

# Flyer



**saia-burgess**  
Control Systems and Components

## Industrial, IT-compatible data management with Saia® PCD controllers

Division Controls

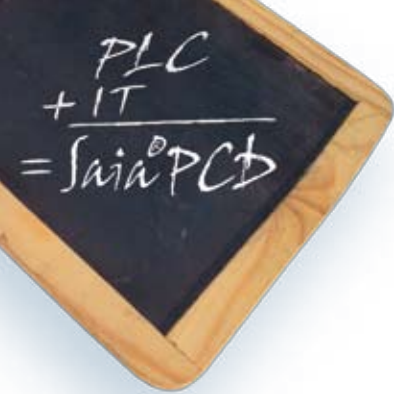
Data acquisition, processing, storage, management, forwarding, ...

**Acquire data** across local inputs with over 60 different I/O module types and up to 13 serial interfaces per controller. With their built-in standard protocols (Profibus, Modbus, EIB, M-Bus, ...) and many drivers for foreign systems, Saia® PCD controllers are ideal to use as data concentrators and communications gateways in industrial applications.

**Process and store data** with powerful IL instructions or convenient, graphical Fupla FBoxes. Data can, for example, be stored in binary form or even in IT compatible ASCII format within CSV files. For data storage, up to 4 GBytes of industrial SD flash memory can be plugged into each Saia® PCD controller as a module.

**Manage data securely** in a robust file system and **forward** it via IT compatible interfaces.

Registered data is managed in a file system that satisfies the rigorous requirements of an industrial controller. Thanks to the Saia® PCD controller's integral web and FTP server, files can be exchanged directly with higher ranking IT systems. This does not require any proprietary communications driver. In addition, files may also be sent via event-controlled e-mail.



## Modern memory and data structures of the IT world in industrial PLC quality

Requirements placed on memory concepts in the controls world differ in many points from those in the IT world. This often makes data concepts incompatible, so that appropriate data exchange is only possible with specific software drivers. The Saia® PCD3 and new Saia® PCD2.M5xxx with new flash memory modules and integral FTP and web servers close this gap.

### Almost unlimited memory capacity for diverse applications

Its large memory capacity makes the Saia® PCD3 controller independent of any higher ranking PC system, even for long periods. Any required process points (temperature, pressure, energy consumption, switch states, system messages, etc.) can be recorded on flash memory modules. With SD flash cards, the data store of Saia® PCD3 controllers can be increased by up to 4 GBytes. The expense of added external storage systems (such as data loggers or even PC systems) can therefore be saved.

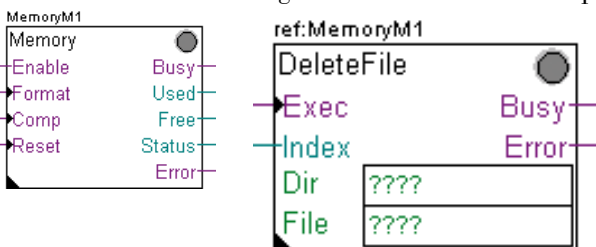
### Data acquisition with universal interfaces and protocols

Saia® PCD controllers have over 60 different input/output modules for the acquisition of all the usual digital and analogue process signals (24 VDC, 0...+10 V, +/-10 V, 0/4...20 mA, Pt/Ni 100/1000, ...). Up to 1023 inputs/outputs can be connected locally. With Saia® PCD3.T76x remote I/Os, this can also be extended remotely via a field bus.

Using built-in standard protocols and other specific drivers for foreign systems, data can also be acquired across serial ports and field bus systems. Each Saia® PCD3 controller has 5 ports built into the base unit and, through modular expansion, up to 15 interfaces are possible.

### Data storage

To create an application program, users choose either convenient graphical programming with specific Fupla FBoxes, or flexible instruction-list programming, which offers the best possible scope of functions. Users are free to define any data format (binary, ASCII, ...). Log data can, for example, be recorded in Excel-compatible CSV files. This has the advantage that data can be further pro-



cessed directly by any higher ranking PC system, without the use of proprietary conversion programs.

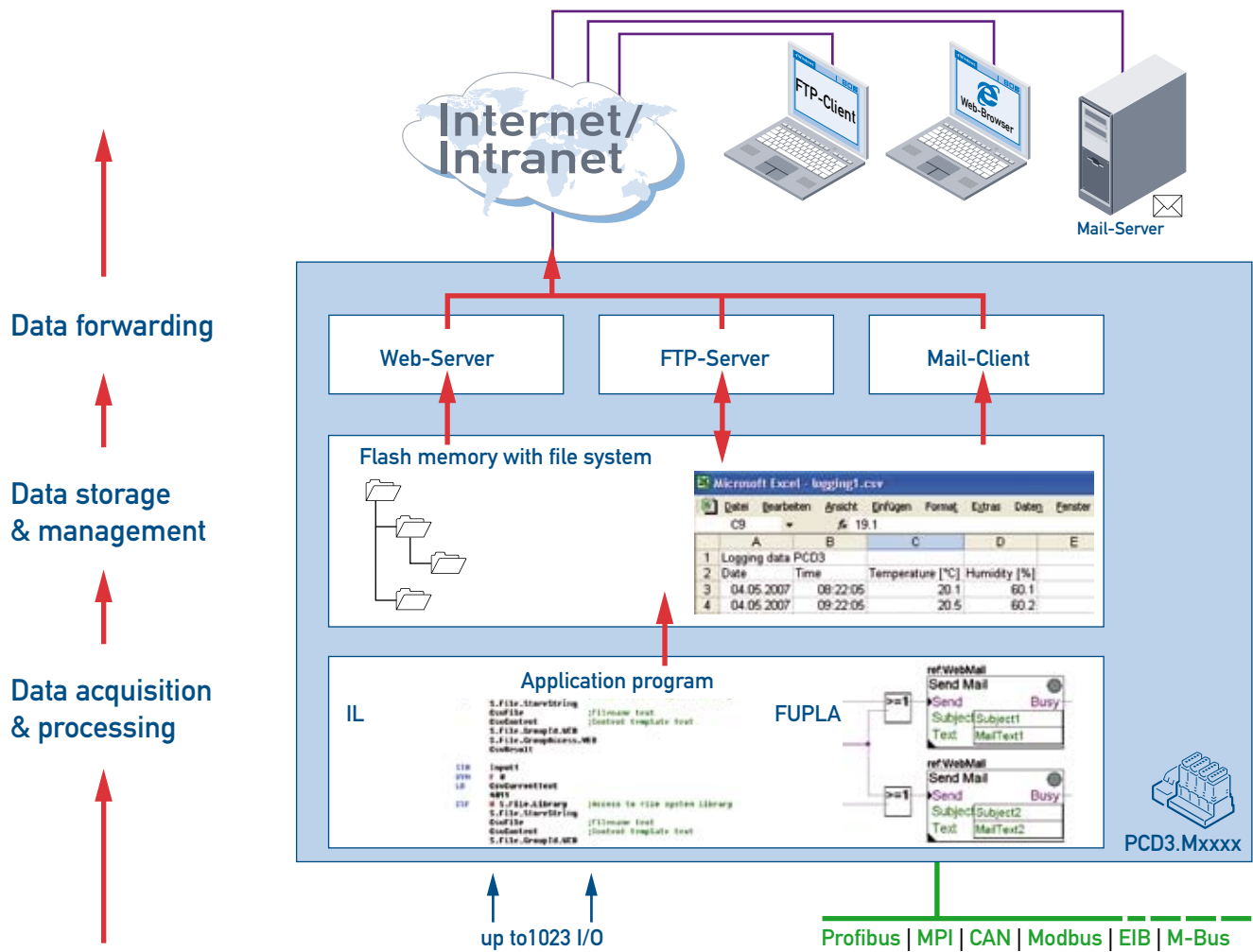
Flash memory can also be used by the web server for accessing web pages, GIF graphics, user guides, etc. Basically, any required files or information may be stored in the flash memory file system. Even the Saia® PG5 project – complete with source code – can be stored there. This means that the latest project status is always available on the machine/system.

	A	B	C	D	E
1	Logging data PCD3				
2	Date	Time	Temperature [°C]	Humidity [%]	
3	04.05.2007	08:22:05	20.1	60.1	
4	04.05.2007	09:22:05	20.5	60.2	
5	04.05.2007	10:15:00	19.9	60.3	
6	04.05.2007	12:55:33	20.3	60.5	
7	04.05.2007	18:32:55	20.1	60.2	
8	04.05.2007	20:05:00	19.9	59.9	
9	04.05.2007	22:10:40	19.1	59.9	
10	05.05.2007	06:00:20	19.5	59.8	

### Secure data management

In flash memory modules, data is managed in a file system like the familiar one found on any Windows PC. However, unlike an office PC, machine controllers operate in rugged industrial settings. Data loss or corruption arising from power interruptions or other faults is not acceptable. Accordingly, file systems in the operating system of Saia® PCD controllers have been constructed for robustness and reliability.

Up to 1000 files can be stored in a Saia® PCD system. Files and directories can be individually assigned to different user groups, protecting them from unauthorized access.



### Data forwarding via IT-compatible interfaces

The integral FTP and web server in the Saia®PCD operating system allows data to be exchanged with a higher ranking system, with no additional, specific software driver. In this way, machines or systems equipped with Saia®PCD controllers can – at any time and at no extra cost – be integrated within existing IT systems (e.g. an ERP system).

With a standard FTP client (included, for example, with Internet Explorer, Filezilla, etc.) files are exchanged with



the FTP server via an Ethernet-TCP/IP interface. Access can be protected by assigning user names and passwords. Files stored may also be loaded with a web browser and web server onto a PC for further processing. If required, stored data can also be sent via e-mail to a higher ranking system or to any persons concerned. This means, for example, that if a fault occurs, the machine can send service staff additional detailed information about the problem, along with the actual error message. Or the machine can independently send log data for long-term archiving to a higher ranking system.

The expected data rate for transmission of files via e-mail, FTP and web server depends on external network capacities and on the controller application itself. Processing or control of the application/machine has priority. Saia®PCD controllers with flash memory modules can be compared with a large data silo. The silo is filled with data in real time. Emptying the silo through its smaller data outlets (FTP, web server, e-mail) can take longer depending on the system. Under normal conditions, a data rate of approx. 10kByte/s can be assumed.

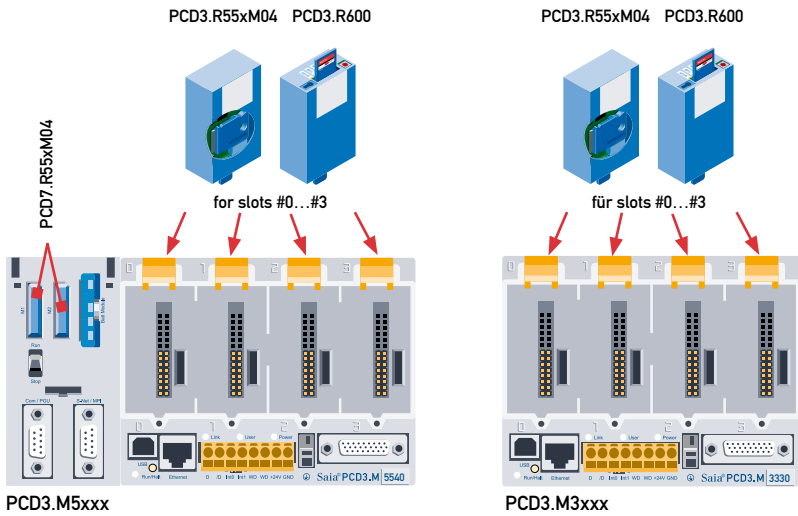
### Saia®SD Flash Card Explorer

SD flash cards can be removed from a Saia®PCD3 or exchanged during operation. Its content can be copied to a PC with a commercial card reader. The SD-Flash Explorer is used to decompress Saia® file system contents on the PC. Stored files can be unpacked and further processed. Similarly, new files (e.g. new machine or process parameters) can be added to the file system.

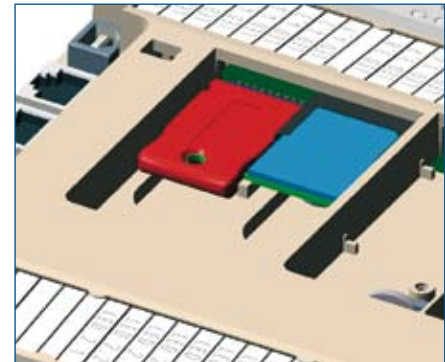


# Flash memory modules for PCD2.M5xxx and PCD3 controllers

## Memory modules for Saia®PCD3



## Memory modules for Saia®PCD2.M5xxx



(in preparation)

### Flash memory modules with file system, program and data backup

#### Plug-in PCD7.R5xx flash modules in M1 and/or M2 slots of PCD3.M5xxx CPUs

PCD7.R550M04	4 MByte flash module with file system
PCD7.R551M04	4 MByte flash module with 3 MByte file system and 1 MByte Program backup

#### Plug-in PCD3.R5xx flash modules in CPU I/O module slot of all PCD3.Mxxxx CPUs

Under type designation PCD3.R5xx, these modules can also be used on CPU I/O module slot #0...#3. This also enables memory extension for PCD3.M3xx0 CPUs. For each system, up to 4 modules can be used.

PCD3.R550M04	4 MByte flash module with file system
PCD3.R551M04	4 MByte flash module with 3 MByte file system and 1 MByte Program backup

### PCD3 base module for SD flash memory cards with file system

PCD3.R600	Up to 4 modules can be plugged onto CPU I/O slots #0...#3..
PCD7.R-SD256	Saia®SD flash memory card, 256 MByte with file system
PCD7.R-SD512	Saia®SD flash memory card, 512 MByte with file system

Saia®PCD3.R600 SD flash modules have been developed for industrial use and have the corresponding features, such as LEDs for quick diagnosis and mechanical access protection by contact switch. The operating mode can be preset with a BCD switch. SD cards can be changed during operation.

Saia®SD flash cards have been specially selected and tested.

They meet the higher demands of industry and can also be supplied long term.

Technology:	Single Level Cell
Total write cycles:	min. 600'000
Data retention:	min. 5 years
Operating temperature:	-25°C...+85°C
MTBF:	min. 1'000'000 hours

