adatec GmbH expands ADATIS portfolio

2Wire products make Nessum-Wire integration easier and more cost-efficient

adatec GmbH has introduced two new products that significantly simplify the deployment of Nessum-Wire technology for building automation and industrial app-lications. With the compact 2Wire Converter 6th Generation and an integration-ready 2Wire module, adatec expands its portfolio under the established ADATIS brand with two key components for future-proof network infrastructures.

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2Wire Converter Gen 6: Compact, Powerful, and PoE++ Compatible

The new 2Wire Converter 6th Generation is fully based on Power-over-Ethernet (PoE) and supports all common standards — from classic PoE to the latest PoE++ (IEEE 802.3bt) with up to 90 W input power. On the 2-wire bus side, end devices are supplied with up to 30 W per PoE+ standard (IEEE 802.3at). The devices are fully bus-capable: in addition to the PD master, up to 128 PSE terminals (nodes) can be operated on the bus. As with all Nessum-Wire products, a range of up to 1,000 m at up to 95 Mbit/s net data rate is achieved. With the optionally available multi-hop method, up to 1,024 terminals at ranges of up to 10 km are possible — ideal for large-scale campus installations, industrial facilities, or infrastructure projects.

2Wire Module: Integration as a Component for OEM Applications

The new 2Wire module makes integrating Nessum-Wire into proprietary products even easier and more cost-efficient. The compact module is soldered onto the target hardware like a standard component and functions either as a PHY for an existing Ethernet MAC or as a complete MAC. All Nessum-specific functions are encapsulated within the module, allowing developers to focus on their core application.

The integrated shielding housing provides additional robustness against electro-magnetic interference and mechanical influences. Connectivity is flexible across a wide range of media — from powerline and dedicated cables to coax lines.

Nessum-Wire vs. Single Pair Ethernet: A Clear Advantage

The advantages of Nessum-Wire technology — formerly known as HD-PLC and standardized as IEEE 1901 — become particularly evident in comparison with Single Pair Ethernet (SPE).

Challenges with SPE:

• Fragmentation into three incompatible standards (10BASE-T1L, 100BASE-T1, 1000BASE-T1)
• Exclusively point-to-point connections — each node requires a switch
• Limited range at higher data rates (15–40 m at Gigabit)

Nessum-Wire advantages:

• A single unified standard for all applications
• 95 Mbit/s over up to 1,000 m, with multi-hop up to 10 km
• True bus topology: up to 128 or 1,024 nodes on the same 2-wire bus
• Significant cost savings by eliminating switches for large numbers of sensors and actuators
• Ability to reuse existing 2-wire infrastructure

Especially in building automation with hundreds of IoT sensors, actuators, and controllers plus selected IP cameras, Nessum-Wire offers an unbeatable price-to-performance ratio.

Growing 2Wire Ecosystem

With these two new additions, adatec's Nessum-based 2Wire ecosystem continues to grow with products that all communicate seamlessly with each other and are powered via the 2-wire bus. The modular system enables scalable solutions with a unified technology — from a single sensor to complex campus installations.