



## DKG-155 MANUAL START UNIT INSTALLATION AND OPERATING INSTRUCTIONS

### DESCRIPTION

The model DKG-155 is a microprocessor controlled unit used 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.

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 unit has jumper selectable option for 50/60Hz nominal frequency. The jumper is situated at the top side of the unit.

**Jumper installed:** 50 Hz nominal

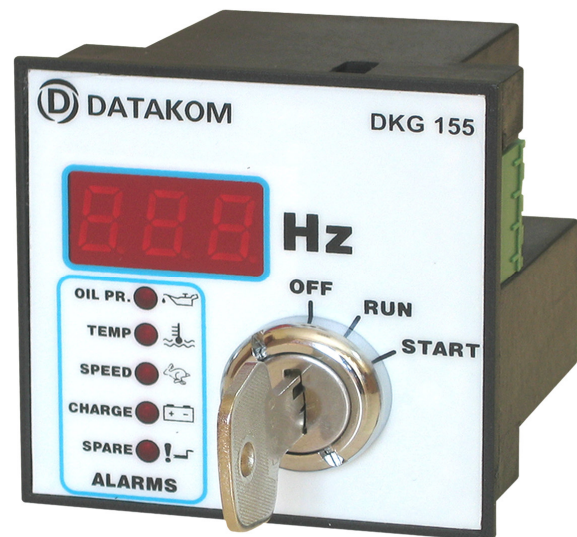
**Jumper removed:** 60Hz nominal.

The unit has also an optional variant with magnetic pickup input. The teeth count is calibrated using a potentiometer situated at the top of the unit.

### OPERATION

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.

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



The occurrence of below fault signals (which are close on fault) will cause the engine to be stopped immediately:

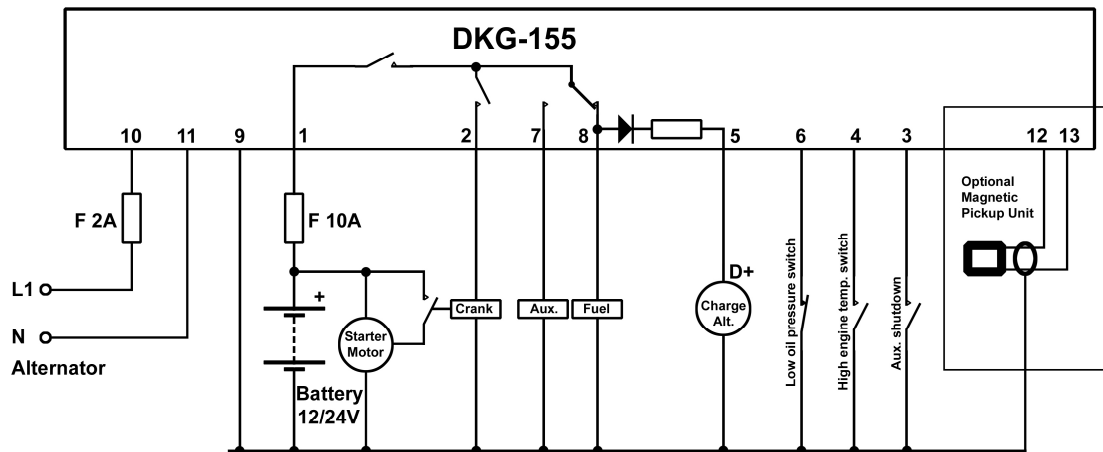
- Overspeed,
- Underspeed,
- High engine temperature,
- Low oil pressure,
- Spare alarm.

If a fault condition occurs, the **FUEL** solenoid will be deenergized, the **ALARM** relay output will be energized and the led associated with this fault condition will turn on. To reset the fault condition, turn the switch to the **OFF** position for a few seconds.

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

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

# 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.

**SPARE:** 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.

**MAGNETIC PICKUP:** (optional) Connect the magnetic pickup (+) and (-) terminals to these inputs.

## OUTPUTS

**FUEL SOLENOID** : 16amps@28V-DC.

**START** : 16amps@28V-DC.

**ALARM** : 16amps@28V-DC.

## OPTIONS

**JUMPER SELECTABLE STANDARD**

**FEATURES:**

50Hz nominal,

60Hz nominal.

**OPTIONAL FEATURES:**

**(SUBJECT TO SPECIAL ORDER)**

Magnetic pickup input.

## TECHNICAL SPECIFICATIONS

**Alternator Voltage:** 15 to 300 V-AC

**Alternator Frequency:** 50 or 60 Hz nominal.

**Overspeed:** nominal frequency + 14%  
(+24% overshoot)

**Underspeed:** 30Hz

**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.

**Magnetic pick-up voltage:** 0.5 to 70 Vpk.

**Magnetic pick-up frequency:** 20 KHz max.

**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:** Front panel mounted. Retaining steel spring provided.

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