieldbus Interface & Protocols

[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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33 Firmware Release 02.08.26 (11)

33.1 System

[FIX] WAT25608 PFC100: Controller cannot read the DIP Switch settings.

34 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 Tele T	X	(X)[1]
750-8202/025-002	PFC200 CS 2ETH RS ECO Tele 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 Tele 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 Tele 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 Tele T	X	
750-8202/040-000	PFC200 CS 2ETH RS XTR	X	X
750-8202/040-001	PFC200 CS 2ETH RS Tele 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 Tele 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

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750-8212/025-001	PFC200 G2 2ETH RS Tele T	X	X
750-8212/025-002	PFC200 G2 2ETH RS ECO Tele T	X	X
750-8216/025-000	PFC200 G2 2ETH RS CAN DPS T	X	X
750-8216/025-001	PFC200 G2 2ETH RS CAN DPS Tele T	X	X

Important:

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

34.1 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

34.2 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

34.3 Web Based Management

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

34.4 Operating System

[NEW]	WAT	Linux Kernel Version 4.9.47-rt37

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34.5 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 adding 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

34.6 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

35 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

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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 Tele T	X	
750-8202/025-002	PFC200 CS 2ETH RS ECO Tele 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 Tele T	X	
750-8207/025-000	PFC200 CS 2ETH RS 3G T	X	X
750-8207/025-001	PFC200 CS 2ETH RS 3G Tele 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 Tele 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 Tele XTR	X	
750-8202/000-012	PFC200 FG2 2ETH RS	X	X
750-8202/000-022	PFC200 FGE 2ETH RS	X	X

35.1 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.

35.2 Runtime System

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

35.3 Web Based Management

None

35.4 Operating System

None

35.5 Fieldbus Interface & Protocols

Modbus

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

CAN/CANopen

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[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

35.6 Libraries

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

36 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 Tele T	X	
750-8202/025-002	PFC200 CS 2ETH RS ECO Tele 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

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

36.1 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

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36.2 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)

36.3 Web Based Management

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

36.4 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

36.5 Fieldbus Interface & Protocols

Modbus

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

CAN/CANopen

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

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

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36.6 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

37 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 Tele T	X	
750-8202/025-002	PFC200 CS 2ETH RS ECO Tele 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 Tele T	X	
750-8207/025-000	PFC200 CS 2ETH RS 3G T	X	X
750-8207/025-001	PFC200 CS 2ETH RS 3G Tele T	X	
750-8202/040-000	PFC200 CS 2ETH RS XTR	X	X
750-8202/040-001	PFC200 CS 2ETH RS Tele 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 Tele XTR	X	

37.1 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

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[NEW]	WAT14096	New error code for number of modules to high (1 + 16)
[NEW]	WAT13149	Dedicated routes for the two gateways

37.2 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

37.3 Web Based Management

None

37.4 Operating System

[FIXED]	WAT15975	Warning “In-band Error seen by USB_OTG at address0”

37.5 Fieldbus Interface & Protocols

Modbus

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

CAN/CANopen

[NEW]	WAT16803	Supports CANopen device profile DS405

Profibus

None

37.6 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

38 Firmware Release 02.04.24 (07)

Not released.

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39 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 Tele T
750-8202/025-002	PFC200 CS 2ETH RS ECO Tele 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 Tele T
750-8207/025-000	PFC200 CS 2ETH RS 3G T
750-8207/025-001	PFC200 CS 2ETH RS 3G Tele T
750-8202/040-000	PFC200 CS 2ETH RS XTR
750-8202/040-001	PFC200 CS 2ETH RS Tele XTR
750-8206/040-000	PFC200 CS 2ETH RS CAN DPS XTR
750-8206/040-001	PFC200 CS 2ETH RS CAN DPS Tele XTR

39.1 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

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[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

39.2 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

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[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.
		`PROGRAM POU`
		`VAR RETAIN`
		`myString1: STRING;  (* with error *)`
		`myString2: STRING(79);  (* working *)`
		`END_VAR`
		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.

39.3 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

39.4 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

39.5 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

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[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]	WA15648	The blink code of the CAN LED is incorrect when Guarding Error

Profibus

[]		None

39.6 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.

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40 Firmware Release 02.04.21 (05)

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

40.1 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

40.2 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)

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[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).

40.3 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(FFFFFFFF).
[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.

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40.4 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.

40.5 Operating System

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

40.6 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

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[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).

40.7 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 modcom.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_l05.lib with Modbus RS485: After program download, the interface cannot be opened sporadically.

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41 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 TELET

41.1 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.

41.2 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

41.3 Web Based Management

[NEW]		Performance improvement on reaction time
[NEW]		HTTPS for web visualisation

41.4 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)

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41.5 Fieldbus Interface & Protocols

[NEW]		Modbus configurable response delay
[FIXED]	WAT11378	TCP Keep-Alive
[FIXED]	WAT12779 WAT12644	DALI Configurator (753-647 DALI Multi-Master-clamp) and I/O-check work 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

41.6 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

42 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

42.1 System

No updates

42.2 Runtime System

No updates

42.3 Web Based Management

No updates

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42.4 Operating System

No updates

42.5 Fieldbus Interface & Protocols

[NEW] changes to pass comdec test

42.6 Libraries

No updates

43 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

43.1 System

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

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44 Appendix

44.1 Firmware 29 package list

aide - 0.17.4

azure - 1.10.1

bacnetnative - 1.1.1

barebox - 2021.10.0+w04.03.03.15

bash - 4.4.18

berlios-can-utils - v2020.02.04

blspec-pfc - 0.0.1

boost - 1.68.0

bootpc - 0.64

busybox - 1.34.1

bzip2 - 1.0.6

ca-certificates - NSS.3.92.RTM

canopen - 1.4

cbm - 2.02.00

cds3-cmpcanconfig - 0.0.1

cds3-cmpkbusasynccom - 0.0.1

cds3-cmpwsserver - 2.0.19

cds3-iodrvbacnet - 1.5.0

cds3-iodrvcanl2 - 1.0.2

cds3-iodrvcanm - 1.0.2

cds3-iodrvcans - 1.0.3

cds3-iodrvdal - 1.0.1

cds3-iodrvdps - 0.0.2

cds3-iodrvkbus - 0.0.1

cds3-iodrvserial - 0.0.1

cds3-sysutil - 2.0.16

cds3-tscasyncmgr - 0.0.1

cds3-tscchcfgonline - 0.0.1

cds3-tsccomextra - 0.0.1

cds3-tsccomswitch - 0.0.4

cds3-tsccurl - 0.0.4

cds3-tscdpslib - 0.0.1

cds3-tscdrm - 1.7.0

cds3-tscdrmiecinterface - 0.1.0

cds3-tscexttask - 0.0.1

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cds3-tsciecpriocheck - 0.0.1
cds3-tsciobacnet - 2.2.0
cds3-tsciodrvkbus - 0.0.1
cds3-tscled - 0.0.3
cds3-tscmodemiecinterface - 1.1.2
cds3-tscoms - 0.0.1
cds3-tscpamiecinterface - 0.0.1
cds3-tscprocess - 0.1.0
cds3-tscretainuio - 0.0.2
cds3-tscrunled - 0.0.2
cds3-tscsecure - 2.1.2
cds3-tscsharedpointer - 0.0.1
cds3-tscsnmp - 0.1.0
cds3-tscsyncbootproject - 1.0.0
cds3-tscsysext - 0.3.1
cds3-tscsyslog - 0.0.1
cds3-tscsysprocessorload - 0.0.2
cds3-tscsyssqlite - 1.0.1
cds3-tsctime - 0.0.6
cds3-tscuserdb - 0.0.1
cds3-tscwagostatusprovider - 0.0.2
cds3-tscwagosysusergroupiecinterface - 1.0.0
checksystem - 0.0.1
cifxtoolkit - 1.2.0.0
cjose - 0.6.2.3
codesys3 - 6.4.2.3
config-dnsmasq - 1.0.2
config-opcua - 1.0.0
config-snmp - 1.0.0
config-stp - 1.0.1
config-tools - 2.0.4
containerd - 1.7.13
coreutils - 8.31
cpufrequtils - 008
ct-board-specific-extensions - 1.0.0
ct-set-thread-priority - 1.0.0
daemonize - 1.4
dal - 0.0.1

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dalshell - 1.0
dataagent - 1.16
dbus - 1.12.20
dbus-glib - 0.104
dhcp-get-vendor-info - 0.1.0
dnsmasq - 2.90
docker - 25.0.4+wago.2
docker-cli - 25.0.4
docker-userland-proxy - 0dde5c895075df6e3630e76f750a447cf63f4789
dockerd - 25.0.4
dosfstools - 4.1
drm - 1.1.4
dropbear - 2022.83
dt-utils - 2019.01.0
dtc - v1.4.0
e2fsprogs - 1.45.6
ebtables - 2.0.10+4
eeprom-xsection - 0.5.0
ethtool - 5.7
expat - 2.5.0
factory-settings - 1.0.0
fcgi - 2.4.2
file-transfer - 0.0.2
findutils - 4.7.0
firewall-config - 1.4.1
flashxloader - 0
flex - 2.5.39
fuse - 2.9.9
fuse3 - 3.4.1
fwupdate - 0.1.0
gcclibs - 11.3.1
gdbserver - 11.2
get-snmp-data - 1.0.0
get-stp-config - 1.0.0
glib - 2.78.6
glibc - 2.35
gsl - 3.0.1
gzip - 1.10

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hdparm - 9.58
htop - 3.0.1
initmethod-bbinit - 1.0.0
io-check - 1.6
iperf - 2.0.13
iproute2 - 6.1.0
iptables - 1.8.3
ipwatchd - 1.2.1
jansson - 2.14
jsoncpp - 1.9.3
kernel - 5.15.107+rt62+w04.04.01
kernel-modules - 5.15.107+rt62+w04.04.01
ldd - 2.7
led-server-2 - 2.0.3
less - 643
libarchive - 3.6.1
libbacnet - 2.1.0
libbacnetconfig - 2.4.40
libbacnetstack - rev25.3.3.9
libbsd - 0.8.2
libcap - 2.69
libcap-ng - 0.7.10
libcgroup - 0.41
libcgroupcpuload - 0.0.2
libconfig - 1.7.2
libconfigstp - 1.0.0
libctcallhelper - 1.0.0.0
libcurl - 8.6.0
libdbuskbuscommon - 1.0.0.0
libdps - trunk
libevent - 2.1.8
libffi - 3.3
libgcrypt - 1.8.5
libgmp - 6.1.2
libgpg-error - 1.36
libgpiod - 2.1
libkmod - 27
liblibloader - 1.0

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libmbs - 0.5.1
libmnl - 1.0.4
libmodbus - 3.0.5
libmodbus-tglx - 0.9.20
libmodbusconfig - 0.0.2
libmodbusmanager - 0.6.0
libnet - 1.1.6
libnftnl - 1.1.3
libnl3 - 3.7.0
libnsl - 2.0.0
liboslinux - 1.0.2.0
libpackbus - 1.0.0
libpcap - 1.10.1
libpcre - 8.44
libpopt - 1.16
libqmi - 1.24.4
libseccomp - 2.5.0
libsocketcan - 0.0.11
libsparkplug - 0.9a
libssh2 - 1.11.0
libsysfs - 2.1.0
libtirpc - 1.2.6
libuci - gitmaster
libuio - 0.2.8
libusb - 1.0.23
libwagodrm - 1.0.1
libwagosnmp - 0.1.0
libwebsockets - 4.3.0+972f154a
libwserial - 0.2.4
libxml2 - 2.13.4
libxslt - 1.1.40
libzip - 1.8.0
license-info - 1.0
licenses - 1.0
lighttpd - 1.4.76+wago1
locales - 1.0
log-system-info - 0.1.0
logrotate - 3.21.0

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lsof - 4.93.2+dfsg
machine-id - 1
mdmd-ng - 0.15.9
mii-diag - 2.11
modular-config-tools - 0.3.1
mosquitto - 1.6.7
mstpd - 0.1.0
mtd-utils - 2.1.1
nano - 2.9.8
ncurses - 6.5
ndisc6 - 1.0.5
net-snmp - 5.9.4
netconfd - 2.1.1
netkit-ftp - 0.17
network-config - 1.1.0
nfsutils - 2.5.4
nlohmann-json - 3.11.3+wago1
ntfs-3g - 2022.10.3
ntp - 4.2.8p12
ntpclient - 365
oms - 0.2.0
online-update - 0.1.0
openldap - 2.6.5
openssh - 9.8p1
openssl - 3.1.3
openvpn - 2.6.12
opkg - 0.4.1
os-release - 1.0
pam - 1.5.3
passwdqc - 2.0.2
pcap-log - 1.1.0
pcapplusplus - 23.09
pcre2 - 10.42
php-selection - 1.2.0
php8 - 8.3.8+wago1
pp-bacnet - 1.3.0
pp-codesys3 - 1.0.0
pp-combo - 1.0.0

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pp-leddiagnostic - 1.0.1
pp-lighttpd - 2.0.3
pp-modem - 1.1.0
pp-networking - 1.1.0
pp-profibus - 1.0.0
pp-reboot - 1.0.0
pp-serialinterface - 1.2.0
pp-services - 1.0.0
pp-snmp - 1.0.0
pp-switchconfig-micrel - 1.1.0
pp-systemtime - 1.0.0
ppp - 2.4.8
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