

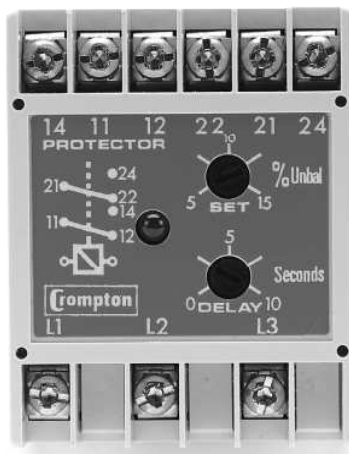
250 Series DIN Rail and Wall Mounted - Phase Balance

MetersUSA
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Application:

- » Motor protection
- » Motors - Single Phasing
- » Gensets - correct engine rotation
- » All portable equipment
- » All rotating machines

We also manufacture front of panel mounting phase sequence indicators



The Crompton Protector Phase Balance module provides continuous surveillance of a 3 phase, 3 or 4 wire system and protects against:

- Phase Loss, Reversal or Sequence
- Phase Unbalance
- System Under Voltage

Introduction

This Crompton Protector is designed to comprehensively monitor the three phase supply. It monitors the correct phase rotation or sequence of three phase supply systems. Rotating machines are particularly vulnerable to incorrect phase sequence. Three phase motors can rotate in the wrong direction, potentially leading to physical damage or the risk of injury to personnel, yet voltage and current readings may appear normal. If one phase is lost because of a blown fuse, electric motors can continue to operate (single phasing) which can result in severe electrical or mechanical damage.

This relay has the added advantage that it will detect the phantom or regenerated phase that can be caused by a single phase failure on some equipment or when running motors at low load levels.

An unbalanced supply voltage can lead to temperature rises in motors. An unbalance voltage as little as 10% can increase operating temperature to 150% of normal.

For permanent installations, this relay should be used to monitor the incoming supply, protecting all equipment against incorrect connection at initial installation or after maintenance work. Rotating machines that cannot tolerate reverse rotation or pose significant risk to personnel under this condition should be individually protected with this relay. The possibility of incorrect supply connection is much more likely in portable equipment or marine applications.

Product Function

The protector continuously monitors the three phase supply. With the correct phase sequence applied and all three voltages are balanced within the required limits, the front panel LED will illuminate and the output relay will be energized. An incorrect sequence, missing phase, out of balance or under voltage condition will de-energize the relay, and the LED will be extinguished.

The setpoint control allows adjustment of the voltage matching between 5% and 15%.

The time delay function operates only for the voltage unbalance condition. The delay can be used to prevent nuisance tripping due to short term unbalance situations. Incorrect phase rotation, a missing phase or an under voltage condition trip the relay immediately.

Protection against:

- Incorrect phase sequence
- Loss of one phase
- Under voltage
- Unbalanced voltage
- A phantom or regenerated phase voltage

Crompton
INSTRUMENTS

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Specification

Approvals:	U.L. recognised CSA approved up to 480V.	Set Points:	Unbalance: Adjustable 5% to 15% Time Delay: Up to 10 seconds adjustable
System:	3 phase, 3 or 4 wire Frequency: 50 or 60Hz	Under Voltage (Type 252-PSG only):	Internally preset at 15% of nominal voltage (other values between 10% and 30% available on request) (not operative if voltage falls below 70% of the nominal voltage or set point on type 252-PSG)
Nominal Voltage:	100, 110, 120, 208, 277, 220, 230, 240, 380, 400, 415, 440 & 480V		
Burden:	3VA approx.		
Voltage Withstand:	1.2 x continuously 1.5 x for 10 x 10 seconds		

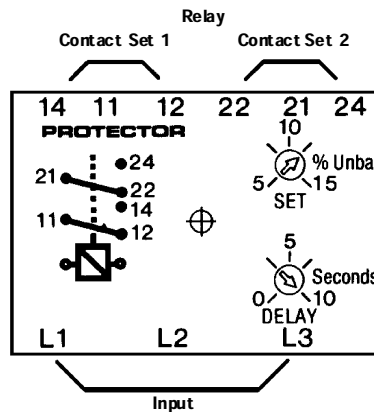
Product Code Examples

Relay	Input	Protection	ANSI No.	Catalogue No.
3 Phase 3 or 4 Wire	120V L-L 60Hz	Phase loss & unbalance	47	252-PSFU-PQBX-C6
	480V L-L 60Hz	Phase loss & unbalance	47	252-PSFU-SEBX-C6
	120V L-L 60Hz	Phase loss, unbalance, under voltage	47/27	252-PSGU-PQBX-C6T1-4A
	480V L-L 60Hz	Phase loss, unbalance, under voltage	47/27	252-PSGU-SEBX-C6T1-4A

Connection Diagrams

252-PSF

252-PSG



Note: No neutral connection is required



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