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TMX Specifications

TMX MAINFRAME

MAINFRAME CHASSIS	
Maximum Analog Modules	3 (6 with optional expansion unit)
Maximum Analog Waveforms	48 (96 with optional expansion unit)
Event Inputs (TTL)	16
Derived Channels	+, -, x, ÷, Exponential, Sin, Cos, Tan, Asin, Acos, Atan, Exp $\sqrt{\quad}$, Absolute Value
DATA ACQUISITION RECORDING	
Operational Modes	Scope, Review, Real-time (strip-chart)
Recording Method	Internal removable 1 Tbyte SATA disk drive
Time Stamp	Time and date automatically saved with data
Trigger Point	Amount of pre and post trigger is user adjustable
Filtering	Low pass, high pass, band pass, band stop, RMS, integration & differentiation
COLOR DISPLAY	
Type	Active matrix color LCD (TFT)
Viewing Area	17" / 43.2 cm (diagonal)
Resolution	1280 x 1024
Touch	Full screen, resistive
COMPLIANCE / ENVIRONMENTAL	
Operating Temp	32 to 104 °F (0 to 40 °C)
Operating Humidity	10 % to 90 % non condensing

Shock	MIL-STD-810F Method 516.5, Procedure I
Vibration	MIL-STD-810F Method 514.5, Procedure I
PHYSICAL	
Enclosure	Aluminum, with armored end caps
Dimensions	14.5" (36.8 cm) H x 19" (48.3 cm) W x 7.5" (19.1 cm) D (without handle)
Weight (including 3 modules)	37 lbs (15.28 kg)
INTERFACE	
Ethernet	1000BaseT
VGA	For displaying data on an external monitor
USB 2.0 (8 ports per unit)	For external peripherals and file export
Expansion Port	For connection of optional TMX-E
SYSTEM POWER	
Input Voltage Range	102 to 264 VAC or 24 VDC at 11A
Frequency Range	47 Hz to 63 Hz

TMX OPTIONS — INPUT MODULE SPECIFICATIONS

UNIV-6 UNIVERSAL ISOLATED VOLTAGE MODULE WITH DC BRIDGE	
UNIV-6 GENERAL SPECIFICATIONS	
Channels (per module)	6
Maximum Sample Rate (per channel)	800 kHz (400 kHz with TMX-E)
Isolation	250 VRMS or DC, Cat II
UNIV-6 ISOLATED SINGLE ENDED VOLTAGE INPUT	
Maximum Bandwidth	Up to 100 kHz
Input Type	Isolated, AC/DC coupled
Specified Ranges	200 mVFS to 800 VFS

UNIV-6 ISOLATED DIFFERENTIAL VOLTAGE INPUT / BRIDGE MEASUREMENTS

Maximum Bandwidth	50 kHz
Input Type	Differential, DC coupled
Specified Ranges	5 mVFS to 2 VFS
Excitation	Isolated 10 V at 30 mA

IHVM-6 ISOLATED HIGH VOLTAGE MODULE

Channels (per module)	6
Maximum Sample Rate (per channel)	800 kHz (400 kHz with TMX-E)
Maximum Bandwidth	60 kHz
Input Type	Isolated Differential
Isolation	600 Vrms or 1000 VDC, Cat IV

IHVM-6B ISOLATED HIGH VOLTAGE MODULE, 10 MΩ INPUT IMPEDANCE

Channels (per module)	6
Maximum Sample Rate (per channel)	800 kHz (400 kHz with TMX-E)
Maximum Bandwidth	50 kHz
Input Type	Isolated Differential
Isolation	600 Vrms or 1000 VDC, Cat IV

IBRM-6 ISOLATED BRIDGE MODULE

Channels (per module)	6
Maximum Sample Rate (per channel)	800 kHz (400 kHz with TMX-E)
Maximum Bandwidth	70 kHz
Input Type	Isolated Differential
Isolation	250 Vrms or DC, Cat II
TEDS Capability	Yes

IEPE-6 ISOLATED PIEZOELECTRIC SENSOR MODULE

Channels (per module)	6
Maximum Sample Rate (per channel)	800 kHz (400 kHz with TMX-E)
Maximum Bandwidth	Up to 65 kHz
Input Type	Isolated with constant current
Isolation	250 Vrms or DC, Cat II
TEDS Capability	Yes

DIOC-16 DIGITAL I/O, ANALOG OUTPUT, COUNTER AND RELAY MODULE

Channels (per module)	16 (Counters or digital inputs)
Analog Outputs	4, up to +/-10V, function & arbitrary waveform generation
Digital Outputs	16 (TTL)
Counters	Up to 16, 32 bit

NIDV-16 NON-ISOLATED DIFFERENTIAL VOLTAGE MODULE

Channels (per module)	16
Maximum Sample Rate (per channel)	200 kHz (100 kHz with TMX-E)
Maximum Bandwidth	40 kHz
Input Type	Differential, non-isolated DC coupled
Maximum Rated Input	± 50 VDC (35 Vrms)
Specified Ranges	80 mVFS to 100 VFS

ITCU-12 ISOLATED THERMOCOUPLE MODULE

Channels (per module)	12
Input Type	Type U miniature thermocouple (12 connectors)
Isolation	250 VRMS or DC, Cat II
Maximum Bandwidth	6 Hz update rate (TC sampled 3 Hz)
Thermocouple Types	J, K, E, T, N, B, R, S, C

IRTD-12 ISOLATED PRT TEMPERATURE/RESISTANCE MODULE	
Channels (per module)	12
Isolation	150 Vrms or DC, Cat II
Input Types	Pt100(385), Pt100(3916), Pt100(3926), resistance 0 to 450Ω

TMX OPTIONS — ADVANCED

TMX-R RACKMOUNT VERSION (FITS STANDARD 19" RACKS)	
Maximum Analog Modules	6
Maximum Analog Waveforms	96
Dimensions	15.75" (40 cm) H x 18.97" (48.2 cm) W x 17.15" (43.6 cm) D
Weight (including 6 modules)	47 lbs (21.3 kg)

TMX-E EXPANSION CHASSIS (REQUIRES MAINFRAME CHASSIS FOR OPERATION)	
Maximum Analog Modules	3
Maximum Analog Waveforms	48
Dimensions	14.5" (36.8 cm) H x 19" (48.3 cm) W x 5" (12.8 cm)
Weight (including 3 modules)	15 lbs (6.8 kg)

TMX-VA VIDEO / AUDIO ACQUISITION	
SYNCHRONIZES ANALOG DATA WITH VIDEO AND VOICE ANNOTATION	
Analog Input Type / Connector	Composite / BNC
Supported Video Formats	NTSC, PAL
NTSC Capture Rate	30 frames per second (fps)
PAL Capture Rate	25 frames per second (fps)
Audio Capture Rate	Up to 44.1 kHz

TMX-HSV HIGH SPEED VIDEO	
Maximum Frame Rate	1000 frames per second (fps)
Maximum Storage	2 GBytes

TIME CODE / GPS OPTIONS

TMX-IR IRIG TIME CODE AND GPS TIME CODE

Supported Time Codes	IRIG A, B, E, G, NASA36, GPS
Time Code Type	AM or TTL (DCLS)
Realtime Display	Synchronized to selected time source
Data Capture Time	Synchronized to selected time source
Scope Mode Time	Latched to selected time source

TMX-TTLIRB IRIG B TTL

Data Capture Time	Synchronized to IRIG B TTL source
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* The **DATA ACQUISITION RECORDING** and **COLOR DISPLAY** sections above also apply to the TMX-R rackmount version.

**When more than three input boards are used for data acquisition or monitoring in the TMX-R rackmount system, the maximum sample rate per channel will be one half the specified maximum sample rate for a specific input board. Maximum bandwidth per channel is not impacted.

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