

# PHASE SEQUENCE / PHASE FAILURE DETECTION RELAY

DOP23



- **Indication of the phase order in a three-phase systems**

Network frequency : 50Hz , 60Hz and 400Hz (40Hz....500Hz)

- **Led status indicator**

Normal , reverse and phase loss

- **Output contact for phase order ok**

Electromagnetic or static relays version

- **Self powered**

- **Unplug terminal blocks**



The DOP23 relay is for monitoring phase order on a three phase electrical system that can be changed and whose direction of rotation is important (eg. Pumps, saws and drills). An output contact indicating the correct order of the phase and the presence of all phases can be used to validate the power on of the installation. The LEDs on the front panel allow easy diagnosis (normal, reverse order or phase failure).

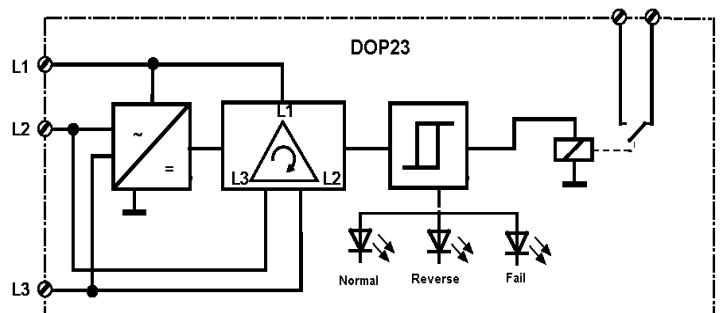
**Description:**

- Phase order detection,
- Phase failure or phase loss detection,
- Fuses monitoring,
- Led status indication,
- Self powered module

**Feature:**

- DIN rail mounting (symmetrical)
- Screw terminal blocks (up to 2.5 mm<sup>2</sup>)
- Conformal coating
- Protection rating : IP20 (enclosure/ terminal blocks)
- Static relay 60V 0.5A (normally open contact)
- option: electromagnetic changeover contact relay 6A 250Vac

**Synoptic**



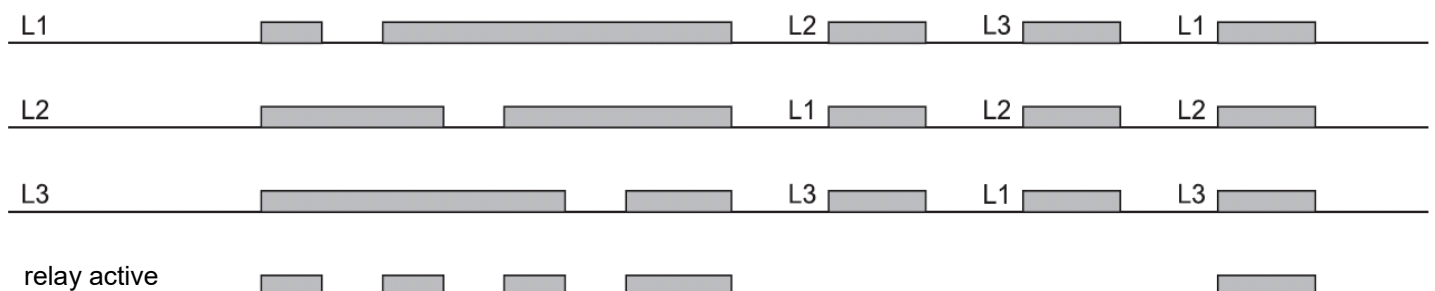
Version and order :

[Request a quote](#)

- DOP23/1** : version for 90 - 140V between phase (40Hz...500Hz)
- DOP23/2** : version for 200 - 240V between phase (40Hz...500Hz)
- DOP23/4** : version for 380 - 500V between phase (40Hz...500Hz)
- DOP23/5** : version for 550 - 700 volts between phase (40Hz...500Hz)

Option : **-RE** : Electromagnetic output relay. Changeover contact 6A 250V. (35mm width case)

## Operating diagrams



**INPUT / POWER SUPPLY**

TYPE 3 wires (L1,L2,L3) RANGE

**DOP23 / 1:** version for 90 to 140 volts between phase - 40...500 Hz  
**DOP23 / 2:** version for 200 to 240 volts between phase - 40...500 Hz  
**DOP23 / 4:** version for 380 to 500 volts between phase - 40...500 Hz  
**DOP23 / 5:** version for 550 to 700 volts between phase - 40...500 Hz  
 Current consumption < 3mA per phase

**OUTPUT RELAY**

**DOP23:** Static relay, normally open contact, potential free  
 Resistive power switching 50V - 500 mA  
 ON resistance 1 ohms  
 Isolation 2500 Vac  
 Leakage current < 1uA

**DOP23-RE :** Electromagnetic relay, changeover contact, potential free  
 Resistive power switching 250V - 6A (1500VA)  
 Dielectric strength 1.2 / 50 µs , 6000V  
 isolation 4000Vac

Maximum Rise Time. 400 ms (correct phase order)  
 Release delay max. 400 ms (phase failure)  
 (security to avoid untimely switching)

**ENVIRONMENT**

Operating temperature -20 to 60 °C  
 Storage temperature -25 to 85 °C  
 Hygrometry 85 % not condensed

Weight 120 g  
 Protection rating IP20

MTBF (MIL HDBK 217F) > 3 000 000 Hrs @ 25°C  
 Life time > 200 000 Hrs @ 30°C

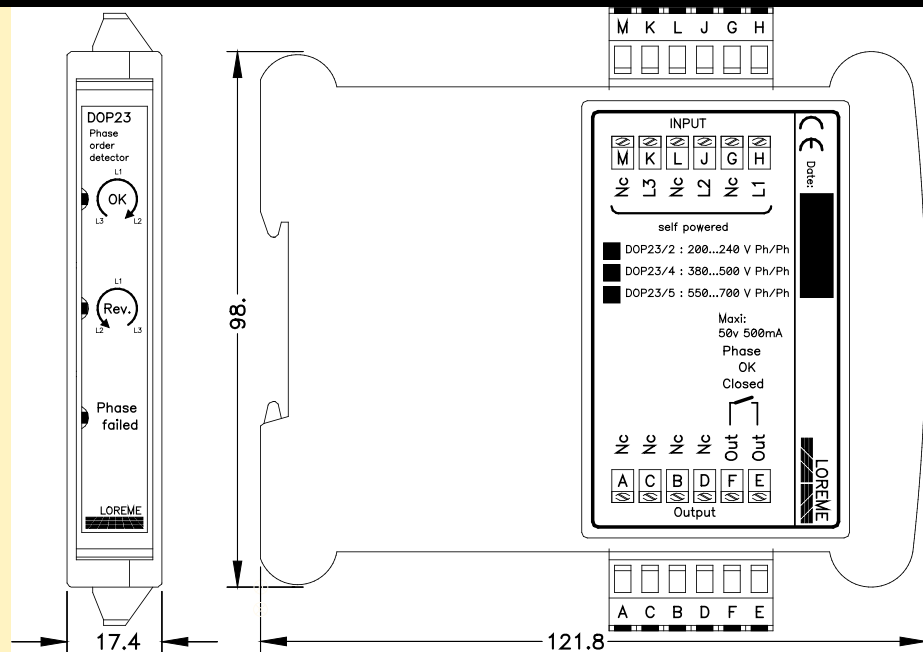
**Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE**

Immunity standard for industrial environments EN 61000-6-2		Emission standard for industrial environments EN 61000-6-4
EN 61000-4-2 ESD	EN 61000-4-8 AC MF	EN 55011 group 1 class A
EN 61000-4-3 RF	EN 61000-4-9 pulse MF	
EN 61000-4-4 EFT	EN 61000-4-11 AC dips	
EN 61000-4-5 CWG	EN 61000-4-12 ring wave	
EN 61000-4-6 RF	EN 61000-4-29 DC dips	



**WIRING AND OUTLINE DIMENSIONS:**

**DOP23 :**  
 Static relay  
 normally open contact  
 50V 0.5A



**DOP23-RE :**  
 changeover contact relay  
 250V 6A

