1.5 Saia PCD® PCS1

A PCS1 controller can be freely programmed. The integrated data points and communication interfaces have been coordinated with HeaVAC applications. They are available to the user programs via function blocks (FBoxes).

System properties
▸ 19, 30, 44 data points in the basic device, can be enhanced via field buses
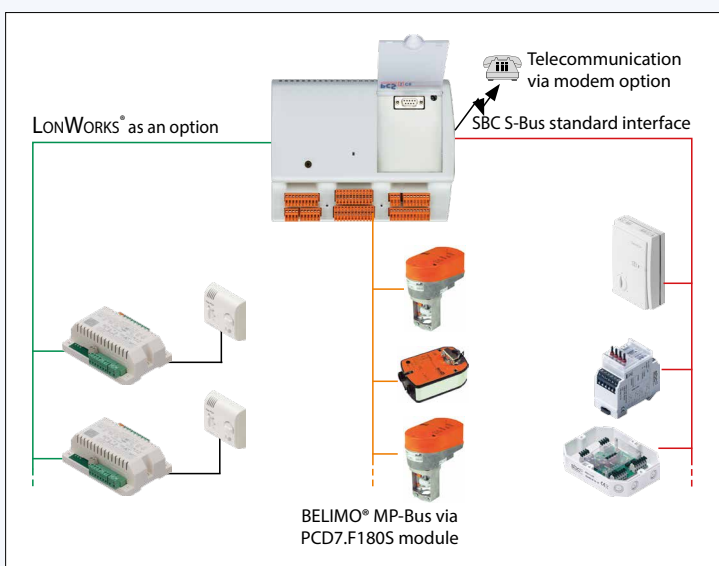▸ Compact dimensions
▸ User memory for historic data

Options
▸ Integrated graphic display with single-button operation
▸ Integrated manual and coupler level
▸ Plug-in spring-loaded terminals with cover
▸ LON FTT10 already onboard (PCS1.C88x)

Compared to the Saia PCD® system, PCS1 is not based on the Saia PCD® COSinus operating system and does not have an Automation Server!
The integral graphical display supports the ASCII character set (Western Europe). In extended character sets (Cyrillic) an external display is recommended (e.g. PCD7.D23x). Please note the instructions in manual 26/795.
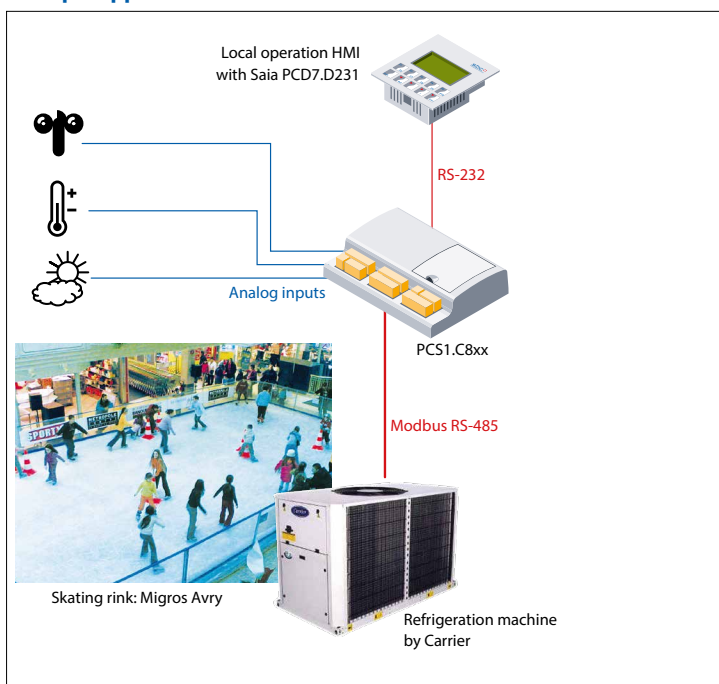
Configuration example

LONWORKS® as an option

Telecommunication via modem option

SBC S-Bus standard interface

BELIMO® MP-Bus via PCD7.F180S module

Communication interfaces
▸ 1 × PGU RS-232 (onboard X3)
▸ 1 × S-Bus RS-485 M/S (onboard X1)
▸ 1 × optional via PCD7.F1xxxS module:
  ▸ RS-232 for EIB/KNX, M-Bus, etc.
  ▸ RS-422 local operating terminal
  ▸ RS-485 S-Bus, etc.
  ▸ Belimo MP-Bus
▸ 1 × LONWORKS® (onboard with PCS1.C88x)
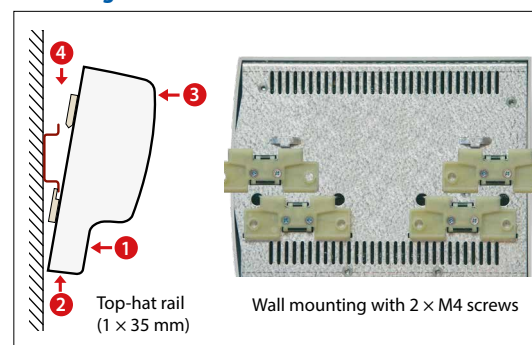
Range of use and positioning examples
▸ small ventilation systems
▸ small heating systems
▸ compact air conditioning systems
▸ small utility-supplied heating transfer stations

Example application

Local operation HMI with Saia PCD7.D231

RS-232

Analog inputs

PCS1.C8xx

Modbus RS-485

Skating rink: Migros Avry

Refrigeration machine by Carrier

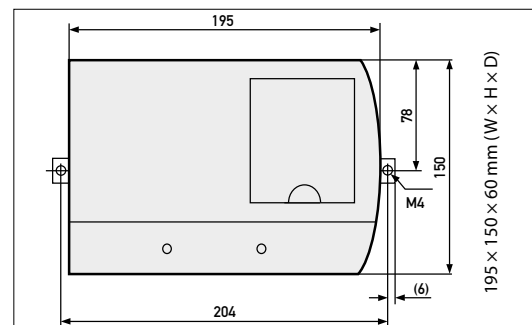The construction and data point mix make it suitable for use in compact air conditioning devices, for example.

Mounting

Top-hat rail (1 × 35 mm)

Wall mounting with 2 × M4 screws

Dimensions

195

78

150

M4

204

(6)

195 × 150 × 60 mm (W × H × D)

1 Automation stations

2 HMI Visualization and operating

3 Dedicated room controller

4 Consumption data acquisition

5 Cabinet components

Overview of PCS1

Technical data

	PCS1.C42x				PCS1.C62x				PCS1.C82x				PCS1.C88x			
	PCS1.C420	PCS1.C421	PCS1.C422	PCS1.C423	PCS1.C620	PCS1.C621	PCS1.C622	PCS1.C623	PCS1.C820	PCS1.C821	PCS1.C822	PCS1.C823	PCS1.C880	PCS1.C881	PCS1.C882	PCS1.C883
Internal graphic display	●	●	–	–	●	●	–	–	●	●	–	–	●	●	–	–
Manual operation	●	–	●	–	●	–	●	–	●	–	●	–	●	–	●	–
Lon FTT10	–	–	–	–	–	–	–	–	–	–	–	–	●	●	●	●

Data points

	PCS1.C42x	PCS1.C62x	PCS1.C82x	PCS1.C88x
Digital input 0.2 ms	0	2	3	3
Digital input 8 ms	4	4	9	9
Digital input/output	2	4	4	4
Relay output make contact	4	4	4	4
Relay output changeover contact	0	4	4	4
Universal input (0…10 V; 24 V on/off)	2	2	4	4
Analog input (Pt/Ni 1000, 0.6° C)	0	0	4	4
Analog input (Pt/Ni 1000, 0.15° C)	4	6	8	8
Analog output (0…10 V)	3	4	4	4
Total	19	30	44	44

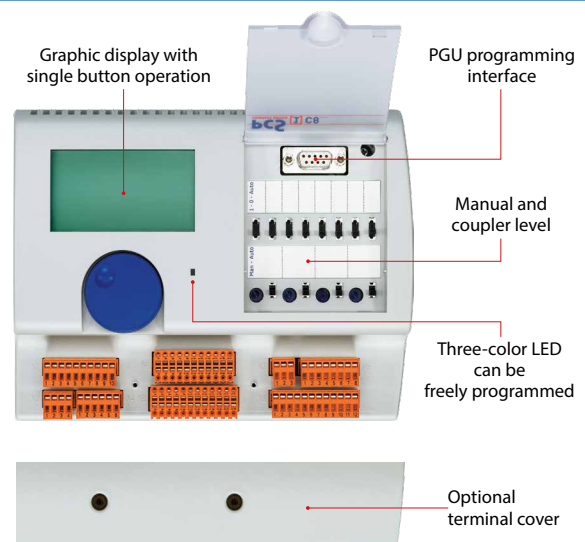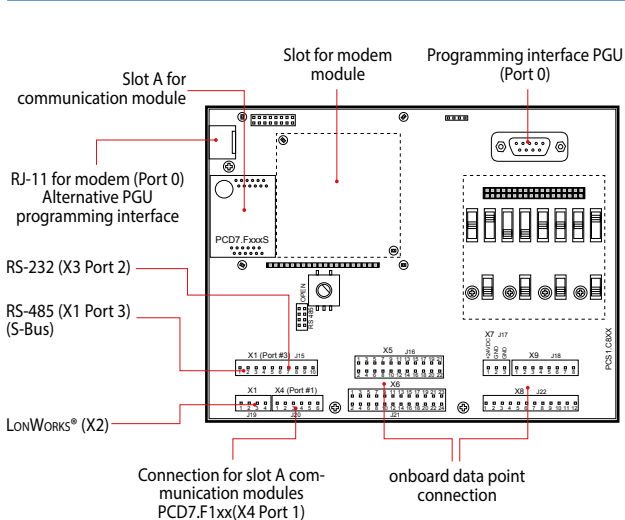### General data

Supply voltage	24 VDC -20/+25%, incl. 5% ripple in accordance with EN/IEC 61131-2
Power consumption	max. 10 W
Dimensions	195 × 150 × 60 mm (W × H × D)
User memory	1 MByte flash and 896 kByte RAM
Data storage	Flash > 10 years / RAM 5 days with super capacitor (user memory, hardware clock)
Processing time	Bit instruction 5 µs, word instruction 20 µs
Hardware clock	Time values: s/min/h, week/ day of the week, month/ day of the month, year deviation: < 60 s/month

PCS1 Media

Register (32 Bit)	R 0…4095	Timer / Zähler	T/C 0…1599
Flags (1 Bit)	F 0…8191	Text / Datenbausteine	X/DB 0…5999

Layout

Slot A for communication module
Slot for modem module
Programming interface PGU (Port 0)
RJ-11 for modem (Port 0) Alternative PGU programming interface
RS-232 (X3 Port 2)
RS-485 (X1 Port 3) (S-Bus)
LonWorks® (X2)
Connection for slot A communication modules PCD7.F1xx(X4 Port 1)
onboard data point connection

Graphic display with single button operation
PGU programming interface
Manual and coupler level
Three-color LED can be freely programmed
Optional terminal cover

The devices are supplied ready-assembled under the following order codes:

Data points	Base unit	PCD7.F1xxS	Modem	Software	Mechanical options
19	PCS1.C42x	0 = none	0 = none	0 = PG5	0 = no terminal cover
30	PCS1.C62x	A = ..F110S	1 = analog		1 = with terminal cover
44	PCS1.C8xx	B = ..F121S	2 = ISDN		2 = no terminal cover, wall mounting
		D = ..F150S	3 = GSM		3 = with terminal cover, wall mounting
		E = ..F180S			

Example	**PCS1.C820 A200**
	Base unit with graphic display and manual control, additional RS-422/RS-485 interface, ISDN modem, can be freely programmed with PG5, without terminal cover.

Base units with 19 data points

PCS1.C420	with graphic display and manual operation
PCS1.C421	with graphic display
PCS1.C422	with manual operation
PCS1.C423	no display, no manual operation

Base units with 30 data points

PCS1.C620	with graphic display and manual operation
PCS1.C621	with graphic display
PCS1.C622	with manual operation
PCS1.C623	no display, no manual operation

Base units with 44 data points

PCS1.C820	with graphic display and manual operation
PCS1.C821	with graphic display
PCS1.C822	with manual operation
PCS1.C823	no display, no manual operation

Lᴏɴ base units with 44 data points

PCS1.C880	with graphic display and manual operation
PCS1.C881	with graphic display
PCS1.C882	with manual operation
PCS1.C883	no display, no manual operation

Accessories and consumables

4 405 4941 0	Complete 8-part spring terminal set
4 111 4927 0	Terminal cover incl. 2 screws
4 109 4849 0	Set for wall mounting
4 310 8681 0	Adhesive labels for PCS1 with manual operation
PCD8.K111	Programming cable for configuration/programming tools

Orders must quote the full details.