

RIM M100 Encoder Tester

- Performs up to 18 tests of signal output quality; simple one keystroke access to tests
- Interfaces with most major brands of digital tachometers and encoders
- Fast encoder checkout with numeric value display



APPLICATION/INDUSTRY

The NorthStar brand RIM Tach® M100 Encoder Tester is an easy to use instrument developed especially to evaluate the signal presence and quality produced by a digital tachometer or encoder.

DESCRIPTION

Utilizing 68HC11 microcomputer electronics, the M100 can accurately interpret the signal phase and duty cycle from the encoder in a variety of applications, including those of motor manufacturers and mill applications.

It can perform up to 18 distinctly different tests on encoders with the push of a single key. The results of each test is displayed on an LCD display in different numeric values. The tester will continually update the results, while retaining the minimum and maximum readings until larger values are received. This is helpful in identifying transient problems. The M100 can test all popular incremental encoder configurations. Nonvolatile memory retains all of the setup information through power downs. This eases operator work load when checking a repetitive number of identical encoders such as on a production line or in a mill environment.

Additional features of the M100 include an RPM count, total turns display, rolling pulse counter, and pulse per second (PPS). All can be used to identify and monitor motor speeds or determine pulse counts of encoders. Included with the M100 system is a standard RIM Tach® or SLIM Tach® digital tachometer connector hood. Simply snap the hood into place and the M100 is ready to begin testing. An internal compartment stores a 9V battery for operation where a 110VAC outlet is not convenient. The encoder tester is able to power the encoder as well as itself during parameter testing.

The M100 encoder tester can be easily used by operators with little experience in encoder testing parameters.

FEATURES AND BENEFITS

- 68HC11 microcomputer controlled for accurate, intelligent operation
- 110 VAC line or 9V battery powered
- Accepts encoders ranging in resolutions from 1 to 8,192 pulses per revolution (PPR)

SPECIFICATIONS

ELECTRICAL SPECIFICATIONS

Controller: 68HC11 microcomputer
Frequency Response: 10Hz - 10kHz
Signal Input: 5-15 VDC digital line driver signal
Power: 110 VDC power pack or 9 VDC battery
Keyboard power on/off

MECHANICAL SPECIFICATIONS

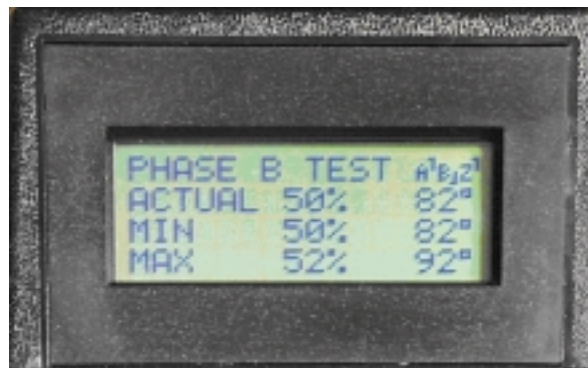
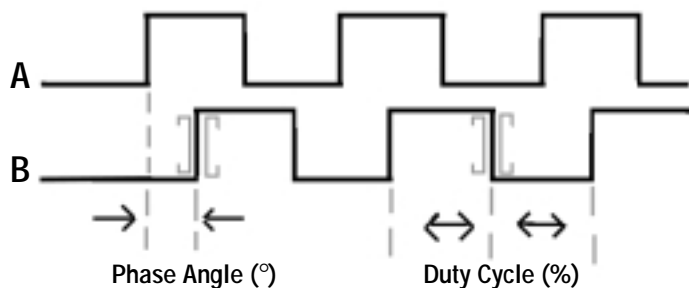
Size: 7.50"(191mm) x 4.00"(102mm) x 3.00"(77mm)
Weight: 0.94 lbs. (0.43 kg)
Display: 4 line x 16 character LCD
Keyboard: 24 key membrane sealed, contamination resistant

*Specifications subject to change without notice.

TESTS PERFORMED

	Test	Function
Function	Signal Pulse State	Continuous display of high/low signal state (A,B,Z)
	Complementary	Display high/low state of complementary signals
	Pulses Per Second	Count number of pulses detected each sec-ond (100 kHz maximum)
	Pulse Counter	Display a continuous bidirectional count of detected pulses (10 digits)
Phase	Quadrature Phase	Display actual phase angle (±1% accuracy, derated at higher speeds)
	Min & Max Phase	Detects and holds the extreme quadrature phase angles
	Pulse Duty Cycle	Continuous update display (±1% accuracy, derated at higher speeds)
	Min & Max Duty	Detects and holds the extreme duty cycles
RPM	RPM	Calculates RPM (100 kHz maximum)
	Min & Max RPM	Detects and holds the extreme RPM (100 kHz maximum)
	Direction of Rotation	Displays + or - to indicate direction of signal input
Marker	Number of Pulses	Display number of pulses detected between markers (10,000 PPR max)
	Marker Pulse Presence	Display signal when marker is received
	Count Error	Detects and displays the number of pulse counts different from input count
	Revolution Counter	Display a continuous bidirectional count of revolution (10,000 revolutions)

TYPICAL ENCODER SIGNAL ERRORS



ORDERING INFORMATION

Part Number:	Description
RIMM100RC	M100 system with RIM Tach® connector
RIMM100SC	M100 system with SLIM Tach® connector
Options	
RIMETEUROCON	Spare Eurostyle connector with strain relief
RIMETCABLE-RIM	Cable harness, RIM Tach® connector
RIMETCABLE-SL	Cable harness, SLIM Tach® connector
RIMETCERT	Recalibration and certification service

Items Included in Package

- Hard sided carrying case (15" x 12" x 3")
- Connector Hood
- Cable for standard NorthStar RIM Tach® encoders
- 110 V power pack
- 9 V high energy alkaline battery