DKG-215

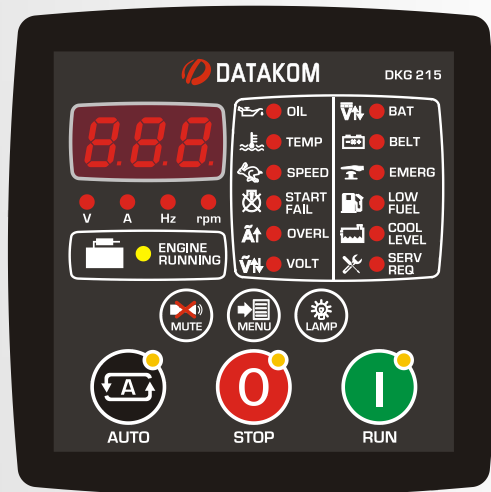## MANUAL AND REMOTE START UNIT

DESCRIPTION

The DKG-215 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. The unit is designed in a **zero power consumption at rest** structure and draws zero current in off mode.

The **RUN**, **STOP** and **AUTO** pushbuttons select the operating mode. Other buttons select the display parameter scroll, alarm mute and lamp test functions.

The unit has 3 different operation modes:

- power off (no current drain from battery)

- power on (genset stopped)

- genset running

Each depression of the **RUN** button causes the unit to switch to the next operation mode listed above. Each depression of the **STOP** button causes a return to the previous operation mode. If **AUTO** mode is selectedi the **REMOTE START** signal causes the unit to switch between the first and the last operation modes.

In **RUN** position, DKG-215 controls the automatic starting 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 led lamp.

The DKG-215 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.

The unit is designed for front panel mounting. Connections are made with 2 part plug and socket connectors.

MEASUREMENTS

Generator Volt: L1-N
Generator Amp: L1
Generator KW phase L1
Generator power factor phase L1
Generator Frequency
Battery Voltage
Engine rpm
Engine Coolant Temperature
Engine Oil Pressure
Engine 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
Number of Genset on Load

FEATURES

Manual and remote starting and stopping
Zero power consumption at rest
Engine control mode available
Generator protection
Built in alarms and warnings
1 phase genset voltage input
1 phase genset CT input
Magnetic Pickup input
Engine oil pressure measurement
Engine coolant temperature measurement
Engine fuel level measurement
Genset active power measurement (single phase)
Genset power factor measurement (single phase)
Periodic maintenance request indicator
Engine hours run counter
Event logging
Statistical counters
Front panel configurable
100+ adjustable parameters
Logic level serial port
Optional RS-232 adapter
Free MS-Windows Remote monitoring SW:
   -monitoring
   -download of parameters
LED displays
Configurable analogue inputs: 3
Configurable digital inputs: 5
Digital outputs: 5
Survives cranking dropouts
Sealed front panel
Plug-in connection system for easy replacement
Small dimensions (96x96x53mm)
Low cost

TELEMETRY AND REMOTE PROGRAMMING

The DKG-215 module provides the user with large telemetry facilities via its optional logic level serial port.
The PC program is used for below purposes:
-parameter upload/download
-remote monitoring
-diagnostics and analysis

EVENT LOGGING

The DKG-215 records last 12 events. Recorded events are:
-alarms and warnings
-generator run / stop information
Event records are only displayed on the PC screen.

RELAY OUTPUTS

The unit provides 5 digital outputs and 3 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.

DIGITAL INPUTS

The unit has 5 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-

The REMOTE START input is not programmable and if used, should be supplied with the battery positive voltage.

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 inputs have programmable sensor characteristics so that they are suitable for any type and any brand of sensors.

TECHNICAL SPECIFICATIONS

Alternator voltage: 15-300 V-AC (Ph-N)

Alternator frequency: 0-100 Hz.

Current input: from current transformer, .../5A. Max load 0.7VA

Digital inputs: 0 - 30 V-DC

Analog inputs: 0 to 5000 ohms

Magnetic pickup input: 1 to 30V-AC, 0 to 10 KHz.

DC Supply Range: 9.0 to 33.0 V-DC

Cranking dropouts: survives 0 V for 100ms.

Typical Standby Current: 0 mA-DC

Maximum Operating Current: 100 mA-DC (digital outputs open)

Digital Outputs: Negative pulling protected semiconductor outputs, 1 A / 28V

Charge excitation current: 150mA minimum.

Serial port: logic levels, 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: 96 x 96 x 53 mm (WxHxD)

Panel Cut-out Dimensions: 91x91 mm minimum.

Weight: 170 g (approx.)

Case Material: High Temperature ABS (UL94-V0)

Installation: Flat surface mounting on a Type 1 enclosure. Rear retaining plastic brackets.

Conformity (EU directives)

-2006/95/EC (low voltage)

-2004/108/EC (electro-magnetic compatibility)

Norms of reference:

EN 61010   (safety requirements)

EN 61326   (EMC requirements)

Battery negative must be grounded.