Isolated Multi-Function DAQ Board!

NEW!

12 V and 5 V output for external wiring

32 channel 18 bit AI section up to 800 kS/s

16 bit AO section, up to 500 kS/s

Up to 32 TTL digital I/Os

Opt. 8 isolated digital inputs

Opt. 8 isolated digital outputs

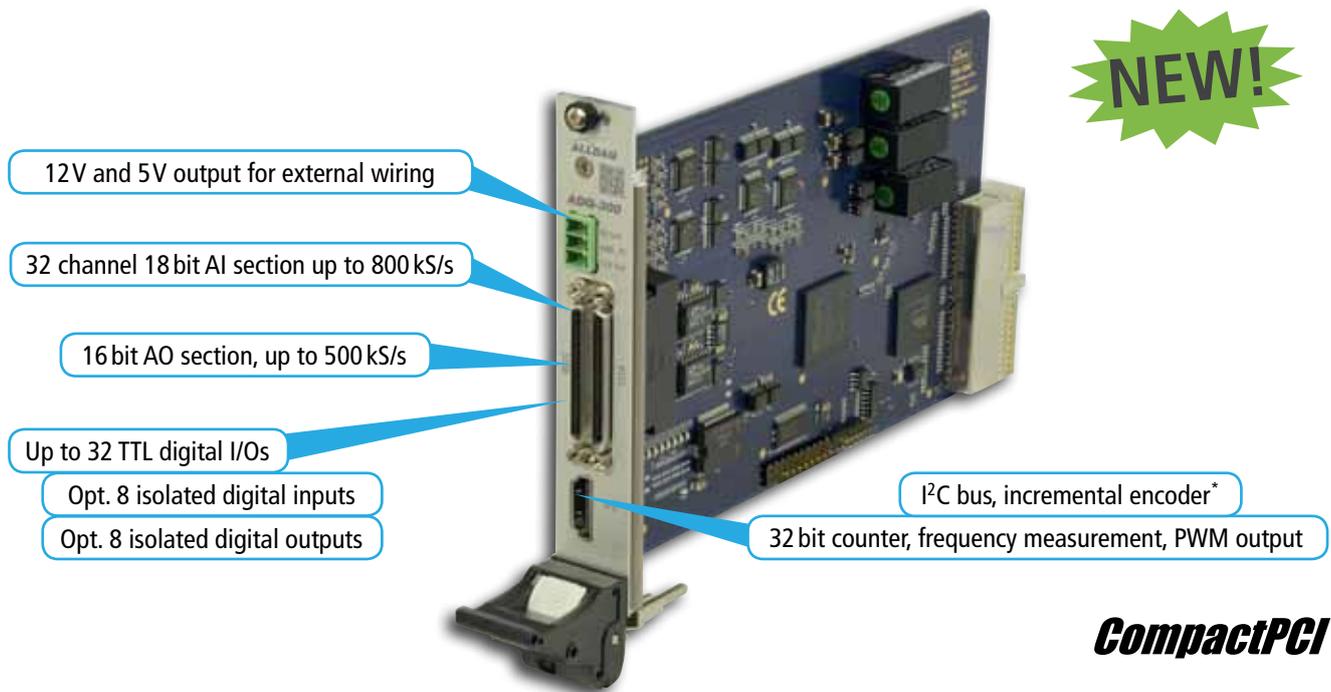I^2C bus, incremental encoder*

32 bit counter, frequency measurement, PWM output

CompactPCI ®

ADQ-300 Series

Isolated multi-function data acquisition board with up to 32 analog inputs, 4 analog outputs, 32 digital I/Os …

Ideal for universal use in industry and laboratory.

The ALLDAQ CompactPCI multi I/O boards of the ADQ-300 series are ideal for fail-safe measurements in the industrial field. On the ADQ-34x models the analog and digital functional groups are electrically isolated from each other and PC ground. Common to all models is the simultanous 18 bit analog input section with 16 or 32 differential input channels with sample rates between 200 kS/s and 800 kS/s depending on the number of used channels. The input ranges of ±10.24 V, ±5.12 V, 0-10.24 V, 0-5.12 V insure the best accuracy. 0-20 mA input range on request.

The 16 bit analog output section with up to 4 channels can output single values or timer-controlled with up to 500 kS/s per channel. Beside the standard sine, rectangular, triangular and ramp signals the boards can output arbitrary waveforms also, e. g. for hardware in the loop (HiL) applications.

The boards of the non-isolated ADQ-33x models are equipped with 32 TTL digital-I/Os whose direction can be switched by port (8 bit wide). The ADQ-34x models offer 16 TTL digital-I/Os, 8 isolated digital inputs (up to 35 V), and 8 isolated digital outputs with power drivers up to 600 mA per output. The I/Os of the board are connected via two 68-pin VHDCI female connectors and an HDMI connector for special functions* like 32 bit counter, I^2C bus, incremental sensor, frequency measurement and PWM output. A 3-pin Phoenix type clamp provides power for your external wiring with short-circuit-proof 5 V or 12 V.

*in preparation.

Specifications

	ADQ-331 (Art. no. 142251)	ADQ-332 (Art. no. 142252)	ADQ-334 (Art. no. 142253)	ADQ-341 (Art. no. 142254)	ADQ-342 (Art. no. 142255)	ADQ-344 (Art. no. 142256)
Analog inputs						
Number of channels	16 differential	16 differential	32 differential	16 differential	16 differential	32 differential
Resolution	18 bit	18 bit	18 bit	18 bit	18 bit	18 bit
Sampling rate	200 kS/s up to 800 kS/s synchronously (1 channel: 800 kS/s, 2 channels: 550 kS/s, 8 channels: 200 kS/s)*					
Input ranges	±10,24 V, ±5,12 V, 0..10,24 V, 0..5,12 V (0-20 mA auf Anfrage)					
Input impedance	100 MΩ ∥ 680 pF					
Common mode rejection	typ. 128 dB between adjacent channels					
Isolation AI section	–	–	–	1500 VDC (60 s) to PC ground		
Analog outputs						
Number of channels	–	2 channels	4 channels	–	2 channels	4 channels
Resolution	–	16 bit	16 bit		16 bit	16 bit
Output rate, range	–	500 kS/s synchronously, ±10.24 V		–	500 kS/s synchronously, ±10.24 V	
Output current		±10 mA per output			±10 mA per output	
Isolation AO section	–	–	–	1500 VDC (60 s) to PC ground		
Digital inputs/outputs						
TTL I/Os	32 TTL DIOs (3.3 V or 5 V switchable)			16 TTL DIOs (3.3 V or 5 V switchable)		
Output current TTL I/Os	20 mA per TTL output			20 mA per TTL output		
Isolated digital inputs	–	–	–	8 isolated digital inputs (high: 15..35 V)		
Isolated digital outputs	–	–	–	8 isolated digital outputs, up to 600 mA per output		
Isolation DI & DO section	–	–	–	500 VAC to PC ground		
Interrupt	Possibility for interrupt generation on bit-change at input ports					
Streaming mode	Streaming mode for continuous input/output on all DIO ports up to 10 kHz**					
Miscellaneous						
Special functions via HDMI connector	32 bit counter, I²C bus port, incremental encoder port, frequency measurement for rectangular signals, PWM output for rectangular signals with adjustable duty factor					
PC interface	cPCI: 32 bit, 33 MHz CompactPCI Rev. 2.2					
External trigger	one ext. trigger input per AI module (8 channels) and one ext. trigger input per analog output***					
Ext. power supply	12 V (2 A max.) and 5 V (3 A max.) for field wiring, via 3-pin Phoenix type clamp, short-circuit-proof					
Environment	operating temperature: 0..70 °C; operating air humidity: 20%..55% (non-condensing)					
Connectors	2 x 68-pin VHDCI female connectors; HDMI connector, 3-pin Phoenix type connector					
Dimensions	cPCI models: 3 U high / 4 HP wide (without mounting bracket and connector)					

*Sample rate depends on number of actively used channels per channel group (AI module), one channel group consists of 8 channels

**Depending on operation system and PC configuration.   ***Isolated on ADQ-34x models.

Software Support

- Driver for Windows 10, 8.1, 8, 7, Vista SP2 (32/64 bit)

- API with an unique programming logic

- Software Developer Kit (SDK) with examples for C++, C#, Visual Basic, Delphi/Pascal and Python® included

- ALLDAQ-Manager – Utility software gives you a quick overview of the parameters of the ALLDAQ driver system and offers a direct access to the SDK, software tools and help files

- Software support for third party vendors on request!
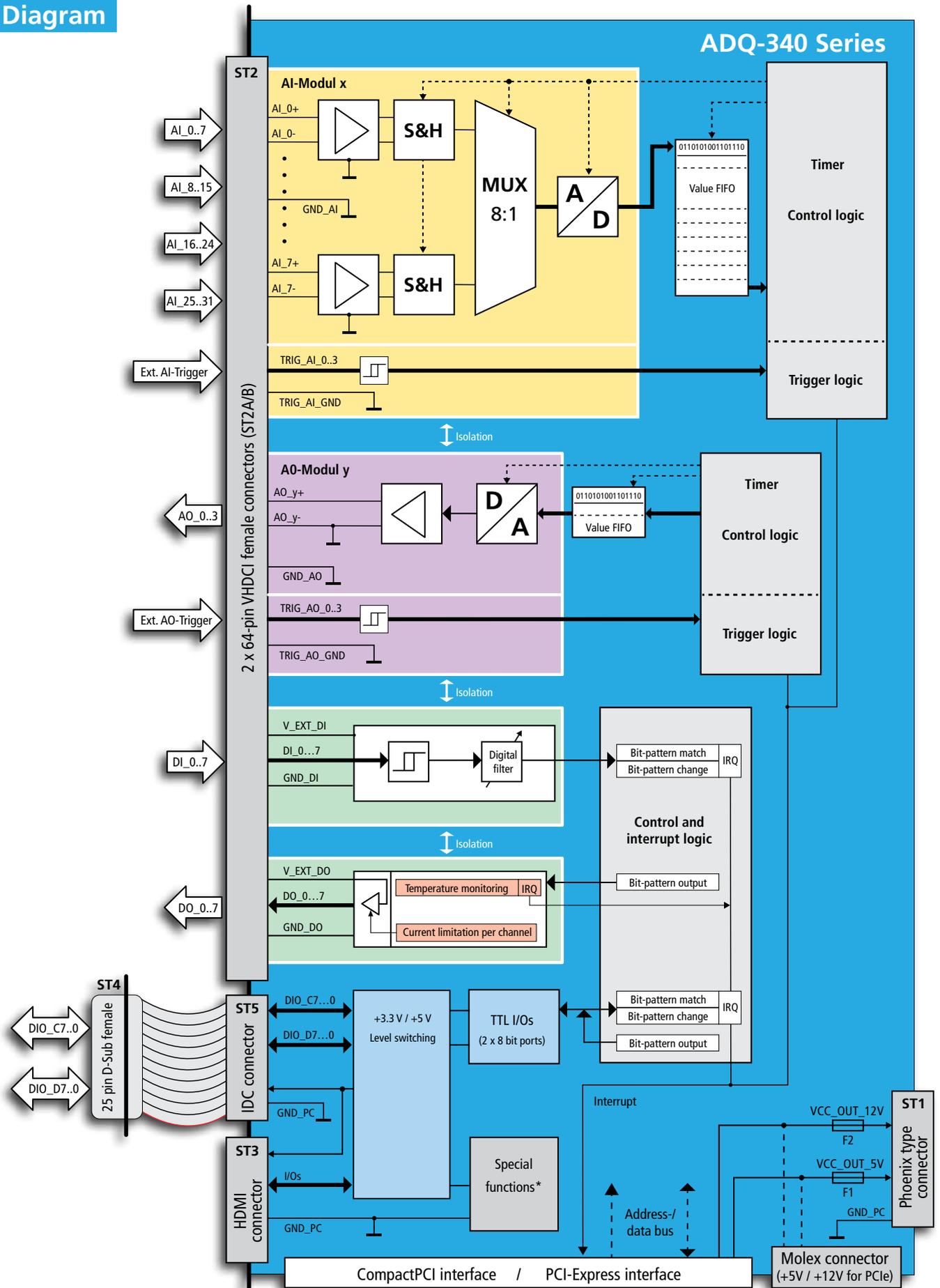
LabVIEW™ VIs

For LabVIEW™ users we provide a library with virtual instruments (VIs) for easy access to your ALLDAQ hardware.
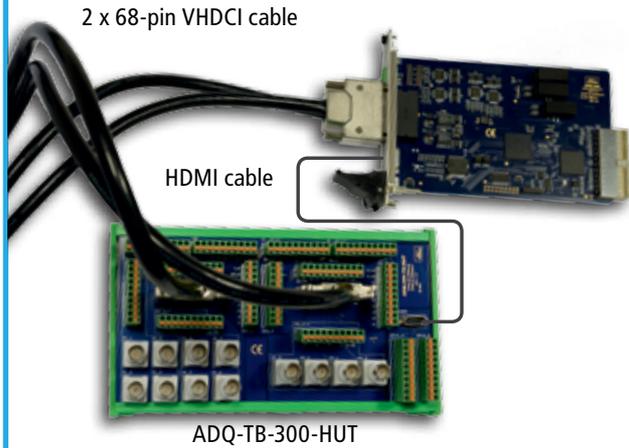
MATLAB® support

An adapted MATLAB® interface for the ALLDAQ hardware with examples and a help file is included with the ALLDAQ SDK.

ALLDAQ - Your partner for measurement and automation.

Block Diagram

ADQ-340 Series

* Special functions: 32 bit counter, I²C bus port, incremental encoder port, frequency measurement and PWM output

Connectivity options

2 x 68-pin VHDCI cable

HDMI cable

ADQ-TB-300-HUT

Special terminal block for the ADQ-300 series. 8 analog inputs and 4 analog outputs can be attached via BNC female connectors. All the other signals by 14 x 10-pin clamps of Phoenix type. The connection to the board is made by two 68-pin VHDCI and one HDMI connector.
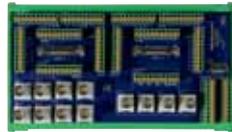
Signal conditioning

ADQ-SCU

The ADQ-SCU signal conditioning unit was developed to optimally adapt a large number of analog and digital inputs/outputs to the requirements of a complex, automated test system. The signals are acquired and generated synchronously via the ADQ-344 multifunction measurement and control board, which also controls the ADQ-SCU via I²C bus.

Ordering Info

cPCI board of ADQ-330/340 series

Special terminal block for ADQ-300 series (ADQ-TB-300-HUT)

68-pin VHDCI cable double-shielded in the length: 1.2 m or 1.8 m (2-times requiered)

HDMI cable for connection of the special functions with the terminal block (ADQ-CR-HDMI-MM-1m)

Name	Art. No.	Description
Not-isolated models (ADQ-330 series)		
ADQ-331-cPCI	142251	CompactPCI multi-function board with 16 diff. 18 bit AIs, 32 TTL digital I/Os, 32 bit counter, I²C bus, incremental encoder, frequency measurement, PWM output
ADQ-332-cPCI	142252	CompactPCI multi-function board with 16 diff. 18 bit AIs, 2 x 16 bit AOs, 32 TTL digital I/Os, 32 bit counter, I²C bus, incremental encoder, frequency measurement, PWM output
ADQ-334-cPCI	142253	CompactPCI multi-function board with 32 diff. 18 bit AIs, 4 x 16 bit AOs, 32 TTL digital I/Os, 32 bit counter, I²C bus, incremental encoder, frequency measurement, PWM output
Isolated models (ADQ-340 series)		
ADQ-341-cPCI	142254	CompactPCI multi-function board with 16 diff. 18 bit AIs isolated, 16 TTL digital I/Os, 8 isolated DIs, 8 isolated DOs, 32 bit counter, I²C bus, incremental encoder, frequency measurement, PWM output
ADQ-342-cPCI	142255	CompactPCI multi-function board with 16 diff. 18 bit AIs isolated, 2 x 16 bit AOs isolated, 16 TTL DIOs, 8 isolated DIs, 8 isolated DOs, 32 bit counter, I²C bus, incremental encoder, frequency measurement, PWM
ADQ-344-cPCI	142256	CompactPCI multi-function board with 32 diff. 18 bit AIs isolated, 4 x 16 bit AOs isolated, 16 TTL DIOs, 8 isolated DIs, 8 isolated DOs, 32 bit counter, I²C bus, incremental encoder, frequency measurement, PWM
Suitable accessory		
ADQ-TB-300-HUT	146811	Special terminal block for ADQ-300 series
ADQ-CR-VHDCI-68M/68M-1,2m	150597	Double-shielded round cable from 68-pin VHDCI male connector to 68-pin VHDCI male connector, 1.2 m
ADQ-CR-VHDCI-68M/68M-1,8m	146813	Double-shielded round cable from 68-pin VHDCI male connector to 68-pin VHDCI male connector, 1.8 m
ADQ-CR-HDMI-MM-1m	127015	HDMI cable (all lines 1:1 fed through), black, shielded, gold-plated contacts (1 m)

Do you need an individual offer? Contact our sales team under: +49 (0)89-894 222 474 or per email: sales@alldaq.com

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