Evolving your plant with
Field Digital Solutions

Field Wireless

ISA**100**
Wireless
COMPLIANT

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vigilantplant.
The clear path to operational excellence

YOKOGAWA ◆

Open your eyes to a world of new opportunities...

Wireless instrumentation is creating a lot of enthusiasm within industry today, full of opportunities and possibilities for new and exciting process measurement.

The business benefits of industrial wireless solutions are clear; less investment in infrastructure while enabling greater process insights into the plant operations. In fact, once the infrastructure is in place, wireless sensors scale very easily and flexibly across the site, enabling measurements that were previously too difficult or uneconomical to implement.

Security

ISA100.11a provides a robust security mechanism to continuously ensure the safety of various system operations. Communications in the ISA100.11a network are protected using Advanced Encryption Standard (AES) which was approved by NIST for protecting secret information. Only devices that have legitimate keys (called join keys) are admitted to join the operational network. Users can install such join keys securely into devices during set-up. The AES key for the communications are automatically derived from the join key and updated periodically. The secure key derivation method used in ISA100.11a forms a trust chain and makes the operational network secure in the entire system life cycle.

Family

From the very beginning, ISA100.11a is an end user driven standard that aims to define the total wireless landscape for the automation industry. Comprised of a family of wireless standards that encompass a multi-functional wireless network and integrated application layers such as; HART, Profibus, Modbus and FOUNDATION™ Fieldbus.

- Ụ Wireless systems for industrial automation (ISA100.11a)
- Ụ People and Asset Tracking and Identification (ISA100.21)
- Ụ Wireless Backhaul Backbone Networks (ISA100.15)

Reliability

Reliability is dependent on the types of applications to be supported. Mesh networks with multiple redundant paths are ideal for processes requiring low speed communication updates, while star networks excel in high speed

monitoring of assets. ISA100.11a is flexible in its approach to network topologies, enabling you to select the most appropriate for your application.

- Ụ Mesh Network; for low speed monitoring and diagnostic data gathering
- Ụ Sub-Mesh for monitoring
- Ụ Star Network; for high speed monitoring
- Ụ Redundant Star; for control applications

Conclusion

ISA100.11a takes the best wireless technology available today. One integrated, multi-protocol, multi-functional wireless network fully supports your plant and processes. Apply ISA100.11a to extend the lifecycle benefits of your wireless network, protect your investment and maximize the full potential of wireless, ensuring that you only need to deploy your wireless network once.