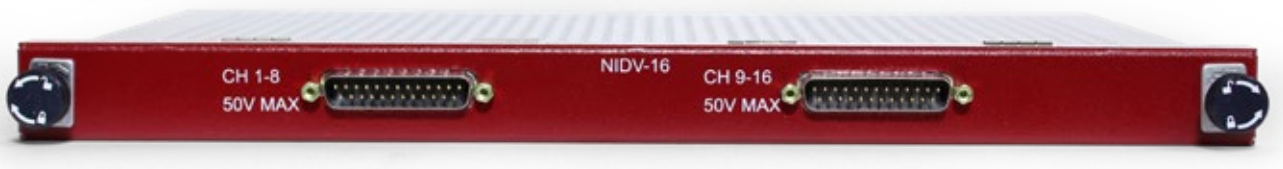
AstroNova®
Test & Measurement

NIDV-16

16-Channel Non-Isolated Differential Voltage Module

MODULE OVERVIEW

The NIDV-16 input module provides 16 non-isolated differential voltage inputs and 12V DC for powering external transducers. Connections are made via two 25-pin D-sub connectors.



MODULE HIGHLIGHTS

- **16 voltage inputs (30 Vrms or 50 V DC max)**
- **Simultaneous sampling at up to 200kS/s/ch**
- **16-bit resolution**
- **9 input ranges to maximize measurement resolution**
- **Built-in counter and timer functions including**
- **quadrature event counter**
- **Screw terminal or BNC connections with adaptor**

ORDERING INFORMATION

Module Part Number: 32850020

ITEM	PART NO.	DESCRIPTION
ADP-20	32031000	D-Shell to BNC Adaptor labeled Channel 1-8 (extra) 1 included at no charge with each NIDV-16
ADP-916	32031009	D-Shell to BNC Adaptor labeled Channel 9-16 (extra) 1 included at no charge with each NIDV-16

NIDV-16 DETAILED SPECIFICATIONS

Analog Inputs	
Channels Per Module	16
Connector	Two 25-pin D-sub male connectors
Input	Differential, DC coupled
Bandwidth	40 kHz (-3dB)
Isolation	No
Sample Rate	200 kS/s/ch (100 kS/s/ch when using TMX-E or TMX-R)
A/D	16 bit SAR (one per channel)
Anti-Aliasing Filter	4 pole Bessel
Cold Start Drift	< 0.5% att (60 min.)
Off Ground Measurements	Yes
Zero Suppression	Yes, digital
Attenuator Ranges	200, 400 and 800 mV; 2, 4, 5, 10, 25 and 50 V
Measurement Ranges	+/- 200 mV (80 to 160 mVFS or 400 mVFS w/ zero offset) +/- 400 mV (400 mVFS or 800 mVFS w/ zero offset) +/- 800 mV (800 mVFS or 1.6 VFS w/ zero offset) +/- 2 V (1.6 VFS or 4 VFS w/ zero offset) +/- 4 V (4 VFS or 8 VFS w/ zero offset) +/- 5 V (5 VFS or 10 VFS w/ zero offset) +/- 10 V (10 VFS or 20 VFS w/ zero offset) +/- 25 V (20 VFS or 50 VFS w/ zero offset) +/- 50 V (50 VFS or 100 VFS w/ zero offset)
Max Rated Input	30 Vrms or 50 VDC
Max Common Mode Voltage	+/- 60V
DC Accuracy (25°C)	+/- 0.07% of attenuator (800 mV, 2, 4, 5, 10, 25 and 50 V attenuators) +/- 0.1% of attenuator (400 mV attenuator) +/- 0.15% of attenuator (200 mV attenuator)
Overshoot	< 1%
Intrinsic Noise (pk-pk)	< 0.1% of attenuator + 4 mV
CMR at 60 Hz	Better than -60 dB
Min Input Impedance	> 500 KΩ (250 KΩ balanced to signal common)
Excitation	No
Auxiliary Power Output	Yes. 12V @ 200 mA (total of the two connectors)
Counter Timer	
Frequency Counter Capability	Yes, Software selectable on channels 1 and 2
Counter Modes	Gated time frequency counter, cycle based frequency counter, pulse counter, quadrature counter, pulse width detector, period width and duty cycle detector
Frequency ctr range (menu)	2 - 50 kHz
Frequency ctr range (spec'd)	2 - 40 kHz (48 Hz - 100 kHz for cycle based frequency counter)
Frequency ctr accuracy	+ 0.05% of Measurement + .002 Hz
Min counter input amplitude	25% of span for freq and pulse counters, 90% of span for all other modes
Pulse counter range	64000000 maximum. (16 bit display resolution)
Pulse width accuracy	1.5 µs +.00167% of span
Pulse width range	40 µs - 40000 µs
Edge separation accuracy	.002% of measurement + .00167% of span + 0.7 µs
Edge separation range	100 µs – 5000000 µs
Period width accuracy	.02% of measurement + .00167% of span with a maximum of 1.0 µs
Period width range	5 µs - 90000 µs (11 Hz - 50 kHz)
Duty cycle accuracy	.5% (Inputs in the 15 Hz - 10 kHz range with 20% - 80% duty cycles)
Counter Timebase	50 MHz

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