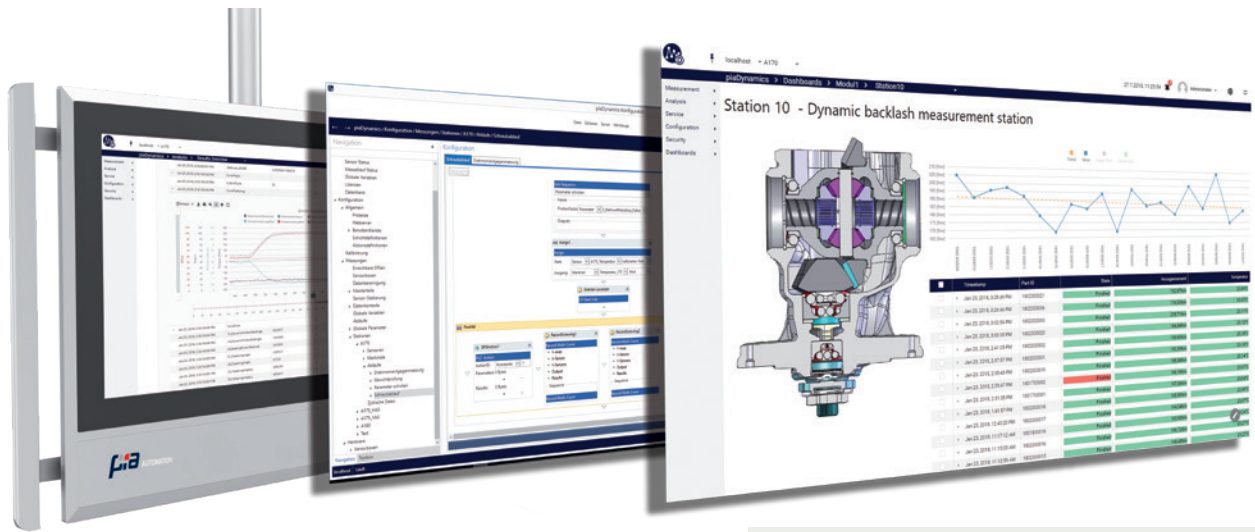HIGH-END MEASUREMENT SYSTEM

piaDynamics

The innovative, hardware independent, high-end measurement system for industrial measurement applications.

PIA 4.0 - MAKING BIG DATA SMART

HIGH-END MEASUREMENT SYSTEM
piaDynamics

piaDynamics is an innovative, hardware independent, high-end measurement system for industrial measurement applications, reflecting PIA's long-standing experience.

The combination of intuitive software and flexible hardware makes piaDynamics unique. The core functionality is visualization of user interfaces for measurement machines as well as the digitalization, scaling and calibration of sensor signals. The processing of sensor values follows a configurable algorithm ("configuring" instead of "programing") and measurement results are graphically represented. The measurement data is archived in a database allowing process monitoring using different statistic features on actual and historic data.

The Software was implemented using newest web technologies as well as a server-client model, making our measurement system ready for Industry 4.0. Remote access from different devices via web browsers is also possible. Extensive calibration methods, quality control charts and analysis functions with export possibilities (e.g. MS Excel, Graphic etc.) are helpful tools for quality managers. The statistic and trend functions for process analysis can be visualized with different chart types (bar-, line-chart etc.) and tables with drill down possibility. Measurement engineers can use the graphical sequence editor to build or change measurement sequences easily. A User-code-editor (C#) allows comfortable implementation of complex measurement algorithms. Every parameter change of a user is tracked and represented in the change log screen. In the security section customized user and user groups can be created with different access rights for each operator. Easy and quick system recovery and replacement of components is enabled through various automated backup and restore possibilities. With this variety of features and functions, piaDynamics is indispensable for all measurement applications.

FEATURES AND FUNCTIONS

_ Remote accessibility to each device with browser functionality (e.g. office)
_ Various calibration methods and master part management
_ Historical analyses and statistics with trend functions of measurement and calibration results
_ Simple editing of measurement sequences with graphical- and user-code sequence editor
_ Logging of all parameter changes
_ Security section with user, user groups, and access level management
_ Quick and easy system recovery with backup and restore functionality

OPTIONAL FUNCTIONS

_ Flexible User Interface creation with dashboard and widget-elements
_ Coupling of multiple measurement systems (e.g. for control loops)
_ Export in qs-STAT format (manuel and/or automatic)
_ Buttons for interactions on the web visualization (e.g. for calibration retry/abort)
_ Calibration dependent on temperature monitoring
_ Tangential composite and radial composite inspection in-line with VDI/VDE2608
_ Minimum interval for automatic calibration request
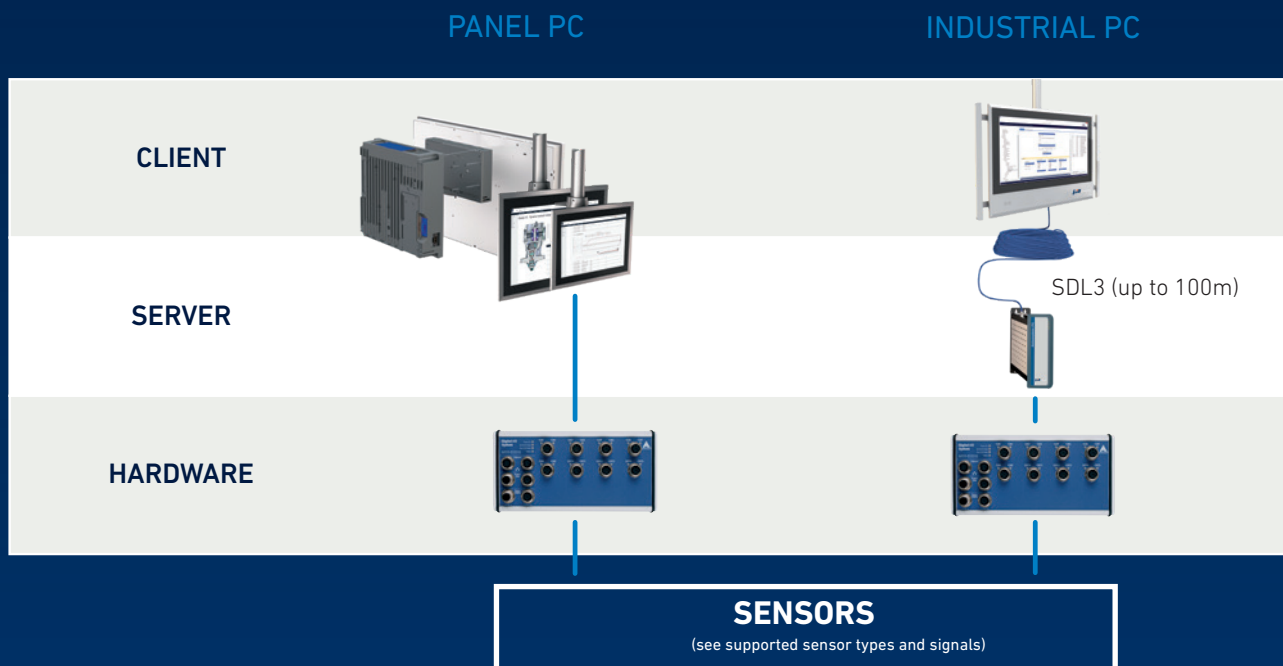_ User login over windows domain, RFID-reader or remote via plc

INNOVATIVE WEB VISUALIZATION

_ Dashboard-Functionality, enabling freely editable interfaces (pictures, live values, measurement-/calibration histories etc.)
_ Many analysis- and statistic functions (quality control chart, measurement statistics etc.)
_ History of occurred alarms and events
_ User based protocol of all changes
_ etc.

INTUITIVE CONFIGURATION

_ Hardware configuration and parameterization
_ Sequences configuring instead of programing, with graphical editor
_ Large library of action blocks
_ Script-Editor for complex measurement algorithm
_ Calibration with management of master parts
_ Online-Status of hardware
_ etc.

TOPOLOGY OF piaDynamics

PANEL PC   INDUSTRIAL PC

CLIENT

SERVER

SDL3 (up to 100m)

HARDWARE

SENSORS
(see supported sensor types and signals)

TECHNICAL SPECIFICATION

Industrial PC		Supported sensor types and signals	
Processor	Quad Core i5 of 6th Gen. *)	Inductive gauges	LVDT-, HB-signal
RAM	16 GB *)	Analog input	+/-10V, 0(4)-20mA
Disk space	>250 Gbyte SSD *)	Counter input	1VPP, incremental, sin/cos
Operating system	Windows 10, 64-Bit	Measuring bridge	DMS

Monitor	
Resolution	Full HD TFT Multitouch
Screen size	as of 21,5" *)
Mounting options	Hanging/standing over support arm
Optional	With SDL3-connection (up to 100m)

*) Minimum Hardware Requirements

Note: additional sensors and signals on request

The software is hardware independent, meaning every hardware can be used if the minimum hardware requirements are fully met. Please double-check alternative hardware upon request.

The different sensors are connected to intelligent TCP/IP Ethernet systems, which are designed for usage in industrial sector close to the measuring points. It's possible to synchronize the systems in the range of µs and even allow a sampling rate up to 100kHz.

PiA AUTOMATION

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WWW.PIAGROUP.COM

EUROPE

PIA Automation Holding GmbH

Schweinfurter Str. 5-9
97616 Bad Neustadt a.d. Saale
Germany
T   +49 (0) 9771 92 - 1000
F   +49 (0) 9771 92 - 8980
info@piagroup.com

PIA Automation Amberg GmbH

Wernher-von-Braun-Str. 5
92224 Amberg
Germany
T   +49 (0) 9621 608 - 0
F   +49 (0) 9621 608 - 290
info@piagroup.com

PIA Automation Austria GmbH

Teslastraße 8
8074 Grambach/Graz
Austria
T   +43 (0) 316 4000 - 0
F   +43 (0) 316 4000 - 29
info@piagroup.at

PIA Automation Bad Neustadt GmbH

Schweinfurter Str. 5-9
97616 Bad Neustadt a.d. Saale
Germany
T   +49 (0) 9771 92 - 1000
F   +49 (0) 9771 92 - 8980
info@piagroup.com

PIA Automation Croatia D.O.O.

Kaptol Centar – Office Tower
Nova Ves 11, 2.kat (2nd Floor)
Zagreb, Croatia, 10000
T   +385 (1) 6457 - 641
info-cr@piagroup.at

PIA Automation Service DE GmbH

Branch Erfurt
Stotternheimer Str. 37b
99087 Erfurt
Germany
T   +49 (0) 361 26279 - 610
F   +49 (0) 361 26279 - 609
sales@piagroup.de

PIA Automation Service DE GmbH

Branch Stuttgart
Kollwitzstr. 1
73728 Esslingen am Neckar
Germany
T   +49 (0) 711 50482 - 841
F   +49 (0) 711 96895 - 554
sales@piagroup.de

AMERICA

PIA Automation Canada Inc.

355 Norfinch Drive
Toronto, North York, Ontario
M3N 1Y7
Canada
T   +1 416 665 - 9797
F   +1 416 661 - 8338
sales@piagroup.ca

PIA Automation US Inc.

5825 Old Boonville Highway
Evansville, IN 47715
USA
T   +1 812 485 5500
info-us@piagroup.com

ASIA

Ningbo PIA Automation Holding Co., Ltd.

Building 1#
No. 1266, Juxian Road
Hi-Tech Park | Ningbo,
Zhejiang Province
Post code: 315040
PRC
T   +86 574 8907 - 3871
F   +86 574 8907 - 8964
info-cn@piagroup.com

WE AUTOMATE YOUR WORLD