DATAKOM

DKG-517 MANUAL AND REMOTE START UNIT

DESCRIPTION

The DKG-517 is a comprehensive generator control unit designed to start and stop the generating set both manually and remotely. The manual control is made using the pushbuttons on the front panel. The remote control is made via the **REMOTE START** input signal.

In **RUN** position, DKG-517 controls the automatic starting and stopping of the generating set . Once the generator is running, it monitors internal protections and external fault inputs. If a fault condition occurs, the unit shuts down the engine automatically and indicates the failure source with the corresponding red led lamp.

The operation of the unit is controlled with front panel pushbuttons. The **RUN** and **STOP** pushbuttons select the operating mode. Other buttons select the display parameter scroll, alarm mute and lamp test functions.

If the **STOP** button is pressed or the **REMOTE START** signal is removed, the engine will be stopped.

The DKG-517 provides a comprehensive set of digitally adjustable timers, threshold levels, input and output configurations and operating sequences. The unauthorized access to program parameters is prevented by the program lock input. All programs may be modified via front panel pushbuttons, and do not require an external unit.

The fault conditions are considered in 2 categories as Warnings and Alarms. Measured values have separate programmable limits for warning and alarm conditions.

The service request indicator lamp turns on at the expiration of either engine hours or time limits.

It is possible to monitor the operation of the system locally or remotely with the WINDOWS based PC utility program.

The unit is designed for front panel mounting. It is fitted into the cut-out with the steel spring removed. Connections are made with 2 part plug and socket connectors.

MEASUREMENTS

Generator Volts: U-N, V-N, W-N
Generator Volts: U-V, V-W, W-U
Generator Amps: U, V, W
Generator total KW
Generator pf
Generator Frequency,
Battery Voltage
Engine Coolant Temperature
Engine Oil Pressure
Fuel Level

STATISTICS

Following incremental counters provide statistics about past performance of the generating set:
Engine Hours Run
Engine Hours to Service
Time to Service
Number of Engine Cranks
Number of Genset Runs
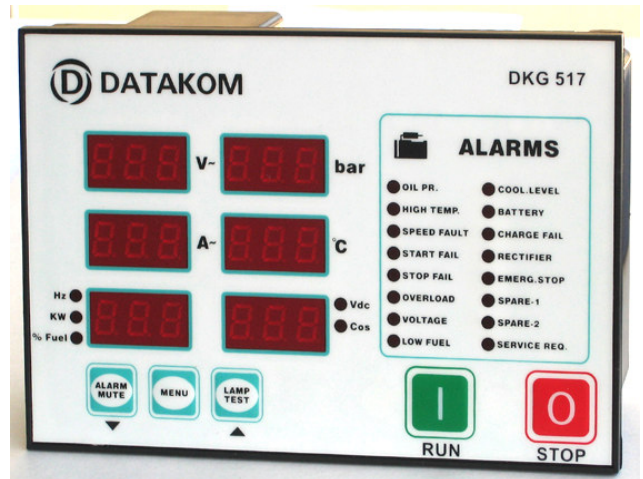
FEATURES

Both manual and remote starting and stopping,
Engine control
Generator protection
Built in alarms and warnings
3 phase genset voltage inputs
3 phase genset CT inputs
Engine oil pressure measurement
Engine coolant temperature measurement
Fuel level measurement
Genset active power measurement
Genset power factor measurement
Periodic maintenance request indicator
Hours run counter
Event logging
Statistical counters
Operation password capability
Field adjustable parameters
RS-232 serial port
Free MS-Windows Remote monitoring SW:
    -local, LAN, IP and modem connection
    -monitoring, download of parameters
LED displays
Configurable analogue inputs: 2
Configurable digital inputs: 7
Configurable relay outputs: 2
Total relay outputs: 4
I/O expansion capability
Remote Start operation available
Survives cranking dropouts
Sealed front panel
Plug-in connection system for easy replacement
Small dimensions (180x125x48mm)
Low cost

EVENT LOGGING

The DKG-517 records last 12 events. Recorded events are:
- alarms and warnings
- generator run / stop information

Event records are only displayed on the PC screen.

DIGITAL INPUTS

The unit has 7 configurable digital inputs. Each input has following programmable parameters:
- alarm type: shutdown / warning / no alarm
- alarm polling: on engine running / always
- latching / non-latching operation,
- contact type: NO / NC
- switching: BAT+ / BAT-

ANALOG INPUTS

Engine analog inputs are provided for following functions:
- Coolant temperature
- Oil pressure
- Fuel level

The analog inputs connect to resistive sender units to provide precise and adjustable protection. The coolant temperature and oil pressure inputs have programmable sensor characteristics so that they are suitable for any type and any brand of sensors.

RELAY OUTPUTS

The unit provides 4 relay outputs and 2 of them have programmable functions, selectable from a list.
In addition to genset control signals any specific alarm information may be output as a relay contact.
Using two Relay Expansion Modules, the number of relays may be increased up to 20, 16 of them being volt-free contacts.

TELEMETRY AND REMOTE PROGRAMMING

The DKG-517 module provides the user with large telemetry facilities via its standard RS-232 serial port. The unit can be either connected to a PC or a modem for remote communication. The PC software offers local, Local Area Network (LAN), internet and modem operation capabilities. Note that the modem mode is also compatible with LAN and internet modes, so that the modem data may be served by PC for reuse in the LAN or internet.

The PC program is used for below purposes:
- parameter upload/download
- remote monitoring
- diagnostics and analysis

The PC software detects automatically new versions over the internet. A menu system will guide the user if he desires to download the new version.

TECHNICAL SPECIFICATIONS

Alternator voltage: 15-300 V-AC (Ph-N)
Alternator frequency: 0-100 Hz.
DC Supply Range: 9.0 to 33.0 V-DC
Cranking dropouts: survives 0 V for 100ms.
Typical Standby Current: 100 mA-DC
Maximum Operating Current: 300 mA-DC (Relay outputs open)
Relay Outputs: 10 A / 28V
Charge excitation current: 54mA @ 12V-DC.
Analog input range: 0-5000 ohms.
Serial port: RS-232, 2400 bauds, no parity, 1 bit stop
Operating temp.: -20°C (-4°F) to 70 °C (158°F).
Storage temp.: -30°C (-22°F) to 80 °C (176°F).
Maximum humidity: 95% non-condensing.
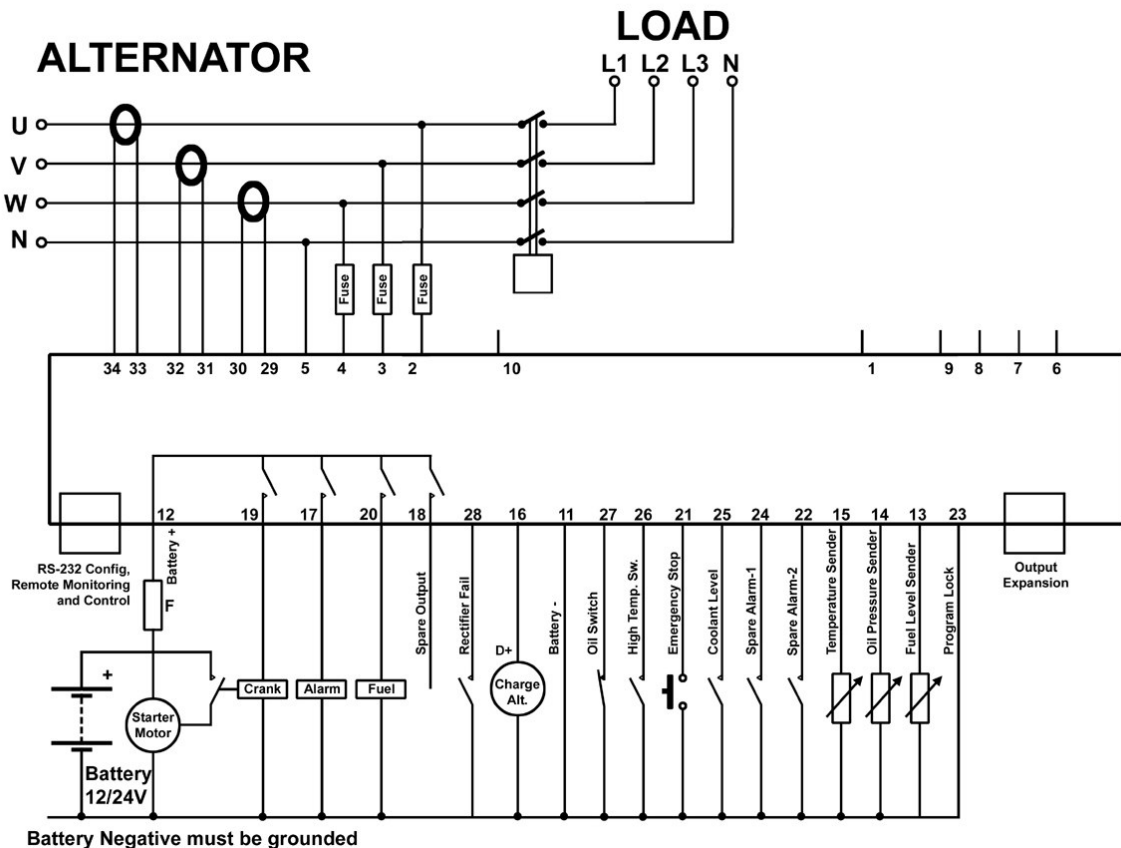**IP Protection:** IP65 from front panel, IP30 from the rear.
Dimensions: 180 125 x 48 mm (WxHxD)
Panel Cut-out Dimensions: 176x121 mm minimum.
Mounting: Front panel mounted with rear retaining steel spring.
Weight: 430 g (approx.)
Case Material: High Temperature ABS (UL94-V0, 110°C)