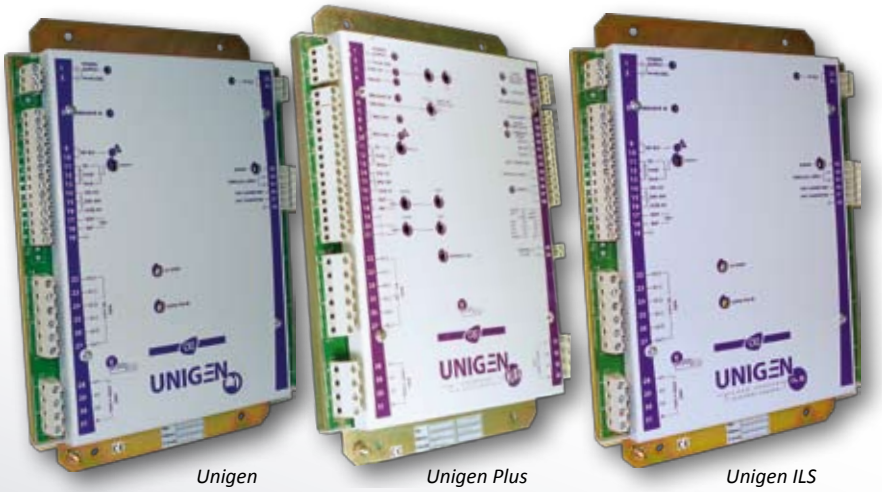
UNIGEN FAMILY

Manu/Auto synchroniser and load sharer

- Auto and manual synchronization
- Load sharing (kW/kvar)
- Compatible with all AVR and speed governors
- Compatible with CAT PWM 500Hz
- Direct replacement for Barber Colman products



Unigen *Unigen Plus* *Unigen ILS*

The UNIGENs are used on generator sets that require synchronising, load sharing, load and unload management as well as paralleling features.

UNIGEN PLUS and UNIGEN can be used to parallel up to 8 gensets together with the CAN bus communication.

UNIGEN PLUS and UNIGEN ILS can be used to parallel without limit through the parallel lines (0-3V)

UNIGEN PLUS can be used to parallel either a single genset with the mains.One unit is needed per generating set.

SUPER DROOP FUNCTION

UNIGEN and UNIGEN PLUS offer this CRE exclusivity in their standard version.

Perfect for mobile or remote genset applications

With its digital « Super Droop » function (wireless load sharing), UNIGEN and UNIGEN PLUS make mobile genset paralleling simple as communication between the units is not needed.

Unique on the market

No communication between UNIGEN units is needed to achieve the paralleling. The curve is almost isochronous at +/-0,25Hz.

NO COMPUTER NEEDED

All the settings are adjustable by potentiometers. With a 16 bit microprocessor, UNIGEN and UNIGEN PLUS are, in regards to digital technology, very fast.

CAN BUS “PLUG AND PLAY”

The address of each UNIGEN doesn’t need to be adjusted. All UNIGEN units connected on the CAN bus will automatically detect the others. Up to 8 gensets can be paralleled together.

OBSOLETE BARBER COLMAN REPLACEMENT

Offered at a very competitive price, UNIGEN replaces Dyn2-90300, UNIGEN PLUS replaces PowerCon and UNIGEN ILS replaces Dyn2-80100/80108/80109 units without any changes to the installation. The units use analog outputs. (Refer to Unigen Family Comparative Table)

PWM 500 Hz Speed output

UNIGEN PLUS is compatible with electronic CAT and Perkins engines through a PWM signal. The specific reference is A51Z1-OPT1.

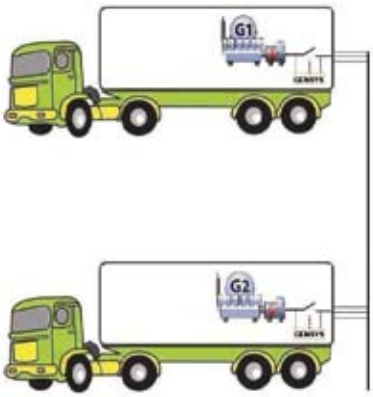
Focus on

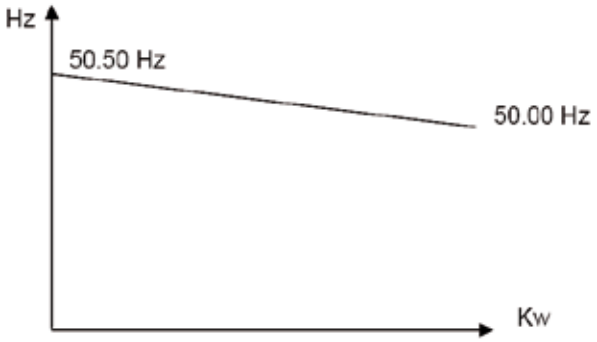
SUPER DROOP

Super Droop was developed by CRE Technology to provide an innovative new solution to the genset industry. Thanks to its Super Droop feature, your plant does not need extra communication ports for load sharing. The units only communicate via the busbar.

In Super Droop mode, the load sharing is managed between 50.50Hz (0% load) and 50.00Hz (100% load). This is adjustable.
For this specific droop, it is not necessary to set the engine speed precisely, and no connections are required between each unit, not even the 0V.

- The kW and kvar load sharing is managed with super droop
- The unit includes the usual protections (phase sequence protection included)





FEATURES

Synch check relay

UNIGEN and UNIGEN PLUS monitor the voltage, frequency, phase differences and phase sequence protection between the generator to be paralleled and the bus bar. The synch check relay authorizes the closing of the generator breaker either in Automatic or Manual mode.

Automatic and manual synchronisation

The automatic mode of UNIGEN and UNIGEN PLUS modifies the voltage, the frequency, and the phase to achieve quick and precise coupling. Using the manual mode, the speed can be adjusted by an external 10 kΩ potentiometer.

Power load sharer (kW and kvar):

The units manage load and unload ramps during the launch and the stop of the genset. It can manage gensets of various powers and/or with an electronic speed regulator of a different brand.

Load dependant start

« Start on load request » is activated to start/stop slave generator sets depending on the load request.

Reverse kW protection

The 'REV kW' relay closes upon reverse power.

Analog kW output

Compatible with PLC and 0-5 V, 0-20 mA or 4-20 mA gauges.

Modbus communication

Read and write function through RS485 port, UNIGEN PLUS only.

UNIGEN FAMILY COMPARATIVE TABLE

	UNIGEN	UNIGEN PLUS	UNIGEN ILS
Synchronization	Manu and Auto	Manu and Auto	Manu
Load sharer	•	•	•
1 genset with Mains paralleling		•	According to the power plant
Up to 8 gensets paralleling	•	•	•
Super Droop	•	•	
Parallel lines compatibility		•	•
CAN bus plug and play	•	•	
Speed out	•	•	•
PMW 500 Hz Speed out		•	
Voltage out	•	•	
Trip out	•	•	
Ramps	•	•	
REV KW	•	•	•
KW monitor	•	•	•
Power factor		•	
Modbus (Read and write function)		•	
Command mode		•	
400 Hz compatible			On request
Analog droop			•
Load pulse			•
FP relay			•
DYN2-80108/9 replacement			•
DYN2-80100 replacement			•
Dyn2 9402x repl.		•	
Pow-R-Con replacement		•	
Dyn2 90300 replacement	•		

UNIGEN FAMILY

CHARACTERISTICS

Current, voltage and frequency

- Voltage measurement:110 VAC to 500VAC
- Current input: 1A to 5A
- Frequency: 50 or 60 Hz.
- Output relays: volt free contacts, 5 A at 250 VAC, maximum cutting voltage 440 VAC. 2000VA switched power on resistive load.
- Power supply: 9 – 40VDC.

Environment

- Mounting: can be fixed in all positions.
- Operating temperature: -20°C to + 70°C.
- Vibrations: 5 to 500Hz at 25G.

Dimensions and weight

- Weight: 1, 5 kg
- Dimensions: - 200x275x26 mm.

Certifications

- CE mark: UNIGENs complies with European CE Mark requirements.
- CEM: EN 50081-2 et EN 61000-6-2

PART NUMBERS

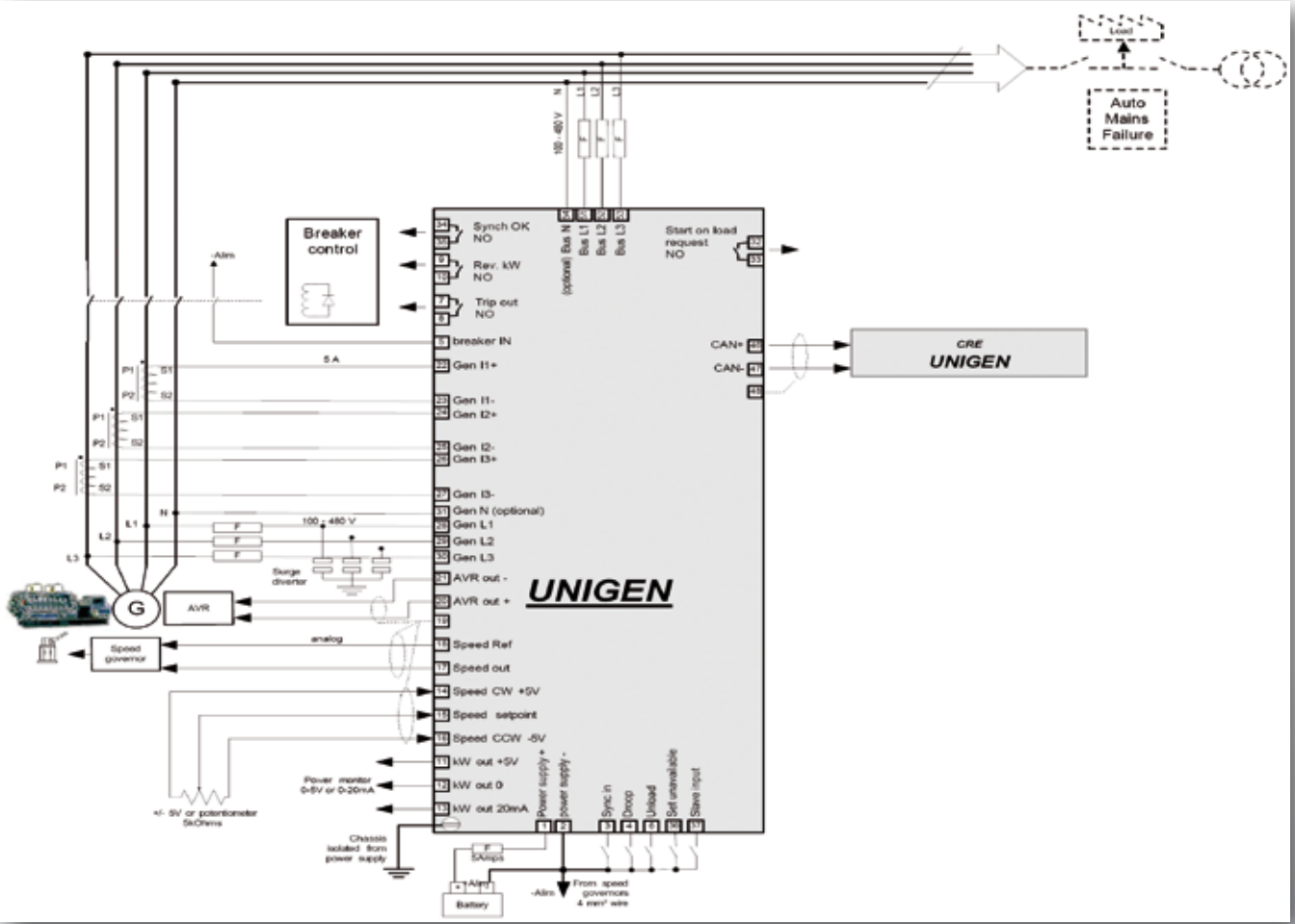
UNIGEN: A51Z2
UNIGEN PLUS: A51Z1
UNIGEN PLUS PWM: A51Z1-OPT 1
UNIGEN ILS : A51Z3

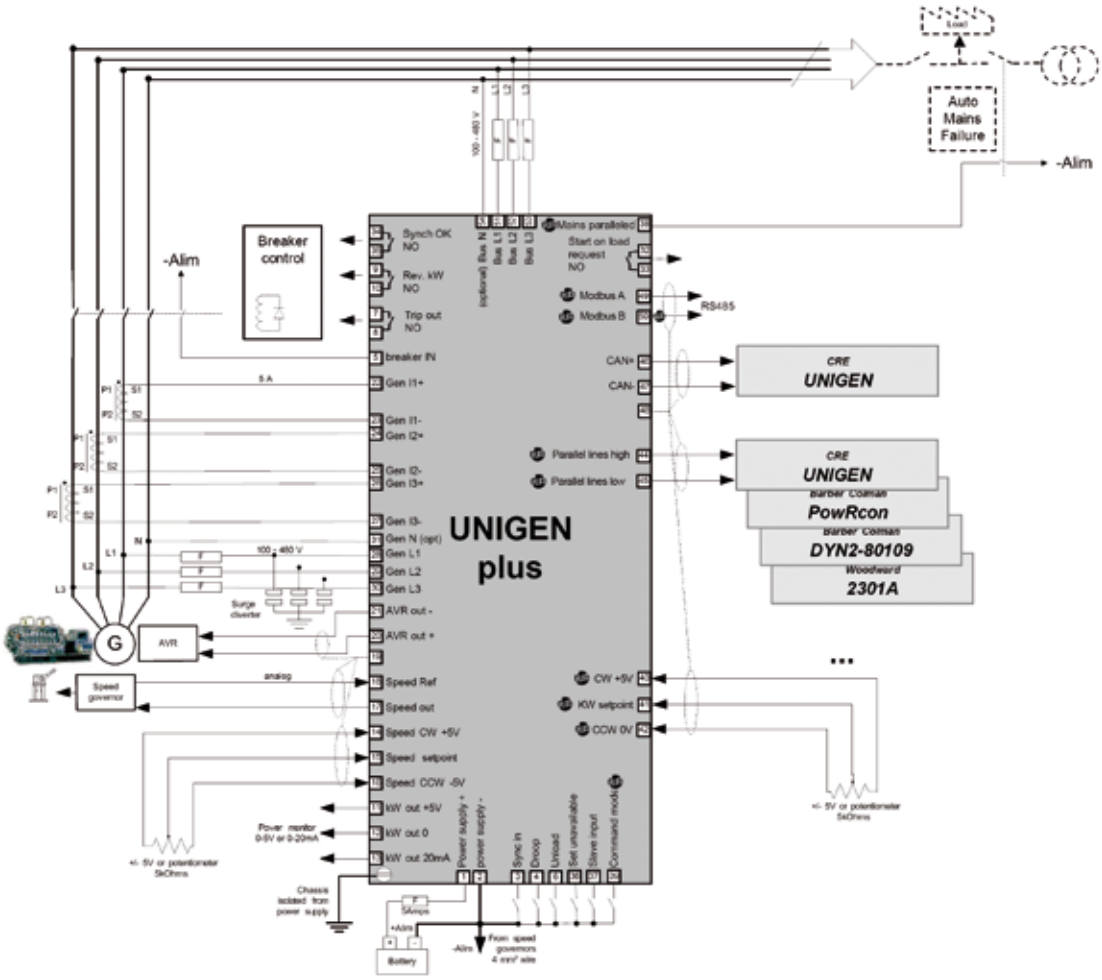
SOFTWARE

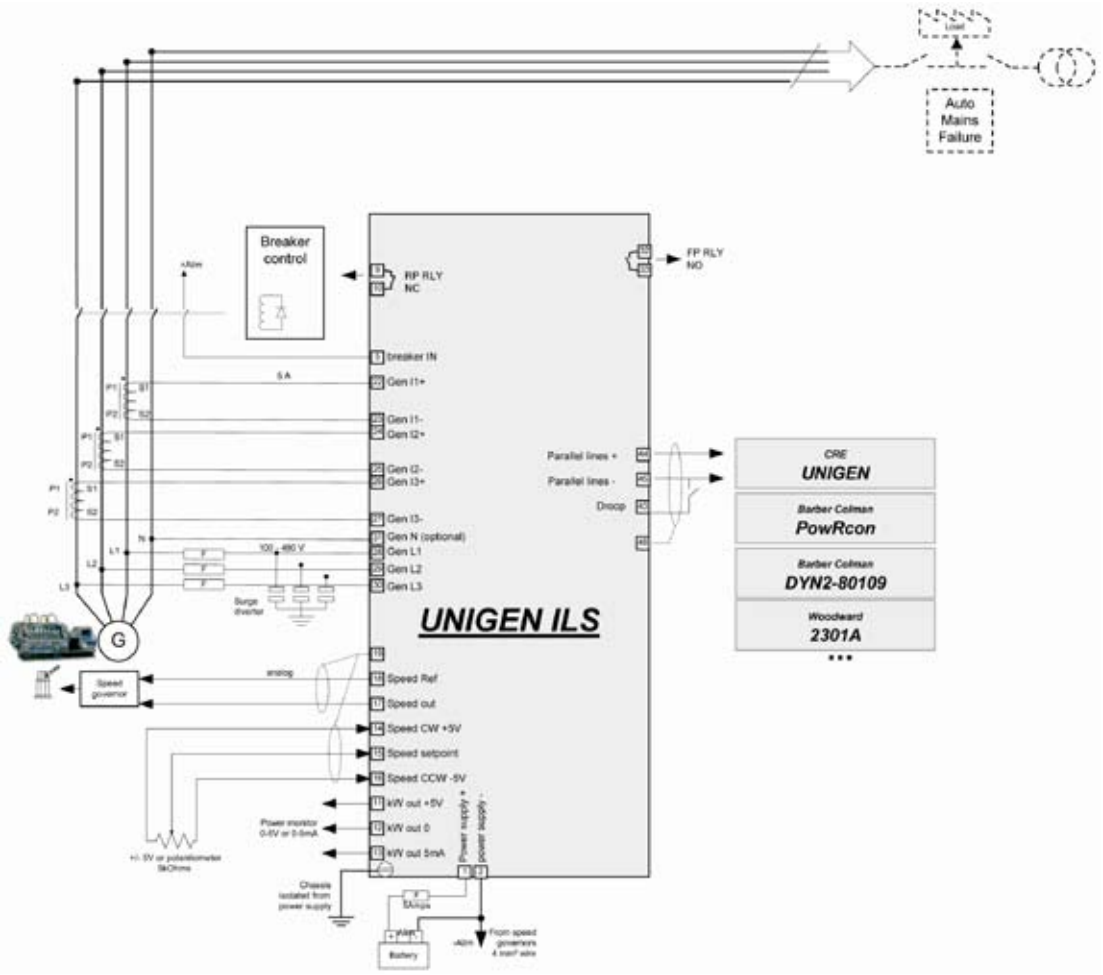
Embedded website

ASSOCIATED PRODUCTS

Complementary: MDX PLUS J1939




Load
Auto Mains Failure
-Alim
Breaker control
Synch OK NO
Rev. kW NO
Trip out NO
Mains paralleled
Start on load request NO
Modbus A
Modbus B
RS485
breaker IN
Gen I1+
Gen I1-
Gen I2+
Gen I2-
Gen I3+
Gen I3-
Gen N (opt)
Gen L1
Gen L2
Gen L3
AVR out -
AVR out +
Speed Ref
Speed out
Speed CW +5V
Speed setpoint
Speed CCW -5V
kW out +5V
kW out 0
kW out 20mA
CAN+
CAN-
Parallel lines high
Parallel lines low
CW +5V
kW setpoint
CCW 0V
Power supply +
power supply -
Sync in
Droop
Unload
Set unavailable
Slave input
Command mode
UNIGEN plus
CRE UNIGEN
CRE UNIGEN
Barber Colman PowRcon
Barber Colman DYN2-80109
Woodward 2301A
AVR
Speed governor
analog
Surge diverter
Power monitor 0-5V or 0-20mA
+/- 5V or potentiometer 5kOhms
Chassis isolated from power supply
Battery
From speed governors 4 mm² wire


Load
Auto Mains Failure
Breaker control
RP RLY NC
FP RLY NO
breaker IN
Gen I1+
Gen I1-
Gen I2+
Gen I2-
Gen I3+
Gen I3-
Gen N (optional)
Gen L1
Gen L2
Gen L3
Parallel lines +
Parallel lines -
Droop
CRE UNIGEN
Barber Colman PowRcon
Barber Colman DYN2-80109
Woodward 2301A
UNIGEN ILS
Speed Ref
Speed out
Speed CW +5V
Speed setpoint
Speed CCW -5V
kW out +5V
kW out 0
kW out 5mA
Power supply +
power supply -
Power monitor 0-5V or 0-5mA
+/- 5V or potentiometer 5kOhms
Chassis isolated from power supply
Battery
From speed governors 4 mm² wire
Speed governor
analog
Surge diverter