



TPCE-I Isolated Data Acquisition Card

Product Brief

The TPCE-I is a 4 channel analog input data acquisition card with galvanic isolated inputs. Each input is isolated to each other and to ground. This makes the measurement more simple in setups where a ground connection is not favored or even impossible.

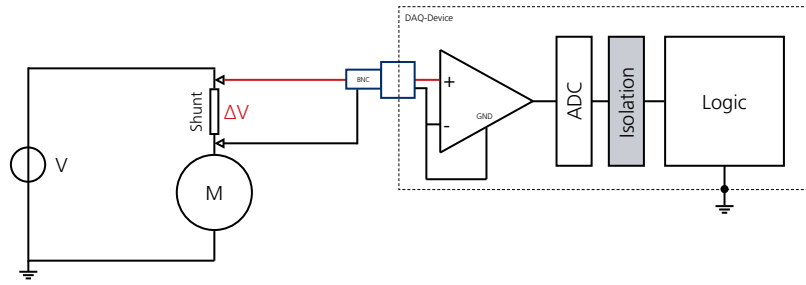


Parameter	Specification
Input Ranges	± 100 mV, ± 200 mV, ± 500 mV, ± 1 V, ± 2.5 V, ± 5 V, ± 12.5 V, ± 25 V
Input Offset	fix
Input Configuration	unbalanced isolated BNC input, DC, AC, ICP/IEPE
# of Channels	4 per board, up to 64 per device, up to 1024 per system
Max. Sampling Rate (per Channel)	1 MHz
Resolution	16 Bit
Filter	10 kHz, 100 kHz RC-Filter, Anti-Aliasing Filter on request
Range Error	< 1 ‰
Offset Error	< 1 ‰
Offset Drift	tbd
Input Noise max Sampling Rate: 100 kHz 10 kHz	< 0.020 mV RMS < 0.020 mV RMS < 0.010 mV RMS
SNR:	tbd
Channel to Channel Isolation	400V RMS (560V Peak)
Channel to Ground Isolation	400V RMS (560V Peak)
Memory	32 MS/channel - 128 MS/channel optional
Interface	PCIe x1
Software	TranAX 4, LabVIEW Driver, C++/C# API

Applications

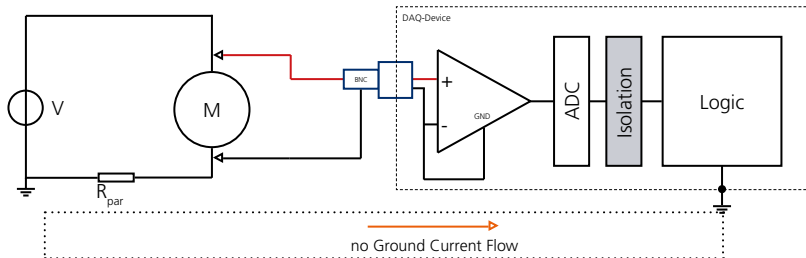
Case 1

- Low level signals with high common mode voltage
- Ex.: Motor drive current measurements



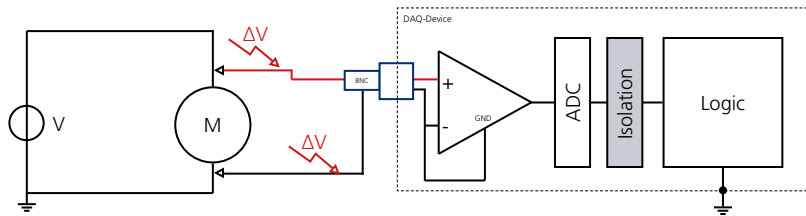
Case 2

- Breaking ground loops



Case 3

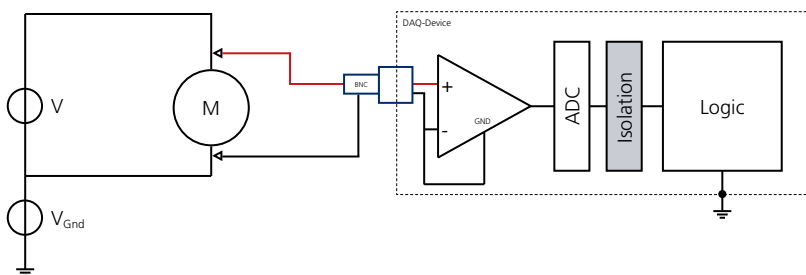
- Suppress external induced transients in highly noisy environments.



$$V_{out} = (V_+ + \Delta V) - (V_- + \Delta V) = V_+ - V_-$$

Case 4

- Floating ground levels



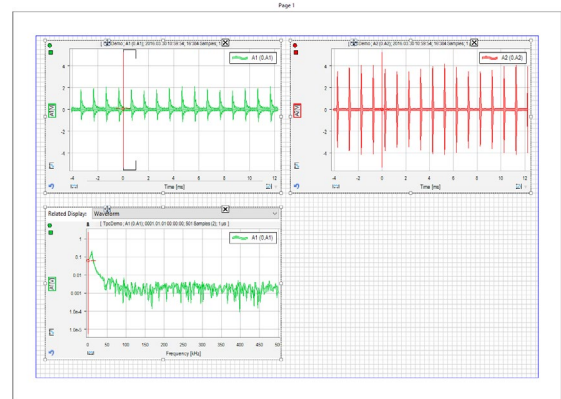
Software

TranAX 4

TranAX 4 is the universal data acquisition software from Elsys designed for TPCX/TPCE/TPCE-I data acquisition cards and the turnkey TraNET data acquisition instruments.

Key Features:

- Configures quick and easy many analog input channels, no programming required
- Data visualization in Multi-Waveform displays
- Several cursor for easy data readout and reporting
- X-Y data display
- FFT Analysis with different scaling and windows function
- Measurement data - video synchronization
- More than 40 scalar functions to measure any significant waveform parameter on time or FFT curves
- Powerful formula editor for more than 60 mathematics functions, syntax highlighting, for-loops, array calculations, string manipulations, etc.
- Curve fitting (Polynomial regression)
- Autosequence-macro's for easy to set up, fast automated measurements
- English and German version



LabVIEW Instrument Driver

Elsys provides a LabVIEW instrument driver which is fully compliant with the NI driver design guidelines. The instrument drivers provides the following features:

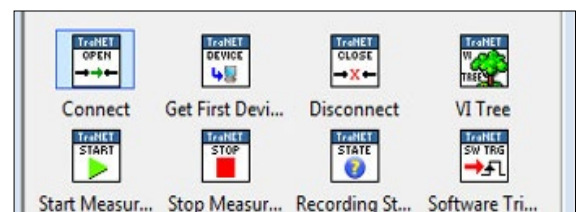
Key Features:

- Ready-made measurement flow-control VI's for scope, multiblock, continuous and ECR measurement modes
- Express VI's for amplifier and trigger settings
- VI's for data readout
- Express VI's for setup the connection to the modules/instruments

C++/C# TpcAccess API

TpcAccess API is based on a client/server architecture and can be integrated in any custom specific software. It handles all network traffic and synchronisation task when several clients are connected to the same device.

The screenshot shows the formula editor in TranAX 4. The editor contains a series of commands for data acquisition and analysis, including setting cursors, calculating peak positions, and generating reports. The code is written in a specific syntax and includes comments in German. The interface is designed for easy editing and execution of these formulas.



Elsys AG

Elsys AG
Mellingerstrasse 12
CH-5443 Niederrohrdorf
Switzerland

Phone: +41 56 496 01 55
Email: info@elsys.ch
www.elsys-instruments.com