

# Transmission Line Simulator Program

Educational Training Equipment for the 21st Century

Bulletin 250-2D

## Purpose

Hampden offers a complete series of accessory equipment oriented towards the teaching of transmission line applications.

This equipment, when coupled with the broad line of Hampden AC and DC Motors and Generators, presents a complete approach to transmission line studies.



## MODEL H-TLS-100

The Hampden **Model H-TLS-100** Transmission Line Simulator represents a high-voltage three-phase transmission line. Four different line lengths are simulated via the selector knob. Rated for 120/208 volts, 0.33 amps.



## MODEL H-RA-100

The Hampden **Model H-RA-100** Regulating Autotransformer permits the secondary voltage to be raised or lowered by 15% of the nominal output voltage. It also permits the secondary voltage to be phase shifted 15% ahead of or behind the primary voltage. Rated for 120/208 volts, 0.33 amps.



## MODEL RL-100-3

The Hampden **Model RL-100-3** Resistance Load provides a switch-selectable variable resistance load, which may be balanced or unbalanced, to simulate the heating, lighting, and other unity power factor loads. Range: 85.7 ohms to 600 ohms per phase.



## Model IL-100-3

The Hampden **Model IL-100-3** Inductance Load provides a switch-selectable variable inductance load, which may be balanced or unbalanced, to simulate lagging power factor loads, primarily induction motors. Range: 1.6 Hys to .23 Hys @ 60 Hz per phase.



## Model CL-100-3

The Hampden **Model CL-100-3** Capacitance Load provides a switch-selectable variable capacitance load that represents the capacitance added to a power system in order to improve the power factor. Range: 4MFD to 28MFD per phase.



## MODEL TAI-100

The Hampden **Model TAI-100** Torque Angle Indicator mounts on the shaft of a Hampden Synchronous Motor/Alternator, as shown. When used with a strobe, such as Hampden **Model SLA-100M**, the **TAI-100** indicates the degrees shift (torque angle) of the rotor's magnetic field caused by loading.



## MODEL H-W/V-100

The Hampden **Model H-W/V-100** Three Phase Wattmeter/Varmeter measures both the active and reactive power of a three-phase power line, regardless of the direction of the power flow. Range: Wattmeter: 0-300 watts; Varmeter: 0-300 vars.



## MODEL H-PAM-100

The Hampden **Model H-PAM-100** Phase Angle Meter measures the phase angle between two voltages and indicates not only the angle but also whether the incoming voltage is leading or lagging the reference voltage. The **Model H-PAM-100** can also be used as a synchroscope when paralleling two alternators.

All Hampden units are available for operation at any voltage or frequency

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