

Phase shift monitoring relay for single and three-phase systems



PMA60...

Order code	Rated current I_e	Auxiliary supply voltage	Qty per pkg	Wt
	[A]	[V]	n°	[kg]

Single and three-phase systems.
Minimum and maximum $\cos\phi$ control. Delayed trip.
AC auxiliary power supply.
Automatic or manual reset.

PMA60 A240	16A	220-240VAC	1	0.254
PMA60 A415		380-415VAC	1	0.254
PMA60 A480		440-480VAC	1	0.254

General characteristics

- Minimum and maximum phase shift monitoring relay, AC auxiliary power supply
- Direct connection up to 16A max or by current transformer (CT)
- Excellent tripping accuracy
- Voltage control range 80-660VAC
- Current control range 0.1-16A
- Automatic or manual resetting (manual resetting by power removal)
- 2 relay outputs (Min and Max), configurable, each with 1 changeover contact (SPDT)
- Modular DIN 43880 housing, 3 module
- IEC protection degree: IP40 on front (only when placed in IP40 enclosure or control board); IP20 at terminals.

ADJUSTMENTS

- "Cos ϕ min" Minimum $\cos\phi$ threshold
0.1-0.99 inductive
- "Trip delay" Tripping time for minimum $\cos\phi$
0.1-30s
- "Cos ϕ max" Maximum inductive $\cos\phi$ threshold
0.1-0.99
- "Trip delay" Tripping time for maximum $\cos\phi$
0.1-30s
- "Inhibition time" Tripping delay at power up 1-60s
- "Mode"
- Single or three phase
 - Relay outputs normally energised or de-energised
 - Tripping memory (Latch) On or Off.

Certifications and compliance

Certifications obtained: EAC; UL Listed, for USA and Canada (cULus - File E93601), as Auxiliary Devices - Modular ampere monitoring relays.
Compliant with standards: IEC/EN 60255-5, IEC/EN 61000-6-2, IEC/EN 61000-6-3, UL 508, CSA C22.2 n° 14.

Operational diagram

See pages 18-23 and 24.

Frequency monitoring relay for single and three-phase systems



PMF20...

Order code	Rated voltage U_e	Qty per pkg	Wt
	[V] 50/60Hz	n°	[kg]

Single and three-phase systems.
Minimum and maximum frequency. Delayed trip.
Automatic reset.

PMF20 A240	220-240VAC	1	0.125
PMF20 A415	380-415VAC	1	0.125

General characteristics

- Frequency monitoring relay, self powered, for minimum and maximum control
- Rated frequency selection: 50 or 60Hz
- Tripping threshold for minimum and maximum frequency
- Excellent tripping accuracy
- 1 relay output, configurable, with 1 changeover contact (SPDT)
- Modular DIN 43880 housing, 2 module
- IEC protection degree: IP40 on front (only when placed in IP40 enclosure or control board); IP20 at terminals.

ADJUSTMENTS

- "Hz max" Maximum frequency tripping threshold
+1 to +10%
- "Delay" Tripping time 0.1-20s
- "Hz min" Minimum frequency tripping threshold
-1 to -10%
- "Delay" Tripping time 0.1-20s
- "Reset delay" Resetting time 0.1-20s
- "Mode"
- Minimum and maximum frequency
 - Output relay energised at maximum frequency
 - Output relay energised at minimum frequency
 - Output relay de-energised at maximum frequency.

Certifications and compliance

Certifications obtained: EAC; UL Listed, for USA and Canada (cULus - File E93601), as Auxiliary Devices.
Compliant with standards: IEC/EN 60255-5, IEC/EN 61000-6-2, IEC/EN 61000-6-3, UL 508, BCSA C22.2 n° 14.

Operational diagram

See page 18-24.