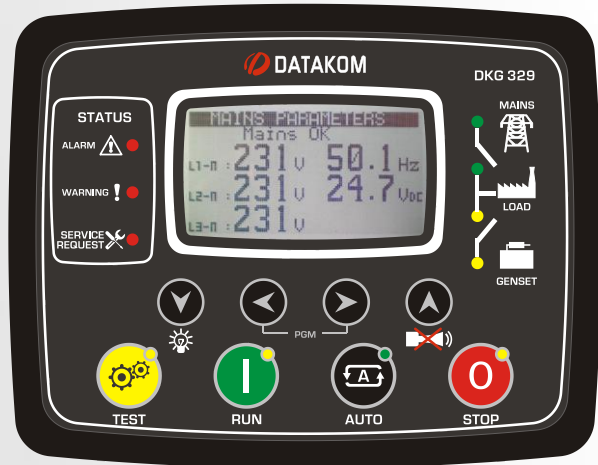


# DKG-329

## ATS CONTROLLER

### 2 GENSETS + MAINS



#### DESCRIPTION

The DKG-329 is a microprocessor controlled unit designed to control a 3-phase transfer panel having 1 mains and 2 gensets. It monitors 3-phase mains voltages, send remote start command to generating sets 1 and 2 and control the changeover of generator and mains contactors.

The unit features equal aging of gensets running the next genset at each mains failure and switching gensets in long mains failures.

If a fault condition occurs, the unit disables the remote starting of the corresponding genset automatically and indicates the failure with led lamp and text.

The unit provides a comprehensive set of digitally adjustable program parameters. The unauthorized access to program parameters is prevented by a 3 level password system. All programs may be modified via front panel pushbuttons and do not require any external unit.

Last 100 faults are stored in the event log file. The event log includes not only the date-time information, but also a comprehensive list of measured parameters at the time that the fault has occurred.

The WINDOWS based RAINBOW program allows remote monitoring and control.

The unit supports MODBUS protocol enabling communication with PLCs and building management systems. The MODBUS protocol is also supported through GSM and PSTN modems.

The unit offers multiple language support.

#### MEASUREMENTS

Generator 1 & 2 Volts: L1-N, L2-N, L3-N  
 Generator 1 & 2 Volts: L1-L2, L2-L3, L3-L1  
 Generator 1 & 2 Frequency  
 Mains Volts: L1-N, L2-N, L3-N  
 Mains Volts: L1-L2, L2-L3, L3-L1  
 Mains Frequency  
 Load Amps: L1, L2, L3  
 Load kW: L1, L2, L3, total  
 Load kVAr: L1, L2, L3  
 Load pf: L1, L2, L3, total  
 Battery Voltage

#### FEATURES

- True RMS measurements*
- Automatic contactor control for 2xGEN+1xMAINS*
- Equal aging of gensets*
- Automatic genset switching*
- Load shedding, dummy load*
- Event logging with time stamp and measurements*
- Battery backed-up real time clock*
- Built in daily / weekly / monthly exerciser*
- Weekly operation schedule programs*
- Field adjustable parameters*
- RS-232 serial port*
- Free MS-Windows Remote monitoring SW*
- GSM and PSTN modem support*
- GSM SMS message sending on fault*
- MODBUS communications*
- Multiple language support*
- Customer logo display capability*
- 16 Amp contactor outputs*
- 1 Amp DC semiconductor control outputs*
- Configurable digital inputs: 7*
- Configurable digital outputs: 2*
- Total digital outputs: 7*
- I/O expansion capability*
- Plug-in connection system*
- Sealed front panel*



## DIGITAL INPUTS

The unit has 7 configurable digital inputs. Each input has following programmable parameters:

- alarm type: shutdown / load\_dump / warning / no alarm
- alarm polling: on engine running / always / on mains OK
- latching / non-latching operation,
- contact type: NO / NC
- switching: BAT+ / BAT-

## OUTPUTS

The unit provides 7 digital outputs and 2 of them have programmable functions, selectable from a list. Any function or alarm condition may be output as a relay output. Using two Relay Expansion Modules, the number of relays may be increased to 23, 16 of them being volt-free contacts.

## EVENT LOGGING

The unit records last 100 events with date-time stamp and a total of 14 measured parameters.

## TELEMETRY AND REMOTE PROGRAMMING

The unit provides the user with large telemetry facilities via its standard RS-232 serial port, connecting either to a PC, PLC or a GSM or PSTN modem. It supports both RAINBOW and MODBUS communication protocols. The standard PC software offers local and modem operation capabilities as well as modem networking feature.

The PC program is used for below purposes:

- parameter upload/download
- remote monitoring and control
- diagnostics and analysis

The MODBUS interface allows the unit to be integrated in building management systems.

## TECHNICAL SPECIFICATIONS

**Alternator voltage:** 0 to 300 V-AC (Ph-N)

**Alternator frequency:** 0-100 Hz.

**Mains voltage:** 0 to 300 V-AC (Ph-N)

**Mains frequency:** 0-100 Hz.

**DC Supply Range:** 9.0 to 33.0 V-DC

**Cranking dropouts:** survives 0 V for 100ms.

**Typical Standby Current:** 100 mA-DC

**Maximum Operating Current:** 200 mA-DC (Relay outputs open)

**Generator/Mains Contactor Relay Outputs:** 16 A / 250V

**DC Outputs:** 1A @ 28V protected semiconductor output

**Current inputs:** from CTs, .../5A. Max load 0.4VA per phase.

**Serial port:** RS-232, 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:** 172 x 134 x 46 mm (WxHxD)

**Panel Cut-out Dimensions:** 151x111 mm minimum.

**Weight:** 300 g (approx.)

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

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

**Installation:** Flat surface mounting on a Type 1 enclosure.

**CE Conformity reference standards:**

EN 61010 (safety requirements)

EN 61326 (EMC requirements)

**UL / CSA Conformity:** certificate # 20110527-E314374

UL 508, Edition 17

UL 2200, 1st Edition.

UL 840 Edition 3

CSA C22.2 NO. 14 - Edition 10

