

2.2 An overview of Saia PCD® communication systems

	Fully modular												Compact modular						
	PCD3									RIO		PCD2		PCD1					
	PCD3.M3120	PCD3.M3230	PCD3.M3330	PCD3.M5340	PCD3.M5440	PCD3.M5540	PCD3.M5560	PCD3.M6560	PCD3.M6860	PCD3.T665	PCD3.T666	PCD2.M5440	PCD2.M5540	PCD1.M2020	PCD1.M2120	PCD1.M2160	PCD1.M0160E0	PCD1.M2110R1	
I/O data points																			
Onboard (data points)	-	-	-	-	-	-	-	-	-	-	-	-	-	18	18	18	18	24	
Onboard I/O slots ¹⁾	4	4	4	4	4	4	4	4	4	4	4	4	8	8	2	2	2	-	1
Optional I/O slots using expansion modules ¹⁾	-	60	60	60	60	60	60	60	60	3	3	56	56	-	-	-	-	-	
Maximum number of I/Os ¹⁾	64	1023	1023	1023	1023	1023	1023	1023	1023	256	256	1023	1023	50	50	50	18	40	
Maximum number of interfaces (incl. PGU, USB, Ethernet)	11	10	11	13	13	13	13	13	12	2	11	14	15	7	8	8	4	6	
Onboard interfaces																			
RS-232, PGU up to 115 kBit/s (Port #0)	-	-	-	•	•	•	•	•	-	-	-	•	•	-	-	-	-	-	
USB 1.1 device, PGU	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
Ethernet TCP/IP 10/100 MBit Full duplex, autosensing/crossing	1	-	1	1	-	1	1	1	2	1	1	-	1	-	1	1	1	1	
RS-485 up to 115 kBit/s (Port #2) or Profi S-Net up to 187.5 kBit/s (Port #2)	•	•	•	-	•	-	•	•	•	-	•	-	-	•	•	•	•	-	
RS-422/485 up to 115 kBit/s (Port #3) or RS-485 up to 115 kBit/s electrically isolated (Port #3) or Profi DP slave, Profi S-Net up to 1.5 MBit/s (Port #10)	-	-	-	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Profibus DP master up to 12 MBits/s	-	-	-	-	-	-	-	•	-	-	-	-	-	-	-	-	-	-	
Optional interfaces																			
Slot C, Profibus DP master 12 MBit/s	-	-	-	-	-	-	-	-	-	-	-	•	•	-	-	-	-	-	
BACnet® IP (with PCDx.R56x modules) ²⁾	•	-	•	•	-	•	•	•	•	-	-	-	•	-	•	•	•	•	
BACnet® MS/TP ³⁾ (with PCDx.R56x and PCDx.F215x modules)	•	•	•	•	•	•	•	•	•	-	-	•	•	•	•	•	-	•	
Lon® over IP (with PCDx.R58x modules) ³⁾	•	-	•	•	-	•	•	•	•	-	-	-	•	-	•	•	•	•	
Modbus RTU serial or IP	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
Slot for PCD7.F1xxS (A1/A2)	-	-	-	-	-	-	-	-	-	-	-	2	2	1	1	1	1	1	
I/O slot #0 for PCD3.F1xx																			
▶ RS-232 (RTS/CTS, DTR/DSR, CD, RI) ⁵⁾ PCD3.F121	•	•	•	•	•	•	•	•	•	-	•	-	-	-	-	-	-	-	
▶ RS-485/RS-422 elec. connected ⁵⁾ PCD3.F110	•	•	•	•	•	•	•	•	•	-	•	-	-	-	-	-	-	-	
▶ RS-485/RS-422 elec. isolated ⁵⁾ PCD3.F150	•	•	•	•	•	•	•	•	•	-	•	-	-	-	-	-	-	-	
▶ Belimo MP Bus ⁵⁾ PCD3.F180	•	•	•	•	•	•	•	•	•	-	•	-	-	-	-	-	-	-	
I/O slot #0... #3 for PCD3																			
▶ PCD3.F210 RS-485/422 ⁵⁾ + opt. PCD7.F1xxS	4	4	4	4	4	4	4	4	4	-	-	-	-	-	-	-	-	-	
▶ PCD3.F215 BACnet MS/TP... ⁵⁾ + opt. PCD7.F1xxS	4	4	4	4	4	4	4	4	4	-	-	-	-	-	-	-	-	-	
▶ PCD3.F221 RS-232 full ⁵⁾ + opt. PCD7.F1xxS	4	4	4	4	4	4	4	4	4	-	-	-	-	-	-	-	-	-	
▶ PCD3.F240 Lon FTT10 ⁶⁾ + opt. PCD7.F1xxS ⁴⁾	-	-	-	4	4	4	4	4	4	-	-	-	-	-	-	-	-	-	
▶ PCD3.F261 DALI incl. Bus power supply ⁶⁾	4	4	4	4	4	4	4	4	4	-	4	-	-	-	-	-	-	-	
▶ PCD3.F27x M-Bus Master ⁵⁾	4	4	4	4	4	4	4	4	4	-	4	-	-	-	-	-	-	-	
▶ PCD3.F281 Belimo MP Bus ⁵⁾ + opt. PCD7.F1xxS	4	4	4	4	4	4	4	4	4	-	-	-	-	-	-	-	-	-	
I/O slot #0... #3 for PCD2 and slot #0... #1 for PCD1 and																			
▶ PCD2.F2100 RS-485/422 ⁵⁾ + opt. PCD7.F1xxS	-	-	-	-	-	-	-	-	-	-	-	4	4	2	2	2	-	1	
▶ PCD2.F2150 BACnet MS/TP... ⁵⁾ + opt. PCD7.F1xxS	-	-	-	-	-	-	-	-	-	-	-	4	4	2	2	2	-	1	
▶ PCD2.F2210 RS-232 full ⁵⁾ + opt. PCD7.F1xxS	-	-	-	-	-	-	-	-	-	-	-	4	4	2	2	2	-	1	
▶ PCD2.F2400 Lon FTT10 ⁶⁾ + opt. PCD7.F1xxS ⁴⁾	-	-	-	-	-	-	-	-	-	-	-	-	4	2	2	2	-	1	
▶ PCD2.F2610 DALI incl. Bus power supply ⁶⁾	-	-	-	-	-	-	-	-	-	-	-	4	4	2	2	2	-	1	
▶ PCD2.F27x0 M-Bus Master ⁵⁾	-	-	-	-	-	-	-	-	-	-	-	4	4	2	2	2	-	1	
▶ PCD2.F2810 Belimo MP Bus ⁵⁾ + opt. PCD7.F1xxS	-	-	-	-	-	-	-	-	-	-	-	4	4	2	2	2	-	1	
Slots for modem (A1/A2)	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	
Using an external modem via RS-232 interfaces	•	•	•	•	•	•	•	•	•	-	-	•	•	•	•	•	•	•	

	Compact modular						Compact				
	PCD3 compact		PCD3.WAC Wide Area Controller				PCD1 E-Line programmable RIO ⁷⁾				
	PCD3.M2030V6	PCD3.M2130V6	PCD3.M2330A4T1	PCD3.M2330A4T3	PCD3.M2330A4T5	PCD3.M2230A4T3	PCD1.G1100-C15	PCD1.G3600-C15	PCD1.G3601-C15	PCD1.F2611-C15	PCD1.W5300-C15
I/O data points											
Onboard (data points)	38	38	14	14	14	14	8	24	24	4	8
Optional I/O slots via expansion modules PCD3.Cxxx ¹⁾	4	4	4	4	4	4	-	-	-	-	-
Maximum number of I/Os ¹⁾	102	102	78	78	78	78	8	24	24	4	8
Maximum number of interfaces (incl. PGU)	3	4	5	5	5	4	3	3	4	4	3
Onboard interfaces											
RS-232, PGU up to 115 kBit/s (Port #0)	-	-	-	-	-	-	-	-	-	-	-
RS-485, S-Bus, PGU up to 115 kBit/s (Port #0)	-	-	-	-	-	-	•	•	•	•	•
USB 1.1 device, PGU	•	•	•	•	•	•	•	•	•	•	•
NFC	-	-	-	-	-	-	•	•	•	•	•
Ethernet TCP/IP 10/100 MBit Full duplex, autosensing	-	1	1	1	1	-	-	-	-	-	-
RS-485 up to 115 kBit/s (Port #2) or Profi S-Net up to 187.5 kBit/s (Port #2)	•	•	•	•	•	•	-	-	• ⁸⁾	• ⁸⁾	-
LONWORKS [®] FTT10	-	-	-	-	-	-	-	-	-	-	-
Modem P=PSTN, I=ISDN, PCD: G=GSM/GPRS	-	-	P	I	G	G	-	-	-	-	-
Optional interfaces											
Modbus RTU serial or IP	•	•	•	•	•	•	-	-	-	-	-
Slot for PCD7.F1xxS (A1)	1	1	1	1	1	1	-	-	-	-	-
Uses an external modem via RS-232 interfaces	•	•	-	-	-	-	-	-	-	-	-



¹⁾ I/O slots can be fitted with I/O modules as required (see pages 29/30 and 48/49). The number of data points processed by a PLC depends on the number of I/O data points per module. A max. 16 data points per module are possible. A PCD can therefore process a maximum number of data points of 64 I/O slots × 16 data points/slot = 1024 I/O data points.

²⁾ A PCDx.R56x memory module is always required to use BACnet[®]. Controllers with no Ethernet support BACnet MS/TP using optional PCD2.F2150 or PCD3.F215 communication modules.

Controller	Memory module	max. free I/O slots
PCD3.M3xx0	PCD3.R56x	3
PCD3.M5xx0	PCD7.R56x	4
PCD2.M5xx0	PCD7.R56x	4
PCD1.M2xx0	PCD7.R56x	2
PCD1.M0xx0	PCD7.R56x	---
PCD1.Room	PCD7.R56x	1

³⁾ It is only possible to operate BACnet[®]-IP and Lon[®] IP in parallel on the PCD3.M5560, PCD3.M6560 and PCD3.M6860 controllers.

⁴⁾ The PCD2.F2400 and PCD3.F240 Lon FTT10 modules are only available on the following controllers: PCD1.M2020, PCD1.M2120, PCD1.M2160, PCD1.M2110R1, PCD3.M5560, PCD3.M6560, PCD3.M6860, PCD2.M5540 from hardware version D, PCD3.M3x40, PCD3.M5x30, PCD3.M6xx0 from hardware version H

⁵⁾ Electrically connected

⁶⁾ Electrically isolated

⁷⁾ Programmable E-Line modules are optimised for your application and therefore do not have all the functions of a Saia PCD system available with the COSinus operating system. For specifications on the program memory and available PLC media (flags, registers, etc.), see data sheet.

⁸⁾ The onboard RS-485 interface supports "Mode C" with no interpreted text for EnOcean, for example