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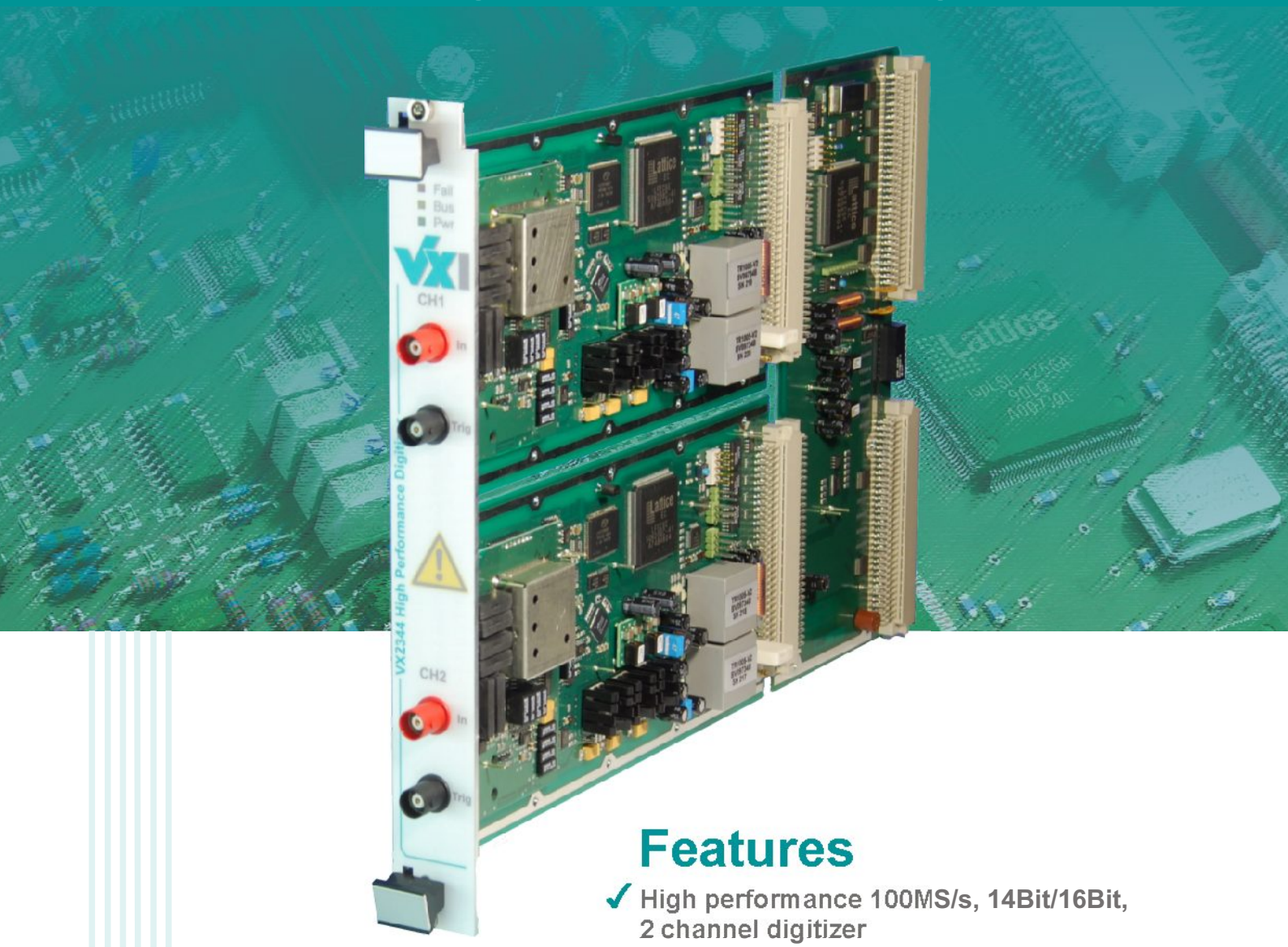
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Find the *VX Instruments VX2344* at our website: *Click HERE*

VXI Instruments®
the test solutions provider

VX2344 High Performance Digitizer



Features

- ✓ High performance 100MS/s, 14Bit/16Bit, 2 channel digitizer
- ✓ Fully isolated design, floating inputs
- ✓ High common mode rejection
- ✓ Designed for high throughput testing
- ✓ Input range up to 250V (500VP-P)
- ✓ Independent or common sample rate per channel
- ✓ Independent or common trigger mode
- ✓ Internal or external analog trigger for each channel
- ✓ Same time base for pre- and post- trigger
  Programmable sample counter for pre- and post-trigger
- ✓ Common trigger mode with different sample rate per channel
- ✓ Digital calibration

VX2344 High Performance Digitizer

Product information

The VX2344 is a high-speed 100MS/s, 14Bit (16Bit option), digitizer for high performance measurements.

The VX2344, "C" size single slot VXI module, is designed for high throughput testing. For reference refer to product data specification. Multiple measurements in combination with the memory segmenting feature results in additional test time improvement.

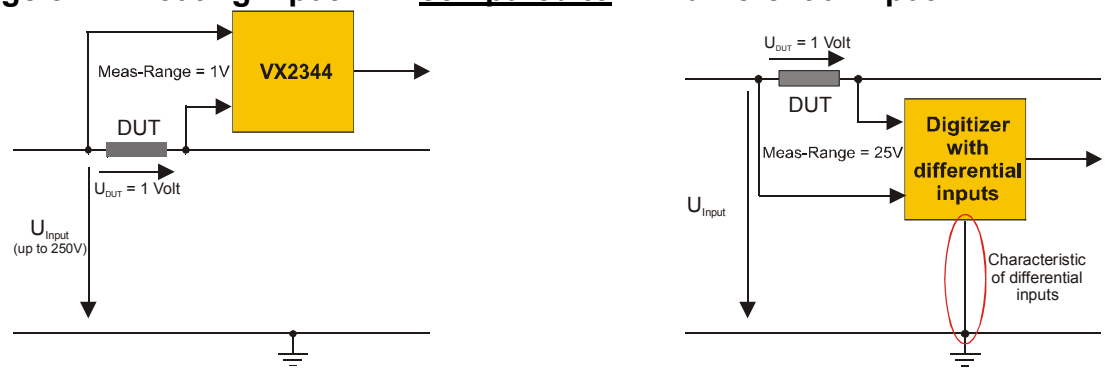
The data acquisition may be triggered from the input itself or external inputs having programmable thresholds. Acquired data can be pre-trigger, post-trigger, or anywhere in between, with a programmable sample counter that controls the number of data points. An interrupt is issued when measurement is completed.

The maximum voltage for each signal input is ±250V ($500V_{P-P}$). This allows high voltage signals to be measured without signal conditioning.

The instrument calibration is done digital and fully automatic. The calibration data are stored in on-board EEPROM.

Each channel is fully isolated. This results in a very high common mode rejection ratio (CMRR) compared to differential inputs. It allows floating low level signals to be measured with a very high accuracy and a maximum of resolution. This design of the VX2344 guarantees highest quality measurements.

The advantage of floating input compared to differential input



Comparing an instrument with floating input to an instrument with differential input
both instruments have the following specifications

$Resolution_{BIT}$	=	14BIT
DC-Gain-Accuracy	=	0,15% of measured value
Offset	=	0,2% of range
U_{Meas}	=	1V
CM-Signal (U_{Input})	=	20V
$Resolution_{eff}$	=	$Resolution_{BIT}$ x Signal / Meas-Range
Signal-Error	=	DC-Gain-Accuracy (% of U_{Meas}) + Offset
CM-Error	=	CM-Signal / CMRR

The following results show, that the floating instruments has a much better performance:

Input	Meas-Range	$Resolution_{eff}$	Signal-Error	CMRR	CM-Error	Total-Error	
Floating	1V	16383 LSBs	0.0015V	80dB	0.0001V	0.0016V	0.16%
Differential	25V	655 LSBs	0.0515V	40dB	0.2000V	0.2515V	25.15%

All product data[1] are specified for an ambient temperature of 23°C ± 5°C, after 1 hour warm-up time

General	Specification
Maximum sampling rate	100MS/s per channel
Sampling times	10ns, 20ns, 50ns, 100ns, 200ns, 500ns, 1µs, 2µs, 5µs, 10µs, 20µs, 50µs, 100µs, 200µs, 500µs, 1ms, 2ms, 5ms, 10ms, 20ms, 50ms, 100ms, 200ms, 500ms, 1s, 2s, 5s, 10s
Waveform Memory	1MSample (2MByte)
Time base	
Accuracy	10ppm Standard (TCXO) 0.1ppm (OCXO Option)
Stability	0.1ppm (-20°C … +70°C)
Aging	0.5ppm/year
Voltage resolution	14Bit 16Bit (Option)
Voltage ranges[2]	±0.25V, ±0.5, ±1V, ±2V, ±4V, ±8V, ±16V, ±32V, ±64V, ±128V, ±250V
Input impedance	1MΩ//20pF
Common mode range[3] (related to protection earth PE)	0 – 250V

Accuracy[5]		
DC-Gain[4]		
Range	**% of meas. value**	**Offset$_{fs}$**
±250mV	0.3	1mV
±500mV	0.2	2mV
±1V	0.15	3mV
±2V	0.15	5mV
±4V	0.15	8mV
±8V	0.15	15mV
±16V	0.15	25mV
±32V	0.15	40mV
±64V	0.15	70mV
±128V	0.15	125mV
±250V	0.15	250mV

Trigger	Specification	Comment
Level Resolution	12Bit	
Source	internal	channel 1 or 2 , each channel can have his own trigger source.
	external	Input voltage range ±10V
	VXI-TTL	Synchronous trigger mode protocol
	Software	
Modes	Post trigger	Number of samples captured after trigger event
	Pre trigger	Trigger is armed after all pre samples are captured. Beyond trigger event, number of samples are captured defined by post trigger
	continuous	Done by software
Slope	pos., neg.	
Coupling	DC	

Common Mode Rejection Ratio (CMRR)	Specification	Comment
CMRR DC	> 90dB	Range 1V, 5KS/s, average of 100 samples Common mode DC voltage 150V Input terminated by 50Ω
CMRR 50Hz	80dB typical	Range 0.25V, 5KS/s, average of 200 samples Common mode DC voltage 150V Input terminated by 50Ω

VX2344 High Performance Digitizer

Filter	F_{3dB}	Comment
Filter 1-4	30kHz 100kHz 300kHz 1MHz	Filter 1st order

Ordering information	Option	Comment
	Option A	Memory segmenting, flexible start and stop address
	Option B	16 Bit resolution
	Option C	OCXO Oscillator

Instrument Drivers:

The instrument integration is simplified with VXI*plug&play* drivers. A soft front panel is included to control and verify the instrument without writing a user program.

Quality:

All VX Instruments products are designed and built with ISO-9001 certified quality at VX Instruments facility in Landshut, Germany. VX Instruments stands behind their products with a full three-year warranty.

(1) Product specification and description in this document are subject to change without notice
(2) The addition of common mode and differential voltage on each channel may not exceed 250V.
(3) The maximum voltage difference of channel input and protection earth (PE) may not exceed 250V.
(4) Specified for an average of 100 measurements, sample rate of 5KS/s performed 24 hours after offset correction
(5) Specified for standard instrument with 14Bit resolution

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