

# KiDAQ Module 5528A

## Measurement module for high voltage (up to 1.2 kV) and current 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**  
2 inputs for high voltage up to 1.2 kV at high potential  
2 inputs for current (via external shunt or hall sensor) 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 (2x voltage; 2x current)		
Input connector type	Laboratory socket (banana), 4mm		
Accuracy	0.01 % typical		
	0.025 % in controlled environment <sup>1</sup>		
	0.05 % in industrial area <sup>2</sup>		
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 <sup>3</sup>		
<b>Measurement voltage</b>	<b>Range [V]</b>	<b>Max. deviation [mV]</b>	<b>Resolution [mV]</b>
	±1 200	±300	6
	<b>Channel 1 and 3</b> ±400	±100	2
	±120	±30	0.600
	±40	±10	0.200
Long term drift	<10 mV / 24 h; <100 mV / 8 000 h		

Temperature influence	offset drift		gain drift
	<50 mV / 10 K		<0.025 % / 10 K
<b>Measurement current via external shunt or hall sensor</b>	<b>Range [mV]</b>	<b>Max. deviation [µV]</b>	<b>Resolution [µV]</b>
	±2 400	±600	12
	±800	±200	4
<b>Channel 2 and 4</b>	±240	±60	1.2
	±80	±20	0.4
Long term drift	<20 µV / 24 h; <200 µV / 8 000 h		
Temperature influence	offset drift		gain drift
	<50 µV / 10 K		<0.02 % / 10 K

#### Analog/digital-conversion

Resolution	24 bit
Sample rate	100 kSps per channel
Conversion method	Sigma-Delta (group delay time 380 µs)
Anti-aliasing filter	20 kHz, 3 <sup>rd</sup> order
Digital filter	IIR filter Low pass, high pass, band pass / Butterworth or Bessel / 2nd, 4th, 6th, 8th order / 0.1 Hz up to 10 kHz
Averaging	configurable or automated according the selected data rate

<sup>1</sup> according EN 61326: 2006, appendix B

<sup>2</sup> according EN 61326: 2006, appendix A

<sup>3</sup> high voltage lifetime (TDDB E Model): time to fail approx. 4 years at 1200 VDC and 60 °C / 140 °F

The information corresponds to the current state of knowledge. Kistler reserves the right to make technical changes without advance notice. Liability for consequential damages arising from the application of Kistler products is excluded.

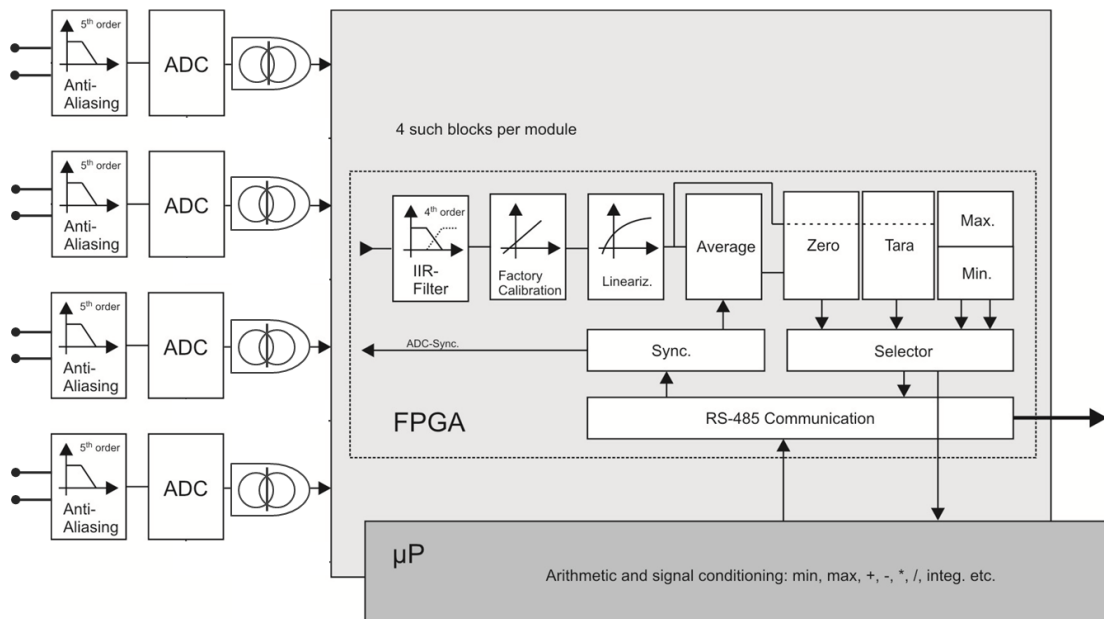
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Further technical data please refer to data sheet “KiDAQ System Datasheet” 003-335e.

### 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 5528A can be used in the following categories:  
1000 V CAT II                      600 V CAT III