

Low Power AC/DC Motor Test Systems

100-200 kVA



Testing Applications

Designed to provide test capability for smaller motors quickly and accurately

PHENIX Technologies offers a complete line of motor test systems for AC, DC, synchronous and traction motors designed to test a wide range of horsepower and voltage classes. Many other applications requiring a continuously variable AC or DC power supply can also be satisfied by one of these units in an appropriate configuration.

Models Available

- MTS100NVD
- MTS100R-75
- MTS200R-150

- **Economical testing** capability for the **small motor** repair division or shop
- All **controls** and **instrumentation** contained in a single, **industrial grade cabinet**
- **Safety** and **protective features** for complete **load or no-load testing**



Model MTS100NVD



Model MTS200R-150



TAP START MODEL 100 kVA

MODEL		MTS100NVD			
INPUT	Voltage	208, 220, 230, 240, 380, 400, 415, or 480 VAC (one must be specified)			
	Current	300/150 A, 3 phase, Frequency 50 or 60 Hz (one must be specified)			
AC OUTPUT	TAP	Low Range		High Range	
	1	30 VAC	400 AAC	60 VAC	400 AAC
	2	104 VAC	277 AAC	208 VAC	277 AAC
	3	120 VAC	240 AAC	240 VAC	240 AAC
	4	240 VAC	120 AAC	480 VAC	120 AAC
	5	288 VAC	100 AAC	575 VAC	100 AAC
	DUTY CYCLE	1 hour ON / 1 hour OFF at 100 kVA, 2 minutes @ 200%			
DC OUTPUT	TAP	ARMATURE SUPPLY			
		Low Range		High Range	
	1	40 VDC	100 ADC	80 VDC	100 ADC
	2	140 VDC	100 ADC	280 VDC	100 ADC
	3	160 VDC	100 ADC	320 VDC	100 ADC
	4	320 VDC	100 ADC	640 VDC	100 ADC
	5	375 VDC	100 ADC	750 VDC	100 ADC
		FIELD SUPPLY			
	0-300 VDC, 10 ADC				
NOTE	Output voltage may vary with load conditions and line fluctuations.				
DIMENSIONS & WEIGHT	Length	44" (1118 mm)			
	Width	31" (787 mm)			
	Height	55" (1397 mm)			
	Weight	1400 lbs (635 kgs)			

Safety and Design Features

Electric motors are a key component in most industrial applications. They account for about 66% of all the energy used in industrial applications with a lifetime energy cost totaling many times the original motor cost. Motor failures can lead to even higher cost in terms of lost production and efficiency. Industrial companies need effective motor management strategies to minimize overall motor cost. Motor rewinding by a well-equipped service facility reduces capital expenditures on motors while assuring reliable operation. The Phenix Technologies line of small motor test systems are the quality control center of a modern motor rewind and repair facility which insures rebuilt motor efficiency and quality.

- Tapped, non-variable AC and armature outputs to start and run AC or DC motors
- Complete instrumentation is provided for precise measurement of electrical characteristics of motors under test (3-phase metering, VM, CM, WATT, VARS, KVA, POWER FACTOR). All meters are 4-digit LCD display and accuracy +/-1.0% Full Scale.
- USB Output Metering Interface to customer supplied compatible computer. Includes Windows based test software.
- Variable field supply
- Fused input power protection
- On / Off pushbuttons with indicator
- Flashing red warning lamp
- Thermal overload protection on main transformer
- Manual tap selector switch
- AC/DC output selector switch
- 15' (4.5 m) output cables with storage hook
- Operation/maintenance manual

VARIABLE VOLTAGE MODELS 100-200 kVA

MODEL		MTS100R-75	MTS200R-150	
APPROXIMATE MAXIMUM TEST CAPABILITY	AC MOTORS	Load	100 HP	200 HP
		No-Load	500 HP	1000 HP
	DC MOTORS	Load	90 HP	180 HP
		No-Load	360 HP	720 HP
Note: Actual capability may vary with motor design.				
INPUT	Voltage / Current		400 VAC, 160 A, 3-phase 415 VAC, 150 A, 3-phase 480 VAC, 130 A, 3-phase 600 VAC, 105 A, 3-phase (one must be specified)	400 VAC, 320 A, 3-phase 415 VAC, 300 A, 3-phase 480 VAC, 260 A, 3-phase 600 VAC, 210 A, 3-phase (one must be specified)
	Frequency		50 or 60 Hz (one must be specified)	
AC OUTPUT	VOLTAGE		100 kVA	200 kVA
	TAP		Voltage / Current	
	1		≈0-120 VAC, 400 A	≈0-120 VAC, 400 A
	2		≈0-240 VAC, 240 A	≈0-240 VAC, 400 A
	3		≈0-480 VAC, 120 A	≈0-480 VAC, 240 A
4		≈0-600 VAC, 96 A	≈0-600 VAC, 192 A	
DC OUTPUT	ARMATURE		75 kW	150 kW
	TAP		Voltage / Current	
	1		≈0-125 VDC, 300 A	≈0-125 VDC, 400 A
	2		≈0-250 VDC, 300 A	≈0-250 VDC, 400 A
	3		≈0-550 VDC, 125 A	≈0-550 VDC, 270 A
FIELD SUPPLY		≈0-300 VDC, 10 A		
DUTY CYCLE		1 hour ON / 1 hour OFF at 100% of rated kVA 2 minutes at 200% of rated AC current to provide the high inrush current needed to start large motors		
DIMENSIONS & WEIGHT	Length		68" (1730 mm)	68" (1730 mm)
	Width		52" (1321 mm)	52" (1321 mm)
	Height		74" (1880 mm)	74" (1880 mm)
	Weight		3200 lbs (1452 kgs)	4200 lbs (1905 kgs)

WINMTS Software Meters Screen Display and Sample Test Report



Safety and Design Features

- The AC supply includes four output voltage taps. The output on each tap is continuously adjustable from near zero to 100% of tap rating
- The DC armature and field supplies are adjustable from near zero to 100% of rating.
- Complete instrumentation is provided for precise measurement of electrical characteristics of motors under test (3-phase metering, VM, CM, WATT, VARS, KVA, POWER FACTOR). All meters are 4-digit LCD display and accuracy +/-1.0% Full Scale.
- USB Output Metering Interface to customer supplied compatible computer. Includes Windows based test software.
- Non-Contact Tachometer (RPM Meter)
- Main Circuit Breaker, Transient Protection, Output Overload Detection Circuits, Zero Start Interlock and Ground Fault Detection are standard features.
- The cabinet is provisioned for lifting via forklift or crane.
- Each unit is equipped with a flashing red lamp when output is energized, external interlock and warning circuit provisions
- Jacks for twist-lock plugs are used on the AC and DC armature supplies with 15' (4.5 m) output cables.
- Operation/maintenance manual

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Other motor testing products PHENIX offers:

- High Power Motor Test Systems
- Core Loss Testers
- AC Hipots
- DC Hipots
- Water-Brake Dynamometers
- Insulation Analyzers
- Megohmmeters
- Microhmmeters



PHENIX Technologies is committed to providing leadership, innovation, technology, quality, and service in all areas of our business.

Our 85,000 square-foot headquarters is a modern manufacturing facility. All aspects of electrical, mechanical, and software design and production are performed in this facility. Our engineers offer a unique blend of theoretical knowledge and practical experience. Our Service and Calibration Department assists customers during and after installation to ensure years of trouble free service.

We carry our commitment into the future as we proudly continue to provide the best in **high voltage, high current, high power test systems and components.**



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