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HYDRO-SYNCH 100



Product Overview

Conventional auto synchronizers are designed to adjust the speed setpoints of governors. Attempts to use these auto-synchronizers to directly adjust turbines are frequently unsuccessful. The Clifton Labs *HYDRO-SYNCH 100* is a low-cost high-performance auto-synchronizer designed to directly control hydraulic turbines when paralleling to utility systems where speed regulation is required only for synchronizing. Advanced digital technology locks the phase of the generator to the bus before initiating breaker closing. The very low slip frequency (typically less than 0.01Hz) eliminates the uncertainties inherent in breaker closing time compensation schemes

Features

Contact outputs drive economical hydraulic solenoid valves or motor contactors for electric actuators.

Matches frequency and controls phase angle difference between generator and bus.

Contact outputs to raise/lower voltage compatible with analog voltage regulators.

Contact output to initiate breaker closing when voltage, frequency, and phase differences are all within specified windows.

Key-pad and LCD display for setting control parameters and monitoring operation.

Adjustable Parameters

Maximum rate of actuator movement.

Frequency ramping rate up to 95% nominal frequency.

Proportional gain.

Integral gain.

Phase gain.

Minimum bus voltage.

Maximum bus voltage.

Preliminary specifications subject to change without notice. June 9, 2004.

Maximum voltage error.

Maximum frequency difference (slip frequency).

Maximum phase difference (degrees).

Specifications

1. Power Supply: 18-36 VDC, reverse polarity protected, may be floating relative to ground
2. PT inputs: 120 VAC nominal
3. Enable input: dry contact, 24 VDC
4. Breaker closing contact:
5. Turbine and voltage regulator contacts:
6. Voltage accuracy: +/-0.25% nominal voltage
7. Frequency accuracy: 0.001 Hz
8. Phase accuracy: 0.3 degree

Connections

