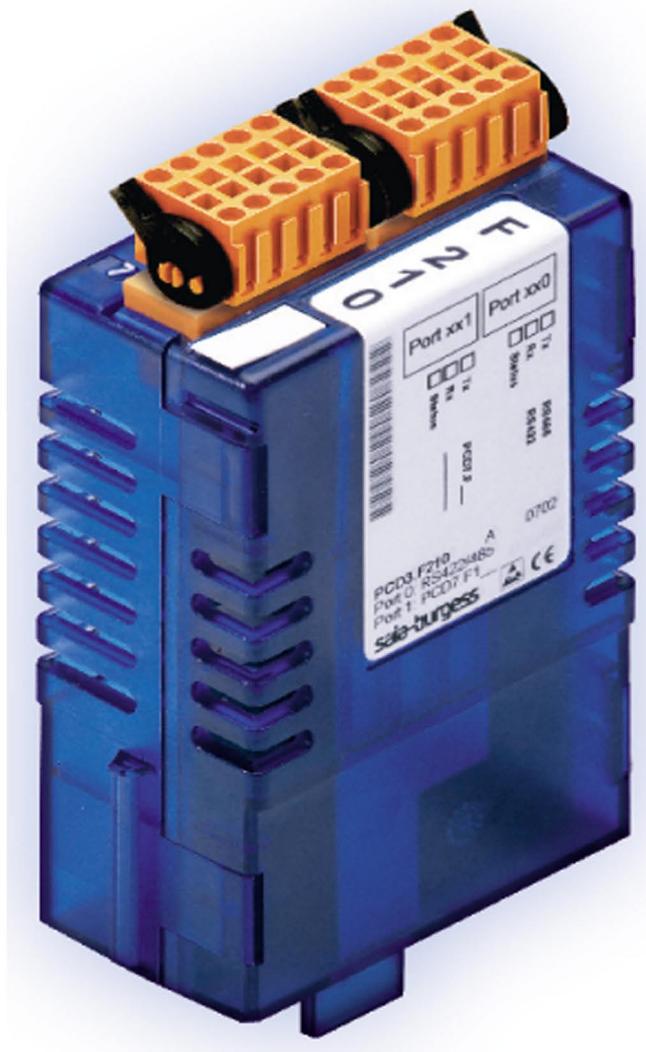




Saia® PCD3 System

I/O kort



 Malthe Winje

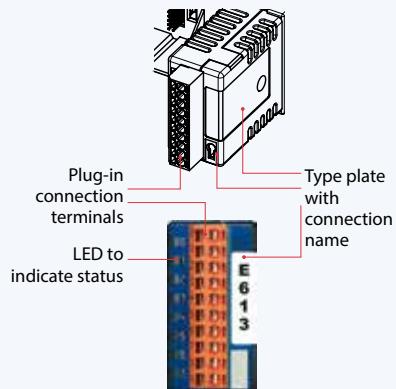
08-594 118 30 www.mwa.se info@mwa.se

Saia® PCD3 input and output modules in cassette design

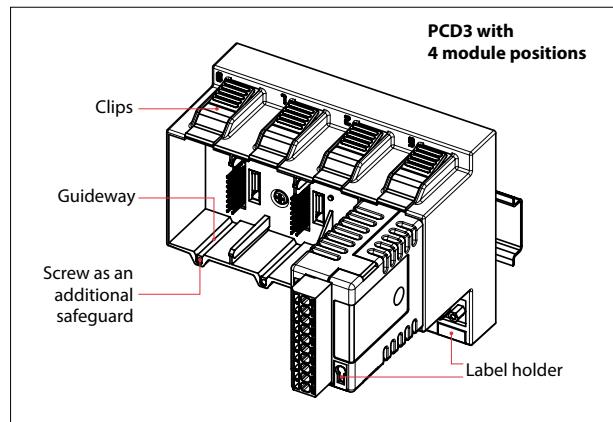
The functions of the Saia® PCD3 can be expanded as required using a wide range of plug-in I/O modules and can be adapted to specified needs. This not only ensures that a project can be implemented quickly but also provides the option of expanding or modifying the system at any time.

System properties

- ▶ Numerous variants available
- ▶ Slot directly in the Saia® PCD3 basic CPU or in the module holder
- ▶ Full integration into the Saia® PCD3 housing
- ▶ Stable cassette design
- ▶ Connection to the I/O level via plug-in spring terminal blocks or ribbon cables and adapters
- ▶ I/O terminal blocks are supplied as standard
- ▶ No tools required for replacing modules



Insertion of I/O modules



▲ Simple exchange of I/O modules

More than 50 modules available with different functionalities

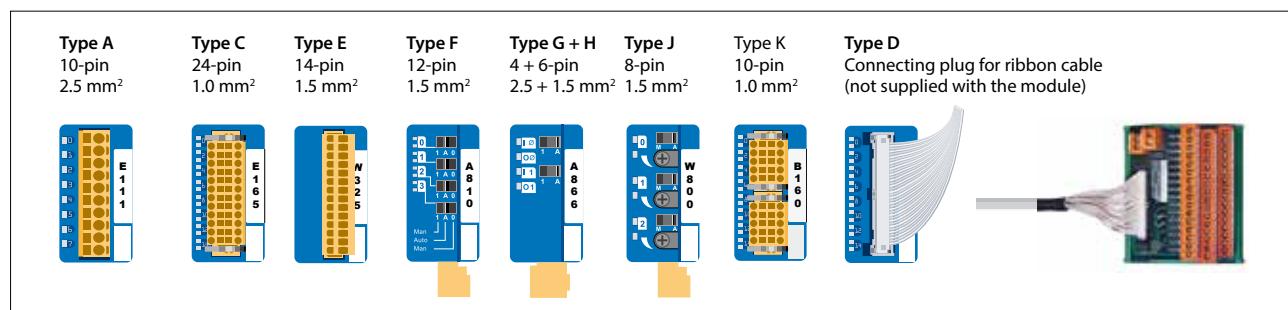
Types

- ▶ PCD3.Axxx Digital output modules
- ▶ PCD3.Bxxx Digital combined input/output modules
- ▶ PCD3.Exxx Digital input modules
- ▶ PCD3.Fxxx Communication modules
- ▶ PCD3.Hxxx Fast counter modules
- ▶ PCD3.Rxxx Memory modules
- ▶ PCD3.Wxxx Analog input/output modules



Webcode
scen13026

Connecting plugs/terminals



▲ Spare terminals, ribbon connectors with system cables and separate terminals are ordered as accessories.

Saia® PCD3 Digital input and output modules

The digital I/O modules can be easily plugged into the Saia® PCD3 Basis CPU or an appropriate module holder. In addition to inputs for various voltage levels, digital outputs are provided with both the transistor technology and as mechanical relays. This means that electrical isolation from the switching electrical circuit can be achieved easily and reliably.

Digital input modules

Type	Number of I/Os	Input voltage	Output breaking capacity DC AC		Input delay	Electrical isolation	Internal current draw 5 V bus ¹⁾ + V bus ²⁾		I/O connector type ³⁾
PCD3.E110	8 I	15...30 VDC	---	---	8 ms 0.2 ms 9 ms 0.2 ms	---	24 mA 24 mA 24 mA 24 mA	---	A
PCD3.E111	8 I	15...30 VDC	---	---	8 ms 0.2 ms 9 ms 0.2 ms	---	24 mA 24 mA 24 mA 24 mA	---	A
PCD3.E112	8 I	7.5...15 VDC	---	---	8 ms 0.2 ms 9 ms 0.2 ms	---	24 mA 24 mA 24 mA 24 mA	---	A
PCD3.E116	8 I	3.5...7 VDC	---	---	8 ms 0.2 ms 9 ms 0.2 ms	---	24 mA 24 mA 24 mA 24 mA	---	A
PCD3.E160	16 I	15...30 VDC	---	---	8 ms 0.2 ms	---	10 mA 10 mA	---	D
PCD3.E161	16 I	15...30 VDC	---	---	8 ms 0.2 ms	---	10 mA 10 mA	---	D
PCD3.E165	16 I	15...30 VDC	---	---	8 ms 0.2 ms	---	10 mA 10 mA	---	C
PCD3.E166	16 I	15...30 VDC	---	---	8 ms 0.2 ms	---	10 mA 10 mA	---	C
PCD3.E500	6 I	80...250 VAC	---	---	20 ms	●	1 mA	---	A
PCD3.E610	8 I	15...30 VDC	---	---	10 ms	●	24 mA	---	A
PCD3.E613	8 I	30...60 VDC	---	---	9 ms	●	24 mA	---	A

Digital output modules

Type	Number of I/Os	Input voltage	Output breaking capacity DC AC		Input delay	Electrical isolation	Internal current draw 5 V bus ¹⁾ + V bus ²⁾		I/O connector type ³⁾
PCD3.A200	4 O, relay (make)	---	2 A/50 VDC	2 A/250 VAC	---	●	15 mA	---	AA
PCD3.A210	4 O, relay (break)	---	2 A/50 VDC	2 A/250 VAC	---	●	15 mA	---	AA
PCD3.A220	6 O, relay (make)	---	2 A/50 VDC	2 A/250 VAC	---	●	20 mA	---	A
PCD3.A251	8 O, relay (6 changeover + 2 make)	---	2 A/50 VDC	2 A/48 VAC	---	●	25 mA	---	C
PCD3.A300	6 O, transistor	---	2 A/10...32 VDC	---	---	---	20 mA	---	A
PCD3.A400	8 O, transistor	---	0.5 A/5...32 VDC	---	---	---	25 mA	---	A
PCD3.A410	8 O, transistor	---	0.5 A/5...32 VDC	---	---	●	24 mA	---	A
PCD3.A460	16 O, transistor	---	0.5 A/10...32 VDC	---	---	---	10 mA	---	D
PCD3.A465	16 O, transistor	---	0.5 A/10...32 VDC	---	---	---	10 mA	---	C
PCD3.A810	4 O, relay (2 changeover + 2 make)	---	2 A/50 VDC	5 A/250 VAC	---	●	40 mA	---	F
Manual control			2 A/50 VDC	6 A/250 VAC	---	●			

Digital input/output modules

Type	Number of I/Os	Input voltage	Output breaking capacity DC AC		Input delay	Electrical isolation	Internal current draw 5 V bus ¹⁾ + V bus ²⁾		I/O connector type ³⁾
PCD3.A860	2 O, relay (make)	15...30 VDC	---	12 A/250 VAC	8 ms	●	18 mA	---	G
Light&shade	2 I								H
PCD3.B100	2 I + 2 O + 4 selectable I or O	I:15...32 VDC	0.5 A/5...32 VDC	---	8 ms	---	25 mA	---	A
PCD3.B160	16 I/O (configurable)	I: 24 VDC	0.25 A/18...30 VDC	---	8 ms or 0.2 ms	---	120 mA	---	2x K

Fast counter modules (only for I/O slots with fast SPI bus)

Type	Number of counters	Inputs per counter	Outputs per counter	Counting range	Selectable digital filter	Current draw 5 V bus ¹⁾ + V bus ²⁾		I/O connector type ¹⁾
PCD3.H112 ⁴⁾	2	2 I + 1 configurable I	1 CCO	0...16777215 (24-bit)	10 kHz...150 kHz	50 mA	4 mA	2x K
PCD3.H114 ⁴⁾	4	2 I + 1 configurable I	1 CCO	0...16777215 (24-bit)	10 kHz...150 kHz	50 mA	4 mA	2x K

Capacity of the internal bus (5V, +V) of the PCD3 controllers and module holders

Capacity	PCD3.Mxxx0	PCD3.Txxx	PCD3.C200
¹⁾ Internal 5 V	600 mA	600 mA	1500 mA
²⁾ Internal +V (24 V)	100 mA	100 mA	630 mA

The electrical requirement of the internal +5V and +V bus for the I/O modules is calculated in the PG5 2.0 Device Configurator.

³⁾ Plug-in I/O terminal blocks are included with I/O modules.
Spare terminals, ribbon connectors with system cables and separate terminals are ordered as accessories (see page 34 and page 78).

⁴⁾ Delivery on demand



More information on counting modules, stepper motor control and positioning modules:
Webcode scen13027

Saia® PCD3 Analogue input and output modules

The numerous analogue modules allow complex control tasks or measurements. Depending on the speed of the AD converter, the resolution is between 8 and 16-bit. The digitized values can be processed further directly in the project in the Saia® PCD3. The large number of different modules means that suitable modules can be found to cover nearly every requirement.

Analogue input modules

Type	Number of I/Os	Signal ranges/description	Resolution	Electrical isolation	Internal current draw 5 V bus ¹⁾ + V bus ²⁾		I/O connector type ³⁾
PCD3.W200	8 I	0...+10 V	10-bit		8 mA	5 mA	A
PCD3.W210	8 I	0...20 mA ⁴⁾	10-bit		8 mA	5 mA	A
PCD3.W220	8 I	Pt 1000: -50 °C...400 °C/Ni 1000: -50 °C...+200 °C	10-bit	---	8 mA	16 mA	A
PCD3.W220Z03	8 I	NTC 10 temperature sensor	10-bit		8 mA	16 mA	A
PCD3.W220Z12	4 I +4 I	4 I: 0...10 V 4 I Pt 1000: -50 °C...400 °C/Ni 1000: -50 °C...+200 °C	10-bit		8 mA	11 mA	A
PCD3.W300	8 I	0...+10 V	12-bit		8 mA	5 mA	A
PCD3.W310	8 I	0...20 mA ⁴⁾	12-bit		8 mA	5 mA	A
PCD3.W340	8 I	0...+10 V/0...20 mA ⁴⁾ Pt 1000: -50 °C...400 °C/Ni 1000: -50 °C...+200 °C	12-bit	---	8 mA	20 mA	A
PCD3.W350	8 I	Pt 100: -50 °C...+600 °C/Ni 100: -50 °C...+250 °C	12-bit		8 mA	30 mA	A
PCD3.W360	8 I	Pt 1000: -50 °C...+150 °C	12-bit		8 mA	20 mA	A
PCD3.W305	7 I	0...+10 V	12-bit	●	60 mA	0 mA	E
PCD3.W315	7 I	0...20 mA/4...20 mA parameters can be set	12-bit	●	60 mA	0 mA	E
PCD3.W325	7 I	-10 V...+10 V	12-bit	●	60 mA	0 mA	E
PCD3.W720	2 I	Weighing module with 2 systems for up to 6 weighing cells	≤18 Bit	---	60 mA	100 mA	E
PCD3.W745	4 I	Temperature module for TC type J, K and 4-wire Pt/Ni 100/1000	16-bit	●	200 mA	0 mA	⁶⁾

Analogue output modules

Type	Number of I/Os	Signal ranges/description	Resolution	Electrical isolation	Internal current draw 5 V bus ¹⁾ + V bus ²⁾		I/O connector type ³⁾
PCD3.W400	4 O	0...+10 V	8-bit		1 mA	30 mA	A
PCD3.W410	4 O	0...+10 V/0...20 mA/4...20 mA jumper-selectable	8-bit 8-bit	---	1 mA	30 mA	A
PCD3.W600	4 O	0...+10 V	12-bit		4 mA	20 mA	A
PCD3.W610	4 O	0...+10 V/-10 V...+10 V/0...20 mA/4...20 mA jumper-selectable	12-bit 12-bit	---	110 mA	0 mA	A
PCD3.W605	6 O	0...+10 V	10-bit	●	110 mA	0 mA	E
PCD3.W615	4 O	0...20 mA/4...20 mA parameters can be set	10-bit	●	55 mA	0 mA	E
PCD3.W625	6 O	-10 V...+10 V	10-bit	●	110 mA	0 mA	E
PCD3.W800	4 O, 3 of which are manually operated	0...+10 V, short circuit proofed	10-bit	---	45 mA	35 mA ⁵⁾	J

Analogue input/output modules

Type	Number of I/Os	Signal ranges/description	Resolution	Electrical isolation	Internal current draw 5 V bus ¹⁾ + V bus ²⁾		I/O connector type ³⁾
PCD3.W525	4 I + 2 O	I: 0...10 V, 0(4)...20 mA, Pt 1000, Pt 500 or Ni 1000 (selectable by DIP switch) O: 0...10 V or 0(4)...20 mA (selectable by software)	I: 14-bit O: 12-bit	●	40 mA	0 mA	E

Manual control modules

PCD3.A810
Relay outputs, 2 changeover and 2 make contacts



PCD3.A860
Light and shade 2 relay outputs and 2 inputs



PCD3.W800
4 analog outputs (3 channels with manual control)



Capacity of the internal bus (5V, +V) of the PCD3 controllers and module holders

Capacity	PCD3.Mxxx0	PCD3.Txxx	PCD3.C200
¹⁾ Internal 5 V	600 mA	600 mA	1500 mA
²⁾ Internal +V (24 V)	100 mA	100 mA	630 mA

The electrical requirement of the internal +5V and +V bus for the I/O modules is calculated in the PG5.2.0 Device Configurator.

³⁾ Plug-in I/O terminal blocks are included with I/O modules. Spare terminals, ribbon connectors with system cables and separate terminals are ordered as accessories (see pages 34 and 78).

⁴⁾ 4...20 mA via user program

⁵⁾ At 100% output value and 3 kΩ load

⁶⁾ With soldered I/O spring terminal block