

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) $R_i > 1 \text{ MOhm}$, 10 bit ADC at 1 kS/s
- > Digital input: 2 channels, Schmitt trigger, max. 32 V, $V_{\text{high}} \geq 2.7 \text{ V}$, $V_{\text{low}} \leq 2.2 \text{ V}$, $V_{\text{hyst}} = 0.5 \text{ V}$, $R_i > 200 \text{ kOhm}$, 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:	1 μs	
within a device	typ. 50 μs	
Synchronization of multiple devices with sync cable	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 7/8.1 (32 and 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	