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

![Configuration example diagram](image)

**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

![Example application](image)

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

### Mounting

![Mounting](image)

**Dimensions**

![Dimensions](image)
Overview of PCS1

### Technical data

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal graphic display</td>
<td>●</td>
<td>●</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Manual operation</td>
<td>●</td>
<td>-</td>
<td>●</td>
<td>-</td>
</tr>
<tr>
<td>Low FTT10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Data points

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital input 0.2 ms</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Digital input 8 ms</td>
<td>4</td>
<td>4</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Digital input/output</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Relay output make contact</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Relay output changeover contact</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Universal input (0…10 V; 24 V on/off)</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Analog input (Pt/NI 1000, 0.6° C)</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Analog input (Pt/NI 1000, 0.15° C)</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Analog output (0…10 V)</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>30</td>
<td>44</td>
<td>44</td>
</tr>
</tbody>
</table>

### 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

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Register (32 Bit)</td>
<td>R 0…4095</td>
<td>Timer / Zähler T/C 0…1599</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flags (1 Bit)</td>
<td>F 0…8191</td>
<td>Text / Datenbausteine X/DB 0…5999</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Layout

- Slot for modem module
- Slot for communication module
- Programming interface PGU (Port 0)
- Graphic display with single button operation
- Manual and coupler level
- Optional terminal cover
- Three-color LED can be freely programmed
- Connection for slot A communication modules (S-Bus)
- onboard data point connection
- LoRaWAN® (X2)
- RS-232 (X3 Port 2)
- RS-485 (X1 Port 3)
- Alternative PGU programming interface
The devices are supplied ready-assembled under the following order codes:

<table>
<thead>
<tr>
<th>Data points</th>
<th>Base unit</th>
<th>PCD7.F1xxS</th>
<th>Modem</th>
<th>Software</th>
<th>Mechanical options</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>PCS1.C42x</td>
<td>0 = none</td>
<td>0 = none</td>
<td>0 = PG5</td>
<td>0 = no terminal cover</td>
</tr>
<tr>
<td>30</td>
<td>PCS1.C62x</td>
<td>A = .F110S</td>
<td>1 = analog</td>
<td></td>
<td>1 = with terminal cover</td>
</tr>
<tr>
<td>44</td>
<td>PCS1.C8xx</td>
<td>B = .F121S</td>
<td>2 = ISDN</td>
<td></td>
<td>2 = no terminal cover, wall mounting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>D = .F150S</td>
<td>3 = GSM</td>
<td></td>
<td>3 = with terminal cover, wall mounting</td>
</tr>
</tbody>
</table>

**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

**Low 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.