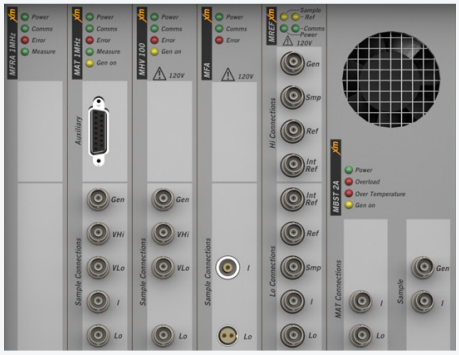
AMETEK SI

ModuLab XM MTS materialtestsystem

Materials test system

Modular impedance and materials test system for dielectric and electronic material analysis.



Impedance range
10 µΩ–100 TΩ depending on module configuration [1]

EIS frequency range
10 µHz–1 MHz with XM MFRA 1MHz [1]

Maximum output current
XM MAT: ±100 mA; XM MBST 2A: ±2 A (option) [2]

Specifications

PERFORMANCE

Current resolution	XM MAT: 1.5 pA; XM MFA: 0.15 fA (option)	[2]

MEASURING RANGE

EIS frequency range	10 µHz–1 MHz with XM MFRA 1MHz	[1]
Generator voltage range	XM MAT: ±8 V; XM MHV100: ±100 V (DC + peak AC)	[2]

ELECTRONICS & SIGNAL

Maximum output current	XM MAT: ±100 mA; XM MBST 2A: ±2 A (option)	[2]
Auxiliary inputs	4 DC voltage channels on XM MAT, synchronized to VHi/VLo	[2]

SOFTWARE & DATA

Software	XM-Studio included	[1]

CONNECTIVITY & INTERFACE

Cell connections	2 or 4 terminals	[2]

ENVIRONMENT & RATINGS

Impedance range	10 µΩ–100 TΩ depending on module configuration	[1]

GENERAL

Maximum data acquisition rate	1 MS/s with XM MAT	[2]
Floating measurement / isolation	Floating for XM MAT, MHV100, MFA and MBST 2A	[2]
Chassis slots	4 or 8; XM MBST 2A uses 2 slots	[1]
Host system	ModuLab XM MTS, compatible core configuration	[1]
Format	Plug-in module; not a standalone instrument	[1]

Models

Model	Module function
XM MAT 1MHz	MTS core module, DC/EIS [1]
XM MBST 2A	2 A booster, DC/EIS [1]
XM MFA	Femto ammeter, DC/EIS [1]
XM MFRA 1MHz	10 µHz–1 MHz; sine, multisine/FFT, harmonics [1]
XM MHV100	±100 V, combined DC and AC peak [1]
XM MREF	Sample/reference switching for dielectric EIS [1]

Sources

[1] ModuLab XM MTS - Materials Test System
AMETEK Scientific Instruments · product-page · product page; Ordering information; product page – ordering information · checked 2026-10-16
https://www.ameteksi.com/products/impedance-analyzer/modulab-xm-mts

[2] ModuLab XM MTS – Materials Test System brochure
AMETEK Scientific Instruments · brochure · p. 7; p. 6 · checked 2026-10-16
https://www.ameteksi.com/-/media/ameteksi/download_links/documentations/modulab_xmmts/modulab_xm_mts_us_lett...

Every value is taken from the manufacturer's own document; the number after the value refers to the source list. Always check against the latest datasheet before ordering.

The data comes from the manufacturer's published documents. Manufacturers may change specifications; the current configuration and performance are confirmed in the quotation.