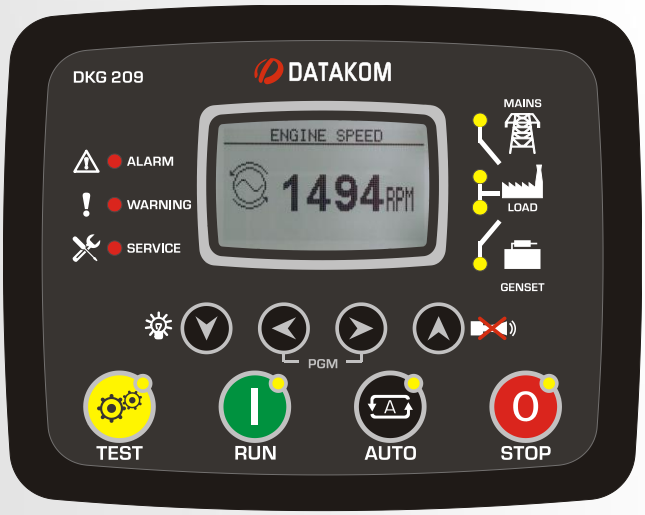
DKG-209
AUTOMATIC MAINS FAILURE UNIT



DESCRIPTION

The DKG-209 is a comprehensive AMF unit for single genset standby operations. It monitors mains phase voltages, frequency and phase rotation, runs the genset in case of mains failure and transfers the load between mains and genset. When the genset is running, it monitors the engine and the alternator and shuts down the genset in case of failure.

The unit is able to initiate modem calls and send SMS messages through optional external modem.

The unit provides a comprehensive set of digitally adjustable timers, threshold levels, input and output configurations and operating sequences. All programs may be modified via front panel pushbuttons, and do not require an external unit.

Last 100 faults are stored in the event log file. The event log includes not only the engine-hours information, but also a comprehensive list of measured genset parameters at the time that the fault has occurred.

The WINDOWS based RAINBOW program allows remote monitoring and control.

The unit supports MODBUS protocol with optional external RS-485 converter, enabling communication with PLCs and building management systems. The MODBUS protocol is also supported through GSM and PSTN modems.

The unit offers multiple language support.

MEASUREMENTS

Generator Volts: L1-N, L2-N, L3-N
Generator Volts: L1-L2, L2-L3, L3-L1
Generator Amps: L1, L2, L3
Generator KW: L1, L2, L3, total
Generator pf: L1, L2, L3, total
Generator Frequency
Engine rpm
Mains Volts: L1-N, L2-N, L3-N
Mains Volts: L1-L2, L2-L3, L3-L1
Mains Frequency
Battery Voltage
Engine Coolant Temperature
Engine Oil Pressure
Fuel Level

FEATURES

True RMS measurements

Dual genset mutual standby operation

Event logging with engine run hours stamp and measurements

Field adjustable parameters

Logic level serial port

Free MS-Windows Remote monitoring SW

GSM and PSTN modem support

GSM SMS message sending on fault

MODBUS communications

Multiple language support

Customer logo display capability

16 Amp contactor outputs

1 Amp DC semiconductor outputs

Configurable analogue inputs: 3

Configurable digital inputs: 5

Configurable digital outputs: 1

Total digital outputs: 5

Plug-in connection system

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DIGITAL INPUTS

The unit has 5 configurable digital inputs. Each input is fully configurable with selectable names, alarm type, polling, latching and contact type.

ANALOG INPUTS

Engine analog inputs are provided for coolant temperature, oil pressure and fuel level. The inputs have programmable sensor characteristics so that they are suitable for any type and brand of sensors.

OUTPUTS

The unit provides 2 relay and 3 semiconductor outputs. 1 of them have programmable functions, selectable from a list. Any function or alarm condition may be a digital output.

EVENT LOGGING

The unit records last 100 events with engine run hour stamp and a total of 18 measured parameters.

TELEMETRY AND REMOTE PROGRAMMING

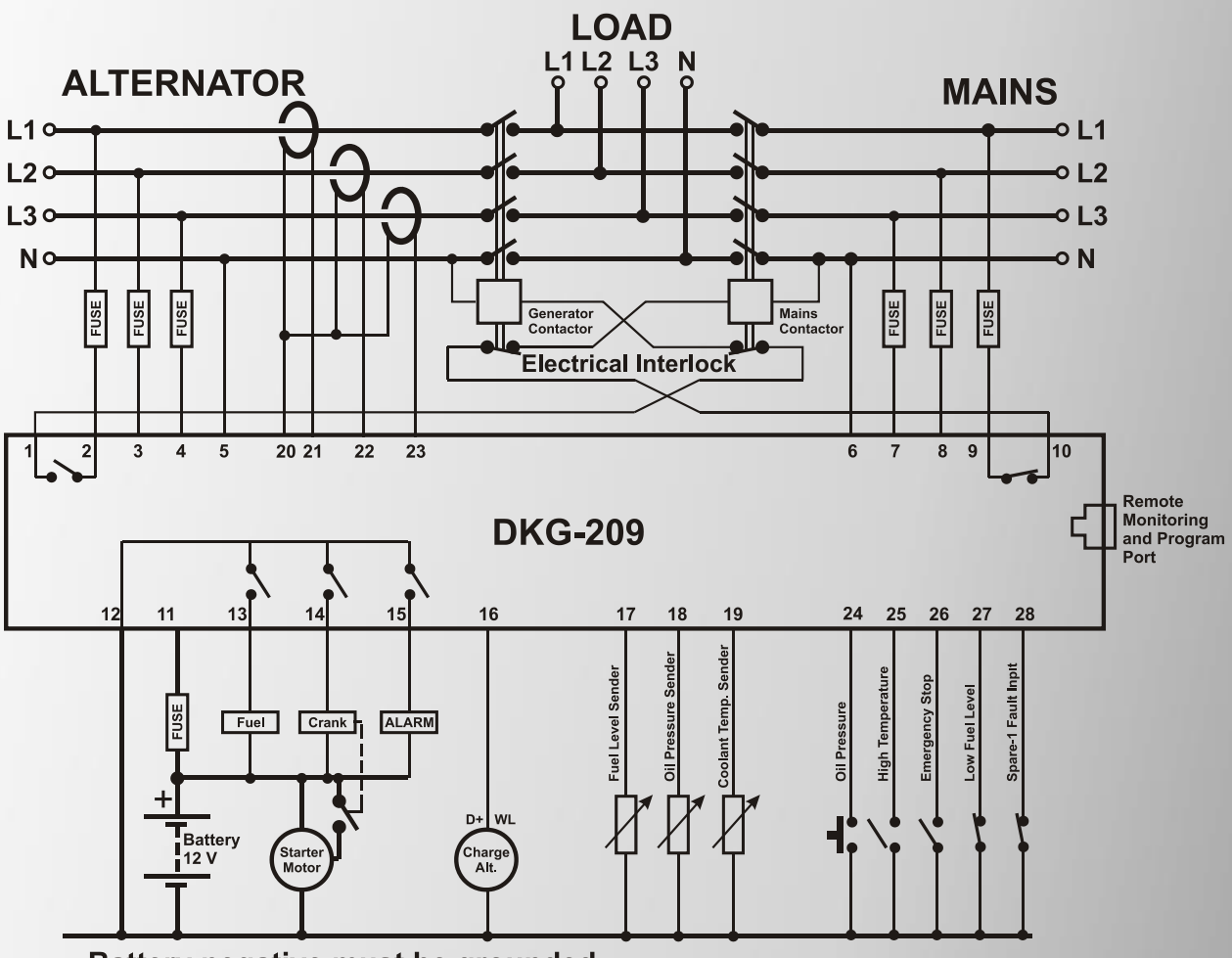
The unit provides the user with large telemetry facilities via its standard serial port with special cable, connecting either to a PC, PLC or a GSM or PSTN modem. It supports both RAINBOW and MODBUS communication protocols. The standard PC software offers local and modem operation capabilities as well as modem networking feature.

The PC program is used for below purposes:

-parameter upload/download
-remote monitoring and control
-diagnostics and analysis

TECHNICAL SPECIFICATIONS

Alternator voltage: 0 to 300 V-AC (Ph-N)
Alternator frequency: 0-100 Hz.
Mains voltage: 0 to 300 V-AC (Ph-N)
Mains frequency: 0-100 Hz.
V-A-cos Accuracy: 1.0% + 1 digit
kW-kVA-kVAr Accuracy: 2.0% + 1 digit
DC Supply Range: 9.0 to 16.0 V-DC (12V versions)
18.0 to 36V-DC (24V versions)
Cranking dropouts: survives 0 V for 100ms.
Typical Standby Current: 100 mA-DC @12V-DC
Maximum Operating Current: 200 mA-DC (Relay outputs open)
Generator/Mains Contactor Relay Outputs: 16 A / 250V
DC Outputs: 1A @ 28V protected semiconductor output
Charge excitation: min 2 Watts
Current inputs: from CTs, .../5A. Max load 0.7VA per phase.
Analog input range: 0-5000 ohms.
Serial port: logic level, 9600 bauds, no parity, 1 bit stop
Operating temp.: -20°C (-4°F) to 70 °C (158°F).
Storage temp.: -40°C (-40°F) to 80 °C (176°F).
Maximum humidity: 95% non-condensing.
Dimensions: 133 x 107 x 39 mm (WxHxD)
Panel Cut-out Dimensions: 117x87 mm minimum.
Weight: 200 g (approx.)
Case Material: High Temperature ABS/PC (UL94-V0)
IP Protection: IP65 from front panel, IP30 from the rear
Installation: Flat surface mounting on a Type 1 Enclosure. Rear retaining plastic brackets.
CE Conformity reference standards:
EN 61010 (safety requirements)
EN 61326 (EMC requirements)



Battery negative must be grounded.

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