AstroNova®
Test & Measurement

UNIV-6

Universal Module

MODULE OVERVIEW

The UNIV-6 is a 6-channel input module for voltage and strain/bridge measurements. Modules accept voltages up to 250 Vrms (banana jack inputs) and support full bridge, half-bridge, and quarter bridge sensors. Provides maximum flexibility for acquiring different types of inputs with a single module.

MODULE HIGHLIGHTS

- **6 voltage or strain/bridge inputs**
- **Simultaneous sampling at up to 800kS/s/ch**
- **16-bit resolution**
- **5 measurement ranges to maximize resolution**
- **Built-in counter and timer functions**
- **250 VRMS or DC Cat II isolation**

ORDERING INFORMATION

Module Part Number: 32850000

ITEM	PART NO.	DESCRIPTION
GL-40	13442000	General Use Lead Set contains probe handles, right angle to straight plug, test clips, medium alligator clips
LC-40	13441003	Test Leads/Clips pair of test leads and pincer clips (1 red, 1 black)
LC-40S	13441201	Test Leads/Spades pair of test leads with spade connector for #8 screw
MAT-U*	25460104	Universal Input Mating Connector (extra) 18 included at no charge
BNC-BAN-I	10532211	Connector insulated Female BNC to standard insulated double Banana plug

UNIV-6 DETAILED SPECIFICATIONS

Common Specifications	
Channels Per Module	6
Sample Rate	800 kS/s/ch (400 KS/s/ch when using TMX-E or TMX-R)
Rated Isolation	250 VRMS or DC, Cat II (iso-common to chassis and other iso-commons)
A/D	16-bit SAR (one per channel)
Frequency Counter Capability	Yes, first channel. Software selectable.
Anti-Aliasing Filter	4 pole Bessel
Counter Modes	Gated time frequency counter, cycle based frequency counter, pulse counter, pulse width detector, period width detector, duty cycle detector
Frequency ctr range (menu)	Up to 120 kHz
Frequency ctr range (spec'd)	2 - 100 kHz (48 Hz - 100 kHz for cycle based frequency counter)
Frequency ctr accuracy	+/- 0.07% 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	0.7 µs +.00167% of span
Pulse width range	10 µs - 40000 µs
Edge separation accuracy	.002% of measurement + .00167% of span + 0.7 µs
Edge separation range	25 µs – 5000000 µs
Period width accuracy	.02% of measurement + .00167% of span + 1.0 µs
Period width range	5 µs - 90000 µs (11 Hz - 200 kHz)
Duty cycle accuracy	.5% (Inputs in the 15 Hz - 10 kHz range with 20% - 80% duty cycles)
Counter Timebase	50 MHz
Cold Start Drift	< 0.1% of attenuator (60 min.)
Single Ended Input	
Connector	Guarded banana jacks (red/black)
Input	Single-ended, AC/DC coupled
Anti-Aliasing Filter	4 pole Bessel
Bandwidth	100 kHz (-3dB) (400V, 200V and 50V attenuators) 90 kHz (-3dB) (10V and 1V attenuators)
AC Coupled 3dB Point	< 0.54 Hz
Off Ground Measurements	Yes
Zero Suppression	Yes
Attenuator Ranges	1, 10, 50, 200 and 400 Volt
Measurement Ranges	+/- 400 V (400 VFS or 800 VFS w/ zero offset), +/- 200 V (200 VFS or 400 VFS w/ zero offset), +/- 50 V (50 VFS or 100 VFS w/ zero offset), +/- 10 V (10 VFS or 20 VFS w/ zero offset), +/- 1 V (1 VFS or 2 VFS w/ zero offset. 0.1V min span)
Max Rated Input	250 Vrms or DC, Cat II
Max Transient Input	+/- 800 V peak (not to exceed 250Vrms)
DC Accuracy (25°C)	+/- 0.07% of attenuator
Overshoot	< 1.0%
Intrinsic Noise (pk-pk)	< 0.08% of attenuator + .08% of span (400V through 10V atts) < 0.17% of attenuator + .07% of span (1V att
IMR at 60 Hz	Better than -75 dB
Min Input Impedance	> 1 Megohm
Differential Input	
Connector	4 wire screw terminal
Input	Differential, DC coupled
A/D	16 bit SAR (one per channel)
Bandwidth	50 kHz
Measurement Ranges	+/- 1000 mV, +/- 500 mV, +/- 50 mV
Max Transient Input	+/- 20V (no damage)
Common Mode Voltage	+/- 3V
Zero Suppression	Yes
DC Accuracy (25°C)	+/- 0.07% of attenuator
Overshoot	< 1.0%
Intrinsic Noise (pk-pk)	< 0.08% of attenuator + .09% of span (1000 mV &500mV Atts) < 0.14% of attenuator + .08% of span (50 mV Att)
Input Impedance	> 300 KΩ (150 KΩ balanced to isolated common)
CMR at 60 Hz	> 85 dB
Excitation	DC Voltage - adjustable, 0.1 to 10 V or 0.1 to 6 V for DC bridge measurements. 30 mA maximum.
Excitation Accuracy	0.05 V voltage mode

† CMV specification applies only when pins other than the + and – inputs are being used. When the Differential / DC Bridge inputs are used simply as a differential input, the isolation mode voltage of 250 V applies

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