

## Data Sheet | Item Number: 750-8212/040-010

Controller PFC200; 2nd Generation; 2 x ETHERNET M12, RS-232/-485; Extreme

<https://www.wago.com/750-8212/040-010>



The PFC200 Controller is a compact PLC for the modular WAGO I/O System. Besides network and fieldbus interfaces, this controller supports all digital and analog input/output modules, as well as specialty modules found within the 750/753 Series. Two ETHERNET interfaces and an integrated switch enable line topology wiring.

An integrated Webservice provides user configuration options, while displaying PFC200 status information.

Besides the processing industry and building automation, typical applications for the PFC200 include standard machinery and equipment control (e.g., packaging, bottling and manufacturing systems, as well as textile, metal and wood processing machines).

### Advantages:

- Programming per IEC 61131-3
- Programmable with CODESYS V3.5 from Firmware Release 23, WAGO-I/O-PRO V2.3 or **e!COCKPIT** up to Firmware Release 22
- Direct connection of WAGO's I/O modules
- 2 x ETHERNET (configurable), RS-232/-485
- Linux® operating system with RT-Preempt patch
- Configuration via CODESYS, **e!COCKPIT** or Web-Based Management user interface
- Maintenance-free
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- The device is ideal for operation in extreme environments thanks to:
- An extended temperature range
- Greater immunity to impulse voltages and electromagnetic interference
- Higher vibration and shock resistance

### Technical data

#### Communication

Modbus TCP master/slave  
Modbus (UDP), WagoAppPlcModbus Library  
Modbus (RTU), WagoAppPlcModbus Library  
ETHERNET  
EtherNet/IP™ Adapter (slave)  
EtherNet/IP™ Scanner  
EtherCAT® Master  
OPC UA Server/Client  
OPC UA Pub/Sub (can be installed later)  
MQTT  
RS-232 serial interface  
RS-485 interface  
BACnet/IP, **requires an additional license**  
Telecontrol protocols, **requires an additional license**

#### ETHERNET protocols

DHCP  
DNS  
NTP  
FTP  
FTPS  
SNMP  
HTTP  
HTTPS  
SSH

#### Telecontrol protocols

IEC 60870 (additional license as slave or master)  
IEC 61850 (additional license as Client or Server)  
DNP3 (additional license as Slave or Master)

#### Visualization

Web-Visu

#### Operating system

Real-time Linux (with RT-Preempt patch)

#### CPU

Cortex A8; 1 GHz

#### Programming languages per IEC 61131-3

Instruction List (IL)  
Ladder Diagram (LD)  
Function Block Diagram (FBD)  
Continuous Function Chart (CFC)  
Structured Text (ST)  
Sequential Function Chart (SFC)

#### Programming environment

CODESYS V3.5, Firmware Release 23 or higher  
**e!COCKPIT** (based on CODESYS V3) up to Firmware Release 22  
WAGO-I/O-PRO V2.3 (based on CODESYS V2.3), up to Firmware Release 22

Technical data	
Configuration options	CODESYS V3 <i>e!</i> COCKPIT WAGO-I/O-CHECK Web-Based Management <i>e!</i> RUNTIME library CODESYS Library
Baud rate (communication/fieldbus 1)	10/100 Mbit/s
Baud rate	ETHERNET: 10/100 Mbit/s
Transmission medium (communication/fieldbus)	ETHERNET: Twisted pair S-UTP; 100 Ω; Cat. 5; M12 D-coded; 100 m maximum cable length
Main memory (RAM)	512 MB
Internal memory (flash)	4096 MB
Non-volatile hardware memory	128 KB
Program memory	CODESYS V2: 16 MB; CODESYS V3: 32 MB
Data memory	CODESYS V2: 64 MB; CODESYS V3: 128 MB
Non-volatile software memory	128 KB 128 KB
Type of memory card	SD and SDHC up to 32 GB (all guaranteed properties only valid with WAGO's memory card)
Memory card slot	Push-push mechanism; cover lid (sealable)
Number of modules per node (max.)	64
Number of modules without a bus extension (max.)	64
Input and output process image (internal) max.	1000 words/1000 words
Input and output process image (Modbus®) max.	CODESYS V2: 1000 words/1000 words; CODESYS V3: 32000 words/32000 words
Indicators	LED (SYS, RUN, I/O, U1 ... U7) red/green/orange: Status of system, program, local data bus, status programmable by user (can be used via CODESYS library); LED (A, C) green: Status of system power supply, field supply
Derating	Derating (supply voltage): Ambient temperatures under laboratory conditions: (-25 ... +30%); for -40 ... +55°C: 24 V (-25 ... +20%); for +55 ... +70°C: 24 V (-25 ... +10%); Lower limit in all temperature ranges: -27.5% (including 15% residual ripple)
Supply voltage (system)	24 VDC; via pluggable connector (CAGE CLAMP® connection); Derating must be observed!
Input current (typ.) at nominal load (24 V)	550 mA
Total current (system supply)	1700 mA
Supply voltage (field)	24 VDC; Power supply via pluggable connector (CAGE CLAMP® connection); Transmission via power jumper contacts; Derating must be observed!
Current carrying capacity (power jumper contacts)	10 A
Number of outgoing power jumper contacts	2
Rated surge voltage	1 kV

Connection data	
Connection technology: communication/fieldbus	Modbus (TCP, UDP): 2 x M12 socket; 4-pole; D-coded; Modbus RTU: 1 x D-sub 9 socket; RS-232 serial interface: 1 x D-sub 9 socket; RS-485 interface: 1 x D-sub 9 socket
Connection technology: system supply	2 x CAGE CLAMP®
Connection technology: field supply	4 x CAGE CLAMP®
Connection type 1	System/field supply
Solid conductor	0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG
Fine-stranded conductor	0.25 ... 2.5 mm <sup>2</sup> / 24 ... 14 AWG
Strip length	8 ... 9 mm / 0.31 ... 0.35 inches
Connection technology: device configuration	1 x Male connector; 4-pole

Environmental requirements	
Ambient temperature (operation)	-40 ... +70 °C
Ambient temperature (storage)	-40 ... +85 °C
Protection type	IP20
Pollution degree	2 per IEC 61131-2
Operating altitude	without temperature derating: 0 ... 2000 m; with temperature derating: 2000 ... 5000 m (0.5 K/100 m); 5000 m (max.)
Relative humidity (without condensation)	95 %
Relative humidity (with condensation)	Short-term condensation per Class 3K7/IEC EN 60721-3-3 and E-DIN 40046-721-3 (except for wind-driven precipitation, water and ice formation)
Mounting position	horizontal (standing/lying); vertical
Mounting type	DIN-35 rail
Vibration resistance	per IEC 60068-2-6 (acceleration: 5g), EN 60870-2-2, IEC 60721-3-1, -3, EN 50155; EN 61373
Shock resistance	per IEC 60068-2-27 (15g/11 ms/half-sine/1,000 shocks; 25g/6 ms/1,000 shocks), EN 50155, EN 61373
EMC immunity to interference	per EN 61000-6-1, -2; EN 61131-2; marine applications; EN 50121-3-2; EN 50121-4, -5; EN 60255-26; EN 60870-2-1; EN 61850-3; IEC 61000-6-5; IEEE 1613; VDEW: 1994
EMC emission of interference	per EN 61000-6-3, -4, EN 61131-2, EN 60255-26, marine applications, EN 60870-2-1, EN 61850-3, EN 50121-3-2, EN 50121-4, -5
Exposure to pollutants	per IEC 60068-2-42 and IEC 60068-2-43
Fire load	3.331 MJ
Permissible H <sub>2</sub> S contaminant concentration at a relative humidity 75 %	10 ppm
Permissible SO <sub>2</sub> contaminant concentration at a relative humidity 75 %	25 ppm

### Approvals / Certificates

#### General approvals



Approval	Standard	Certificate Name
EAC Brjansker Zertifizierungsstelle	TP TC 020/2011	EAC RU C-DE.AM02. B.00087/19
EAC Brjansker Zertifizierungsstelle	TP TC 012/2011	EAC RU C-DE.AZ58. B.2173-21 e (2Ex e IIC T4 Gc X)
KC National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43-PFC750
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	-	E175199

#### Declarations of conformity and manufacturer's declarations

Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-

#### Approvals for marine applications



Approval	Standard	Certificate Name
DNV DNV GL SE	-	TAA00000Y7
PRS Polski Rejestr Statków	-	TE/1099/880590/23

#### Approvals for hazardous areas



Approval	Standard	Certificate Name
ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV 17 ATEX 193969X (II 3 G Ex ec IIC T4 Gc)
CCC CNEX	CNCA-C23-01	2020312310000214 (Ex ec IIC T4 Gc)
IECEx TUEV Nord Cert GmbH	IEC 60079-0	IECEx TUN 16.0046X (Ex ec IIC T4 Gc)
UKEx WAGO GmbH & Co. KG	EN 60079-0	UKCA_WA GO22UKEX005X_ec



Approvals for hazardous areas

UL	UL 121201	E198726 Sec.1
Underwriters Laboratories Inc. (HAZARDOUS LOCA- TIONS)		