

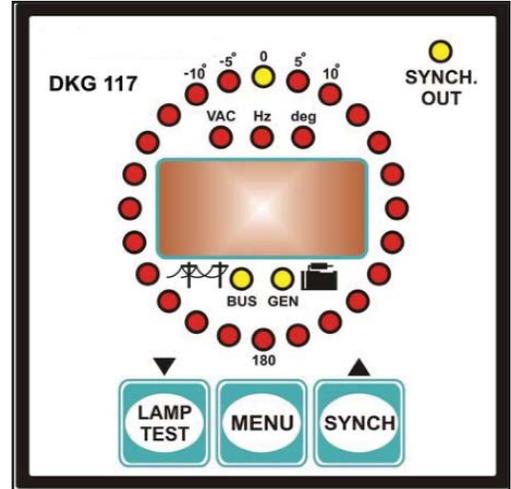


DKG-117

Synchroscope and Check Synch Relay

FEATURES

- ❑ 24 LED circular synchroscope
- ❑ Programmable ΔV , Δf and $\Delta \theta$ for check synch relay
- ❑ 1 phase genset voltage input
- ❑ 1 phase busbar voltage input
- ❑ Synch Check Enable input
- ❑ Dead Bus Enable input
- ❑ Auto power off
- ❑ Adjustable parameters
- ❑ Front panel configurable
- ❑ Survives cranking dropouts
- ❑ LED displays
- ❑ Sealed front panel
- ❑ Plug-in connection system for easy replacement
- ❑ Small dimensions
- ❑ Low cost



DESCRIPTION

The DKG-117 is a microprocessor controlled synchroscope with programmable synch check relay in a DIN 72 front panel mounted package. It monitors the voltage and frequency of 2 independent power networks as well as the instantaneous phase angle between them.

The measured parameters are displayed on the 3-digit digital display. The 24 LED circular synchroscope displays the phase angle between 2 networks. The synchroscope display is only activated if both network voltages are within the set limits.

The DKG-117 is mainly used in manual genset synchronization applications for synchronization checking between a genset and the genset busbar or between the genset busbar and the mains.

The synchronization checking is enabled either via the SYNCH CHECK ENABLE signal input or by depressing the front panel SYNCH pushbutton.

The synchronization checking consists of the verification of below conditions during 4 consecutive busbar cycles:

- ❑ the busbar voltage between set limits
- ❑ genset phase voltage between set limits
- ❑ busbar-genset frequency difference below the set limit
- ❑ busbar-genset voltage difference below the set limit
- ❑ busbar-genset phase angle below the set limit

If all above conditions are satisfied for 4 consecutive busbar cycles then the CHECK SYNCH relay will be immediately energized. If the busbar is not powered up, the synch checking may be overridden with the DEAD BUS ENABLE signal input.

The SYNCH CHECK relay is deactivated either by removing the SYNCH CHECK ENABLE signal or by depressing the front panel SYNCH pushbutton.

The DKG-117 provides a comprehensive set of digitally adjustable threshold levels and timers. All programs are modified via front panel pushbuttons, and do not require an external unit.

The MENU pushbutton allows the digital display to navigate between various measured parameters. If both generator and busbar voltages are below limit, the display will turn off automatically at the end of 1 minute. The unit will wake-up automatically if the generator or busbar voltage is within preset limits or if any front panel pushbutton is depressed.

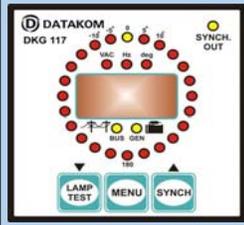
The unit is designed for front panel mounting. Connections are made with 2 part plug and socket connectors.



For more information or the latest certifications, please contact:
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Synchroscope and Check Synch Relay



PC&S products are manufactured under a total quality system that provides total engineering integrity. Products have been engineered to satisfy specifications, performance, reliability and life cycle to exacting standards.

PC&S strives to meet customer requirements and exceed expectations. We do this through monitoring and measuring our process and product, customer satisfaction, internal auditing, analysis of production data, continual improvement including corrective and preventative action. Our quality management systems are certified in accordance with ISO 9001:2000 standards.

CONFORMITY

Low Voltage:

73/23/EEC and 93/68/EEC

Electro-Magnetic:

89/336/EE, 92/31/EEC
and 93/68/EEC

Safety:

EN 61010

EMC Requirements:

EN 50081-2

EN 50082-2

MEASUREMENTS

- ❑ Generator Volts: L1-N
- ❑ Generator Frequency
- ❑ Busbar Volts: L1-N
- ❑ Busbar Frequency
- ❑ Frequency difference: Busbar-Generator
- ❑ Voltage difference: Busbar-Generator
- ❑ Phase Angle: Busbar-L1

RELAY OUTPUTS

The unit provides a synch check relay output with free contacts.

The relay output is capable of driving a 10A / 28V,DC load.

DIGITAL INPUTS

The unit has 2 digital inputs:

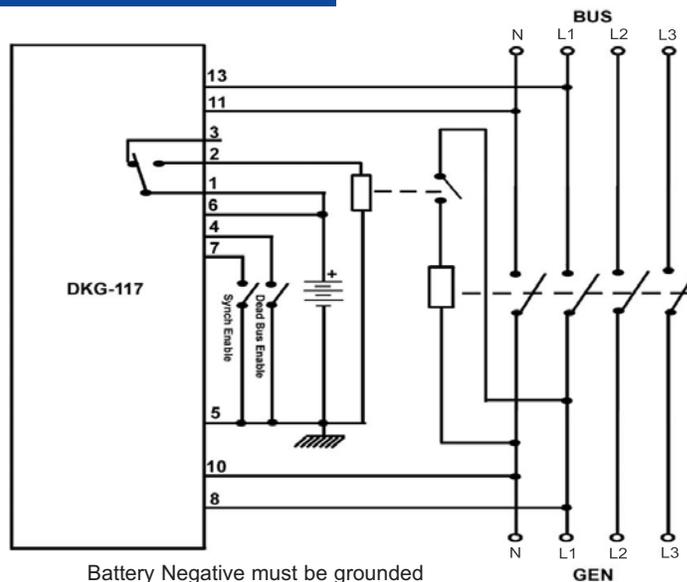
- ❑ Synch Check Enable
- ❑ Dead Bus Enable

The inputs will be active when connected to battery negative. The input function will be disabled if the input is left open.

TECHNICAL SPECIFICATIONS

GENERATOR VOLTAGE	300V,AC (Max), L-N
GENERATOR FREQUENCY	0-100Hz
BUSBAR VOLTAGE	300V,AC (Max), L-N
BUSBAR FREQUENCY	50/60Hz
DIGITAL INPUTS	0-300V,DC
DC SUPPLY RANGE	9.0 to 33.0V,DC
CRANKING DROPOUTS	Survives 0V for 100ms
TYPICAL STANDBY CURRENT	100mA,DC
MAXIMUM OPERATING CURRENT	150mA,DC (Relay outputs open)
CHECK SYNCH RELAY OUTPUT	10A / 28V,DC
OPERATING TEMP	-4°F to 158°F (-20°C to 70°C)
STORAGE TEMP	-22°F to 176°F (-30°C to 80°C)
MAX. HUMIDITY	95% non-condensing
DIMENSIONS	2.83" W x 2.83" H x 2.05" D
IP PROTECTIONS	IP65 at front panel; IP30 from rear
PANEL CUTOUTS	2.68" W x 2.68" H
WEIGHT	0.40 lbs (130 grams)
MOUNTING	Front panel mounted with rear retaining steel spring
CASE MATERIAL	High temperature ABS (UL94-V0)

CONNECTIONS



Or, please contact:



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