AC VOLTAGE THREE-PHASE PROTECTION TRIP RELAY

ANALOG METERING SYSTEM

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 AC voltage protection trip relay provide continuous measurement of voltage. When the measured voltage moves outside the set point limit for longer than the time delay, the relay will operate giving an alarm control or tripping signal.

The AC voltage relay can be used for under and overvoltage detection, starting standby generators, operation of mains failure units and switching standby supplies. An illuminated red LED indicates a fault condition.

The three-phase, three or four-wire models will protect each phase independently.

The setpoint adjustment range is 25%, operating between 75% and 100% of the nominal supply for undervoltage and between 100% and 125% for the overvoltage.

The adjustable differential setting range is 1% to 15% and can be used to reduce nuisance tripping if the measured signal is noisy or unstable.

An adjustable time delay is provided to eliminate premature operation on short-duration voltage fluctuations. During this delay period, the red LED will flash. The protectors draw their operating power from the measured inputs. Three-phase products monitor the voltage level for each phase and are not phase sequence sensitive.

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

AC Voltage Three-Phase Protection Trip Relay

SPECIFICATION (THREE-PHASE FOUR-WIRE)

Technical parameters	PVV/X-100 /120	PVV/X-173 /240	PVV/X-380 /480	PVP/S-100 /120	PVP/S-173 /240	PVP/S-380 /480	PVE-100 /120	PVE-173 /240	PVE-380 /480
Under voltage protection (de-energise on trip)	●	●	●	-	-	-	●	●	●
Over current protection (energise on trip)	-	-	-	●	●	●	●	●	●
System type	3-phase 4-wire (3-)	3-phase 4-wire (3-)	3-phase 4-wire (3-)	3-phase 4-wire (3-)	3-phase 4-wire (3-)	3-phase 4-wire (3-)	3-phase 4-wire (3-)	3-phase 4-wire (3-)	3-phase 4-wire (3-)
Voltage input terminals	L1, L2, L3, N								
Nominal voltage (L-N) (Adjustable)	57.7, 63.5, 69.3V	100, 110, 115, 120, 127, 139V	220, 230, 240, 254, 265, 277V	57.7, 63.5, 69.3V	100, 110, 115, 120, 127, 139V	220, 230, 240, 254, 265, 277V	57.7, 63.5, 69.3V	100, 110, 115, 120, 127, 139V	220, 230, 240, 254, 265, 277V
Voltage burden (max)	1VA/0.7W		3VA/1.7W	1.8VA/1.1W		3VA/1.7W			
Operating frequency AC	45-65 Hz								
Trip level under Umin	Adjustable 75-100% Un								
Trip level over Umax	Adjustable 100-125% Un								
Overload capacity -continuous: (L-N) -max. 10s: (L-N) Opening level off (L-N)	87V 104V 42V	174V 209V 73V	346V 416V 145V	87V 416V 161V	174V 209V 73V	346V 416V 161V	87V 104V 42V	174V 209V 73V	346V 416V 161V
Differential (hysteresis)	Adjustable 1-15% Un								
Time delay	Adjustable 0.5-10s (t)								
Output relay-contact	1x change over (AgNi) plated		2x change over (AgNi) plated	1x change over		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	Under 15, 16, 18/Over 25, 26, 28		
Load capacity AC	250V/8A, max.2000VA								
Load capacity DC	30 V/ 8 A								
Mechanical life	$3x10^6$ by rated load								
Relay reset	Automatic								
ANSI no.	27	27	27	59	59	59	27/59	27/59	27/59
Operating temp	-20 + 55°C								
Storage temp	-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 profile (mm^2):	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		max .2 x 1.5 mm^2 / 1 x 2.5 mm^2			
Dimensions	H 90 x W 17.6 x D 64 mm		H90xW52xD65mm	H90xW17.6xD64mm		H 90 x W 52 x D 65 mm			
Weight	65 g		125 g	65g		125 g			
Standards	EN 60255-6, EN 60255-27, EN 61000-6-2, EN 6100-6-4								

AC Voltage Three-Phase Protection Trip Relay

SPECIFICATION (THREE-PHASE THREE-WIRE)

Technical parameters	PVK/J-100 /120	PVK/J-173 /240	PVK/J-380 /480	PVA/C-100 /120	PVA/C-173 /240	PVA/C-380 /480	PVM-100 /120	PVM-173 /240	PVM-380 /480
Under voltage protection (de-energise on trip)	●	●	●	-	-	-	●	●	●
Over current protection (energise on trip)	-	-	-	●	●	●	●	●	●
System type	3-phase 3-wire (3-)	3-phase 3-wire (3-)	3-phase 3-wire (3-)	3-phase 3-wire (3-)	3-phase 3-wire (3-)	3-phase 3-wire (3-)	3-phase 3-wire (3-)	3-phase 3-wire (3-)	3-phase 3-wire (3-)
Voltage input terminals	L1, L2, L3								
Nominal voltage (L-N) (Adjustable)	100, 110, 120V	173, 190, 200, 208, 220, 240V	380, 400, 415, 440, 460, 480V	100, 110, 120V	173, 190, 200, 208, 220, 240V	380, 400, 415, 440, 460, 480V	100, 110, 120V	173, 190, 200, 208, 220, 240V	380, 400, 415, 440, 460, 480V
Voltage burden (max)	1VA/0.7W		3VA/1.7W	1.8VA/1.1W		3VA/1.7W			
Operating frequency AC	45-65 Hz								
Trip level under Umin	Adjustable 75-100% Un								
Trip level over Umax	Adjustable 100-125% Un								
Overload capacity -continuous: (L-N) -max. 10s: (L-N) Opening level off (L-N)	150V 180V 73V	300V 360V 126V	600V 720V 277V	150V 180V 73V	300V 360V 126V	600V 720V 277V	150V 180V 73V	300V 360V 126V	600V 720V 277V
Differential (hysteresis)	Adjustable 1-15% Un								
Time delay	Adjustable 0.5-10s (t)								
Output relay-contact	1x change over (AgNi) plated		2x change over (AgNi) plated	1x change over		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	Under 15, 16, 18/Over 25, 26, 28		
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Load capacity DC	30 V/ 8 A								
Mechanical life	$3x10^6$ by rated load								
Relay reset	Automatic								
ANSI no.	27	27	27	59	59	59	27/59	27/59	27/59
Operating temp	-20 + 55°C								
Storage temp	-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 profile (mm^2):	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		max .2 x 1.5 mm^2 / 1 x 2.5 mm^2			
Dimensions	H 90 x W 17.6 x D 64 mm		H90xW52xD65mm	H90xW17.6xD64mm		H 90 x W 52 x D 65 mm			
Weight	65 g		125 g	65g		125 g			
Standards	EN 60255-6, EN 60255-27, EN 61000-6-2, EN 6100-6-4								

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