SAMSON

SAMSON

DYNAMIC · **SMART** · WIRELESS

SAM-LAN: The Wireless Network for Local and District Heating Systems

SAMDIGITAL READY
SAMSON ASSET MANAGEMENT

COMMUNICATION AND TECHNOLOGY

RELIABLE COMMUNICATION

- Interface for LoRaWAN™ technology to transfer data to a LoRaWAN™ network
- Convenient control and remote maintenance access
- Versatile stand-alone solution for remote monitoring in urban and rural areas
- Reliable, stable communication through brick walls and from basements

CLOUD-BASED ACCESS AND VISUALIZATION

The SAM DISTRICT ENERGY web application provides maximum transparency for the connected (heating) controllers, utility meters and electric actuators. With the cloud-based software-as-a-service model, users benefit from visualization and access to devices connected to the SAM-LAN wireless network. Features, such as maps showing the location of gateways, predictive fault management and integrated (API) interfaces for connection to customers' ERP systems, increase the efficiency and service performance.

TECHNICAL DATA

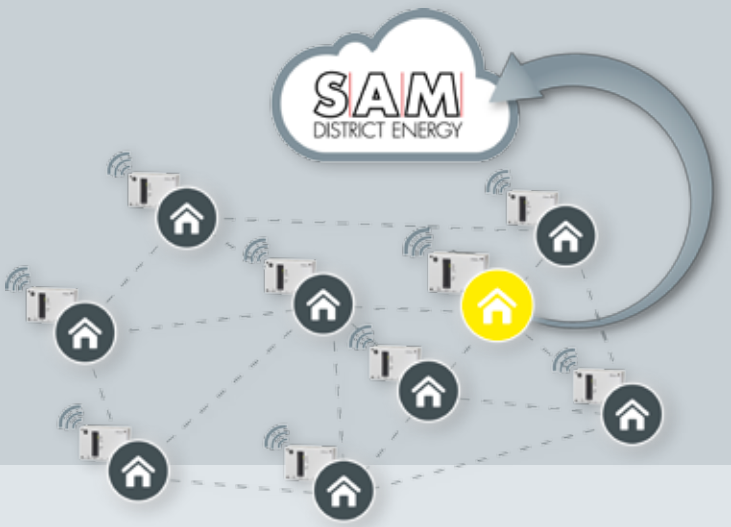
- Internet of Things (IoT) using IPv6
- Data transmission with up to 100 kbit/s
- AES-256 encryption
- Wireless technology using 869 MHz ISM band
- 80 nodes per aggregation node
- Multiple antenna system
- Firmware updates over the aggregation node

SAM-LAN MEETS IoT

SAM-LAN is an intelligent, dynamic wireless network (based on LoRa Alliance™ technology) to connect house substations in local and district heating systems. The stand-alone network is particularly dynamic and flexible with its own topology. Unlicensed radio frequency bands are used to enable communication between substations. The wireless network and data exchange over SAM-LAN help save energy and optimize existing systems.

BENEFITS AT A GLANCE

- Easily upgradable system
- Logging of heating and meter data
- Wide range covered in urban and rural areas
- Self-configuring, self-healing wireless network
- Excellent energy efficiency
- No additional cost resulting from third-party suppliers



KT-Elektronik GmbH

LoRa Alliance Member

FUNCTIONS AND SECURITY

BENEFITS OF USE

- Many possibilities to cut cost
- Optimized operation
- Optimized costing
- Fault management
- Simultaneous connection of heating controllers and consumption meters

DATA LOGGING

The following consumption data and states can be logged:

- Operating states of devices
- Device-specific data, parameters and current values from (heating) controllers
- General consumption data from utility meters
- Device-specific data, parameters and current values from electric actuators (with process controllers)

INTEGRATED INTELLIGENCE

The self-organization of SAM-LAN prevents data loss. If a connection between two nodes temporarily fails, the network automatically searches for the next possible path to transfer data packages.

Data security

A high level of data security is provided by SAM-LAN's network topology with its security features. AES-256 encryption prevents unauthorized access, data manipulation and data theft.

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Refer to our brochure WA 396 for more details on our standard data security specifications for the SAM DISTRICT ENERGY web interface.

PLANNING AND SIMULATION

PLANNING

The SAM-LAN Network Planner software assists users in planning and customizing their wireless networks. Geographic data are used as the basis for mapping and facilitate network planning. After determining the house substations and nodes, the attenuation values are selected based on the type of building. Through simulation, the appropriate network structure is found and the ideal position of the aggregation node (wireless network access point) calculated.

STATUS

The wide range of data collected by the aggregation node guarantees the network's proper functioning.

CUSTOMIZATION

The site-based metadata serve to customize the controller and aggregation nodes for a well-structured and secure data management. Customer-specific data include:

- Name
- Address
- Phone number
- Station number

The SAM-LAN Network Planner software is available for downloading from our website (see QR code on the back of this brochure).

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● Production sites ● Subsidiaries

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2018-03 · WA 368 EN

SMART IN FLOW CONTROL.