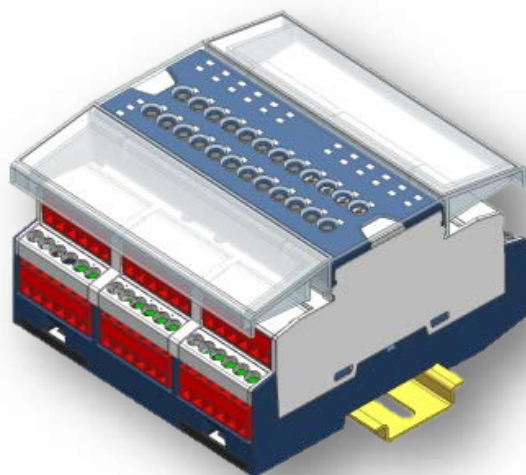


E-Line Remote IOs

Centralized or decentralized automation in very small spaces



The remote I/O modules are controlled via RS-485 and enable decentralized automation using industrial quality components. The data point mix is specifically designed for applications in the HVAC sector. Moreover, the compact design enables the use of electrical distribution boxes alongside installations even in the smallest spaces. Commissioning and servicing are facilitated due to the local override operating level for each output. Remote maintenance is also possible using the optional access to the override operating level via the web interface in the Saia PCD® controller. Programming is also very efficient and fast thanks to a comprehensive FBox library with web templates.

Main features

- Optimized S-Bus protocol for faster communication (4 x faster)
- Local override operating level via web panel or buttons on the module
- Specific I/O mix suitable for HVAC systems
- Convenient programming using the FBox library and web templates
- Industrial quality as per IEC EN 61131-2
- Pluggable terminal blocks protected by flaps
- Electrically isolated RS-485 interface

Technical Data

Power supply

Supply voltage	24 VDC, -15/+20% max. incl. 5% ripple (as defined by EN/IEC 61131-2)
Electrically isolated	500 VDC between power supply and RS-485 and between inputs/outputs and RS-485
Power consumption max.	3 W

Interfaces

Communication	RS-485 with electrical isolation bit rate: 9600, 19,200, 38,400, 57,600, 115,200 bps (auto-bauding)
Address switch for S-Bus address	Two rotary switches 0...9
Terminating resistor	Integrated, can be activated via a wire jumper

General specifications

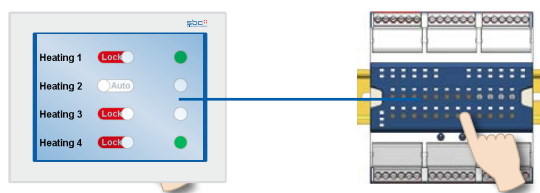
Ambient temperature	Operation: 0...+55°C without forced ventilation Storage: -40...+70°C
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Programming

FBoxes are available for every module type. Web templates are available for operation and visualization of the priority control level.

Local override operating level

By using the local override operating level, commissioning can take place independently of the master station. In addition, the manual operating level can also be controlled remotely using a touch panel. If the bus line is cut off, the module retains the manually set values.



Three security levels can be defined for the manual override operating level:

1. Operation permitted only from the module.
2. Operation permitted from the module and limited operation from the panel. If manual operation is activated at the module, it cannot be reset from the panel.
3. Unlimited operation from the panel and module.



Depending on the application, manually set values may not be reset from the panel. This can therefore be deactivated.

Input/output configuration

Digital inputs

Input voltage	24 V, high active
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Relay outputs

Switching voltage max.	250 VAC/30 VDC
Switching current max.	4 A (resistive load)
Contact protection	n/a

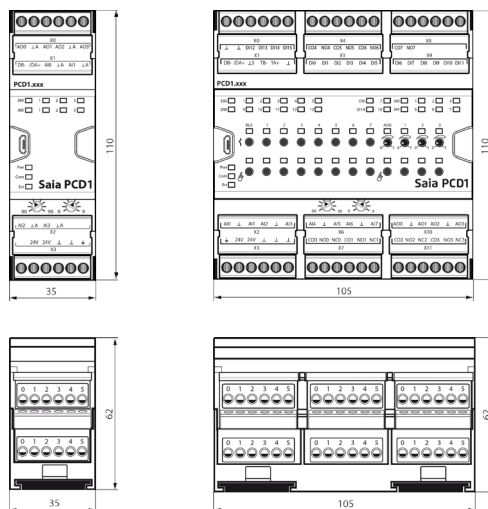
Analogue inputs

Resolution	Pt1000: < 0.18 K Ni1000: < 0.12 K 0...10 V: < 1.22 mV	0...2500 Ω: < 0.61 Ω Ni1000, TK5000: < 0.15 K
Measured values	0...10 V, Pt/Ni1000, Ni1000, TK5000, NTC, KTY, 0...2500 Ω, 100 Ω...100 kΩ can be set via FBoxes	
Precision	0.3% at 25°C	

Analogue outputs

Resolution	10 bits
Signal range	0...10 V (10 mA max.)
Local override operation level	Operation via buttons and potentiometer

Dimensions



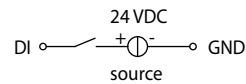
Housing width
2 modules (35 mm)

Housing width
6 modules (105 mm)

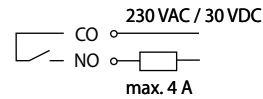
Compatible with electrical control cabinets
(as per DIN 43880, size 2 x 55 mm)

Connection diagrams

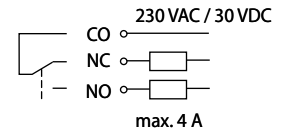
Digital input



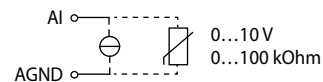
Normally open relay



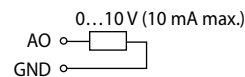
Changeover relay



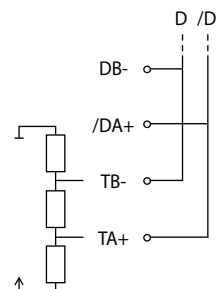
Analogue input



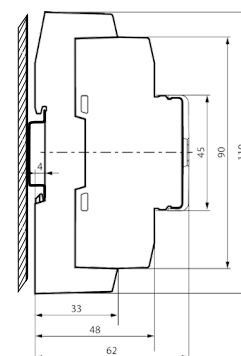
Analogue output



Abschlusswiderstand



Mounting



on a 35-mm top-hat rail (as per
DIN EN 60715 TH35)

Module overview

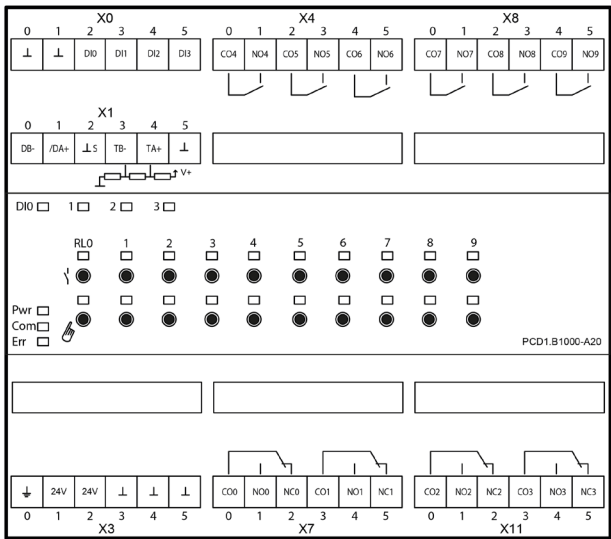
Type	DI	Relays (normally open/changeover)	AI	AO	Local override operation level	Width	Power supply
PCD1.B1000-A20	4	10 (6/4)	–	–	yes	6 modules	24 VDC
PCD1.B1010-A20	24	10 (6/4)	–	–	yes	6 modules	24 VDC
PCD1.B1020-A20	16	4 (0/4)	–	–	yes	6 modules	24 VDC
PCD1.G5000-A20	16	8 (4/4)	8	4	yes	6 modules	24 VDC
PCD1.G5010-A20	12	4 (0/4)	12	8	yes	6 modules	24 VDC
PCD1.G5020-A20	8	4 (0/4)	16	4	yes	6 modules	24 VDC
PCD1.W5300-A10*	–	–	4 (in addition ± 20 mA)	4	no	2 modules	24 VDC

* No integrated terminating resistor

PCD1.B1000-A20

Digital input/output module

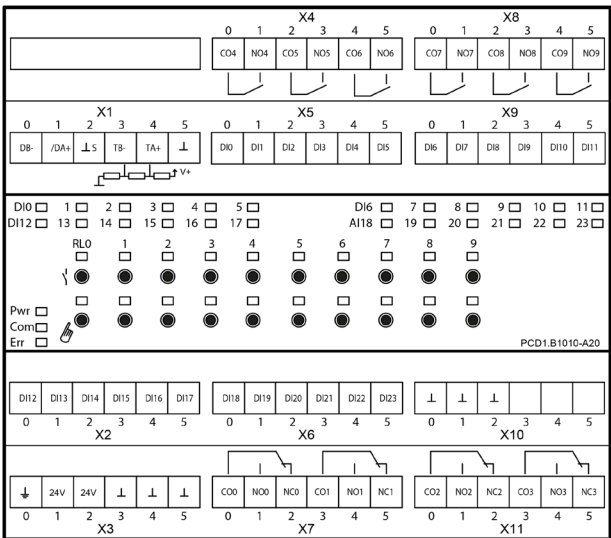
Type	DI	Relays (normally open/changeover)	AI	AO	Local override operating level	Width	Power supply
PCD1.B1000-A20	4	10 (6/4)	–	–	yes	6 modules	24 VDC



PCD1.B1010-A20

Digital input/output module

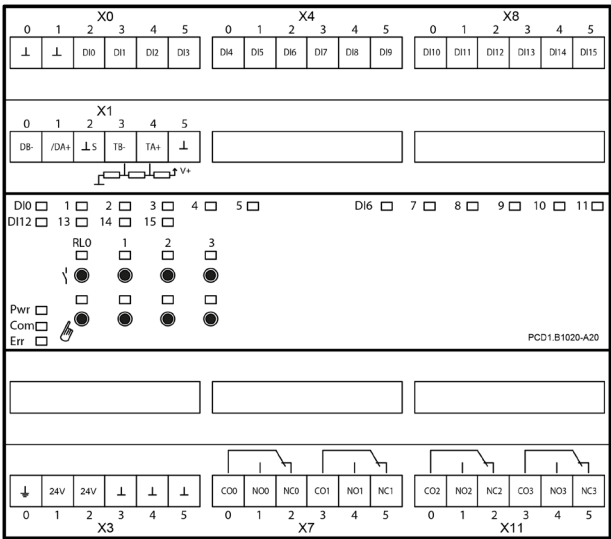
Type	DI	Relays (normally open/changeover)	AI	AO	Local override operation level	Width	Power supply
PCD1.B1010-A20	24	10 (6/4)	–	–	yes	6 modules	24 VDC



PCD1.B1020-A20

Digital input/output module

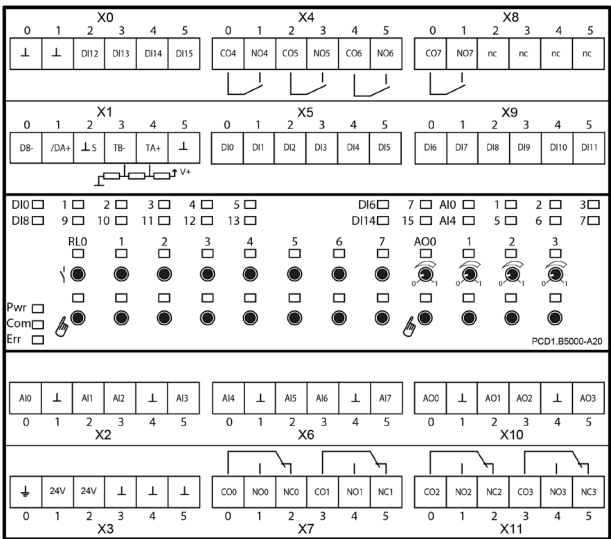
Type	DI	Relays (normally open/changeover)	AI	AO	Local override operating level	Width	Power supply
PCD1.B1020-A20	16	4 (0/4)	–	–	yes	6 modules	24 VDC



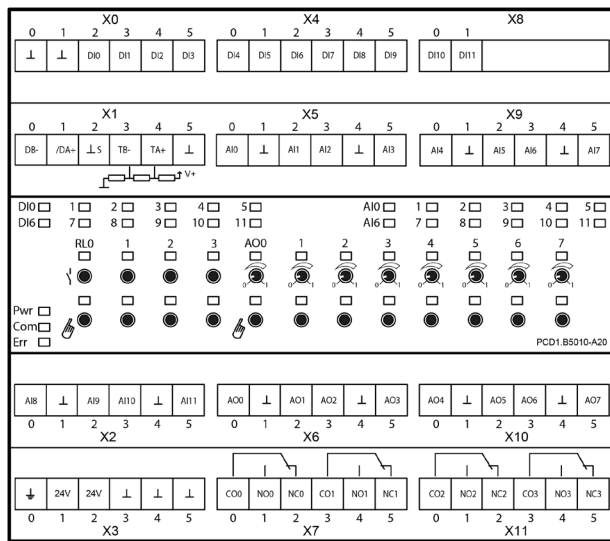
PCD1.G5000-A20

Digital input/output module

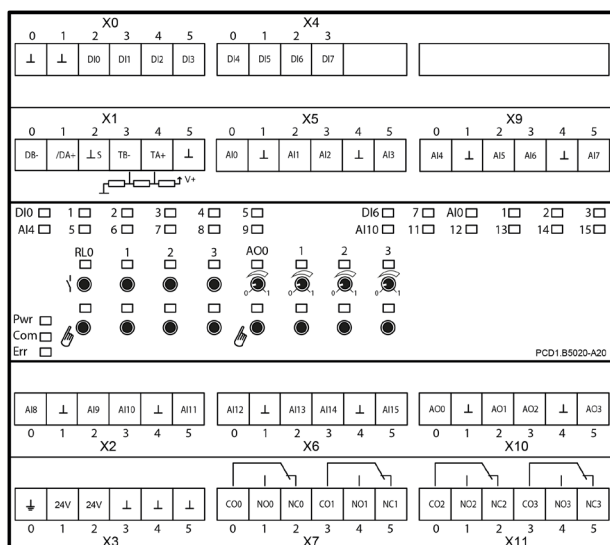
Type	DI	Relays (normally open/changeover)	AI	AO	Local override operating level	Width	Power supply
PCD1.G5000-A20	16	8 (4/4)	8	4	yes	6 modules	24 VDC



Digital input/output module							
Type	DI	Relays (normally open/changeover)	AI	AO	Local override operating level	Width	Power supply
PCD1.G5010-A20	12	4 (0/4)	12	8	yes	6 modules	24 VDC



Digital input/output module							
Type	DI	Relays (normally open/changeover)	AI	AO	Local override operating level	Width	Power supply
PCD1.G5020-A20	8	4 (0/4)	16	4	yes	6 modules	24 VDC

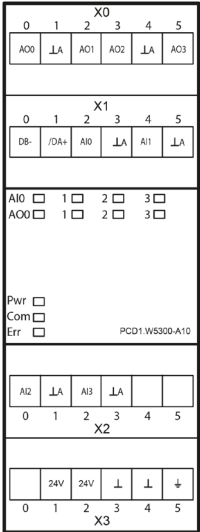


PCD1.W5300-C10

Digital input/output module

Type	DI	Relays (normally open/changeover)	AI	AO	Local override operating level	Width	Power supply
PCD1.W5300-A10*	-	-	4 (in addition ± 20 mA)	4	no	2 modules	24 VDC

* No integrated terminating resistor



Order details

Type	Description	Weight
PCD1.B1000-A20	E-Line RIO 4 DI, 10 Relays	385
PCD1.B1010-A20	E-Line RIO 24 DI, 10 Relays	385
PCD1.B1020-A20	E-Line RIO 16 DI, 4 Relays	353
PCD1.G5000-A20	E-Line RIO 16 DI, 8 Relays, 8 AI, 4 AO	389
PCD1.G5010-A20	E-Line RIO 12 DI, 4 Relays, 12 AI, 8 AO	362
PCD1.G5020-A20	E-Line RIO 8 DI, 4 Relays, 16 AI, 4 AO	360
PCD1.W5300-A10	E-Line RIO 4 AI, 4 AO	120

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