

Phase failure relay

3-Phase Voltage Monitoring Relay

Type DPA55CM40



Application

DPA55CM40 is the monitoring relay used for three-phase three-wire systems, monitors for under-voltage, over-voltage, phase sequence, phase loss and voltage unbalance.

Mainly applied in the circuit with 50/60Hz, rated voltage 380V/400V/415V, when the power supply is normal, the NO contact(11-14) closes, the NC(11-12) one opens, the LED lights; when the power supply is suffering one or more abnormalities, the NO opens and the NC closes, the relative indicator LED lights.

Features

- Over voltage protection
- Under voltage protection
- Phase loss protection
- phase sequence protection
- phase voltage unbalance protection
- LED indication for relay and power supply ON
- LED indication for power fault
- Knob-adjustable over/under voltage detection

Option list (●-yes)

Function \ Type	DPA55CM40
Rated Voltage	380~440VAC (Ph-Ph)
Output	1SPDT
Phase sequence	●
Phase loss	●
Voltage unbalance	●
Under voltage	●
Over voltage	●
Adjustable over/under voltage	●

Specifications

Function \ Type	DPA55CM40
Input(Ph-Ph)	200~550 VAC
Operational power(L2-L3)	13 VA@400V 50Hz
Voltage proof (L2-L3)	3600Vdc (2S)

Situation of certification	
Product standard	GB 14048.1-2000 、 GB14048.5-2008
ISO	IEC60947-5-1:2003
CE Marking	L. V. Directive 2006/95/EC EMC Directive 2004/108/EC
RoHS Instruction	2011/65/EU
CCC	A037133

Indication for	
Normal	LED green ON
Phase reverse	LED red ON
Phase loss	LED red ON
Under/Over voltage	LED yellow ON

Input Specifications	
Range(knob-adjustable)	380 (standard) , 400V\415V\440\460V
Over voltage setting	420-480V
Under voltage setting	300-360V
Time(fixed)	8S

Output Specifications		
Output	SPDT	
Action principle	Closed circuit	
Contact ratings	AgSnO	
Rated voltage	24VDC, 250VAC	
Rated current	DC12 24V	5A
	AC15 250V	2.5A
	DC13 24V	2.5A
Mechanical life	$\geq 10^7$ 次	
Electrical life	$\geq 10^5$ 次 (at 5 A, 250 V, $\cos \psi = 1$)	

General Specifications	
Dimensions	17.5 x 81x 67.2 mm
Material	PA66 or PC
Wire section	1×2.5mm ² (AWG13)
Application area	任何
Degree of protection	IP20
Pollution degree	II 级
Operating temperature @ Max.voltage,50Hz	-20...+60℃, R.H. < 95%
Storage temperature	-30...+80℃, R.H. < 95%
Mounting	DIN-rail(DIN 43880)

Dielectric strength	
Dielectric voltage	≥ 2 kVAC (rms)
Rated impulse withstand volt.	4 kV (1.2/50 μ s)

Mode of operation

Phase sequence protection: Turn the power ON. If the 3 phases are present and in the proper sequence, and each phase-phase voltage is within the desired tolerance, the relay and green LED are ON; the relay releases and green LED is OFF in case of incorrect phase sequence, also the corresponding red LED is ON

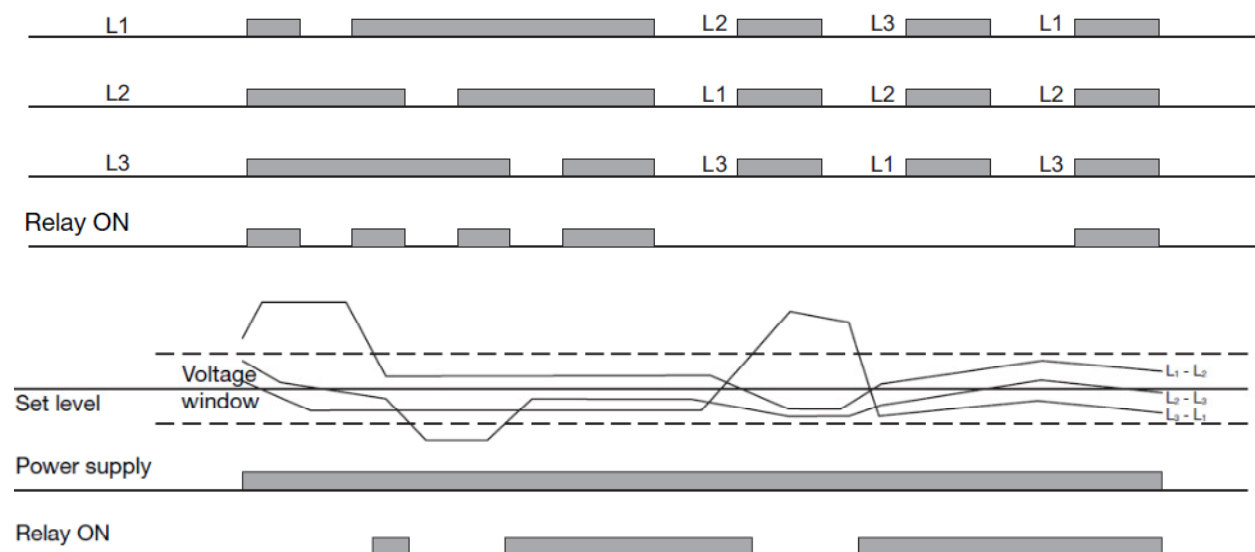
Phase loss protection: Turn the power ON. The relay and green LED is ON when the 3 phases are present. If any phase is loss, the relay releases and green LED is OFF.

Over voltage protection: Turn the power ON, when line voltage is higher than the set limits and continue over 8S, relay releases and LED green is OFF, also LED yellow is ON; when the voltage is restored, relay and LED green are ON properly.

Under voltage protection: Turn the power ON, when line voltage is lower than the set limits and continue over 8S, relay releases and LED green is OFF, also LED yellow is ON; when the voltage is restored, relay and LED green are ON properly.

Voltage unbalance protection: Turn the power ON. If the 3 phases are present and in the proper sequence, and each phase-phase voltage is within the desired tolerance, the relay and green LED are ON. When any line voltage is lower than 85% of the other line voltage value, the relay releases and green LED is OFF.

Operation Diagram



Level setting

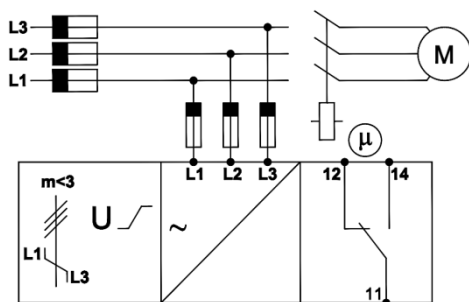
Select the proper undervoltage and overvoltage level using the knob according to the phase-phase voltage and the needed sensitivity.

Centre knob: Setting of under and over level on absolute scale.

DPA55CM40 Overvoltage setting: 420-480VAC

DPA55CM40 Undervoltage setting: 300-360VAC

Wiring Diagrams



Dimensions

