



Designed to streamline both testing and simulation of incremental encoders

Model SMT1

SMARTach™ Portable Incremental Encoder Signal Analyzer



The SMT1, SMARTach™ Portable Incremental Encoder Signal Analyzer, is a versatile instrument designed to streamline both testing and simulation of incremental encoders, and any other equipment that generates square wave output signals, like linear encoders and flow meters.

This durable and easy-to-use device combines two functionalities:

- **Encoder Testing:** Thoroughly evaluate encoder performance by measuring Pulses Per Revolution (PPR), phase separation, high/low ratio, signal frequency, and current draw. The SMT1 allows for direct testing of incremental encoders through their native connector by the use of a native to 9 Pin D-Sub, adapter cable or through its front panel wiring posts using flying leads like those found on the CBL1 encoder cable. Optional DB9 adapter cables are available with each order and allow for direct testing without having to tear out existing wiring.
- **Encoder Simulation:** Replicate real-world encoder outputs to test and troubleshoot encoder-dependent systems. The SMT1 provides two output modes (continuous and single cycle) with adjustable frequency and selectable phase relationships (A/B or B/A) for comprehensive testing scenarios.

The SMT1 eliminates the need for complex setups and multiple instruments, saving you time and effort. Its large LCD display provides clear test results, while the optional Windows software empowers you with detailed analysis and report generation capabilities.

Whether you're an engineer, technician, or anyone working with encoders, the SMT1 is an indispensable tool for ensuring proper operation and efficient system testing.

FEATURES AND BENEFITS

Features (Testing Mode):

- Monitors all aspects of incremental encoders and other square wave output instruments
- Optional Windows software provides detailed analysis and report generation
- Selectable voltage supply (5V, 12V, 24V, 24V/5V) with overload protection
- Tests encoder signal quality
- Verifies encoder rotation direction
- Compatible with various encoder input types (Line Driver, Push/Pull, Open Collector)
- User-selectable PPR (pulses per revolution)

Features (Simulator Mode):

- Generates A, /A, B, /B, Z, /Z square wave signals at set PPR and Frequency
- Tests other instruments and systems requiring encoder signals
- Two output modes: continuous and single cycle
- Adjustable output frequency
- Selectable output phase relationship (A/B or B/A)
- Graphical representation of output waveform on LCD

Benefits:

- Portability allows for encoder and system troubleshooting anywhere
- Provides comprehensive test data for encoder performance analysis
- Versatile for various encoder types and applications
- Generates detailed reports for documentation and quality control
- Simplifies encoder simulation for testing

ELECTRICAL SPECIFICATIONS

Input Power Supply

12 Volts 1 Amp

Power Adapter

- Input: 100 - 240 Volts AC
- Output: 12 Volts DC 1.5 A

Testing Limits

- A & B Counters Max 99,999
- Z Counters 9
- Encoder Supply 5, 12 or 24V DC
- Encoder Load 150 mA
- Frequency 25Hz to 500kHz
- Short circuit and over current protected
- Automatic turn off with no load

Simulator Limits

- Frequency 20Hz to 500kHz

Encoder Connection

Connect encoder via flying leads to the front panel wiring posts or adapter cables that take the encoder's native connector and adapts it to the 9 Pin D-Sub Connector.

- Input (Encoder to SMT1)
 - 9 Pin Female D-Sub
 - 8 Spring Loaded Wiring Posts
- Output (SMT1 to Drive)
 - 9 Pin Male D-Sub

Computer Connection

- Ethernet via RJ45
- USB via USB-B to USB-A



Please call us at: 216-642-1230

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for ordering information.