



# PHASE BALANCE, SEQUENCE AND VOLTAGE MONITOR PROTECTOR TRIP 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 balance, sequence and voltage protector trip relay (PSF) is designed to monitor a three-phase supply for phase imbalance, low or missing phases or incorrect phase sequence, and to trip a relay if it detects any anomaly. Two versions are available to suit either three-phase three-wire (PSF/G3) or three-phase four-wire (PSF/G4) systems.

The phase balance, sequence and voltage protector can be used on all rotating machines where loss of a phase can result in electrical or mechanical damage.

The PSF protector continuously monitors the three-phase supply, with all correct phase sequences applied and all three voltages balanced within the required limits the front panel, the LED will be off and the relay energized. The time delay function operates only for the voltage imbalance condition. This delay can be used to prevent nuisance tripping due to short term imbalance situations.

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

# Phase Balance, Sequence and Voltage Monitor



SPECIFICATION						
Technical parameters	PSF/G3-100/120	PSF/G3-173/240	PSF/G3-380/480	PSF/G4-100/120	PSF/G4-173/240	PSF/G4-380/480
Phase loss, imbalance and under voltage (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):	3VA/1.7W approx			2.5VA/1.4W approx		
Phase imbalance trip level (V nom):	Adjustable 5-15% Un (V nom)					
Differential (hysteresis):	Fixed at 1% of V nom					
Low-voltage trip level (Umin):	Adjustable 50-85% Un (V nom)					
Trip delay t:	Adjustable 0.5-10s					
Trip reset delay t1:	Fixed at 0.5s					
Overload capacity -continuous: -max. 10s: Max operating voltage (Uoff)	150V 180V 187V	300V 360V 374V	300V 600V 749V	87V 104V 108V	174V 209V 216V	346V 416V 432V
Differential (hysteresis):	Fixed at 1% of V nom					
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:	250V/8A, max.2 kVA					
Load capacity DC:	30V/8A					
Mechanical life:	3x10 <sup>6</sup> by rated load					
Relay reset:	Automatic					
ANSI no.:	47					
Operating temperature:	-20 +55°C					
Storage temperature:	-30 +70°C					
Insulation:	4kV/1min.					
Overvoltage category:	III.					
Pollution degree:	2					
Enclosure integrity:	IP40 from the front panel/ IPI0 terminals		IP40 from the front panel/ IP20 terminals	IP40 from the front panel/ IPI0 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 profile (mm <sup>2</sup> ):	max.2x2.5mm <sup>2</sup> /1x4mm <sup>2</sup>		max.2x1.5mm <sup>2</sup> / 1x2.5mm <sup>2</sup>	max.2x2.5mm <sup>2</sup> /1x4mm <sup>2</sup>		max.2x1.5mm <sup>2</sup> / 1x2.5mm <sup>2</sup>
Dimensions:	H90xW17.6xD64mm		H90xW52x D64mm	H90xW17.6xD64mm		H90xW52x D64mm
Weight:	63g approx		121g approx	63g approx		121g approx
Standards:	EN 60255-6, EN 60255-27, EN61000-6-2, EN6100-6-4					

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