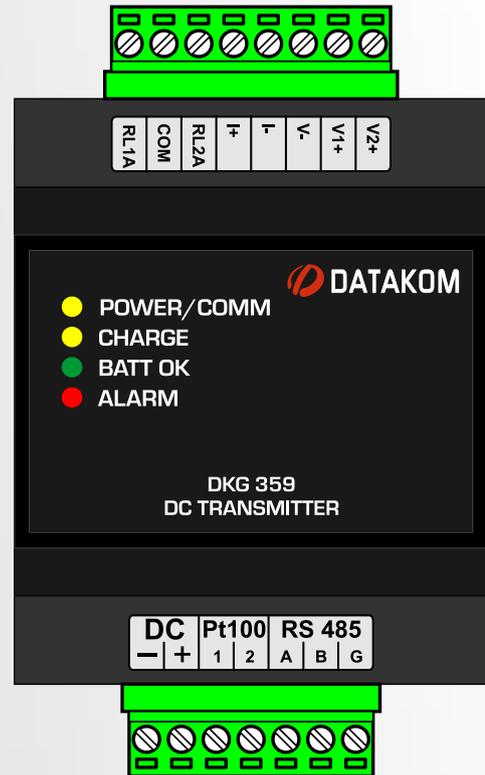


DKG-359

CURRENT & VOLTAGE TRANSMITTER FOR DC SYSTEMS



DESCRIPTION

The DKG-359 is a precision measurement tool designed to monitor and control DC power systems.

The unit has precision, fully isolated measuring inputs for the DC voltage and the DC current. It supports both “positive to ground” and “negative to ground” installations. The current is measured through a DC current shunt placed in positive or negative output of the power source.

The unit has 2 voltage measurement inputs totally isolated from the rest of the circuit allowing independent measurements from the power supply

It has one DC shunt type current measurement input, totally isolated from the rest of the unit which is capable of measuring the current in positive or negative branch.

The unit has an isolated RS-485 data port with Modbus protocol in order to transmit data to supervisory and control systems.

The unit provides a comprehensive set of programmable parameters. All programs may be modified via the free configuration program.

The unit is capable of providing a REMOTE START signal for the genset system. The genset starting is based on the precisely measured DC battery bank voltage. Once started, the controller will monitor the battery charging cycle and will stop the genset when batteries are fully charged. The optimal charge algorithm allows maximum battery life and minimal engine run time and fuel consumption.

The unit offers a PT100 type, battery temperature sensor input. If used, the temperature protection will allow longer battery life in hot environment and faster charge in cold conditions.

The unit has 2 programmable relay outputs. The relay function is selectable from list.

APPLICATIONS

Battery bank monitoring
DC Power system supervising
DC power system remote monitoring

FEATURES

Compatible with 12V, 24V and 48V DC systems
Isolated Volt - Amp measurements
Battery temperature input for PT100 sensor
Optimal charging, provides longer battery life
Temperature dependent battery charging
Remote Start relay output
Alarm relay output
Adjustable parameters
Fully isolated RS-485 serial port
Free MS-Windows Remote monitoring SW
MODBUS communications

MEASUREMENTS

Battery Volts
 Generator Volts
 Generator Amps
 Generator kW
 Battery temperature



ADVANTAGES

PRECISE CHARGE CHARACTERISTICS: The optimal charge algorithm allows fully charging of the battery bank without any risk of damage. The charge endpoints are detected with an optimal current monitoring feature. The battery voltage and charge current are measured with 0.5% precision.

LESS MAINTENANCE COSTS: The engine will start only when batteries are discharged and it will stop immediately when they are fully charged. No unnecessary engine runtime will occur. This will result in less engine hours, less maintenance costs and less engine wear&tear.

LESS FUEL CONSUMPTION: The engine will run only for charging, and when it runs, it will charge the batteries at the fastest possible safe rate. There will be no unnecessary engine operation, providing minimum fuel costs.

EXTENDED BATTERY LIFE: The precision voltage measurement will protect from deep discharge and overcharging. Temperature and charge current limiting features will protect batteries from early aging.

MORE PROTECTION FOR BATTERIES: Battery protections include fast charging protection, overcharging protection, deep discharge protection and overheating protection. This is the maximum possible level of protection.

PROTECTIONS

OVERCURRENT PROTECTION: the charge current is limited by the "maximum charge current" parameter, protecting batteries from overheating and providing a longer battery life. If the maximum charge current is exceeded then the unit will activate the alarm output.

OVERVOLTAGE PROTECTION: the genset voltage is limited by "float voltage" and "boost voltage" limits, protecting batteries from overcharging and gassing. If the maximum charge voltage is exceeded then the unit will activate the alarm output.

OVERHEAT PROTECTION: the PT100 temperature sensor input is used to protect batteries from overheating caused by the charge current. If the maximum battery temperature is exceeded then the unit will activate the alarm output.

TEMPERATURE DEPENDENT CHARGE: the maximum allowed charge voltage is adjusted in function of the battery temperature. In cold conditions, batteries can withstand higher charge currents. In hot conditions, batteries should be charged slower than usual, in order to protect them from boiling and gassing.

TECHNICAL SPECIFICATIONS

DC Supply Range: 9.0 to 33.0 V-DC

Maximum Operating Current: 200 mA-DC

Relay Outputs: 5A / 250V-AC / 28V-DC

Battery Temp. Input: standard PT100 sensor

Genset voltage: 0 to 70V-DC

Battery bank voltage: 0 to 70V-DC

Current input: from DC shunt, 60mV at rated current

Serial port: RS-485 isolated, 9600 bauds, no parity, 1 bit stop

Operating temp.: -20°C (-4°F) to 70 °C (158°F).

Storage temp.: -40°C (-40°F) to 80 °C (176°F).

Maximum humidity: 95% non-condensing.

Dimensions: 70x115x66mm (WxHxD)

Weight: 200g (approx.)

Installation: DIN Rail mounted.

Case Material: High Temperature ABS/PC (UL94-V0)

IP Protection: IP65 from front panel, IP30 from the rear

CE Conformity reference standards:

EN 61010 (safety requirements)

EN 61326 (EMC requirements)

