

KiDAQ Module 5529A

Measurement module for high voltage (up to 1.2 kV) at high potential



Description

KiDAQ is a general purpose data acquisition system to measure more than 20 different analog and digital signal types. The wide selection of signal conditioning and data acquisition modules enables perfectly fitted system configurations, exactly to the customer's requirements. All modules are available in the KiDAQ housing options Rack, Portable and DIN Rail which allows the use in different applications and environments.

Key features

- **4 analog input signals**
High voltage up to 1.2 kV at high potential
- **A/D conversion**
100 kSps sampling rate per channel, 24 Bit resolution
- **Galvanic isolation**
Channel to channel to power supply and to interface
isolation voltage 1200 VDC / 858 VACrms

Technical data

Analog inputs

| | | | | |
|----------------------|--|------------------------------|---------------------|-----------------|
| Number | 4 | | | |
| Input connector type | Laboratory socket (banana), 4 mm | | | |
| Accuracy | 0.01 % typical | | | |
| | 0.025 % in controlled environment ¹⁾ | | | |
| | 0.05 % in industrial area ²⁾ | | | |
| Linearity error | 0.01 % typical full-scale | | | |
| Repeatability | 0.003 % typical (within 24 h) | | | |
| Isolation voltage | 1200 VDC / 858 VACrms permanent, channel to channel to power supply to interface ³⁾ | | | |
| Measurement voltage | Range [V] | Frequency range (-3 dB) [Hz] | Max. deviation [mV] | Resolution [mV] |
| | ±1 200 | 0 ... 20 000 | ±300 | 6 |
| | ±400 | 0 ... 20 000 | ±100 | 2 |
| | ±120 | 0 ... 20 000 | ±30 | 0.6 |
| | ±40 | 0 ... 20 000 | ±10 | 0.2 |
| Input resistance | >10 MΩ | | | |
| Long term drift | <10 mV / 24 h; <100 mV / 8 000 h | | | |

¹⁾ According EN 61326: 2006, appendix B

²⁾ According EN 61326: 2006, appendix A

³⁾ High voltage lifetime (TDD B E Model): time to fail approx. 4 years at 1 200 VDC and 60 °C / 140 °F



| | | |
|-----------------------|-------------------|-----------------|
| Temperature influence | offset drift | gain drift |
| | <50 mV / 10 K | <0.025 % / 10 K |
| Signal-noise-ratio | >100 dB at 100 Hz | |

Analog/digital-conversion

| | |
|-------------------------|--|
| Resolution | 24 bit |
| Sample rate | 100 kSps per channel |
| Conversion method | Sigma-Delta (group delay time 380 μs) |
| Digital filter | IIR, low pass, high pass, band pass, Butterworth 4 th order, 0.1 Hz up to 10 kHz in steps 1, 2, 5 |
| Averaging ⁴⁾ | configurable or automated according the selected data rate |

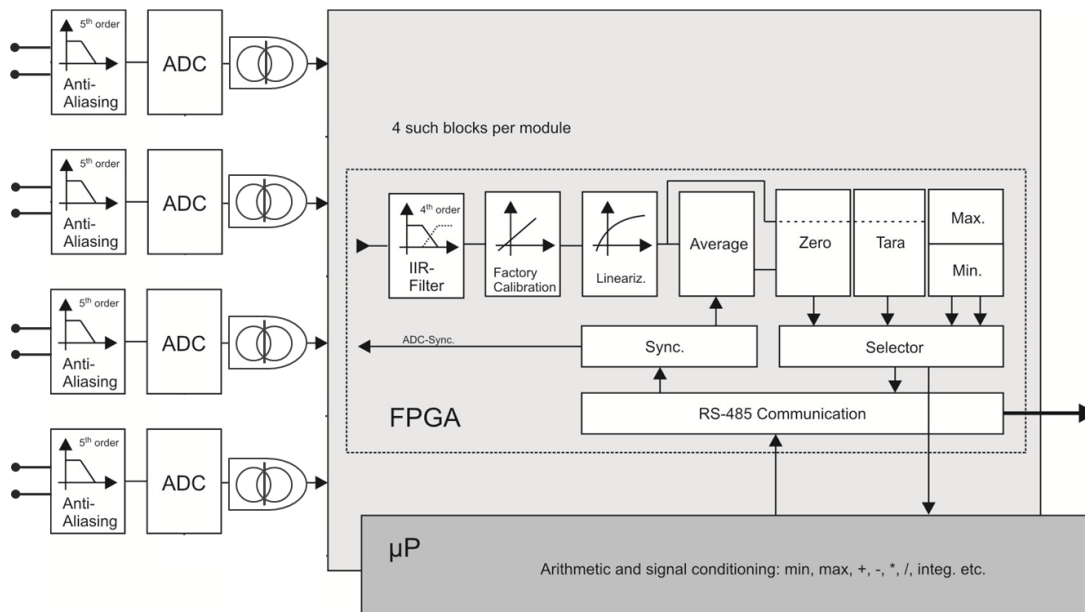
⁴⁾ Averaging not yet supported in software

Further technical data please refer to data sheet “KiDAQ System Datasheet” 003-335e

Warm up time

All declarations are valid after a warm up time of 45 minutes.

Block diagram



- Attention high voltage device, danger for life and health in case of non-regular use.
- Special and sufficient educated persons are permitted to handle this device only.
- All metal housing parts must be safely and permanently connected to protected earth (PE).
- Only plugs and connectors with a sufficient protection against contact may be used. All parts must be approved for voltages up to 1200 VDC.
- During installation, the whole system must be without voltage and safely be disconnected from the mains.
- All relevant safety regulations have to be considered.

Base is the european standard EN61010-1

The module 5529A can be used in the following categories:
1000 V CAT II 600 V CAT III

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