PHASE SEQUENCE AND PHASE FAILURE (PVR3 / PVR4)

PROTECTION RELAYS

KEY FEATURES

- LED fault indication
- Adjustable nominal voltages, trip points, time delay and differentials
- Compact DIN-rail enclosure
- Power on LED (Green)
- Designed to avoid nuisance tripping

TE Connectivity's (TE) Crompton Instruments phase sequence and phase failure protector trip relay is designed to monitor the correct phase rotation or sequence of a three-phase supply system. It provides protection against incorrect phase sequence, loss of one phase and under voltage. Two versions are available to suit either three-phase three-wire (PVR3) or three-phase four-wire (PVR4) systems.

PVR3 and PVR4 are suitable for applications where the involvement of three-phase motors, which can rotate in the wrong direction, yet voltage and current readings may still appear normal. This could lead to physical damage or risk of injury to personnel, yet voltage and current readings may still 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. 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 a significant risk to personnel under this condition should be individually protected with this relay.

The phase sequence and phase failure protector continuously monitor the three-phase supply. With the correct phase sequence applied, the front panel LED will be off and the relay energized. An incorrect sequence or missing phase will de-energize the relay and the LED will illuminate showing a fault condition. The supply falling below 85% of its nominal voltage will also cause a trip.

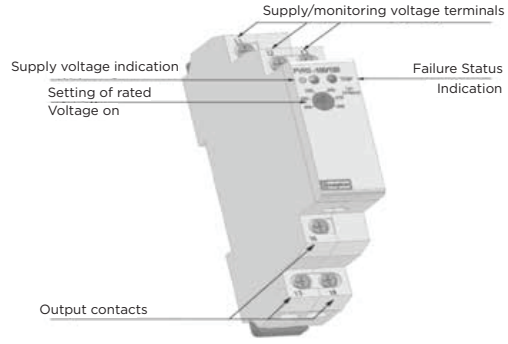
Customers can count on consistent, high quality products, driven by TE's proven innovation and backed by our extraordinary customer support.

Phase Sequence and Phase Failure PVR3 / PVR4

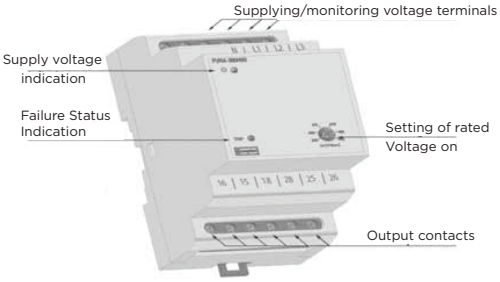
SPECIFICATION

Technical parameters	PVR3-100/120	PVR3-173/240	PVR3-380/480	PVR4-100/120	PVR4-173/240	PVR4-380/480
Phase sequence under voltage 85% (de-energise on trip)	●	●	●	●	●	●
System type	3-phase 3-wire (3-)	3-phase 3-wire (3-)	3-phase 3-wire (3-)	3-phase 4-wire (3-)	3-phase 4-wire (3-)	3-phase 4-wire (3-)
Supply input terminals	L1, L2, L3			L1, L2, L3, N		
Rated voltage Un (V nom)	100, 110, 120	173, 190, 200, 208, 220, 240	380, 400, 415, 440, 460, 480	57.7, 63.5, 69.3	100, 110, 115, 120, 127, 139	220, 230, 240, 254, 265, 277
Operating frequency	45-65 Hz					
Supply input burden (max)	3 VA /1.7 W approx			2.5 VA / 1.4 W approx		
Supply threshold (Umin)	Fixed at 85% of V nom					
Overload capacity -continuous -max. 10s	150V 180V	300V 360V	600V 720V	87V 104V	174V 209V	346V 416V
Differential (hysteresis)	Fixed at 1% of V nom					
Trip reset delay	Fixed at 0.5s					
Output relay-contact	1x change over (AgNi) plated		2x change over (AgNi) plated	1x change over (AgNi) plated		2x change over (AgNi) plated
Output relay-contact terminals	15, 16, 18	15, 16, 18	15, 16, 18 & 25, 26, 28	15, 16, 18	15, 16, 18	15, 16, 18 & 25, 26, 28
Load capacity AC	250 V / 8A , max .2 kVA					
Load capacity DC	30V/8A					
Mechanical life	$3x10^6$ by rated load					
Relay reset	Automatic					
ANSI no.	47					
Operating temperature	-20 + 55°C					
Storage temperature	-30 + 70°C					
Insulation	4 kV / 1 min.					
Overvoltage category	III.					
Pollution degree	2					
Enclosure integrity	IP40 from the front panel/ IP10 terminals		IP40 from the front panel/ IP20 terminals	IP40 from the front panel/ IP10 terminals		IP40 from the front panel/ IP20 terminals
Enclosure style	DIN-rail, 1 module		DIN-rail, 3 module	DIN-rail, 1 module		DIN-rail, 3 module
Case material	Flame retardant polycarbonate					
Connecting conductors	max .2 x 2.5 mm^2 /1 x 4 mm^2		max .2 x 1.5 mm^2 / 1 x 2.5 mm^2	max .2 x 2.5 mm^2 /1 x 4 mm^2 90 x 17.6 x 64 mm / 1 x 2.5 mm^2		max .2 x 1.5 mm^2
Dimensions	H 90 x W 17.6 x D 64 mm		H 90 x W 52 x D 64 mm	H 90 x W 17.6 x D 64 mm		H 90 x W 52 x D 64 mm
Weight	63 g approx		121 g approx	63 g approx		121 g approx
Standards	EN 60255-6, EN 60255-27, EN 61000-6-2, EN 6100-6-4					

PROTECTOR OVERVIEW

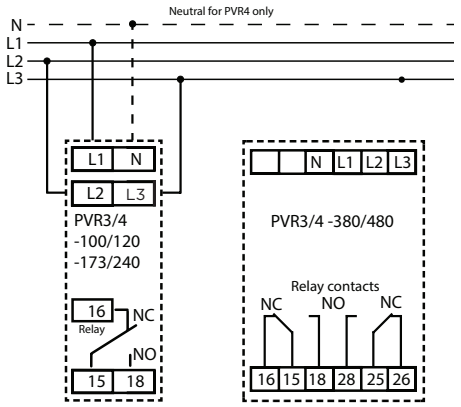


PVR3/4 (100/120, 173/240)



PVR3/4 (380/480)

CONNECTION



PVR3/4

FOR MORE INFORMATION:

TE Technical Support Centers

USA/Canada:	+1 800-327-6996
Brazil:	+55 11-2103-6023
Mexico:	+52 55-1106-0800
South America:	+57 1-319-8962
Benelux:	+32 16-508-695
France:	+33 (0) 38-058-3210
Germany/Switzerland:	+49 (0) 89-608-9903
Italy:	+39 335-834-3453
Middle East/Africa:	+971 4-211-7020
Russia:	+7 495-790-790-2-200
Spain/Portugal:	+34 912-681-885
UK:	+44 08708-707-500
China:	+86 400-820-6015

te.com/energy

©2020 TE Connectivity. All Rights Reserved. EPP-3444-DDS-07/20-Phase-Sequence-and-Failure-Protector-TE

TE Connectivity, TE connectivity (logo), EVERY CONNECTION COUNTS, AMP, AMPACT, Axicom, Bowthorpe EMP, Crompton Instruments, Raychem, SIMEL, UTILUX are trademarks. Other logos, product and Company names mentioned herein may be trademarks of their respective owners. While TE has made every reasonable effort to ensure the accuracy of the information in this brochure, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this brochure are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice.Consult TE for the latest dimensions and design specifications.