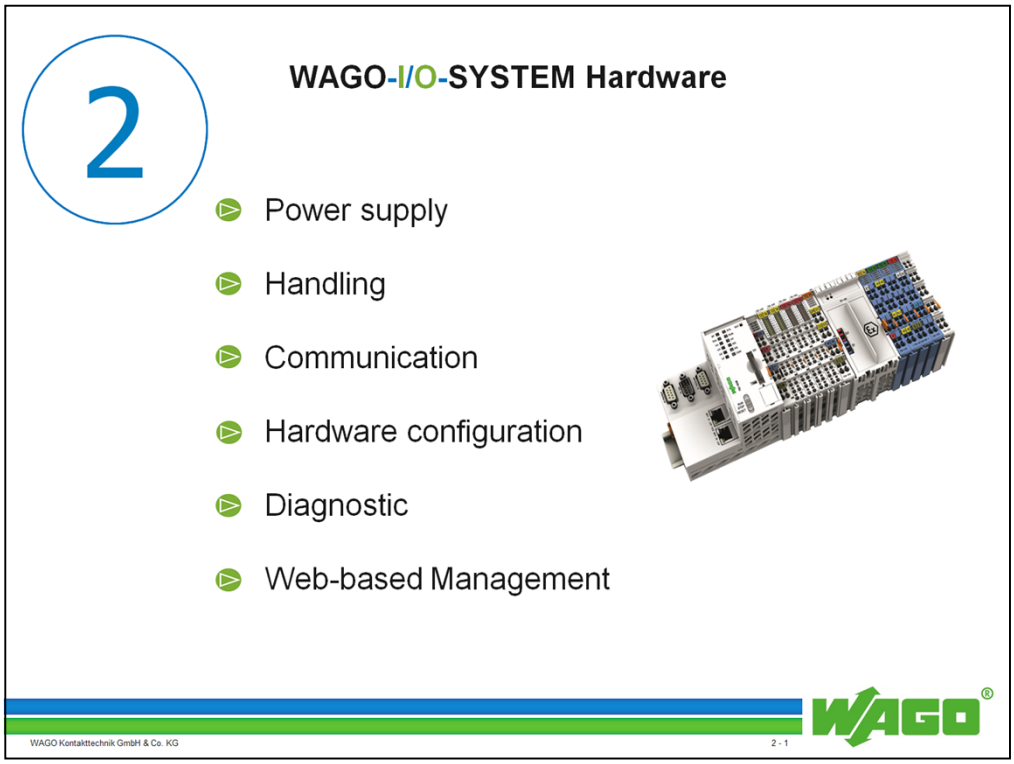


WAGO-I/O-SYSTEM 750, 753, 758 for scalable automation solutions

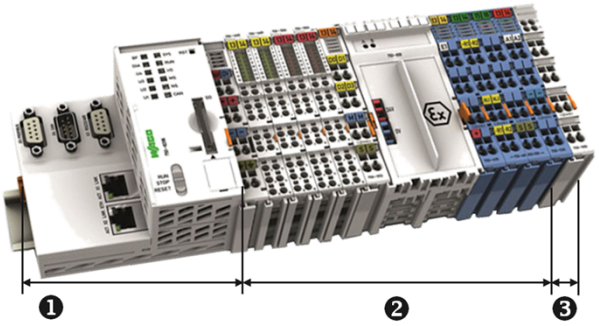
Fine modularity and fieldbus-independence are hallmarks of the WAGO-I/O-SYSTEM, which boasts worldwide approvals for a diverse range of applications. During development, great care was taken to ensure the system could account for all the requirements placed on decentralized fieldbus systems.

Designed to Meet Practical Requirements

- I/O modules with pluggable connectors (753 Series)
- Fine granularity: I/O module accommodates 1, 2, 4, 8 or 16 channels
- Fieldbus-independent: Fieldbus couplers and controllers for the most common fieldbus protocols and industrial ETHERNET standards
- A sound investment: Fieldbus-independent node design easily accommodates new bus standards while retaining the I/O modules
- Clear Identification: Color-coded group marker carriers and WAGO WSB markers for clamping units
- Scalable performance: With economy and standard couplers as well as programmable controllers on through to comprehensive IPCs
- High-performance: Controllers for distributed control networks according to IEC 61131-3

Fielbus nodes

The configuration



1. Controller
2. I/O modules (max. 64)
3. End module

Total extension

The length of the module assembly that can be connected to the controller is 780 mm. The width of the end module is 12 mm. When assembled, the I/O modules have a maximum length of 768 mm.

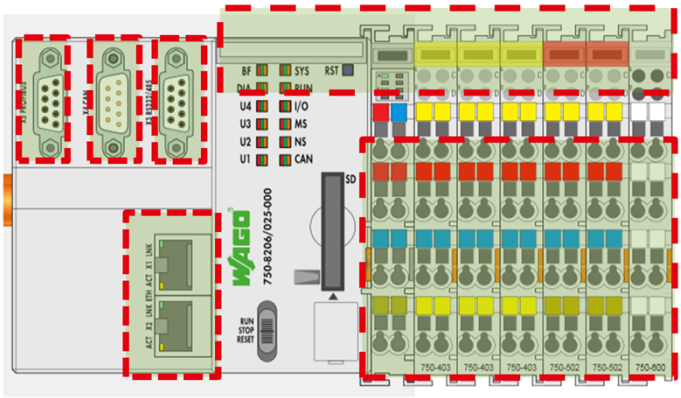
Examples:

64 I/O modules of 12 mm width can be connected to a controller.
32 I/O modules of 24 mm width can be connected to a controller.

.

Power Supply

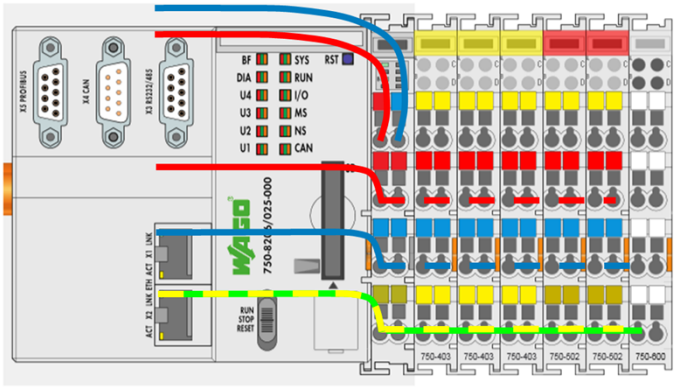
The potential levels



- Fieldbus, external interfaces
- Module electronics
- External peripheries

Power Supply

Supply with electrical isolation



Bus coupler and Bus modules electronics:

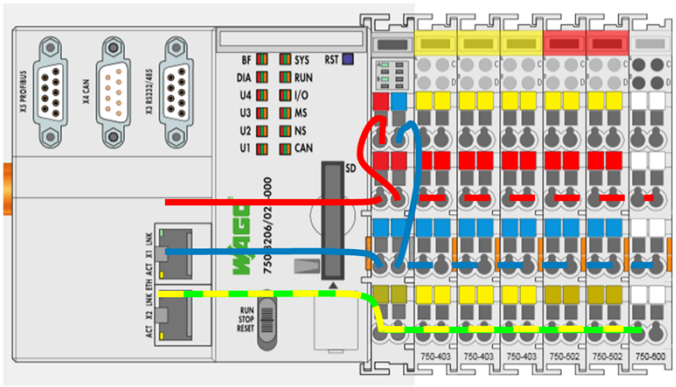
- external: 24 VDC, max. 500 mA
- internal: 5 VDC, 2000 mA

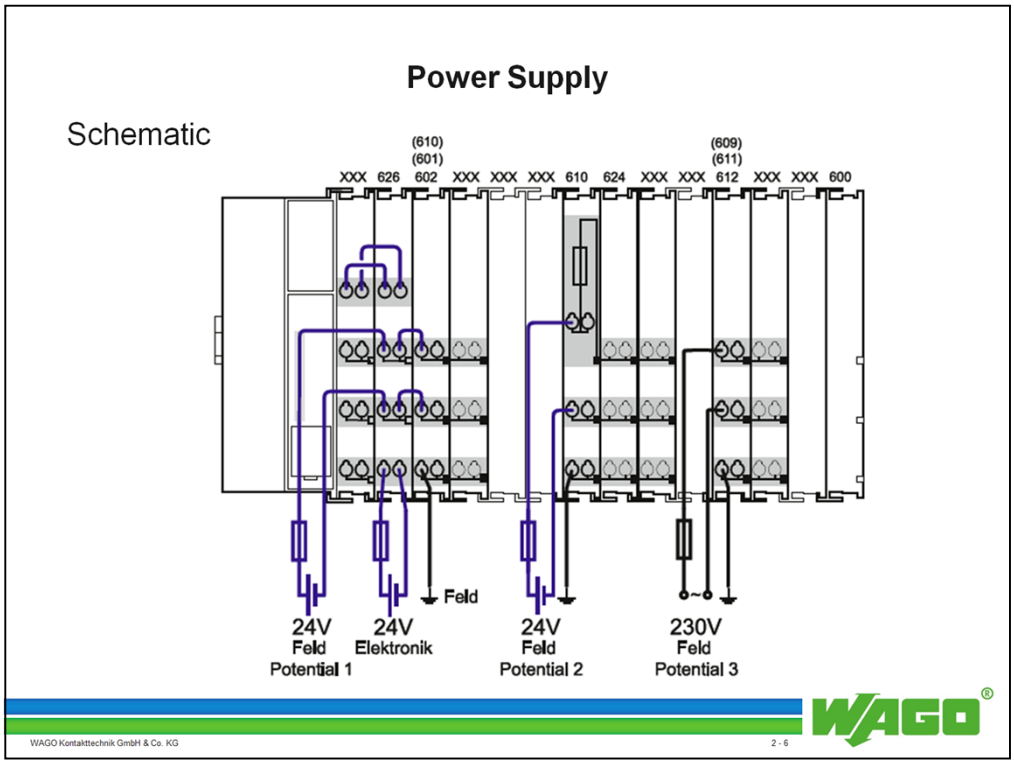
External peripheries:

- 24 VDC, max. 10 A

Power Supply

Supply without electrical isolation





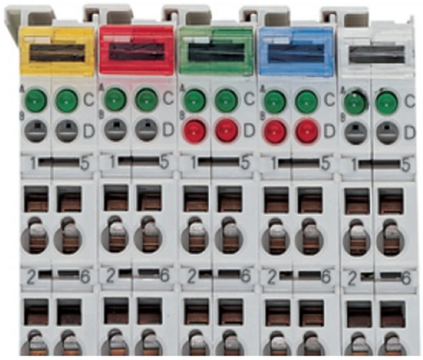
3.6.5 Supply example

System and field supply must be isolated!
The system supply and field supply must be isolated to ensure bus operation in the event of short circuits on the actuator side.

Additional information for designing a ring feeding
In order to increase system safety, a ring feeding of the ground potential is recommended. Thus, the ground potential is maintained, in the event that a bus terminal is pulled from the potential group.
In ring feeding, the grounding conductor is connected to the beginning and end of a potential group.
Please see the additional information for designing a ring feeding in chapter "Grounding"> "protective earth" ring feeding.

Color-coding

yellow	Digital inputs
red	Digital outputs
green	Analog inputs
blue	Analog outputs
	Specialty functions

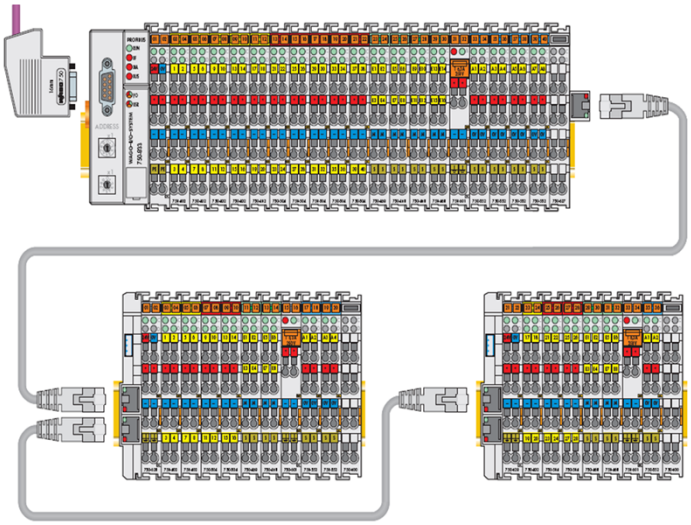


750 – 4xx inputs

750 – 5xx outputs

750 – 6xx Special and system modules

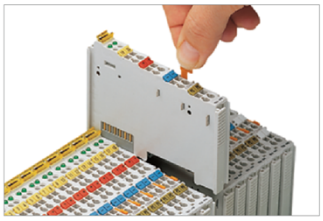
Internal Data Bus Extension



Handling the I/O modules

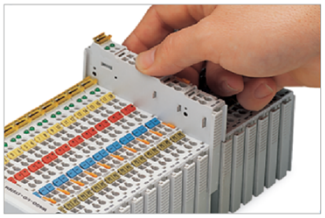
Assembly/Removal

- Assembly: Insert until the module engages noticeably
- Removal: Pull on the orange actuating element
- Mount terminals if free of voltage



Practical tips

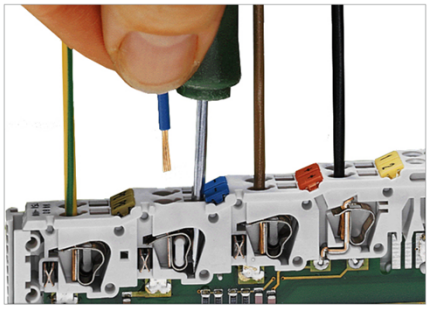
- Be careful with the blade contacts when removing the terminal (risk of injury)
- Keep gold contacts clean and do not touch with fingers
- Deposit terminal with the printed side up



Wiring the I/O modules

CAGE CLAMP® Connection

- A universal system
- Suitable for all copper wires from 28 to 2 AWG (0.08 mm² to 2.5 mm²)
- One conductor per clamping unit
- Clamping of the wire without damage through unique design
- Gastight contact area between conductor and current bar
- Vibration and shock resistant
- Simple, easy-to-use design
  Fast and maintenance-free

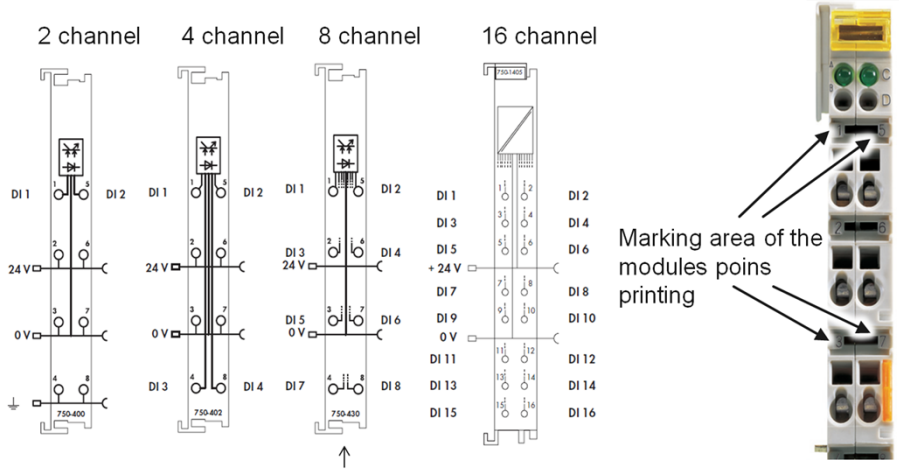


c UL us	c UL us	E175199, UL 508
ABS	ABS (American Bureau of Shipping)	03-HG374860/2-PDA; 05-ES578983-X
BV	BV (Bureau Veritas)	13453/B0 BV
DNV	DNV (Det Norske Veritas)	A-12260; Cl. B
GL	GL (Germanischer Lloyd)	11 631-10 HH; 26 624-05 HH; 26 898-05 HH; 59 627-08 HH; 60 241-09 HH; Cat. A, B, C, D (EMC 1)
KR	KR (Korean Register of Shipping)	HMB05880-EL004 ff
LR	LR (Lloyd's Register)	02/20026 (E2); Env. 1, 2, 3, 4
NKK	NKK (Nippon Kaiji Kyokai)	TA06190M
PRS	Polski Rejestr Statkow	TE/1720/880590/08
RINA	RINA (Registro Italiano Navale)	ELE153207CS 001
Ex	c UL us	E198726, ANSI/ISA 12.12.01
	DEMKO, PTB	08ATEX142851 X; IECEx PTB 07.0064 X
	Brazilian Ex	MC,AEX-7538-X (OCP 0004)
	TÜV	07ATEX554086 X; IECEx TUN 09.0001 X

	Bestellnr.	Artikelbezeichnung	Ex		Schiffszulassungen									UL
Digitale Eingangsklemmen	750-400	2 DI 24 V DC, 3,0 ms			x	x*	x	x	x	x	x	x*	x*	x*
	750-401	2 DI 24 V DC, 0,2 ms			x	x*	x	x	x	x	x	x*	x*	x*
	750-402	4 DI 24 V DC, 3,0 ms			x	x*	x	x	x	x	x	x*	x*	x*
	750-403	4 DI 24 V DC, 0,2 ms	x		x	x*	x	x	x	x	x	x*	x*	x*
	750-405	2 DI 230 V AC			x	x*	x	x	x	x	x	x*	x*	x*
	750-406	2 DI 120 V AC			x	x*	x	x	x	x	x	x*	x*	x*
	750-408	4 DI 24 V DC, 3,0 ms, negativschaltend			x	x*								x*

Connect the peripherals

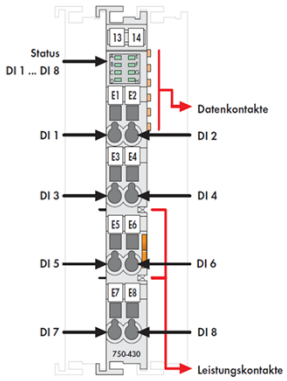
Special features of the digital modules

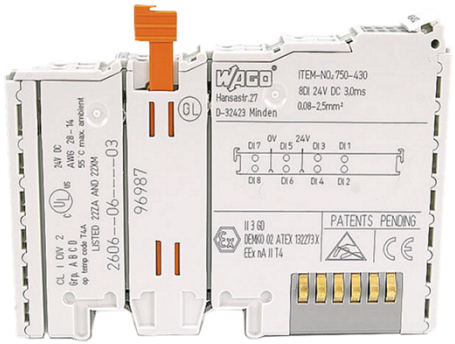


The marking area of the modules points printing 1-8 ***fits usually not to*** the channel occupancy

Connect the peripherals

Wiring information from the data sheet





Online or catalog or on the board

Configuration of the Controller

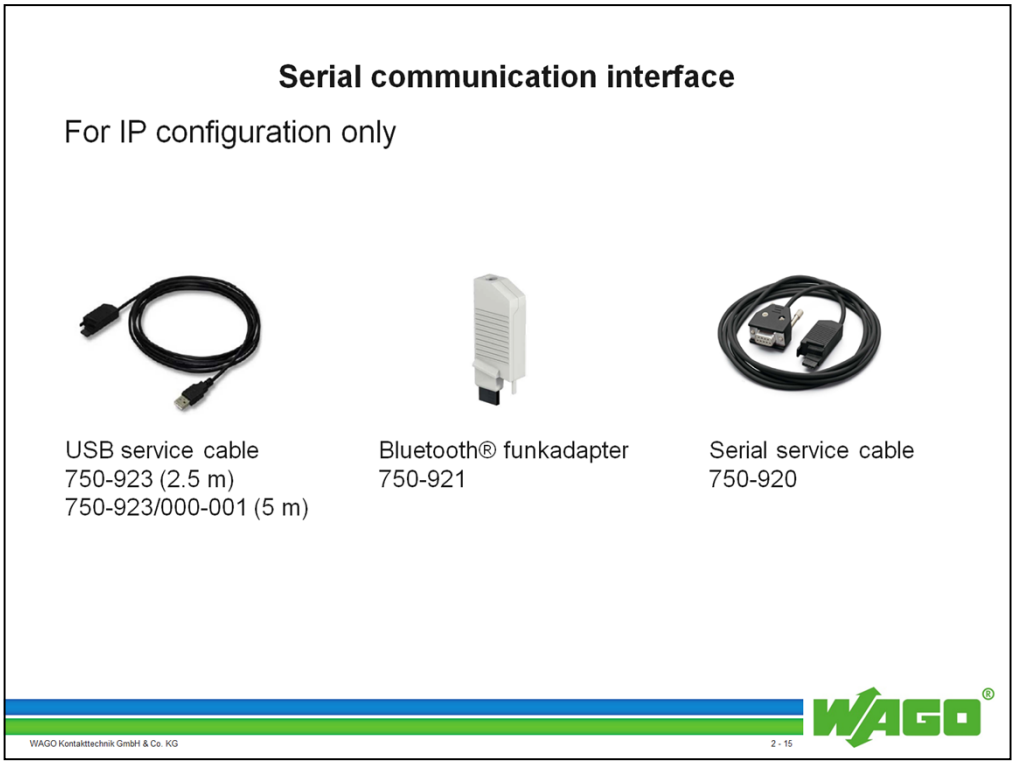
- TCP IP settings
- Runtime system
- Switch/ LED
- Further settings
- Technichal data

Communication

Connection between ***e!****COCKPIT* PC and Controller

- Network cable
  - Configuration
  - Program download
- USB service cable
  - Configuration

The communication between PC and controller takes place using standard network interface cards via Ethernet.



(From the WAGO-I/O-*CHECK* manual)

5.1 Configuring the communication connection

The following work steps are required to set up the communication connection:

- Switch off the power supply of the fieldbus controller.
- Open the configuration interface of the fieldbus controller.

Warning!
Do NOT touch the interface contacts of the fieldbus controller with your fingers or any conductive objects!

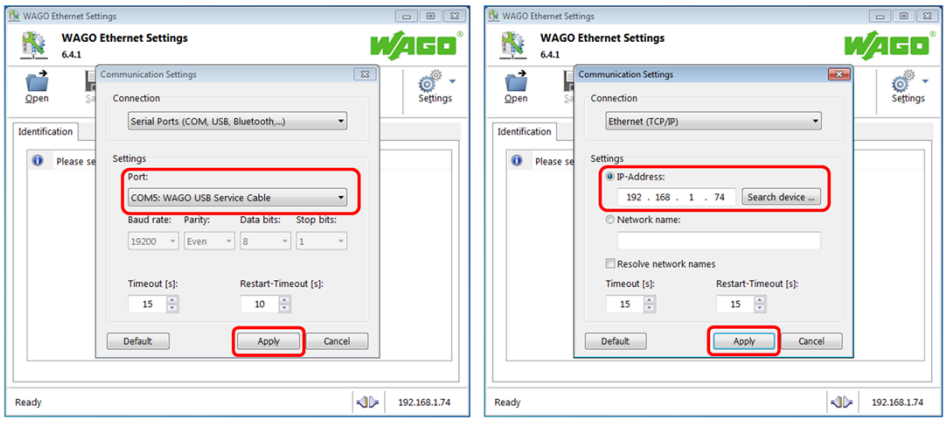
- Connect the configuration interface to the appropriate socket of the communication cable 750-920.
- Connect the Sub-D socket of the communication cable with a free serial interface of the computer.

WAGO-I/O-*CHECK* is now able to communicate with the node.

Hardware configuration – IP address

WAGO ETHERNET Settings

Two connection options

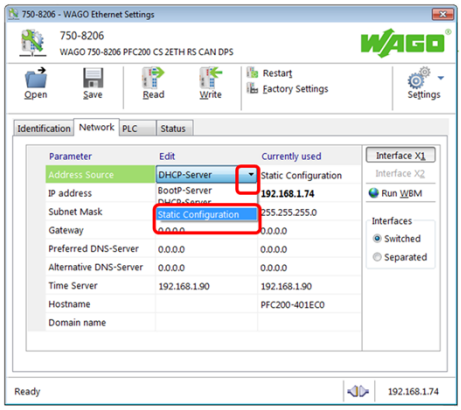


Via a USB service cable

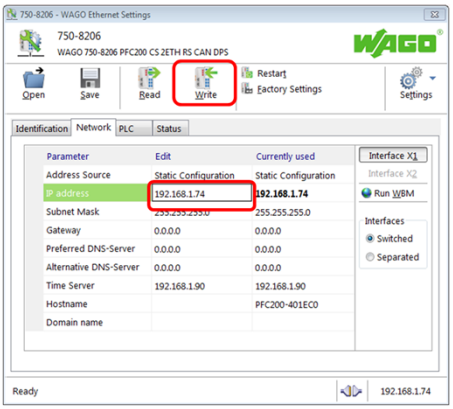
Over the network

Hardware configuration – IP address

WAGO ETHERNET Settings



Source: static configuration

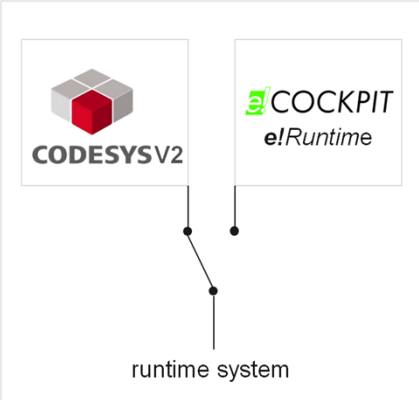


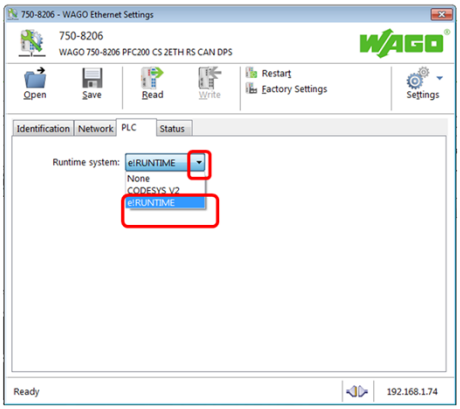
To set IP settings => to write

Hardware configuration – runtime system

WAGO ETHERNET Settings

Don't forget
Switch the runtime system – from CODESYS V2 to ***e!****Runtime*





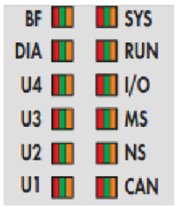
Operating mode switch

Position	Activation	Function
RUN	Switch RUN	**Application Start**
STOP	Switch STOP	**Application Stop**
RESET	Switch RESET > 2s Switch RESET > 7s	**Reset warm** **Reset cold**

! If the operating mode switch is in STOP position, the Controller can not be started from ***e!****COCKPIT*.

Diagnostic

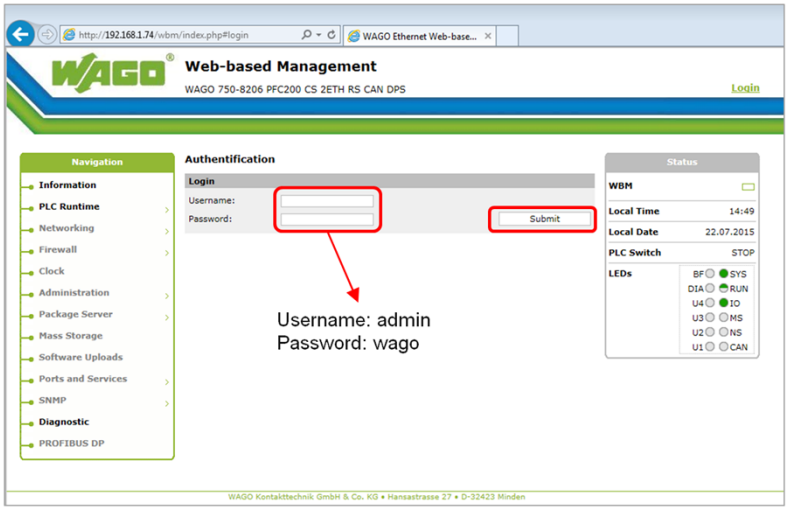
Diagnostic LEDs of PFC 200



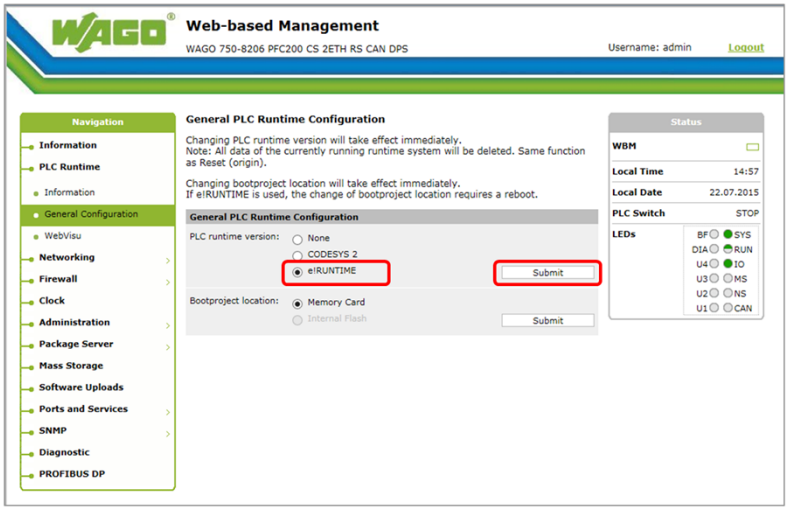
BF/DIA	Bus diagnostic PROFIBUS
CAN	Bus diagnostic CANopen
MS/NS	Bus diagnostic Ethernet
I/O	Diagnostic K-Bus
U1…U4	User diagnostic

LNK ACT Active network connection

Web-based Management

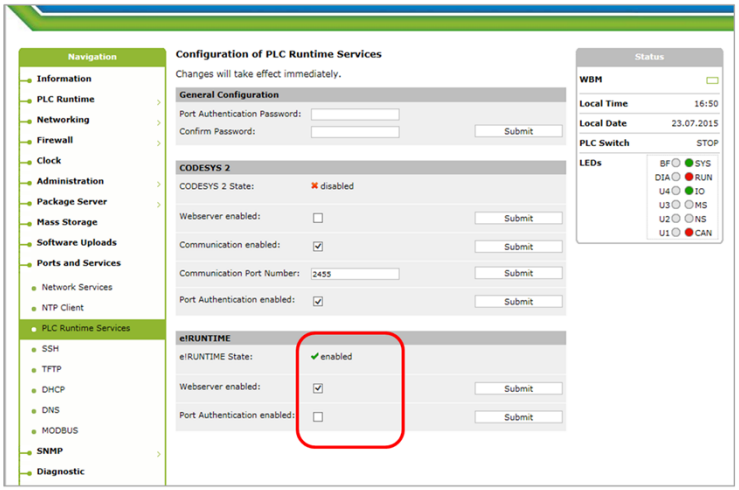


Web-based Management



Web-based Management – additional settings

Webserver enabled: for the using ***e!****COCKPIT* web visualization port authentication switches ***e!****COCKPIT* password on/ off (Default: admin/ wago)



Technical data – 8202 … 8206

ETHERNET type:	100 Mbit/s
CPU:	32 bit
Program memory:	16 Mbyte
Data memory:	64 Mbyte
Retain memory:	128 kbyte
Filesystem:	256 Mbyte

Data protocols: Modbus TCP/IP, Netzwerkvariable, CANopen, ProfibusDP
Service protocols : HTTP, BootP, DHCP, DNS, SNTP, FTP, SNMP