VN0601

Compact and Flexible Interface with USB Interface for ARINC 429 Bus Systems

What is the VN0601?

The VN0601 is a compact and powerful interface for ARINC 429 bus systems.

The interface conveniently utilizes a PC connection via USB 2.0, it does not require an external power supply, and it has analog/digital interfaces for acquiring other measurement parameters.

The VN0601 gives developers of networked electronic units in aircrafts (Line Replaceable Units or LRUs) a flexible and high-performance interface solution for testing and bus analysis.

Overview of Advantages

> 4 ARINC 429 TX and 4 ARINC 429 RX channels
> Supports High-Speed and Low-Speed communication
> Host interface via USB 2.0
> Does not require any external power supply
> Precise time stamps
> Synchronization with multiple devices and other bus systems (e.g. CAN, Ethernet, AFDX®)
> Optimal performance with the CANoe.A429 tool for monitoring, debugging and testing avionic systems
> Open interface for third-party tools with the XL Driver Library
> High flexibility based on reloadable FPGA hardware architecture
> Very rugged housing
> Analog/digital IO
> Electrical isolation of all connections

Functions

> Variable channel-specific settings
  > Bit rates:
     RX: 10–120 kBit/s (mode for automatic bit rate detection available)
     TX: 10.5–16 kBit/s (Low-Speed), 90–110 kBit/s (High-Speed)
  > Parity check and parity generation in hardware (odd, even, none)
  > Minimum interval (gap) between ARINC words
> Message-specific settings for parity and gap
> Detailed error signaling (e.g. bit rate, duty cycle, parity, TX gap)
> Evaluation of TX errors by feedback channel
> Separate hardware scheduler for each TX channel for periodic transmission of ARINC words
> Statistical function for bus analysis
> Quick analysis and generation, even in complex communication scenarios with CANoe.A429

Analog/digital IO for VN0601

> Analog input: 1 channel, 0…18 V, max. 50 V, (ext. circuitry required) Ri > 1 MOhm, 10 bit ADC at 1 kS/s
> Digital input: 2 channels, Schmitt trigger, max. 32 V, Vhigh ≥ 2.7 V, Vlow ≤ 2.2 V, Vhyst = 0.5 V, Ri > 200 kOhm, max. 1 kHz
> Digital output: 1 channel, open collector, max. 32 V, max. 500 mA, max. 1 kHz
> D-SUB9 socket

Available Accessory

> VNcable DSUB37
> Terminal Block DSUB37
More info: www.vector.com/hw_accessory

More information: www.vector.com/vn0601_en

Technical Data

Channels	4 x RX	4 x TX
Transceiver	Holt HI-8454	Holt HI-8596
Connection	DSUB37 male	
Time stamp accuracy: within a device / Synchronization of multiple devices / with sync cable	1 µs / typ. 50 µs / typ. 1 µs	
Bit rates	low-speed (12…14.5 kBit/s) and high-speed (100 kBit/s)	
Mean reaction time	250 µs	
Operating systems	Windows 10 (64 bit)	
PC interface	USB 2.0 high-speed, without external power supply (bus-powered)	
Driver libraries	XL Driver Library	
Temperature range	operating: -40…+65°C, storage: -40…+85°C	
Dimensions (LxBxH)	91 mm x 109 mm x 35 mm	
Weight	approx. 250 g	
Housing	very rugged aluminum housing	