Power Control Unit (three-point) LRG100

Function
The LRG100 compares the two input values GENO1 and GENO2 (+/-20mA each) and outputs adjustable pulses (Up or Down) at the output contacts via which generator GENO1 is set to the power value of generator GENO2. "Dead zone" sets an area in the setpoint for which no control impulses are output. This is necessary in order to stabilise the system in the area of the setpoint and in order not to output too many (unnecessary) control pulses in this area. The user can adjust the area within a wide range.

Application
The LRG100 control unit is used in dual-generator systems for power control with a reference variable. The requirement for this is the presence of power converters with a +/-20mA output. The driven generator is adjusted to the same power as the leading generator. The power of the controlled generator is adjusted in such a way that the consumer power is divided up among both generators after an initial control time. If generators of different sizes are used, the smaller generator does not achieve half of the total power but half minus the ratio between the two maximum powers. As an alternative to the "leading generator" GENO2, an adjustable 20mA supply can also be applied externally. This serves as a "reference variable".
Protective circuits on the input side make the unit suitable for heavy-duty operation in disturbed environments.

Functional Circuits
- Functional circuit **Up**: becomes active if the input value of GENO1 (terminal 6/7) falls below that of GENO2 (terminal 8/10).
- Functional circuit **Down**: becomes active if the input value of GENO1 (terminal 6/7) exceeds than that of GENO2 (terminal 8/10).
- Functional circuit **Setpoint reached**: LED display lights up if the generator controlled has reached the setpoint.
- Functional circuit **Dead zone**: adjustable from 0-10% of the final value (20mA). No control pulse is output within the dead zone.
- Functional circuit **Pulse**: adjustable from 0.1-1 seconds, pulse length of the output contact and display LED involved.
- Functional circuit **Pause**: adjustable from 0.1-1 seconds, pause length of the output contact and display LED involved.

Standard Settings
For vibration-free control operation, the Pulse, Pause and Dead zone potentiometers are set according to the specifications of the generator manufacturers or operators. It is also necessary to take the setting rate of the motor potentiometer as well as the time delay into account.

Technical Data
Type: Power Control Unit (Three point) LRG100

Construction: Plastic housing on 35 mm hat rail acc. to DIN EN 50022 bzw. DIN 46277

Material of housing: Bayblend FR 1439/0240 modified ABS with burning protection UL 94 VO

Dimensions, Weight: 104x68x110mm (BxHxT), ca. 0.4 kg

Rated voltage: 231VAC (L1-N) Other voltages on request

Power Consumption: appr. 2.5W

Input Signal (actual value): +/- 20mA , 50 Ohm (Geno1)

Input Signal (set value): +/- 20mA , 50 Ohm (Geno2)

Dead Zone: 0.1 – 10% of total range

Hysteresis: appr. 2%

Switching Accuracy: 0.5% for 0 – 55°C

Pulse duration: 0.1 – 1 sec

On period: 100 %

Contact rating: 5A/250VAC , 5A/30VDC , 0.015 Ohms , 10^5 switchings

Isolating voltage: 3000V (Coil-Contact), 1000V (open contact)

Connecting terminals: Potentialfree, for wire connection up to 2,5 mm²

Type of protection: Housing IP 40 , Terminals IP 20 (or VDE 0106T100/VBG4)

Ambient temperature: -10 °C bis +55°C, 95% Hum

Mains isolating: EN 60 742 (Safety transformers)

General regulations: EN 50 178 (Electrical units in power current installation)

Radio interference: EN 55 022/B

EMV: EN 61000 und EN V 50 140

Installation position: Any

Maintenance: Maintenancefree

Anschlußbilder