

SCHMIDT® Software-Tools

Interface for data evaluation and control

To cover the versatile requirements in the field of data management, **SCHMIDT Technology** offers modular software tools. It includes possibilities in the area of machine control, data storage and exchange as well as visualization and analysis. This enables versatile requirements of quality assurance, traceability and optimization of production processes can be realized. A large number of up-to-date interfaces are available at Fieldbus level and allow the press system to be easily integrated into higher-level systems.

The data obtained during the pressing process allows conclusions to be drawn about quality fluctuations in components or even preliminary processes in production. Therefore, not only data acquisition and storage, but also analysis and but also analysis and evaluation play a central role. **SCHMIDT® PRC DataBase** and **PRC FileXchange** offer a wide range of options for this purpose. An evaluation can be carried out either with on-board tools or by user IT systems to which the process results are transferred.

Ethernet



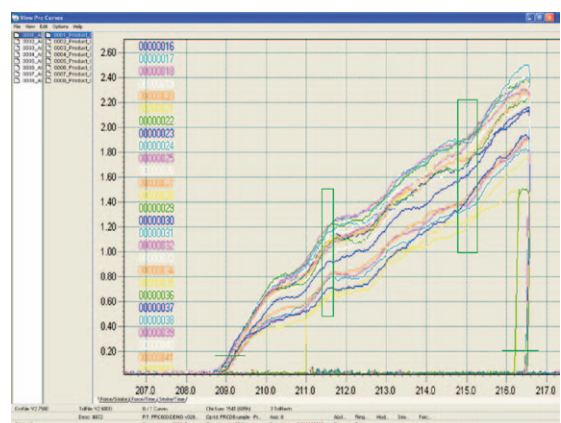
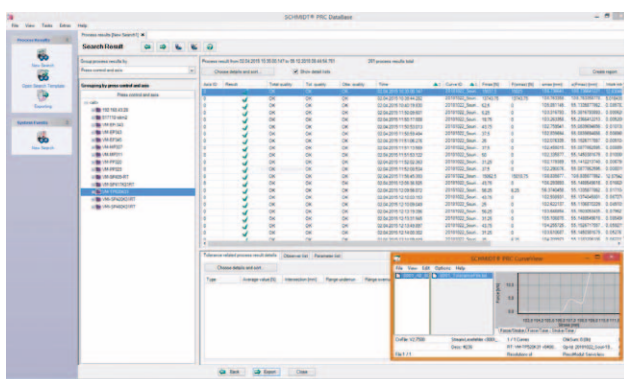
Fieldbus



SCHMIDT® PRC DataBase

Database software for PressControl 700 and 7000

SCHMIDT® PRC DataBase is an optional software for the modular control system **SCHMIDT® PressControl 7000** or **SCHMIDT® PressControl 700**. The database software is used for storing and analysing the data of the control system – process specifications and process results – particularly under quality assurance aspects.



Characteristics

- Documentation
- Analysis
- Quality assurance
- Traceability
- Data export in CSV format
- Q-DAS interface with certification

SCHMIDT® PRC FileXchange

Safe exchange of process data

In addition to data exchange within an automation solution via Fieldbus, data exchange can also be performed via data files. For every press process all relevant process results, tolerances, observer, and parameters are written into a file whose format and content can be configured via an intuitive user interface.

The following output formats are available:

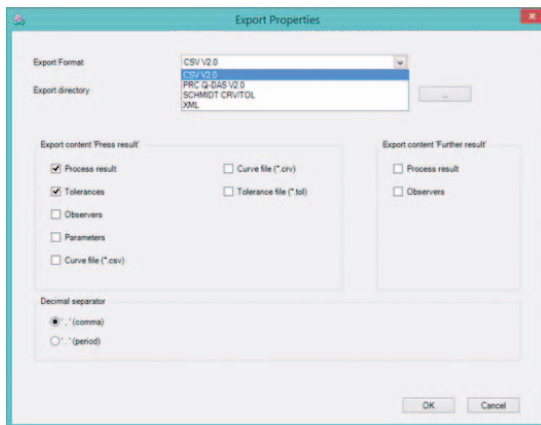
- Microsoft Excel (CSV)
- Q-DAS
- SCHMIDT® CRV/TOL
- XML

The transmission of production data is synchronized from PressControl to PC (File System). That means if the connection between PressControl and PC is interrupted the process is stopped, the event is recorded and the process is stopped. Once the connection is re-established the data of the last press process will be transmitted again.

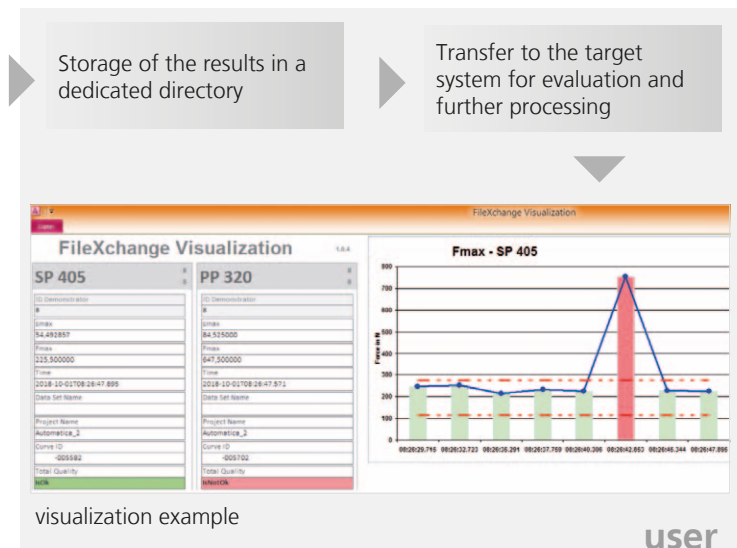
It is also possible to import default values for press processes from a configuration file. A production range which comprises several different products can for example be managed via standard PC application and thus be used as production data base.

The respective product-specific configuration file can be created by the SCHMIDT® PressControl HMI for all relevant process parameters and transferred to the customer's management software via xml file.

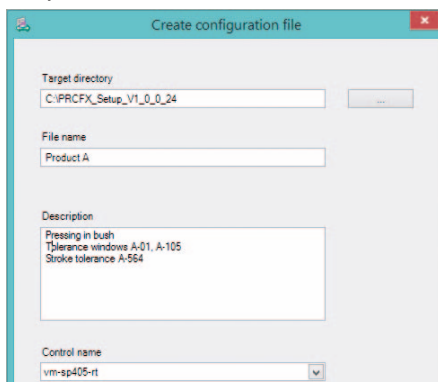
export



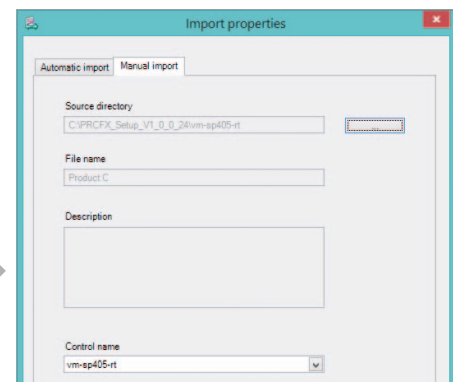
Configuration of output format and content



import



Generating configuration files
(Parameters for particular joining processes)

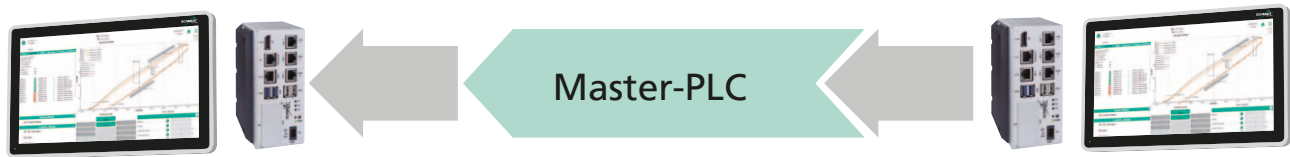


Automatic or manual import into the
press control

SCHMIDT® PRC DataXchange

Bi-directional data exchange with higher-level controls

The **PRC DataXchange** interface is available for communication between a **SCHMIDT® press system** and a higher-level control system.



DataXchange Input

Parameter-Transfer to PressControl
Dynamic adaptation of processes

- Control type (force, stroke, ext. signal, relative position, ...)
- Position
- Speed
- Force
- Motion block change (stopping, flying, ext. trigger signal)
- Dwell time

DataXchange Output

Data-Transfer to Master PLC
for connection to MES and ERP systems

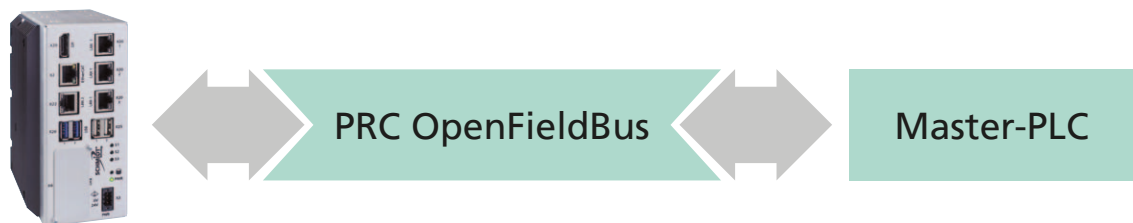
- Reached position
- Reached force
- Actual values position and force
- Curve results
- Tolerance values
- Status signals of the system
- Error states
- Press axis information

SCHMIDT® PRC OpenFieldBus

OpenFieldBus allows a completely free specification and programming of driving profiles and sequences by a master control as well as the bidirectional transmission of all relevant data. To implement individual requirements in the press process, the complete command set can be accessed. At the same time, the advantages of the integrated force-stroke monitoring and control of the press system with all evaluation functions can be utilized

Characteristics

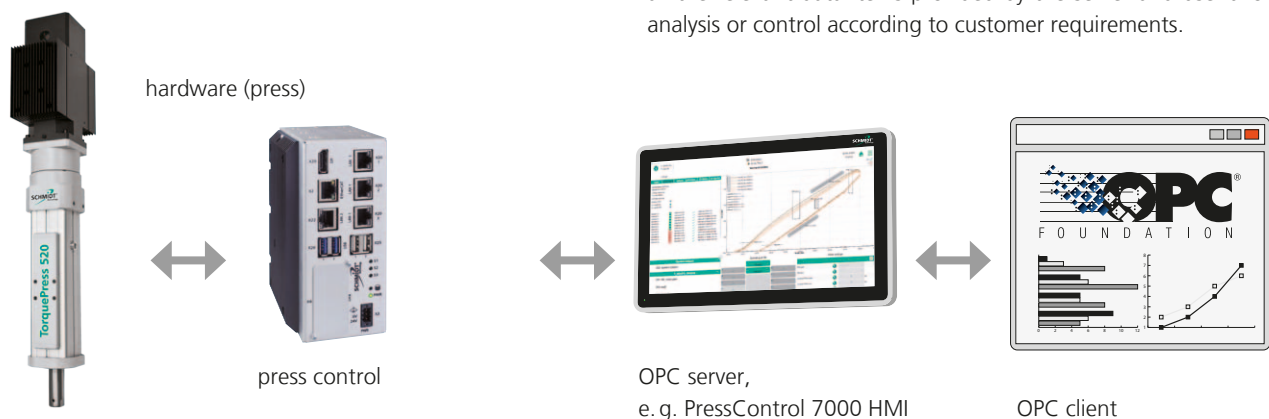
- Access to the entire command set of the **SCHMIDT® press control**
- Transmission of process results to the master controller
- Individual definition of joining processes, driving sets and data exchange



Data exchange via SCHMIDT® PRC OPC

OPC represents a universal and manufacturer-independent possibility for data transmission used for industrial applications.

The OPC server retrieves relevant process data via Ethernet based on the communication protocol of the **SCHMIDT® PressControl** and makes it available as OPC objects. The OPC client can use all the relevant data items provided by the server and use it for analysis or control according to customer requirements.



SCHMIDT® Hardware-Tools

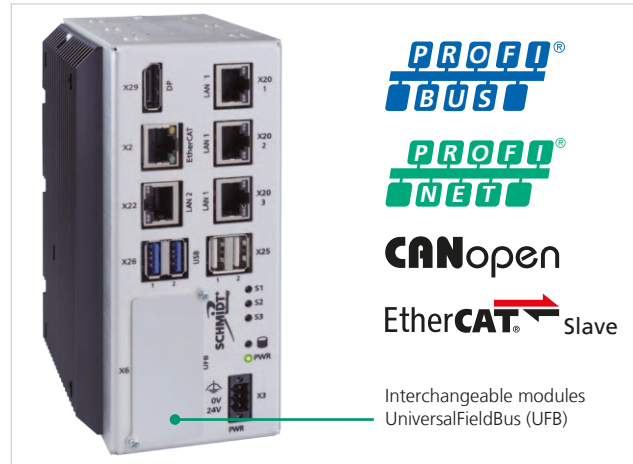
Proven components for system integration

SCHMIDT® PressControl 700 and 7000 communicate with higher-level control systems via a standardized interface program. All relevant system states as well as bad part detection performed by simple signal exchange from one control to the other.



SCHMIDT® PRC Gateway

- EtherCAT-connections to PressControl (Master) und PDA (Slave), with 24V-power supply via EtherCAT-P
- 24 V-Interface with 16 inputs and 16 outputs (up to 0,5A / output)
- short circuit proof and overload protected
- status-LEDs for EtherCAT-Bus and In- / outputs
- encoder-interface
- interface for external hand wheel as handheld
- top-hat rail mounting



Communication via fieldbus-systems

All common physical interfaces can be used for signal exchange with the automation environment.

- interchangeable modules UniversalFieldBus (UFB)
- further fieldbus interfaces via external gateway
- USB



External handwheel as handheld

for **SCHMIDT® PressControl 700 and 7000 RT** in combination with **SCHMIDT® ElectricPress** with process monitoring or **SCHMIDT® ServoPress/TorquePress**, connection via **SCHMIDT® PRC Gateway**



EtherCAT-P Compact Box

- 8 digital channels, usable as inputs or outputs
- signal connection by screwing via M8 plug connector
- power supply (24 V) via EtherCAT-P
- load currents of the outputs up to 0.5 A
- total current of all outputs 3 A

SCHMIDT® PressControl

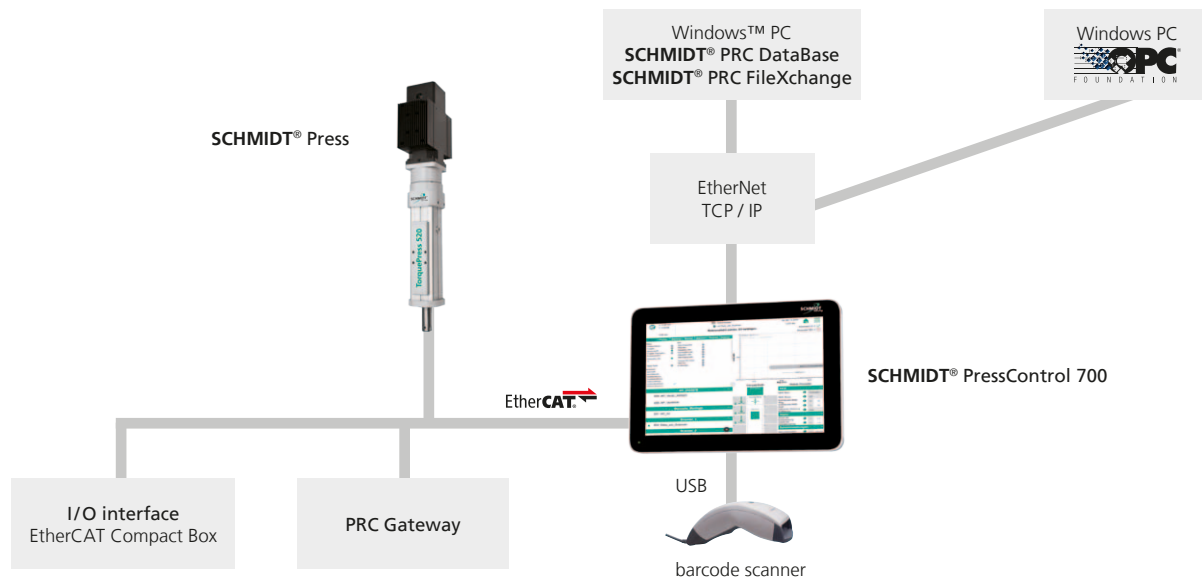
System architecture

SCHMIDT® PressControl does work as a system control and takes over the process monitoring. The hard- and software components forming a system concept with real time characteristics. This is guaranteed by a system architecture with CANopen fieldbus. Press force monitored **SCHMIDT® ManualPress**,

SCHMIDT® (Hydro-)PneumaticPress, **SCHMIDT® ElectricPress** or **SCHMIDT® ServoPress/TorquePress** will be activated via fieldbus. The collected measuring data as well as in-/output data will be exchanged by the fieldbus.

SCHMIDT® PressControl 700

system architecture



SCHMIDT® PressControl 7000 RT mit 7000 HMI oder 700 HMI

system architecture

