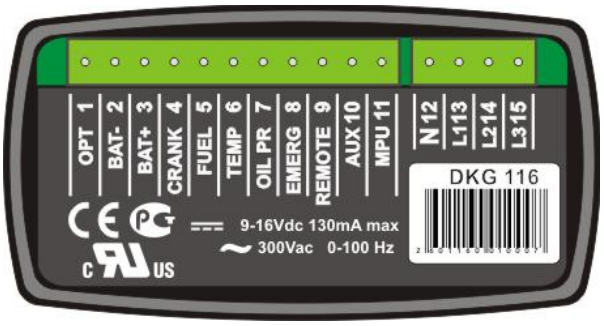
DKG-116 MANUAL AND REMOTE START UNIT





DESCRIPTION

The DKG-116 is a low cost gasoline/diesel genset control unit designed to start and stop a genset both manually and remotely.

The manual control is made using **RUN** and **STOP** pushbuttons on the front panel. The remote control is made via **REMOTE START** input signal.

When **RUN** button is pressed or a **Remote Start** signal arrives, the engine will be cranked up to 3 times. When it runs, the crank relay will be immediately deactivated and after **Holdoff timer** delay, fault checking will be enabled. When the engine is running, if a fault condition is detected then the engine is shutdown immediately and the unit indicates the source of the failure through related alarm led.

If the **Remote Start** signal disappears or the **STOP** button is pressed or the genset will immediately stop.

The **MENU** button selects display parameter scroll and allows program mode entry and lamp test functions.

The total engine run hours is kept in a tamper-proof non-erasable memory which is not affected by power failures.

MEASUREMENTS

Generator Volts: L1-N, L2-N, L3-N
Generator Volts: L1-L2, L2-L3, L3-L1
Generator Frequency
Battery Voltage

OPTIONS

Auxiliary output (negative pulling).
Magnetic pickup input.

FEATURES

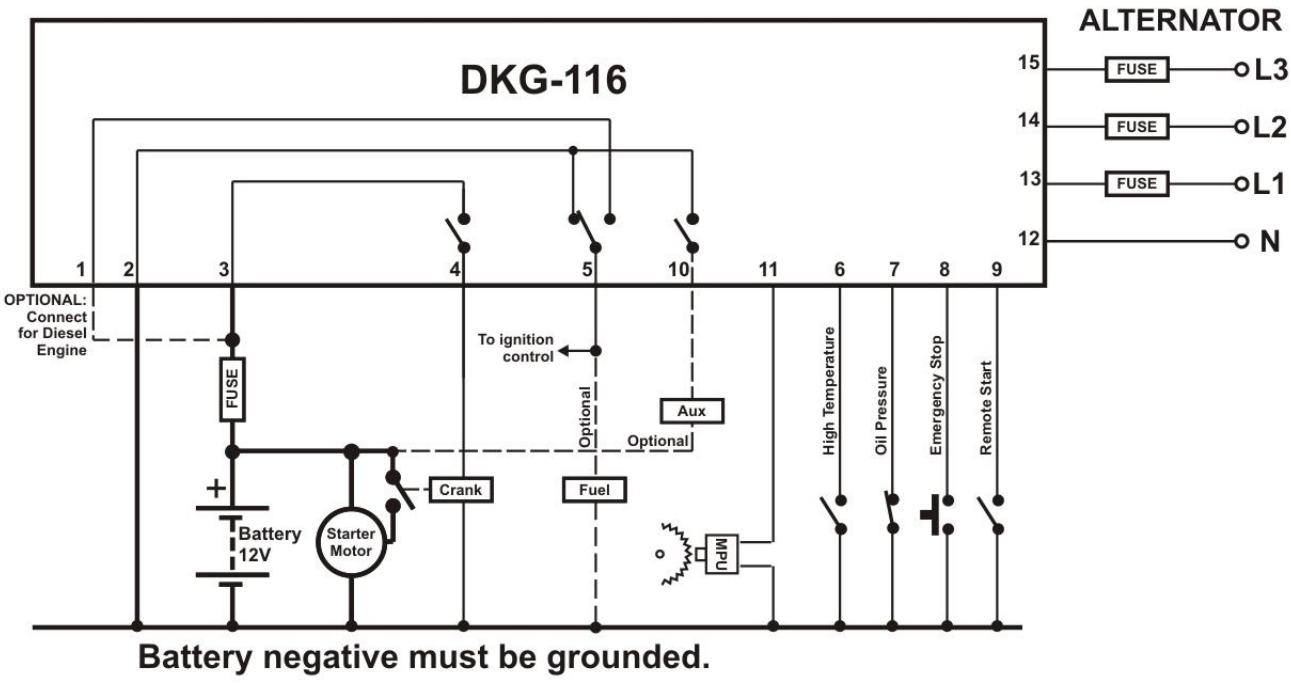
Both Manual and remote control
Generator protection
Built in alarms and warnings
Remote Start operation available
True RMS measurements
Tamper-proof engine hours display
Field adjustable parameters
High current Fuel and Crank outputs
Optional auxiliary output
Optional magnetic pickup input
Digital inputs: 4
Survives cranking dropouts
Sealed front panel
Standard panel dimensions: 96x48mm
Plug-in connection system

PRECAUTIONS FOR INSTALLATION AND SAFE USE

Failure to follow below instructions will result in death or serious injury.

- Circuit breakers must be connected serially to BAT+, PHASE-L1, PHASE-L2 and PHASE-L3 terminals, in close proximity of the unit.
- Fuses must be of fast type with a maximum rating of 6A.
- Disconnect all power before working on equipment .
- When the genset is running, do not touch terminals.
- Do not try to clean the device with solvent or the like. Only clean with a dump cloth.
- Verify correct terminal connections when wiring.
- Electrical equipment should be serviced only by competent service personnel. No responsibility is assured by the manufacturer or any of its subsidiaries for any consequences arising out of the use of this material.
- Only for front panel mounting.

CONNECTION DIAGRAM



PROGRAMMING

Both 'High Temperature' and 'Emergency Stop' inputs must be connected to 'Battery negative' prior to enter the programming mode.

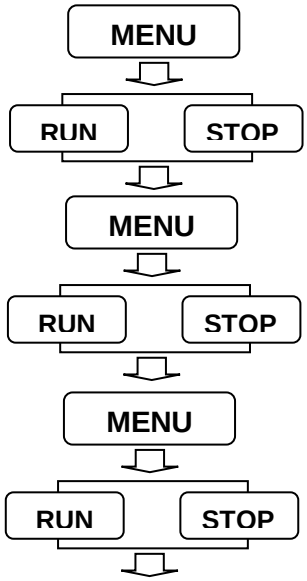
The unit offers 12 programmable parameters listed below.

NO	SYMBOL	RANGE	FACTORY SET	DESCRIPTION
1	U-Lo	70-500 V	170 V	Low AC voltage shutdown limit
2	U-HI	70-500 V	300V	High AC voltage shutdown limit
3	nPU	0-1000	50	MPU crank cut frequency divided by 4
4	nFr9	0-1	0	Nominal frequency: 0=50Hz 1=60Hz
5	OIL	0-1	0	Oil input: 0=pressure switch 1=level switch
6	FUEL	0-1	0	Fuel output type 0:Fuel 1:Stop
7	rLY3	0-3	0	Relay 3 function 0:Alarm 1:Choke 2:Stop 3:Preheat
8	CHOt	0-15 sec	0	Choke timer in seconds
9	PrHt	0-15 sec	10	Preheat timer in seconds
10	3- 1P	0-7	0	Connection topology: **0**=1phase **1**=2phases **2**=3 phases **3**=3 phases , center tapped delta (voltage checks on first 2 phases only) **4..7**= same as 0..3, but voltages are not displayed
11	UALr	0-15 sec	5	Under/over voltage delay timer
12	CLb1	-	-	Phase L1-N calibration value
13	CLb2	-	-	Phase L2-N calibration value
14	CLb3	-	-	Phase L3-N calibration value

The program mode is entered by long-pressing the **MENU** button. Each depression of the **MENU** button will switch to the next parameter.

Another long press will enable the lamp test mode. Then any depression of **MENU** button will return the display to normal mode.

If no key is pressed, then the unit will return to normal display mode with a delay.



1- When genset is in off mode; press **MENU** button for **5 sec** to enter program mode and display the Low AC Voltage limit.

2- Press **RUN** or **STOP** buttons until requested value is displayed.

3- Press **MENU** button for saving the Low AC Voltage limit and displaying the next program parameter.

4- Press **RUN** or **STOP** buttons until requested value is displayed.

5- Press **MENU** button for saving the parameter and displaying the next parameter.

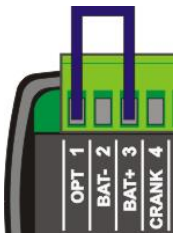
6- Repeat steps 4 and 5 as required.

7- Any time on settings, press **MENU** button for **3 sec**. to exit from program mode.

TECHNICAL SPECIFICATIONS

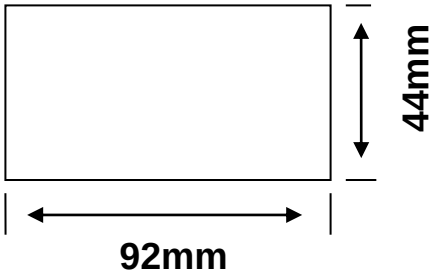
Alternator voltage: 15 to 300 V-AC (Ph-N)
Alternator frequency: 50 or 60 Hz nominal.
Measurement Accuracy: 0.5% + 1 digit
Overspeed: nominal frequency + 14%
(+24% overshoot)
Underspeed: 30 Hz
Crank time: 10 sec.
Crank rest: 10 sec.
Crank attempts: 3
Stop timer: 10 sec.
Holdoff timer: 10 sec.
DC Supply Range: 9.0 to 16.0 V-DC
Cranking dropouts: survives 0 V for 100ms.
Typical Standby Current: 12mA-DC (display off)
Maximum Operating Current: 130 mA-DC
Fuel and Crank outputs: 10A @ 12V-DC
Auxiliary Output: 1A @ 12V-DC (negative pulling protected semiconductor output)
Magnetic pickup Input: 1.5 to 30Vpp
Operating temp.: -40°C (-40°F) to 80 °C (176°F).
Maximum humidity: 95% non-condensing.
Dimensions: 102 x 55 x 40 mm (WxHxD)
Packed weight: 140 g
Case Material: High Temp. ABS/PC (UL94-V0)
IP Protection: IP65 (front panel), IP30 (rear)
Conformity (EU directives)
-2006/95/EC (low voltage)
-2004/108/EC (EMC)
Norms of reference:
EN 61010 (safety requirements)
EN 61326 (EMC requirements)

Для дизельного двигателя



Для управления дизельными двигателями подключите проводящий провод к клеммам 1 и 3.

Посадочные размеры



PACKAGING INFORMATION

Pieces per Package: 24
Package Size: 280 x 170 x 215mm (LxWxH)
Package Weight: 3.6 kg