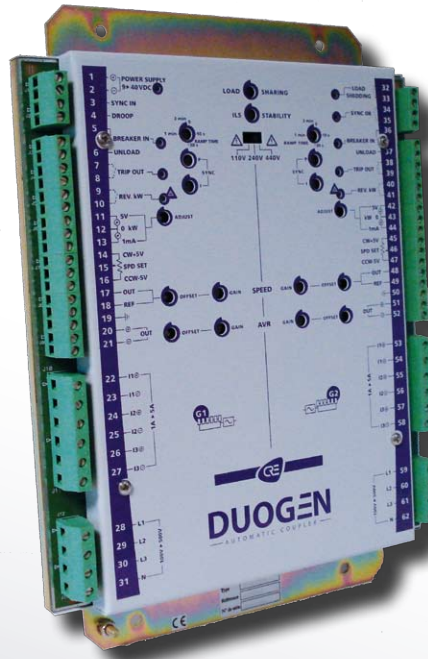


DUOGEN



Two gensets controlled by a single unit

- Cost effective solution
- Manual and auto synchronization
- Load sharing (kW/kVAR)
- 50 / 60 Hz compatibility
- Fast commissioning



DUOGEN is a microprocessor based module which controls two generators.

DUOGEN carries out manual and auto synchronization, isochronous load sharing or droop load sharing.

ONE UNIT – TWO GENSETS

DUOGEN is a cost effective and innovative unit for synchronization and load sharing with 2 gensets. It combines the following features:

- 1 digital input for auto synchronization.
- 1 sync check relay to monitor phase, frequency and voltage differences.
- 1 'Load shedding' output relay which start/stop the generators depending on power requirements. This allows a better power plant global efficiency.
- 2 isochronous kW sharing controls.
- 2 constant voltage kVAR sharing controls.
- 2 reverse power protections.

INPUTS/OUTPUTS FOR EACH GENSET

- 3 phase genset voltages (3 or 4 wires, 100 to 440 V_{AC}).
- 3 phase genset currents (1A or 5A CTs).
- 1 digital input: feedback of the genset breaker position.
- 1 digital input: unload request (adjustable ramp time).
- 1 analog input for speed control (potentiometer ± 5 V_{DC}).
- 2 output relays: breaker trip and reverse power protection.
- 1 analog output: active power monitor (0-5V or 0-1mA adjustable).
- Proportional and integral gain potentiometers for synchronization.
- 1 analog output for speed control which is adjustable with Gain and offset potentiometers, compatible with most electronic governors (Barber Colman, Woodward, GAC, Heinzmann, Ambac, DDEC, MDEC...).
- 1 analog output for voltage control, adjustable with Gain and Offset potentiometers, compatible with most AVRs (Leroy Somer, Stamford, Basler...).

APPLICATIONS

- Two gensets in change over mode: Manual mode: speed potentiometer for synchronization and kW control. Auto mode: automatic synchronization and load sharing.
- Two gensets in change over mode
- Gas, fuel, and turbines: Duogen can be installed regardless of the type of prime mover or fuel.

COMMON INPUTS/OUTPUTS

'SYNCH OK' output relay:

Synch output relay is always active and stays open in dead bus conditions. The coupling authorization safety relay only allows paralleling when frequency, voltage and phase differences meet the requirements of the installation.

'LOAD SHEDDING' output relay:

Load shedding relay is active when the plant needs the power of the two gensets :

- 1 digital input: remote synchronization request.
- 1 digital input: droop mode. (Stability and load sharing potentiometer for ILS).

CHARACTERISTICS

Current, voltage and frequency

- Output relay contacts: Volt free contacts, 5 A at 250 V_{AC}.
- Power supply: 9 to 40V_{DC} – 10 W
- Frequency: 50 or 60Hz.
- Voltage measuring input:

Reference	Switch	GE 1 and 2
A40R0	pos. 1	110 V _{AC}
	pos. 2	240 V _{AC}
	pos. 3	440 V _{AC}

Environment

- Operating temperature: -20 to +85 °C.
- Mounting: can be mounted in all positions.
- Humidity: will function normally in humid conditions (Tropic-proof circuits).

Dimensions and weight

- Weight: 1.5 kg
- Size: 200x275x26 mm

Certifications

CE Mark: Duogen complies with European CE Mark requirements.

PART NUMBER

A40R0

SOFTWARE

Embedded website

ASSOCIATED PRODUCTS

Advanced: UNIGEN FAMILY

Complementary: C2S

