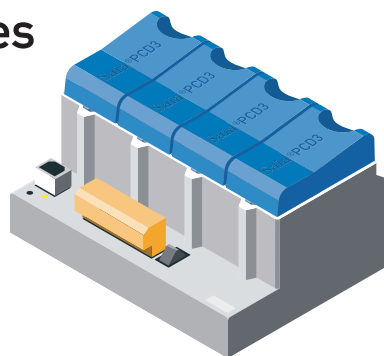


# Performance overview PCD3 series



PCD3.M3020  
PCD3.M3120

PCD3.M3230  
PCD3.M3330

## Technical data CPUs

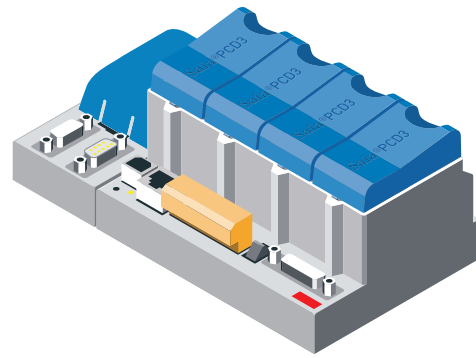
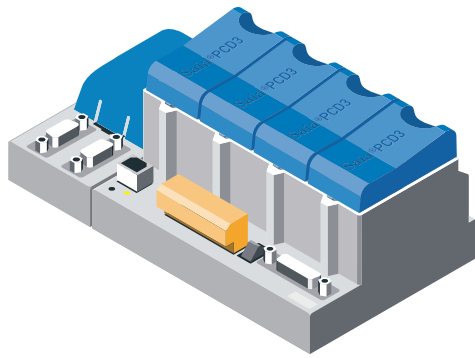
|                                                                                  | Basic                                                  |                                                        |
|----------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
| Number of inputs/outputs or I/O module slots                                     | 64<br>4                                                | 1023 <sup>1)</sup><br>64                               |
| Expansion connection                                                             | no                                                     | yes                                                    |
| Processing time [µs]                                                             | 0.3...1.5 µs<br>0.9 µs                                 | 0.3...1.5 µs<br>0.9 µs                                 |
| Integrated Web server + USB + Date-time (RTC)                                    | yes                                                    | yes                                                    |
| <b>On-board memory</b>                                                           |                                                        |                                                        |
| User memory (RAM)                                                                | 128 KByte                                              | 512 KByte                                              |
| Backup memory flash                                                              | 128 KByte on board                                     | 512 KByte on board                                     |
| Flash file system                                                                |                                                        |                                                        |
| Data backup                                                                      | 4 hours with SuperCap                                  | 4 hours with SuperCap                                  |
| <b>Optional memory</b>                                                           |                                                        |                                                        |
|                                                                                  | up to 4 GByte                                          | up to 4 GByte                                          |
| <b>On-board data interfaces</b>                                                  |                                                        |                                                        |
|                                                                                  | 2...3                                                  | 2...3                                                  |
| RS485 on terminal block(Profibus-DP slave, Profi-S-Net (S-I/O, S-Bus))           | up to 115.2 kBit/s oder Profi-S-Net up to 187.5 kBit/s | up to 115.2 kBit/s oder Profi-S-Net up to 187.5 kBit/s |
| USB 1.1                                                                          | yes                                                    | yes                                                    |
| Ethernet-TCP/IP 10/100 MBit/s                                                    | with PCD3.M3120                                        | with PCD3.M3330                                        |
| RS-232 up to 115.2 kBit/s                                                        | no                                                     | no                                                     |
| RS-422/RS485 on Port #3                                                          | no                                                     | no                                                     |
| Profibus-DP slave, Profi-S-Net (S-I/O, S-Bus), up to 1.5MBit/s                   | no                                                     | no                                                     |
| Controller Area Network (CAN 2.0B)                                               | no                                                     | no                                                     |
| Profibus-DP Master up to 12 MBit/s                                               | no                                                     | no                                                     |
| <b>Optional data interfaces</b>                                                  |                                                        |                                                        |
|                                                                                  | Up to 8                                                | Up to 8                                                |
| Optional PCD3.F1xxmodules for RS-232, RS485, RS-422, TTY/20 mA and Belimo MP-Bus | only Slot #0                                           | only Slot #0                                           |
| Optional PCD3.F2xxmodules for RS-232, RS485, RS-422, TTY/20 mA and Belimo MP-Bus | Slot #0...3<br>up to 8 ports                           | Slot #0...3<br>up to 8 ports                           |
| <b>General</b>                                                                   |                                                        |                                                        |
| Supply voltage(according to EN/IEC61131-2)                                       | 24 VDC -20/+25% max.incl. 5% ripple                    | 24 VDC -20/+25% max.incl. 5% ripple                    |
| Capacity 5 V/24 V intern                                                         | max. 600 mA/100 mA                                     | max. 600 mA/100 mA                                     |
| Programmable                                                                     | from PG5 Version \$1.4.100                             | from PG5 Version \$1.3.100                             |

<sup>1)</sup> when using PCD3.Cxxx and digital I/O-modules with 16 I/Os each.

## System resources

|                      |                                                                                                                                                                                                                                       |                |                                                                               |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------|
| Flags                | 14336 × 1 bit, volatile or non-volatile, division programmable <sup>1)</sup>                                                                                                                                                          | Timing range:  | 31 bit, unsigned (0...2 147 483 647), timing signals selectable 10 ms to 10 s |
| Registers            | 16 384 × 32 Bit, non-volatile                                                                                                                                                                                                         | Texts and DBs  | 8192                                                                          |
| Computational ranges | Integers: -2 147 483 648... +2 147 483 647 (-2 <sup>31</sup> ...+2 <sup>31</sup> -1) Floating-point numbers: ±9.22337 × 10 <sup>18</sup> ...±5.42101 × 10 <sup>-20</sup> Formats: decimal, binary, BCD, hexadecimal or floating-point | Hardware clock | Time values: S/min/h, week/day of week, month/day of month, year              |
| Index registers      | 17 × 13 Bit (1 per COB and 1 for all XOBs)                                                                                                                                                                                            | Accuracy       | better than 1 minute/month                                                    |
| Timers/Counters      | 1 600 volatile timers or non-volatile counters, division programmable                                                                                                                                                                 | Power reserve  | 8 hours for PCD3.M3xx0<br>1 to 3years for PCD3.M5xx0 and PCD3.M6xx0           |
| Counting range       | 31 bit, unsigned (0...2 147 483 647)                                                                                                                                                                                                  |                |                                                                               |

<sup>1)</sup> from firmware version 1.14.xx



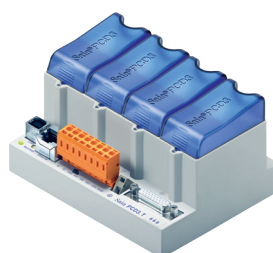
| PCD3.M5340                                                |  | PCD3.M5440                        |  | PCD3.M5540                                                |  | PCD3.M5560                                              |  | PCD3.M6340                                                |  | PCD3.M6360                                              |  | PCD3.M6540                                                |  | PCD3.M6560                                              |  | PCD3.M6560                                                |  |
|-----------------------------------------------------------|--|-----------------------------------|--|-----------------------------------------------------------|--|---------------------------------------------------------|--|-----------------------------------------------------------|--|---------------------------------------------------------|--|-----------------------------------------------------------|--|---------------------------------------------------------|--|-----------------------------------------------------------|--|
| Extended                                                  |  | CAN <sup>3)</sup>                 |  | CAN <sup>3)</sup>                                         |  | CAN <sup>3)</sup>                                       |  | CAN <sup>3)</sup>                                         |  | CAN <sup>3)</sup>                                       |  | DP Master                                                 |  | DP Master                                               |  | DP Master                                                 |  |
| 1023 <sup>1)</sup><br>64                                  |  | 1023 <sup>1)</sup><br>64          |  | 1023 <sup>1)</sup><br>64                                  |  | 1023 <sup>1)</sup><br>64                                |  | 1023 <sup>1)</sup><br>64                                  |  | 1023 <sup>1)</sup><br>64                                |  | 1023 <sup>1)</sup><br>64                                  |  | 1023 <sup>1)</sup><br>64                                |  | 1023 <sup>1)</sup><br>64                                  |  |
| yes                                                       |  | yes                               |  | yes                                                       |  | yes                                                     |  | yes                                                       |  | yes                                                     |  | yes                                                       |  | yes                                                     |  | yes                                                       |  |
| 0.3...1.5 µs<br>0.9 µs                                    |  | 0.3...1.5 µs<br>0.9 µs            |  | 0.1...0.8 µs<br>0.3 µs                                    |  | 0.3...1.5 µs<br>0.9 µs                                  |  | 0.1...0.8 µs<br>0.3 µs                                    |  | 0.3...1.5 µs<br>0.9 µs                                  |  | 0.1...0.8 µs<br>0.3 µs                                    |  | 0.3...1.5 µs<br>0.9 µs                                  |  | 0.1...0.8 µs<br>0.3 µs                                    |  |
| yes                                                       |  | yes                               |  | yes                                                       |  | yes                                                     |  | yes                                                       |  | yes                                                     |  | yes                                                       |  | yes                                                     |  | yes                                                       |  |
| 1 MByte                                                   |  | 1 MByte                           |  | 2 MB <sup>2)</sup> progr. +<br>1 MB <sup>2)</sup> text/DB |  | 1 MByte                                                 |  | 2 MB <sup>2)</sup> progr. +<br>1 MB <sup>2)</sup> text/DB |  | 1 MByte                                                 |  | 2 MB <sup>2)</sup> progr. +<br>1 MB <sup>2)</sup> text/DB |  | 1 MByte                                                 |  | 2 MB <sup>2)</sup> progr. +<br>1 MB <sup>2)</sup> text/DB |  |
| 1 MByte (on board)                                        |  | 1 MByte (on board)                |  | 1 MByte (on board)                                        |  | 1 MByte (on board)                                      |  | 1 MByte (on board)                                        |  | 1 MByte (on board)                                      |  | 1 MByte (on board)                                        |  | 1 MByte (on board)                                      |  | 1 MByte (on board)                                        |  |
| 16 MByte                                                  |  | 16 MByte                          |  | 16 MByte                                                  |  | 16 MByte                                                |  | 16 MByte                                                  |  | 16 MByte                                                |  | 16 MByte                                                  |  | 16 MByte                                                |  | 16 MByte                                                  |  |
| 1 ...3 years with Lithium battery                         |  | 1 ...3 years with Lithium battery |  | 1 ...3 years with Lithium battery                         |  | 1 ...3 years with Lithium battery                       |  | 1 ...3 years with Lithium battery                         |  | 1 ...3 years with Lithium battery                       |  | 1 ...3 years with Lithium battery                         |  | 1 ...3 years with Lithium battery                       |  | 1 ...3 years with Lithium battery                         |  |
| up to 4 GByte                                             |  | up to 4 GByte                     |  | up to 4 GByte                                             |  | up to 4 GByte                                           |  | up to 4 GByte                                             |  | up to 4 GByte                                           |  | up to 4 GByte                                             |  | up to 4 GByte                                           |  | up to 4 GByte                                             |  |
| 5                                                         |  | 4...5                             |  | 4...5                                                     |  | 4...5                                                   |  | 4...5                                                     |  | 4...5                                                   |  | 4...5                                                     |  | 4...5                                                   |  | 4...5                                                     |  |
| up to 115.2 kBit/s oder Profi-S-Net<br>up to 187.5 kBit/s |  | up to 115.2 kBit/s                |  | up to 115.2 kBit/s or Profi-S-Net up to<br>187.5 kBit/s   |  | up to 115.2 kBit/s or Profi-S-Net up to<br>187.5 kBit/s |  | up to 115.2 kBit/s or Profi-S-Net up to<br>187.5 kBit/s   |  | up to 115.2 kBit/s or Profi-S-Net up to<br>187.5 kBit/s |  | up to 115.2 kBit/s or Profi-S-Net up to<br>187.5 kBit/s   |  | up to 115.2 kBit/s or Profi-S-Net up to<br>187.5 kBit/s |  | up to 115.2 kBit/s or Profi-S-Net up to<br>187.5 kBit/s   |  |
| yes                                                       |  | yes                               |  | yes                                                       |  | yes                                                     |  | yes                                                       |  | yes                                                     |  | yes                                                       |  | yes                                                     |  | yes                                                       |  |
| yes                                                       |  | with PCD3.M5540                   |  | yes                                                       |  | yes                                                     |  | yes                                                       |  | yes                                                     |  | with PCD3.M6540                                           |  | yes                                                     |  | yes                                                       |  |
| yes (on D-Sub)                                            |  | yes (on D-Sub)                    |  | yes (on D-Sub)                                            |  | yes (on D-Sub)                                          |  | yes (on D-Sub)                                            |  | yes (on D-Sub)                                          |  | yes (on D-Sub)                                            |  | yes (on D-Sub)                                          |  | yes (on D-Sub)                                            |  |
| yes (on D-Sub)                                            |  | no                                |  | no                                                        |  | no                                                      |  | no                                                        |  | no                                                      |  | no                                                        |  | no                                                      |  | no                                                        |  |
| no                                                        |  | yes (on D-Sub)                    |  | yes (on D-Sub)                                            |  | yes (on D-Sub)                                          |  | yes (on D-Sub)                                            |  | yes (on D-Sub)                                          |  | yes (on D-Sub)                                            |  | yes (on D-Sub)                                          |  | yes (on D-Sub)                                            |  |
| no                                                        |  | no                                |  | no                                                        |  | no                                                      |  | no                                                        |  | no                                                      |  | no                                                        |  | no                                                      |  | no                                                        |  |
| no                                                        |  | no                                |  | no                                                        |  | no                                                      |  | no                                                        |  | no                                                      |  | no                                                        |  | no                                                      |  | no                                                        |  |
| Up to 8                                                   |  | Up to 8                           |  | Up to 8                                                   |  | Up to 8                                                 |  | Up to 8                                                   |  | Up to 8                                                 |  | Up to 8                                                   |  | Up to 8                                                 |  | Up to 8                                                   |  |
| only Slot #0                                              |  | only Slot #0                      |  | only Slot #0                                              |  | only Slot #0                                            |  | only Slot #0                                              |  | only Slot #0                                            |  | only Slot #0                                              |  | only Slot #0                                            |  | only Slot #0                                              |  |
| Slot #0...3<br>up to 8 ports                              |  | Slot #0...3<br>up to 8 ports      |  | Slot #0...3<br>up to 8 ports                              |  | Slot #0...3<br>up to 8 ports                            |  | Slot #0...3<br>up to 8 ports                              |  | Slot #0...3<br>up to 8 ports                            |  | Slot #0...3<br>up to 8 ports                              |  | Slot #0...3<br>up to 8 ports                            |  | Slot #0...3<br>up to 8 ports                              |  |
| 24 VDC                                                    |  | 24 VDC                            |  | 24 VDC                                                    |  | 24 VDC                                                  |  | 24 VDC                                                    |  | 24 VDC                                                  |  | 24 VDC                                                    |  | 24 VDC                                                  |  | 24 VDC                                                    |  |
| -20/+25% max.incl. 5%<br>ripple                           |  | -20/+25% max.incl. 5%<br>ripple   |  | -20/+25% max.incl. 5%<br>ripple                           |  | -20/+25% max.incl. 5%<br>ripple                         |  | -20/+25% max.incl. 5%<br>ripple                           |  | -20/+25% max.incl. 5%<br>ripple                         |  | -20/+25% max.incl. 5%<br>ripple                           |  | -20/+25% max.incl. 5%<br>ripple                         |  | -20/+25% max.incl. 5%<br>ripple                           |  |
| max. 600 mA/100 mA                                        |  | max. 600 mA/100 mA                |  | max. 600 mA/100 mA                                        |  | max. 600 mA/100 mA                                      |  | max. 600 mA/100 mA                                        |  | max. 600 mA/100 mA                                      |  | max. 600 mA/100 mA                                        |  | max. 600 mA/100 mA                                      |  | max. 600 mA/100 mA                                        |  |
| from PG5 Version \$1.4.120                                |  | from PG5 Version \$1.3.100        |  | from PG5 Version \$2.0.136                                |  | from PG5 Version \$1.3.100                              |  | from PG5 Version \$2.0.136                                |  | from PG5 Version \$1.3.100                              |  | from PG5 Version \$2.0.136                                |  | from PG5 Version \$1.3.100                              |  | from PG5 Version \$2.0.136                                |  |

<sup>2)</sup> flash memory

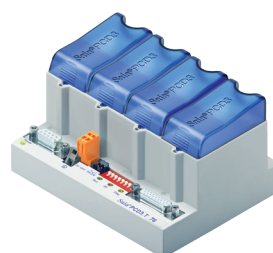
<sup>3)</sup> Only for users with CAN experience

## PCD3 decentralized RIO nodes

The PCD3.T76x head stations are described in chapter 7.



PCD3.T66x



PCD3.T76x