



Controls

SAIA®PCD3 New I/O connection modules for efficient, decentralized automation

For unique control solutions

Compatible with existing PCD controllers, open for future controller generations.

- High-density I/O packing: industrial, modular connection technology to suit application
- Usable as local I/Os on PCD2 (up to 1024 I/Os with PCD3.LIO)
- Usable as remote I/Os on PROFIBUS DP (up to 256 I/O per PCD3.RIO node)
- Optimum diagnostic capabilities due to web server (Integrated within PCD3.RIO)
- Processing of customer-specific program parts in PCD3.RIO

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Smart solutions for comfort and safety

PCD3 – I/O connection modules for extreme flexibility

The flex-case concept

The flex-case project aims to provide a universal platform to be used flexibly as the basis for future controllers, customized solutions, modular I/O assignment and connection technology.

The PCD3.RIO/LIOs are the first flex-case products to reach market readiness. The PCD3.M3., currently in preparation, is the CPU for a new PLC generation with a new, component-based operating system and new µC technology.

Design of PCD3.RIO/LIOs

PCD3.RIO/LIOs are used for capturing remote (remote I/Os = RIOs) and local (local I/Os = LIOs) I/O signals.

The compact PCD3.RIO/LIOs can be snapped onto 35 mm DIN rail and equipped with PCD3 I/O cassettes, based on the proven PCD2 I/O technology. More than 50 I/O cassettes are available for digital and analogue I/Os, counters, etc.

Compared with the PCD2, double the number of I/Os can be realized on the same area. I/O connection is selectable: either via plug-in screw or cage clamp terminals, or via external adapters.

Compatible with the existing PCD2, open for new controller generations

PCD3.LIOs can be connected as I/O extensions either to a PCD2 or to a PCD3.RIO.

PCD type	Maximum number PCD3 I/Os	Maximum number I/Os per PCD2 system
PCD2.M12./15.	128	256
PCD2.M17.	384	512
PCD2.M48.	896	1024
PCD3.RIO nodes	256	

PCD3.RIO, the RIO with built-in added value

Integrated field bus protocols in PCD3.RIO

PCD3.RIOs communicate via PROFIBUS DP with any desired master PLC, or via the SAIA-specific S-Net protocol with the PCD2.M48.. The S-Net protocol is based on the PROFIBUS FDL layer and includes special features, such as transmission of alarms and events, cross communication between slaves, transmission of plug-ins, etc. It therefore incorporates genuine added value.

Plug-ins (user-specific program parts) are the highlight of the PCD3.RIO. They are stored in the master PLC's user memory and transferred to the PCD3.RIO, where they are processed autonomously.

Thanks to this revolutionary approach, for the first time in PLC history the genuine decentralization of control tasks can be achieved, without having to program remote units.

Possible applications for plug-ins: front-end data processing, fast counters, driving the serial port, processing emergency programs (e.g. in case of cable break) and data loggers.

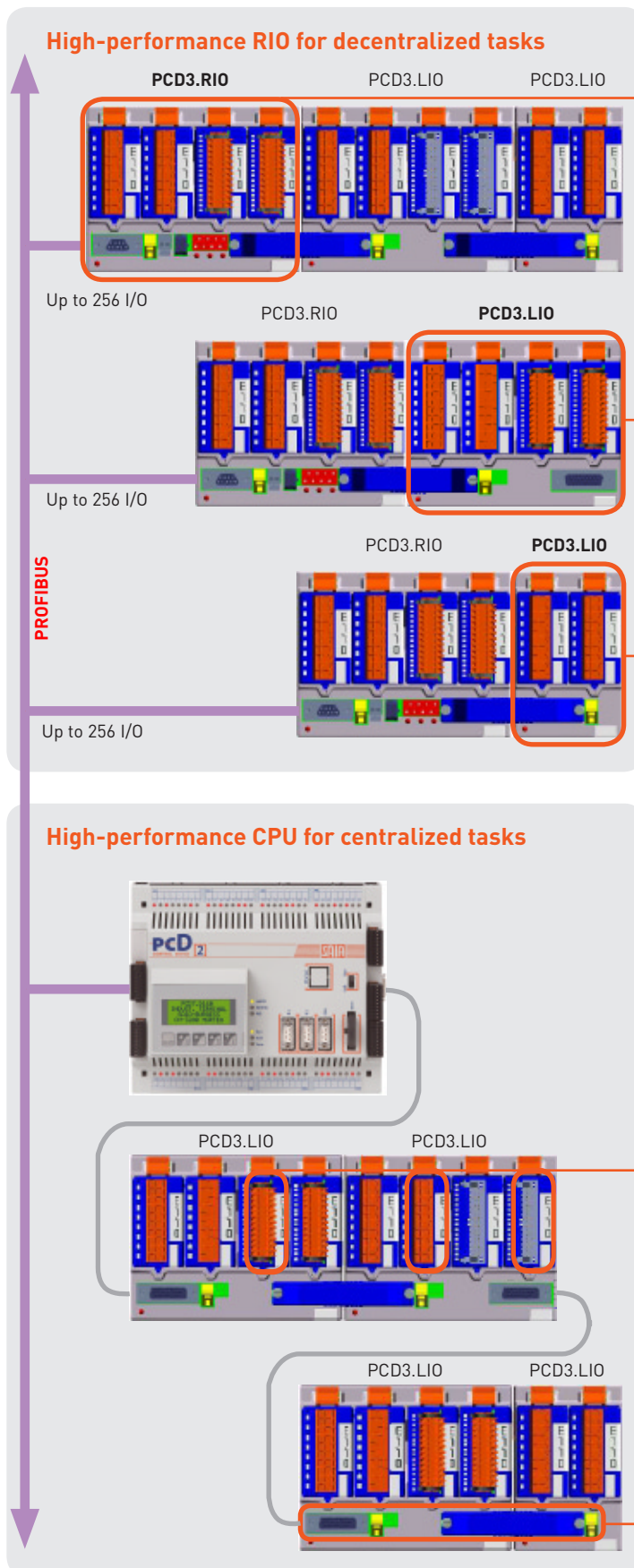
Web server for commissioning, diagnosis and service

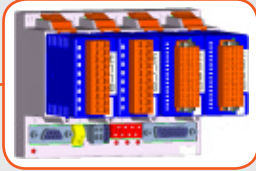
The PCD3.RIO's with integrated web server offers the user very great benefits for commissioning, diagnosis and service. Access is via generally known, easy-to-use standard web browsers.

The status of all I/O signals (digital/analogue/counter) is therefore easy to check and output states can be modified specifically.

Technical data

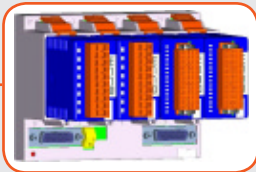
Number of different I/O cassettes	> 30		
Maximum speed PROFIBUS DP	1.5 Mbit/s		
Supply for PCD3.RIO/LIO	24 VDC		
Basic unit dimensions (mm):	Width	Height	Depth
PCD3.RIO/LIO (with 4 I/O cassettes)	130	100	130
PCD3.LIO (with 2 I/O cassettes)	67	100	130





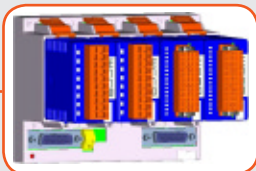
PCD3.RIO basic unit for 4 I/O cassettes (PCD3.T760)

- Integrated PROFIBUS DP connection up to maximum 1.5 MBit/s
- 4 plug-in PCD3 I/O cassettes (freely selectable)
- Expandable with PCD3.LIO
- Integrated web server for diagnosis, service and commissioning
- Possibility of processing user-specific software modules (plug-ins)



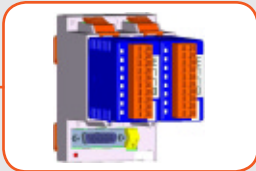
PCD3.LIO basic unit for 4 I/O cassettes (PCD3.C100)

- 4 plug-in PCD3 I/O cassettes (freely selectable)
- Connectable to PCD2., PCD3.RIO and PCD3.LIO
- Expandable with PCD3.LIO



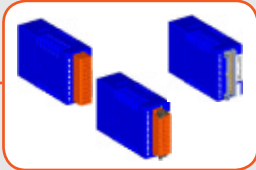
PCD3.LIO basic unit with 24 VDC/5 VDC supply (PCD3.C200)

- 4 plug-in PCD3 I/O cassettes (freely selectable)
- Connectable to PCD2., PCD3.RIO and PCD3.LIO
- Expandable with PCD3.LIO
- With Integrated 24 VDC/5 VDC supply for signal refresh



PCD3.LIO basic unit for 2 I/O cassettes (PCD3.C110)

- 2 plug-in PCD3 I/O cassettes (freely selectable)
- Connectable to PCD2., PCD3.RIO and PCD3.LIO



PCD3 I/O cassettes

- More than 30 different types (digital, analogue, counters)
- Same programming (FBs and FBoxen) as PCD2 I/O modules



Plug-in cage clamp terminal blocks

- 10 terminals, for I/O cassettes with 4, 6 or 8 I/Os (up to 2.5 mm²)
- 24 terminals, for I/O cassettes with 16 I/Os or 6 change-over/2 make contacts (up to 1 mm²).

Plug-in screw terminal blocks

- 10 terminals, for I/O cassettes with 4, 6 or 8 I/O (up to 2.5 mm²)

Various adapters

- For the connection of cassettes with 16 I/Os via screw terminals



Extension plugs and cables

- Extension plug PCD3.LIO-PCD3.LIO, direct side by side
- Extension cable 0.6 m PCD2. ↔ PCD3.LIO
- Extension cable 0.6 m PCD3.LIO ↔ PCD3.LIO

PCD3 components

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Typ	Designation	Number of I/O cassettes	Description	Input/output voltage
PCD3 basic unit				
PCD3.T760	PCD3.RIO	4	for 4 I/O cassettes with 24 VDC supply and PROFIBUS DP connection	24 VDC
PCD3.C100	PCD3.LIO	4	for 4 I/O cassettes	24 VDC
PCD3.C110	PCD3.LIO	2	for 2 I/O cassettes	24 VDC
PCD3.C200	PCD3.LIO	4	for 4 I/O cassettes with 24 VDC supply	24 VDC
PCD3 digital I/O cassettes, 24 VDC				
PCD3.E110	8 I	8	8 inputs 8 ms	24 VDC
PCD3.E111	8 I	8	8 inputs 0.2 ms	24 VDC
PCD3.E160	16 I	16	16 inputs 8 ms Connection via 34-pole ribbon connector	24 VDC
PCD3.E165	16 I	16	16 inputs 8 ms connection via 24-pole cage clamp terminal block	24 VDC
PCD3.E610	8 I	8	8 inputs 10 ms electrically isolated	24 VDC
PCD3.A400	8 O	8	8 outputs 0.5 A	24 VDC
PCD3.A410	8 O	8	8 outputs 0.5 A electrically isolated	24 VDC
PCD3.A460	16 O	16	16 outputs 0.5 A Connection via 34-pole ribbon connector	24 VDC
PCD3.A465	16 O	16	16 outputs 0.5 A connection via 24-pole cage clamp terminal block	24 VDC
PCD3.A300	6 O	6	6 outputs 2 A	24 VDC
PCD3.B100	2 I + 2 O + 4 I/O	8	2 inputs, 2 outputs, 4 selectable as inputs or outputs	24 VDC
PCD3 digital I/O cassettes 230 VAC				
PCD3.A200	4 O	4	4 make contacts 2A	250 VAC/50 VDC
PCD3.A220	6 O	6	6 make contacts 2A	250 VAC/50 VDC
PCD3.A251	8 O	8	6 change-over contacts + 2 make contacts 2 A Connection via 24-pole cage clamp terminal block	48 VAC/50 VDC
PCD3 analogue I/O cassettes				
PCD3.W200	8 I	8	8 analogue inputs 10 bit	0...10 V
PCD3.W210	8 I	8	8 analogue inputs 10 bit	0...20 mA
PCD3.W220	8 I	8	8 analogue inputs 10 bit	Pt/Ni 1000
PCD3.W300	8 I	8	8 analogue inputs 12 bit	0...10 V
PCD3.W310	8 I	8	8 analogue inputs 12 bit	0...20 mA
PCD3.W340	8 I	8	8 analogue inputs 12 bit, jumper selectable 0...10 V, 0...20mA Pt/Ni 1000	
PCD3.W350	8 I	8	8 analogue inputs 12 bit	Pt/Ni 100
PCD3.W360	8 I	8	8 analogue inputs 12 bit resolution < 0.1 °C	Pt 1000
PCD3.W400	4 O	4	4 analogue outputs 8 bit	0...10 V
PCD3.W410	4 O	4	4 analogue outputs 8 bit, jumper selectable 0...10 V, 0...20 mA, 4...20 mA	
PCD3.W600	4 O	4	4 analogue outputs 12 bit	0...10 V
PCD3.W610	4 O	4	4 analogue outputs 12 bit, jumper selectable 0...10 V, 0...20 mA, 4...20 mA	Pt 1000
PCD3.W500	2 I + 2 O	4	2 analogue inputs 12 bit + 2 analogue outputs 12 bit	0...10 V
PCD3 counting and motion control I/O cassettes				
PCD3.H100			Counting cassette up to 20 kHz	
PCD3.H110			Universal counting and measuring cassette up to 100 kHz	
PCD3.H150			SSI interface cassettes	
PCD3.H210			Motion control cassette for stepper motors	
PCD3.H310			Motion control cassette for servo-motors 1-axis encoder 24 VDC	
Accessories				
PCD2.K106			Extension cable 0.6 m PCD2 ↔ PCD3	
PCD3.K010			Extension plug PCD3-PCD3, direct side by side	
PCD3.K106			Extension cable 0.6 m PCD3 ↔ PCD3	
4 405 4954 0	one piece		Plug-in I/O cage clamp terminals 10-pole (up to 2.5 mm ²)	
4 405 4956 0	one piece		Plug-in I/O cage clamp terminals 24-pole (up to 1.0 mm ²)	
4 405 4955 0	one piece		Plug-in I/O screw terminals 10-pole (up to 2.5 mm ²)	

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