

Enhanced V-Class Waveform Digitizers

Model DC211A

Single Channel, 1 GHz, 8 bit, 4 GS/s, from 512 kpoints up to 32 Mpoints

Model DC241A

Dual Channel, 1 GHz, 8 bit, 2 GS/s in dual channel, 4 GS/s in single channel, from 256 kpoints up to 16 Mpoints per channel

Model DC271A

Quad Channel, 1 GHz, 8 bit, 1 GS/s in quad channel, 2 GS/s in dual channel, 4 GS/s in single channel, from 128 kpoints up to 8 Mpoints per channel

Modular V-Class CompactPCI® Digitizer with Switchable Front-End Input Impedance

The V-Class DC271A, DC241A and DC211A digitizers, offering **switchable 50 Ω/1 MΩ input impedance**, are a development on the DC271, DC241 and DC211 waveform digitizers. The DC271A has four channels that can synchronously sample signals at rates of up to 1 GS/s. The DC241A offers two channels each with up to 2 GS/s sampling. Using channel interleaving, both the DC271A and DC241A achieve the same 4 GS/s

single-channel performance offered by the DC211A. The modules combine this ultrafast sampling rate with a 1 GHz bandwidth at 50 Ω, and 300 MHz at 1 MΩ input impedance. The DC271A, DC241A and DC211A include 128 kpoints, 256 kpoints, and 512 kpoints of storage memory respectively, optionally upgradeable to up to 8 Mpoints, 16 Mpoints and 32 Mpoints.

Signal Input

Bandwidth

DC to 1 GHz (typ.) with 50 Ω
DC to 300 MHz (typ.) with 1 MΩ

Bandwidth Limit Filters

700 MHz, 200 MHz (50 Ω only)
20 MHz (50 Ω and 1 MΩ)

Full Scale Setting (FS)

50 Ω and 1 MΩ: 50 mV, 100 mV, 200 mV, 500 mV, 1 V, 2 V, 5 V
1 MΩ only: 10 V, 20 V, 50 V

VSWR

< 1.25 from DC to 1 GHz with 50 Ω

Channels

One @ 4 GS/s (All)
Two @ 2 GS/s (DC241A and DC271A)
Four @ 1 GS/s (DC271A only)

Offset

50 Ω:
± 2 V for ≤ 500 mV FS
± 5 V for ≥ 1 V FS
1 MΩ:
± 2 V for ≤ 500 mV FS
± 20 V for ≤ 5 V FS
± 200 V for ≤ 50 V FS

Connectors

BNC, gold plated

Coupling

DC, AC, GND

Impedance

50 Ω ± 1.0 %
1 MΩ ± 1.0 %

Maximum Input Voltage

± 5 V DC with 50 Ω
± 300 V DC with 1 MΩ

Clock or Reference Input

Minimum Amplitude

0.5 V pk-pk into 50 Ω

Maximum Input Voltage

± 5 V DC into 50 Ω

Ext. Clock Frequency

20 MHz to 2 GHz

System Performance

Effective Bits (typ.)

7.0 @ 10.7 MHz
6.5 @ 99.5 MHz (50 Ω only)
5.8 @ 410 MHz (50 Ω only)

Integral Nonlinearity

< ± 1 % FS

SFDR (typ.)

> 55 dB @ 10 MHz
> 40 dB @ 400 MHz (50 Ω only)



Ordering Information

Model Number	Description
DC271A	Quad-channel 1 GHz, 1-4 GS/s, 128 kpoints CompactPCI Digitizer
DC271A-M2M	2-8 Mpoints/channel acquisition memory option
DC271A-M8M	8-32 Mpoints/channel acquisition memory option
DC271A-W5	5 year extended warranty
DC271A-CAL	Calibration certificate
DC241A	Dual-channel 1 GHz, 2-4 GS/s, 256 kpoints CompactPCI Digitizer
DC241A-M16M	16-32 Mpoints/channel acquisition memory option
DC241A-W5	5 year extended warranty
DC241A-CAL	Calibration certificate
DC211A	Single-channel 1 GHz, 4 GS/s, 512 kpoints CompactPCI Digitizer
DC211A-M32M	32 Mpoints/channel acquisition memory option
DC211A-W5	5 year extended warranty
DC211A-CAL	Calibration certificate
XA200	MMCX to BNC cable (1 m)

DC241A DC271A



DC211A

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