

REAL-TIME ETHERNET



EtherCAT®



x-ARTS: ADDI-DATA Realtime Slave System

Real-time Ethernet systems for the field: precise, robust and reliable

The real-time component plays an important role in distributed control and regulation tasks. That's why ADDI-DATA has developed a new product family of real-time Ethernet systems: x-ARTS. These robust systems are designed for measurement, control and automation applications with various real-time requirements.

High level of protection

The x-ARTS are available for EtherCAT (EC-ARTS), ProfiNet (PN-ARTS) and VARAN (V-ARTS). They are particularly suited for use in the field, where interferences are an everyday event. In order to assure reliable operation, many protective mechanisms are built-in.

- Protective circuits such as optical isolation, etc.
 - Robust metal housing
 - IP 65 degree of protection
 - Extended temperature range from -40 °C to +85 °C (oper. temperature)
- The x-ARTS stand for quality and reliability. Like all other ADDI-DATA products, they are available for years. So for you, they make an all-around safe investment.

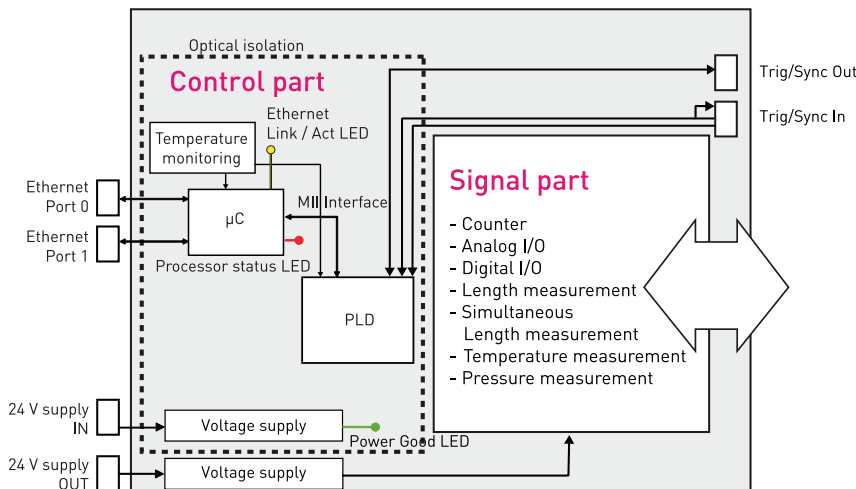
YOUR BENEFITS

- Precise, fast, robust, reliable
- Hot-plug enabled
- Long-term availability of the product

The optimal solution

The real-time Ethernet systems from ADDI-DATA in many respects make an optimal choice for measurement and automation tasks. They are characterised by highly precise inputs. While the bus is clocking time, they are able to measure more quickly and to buffer these values. Moreover, the measurement can be started independent of the bus, since by the use of the 24 V trigger input, the x-ARTS may be combined with hardware that is not connected to the bus. For example, a light barrier can serve as a trigger signal.

In addition, several systems or signals can be synchronised with one another using the synchro line, all in a period of less than 1 µs. The x-ARTS can also tie together signals from various external devices, such as encoders and analog inputs, and in this way acquire values faster than the bus cycle. This increases the efficiency of your application. Various diagnosis possibilities, retrievable via Ethernet, can be set to work in the real-time Ethernet systems from ADDI-DATA.



The x-ARTS consist of a signal part and a control part with optical isolation. The real-time connection can be accomplished through EtherCAT, ProfiNet or VARAN. Real-time Ethernet can be used looped-through or as a point-to-point connection.

* Preliminary product information

VARAN



VARAN – Versatile Automation Random Access Network

The VARAN bus was completed as a hardware solution and developed for hard real-time requirements. It is characterised by high speed, short cycle times and minimal synchronicity jitters. The possibility of asynchronous access is unique. The information exchange consists of simple memory write/read commands. The bus manager coordinates the entire data traffic in order to avoid collisions. Data packets can be repeated within a cycle up until receipt of a valid back confirmation.

The VARAN bus can also transport standard Ethernet frames.

V-ARTS systems

The V-ARTS are slave systems that are completely compatible with VARAN. They are connected with the master by a point-to-point connection and can send 10 data packets per analog input.

Available functions

V-ARTS-AI-16: Analog inputs (16-bit),

Further systems in preparation: Temperature (RTD/TC, 24-bit), pressure (24-bit)

Examples of V-ARTS applications

V-ARTS are, for example, perfectly suited for hydraulic testing in the aviation sector. They assure that all measured values (100 kHz) are acquired and the data is safely transferred while the interplay with the control runs without interruption.