



Plant Costs under Control

Reduction of Overall Costs

- › Shorter Planning and Design Phases
Profile PA Devices Provides Vendor-Neutral Engineering
- › Free Choice of Supplier and Field Device
*Profile PA Devices Offers Standard Functionality for Field Devices;
Numerous Vendors of Devices with New Profile for PA Devices Available*
- › Reduced Installation and Commissioning Efforts
*Automatic Installation Test;
Remote Device Testing and Configuration*
- › Highly Effective Maintenance and Repair Processes
*Simplified Field Device Diagnosis According to NAMUR NE107;
Easy Device Exchange without Complex Parameterization*

PROFIBUS

PROFIBUS is the world's most successful fieldbus technology with millions of devices installed in the field worldwide. Utilizing a single, standardized communication protocol, PROFIBUS supports fieldbus solutions both in factory and process automation as well as in motion control and safety-related applications. Via a single bus cable, PROFIBUS links controllers or control systems with decentralized field devices and also enables consistent data exchange with higher level communication systems.

PROFINET

PROFINET is the leading Industrial Ethernet standard in the automation market. This globally established and future-oriented technology is supported by many product vendors, thus ensuring long-term availability and investment protection. PROFINET uses standard IEEE Ethernet with enhanced capabilities to meet the much more challenging conditions in industrial applications as well.

Profile for PA Devices

In Process Automation (PA), quick installation and easy operation and exchange of field devices are important user requirements, required of all device manufacturers. Therefore, a common set of device parameters for commissioning, operation, maintenance and diagnostics has been defined for process control devices. This Profile PA Devices for transmitters, actuators, analyzers and others simplifies utilization of devices for many years. In 2017 PI has developed the new Profile PA Devices 4.0 that can be used with PROFIBUS as well as PROFINET.

FDI

The "Field Device Integration" technology offers an uniform solution for the handling of information derived from intelligent field devices. FDI supports all required measures during the life cycle of devices, from configuration and commissioning up to diagnostics and calibration. No other procedures are required anymore, FDI is the consistent solution that addresses all end user requirements.

PROFINET over APL

PROFINET over APL extends PROFINET communication based on Ethernet-APL to the field, enabling one network throughout the entire plant. It simplifies the complexity of gateways – of both hardware and engineering. One single communication protocol combined with high bandwidth allows access to device and process data in real time.

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Unmatched in Performance and Benefits



PROFIBUS and PROFINET for Process Automation



Comprehensive User Benefit

Key Technologies:
PROFIBUS, PROFINET, Profile PA Devices 4.0, FDI and Ethernet APL



Plant Performance Always in Sight



Long-Term Investment Protection



Bridge to IIoT and Industrie 4.0

Increased Overall Performance

- › Increased Plant Availability and Asset Utilization
Wide Information Base Cares for Undisturbed Plant Operation
- › Highest Possible Measuring Accuracy
Fully-Digital Data Handling Ensures Highest Possible Process Quality
- › Extensive Consideration of User Expertise
NAMUR Device Diagnosis and Core Parameters Simplify Device Handling
- › Freedom of Supplier and Manufacturer Selection
Profile PA Devices Stands for Best Possible Interoperability

Integration of Existing and Future Field Technologies

- › Supporting Legacy Field Devices
Superior Proxy technology integrates any PROFIBUS PA device into PROFINET seamlessly. The Remote I/O profile provides standard integration for any sensor or actor
- › Field Network with PROFINET over APL
High speed network in the field of the plant with ethernet-based PROFINET over APL: Power and communication on two-wires, up to 1000 m segments, intrinsic safety for any hazardous area including Zone 0/Div. 1
- › High-speed Communication Everywhere
Gigabit-Ethernet in the control room. Direct connection between automation system and field devices
- › Seamless Integration and Ease of Adaption
Calibrate and configure instruments remotely and eliminate manual scaling of process variables. Automatic writing of parameters without additional parametrization through communication protocol PROFINET and PA Profile. Deployable step by step – where and when required

Path to the Future

- › Seamless Connectivity between Automation Technology and IIoT World
Digital Connectivity to the Last Mile Provided by PROFIBUS and PROFINET; Easy Access to all Data from Everywhere
- › Full Compatibility to TCP/IP, Internet and Web
PROFINET Allows Parallel Communication e.g. through TCP/IP – and Is More than just a Bus, It's an Information Network
- › Supporting FDI as Future-Proof Device Integration Technology
Profile PA Devices Provides Comprehensive Semantic Information for e.g. Big Data Applications
- › PI as Platform for Integration Existing with Future Technologies
Development of New Technologies with Partners from All Steps of the Value Chain (OPC UA, FCG, NAMUR) to Create Open Solutions for All Requirements from a Process Plant.

