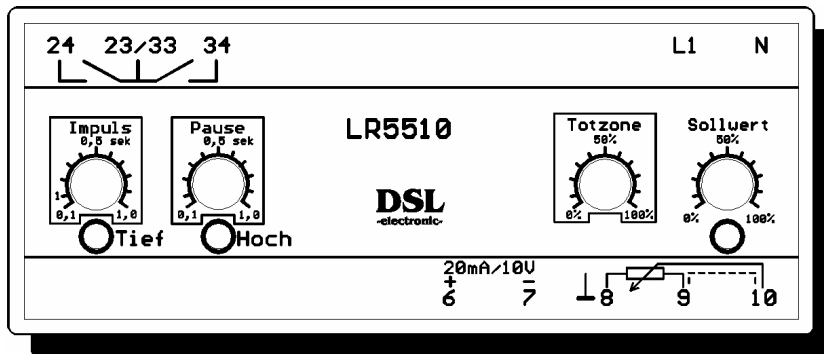


## Three-point Controller LR5510



### Function

The LR5510 compares an input value (0-20mA/10V) at terminal 6/7 with the setpoint value (0-100%) and outputs adjustable pulses (Up or Down) at the output contacts via which a generator GENO1 is set to the setpoint. It is also possible to connect an external potentiometer via which the control area from 0 to the setpoint value is available.

### Application

The LR5510 is for example used in generator systems for power control. The requirement for this is the presence of a power converter with an 0-20mA / 0-10V output. Adjustment pulses of adjustable length are output at the relay outputs of the three-point controller. These for example allow the settings of a motor potentiometer to be changed. The pulses are output until the setpoint value is reached.

No pulses are output during the dead time. Varying the dead time by 0-10% (of the total power) via the potentiometer allows the operator to stabilise the control loop to a sufficient degree and adapt it to local conditions.

Protective circuits on the input side allow the unit to be used for heavy-duty operation in disturbed environments.

Another application is the use of the three-point controller LR5510 as a **mains zero load controller** in mains-parallel operation. As the value to be controlled, the actual mains power is fed into the control input. The generator is now controlled in such a way that the nominal output set is reached at the mains. It is for example possible to adjust the draw on the mains to zero in the context of the generator power by setting the setpoint to zero.

### Functional Circuits

- **Up:** becomes active if the input value of terminal 6/7 falls below the setpoint.
- **Down:** becomes active if the input value of terminal 6/7 exceeds the setpoint.
- **Setpoint reached:** LED display lights up if the generator controlled has reached the setpoint.
- **Dead zone:** adjustable from 0-10% of the final value (20mA). No control pulse is output within the dead zone.
- **Pulse:** adjustable from 0.1-10 seconds, pulse length of the output contact and display LED involved.
- **Pause:** adjustable from 0.1-10 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 set according to the specifications of the generator manufacturers or operator. It is also necessary to take the setting rate of the motor potentiometer as well as the time delay into account.

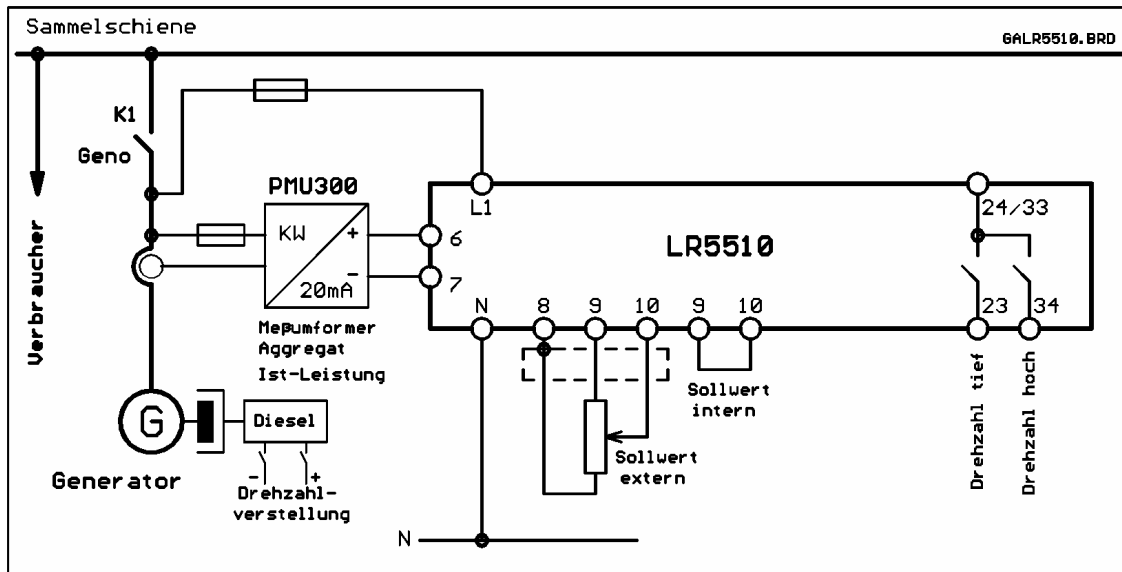
### Technical Data

Type	Three Point Controller LR5510
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 prozection UL 94 V0
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 (10V on request), 50 Ohm (50K for 10V)

Extern Potentiometer	10 k-Ohm
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
Pause duration	0.1 – 1 sec
On period	100 %
Contact rating	5A/250VAC , 5A/30VDC , 0,015 Ohms , 10 <sup>5</sup> switchings
Isolating voltage	3000V (Coil-Contact), 1000V (open contact)
Connecting terminals	Potentialfree, for wire connection up to 2,5 mm <sup>2</sup>
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

## Circuit Diagrams

for normal application



for Mains Zero Load Controller

please note: connections for up / down have to be changed.

