

TMAX™

Multi-Channel High Speed Data Acquisition System



The Very Latest in Test & Measurement Excellence

- Expandable to 96 Channels
- Voltage, Bridge & Thermocouple Inputs
- Synchronized Data, Video & Audio
- Removable 1 TB Data Capture Drive
- Realtime Derived Channels

 **Astro-Med, Inc**
TEST & MEASUREMENT PRODUCT GROUP

Measurement has never been this easy

OVERVIEW SPECIFICATIONS

TMX - MAINFRAME

MAINFRAME CHASSIS		COMPLIANCE / ENVIRONMENTAL	
Maximum Analog Modules	3 (6 with optional TMX-E Expansion Chassis)	Safety	EN 61010-1, 2nd Edition (2001), UL 61010-1:2004, 2nd Edition, CAN/CSA C22.2 No. 61010-1:2004 2nd Edition
Maximum Analog Waveforms	48 (96 with optional TMX-E Expansion Chassis)	EMC	FCC Part 15, Subpart B, Class A; EN 61326-1 Class A
Event Inputs (TTL)	16	Power Harmonics	IEC 1000-3-2
Derived "Math" Channels	Yes, available in Realtime, Scope & Review Mode	Operating Temp	40 to 105 °F (5 to 40 °C)
Pre-capture filters	Low pass, high pass, band pass, band stop, RMS	Operating Humidity	10 % to 90 % non condensing
Post-capture filters	Low pass, high pass, band pass, band stop	Shock	MIL-STD-810F Method 516.5, Procedure I
User Engineering Units	Yes	Vibration	MIL-STD-810F Method 514.5, Procedure I
Calibration	Semi-automated to external reference		
DATA ACQUISITION RECORDING		POWER	
Operational Modes	Scope, Review, Real-time (strip-chart)	Input Voltage Range	102 to 264 VAC
Recording Method	Internal removable 1 Tbyte SATA disk drive	Frequency Range	47 Hz to 63 Hz
Total Capacity	Over 400 billion samples	Power Consumption	150 W maximum
Maximum Record	Up to the drive capacity		
Data Stored	Raw (unfiltered) data saved to the drive	PHYSICAL	
Time Stamp	Time and date automatically saved with data	Enclosure	Aluminum, with armored end caps
Trigger Point	Amount of pre and post trigger is user adjustable	Dimensions	14.5" (36.8 cm) H x 19" (48.3 cm) W x 7.5" (19.1 cm) D (without handle)
Auto Re-Arm	Automatic stacking of captures	Weight (including 3 modules)	35 lbs (15.78 kg)
File Information	Information on units, measurement range and sample rate saved with data		
COLOR DISPLAY		INTERFACE	
Type	Active matrix color LCD (TFT)	Ethernet	1000BaseT
Viewing Area	17 inch / 43.18 cm (diagonal)	VGA	For displaying data on an external monitor
Resolution	1280 x 1024	USB 2.0 (8 ports per unit)	For external peripherals and file export
Touch	Full screen, resistive	Expansion Port	For connection of optional TMX-E Expansion Chassis

TMX - OPTIONS

INPUT MODULE SPECIFICATIONS

UNIV-6 Universal Isolated Voltage module with DC Bridge		NIDV-16 Non-isolated Differential Voltage Module	
UNIV-6 General Specifications		Channels (per module)	16
Channels (per module)	6	Maximum Sample Rate (per channel)	200 kHz (100 kHz with optional TMX-E Expansion Chassis)
Maximum Sample Rate (per channel)	800 kHz (400 kHz with optional TMX-E Expansion Chassis)	Maximum Bandwidth	40 kHz
Maximum Bandwidth	100 kHz	Input Type	Differential, non-isolated DC coupled
Isolation	250 Vrms or DC, Cat II (channel to chassis, channel to channel)	Differential Input Connector	25-pin D-sub male connectors (8 channels per connector)
A/D Resolution	16 bit (separate A/D per channel)	Maximum Rated/Transient Input	± 50 VDC (35 Vrms)
Anti-Aliasing Filter	4 pole Bessel	Specified Ranges	80 mVFS to 100 VFS
Accuracy (25°C)	± 0.1 % of attenuator	Minimum Input Impedance	250 kΩ
Frequency Counter	1 (first channel of each module)	A/D Resolution	16 bit (separate A/D per channel)
Frequency Counter Accuracy	± 0.01 % of measurement	Accuracy (25°C)	± 0.1 % of attenuator
		Frequency Counter	1 (first channel of each module)
		Frequency Counter Accuracy	± 0.01 % of measurement
UNIV-6 Single Ended Voltage Input		ITCU-12 Isolated Thermocouple Module	
Input Type	Isolated, AC/DC coupled	Channels (per module)	12
Isolated Input Connector	Guarded banana jacks (red/black)	Input Type	Type U miniature thermocouple (12 connectors)
Max Rated Input	250 Vrms or DC, Cat II	Isolation	250 Vrms or DC, Cat II (channel to chassis, channel to channel)
Max Transient Input	± 800 V (not to exceed 250 Vrms)	Maximum Bandwidth	5 Hz update rate (TC sampled at 2.5 Hz)
Specified Ranges	100 mVFS to 800 VFS	Max Rated Input	± 10V
Minimum Input Impedance	1 MΩ	Thermocouple Types	J, K, E, T, N, B, R, S
		Specified Range (J)	-210 to 1200 °C
		Specified Range (K)	-200 to 1372 °C
		Specified Range (E)	-200 to 1000 °C
		Specified Range (T)	-200 to 400 °C
		Specified Range (N)	-200 to 1300 °C
		Specified Range (B)	600 to 1820 °C
		Specified Range (R)	-20 to 1768 °C
		Accuracy	± 0.8 to 2.0 °C
		A/D Resolution	24 bit (separate A/D per channel)
		Cold Junction Compensation	Yes, on each channel
		Linearization	NIST ITS-90
UNIV-6 Differential Voltage Input / Bridge Measurements		TMX - ADVANCED OPTIONS	
Input Type	Differential, DC coupled	TMX-E Expansion Chassis (Requires mainframe chassis for operation)	
Isolated Input Connector	Screw terminal header (removable)	Maximum Analog Modules	3
Max CMV	± 3 VDC	Maximum Analog Waveforms	48
Max Transient Input	± 12 VDC	Enclosure	Aluminum, with armored end caps
Specified Ranges	10 mVFS to 2 VFS	Dimensions	14.5" (36.8 cm) H x 19" (48.3 cm) W x 5.04" (12.8 cm) D (without handle)
Minimum Input Impedance	300 kΩ	Weight (including 3 modules)	15 lbs (6.8 kg)
Excitation	Isolated 10 V @ 30 mA	Input Voltage Range	102 to 264 VAC
		Frequency Range	47 Hz to 63 Hz

Specifications are subject to change. Registered trademarks belong to their respective companies.



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Astro-Med is system certified to ISO9001.