

DKG-155

MANUAL START UNIT



DESCRIPTION

The DATAKOM model DKG-155 is a microprocessor controlled unit designed to start and stop the genset manually using the key switch on the front panel.

In the **OFF** position, the DC supply is removed from the module, thus zero power consumption is achieved.

The unit powers up when the **RUN** position on the front panel is selected. This will also energize the fuel solenoid relay. The engine is started using the next spring-loaded position marked **START**. Once the engine has started, the switch should be released.

To shut down the engine, select the **OFF** position on the switch.

When the engine is running, the unit monitors fault conditions and shuts-down the engine automatically in the occurrence of an alarm. The alarms are identified by a group of LEDs displaying only the first occurring one.

The alarm checking is only enabled after the **protection hold-off timer** is expired. This timer is set to 45 seconds when the unit is powered up, it resets to 10 seconds if the engine gets running.

The occurrence of below fault conditions will cause the engine to be stopped immediately:

- Overspeed,
- Underspeed,
- High engine temperature,
- Low oil pressure,
- Auxiliary shutdown.

If a fault condition occurs, the **FUEL** solenoid will be deenergized and the led associated with this condition will turn on.

Only the first occurring fault will be indicated. To

reset the fault condition, turn the switch to the **OFF** position for a few seconds.

The **Charge Fail** condition is treated as a warning and do not cause the engine to stop. The input monitors the **D+** terminal of the charge alternator.

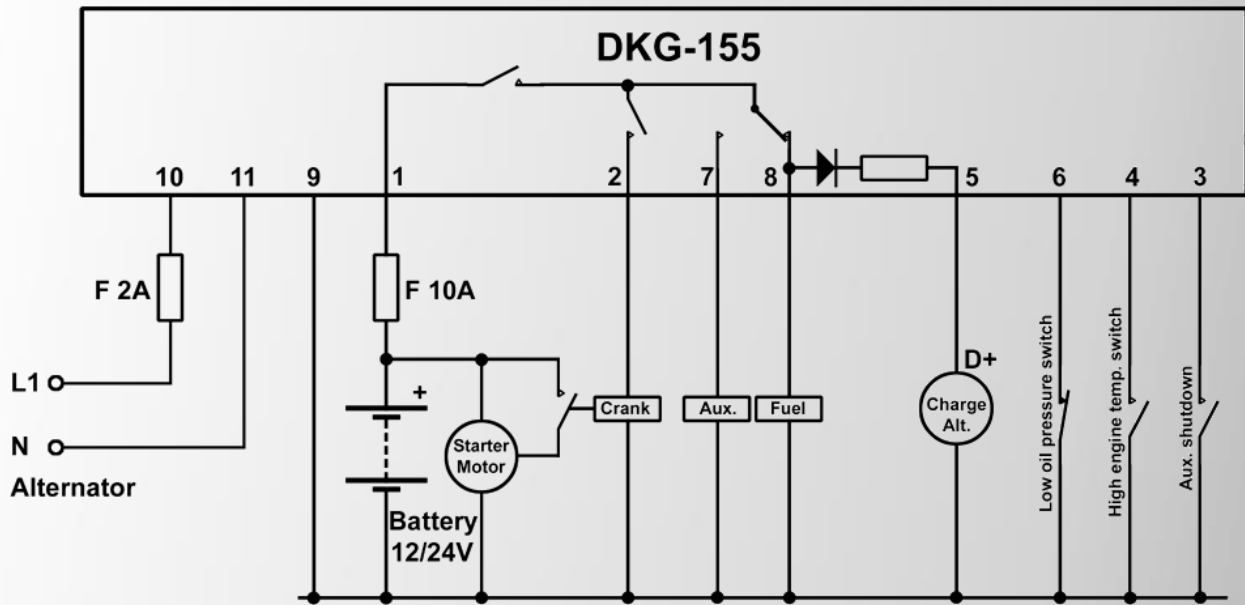
The limits for the correct generator frequency are 30 to 57 Hz for 50Hz operation and, 30 to 68Hz for 60Hz operation.

The unit uses high current two part connectors for easy replacement.

FEATURES

- Microprocessor controlled**
- Manual fuel control and start**
- Automatic shutdown on fault condition**
- Survives cranking dropouts**
- Digital display of generator frequency**
- High engine temperature protection**
- Low oil pressure protection**
- Overspeed-underspeed protection**
- Spare fault input**
- Alarm output**
- Two part connectors for easy replacement**
- Standard panel dimensions (72x72mm)**
- Low cost**
- Low failure rate**

TYPICAL CONNECTION DIAGRAM



INPUTS

DC SUPPLY: 12 or 24 volts DC, (+) and (-) terminals.
L1: Generator phase voltage.
NEUTRAL: Generator neutral terminal.
HIGH TEMP SWITCH: Negative closing switch input.
LOW OIL PRESSURE: Negative closing switch input.
AUX: Spare fault input. A negative supply connection to this input will cause the engine immediately stopped and an alarm given (independent of the protection hold-off timer).
CHARGE: Connect the charge alternator's D+ end to this terminal. This terminal will supply the excitation current and measure the voltage of the charge alternator.

OUTPUTS

FUEL SOLENOID : 16amps@28V-DC.
START : 16amps@28V-DC.
ALARM : 16amps@28V-DC.

OPTIONS

STANDARD FEATURES:
 50Hz nominal,

OPTIONAL FEATURES:
(SUBJECT TO SPECIAL ORDER)
 60Hz nominal.

TECHNICAL SPECIFICATIONS

Alternator Voltage: 15 to 300 V-AC
Alternator Frequency: 50 or 60 Hz nominal.
Overspeed: nominal frequency + 14%
 (+24% overshoot)
Underspeed: 30 Hz
DC Supply Range: 9 to 33 V-DC.
Current consumption: 150mA max. (Relay outputs open).
Charge fail threshold: 6 V-DC.
Charge excitation current: via 220 ohms resistor connected to the FUEL output.
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.
Dimensions: 72x72x52mm (WxHxD)
Panel cutout dimensions: 68x68 mm
Weight: 220g (approx.)
Installation: Flat surface mounting on a Type 1 enclosure. Retaining steel spring provided.