

# Phase Sequence-Change Relay DRR20

## with integrated Monitoring of Undervoltage and Asymmetry

### Phase Sequence-Change Relay DRR20



Phase-Sequence-Change Relays DRR20 measure the sequence of the phases and switch – if necessary the rotation of the field. At the output (connect relays K1 and K2 in series in this application) two contactors are connected. The contactor at the normally-open contact of K2 switches the phases 1:1 without changing them, the second (at normally-closed contact) changes 2 phases.

When switching on with phase-sequence ok, relay K2 picks up. With wrong phase-sequence it remains released. After K2 has switched, K1 picks up. K1 also releases first. This makes sure, that no wrong contactor can be picked up under any condition. Additionally the DRR20 monitors the three phases for asymmetry and undervoltage. If the limits are exceeded, the K1 switches off (respectively doesn't pick up) and protects the connected motor from damage. The device can also be used as a monitor for undervoltage, asymmetry or phase-sequence.

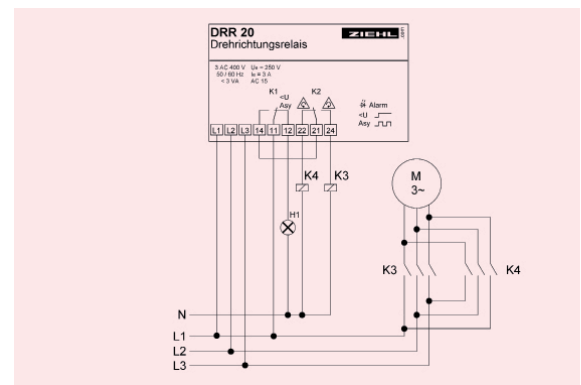
Applications are machines and equipment that is operated at variable locations, e.g. at building

sites. Pumps, compressors and vacuum-cleaners always run correctly and they are protected from damage by undervoltage or asymmetry.

- automatic change of wrong phase-sequence when connected falsely (2 contactors afforded)
- running backward of motors is avoided
- no switching on at asymmetry or undervoltage
- relay K2 picks up when phase-sequence is correct
- relay K1 picks up (after K2) when symmetry and voltage is correct
- 3 LEDs for state of relays and errors
- measuring-voltage 3 AC 400 V
- limit asymmetry adjustable 5...25 %
- limit undervoltage adjustable 70...95 %
- alarm-delay adjustable 0,1...10 s (undervoltage and asymmetry)
- no supply-voltage required

Order-number

**P222551**



### Technical Data

Rated supply voltage  $U_s$   
Admissible tolerance  $U_s$   
Output relay  
Type of contact

Output relay  
Type of contact  
Test conditions  
Rated ambient temperature range

Limit asymmetry  
Limit undervoltage  
Hysteresis  
Delay undervoltage/asymmetry  
Delay phase-loss (<60%  $U_s$ )  
Pick-up delay after recovery of  $U_s$   
Delay K2 - K1

Dimensions (h x w x d) mm  
Fitting position  
Attachment

Protection housing / terminals  
Weight

3-phase, 400 V without N  
+10%...-30%  
ca. 3 VA  
50/60 Hz

2 change-over contacts (co)  
**type 2** see "general technical informations"  
see "general technical informations"  
-20°C...+55°C

adjustable 5...25 %  
adjustable 70...95 %  
app. 2%  
adjustable 0,1...10 s  
< 0,2 s  
< 0,5 s

app. 100 ms

housing K: 75 x 22,5 x 115 mm  
any  
on 35 mm DIN rail according to EN 60715 or  
2 screws M 4  
IP 30/20  
150 g