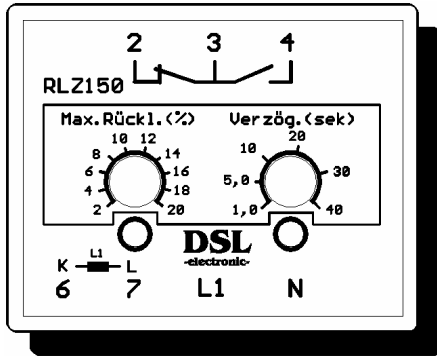


**Reverse Power Time Relay**

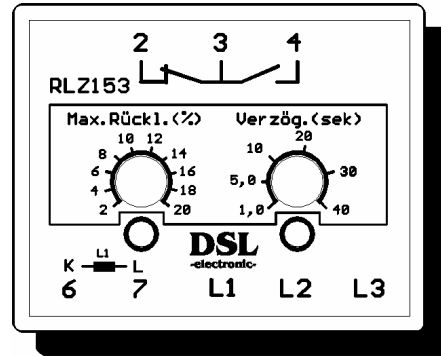
**RLZ110 (1A)  
 RLZ150 (5A)**

**Four-conductor network**



**RLZ113 (1A)  
 RLZ153 (5A)**

**Three-conductor network**



- Real power measurement via internal 4-quadrant multiplier
- Correct triggering even with extreme phase shifts

**Function / Application**

The RLZ... Reverse Power Time Relay measures the true (active) return power of the AC network connected and activates the output contacts when the threshold set is exceeded. The reverse power can be set between 2 and 20% and the rated current for 100% power is 5A (RLZ150/153) / 1A (RLZ110/113). The unit is used in particular for reverse power monitoring in generator switchgear.

**Functional Circuits**

- Functional circuit "Threshold exceeded", left-hand LED lights up and time circuit starts.
- Functional circuit "Threshold exceeded and time set completed", both LEDs light up and the relay switches through.
- Function "Undershooting of threshold", LEDs go off, relay and time circuit switch back to the beginning without a delay.

**Technical Data**

Type	Reverse Power Time Relay RLZ150 (4-wire sym.), RLZ153 (3-wire sym.), 5A rated current RLZ110 (4-wire sym.), RLZ113 (3-wire sym.), 1A rated current
Construction	Plastic housing on 35 mm hat rail acc. to DIN EN 50022
Material of housing	Bayblend FR 1439/0240 modified ABS with burning protection UL 94 VO
Dimensions, Weight	55x68x110mm (WxHxD), ca. 0,4 kg
Rated voltage	231V 50Hz +/- 15% (L-N), 400V 50Hz, Other voltages on request
Power consumption	2,5 VA
Input current signal	5A (RLZ150, RLZ153), 1A (RLZ110, RLZ113)
Reverse power (real)	2 - 20% , one phase
Time delay	1 - 40 sec.
Class of accuracy	1% with any cos-phi
Drift of temperature	1 % (0 to 55°C Ambient temperature)
On period	100 %
Contact rating	5A/250VAC , 5A/30VDC , 0,015 Ohm Kontaktwid. , 10 <sup>5</sup> switchings
Voltage protection	3000V (Coil-contact), 1000V (open contact)
Connection terminals	Potentialfree, for wire connection up to 2,5 mm <sup>2</sup>
Type of protection	Housing IP 40 , Terminals IP 20 (bzw. 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 and EN V 50 140
Installation position	Any
Maintenance	Maintenancefree

## Terminals-Remarks

### **RLZ110 and RLZ150**

For correct measuring of reverse power the right voltage phase (i.e. L1) in common with the belonging current phase (L1) must be connected. But also another voltage phase together with the belonging current may be chosen. As a rule the phase of L1 will be chosen.

During connection of the current phase there must have been a check if the right phase direction has been connected to the current transformer. As a rule the marked terminal on current transformer will be connected to terminal 6 (K = coming) and the other pole to terminal 7 (L = running), while the current direction of wire is marked with an arrow.

### **RLZ113 and RLZ153**

For the 3-wire units the same upper remarks are valid but all three voltage phases must be connected without neutral wire N. With this execution of reverse power relay an internal neutral potential will be produced and the phase L1 will be measured against this artificial ground. It is important that the current phase of L1 will be connected in the right direction.