





### Company Profile

**PRECISE ELECTRICALS** Established in 1970, has evolved itself into a formidable force in the power sector in India. Specializing in supplying of Low voltage instrument transformers for Switchboard, Switchgear, Furnace application, Isolation purpose and for energy meters have been the key area of expertise. It is in this arena that Precise with its unique technology, proven capabilities & essential tie-up brings in an unbeatable combination of experience, youth and fraternity. With a re-engineered and raring to go team, Precise is ready to face the dynamic changes and challenges in the domestic and global markets to build new inroads for products and to help fill customer needs, quickly and reliably.

*Precise Electricals* manufacture more than 25000 nos. of transformers monthly meeting international quality standards, ensuring highest level of compliance to quality, environment, health and safety which explains it's outstanding global reputation. Precise fosters a culture that foresees the future and responds proactively to its challenges, while delivering maximum value to our customers through technology, quality and service.

*Precise* products are known and approved universally for their Quality, Accuracy and Reliability. This is due to emphasis on design, engineering and manufacturing for more than 40 years in this sector. Precise adhere to international standards by acquiring & adapting latest technologies along with in-house R & D. All products are manufactured under ISO 9001 certified plants, wherein manufacturing and testing activities are carried out as per relevant **IS, IEC, ANSI, BS** and other international standards. Precise continuous improvement program ensures established products are always updated.

## Infrastructure

Precise Electricals is privileged with a well-structured infrastructure facility. It is further divided into different segments such as Marketing & Sales Office, Manufacturing Production Floor, Quality Control Department, Quality Assurance Department, Research and Development Department, Purchase & Stores Department, Packaging and Administrative Department located at Wagle Estate, Thane, Maharashtra, India.



### **Product Range**

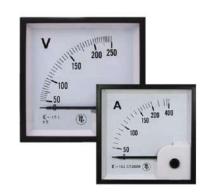
**Instrument Transformers :** CTs, VTs, Line Chokes, Control Transformers for Low Voltage Application, & Voltage Class 50V to 1000V.

All type Digital Meters: Digital Ammeters & Voltmeter, Single Source & Dual Source KWH

Meters, Multifunction Meters, Intelligent Load Managers, APFC Controllers, Earth Leakage Relays & CBCT

Voltage Relays & Current Relays

# Analog Panel Meters







Description	AC Voltmeter and Ammeter	DC Voltmeter and Ammeter	Maximum Demand Ammeter	
<b>Electrical Specifications</b>				
Туре	Moving Iron.	Moving Coil	Bimetallic	
Operating Voltage	6V to 750V	50mV to 600V	_	
		50μA to 30A & Above 30A external shunt	/5A (/1A on request)	
Operating Current	1A to 100A	(60mV, 75mV).	Thermal time delay 15 min	
		Direct meters can be given upto 100 Amps		
Frequency	45 - 65Hz.	_	45 - 65Hz.	
Accuracy Class	1	.5	3.0	
Pointer		Knife Edge		
Pointer Deflection		090°		
Scale Characteristics	Near Linear	Linear	Near Linear	
Over Range				
Ammeters	2 times nominal current	_	1.2 times nominal current	
Voltmeters	1.2 times nominal voltage	_	_	
Scale Interchangeability	Interchangeable	_	Interchangeable	
Dielectric Test		2kV RMS for 1 minute.		
Overload Continous		1.2 times		
Overload Short Time	2 times VN / 10 tim	es IN for 1 seconds.	10 times IN for 1 seconds.	
Operating Temperature		-10°C to 55°C		
Storage Temperature		-20°C to 70°C		
Humidity		95% RH		
Applicable Standards		IS: 1248 (IEC 51/ DIN EN 60051)		
Size	72 (L)x 72 (W)x 65(D)mm / 96(L) x 96(W) x 65(D)mm			
Panel Cutout		68mm x 68mm / 92mm x 92mm		
Woight (Approx. gms.)	<0.19kg for 72 Size	<0.21kg for 72 Size	<0.25kg for 72 Size	
Weight (Approx. gms.)	<0.21kg for 96 Size	<0.23kg for 96 Size	<0.27kg for 96 Size	

## Basic Digital Panel Meter

## Digital AC Voltmeter







Model Number	PE 9910	PE 9913	PE 9933		
	User Friendly Interface				
General Features		Easy to install			
		Maximum range upto 750 Volts			
Diouleu	Bright LED Display with 1 your of 2 Digits	Bright LED Display with 1 row of 3 Digits	Bright LED Display with 3 rows of 3 Digits		
Display	Bright LED Display with 1 row of 3 Digits	Bulit-in Selector Switch for 3ph Voltage Display	Bright LED display with 3 rows of 3 digits		
System Type	1Φ2W	3Ф4W			
Rated I/P Voltage	0-750V AC				
Auxiliary Supply		230V AC ± 10%			
Rated Frequency	50Hz	z ± 5%	50/60 Hz		
Operating Temp.	+5°C to +60°C				
Accuracy	Class 1.0 (± 1 digit)				
Dimensions	96(L)x96(W)x60(D) mm				
Panel Cut Out	91mm x 91mm				
Weight	0.35Kg		0.42Kg		







Model Number	PE 9920	PE 9923	PE 9943		
	User Friendly Interface				
General Features		Easy to install			
		Maximum range upto 750 Volts			
Display	Bright LED Display with 1 row of 4 Digits	Bright LED Display with 1 row of 4 Digits	Bright LED Display with 3 rows of 4 Digits		
Display	Bright LED Display with 1 Tow of 4 Digits	Bulit-in Selector Switch for 3ph Voltage Display	Bright LED display with 3 lows of 4 digits		
CT Primary Current	upto 9900A				
Rated secondary Current	/5A				
Maximum Range upto	upto 9900A	6000A	1600A		
Auxiliary Supply	220-2	40V AC	230V AC ± 10%		
Rated Frequency		50/60 Hz ± 5%			
Operating Temp.		+5°C to +60°C			
Accuracy	Class 1.0 (± 1 digit)				
Dimensions	96(L)x96(W)x60(D) mm				
Panel Cut Out	91mm x 91mm				
Weight	0.35Kg		0.48Kg		



### Digital VIF Meter

#### **Maximum Demand Controller**





Model Number	PE 9990	
	Combined display voltage, current and frequency	
Consul Fostonia	User Friendly Interface	
General Features	Easy to install	
	Auto & Manual Scroll	
	Bright LED 3 line Display	
	P-N Voltage of each phase	
Display	P-P Voltage of each phase	
	Current of each phase	
	Frequency	
Rated Primary Current	upto 9900A	
Rated secondary Current	/5A	
Low Current	1% (50mA)	
Auxiliary Supply	230V AC ± 10%	
Rated Frequency	50/60 Hz ± 5%	
Operating Temp.	+5°C to +60°C	
Accuracy	Class 1.0 (± 1 digit)	
Dimensions	96(L)x96(W)x60(D) mm	
Panel Cut Out	91mm x 91mm	
Weight	0.70Kg	

Model Number	PE 4300-SS
	1 Alarm point and 1 tripping point (potential free)
	Password protected
	Adjustable integration time of 15 or 30 minutes.
General Features	On site programmable
reatures	Clock setting facility to match EB clock
	Easy to install
	User friendly
Display	2 x 16 Alphanumeric large LCD Display
Voltage Input	415V AC ± 15%
Current Input	5A (1A on request)
Auxiliary Supply	230V AC ± 10%
Rated Frequency	50/60 Hz
Operating Temp.	+5°C to +60°C
Accuracy	Class 1.0 (± 1 digit)
Dimensions	144(L)x144(W)x80(D) mm
Panel Cut Out	138mm x 138mm
Weight	0.70Kg
	Continuous display of:
	a. Average KVA demand
	b. Instantaneous demand, RMS voltage, RMS current
Parameters	c. Selectable display of setting
	Selectable Display
	a. Present and previous maximum demand
	b. Trip status of contact

## Digital Energy Meter







Model Number	PE 9980	PE 9980R	PE 9980D	PE 9980DR
Description	Digital Energy Meter	Digital Energy Meter with RS485	Digital Energy Meter Dual Source	Digital Energy Meter with Dual
Description	Digital Effetgy Weter	Digital Ellergy Weter With N5485	Digital Effergy Weter Dual Source	Source RS485
	Microcontroller based technology			
General		Password	protection	
General Features		Confirms IE	C Standards	
reactives		High re	solution	
		Easy rea	adability	
Display	Alphanumeric backlit LCD Display			
Display		Resolution upto 8 digits (99999999.9)		
Communication	_	RS485	_	RS485
Input Voltage		<del>-</del>		
Input Current		-		
Auxiliary Supply		230V A	C ± 10%	
Rated Frequency	50/60 Hz ± 5%			
Operating Temp.	+5°C to +60°C			
Accuracy	Class 1.0 (± 1 digit)			
Dimensions	96(L)x96(W)x60(D) mm			
Panel Cut Out	91mm x 91mm			
Weight	0.49Kg			

## Digital Multifunction Meter







Model Number	PE 9900P	PE 9900PR	PE 9900	PE 9900R	PE 9900 GPRS	
	User friendly interface					
	Easy to install					
Features			Site adjustable CT ratio			
reatures	Site adjust	table integration time 15min or	30 min for average demand (P	E 9900/PE 9900R/PE 9900 G	PRS Models)	
			Password protected			
			Date and Time Settings			
Display		20 x 4 A	Alphanumeric backlit large LCD	Display		
Communication	_	RS485	_	RS485	RS485 + GPRS	
		•	230V AC ± 15%			
Voltage Input		Voltage	e I/P: 110V AC (Optional) (H. T I	Model)		
		Special ı	meter for furnaces (570V AC) (c	ptional)		
Current Input			Standard 5A (1A on request)			
Auxiliary Supply		230V AC ± 10%				
Rated Frequency	50/60 Hz					
Low Current	1% (50mA)					
Operating Temp.	+5°C to +60°C					
Accuracy	Class 1.0 (0.5, 0.2 On request)					
Dimensions			96(L)x96(W)x60(D) mm		144(L)x144(W)x80(D)	
Panel Cut Out			91mm x 91mm		138mm x 138mm	
Weight			0.49Kg		0.59Kg	
	Three Line Voltage & Curre		Three Line Voltage & Curre	nt		
	Three Phase Voltages & Cui	rrents	Three Phase Voltages & Cur	rents		
	Power factor of each phase	and frequency	Power factor of each phase	and frequency		
	Active Power (KW), Appare	nt Power (KVA),	Active Power (KW), Appare	nt Power (KVA), Reactive Pov	ver (KVAR), Total Power	
Parameters	Reactive Power (KVAR), Tot	al PowerTotal Active Energy	Active Energy (KWh), Appar	ent Energy (KVAh), Reactive	Energy (KVARh), Total Energy	
	-		Average and Maximum Demand			
	Average Power Factor of ea	ach phase	Average Power Factor of ea	ch phase		
	Real Time Clock		Real Time Clock			
	Display of last reset date ar	nd time of energy	Display of last reset date an	d time of energy and maxim	um demand	

# Intelligent Load Manager







Model Number	PE 4600	PE 4600-T	PE 4600-P	PE 4600-BTP	PE 4600-S	PE 4600-ST
Description	Available with block window method	Available with block window & TOD facility	Available with block window & predictive demand	Available with block window, TOD & pre- dictive demand facility	Available with sliding window method	Available with sliding window & TOD facility
		•	1 Alarm point and 3 trip	ping point (potential free	e)	
			PC interface fac	ility with RS-485.		
			True RMS m	easurements.		
			Model available f	or LT as well as HT.		
			Selectable display of p	present & previous KVA.		
Features			Facility for Date	e & time settings.		
reatures			Uses advanced	d DSP processor.		
			Low PT, 0	CT burden.		
		Auto reset	facility for maximum dem	nand with programmable	date & time.	
			Cost effective energy	management solution.		
			Easy user interface	e & easy installation.		
			Confirms to	IEC standards.		
Display			16 x 4 Alphanume	ric large LCD Display		
Communication			RS	485		
Voltage Input			415V A	AC ± 15%		
Current Input			Standard 5A (	1A on request)		
Auxiliary Supply			230V A	AC ± 10%		
Frequency	50/60 Hz					
Low Current		1% (50mA)				
Operating Temp.	+5°C to +60°C					
Accuracy	Class 1.0					
Dimensions	144(L)x144(W)x80(D)					
Panel Cut Out			138mm	x 138mm		
Weight				5Kg		
				hase to Phase Voltage		
	Current of each phase					
	Three Phase Voltages & Currents					
	KW of all phases & total KW					
	Power factor of each phase and frequency					
	KVA of all phases & total KVA					
Parameters	Active Power (KW), Apparent Power (KVA), Reactive Power (KVAR), Total Power					
	KVAH of all phases & total KVAH					
		Active Energy (K	Wh), Apparent Energy (K\		/ARh), Total Energy	
			•	ses & total KVAR		
				aximum Demand		
	Instantaneous PF of all 3 phases					
	Average Power Factor of each phase					



#### **Automatic Power Factor Controller**









	C · · · · · · · · · · · · · · · · · · ·	Name and Advanced	Designation of the Control of the Co	Reserved.	
Model Number	PE 66XX	PE 66XXSS	PE 66XX-E3	PE 66PK	
	Available in 4 to 16 stages	Intelligent KVAR based switching	User Friendly interface	Intelligent KVAR based switching	
	Intelligent KVAR based switching	Intelligent with best fit control	Easy to install.	Friendly user interface	
	LED indication of capacitor stages	Ideal for thyristor modules	Complete menu guided programming	Easy to install	
	Dual setting for Generator and EB	Ajustable capacitor time delays	operation and display	_	
Key Features	power factor (Optional)	Stages 4 to 16	Best fit capacitor switching	_	
Rey reatures	Available in HT-CT sensing	Menu driven user friendly handling	Test mode for Panel Testing	_	
	Switching delay of 1 sec	Alarm output	No of stages can be configured at site	_	
	_	Easy to install	Automatic / Manual capacitor value feed	_	
	_	Smart switching	Password protected settings.	_	
	_	_	HT CT sensing for HT application (Optional)	_	
	Password protected	Password protection for settings	Site adjustable CT Primary.	Site settable C.T. Primary from 5 to	
	Site settable	Adjustable %KVAR switching capacity	Adjustable value of Target PF	7500 A	
	a. %KVAR switching capacity	Adjustable value of Target PF	Switching Delay	Target PF	
	b. Target PF	Adjustable CT primary	Lock out time for power on	Switching delay	
	c. CT primary	Adjustable time delay from 1 sec for	Capacitor disconnection in case of	Lockout time for power ON	
	d. Switching delay	switching ON insteps for 1 sec	Low Current	Auto identification or Manual feeding	
	e. Lockout time for power ON	Models available in 4,6,8,12,14,16 steps	Auto identification or manual feeding	of capacitor values	
Key Features	f. Harmonic(THD) overload protection	Adjustable settings for % THD (Total	of capacitor values	Manual switching facility	
Rey reatures	g. No.of stages can be selected	harmonic distortion) protection	Manual switching facility	Test mode facility	
	Capacitor disconnection in case of	Disconnection in case of low current	Test mode facility	Password protection for settings	
	low current	Adjustable number of maximum stages.	_	_	
	Auto identification or manual	Adjustable lock time for power ON	_	_	
	feeding of capacitor values	Auto identification or Manual feeding	_	_	
	Manual switching facility	of capacitor values	_	_	
	Test mode facility	Manual switching facility	_	_	
	_	Test mode facility	_	_	
Display	Large alphanumeric LCD Display (2 x 16 characters)  Large alphanumeric LCD display (2 x 16 characters)  Large alphanumeric LCD display (2 x 16 characters)				
			230V AC ± 15% OR		
Voltage Input	415V AC ± 15%		415V AC ± 15%	230V AC ± 15%	
			110V AC (Optional) (HT Model)	1	
Current Input	Standard 5A (1A on request)	/5A	Standard 5A (1A on request)	Standard 5A (1A on request)	
Auxiliary Supply		230V A	C ± 10%		
Frequency		50/60 H	łz		
Low Current		1% (50)	mA)		
Operating Temp.		+5°C to	+60°C		
Accuracy	CI	ass 1.0	Class 1.0 (Class 0.5, 0.2 Optional)	Class 1.0	
Switching Contact	10A a	at 250V AC	_	10A at 250V AC	
Switching Interval	5 to 1200 sec	1 to 1200 sec	_	5 to 1200 sec	
Switching litter var	Intelligent (Best fit)	Most Intelligent (Best fit)	_	Intelligent (Best fit)	
No.of Stages	4,6,8	3,12,14,16	6, 8, 10. 12, 16	Available in 12 stages	
Target PF	_	0.71 Lag to 0.80 Lead		_	
Mode	_		Auto/Manual		
Dimensions		144(L)x14	14(W)x80(D)		
Panel Cut Out		138mm x	138mm		
Weight	1.5Kg	1Kg		1.5Kg	
	Voltage, Current, Power factor	Voltage, Current, Power factor	Phase to Neutral Voltage & Current	Power Factor (RYB)	
	KVA and KVAR on display	KW, KVA and KVAR on display	KW, KVA and KVAR on display	Voltage (RYB)	
	Shortfall KVAR/ Excess KVAR	Shortfall KVAR/ Excess KVAR	Power Factor of each phase	Current (RYB)	
Parameters	THD - 3rd to 13th harmonics	THD - 3rd to 13th harmonics & % THD	Shortfall KVAR/ Excess KVAR with sign	Shortfall KVAR	
	Capacitor Values	Capacitor Values	_	KW, KVA and KVAR each phase	
	_	Capacitor stages status	_	_	
	_	Alarm Message	_	_	

#### **Automatic Power Factor Controller**





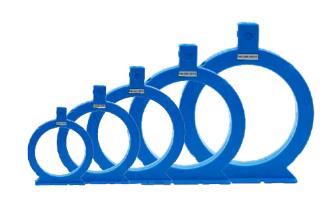


Model Number	PE 55XX	PE 55XXSS	PE 55XX-2D	
	FIFO Switching	Intelligent KVAr based switching	FIFO Switching	
Key Features	Friendly user interface Easy to install	Friendly user interface	Low cost	
	_	Easy to install	Easy to install	
	Site settable two point target PF	Site Settable	Site settable two point target PF	
	Capacitor disconnection in case of low current	a. Target PS	Capacitor disconnection in case of low current	
Control Features	Test mode facility	b. CT primary	Test mode facility	
Control Features	-	c. Auto identification or Manual Feeding of	-	
	_	capacitor values	_	
	_	Capacitor disconnection in case of Low current	_	
	_	Test Mode Facility	_	
Display	Large 4 digit 7 s	segment display	Large 2 digit 7 segment display	
No.of stages	4, 6, 8, 12, 16		4, 6, 8	
Voltage Input	415V AC ± 15%			
Current Input	Standard 5A (1A on request)			
Auxiliary Supply	230V AC ± 10%			
Over voltage release	470V AC ± 1% —			
Frequency	50/60 Hz			
Low Current	1% (50mA)		1.8% (90mA)	
Switching contact	10A at 250V AC			
Switching time	5 sec		5 sec (1 sec optional)	
Operating Temp.		upto 95%		
Accuracy		Class 1.0		
Dimensions	144(L)x144(W);	x80(D)	96(L)x96(W)x110(D)	
Panel Cut Out	138mm x 138m	ım	92mm x 92mm	
Weight	1.5Kg	_		
	Power Factor	Power Factor	Power Factor	
	LED indication of capacitor ON/OFF status	LED indication of capacitor ON/OFF status	LED indication of capacitor ON/OFF status	
Parameters	_	LED indication for LAG or LEAD P.F	LED indication for LAG or LEAD P.F	
	_	KW, KVA and KVAR on display		
	_	Shortfall KVAR/ Excess KVAR		

#### Earth Leakage Relay & Core Balance Current Transformer



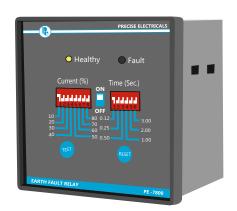




Description Earth Leakage Relay	
Model Number	PE ELR-30
	30 mm Slim Polycarbonate DIN Rail
	Mounted Enclosure.
	Versatile Input that can sense 30 mA to 30 A.
	PE-ELR-30 monitors & detect true RMS earth leakage
General	currents using separate Core Balance Current Transformer.
Features	Distinct LEDs indicates leakage current magnitude.
	Adjustable sensitivity (IÄn) and Trip Time
	Delay(Ät) – instantaneous to 10 Secs
	Single Trip / Reset Button
	Potential free output on tripping
Auxiliary Supply	220-240V AC @ 50/60 Hz
Power Consumption	5VA
	RED - Power Presence
	RED - T Unit under trip state
LED Indication	YELLOW - Indicates 75% leakage current
	GREEN - Indicates 50% leakage current
	GREEN - Indicates 25% leakage current
Monitored Leakage Current	Upto 30A (Through external toroid of 1000:1 ratio
Sensitivity Adjustment (I∆n)	0.03, 0.1, 0.3,0.5mA, 1, 3, 5, 10, 20, 30A
Trip Level	80% of (IΔn)
Trip time delay adjustment	0, 0.15, 0.25, 0.5, 1, 2, 3, 5, 7.5, 9
Output	SPDT 5A @230V AC
Ambient Temp.	-20°C to +55°C
Relative Humidity	upto 95%
Mounting	TS 35 DIN Rail
Connection	Screw Clamp suitable for 2.5sqmm
Dimension	110(L)x30(W)x72.5(D)mm

Description	СВСТ		
	Flame retardant high impact molded case for better		
	insulation and strength		
General Features	Integral wires terminals cover with perfect IP protection		
reatures	Compact Design suitable for Panel Mounting		
	Perfect combination to use with Precise ELR30.		
Highest System Voltage	0.72 kV		
Insulation Voltage	3 kV/ 1 min		
System Frequency	50/60 Hz		
MOPC	10 Amps (±5%)		
Sec. Relay Setting	10 mA		
Operating Temp	0°C to 55°C		
Storage Temp	-20°C TO 70°C		
Model Number	Inner Diameter		
PE-CBCT-35	35mm		
PE-CBCT-70	70mm		
PE-CBCT-120	120mm		
PE-CBCT-210	210mm		
PE-CBCT-310	310mm		
Linear Tolerance ±0.1mm			

### **Earth Fault & Single Phase Preventer Relay**





Description	Earth Fault Relay
Model Number	PE 7800
General Features	RESET Switch
	TEST Switch
<b>Auxiliary Supply</b>	230V AC (110V AC & 415V AC optional)
	FAULT
	A Red LED Indicates the Fault or Trip Condition
LED Indication	HEALTY
	A Green LED indicates the normal Condition
LED Indication	Variable from 10 % to 80 %, settable with DIP switches
LED Indication	in three different models
Trip Time	0.15 Seconds to 3.00 seconds settable with DIP switches
Relay Contacts	Potential free NO-C-NC, 10Amps at 250 VAC contacts
Trip Indication	LED
Accuracy	± 1% tolerance
Dimension	96(L)x96(W)x60(D)mm
Panel Cutout	91mm x 91mm
Weight	0.36 Kg

Description	Single Phase Preventer
Model Number	PE 8805
General Features	Easy to install
	User friendly
	Normal indication available
	SPP indication available
Control Features	Single Phasing
	Reverse Phasing
	Unbalanced Supply
Auxiliary Supply	415V AC
Frequency	50/60 Hz65
Dimensions	(W)x110(H)x55(D) mm
Weight	0.30Kg-
Operating Temperature	10°C to +70°C
Mounting Type	Wall

#### **Motor Protection & Master Relay**





Description	Motor Master Relay
Model Number	PE 21xx
	As a special feature the relay can be used to motor
	having forward & reverse
	Operations giving the protections except incorrect
	phase sequences.
	Advance microcontroller technology.
Key Features	Overload protection with inverse time characteristics.
	Over Load protection
	Unbalance protection.
	Phase unbalance.
	Incorrect phase sequence.
	Ultra compact size.
	Visual indication of S.P.P. & overload.
	Settable overload current & time.
CT Input	5A, 15V AC
Auxiliary supply	440V AC
AC burden	10V AC at rated current
Relay O/P	10A at 250V AC
Over Current Setting	2A to 5A continuously adjustable
Inverse time	Selectable thermal characteristics curve
characteristics	2 to 10 sec continuously adjustable
	50% unbalance,
Unbalance current	Tripping time: 3sec.,
	Inverse characteristics unbalance
Single phase failure	3sec
tripping time	
Reverse phase	3sec
tripping time	
Mounting	Wall mounting/Panel
	35mm DIN rail
Weight	0.45 Kg

Advance Micro controller based state-of-art technology	Description	Motor Protection Relay
Selectable inverse time curves.	Model Number	PE 2220
Protection against:   a. Unbalance   b. Single phasing   c. Reverse phasing   d. Overload   e. Stalling   f. Undercurrent   g. Earth fault   Common tripping for all protective function.   Thermal overload protection.   Alarm for tripping.   Ultra Compact size.		Advance Micro controller based state-of-art technology
A. Unbalance b.Single phasing c.Reverse phasing d. Overload e. Stalling f. Undercurrent g. Earth fault Common tripping for all protective function. Thermal overload protection. Alarm for tripping. Ultra Compact size.  CT Input 5A, 15V AC Auxiliary supply 440V AC AC burden 10V AC at rated current Relay O/P 10A at 250V AC Frequency 50/60 Hz ± 5% Overload setting 30 % to 110%  Tripping time Inverse time: as per thermal curve Definite time: (0 to 30 sec) Under current 20%-50 %, tripping time: 30 sec  Motor stall 200-600 %, tripping time: 30 sec  Unbalance Earth fault 1 A-3 A, tripping time: 1 Sec -20 Sec  25-100 %, Inverse Phase Failure tripping time: 0.1 sec Motor start time 0-10 sec Reset Manual reset  Phase Failure Tripping time: 5 sec Reverse Phase Tripping time: 0.1 sec Motor start time 0-10 sec Reset Manual reset Panel Mounting: 144(w)x144(h)x80(d)mm		Selectable inverse time curves.
B.Single phasing   C.Reverse phasing   d. Overload   e. Stalling   f. Undercurrent   g. Earth fault   Common tripping for all protective function.   Thermal overload protection.   Alarm for tripping.   Ultra Compact size.		Protection against:
C.Reverse phasing d. Overload e. Stalling f. Undercurrent g. Earth fault Common tripping for all protective function. Thermal overload protection. Alarm for tripping. Ultra Compact size.  CT Input 5A, 15V AC Auxiliary supply 440V AC AC burden 10V AC at rated current Relay O/P 10A at 250V AC Frequency 50/60 Hz ± 5% Overload setting 30 % to 110%  Tripping time Inverse time: as per thermal curve Definite time: (0 to 30 sec) Under current 20%-50 %, tripping time: 30 sec Motor stall 200-600 %, tripping time: 30 sec  Motor stall 1 A-3 A, tripping time: 1 Sec -20 Sec 25-100 %, Inverse Phase Failure tripping time: 0.1 sec Motor start time 0-10 sec Reset Manual reset  Phase Failure Tripping time: 0.1 sec Motor start time 0-10 sec Reset Manual reset Panel Mounting: 144(w)x144(h)x80(d)mm		a. Unbalance
d. Overload   e. Stalling   f. Undercurrent   g. Earth fault   Common tripping for all protective function.   Thermal overload protection.   Alarm for tripping.   Ultra Compact size.		<u> </u>
e. Stalling f. Undercurrent g. Earth fault Common tripping for all protective function. Thermal overload protection. Alarm for tripping. Ultra Compact size.  CT Input 5A, 15V AC Auxiliary supply 440V AC AC burden 10V AC at rated current Relay O/P 10A at 250V AC Frequency 50/60 Hz ± 5% Overload setting 30 % to 110%  Tripping time Inverse time: as per thermal curve Definite time: (0 to 30 sec) Under current 20%-50 %, tripping time: 30 sec  Motor stall 200-600 %, tripping time: 30 -300 Sec Earth fault 1 A-3 A, tripping time: 1 Sec -20 Sec 25-100 %, Inverse Phase Failure tripping time: 0.1 sec Motor start time 0-10 sec Reset Manual reset Phase Failure Tripping time: 5 sec Reverse Phase Tripping time: 0.1 sec Motor start time O-10 sec Reset Motor start time Panel Mounting: 144(w)x144(h)x80(d)mm		c.Reverse phasing
e. Stalling  f. Undercurrent g. Earth fault  Common tripping for all protective function.  Thermal overload protection.  Alarm for tripping.  Ultra Compact size.  CT Input  5A, 15V AC  Auxiliary supply  440V AC  AC burden  10V AC at rated current  Relay O/P  10A at 250V AC  Frequency  50/60 Hz ± 5%  Overload setting  30 % to 110%  Inverse time: as per thermal curve  Definite time: (0 to 30 sec)  Under current  20%-50 %, tripping time: 30 sec  Motor stall  200-600 %, tripping time: 30 -300 Sec  25-100 %, Inverse  Phase Failure tripping time: 5 sec  Reverse Phase tripping time: 0.1 sec  Motor start time  Phase Failure  Tripping time: 5 sec  Reverse Phase  Tripping time: 5 sec  Reverse Phase  Motor start time  0-10 sec  Reset  Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm	Key Features	d. Overload
g. Earth fault Common tripping for all protective function. Thermal overload protection. Alarm for tripping. Ultra Compact size.  CT Input 5A, 15V AC  Auxiliary supply 440V AC  AC burden 10V AC at rated current  Relay O/P 10A at 250V AC  Frequency 50/60 Hz ± 5%  Overload setting 30 % to 110%  Inverse time: as per thermal curve Definite time: (0 to 30 sec)  Under current 20%-50 %, tripping time: 30 sec  Motor stall 200-600 %, tripping time: 30 sec  Earth fault 1 A-3 A, tripping time: 1 Sec -20 Sec  25-100 %, Inverse Phase Failure tripping time: 5 sec Reverse Phase tripping time: 0.1 sec Motor start time 0-10 sec Reset Manual reset  Phase Failure Tripping time: 0.1 sec  Motor start time  O-10 sec  Reset Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm	Rey reatures	e. Stalling
Common tripping for all protective function.  Thermal overload protection.  Alarm for tripping.  Ultra Compact size.  CT Input 5A, 15V AC  Auxiliary supply 440V AC  AC burden 10V AC at rated current  Relay O/P 10A at 250V AC  Frequency 50/60 Hz ± 5%  Overload setting 30 % to 110%  Inverse time: as per thermal curve  Definite time: (0 to 30 sec)  Under current 20%-50 %, tripping time: 30 sec  Motor stall 200-600 %, tripping time: 1 Sec -20 Sec  Earth fault 1 A-3 A, tripping time: 1 Sec -20 Sec  Unbalance Reverse Phase tripping time: 0.1 sec  Motor start time 0-10 sec  Reset Manual reset  Phase Failure  Tripping time: 0.1 sec  Motor start time  O-10 sec  Reset  Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm		f. Undercurrent
Thermal overload protection.  Alarm for tripping. Ultra Compact size.  CT Input 5A, 15V AC  Auxiliary supply 440V AC  AC burden 10V AC at rated current  Relay O/P 10A at 250V AC  Frequency 50/60 Hz ± 5%  Overload setting 30 % to 110%  Tripping time Inverse time: as per thermal curve  Definite time: (0 to 30 sec)  Under current 20%-50 %, tripping time: 30 sec  Motor stall 200-600 %, tripping time: 30 -300 Sec  Earth fault 1 A-3 A, tripping time: 1 Sec -20 Sec  25-100 %, Inverse  Phase Failure tripping time: 5 sec  Reverse Phase tripping time: 0.1 sec  Motor start time 0-10 sec  Reset Manual reset  Tripping time: 5 sec  Reverse Phase  Tripping time: 0.1 sec  Motor start time  O-10 sec  Reset Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm		g. Earth fault
Alarm for tripping. Ultra Compact size.  CT Input 5A, 15V AC  Auxiliary supply 440V AC  AC burden 10V AC at rated current  Relay O/P 10A at 250V AC  Frequency 50/60 Hz ± 5%  Overload setting 30 % to 110%  Tripping time Inverse time: as per thermal curve  Definite time: (0 to 30 sec)  Under current 20%-50 %, tripping time: 30 sec  Motor stall 200-600 %, tripping time: 30 sec  Earth fault 1 A-3 A, tripping time: 1 Sec -20 Sec  25-100 %, Inverse Phase Failure tripping time: 5 sec  Reverse Phase tripping time: 0.1 sec  Motor start time 0-10 sec  Reset Manual reset  Tripping time: 5 sec  Tripping time: 0.1 sec  Motor start time  O-10 sec  Reset Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm		Common tripping for all protective function.
Ultra Compact size.  CT Input 5A, 15V AC  Auxiliary supply 440V AC  AC burden 10V AC at rated current  Relay O/P 10A at 250V AC  Frequency 50/60 Hz ± 5%  Overload setting 30 % to 110%  Tripping time Inverse time: as per thermal curve  Definite time: (0 to 30 sec)  Under current 20%-50 %, tripping time: 30 sec  Motor stall 200-600 %, tripping time: 30 -300 Sec  Earth fault 1 A-3 A, tripping time: 1 Sec -20 Sec  25-100 %, Inverse  Phase Failure tripping time: 5 sec  Reverse Phase tripping time: 0.1 sec  Motor start time 0-10 sec  Reset Manual reset  Phase Failure Tripping time: 5 sec  Reverse Phase Tripping time: 5 sec  Motor start time 0-10 sec  Reset Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm		Thermal overload protection.
CT Input  Auxiliary supply  440V AC  AC burden  10V AC at rated current  Relay O/P  10A at 250V AC  Frequency  50/60 Hz ± 5%  Overload setting  Inverse time: as per thermal curve  Definite time: (0 to 30 sec)  Under current  20%-50 %, tripping time: 30 sec  Motor stall  200-600 %, tripping time: 1 Sec -20 Sec  25-100 %, Inverse  Phase Failure tripping time: 5 sec  Reverse Phase tripping time: 0.1 sec  Motor start time 0-10 sec  Reset Manual reset  Phase Failure  Tripping time: 5 sec  Reverse Phase  Motor start time  0-10 sec  Reset  Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm		Alarm for tripping.
Auxiliary supply  AC burden  Relay O/P  10A at 250V AC  Frequency  50/60 Hz ± 5%  Overload setting  Inverse time: as per thermal curve  Definite time: (0 to 30 sec)  Under current  20%-50 %, tripping time: 30 sec  Motor stall  200-600 %, tripping time: 30 sec  25-100 %, Inverse  Phase Failure tripping time: 5 sec  Reverse Phase tripping time: 0.1 sec  Motor start time 0-10 sec  Reverse Phase  Tripping time: 5 sec  Reverse Phase  Tripping time: 5 sec  Reverse Phase  Motor start time 0-10 sec  Reset Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm		Ultra Compact size.
AC burden  Relay O/P  10A at 250V AC  Frequency  50/60 Hz ± 5%  Overload setting  10V NC at rated current  10V AC at rated current  50/60 Hz ± 5%  Overload setting  10V ac at rated current  50/60 Hz ± 5%  Overload setting  10V ac at rated current  50/60 Hz ± 5%  Overload setting  10V ac at rated current  50/60 Hz ± 5%  Overload setting  10V ac at rated current  10V ac at rated current  50/60 Hz ± 5%  Overload setting  10V ac at rated current  10V ac at rated current	CT Input	5A, 15V AC
Relay O/P  Frequency  50/60 Hz ± 5%  Overload setting  30 % to 110%  Tripping time  Inverse time: as per thermal curve Definite time: (0 to 30 sec)  Under current  20%-50 %, tripping time: 30 sec  Motor stall  200-600 %, tripping time: 30 -300 Sec  Earth fault  1 A-3 A, tripping time: 1 Sec -20 Sec  25-100 %, Inverse Phase Failure tripping time: 5 sec  Reverse Phase tripping time: 0.1 sec Motor start time 0-10 sec Reset Manual reset  Phase Failure  Tripping time: 5 sec  Reverse Phase  Motor start time  0-10 sec  Reset  Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm	Auxiliary supply	440V AC
Frequency 50/60 Hz ± 5%  Overload setting 30 % to 110%  Tripping time Inverse time: as per thermal curve Definite time: (0 to 30 sec)  Under current 20%-50 %, tripping time: 30 sec  Motor stall 200-600 %, tripping time: 30 -300 Sec  Earth fault 1 A-3 A, tripping time: 1 Sec -20 Sec  25-100 %, Inverse Phase Failure tripping time: 5 sec Reverse Phase tripping time: 0.1 sec Motor start time 0-10 sec Reset Manual reset  Phase Failure Tripping time: 5 sec  Reverse Phase Tripping time: 5 sec  Reverse Phase Tripping time: 5 sec  Motor start time 0-10 sec Reset Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm	AC burden	10V AC at rated current
Overload setting       30 % to 110%       Inverse time: as per thermal curve       Definite time: (0 to 30 sec)       Under current     20%-50 %, tripping time: 30 sec       Motor stall     200-600 %, tripping time: 30 -300 Sec       Earth fault     1 A-3 A, tripping time: 1 Sec -20 Sec       25-100 %, Inverse       Phase Failure tripping time: 5 sec       Motor start time 0-10 sec       Reset Manual reset       Phase Failure     Tripping time: 0.1 sec       Motor start time     0-10 sec       Reset     Manual reset       Dimensions	Relay O/P	10A at 250V AC
Tripping time  Inverse time: as per thermal curve Definite time: (0 to 30 sec)  Under current 20%-50 %, tripping time: 30 sec  Motor stall 200-600 %, tripping time: 30 -300 Sec  Earth fault 1 A-3 A, tripping time: 1 Sec -20 Sec  25-100 %, Inverse Phase Failure tripping time: 5 sec Reverse Phase tripping time: 0.1 sec Motor start time 0-10 sec Reset Manual reset  Phase Failure Tripping time: 5 sec  Reverse Phase Tripping time: 5 sec  Reverse Phase Motor start time 0-10 sec  Reset Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm	Frequency	50/60 Hz ± 5%
Tripping time  Definite time: (0 to 30 sec)  20%-50 %, tripping time: 30 sec  Motor stall  200-600 %, tripping time: 30 -300 Sec  Earth fault  1 A-3 A, tripping time: 1 Sec -20 Sec  25-100 %, Inverse  Phase Failure tripping time: 5 sec  Reverse Phase tripping time: 0.1 sec  Motor start time 0-10 sec  Reset Manual reset  Tripping time: 5 sec  Reverse Phase  Tripping time: 0.1 sec  Motor start time  0-10 sec  Reset  Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm	Overload setting	30 % to 110%
Under current  20%-50 %, tripping time: 30 sec  Motor stall  200-600 %, tripping time: 30 -300 Sec  Earth fault  1 A-3 A, tripping time: 1 Sec -20 Sec  25-100 %, Inverse Phase Failure tripping time: 5 sec  Reverse Phase tripping time: 0.1 sec Motor start time 0-10 sec Reset Manual reset  Phase Failure  Tripping time: 5 sec  Reverse Phase  Tripping time: 0.1 sec  Motor start time  0-10 sec  Reset  Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm	Talanda a since	Inverse time: as per thermal curve
Motor stall  200-600 %, tripping time 30 -300 Sec  1 A-3 A, tripping time: 1 Sec -20 Sec  25-100 %, Inverse Phase Failure tripping time: 5 sec Reverse Phase tripping time: 0.1 sec Motor start time 0-10 sec Reset Manual reset  Phase Failure Tripping time: 5 sec  Reverse Phase Tripping time: 5 sec  Reverse Phase Tripping time: 0.1 sec  Motor start time 0-10 sec Reset Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm	Impping time	Definite time: (0 to 30 sec)
Earth fault  1 A-3 A, tripping time: 1 Sec -20 Sec  25-100 %, Inverse Phase Failure tripping time: 5 sec Reverse Phase tripping time: 0.1 sec Motor start time 0-10 sec Reset Manual reset  Phase Failure Tripping time: 5 sec Reverse Phase Tripping time: 0.1 sec Motor start time 0-10 sec Reset Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm	Under current	20%-50 %, tripping time: 30 sec
Unbalance  Phase Failure tripping time: 5 sec  Reverse Phase tripping time: 0.1 sec  Motor start time 0-10 sec  Reset Manual reset  Phase Failure  Tripping time: 5 sec  Reverse Phase  Tripping time: 0.1 sec  Motor start time 0-10 sec  Reset  Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm	Motor stall	200-600 %, tripping time 30 -300 Sec
Phase Failure tripping time: 5 sec  Reverse Phase tripping time: 0.1 sec  Motor start time 0-10 sec  Reset Manual reset  Phase Failure  Tripping time: 5 sec  Reverse Phase  Tripping time: 0.1 sec  Motor start time  0-10 sec  Reset  Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm	Earth fault	1 A-3 A, tripping time: 1 Sec -20 Sec
Reverse Phase tripping time: 0.1 sec		25-100 %, Inverse
Motor start time 0-10 sec  Reset Manual reset  Phase Failure Tripping time: 5 sec  Reverse Phase Tripping time: 0.1 sec  Motor start time 0-10 sec  Reset Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm	Unbalance	Phase Failure tripping time: 5 sec
Reset Manual reset  Phase Failure Tripping time: 5 sec  Reverse Phase Tripping time: 0.1 sec  Motor start time 0-10 sec  Reset Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm		Reverse Phase tripping time: 0.1 sec
Phase Failure Tripping time: 5 sec  Reverse Phase Tripping time: 0.1 sec  Motor start time 0-10 sec  Reset Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm		Motor start time 0-10 sec
Reverse Phase Tripping time: 0.1 sec  Motor start time 0-10 sec  Reset Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm		Reset Manual reset
Motor start time 0-10 sec  Reset Manual reset  Panel Mounting: 144(w)x144(h)x80(d)mm	Phase Failure	Tripping time: 5 sec
Reset Manual reset Panel Mounting: 144(w)x144(h)x80(d)mm	Reverse Phase	Tripping time: 0.1 sec
Panel Mounting: 144(w)x144(h)x80(d)mm	Motor start time	0-10 sec
Dimensions	Reset	Manual reset
Dimensions  Wall Mounted: 115(w)x115(h)x75(d)mm	Dimensions	Panel Mounting: 144(w)x144(h)x80(d)mm
		Wall Mounted: 115(w)x115(h)x75(d)mm
Panel Cutout 138 X 138 mm	Panel Cutout	
Weight 0.45 Kg	Weight	0.45 Kg

### Voltage & Current Relay





Description	UV/OV Relay
Model Number	PE 8802
	User Friendly
	Advance micro controller technology.
	Protection against under voltage over voltage.
W = .	Protection against voltage unbalance and single phasing.
Key Features	Protection against Phase reversal.
	Easy to operate.
	Ultra compact size.
	Reset Facility.
	Normal Indicator
	Under Voltage Trip Indicator
	Over Voltage Trip Indicator
Display Features	Reverse Phase Trip Indicator
	Single Phase Trip Indicator
	Voltage Unbalance Trip Indicator
Supply Voltage System	415V AC
Phase unbalance	20%
Under Voltage	80% to 95%
Over Voltage	105% to 120% (adjustable)
Power on delay	2.0 sec ±0.5 sec.
Trin Time Delev	On OV less than 1 sec
Trip Time Delay	On phase fail ,reverse phase, UV and UNB 5secs
Auxiliary supply	230V AC (110V AC and 415V AC optional)
Relay output	Potential free NO-C-NC, 10 Amps at 250V AC contacts
Operating temp range	0°C to +70°C
Calibration	PE 8802 is calibrated with our standard meter
	(which is calibrated with YOKOGOWA, meter)
Accuracy	± 2% tolerance
Dimension	70(W)x60(H)x110(D)mm
Mounting	DIN rail
Body	Plastic

Description	UC/OC Relay
Model Number	PE 8803
Key Features	User friendly interface
Key reatures	Easy to Install
	Normal condition
Display Features	Under current condition
	Over current condition
Supply Voltage System	230/380/415/440V AC ± 20%
Under current	10% to 100% (adjustable)
Over current	50% to 140% (adjustable)
Trip time delay	1 to 10 sec (adjustable)
Auxiliary supply	230V AC (110V AC and 415V AC optional)
Relay output	Potential free NO-C-NC, 10 Amps at 250V AC contacts
Operating temp range	10°C to +70°C
Calibration	PE 8803 is calibrated with our standard meter
	(which is calibrated with YOKOGOWA, meter)
Accuracy	± 1% tolerance
Dimension	70(W)x60(H)x110(D)mm
Mounting	DIN rail
Weight	0.42Kg





PRECISE ELECTRICALS is the part of Vishal group of companies which is established in the year 1970 as Vishal Electricals in Meerut,(UP), India who is pioneer in manufacturing of all types of Instrument Transformer (Dry type, Resin Cast, Oil Impregnated -OIP).

Vishal Group of companies Vision is to be recognized as a reputable brand and source for Instruments Transformers and other power equipment within and outside India; that our products when supplied, should provide absolutely trouble free service to the nation and to our valuable customers.

#### **Our Customers**



































**International Approvals** 













Vadodara (Gujarat)





\*Product development is a continuous process. Consequently, data in this catalog is subject to change without prior notice. For latest updates please contact our office.