

Phase Failure Relays

MKC - MKS Series



MKC-01



MKC-06

MKS-MKC phase failure relays are designed to monitor 3-phase motors against overheating and damage caused by phase faults and voltage unbalance at industrial sites.



PRODUCT SELECTION TABLE

Product Code		Neutral Failure	Phase Failure	Phase Seq. Failure	PTC Protection	Fixed Asymmetry	Adjustable Asymmetry	Without Neutral	Switch On Delay	Switch Off Delay	1 C/O Contact	1 N/O Contact	DIN1 Rail Mounting	DIN2 Rail Mounting	Pcs / Box
MK-01	Phase Failure Relay	●	●			●					●				20
MKC-01	Phase Failure Relay	●	●			●					●			●	16
MKS-01	Phase Failure Relay	●	●			●						●	●		28
MKC-03	Phase Failure Relay	●	●	●		●					●			●	16
MKC-03P	Phase Failure Relay (with PTC3)	●	●	●	●	●					●			●	16
MKS-03	Phase Failure Relay	●	●	●		●						●	●		28
MKC-04	Phase Failure Relay		●	●		●		●			●			●	16
MKC-04-U69	Phase Failure Relay		●	●		●		●			●			●	16
MKC-05	Phase Failure Relay	●	●	●			○		●	●	●			●	16
MKC-05P	Phase Failure Relay (with PTC3)	●	●	●	●		○		●	●	●			●	16
MKC-06	Phase Failure Relay		●	●			○	●	●	●	●			●	16
MKC-06-U69	Phase Failure Relay		●	●			○	●	●	●	●			●	16
MKC-06P	Phase Failure Relay (with PTC3)		●	●	●		○	●	●	●	●			●	16
MKC-20	Phase Failure Relay		●	●			○			●	●		●		28

○ Can be switched off

1. Phase Absence

If all 3 phases are valid, the output relay is ON. In case of a fault in any of the phases, the output relay is switched to OFF.

2. Phase Sequence Error

When the phase order is correct (L1, L2, L3 clockwise), the relay output is ON. However, if the order changes the output relay is switched to OFF.

3. PTC Protection

If coil temperatures in the motor exceed the value of PTC temperature limit, the output relay is automatically switched to OFF.

4. Fixed Asymmetry (Voltage Unbalance)

If Phase-Neutral voltage shows voltage unbalance above a fixed value (above 20% or 40%), the output relay is switched to OFF in 0,2 seconds.

5. Adjustable Asymmetry (Voltage Unbalance)

If Phase-Phase (MKC-06/06P) or Phase-Neutral (MKC-05/05P) voltage unbalance is below the value set the output relay is switched to ON.

If the unbalance value exceeds the user-specified limit (5% - 15%), the output relay is switched to OFF after the user-defined delay time (0,1... 20s).

If the fault is over within the delay time, the output relay is not switched to OFF and the motor continues to operate. In addition to these features, if the L3 phase drops below 50% of the operating voltage of the device (MKC-05/05P), the relay is switched to OFF without delay. In this case, phase sequence and asymmetry LEDs start blinking.

* Please see page 98 for PTC Temperature graph

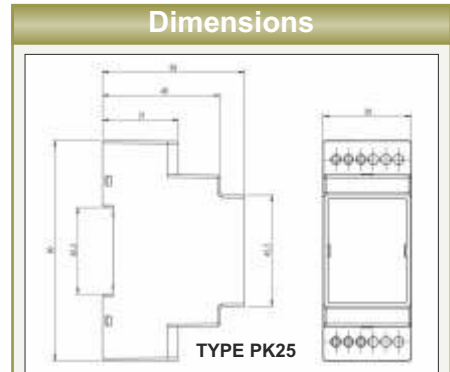
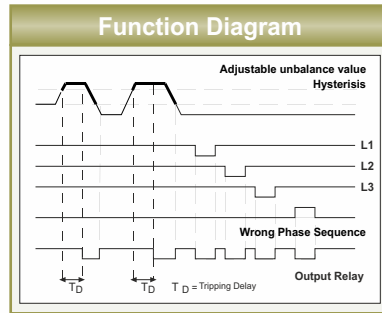
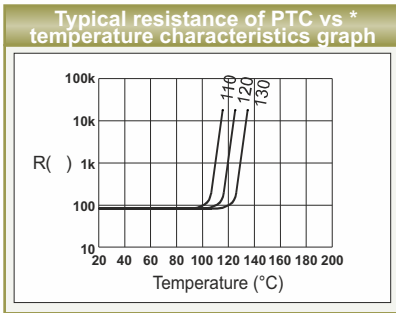


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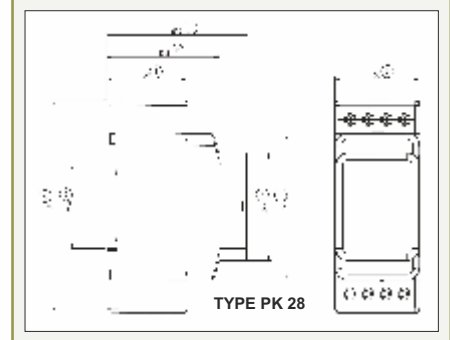
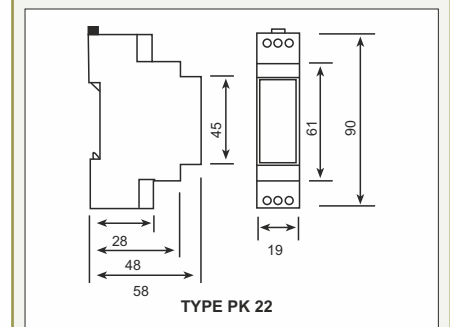
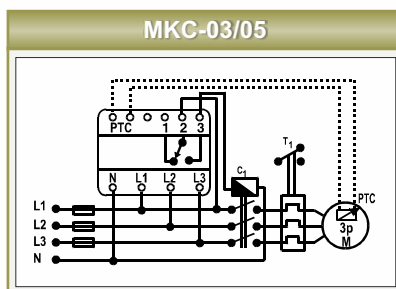
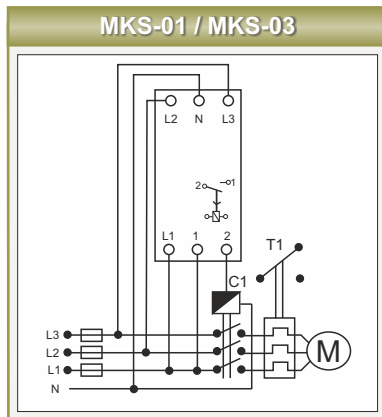
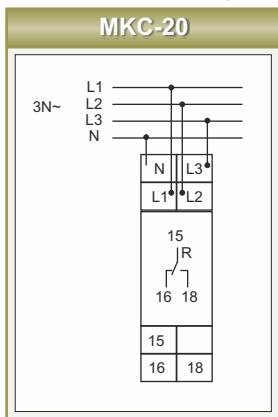
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SPECIFICATIONS

	MKC-01	MKS-01	MKS-03	MKC-01	MKC-03	MKC-03P	MKC-04	MKC-04-U69	MKC-05	MKC-05P	MKC-06	MKC-06-U69	MKC-06P	MKC-20
ENCLOSURE														
Dimensions	PK21	PK22	PK25 - PK28						PK22					
Weight		0,1kg/pcs	0,3kg/pcs						0,1kg/pcs					
MEASUREMENT														
Voltage Unbalance	%20 fixed	%40 fixed	%20 fixed	%40 fixed		%10 fixed	%5-%15 adjustable Can be switched off				%5-%25 adjustable Can be switched off			
SUPPLY														
Operating Voltage	230 VAC						400 VAC	160-690 VAC	230 VAC	220 VAC	400 VAC	160-690 VAC	380 VAC	230 VAC
Operating Frequency	50/60 Hz													
OUTPUT														
Output Contact	1CO,8A,2000 VA	1NO,8A,2000 VA	1CO,8A,2000 VA						1CO 5A,1250 VA					
On Delay	0,2 sec. fixed				0,1-20 sec. adjustable				0,1 sec. fixed					
Off Delay	0,2 sec. fixed				0,1-20 sec. adjustable				0,1-20 sec. adjustable					
AMBIENT CONDITIONS														
Ambient Temperature ; Humidity	-5 / +55 C ; %90													
Over Voltage Category	III													
CONNECTIONS														
Mounting	Rail mounting													
Connection Types	3 phase+neutral			3 phase		3 phase+neutral		3 phase		3 phase+neutral				



Connection Diagram



No PTC input except MKC-05/06P

Connection diagrams are given for reference. Please always check the latest user manual given with product or download from www.entec.com.tr

