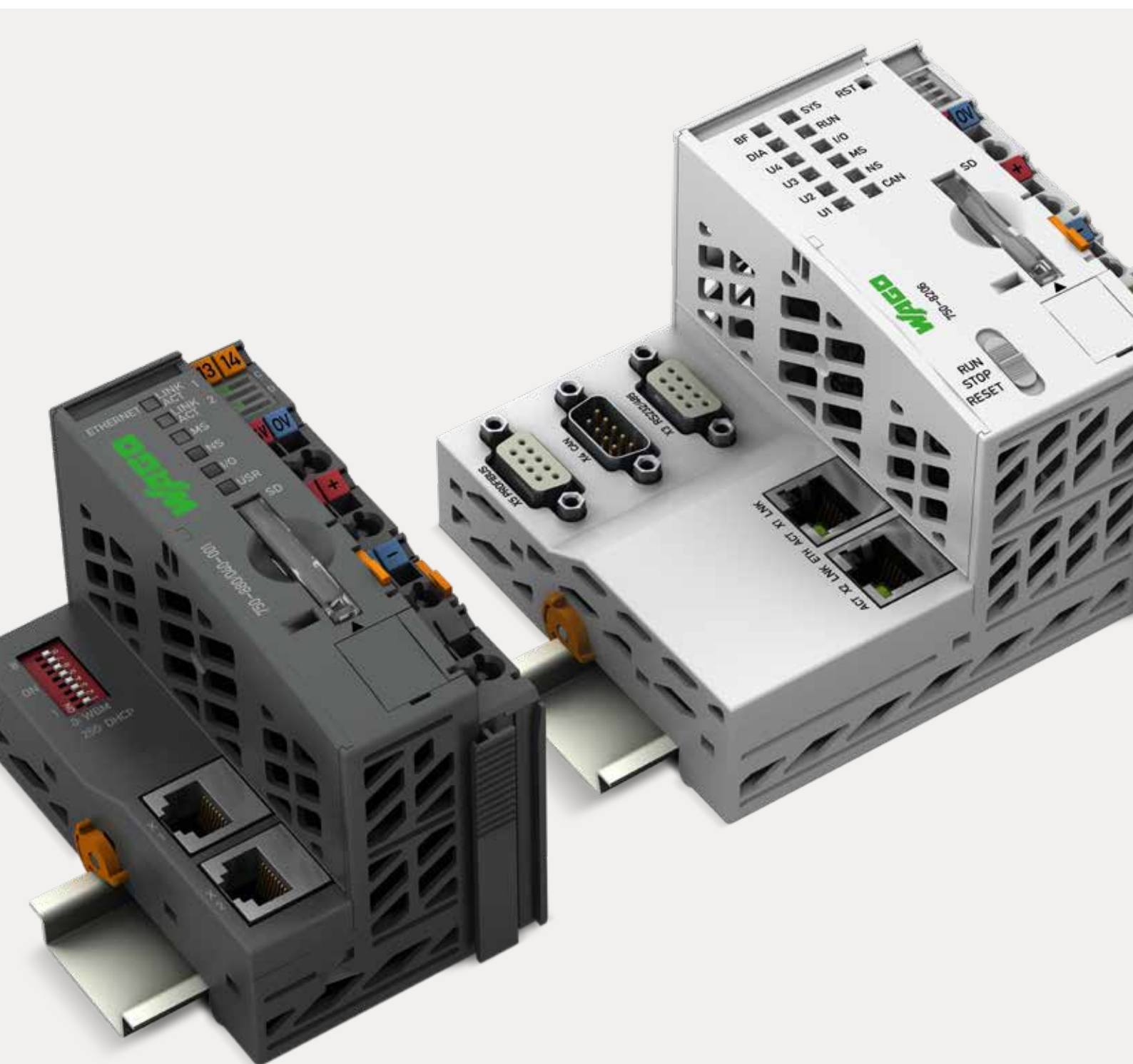


WAGO Controllers

Open – Flexible – Compact



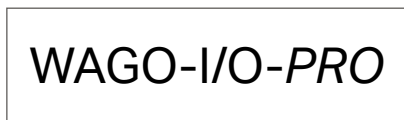
WAGO CONTROLLERS

Open – Flexible – Compact



Based on

CODESYS V3



Based on

CODESYS V2.3



WAGO 750 Controller

WAGO's family of high-performance programmable controllers boasts a wide range of capabilities for controlling any automation task in both centralized and decentralized applications. For decentralized control tasks, the WAGO Controllers can be incorporated into the most prevalent fieldbus networks, and they record all field signals via I/O modules.

WAGO's controllers (programmable per IEC 61131-3) perform a variety of automation tasks,

while providing all the benefits of standard PLC technology such as strength, stability, reliability and high availability.

Direct connection to a large number of different I/O modules within the WAGO-I/O-SYSTEM 750 enables the creation of an extensive amount of applications. With performance and capabilities extending from the fieldbus controller to the PFC100 and PFC200, the controllers provide scalable memory and speed along with a variety of interfaces and communication protocols.



IEC 61850
IEC 60870-5
IEC 61400-25
DNP3





WAGO Touch Panels 600



WAGO Controllers PFC100

WAGO Controllers PFC200

FUNCTIONALITY AND PERFORMANCE



WAGO Controllers PFC200

ADVANTAGES:

- **Fieldbus-independent** – supports all standard fieldbus protocols and ETHERNET standards
- **Scalable performance** – fieldbus controllers, control panels, PFC100 and PFC200
- **Programming per IEC 61131-3**
- **Compatible with the WAGO-I/O-SYSTEM 750**

Programmable via:

 **COCKPIT**

WAGO-I/O-PRO

WAGO CONTROLLERS PFC100

Maximum Performance in Minimum Space



Uniquely equipped with *e!RUNTIME*, the PFC100 Controller expands WAGO's line of next-generation controllers with extremely high-performance processing in a space-saving design.

All versions of the controller feature two ETHERNET ports, and – depending on the module – one DIP switch or one RS-232/485 interface. To ensure a high level of security, SSL/TLS, SSH, VPN and a firewall are standard. The controller supports protocols such as Modbus TCP Client/Server or open-source TCP/UDP communication. The serial

interface also supports Modbus RTU as a client and server. A slot for microSD cards completes the package.

With integrated Web-Based Management and up-to-date HTML5 visualization, the PFC100 provides a convenient programming environment; it is also perfectly complemented by the *e!COCKPIT* Engineering Software, which is based on CODESYS V3 and the real-time Linux® operating system.

More information available at:
www.wago.com/pfc100

Programmable via:



WAGO CONTROLLERS PFC200

Our Most Powerful Line of Controllers



The impressive PFC200 Controller features high processing speed and a large selection of interfaces. The CANopen, PROFIBUS DP and Modbus TCP/UDP/RTU protocols provide flexible connection to fieldbus systems and external input/output devices. And multiple variants – one with an integrated wireless modem and the robust, expanded temperature range (XTR Series) – provide these features for virtually any application.

SSL/TLS, SSH, VPN and a firewall ensure a secure connection.

Programmable via:

 **e!COCKPIT**

WAGO-I/O-PRO

The second generation of the PFC200 provides even greater performance. A powerful Cortex A8 processor and 512 MB of RAM ensure exceptionally high operating speeds. In addition to the well-established standard CODESYS V2 runtime system, the PFC200 Controller also features **e!RUNTIME**, a CODESYS V3-based runtime system. Together with **e!COCKPIT** and the real-time Linux® operating system, these systems provide innovative options for generating programs and visualization.

More information available at:

www.wago.com/pfc200

ADVANTAGES:

- Can be combined with high-level languages
- Linux® real-time operating system
- SSH and SSL/TLS provide high levels of security
- Runtime system for CODESYS V2 and V3
- Greater performance with the 2nd generation

WAGO CONTROLLERS 750

Our Most Versatile Controllers



Modular Controllers for the WAGO-I/O-SYSTEM 750

WAGO's powerful controllers are ready to address your biggest challenges in a wide variety of applications – from applications including industrial and building automation to measurement and data collection. The controllers easily integrate into existing IT structures to link real-time process data and IT applications by deftly combining real-time requirements with IT functionality. The controllers support MODBUS TCP and ETHERNET/IP for use

in industrial environments. HTTP, SNMP, FTP and other protocols simplify integration into IT environments. Integrated Web pages and Web-based visualization provide IT applications with real-time process data.

A large number of library functions are available to support both software/hardware interfaces and an integrated file system.

Programmable via:

WAGO-I/O-PRO

ADVANTAGES:

- **Controllers for all prominent fieldbus systems**
- **Quick commissioning**
- **Space-saving design**
- **Maintenance-free**

WAGO CONTROLLERS 750 XTR

For Extreme Environments



Modular Controllers for the WAGO-I/O-SYSTEM 750 XTR

The controllers and I/O modules within the WAGO-I/O-SYSTEM 750 XTR are instantly recognizable by their dark gray housings.

Take advantage of the WAGO-I/O-SYSTEM 750 XTR's unique features, which make XTR ideal for applications in extreme environments thanks to:

- Lower space requirement
- Lower purchase costs
- Lower energy costs
- Lower maintenance costs
- Safe investment
- Maximum system uptime
- Greater productivity

Programmable via:

WAGO-I/O-PRO

ADVANTAGES:

- eXTReme temperatures: -40 ... +70°C
- eXTReme isolation: up to 5 kV of impulse voltage
- eXTReme vibration resistance: up to 5g of acceleration

WAGO TOUCH PANELS 600

Visualization and Operation



WAGO has developed new high-performance touch panels for demanding control and visualization tasks in industry and building technology. Three versions are available that have been tailored for use as a Web Panel, Visu Panel or Control Panel. Practical features such as an energy-saving standby function, integrated sensors for automatic brightness adjustment and an easy-to-mount design make installation and operation simple. All

panels are equipped with the future-ready Linux® operating system. When configuring with *e!COCKPIT*, visualizations are created based on modern technologies such as HTML5. Depending on the use, panels are available with resistive touchscreens for standard applications in the control cabinet, multi-touch panels with a glass surface for further requirements and panels with marine approvals for use in shipbuilding.

Programmable via:



ADVANTAGES:

- Programming in IEC 61131 or Linux®
- Powerful hardware
- Efficient mounting
- Rapid configuration and startup
- Standard connection to WAGO's cloud solutions

ENGINEERING SOFTWARE

Programming per IEC 61131-3

Software Factors into Success

Today's mechanical engineering and related industries are characterized by ever-shortening development times, exponentially more complex projects and the increasing role of software as part of the overall solution. In fact, software is becoming an essential factor that influences the success of a project.

Linux® and WAGO – Automation for the Future



WAGO's Microsoft Windows-based engineering software dovetails perfectly with our controller portfolio that features the Linux® operating system.

In addition to their scalability through the open-source community, the Linux®-based controllers boast a code base that can rise to any future challenges. WAGO's controllers offer programming in either IEC 61131 with CODESYS or directly in Linux® to create complex tasks.

CODESYS – as an Integrated Component



All WAGO Controllers are equipped with the high-performing CODESYS industry-standard development environment. This enables software development in the IEC 61131-3 PLC programming languages (ST, FBD, LD, IL, SFC and CFC). As a trusted programming environment, CODESYS guides developers, enabling them to reuse and further develop existing programs without learning new software. This means that modern paradigms are available, such as Object-Oriented Programming (OOP) and current visualization technologies.

Note on Use of Open-Source-Software:

The firmware used in the controllers was created using open-source software. Go to Download under <http://www.wago.com> for the software packages and their licenses, and be sure to follow the rules that are listed there. The controller firmware itself is available as a "Board Support Package" (BSP). If interested, please contact:

AUTOMATION Technical Support

Phone: +49 (571) 887 555 / Fax: +49 (571) 887 8555 /
Email: support@wago.com



COCKPIT

Based on CODESYS V3

- Integrated engineering: one software for every task
- A smart design that encourages discovery
- State-of-the-art software: comprehensive data retention and automatic online upgrades
- Based on CODESYS V3 technology
- Graphical network configuration



WAGO-I/O-PRO

Based on CODESYS V2.3

- Efficiently translate between programming languages
- Automatic variable declaration
- Library management
- Online status display using the program code
- Offline simulation and integrated process visualization
- Record and graphically display project variables

WAGO CONTROL TECHNOLOGY

		Item Number	CPU	Fieldbus					
				EtherNet/IP	Modbus®	PROFIBUS	EtherCAT®	CANopen	
Controllers 750		750-806	16 bits						
		750-81x			RTU				
		750-833				Slave			
		750-837						Master/sla	
		750-838						Master/sla	
		750-842				TCP (UDP)			
		750-843			TCP (UDP)				
		750-852		32 bits	X	TCP (UDP)			
		750-880	X		TCP (UDP)				
		750-881	X		TCP (UDP)				
		750-882	X		TCP (UDP)				
		750-885	X		TCP (UDP)				
		750-831				TCP (UDP)			
		750-889				TCP (UDP)			
		750-829				TCP (UDP)			
750-862				TCP (UDP)					
750-891				TCP (UDP)					
750-890				TCP (UDP)					
Controllers 750 XTR		750-838/040-000	16 bits					Master/sla	
		750-880/040-00x	32 bits	X	TCP (UDP)				
Controllers PFC100		750-8100	Cortex A8, 600 MHz		TCP (UDP)				
		750-8101			TCP (UDP)				
		750-8102			TCP (UDP), RTU				
Controllers PFC200		750-8202	Cortex A8, 600 MHz		TCP (UDP), RTU				
		750-8203			TCP (UDP)			Master/sla	
		750-8204			TCP (UDP), RTU			Master/sla	
		750-8206			TCP (UDP), RTU	Slave		Master/sla	
		750-8207			TCP (UDP), RTU				
		750-8208		TCP (UDP), RTU	Local		Master/sla		
		750-8212	Cortex A8, 1GHz	Slave		TCP (UDP), RTU		Master*	
		750-8213				TCP (UDP), RTU			Master/sla
		750-8214				TCP (UDP), RTU			Master/sla
		750-8216				TCP (UDP), RTU	Slave		Master/sla
Controllers PFC200 XTR		750-8202/040-000	Cortex A8, 600 MHz		TCP (UDP), RTU				
		750-8206/040-000				Slave		Master/sla	
		750-8202/040-001							
		750-8206/040-001				Slave		Master/sla	
Touch Panels 600		762-4301/8000-0002	Cortex A9	Slave	TCP (UDP)		Master**		
		762-4302/8000-0002						Master/sla	
		762-4303/8000-0002							
		762-4304/8000-0002							
		762-5303/8000-0002							
		762-5304/8000-0002							

*Only available with additional licence

**In preparation

	Other User Protocols	Interfaces		Program Memory	Data Memory	Retain Memory	File System	Web-server	WebVisu	Target-Visu
		ETHERNET	Serial							
				128 kB	64 kB	8 kB				
				32 kB	32 kB	8 kB				
				128 kB	64 kB	8 kB				
ive				128 ... 640 kB	64 ... 832 kB	8 kB				
ive				128 ... 640 kB	64 ... 832 kB	8 kB				
	X	X		128 kB	64 kB	8 kB				
	X	X		64 kB	64 kB	8 kB				
	X	2 x		512 kB	256 kB	8 kB		X		
	X	2 x		1024 kB	1024 kB	32 kB	2 MB internal + 32 GB with SD card	X	X	
	X	2 x		1024 kB	512 kB	32 kB	2 MB	X	X	
	X	2 x		1024 kB	512 kB	32 kB	2 MB	X	X	
	X	2 x		1024 kB	1024 kB	32 kB	2 MB internal + 32 GB with SD card	X	X	
	X	2 x		1024 kB	1024 kB	32 kB	4.5 MB internal + 32 GB with SD card	X	X	
	X	2 x		1024 kB	1024 kB	32 kB	2 MB internal + 32 GB with SD card	X	X	
	X	2 x		1024 kB	1024 kB	32 kB	4.5 MB	X	X	
	X	2 x		2 MB	2 MB	16 kB	1 GB	X	X	
	X	2 x		4 MB	4 MB	32 kB	1 GB	X	X	
	X	2 x		8 MB	8 MB	32 kB	1 GB + 32 GB with SD card	X	X	
ive				640 kB	832 kB	8 kB				
	X	2 x		1024 kB	1024 kB	32 kB	2 MB internal + 32 GB with SD card	X	X	
		2 x		10 MB dynamically distributable	64 kB	128 kB	80 MB + 32 GB with microSD card	X	X	
			X	12 MB dynamically distributable	64 kB					
ive	X	2 x	X	Depending on the runtime system: - e!RUNTIME = 60 MB (dynamically distributed) - CODESYS V2.3 = 16 MB (program memory), 64 MB (data memory)	128 kB	80 MB + 32 GB with SD card	X	X		
ive			X							
ive			X							
ive			X							
ive			X							
ive			X							
ive		2 x		Depends on runtime system: - e!RUNTIME = 60 MB (dynamically distributed) - CODESYS V2.3 = 16 MB (program memory), 64 MB (data memory)	128 kB	1.5 GB + 32 GB with SD card	X	X		
ive			X							
ive		2 x		Depending on the runtime system: - e!RUNTIME = 60 MB (dynamically distributed) - CODESYS V2.3 = 16 MB (program memory), 64 MB (data memory)	128 kB	80 MB + 32 GB with SD card	X	X		
ive	X		X							
ive	X	2 x	X	Depending on the runtime system: - e!RUNTIME = 60 MB (dynamically distributed)	128 kB	2 GB + 32 GB with SD card	X	X	X	

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