

Measuring and Monitoring Relays

Phase Monitoring Relay



PFD2-E12

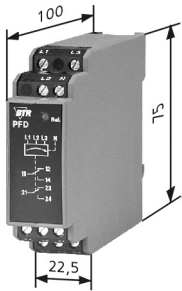
400/230 V - 2 changeover contacts

- monitoring of phase sequence
- monitoring of phase failure
- LED indication

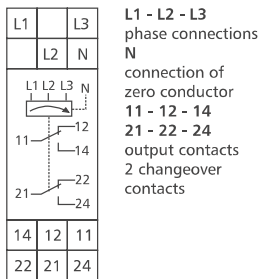
Part Number

110 292 03 22 15 400/230 V - 2 changeover contacts

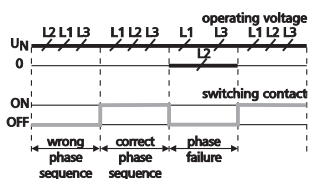
Housing Dimensions



Wiring



Function Diagram



Description

The monitoring relay PFD2-E12 is used to monitor the correct phase sequence L1-L2-L3 (clockwise rotation) and the individual phase voltages for complete failure.

Functional Description

The monitored phase voltages are connected to contacts L1-L2-L3, the contacts 11,14 or 21,24 of the relay output contact are connected before the trip coil of the motor contactor. At a correct phase sequence L1-L2-L3 (clockwise rotation) of the three-phase current the switching element is activated and releases the current path of the motor switch. This is indicated by the green LED lighting. If one phase totally fails the output relay reverts to its inactive position. The monitoring relay does not require any special supply voltage.

Connect the PFD2-E12 only to N if the three monitored phases are connected to N through a circuit (e. g. temperature monitoring or similar).

Technical Data

Input

nominal voltage U_n	400 V AC
power consumption	20 mA
operating voltage range	0.85 ... 1.1 x U_n
frequency	50 Hz
response delay	5 s
operating temperature range	-10 °C ... +60 °C
storage temperature range	-20 °C ... +70 °C

Output

output contact	2 changeover contacts
contact material	AgNi90/10
switching voltage max.	250 V
making/breaking capacity	230 V~ 6 A AC1, 230 V~ 3 A AC3, 230 V- 0,12 A, 60 V- 0.6 A, 24 V- 4 A 12 V- 6 A DC1
continuous current max.	6 A
contact fuse	6 A

mechanical endurance	1x10 ⁷ switching cycles
electrical endurance	1x10 ⁵ switching cycles
permissible switching frequency	1200 switching cycles/h
isolation per VDE 0110	

rated voltage	250 V
overvoltage category	III
pollution degree	2
test voltage (coil/contact)	2000 V, 50 Hz 1 min
EMC test	emission per EN 50 081 T1 interference immunity per EN 50 082 T2

Housing

type of protection (EN 60529)	housing IP50, terminal blocks IP20
wire cross section	2.5 mm ²
mounting position	any
colour	green
weight	120 g
housing dimensions WxHxL	22.5 x 75 x 100 mm
modular	without spacing