

Generator Control Unit M-0194



- **Matches Generator Speed And Voltage To System**
- **Works In Conjunction With M-0193B Syncrocloser® Unit To Close Breaker At Zero Degrees Phase Angle Error**
- **Adjustable Jog Durations, proportional to error, for Voltage and Speed control.**
- **Time Between Jogs adjustments bring the generator to a matched condition in minimum time and eliminate overshoot and hunting.**
- **Kicker Pulse brings phase angle around through zero if speed is matched but synchronism has not yet occurred. Adjustable pulse duration compensates for the sensitivity of the governor.**

Inputs

Power: 120 V ac $\pm 10\%$, 60 Hz ± 5 Hz or optional 50 Hz ± 5 Hz, 10 VA maximum burden. Will withstand 150 V ac maximum continuous, 200 V ac for 1 sec.

Interconnector Cable (Included): Provides logic inputs by connecting M-0194 Generator Control Unit to M-0193 Syncrocloser[®] Unit. Length of cable is approximately three feet.

Speed Control

Speed Matching Range of Operation: 30 to 85 Hz

TIME BETWEEN JOGS: available in two ranges: 1 to 15 sec. or 2 to 30 sec.

JOG DURATION: proportional to error. Proportional Jog Duration is 1 to 10 sec. per Hz of frequency mismatch; linear for ΔF of 0.015 Hz to 1.5 Hz of mismatch.

KICKER PULSE: A generator raise speed jog is produced if the speed matcher does not operate in the time set on the **KICKER PULSE DURATION** dial. The kicker pulse duration is adjustable from 0.1 to 2.4 seconds at a kicker pulse rate of one pulse per 6 to 120 seconds.

Voltage Control

Voltage Matching Range of Operation: 30-200 V ac

TIME BETWEEN JOGS, available in two ranges: 1 to 15 sec. or 2 to 30 sec.

JOG DURATION, proportional to error. Proportional Jog Duration: 0.1 to 1.0 sec. per volt of mismatch; linear from 1 to 20 V of mismatch.

OUTPUT RELAY CONTACTS

Raise Voltage Jog	Raise Speed Jog
Lower Voltage Jog	Lower Speed Jog

Contact Rating

Dry output contacts rated to make and carry 20 A up to 250 V dc, or to interrupt 0.9 A, 120 V dc inductive load or 0.4 A, 250 V dc inductive load. Open contacts will withstand 1500 V ac for one minute. Contacts to ground will withstand 1500 V ac for one minute.

LED Indicators

SENDING RAISE SPEED
SENDING RAISE VOLTAGE
BUS FREQUENCY HIGH
SENDING LOWER SPEED
SENDING LOWER VOLTAGE
GENERATOR FREQUENCY HIGH

Accuracy

Jog times and Kicker Pulse Duration will be within $\pm 20\%$ of setting.

Mounting Options

Horizontal mounting is standard; vertical mounting or vertical General Electric GTL14B Retrofit Panel mounting are available as options.

Generator Control Unit Cover Kit

The M-0194 Generator Control Unit includes a transparent cover with associated mounting bracket to cover the dials and prevent accidental resetting.

Transient Protection

Input and output circuits are protected against system transients. The M-0194 will pass all requirements of ANSI/IEEE C37.90.1-1989 defining oscillatory surge withstand capability. All inputs and outputs will withstand 1500 V ac to chassis or instrument ground for one minute. Voltage inputs are electrically isolated from each other, from other circuits, and from ground.

Environmental

Temperature Range: Stated accuracies are maintained from -40° to $+80^{\circ}\text{C}$.

Humidity: Stated accuracies are maintained under 95% relative humidity (non-condensing).

Fungus Resistance: A conformal printed circuit board coating inhibits fungus growth.

Physical

Size: 19" wide x 3-1/2" high x 14" deep (48.3 cm x 8.9 cm x 35.6 cm)

Horizontal mounting requires two rack units space in a standard 19" rack.

Approximate Weight: 15 lbs (6.8 kg)

Approximate Shipping Weight: 23 lbs (10.4 kg)

Warranty

The M-0194 Generator Control Unit is covered by a five year warranty from date of shipment.

Specification is subject to change without notice.



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