

DIGITAL PANEL METERS BASIC SERIES

AC VOLT METERS (Single Phase / Three Phase)



WITH IN-BUILT
FREQUENCY DISPLAY
(Hz)

Made in ITALY



PENTA 1V/3V

NANO 1V/3V

HEXA 1V/3V

PENTA 3V3

FEATURES

- Displays Line to Line Voltage and Line to Neutral
- Voltage-Phasewise and Average and system frequency.
- Password Protected.
- True RMS measurement of parameters.
- Auto/Manual scrolling of parameters
- Easy Programming with push buttons on front facia.
- RS-485 Communication optional.
- Relay Output for alarm can be provided.(optional)

SPECIFICATION

Display	: 4 Digit Red LED Super Bright Display	Maximum Overload	: Voltage 1.2 Times Continuous
Digit Height	: 0.56"/14.2mm	Frequency Response	: 40-400 Hz
Maximum display	: 9999(Max.) Counts	Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
Resolution	: 0.001 to 1 Count Depending on Range/ Scale Display	Input Voltage	: 0- 750V AC(Direct)
Display Stability	: With in ± 1 Digit	PT Primary Range	: 50 to 500kV AC Programmable
Faceplate /Lens	: Polycarbonate Transparent	PT Secondary Range	: 50 to 500V AC Programmable
Case/Housing Material	: FR-ABS Black	Accuracy Class	: 1 & 0.5 (Freq. Measurement of Class 0.2)
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass	VA (Burden)	
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.	Auxiliary	: ≤ 1.5 VA
Decimal Point	: Auto Scrolling	Voltage Input	: ≤ 1.0 VA
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary	Environment	
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second	Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Referesh Rate	: Per 8.0ms	Operating	: 0° to $+60^{\circ}\text{C}$, RH<70%
		Storage	: -10° to $+70^{\circ}\text{C}$, RH<70%
		Metering Standard	: IEC62052-11

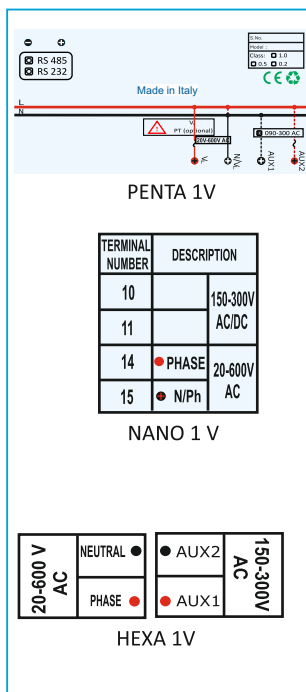
DIMENSIONS (MM)

MODEL	PENTA 1V/3V	NANO 1V/3V	HEXA 1V/3V	PENTA 3V3
FRONT	96 X 96	72 X 72	48 X 96	96 X 96
DEPTH (Behind Bezel)	39.5	59	74	52
Panel Cut -Out	$92^{(+0.8-0.0)} \times 92^{(+0.8-0.0)}$	68 X 68	$44^{(+0.5-0.0)} \times 92^{(+0.8-0.0)}$	$92^{(+0.8-0.0)} \times 92^{(+0.8-0.0)}$

ORDERING INFORMATION

MODEL	MEASURING RANGE	ACCURACY CLASS	AUX SUPPLY
PENTA 1V	0-10V AC 0-20V AC 0-30V AC 0-100V AC	0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
	20-750V AC	1.0 0.5	
NANO 1 V	20-750V AC	1.0	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
HEXA 1V		0.5	
PENTA 3V	20-600V (Line to Neutral)	1.0	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
NANO 3V	30-1000 (Line to Line)	0.5	
PENTA 3V3			

TERMINAL CONNECTION



*WHILE ORDERING PLEASE MENTION RANGE, CLASS & AUX SUPPLY & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.



DIGITAL PANEL METERS

BASIC SERIES

AC AMMETER (Single Phase / Three Phase)



PENTA 1A/3A



NANO 1A/3A



HEXA 1A/3A



PENTA 3A3



FEATURES

- Displays Current - Phase wise and Average
- Password Protected.
- True RMS** measurement of parameters.
- Auto scaling of parameter values.
- Auto/Manual scrolling of parameters
- Easy Programming with push buttons on front facia.
- RS-485 option available on demand.
- Relay Output for alarm can be provided.(optional)

SPECIFICATION

Display	: 4 Digit Red LED Super Bright Display
Digit Height	: 0.56"/14.2mm
Maximum display	: 9999(Max.) Counts
Resolution	: 0.001 to 1 Count Depending on Range/ Scale Display
Display Stability	: With in ± 1 Digit
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second
Refresh Rate	: Per 8.0ms
Maximum Overload	: Current 2 Times Continuous

Frequency Response	: 40-400 Hz
Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
Input Current	: 0.020A - 10A AC(Direct) in Standard Product
CT Primary Range	: 1A to 50kA AC Programmable
CT Secondary Range	: 0.5A to 5A AC Programmable
Accuracy Class	: 1 & 0.5
VA (Burden)	
Auxiliary	: ≤ 1.5 VA
Voltage Input	: ≤ 1.0 VA
Environment	
Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Operating	: $0^{\circ}\text{to} + 60^{\circ}\text{C}$, RH<70%
Storage	: $-10^{\circ}\text{to} + 70^{\circ}\text{C}$, RH<70%
Metering Standard	: IEC62052-11

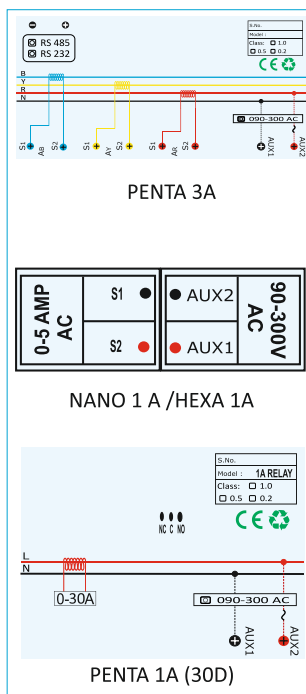
DIMENSIONS (MM)

MODEL	PENTA 1A/3A	NANO 1A/3A	HEXA 1A/3A	PENTA 3A3
FRONT	96 X 96	72 X 72	48 X 96	96 X 96
DEPTH (Behind Bezel)	39.5	59	74	52
Panel Cut -Out	$92^{(+0.8-0.0)} \times 92^{(+0.8-0.0)}$	68 X 68	$44^{(+0.5-0.0)} \times 92^{(+0.8-0.0)}$	$92^{(+0.8-0.0)} \times 92^{(+0.8-0.0)}$

ORDERING INFORMATION

MODEL	MEASURING RANGE	ACCURACY CLASS	AUX SUPPLY
PENTA 1A	10-350micro A AC 0.2-20Milli A AC 10-750Milli A AC	0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
	0.020A-10A AC 0.1A-30A Direct AC	1.0 0.5	
NANO 1 A	0.2-20Milli A AC 10-750Milli A AC	0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
	0.020A-10A AC 0.1A-30A Direct AC	1.0 0.5	
HEXA 1A	0.020A-10A AC 0.1A-30A Direct AC	1.0 0.5	45-270V AC /DC
PENTA 3A	0.020A-10A AC	1.0	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
NANO 3A	0.1A-30A Direct AC	0.5	
PENTA 3A3	Per Phase		

TERMINAL CONNECTION



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DIGITAL PANEL METERS

BASIC SERIES

AC FREQUENCY METERS (Single Phase / Three Phase)



PENTA FM



NANO FM



HEXA FM



PENTA 3F3



FEATURES

- Displays System Frequency
- True RMS measurement of parameters.
- RS-485 option available on demand.
- Relay Output for alarm can be provided.(optional)

SPECIFICATION

Display	: 4 Digit Red LED Super Bright Display	Maximum Overload	: Voltage 1.2. Times Continuous
Digit Height	: 0.56"/14.2.mm	Input Frequency Response	: 40-615 Hz
Maximum display	: 9999(Max.) Counts	Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
Resolution	: 0.001 to 1 Count Depending on Range/ Scale Display	Input Voltage Range	: 0- 750V AC(Direct)
Display Stability	: With in ± 1 Digit	Accuracy Class	: 0.2 of Full Scale
Faceplate /Lens	: Polycarbonate Transparent	VA (Burden)	
Case/Housing Material	: FR-ABS Black	Auxiliary	: ≤ 1.5 VA
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass	Voltage Input	: ≤ 1.0 VA
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.	Environment	
Decimal Point	: Auto Scrolling	Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals	Operating	: 0° to $+60^{\circ}\text{C}$, RH<70%
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second	Storage	: -10° to $+70^{\circ}\text{C}$, RH<70%
Refresh Rate	: Per 8.0ms	Metering Standard	: IEC62052-11

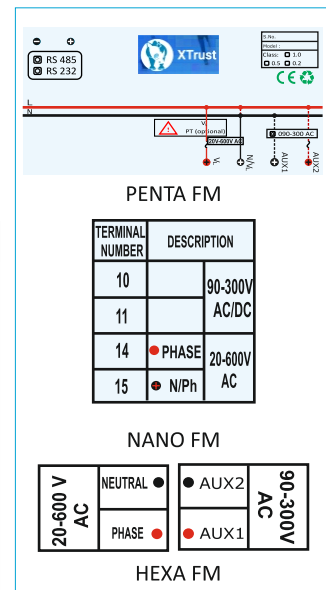
DIMENSIONS (MM)

MODEL	PENTA FM	NANO FM	HEXA FM	PENTA 3F3
FRONT	96 X 96	72 X 72	48 X 96	96 X 96
DEPTH (Behind Bezel)	39.5	59	74	52
Panel Cut -Out	$92^{(+0.8-0.0)} \times 92^{(+0.8-0.0)}$	68 X 68	$44^{(+0.5-0.0)} \times 92^{(+0.8-0.0)}$	$92^{(+0.8-0.0)} \times 92^{(+0.8-0.0)}$

ORDERING INFORMATION

MODEL	MEASURING RANGE	ACCURACY CLASS	AUX SUPPLY
PENTA FM	40-615 Hz	0.2	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
NANO FM	40-615 Hz	0.2	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
HEXA FM			45-270V AC /DC
PENTA 3F3	40-615 Hz	0.2	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC

TERMINAL CONNECTION



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DIGITAL PANEL METERS BASIC SERIES

AC POWER FACTOR METER (Single Phase / Three Phase)



PENTA 1PF



PENTA 3PF



FEATURES

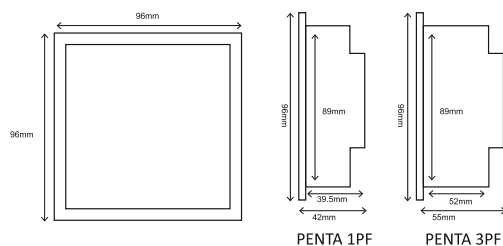
- Displays Power Factor of the System.
- Both Three Phase Power Factor Can be Individually Measured
- LED Indication to Indicate Lead or Lag Status
- True RMS measurement of parameters.
- Easy Programming with push buttons on front facia.
- RS-485 option available on demand.
- Relay Output for alarm can be provided.(optional)

SPECIFICATION

Measuring Method	: Cosine of Phase Shift Between Voltage & Current	Impulse Withstand	: 3.5.KV, 1.2/50 micro Second
Display	: 4 Digit Red LED Super Bright Display	Refresh Rate	: Per 8.0ms
Digit Height	: 0.56"/14.2.mm	Maximum Overload	: Voltage 1.2 Times Continuous Current 2 Times Continuous
Maximum display	: 9999(Max.) Counts	Frequency Response	: 40-65 Hz
Resolution	: 0.001 to 1 Count Depending on Range/ Scale Display	Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
Display Stability	: With in ± 1 Digit	Input Voltage	: 0- 750V AC(Direct)
Faceplate /Lens	: Polycarbonate Transparent	Input Current	: 0.020- 10A AC(Direct)
Case/Housing Material	: FR-ABS Black	Accuracy Class	: 0.5
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass	VA (Burden)	
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.	Auxiliary	: ≤ 1.5 VA
Decimal Point	: Auto Scrolling	Voltage Input	: ≤ 1.0 VA
Polarity Indication	: L(Lagging/Inductive) or C (Leading/Capacitive)	Current Input	: ≤ 1.0 VA
Under Range Indication	: Error Code 01 Blinking when Current Non Detectable	Environment	
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals	Calibration	: $27^{\circ}C \pm 5^{\circ}C$
		Operating	: 0° to $+60^{\circ}C$, RH<70%
		Storage	: -10° to $+70^{\circ}C$, RH<70%
		Metering Standard	: IEC62052-11

DIMENSIONS (MM)

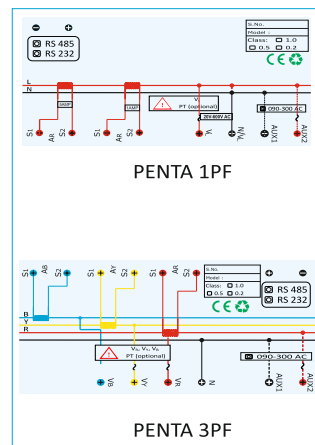
MODEL	PENTA 1PF	PENTA 3PF
FRONT	96 X 96	96 X 96
DEPTH (Behind Bezel)	39.5	52
Panel Cut -Out	92 ^(+0.8-0.0) X 92 ^(+0.8-0.0)	92 ^(+0.8-0.0) X 92 ^(+0.8-0.0)



ORDERING INFORMATION

MODEL	MEASURING RANGE	ACCURACY CLASS	AUX SUPPLY
PENTA 1PF (Single Phase)	(Voltage Input=) 20- 750V AC(Direct) (Current Input=) 0.080- 10A AC(Direct) or 0.020- 1A AC(Direct) or 0.1A-30A Direct AC	0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
PENTA 3PF (Three Phase)	(Voltage Input=) 20-600V (Line to Neutral) 30-1000 (Line to Line) (Current Input=) 0.020A-10A AC 0.1A-30A Direct AC Per Phase	0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC

TERMINAL CONNECTION



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DIGITAL PANEL METERS BASIC SERIES

AC WATT & KILOWATT METER (Single Phase / Three Phase)



PENTA 1W



PENTA 3KW



FEATURES

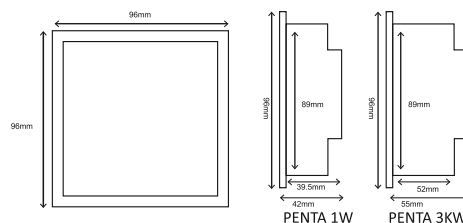
- Displays active energy consumption of a system(1ph or 3ph).
- Low Wattage Measurement in Single Phase Model, MW Measurement in Three Phase Model Available
- Password Protected.
- True RMS measurement of parameters.
- Auto/Manual scrolling of parameters
- Easy Programming with push buttons on front facia.
- RS-485 option available on demand.
- Relay Output for alarm can be provided.(optional)

SPECIFICATION

Measuring Method	: Cosine of Phase Shift Between Voltage & Current	Maximum Overload	: Voltage 1.2 Times Continuous Current 2 Times Continuous
Display	: 4 Digit Red LED Super Bright Display	Frequency Response	: 40-65 Hz
Digit Height	: 0.56"/14.2mm	Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
Maximum display	: 9999(Max.) Counts	Input Voltage	: 0- 600V AC(Direct)
Resolution	: 0.001 to 1 Count Depending on Range/ Scale Display	Input Current	: 0.020- 10A AC(Direct)
Display Stability	: With in ± 1 Digit	CT Primary Range	: 1A to 50kA AC Programmable
Faceplate /Lens	: Polycarbonate Transparent	CT Secondary Range	: 0.5A to 5A AC Programmable
Case/Housing Material	: FR-ABS Black	PT Primary Range	: 50 to 500kV AC Programmable in PENTA 3KW
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass	PT Secondary Range	: 50 to 500V AC Programmable in PENTA 3KW
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.	Accuracy Class	: 0.5
Decimal Point	: Auto Scrolling	VA (Burden)	
Polarity Indication	: L(Lagging/Inductive) or C (Leading/Capacitive)	Auxiliary	: ≤ 1.5 VA
Under Range Indication	: Error Code 01 Blinking when Current Non Detectable	Voltage Input	: ≤ 1.0 VA
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals	Current Input	: ≤ 1.0 VA
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second	Environment	
Refresh Rate	: 3 Samples/Second	Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
		Operating	: 0° to $+60^{\circ}\text{C}$, RH<70%
		Storage	: -10° to $+70^{\circ}\text{C}$, RH<70%
		Metering Standard	: IEC62052-11

DIMENSIONS (MM)

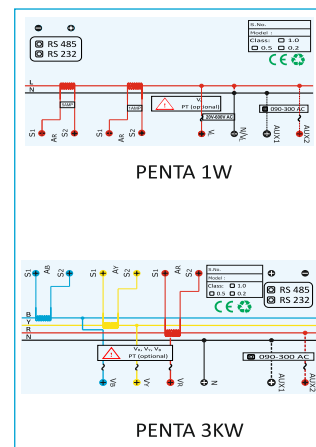
MODEL	PENTA 1W	PENTA 3KW
FRONT	96 X 96	96 X 96
DEPTH (Behind Bezel)	39.5	52
Panel Cut -Out	92 ^(+0.8-0.0) x 92 ^(+0.8-0.0)	92 ^(+0.8-0.0) x 92 ^(+0.8-0.0)



ORDERING INFORMATION

MODEL	MEASURING RANGE	ACCURACY CLASS	AUX SUPPLY
PENTA 1W (Single Phase)	(Voltage Input=) 20- 600V AC(Direct) (Current Input=) 0.080- 10A AC(Direct) or 0.020- 1A AC(Direct) or 0.1A-30A Direct AC	0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
PENTA 3KW (Three Phase)	(Voltage Input=) 20-600V (Line to Neutral) 30-1000 (Line to Line) (Current Input=) 0.020A-10A AC 0.1A-30A Direct AC Per Phase	0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC

TERMINAL CONNECTION



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DIGITAL PANEL METERS BASIC SERIES

AC HOUR METER



PENTA HM



NANO HM



HEXA HM



FEATURES

- Displays Run Hour of any System
- Hours & Minutes saved in Memory Until Manual Reset
- Password Protected.
- Hour Mode & Minute Mode Selectable in Penta HM
- Easy Programming with push buttons on front facia.
- RS-485 option available on demand.
- Relay Output for alarm can be provided.(optional)

SPECIFICATION

Display	: 4 Digit Red LED Super Bright Display in PENTA HM : 6 Digit Red LED Super Bright Display in NANO HM & HEXA HM)	Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Digit Height	: 0.56"/14.2.mm in PENTA HM & HEXA HM : 0.36"/9.1.mm in NANO HM	Impulse Withstand	: 3.5.KV, 1.2/50 micro Second
Maximum display	: 9999(Max.) Counts	Maximum Overload	: Voltage 1.2 Times Continuous
Resolution	: 1 minutes or 1 Hour(i.e HH.MM or HHHH in PENTA HM) : (i.e HHHH.MM in NANO HM & HEXA HM)	Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
Display Stability	: With in ± 1 Digit	Accuracy Class	: 1 Second
Faceplate /Lens	: Polycarbonate Transparent	VA (Burden)	
Case/Housing Material	: FR-ABS Black	Auxiliary	: ≤ 1.5 VA
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass	Environment	
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.	Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Decimal Point	: Auto Scrolling	Operating	: 0° to $+60^{\circ}\text{C}$, RH<70%
		Storage	: -10° to $+70^{\circ}\text{C}$, RH<70%
		Metering Standard	: IEC62052-11

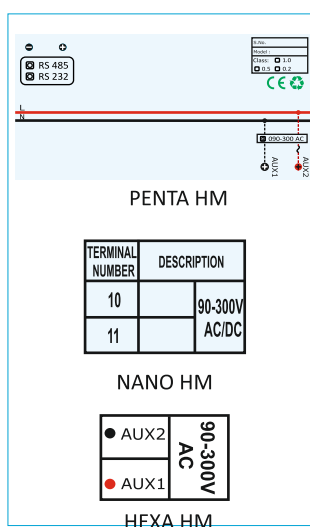
DIMENSIONS (MM)

MODEL	NANO HM	HEXA HM	PENTA HM
FRONT	72 X 72	48 X 96	96 X 96
DEPTH (Behind Bezel)	59	74	39.5
Panel Cut -Out	68 X 68	44 ^(+0.5-0.0) x 92 ^(+0.8-0.0)	92 ^(+0.8-0.0) x 92 ^(+0.8-0.0)

ORDERING INFORMATION

MODEL	DISPLAY RANGE	ACCURACY CLASS	AUX SUPPLY
PENTA HM	0001-9999Hours or 00.01-99.60 Hours	1 Sec.	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
NANO HM	0000.01-9999.60 Hours	1 Sec.	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
HEXA HM	0000.01-9999.60 Hours	1 Sec.	45-270V AC /DC

TERMINAL CONNECTION



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DIGITAL COMMUNICATION

RS 485 standard, communication capability using Modbus RTU protocol.
The baud rate can be adjusted from 1200 bps to 19200 bps.
(Preferred setting is 9600 bps).



DIGITAL PANEL METERS MULTI-FUNCTION METER / LOAD MANAGER/ POWER ANALYZERS

SINGLE PHASE VA METER



PENTA VA



NANO VA



FEATURES

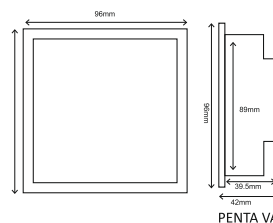
- TRMS Measurement
- Measures Voltage & Ampere.
- Easy Programming with push buttons on front facia.
- RS-485 option available on demand.
- Relay Output for alarm can be provided.(optional)
- 1 Phase 2 wire.
- 2 Rows of 4 Digit Super Bright Red LED Display
- Programmable CT Ratio.
- Auto Indication for 'Kilo'
- Auto Selection of Decimal Point

SPECIFICATION

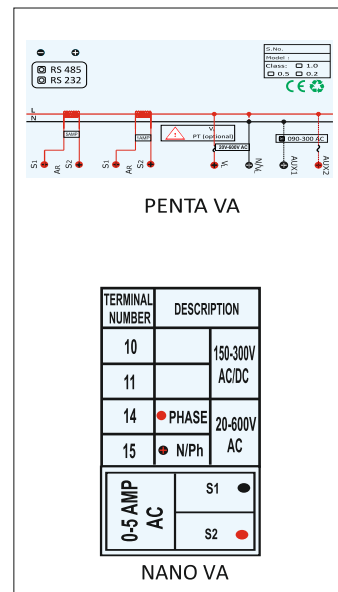
Display	2 Rows of 4 Digit RED Seven Segment Display 0.40 /10.1mm Digit Height(for current) Display 0.56 /14.2mm Digit Height(for voltage)	Decimal Point	Auto Scrolling
Maximum display	9999(Max.) Counts	System	1 Phase 2 wire Programmable
Resolution	0.001 to 1 Count Depending on Range/ Scale Display	CT Primary Range	1A to 50kA AC Programable
Display Stability	With in ± 1 Digit	CT Secondary Range	0.5A to 5A AC Programable
Auxiliary Supply	45-270V AC /DC 19-60V AC /DC	Metering Standard	IEC 62053-21/22
Input Voltage	20 - 600 V AC) Max.) (PH - N) 30 - 1000 VAC) Max.) (PH - PH)	Installation Category	Cat II (IEC / EN61010 - 1)
Input Current	0.020A-5A AC Per Phase	Pollution	Degree 2 (IEC / EN61010 - 1)
VA Burden (Typical)		Environment	
Auxiliary	<2.5 VA	Calibration	27°C $\pm$ 5°C
Voltage Input	<0.2 VA / Phase	Operating	0° to 50°C, RH <70%
Current Input	<0.2 VA / Phase	Storage	-10° to 60°C, RH < 70%
Faceplate /Lens	Polycarbonate Transparent	Dielectric Strength	2.5 KV at 50 Hz for 1 mm
Case/Housing Material	FR-ABS Black	Insulation Resistance	> 20 MOhms at 500 V DC
Connectors /Terminal	Nylon 66, 33%GF,Black/Brass	Dielectric Strength	2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Mounting Clamps	Sturdy, Moulded Glass filled nylon with screws.	Impulse Withstand	3.5.KV, 1.2/50 micro Second

DIMENSIONS (MM)

MODEL	NANO VA	PENTA VA
FRONT	72 X 72	96 X 96
DEPTH (Behind Bezel)	59	39.5
Panel Cut -Out	68 X 68	92 ^(+0.8-0.0) X 92 ^(+0.8-0.0)



TERMINAL CONNECTION



ORDERING INFORMATION

MODEL	PARAMETERS DISPLAYED	ACCURACY CLASS	AUX SUPPLY
PENTA VA	Voltage(20-600V) Current(0.020-10A) CT PROGRAMMABLE	1.0 0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
NANO VA	Voltage(20-600V) Current(0.020-10A) CT PROGRAMMABLE	1.0 0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC

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DIGITAL PANEL METERS MULTI-FUNCTION METER / LOAD MANAGER/ POWER ANALYZERS

AC VAF / VIF - PF METER (Single Phase / Three Phase)



PENTA 3VAF



PENTA 3VAF



FEATURES

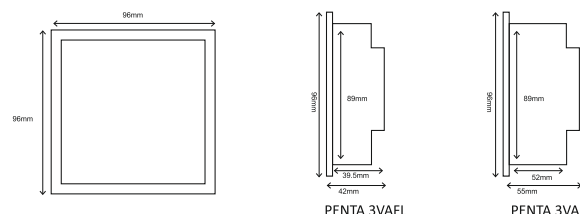
- TRMS Measurement
- Measures V, A, Hz, Run Hour, ON Hour & RPM
- RUN Hour / Load Hour (Max. 999999 Hours, 59 Minutes)
- RUN Hour / Load Hour Reset Facility
- Auto Scroll / Manual Scroll Display
- 3 Phase 4 wire, 3 Phase 3 wire, 1 Phase 2 wire Programmable
- 3 Rows of 3 Digit & 4 Digit Super Bright Red LED Display
- Programmable CTR, PTR. Number of Pole Setting
- Auto Indication for 'KV' & 'KA'
- Auto Selection of Decimal Point

SPECIFICATION

Display	: 3 Rows of 3 Digit RED Seven Segment in PENTA 3VAF Display 0.40 / 10.1mm Digit Height 3 Rows of 4 Digit RED Seven Segment in PENTA 3VAF Display 0.56 / 14.2mm Digit Height	System	: 3 Phase 4 wire, 3 Phase 3 wire, 1 Phase 2 wire Programmable
Auxiliary Supply	: 150-300V AC [Not Available in PENTA 3VAF] 45-270V AC / DC 19-90V AC / DC	CT Primary Range	: 1A to 50kA AC Programmable
Input Voltage	: 20 - 600 V AC) Max.) (PH - N) 30 - 1000 VAC) Max.) (PH - PH)	CT Secondary Range	: 0.5A to 5A AC Programmable
Input Current	: 0.020A-10A AC Per Phase	PT Primary Range	: 50 to 500kV AC Programmable
Frequency	: 45 - 65 Hz	PT Secondary Range	: 50 to 500V AC Programmable
RPM	: As per Number of Pole Setting. Fully Programmable (1 - 255)	Metering Standard	: IEC 62053-21/22
VA Burden (Typical)		Installation Category	: Cat II (IEC / EN61010 - 1)
Auxiliary	: <2.5 VA	Pollution	: Degree 2 (IEC / EN61010 - 1)
Voltage Input	: <0.2 VA / Phase	Environment	
Current Input	: <0.2 VA / Phase	Calibration	: 27°C ± 5°C
		Operating	: 0° to 50°C, RH < 70%
		Storage	: -10° to 60°C, RH < 70%
		Dielectric Strength	: 2.5 KV at 50 Hz for 1 mm
		Insulation Resistance	: > 20 MOhms at 500 V DC

DIMENSIONS (MM)

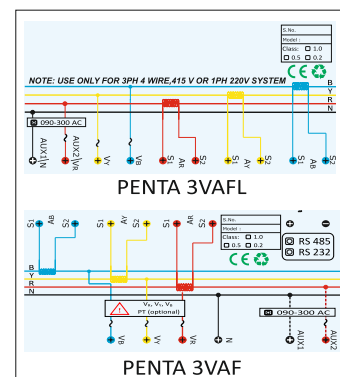
MODEL	PENTA 3VAF	PENTA 3VAF
FRONT	96 X 96	96 X 96
DEPTH (Behind Bezel)	39.5	52
Panel Cut -Out	92 (+0.8-0.0) x 92 (+0.8-0.0)	92 (+0.8-0.0) x 92 (+0.8-0.0)



ORDERING INFORMATION

MODEL	PARAMETERS DISPLAYED	ACCURACY CLASS	AUX SUPPLY
PENTA 3VAF (3 Digit 3 Row)	Voltage(Line to Line) Voltage(Line to Neutral) Current Frequency (Class 0.2) RPM Load Hours	1.0 0.5	150-300V AC (TX Supply) 45-270V AC / DC 19-60V AC / DC
PENTA 3VAF (4 Digit 3 Row)	Voltage(Line to Line) Voltage(Line to Neutral) Current Frequency (Class 0.2) Power Factor(Class 0.5) RPM Run Hour Load Hours	1.0 0.5	45-270V AC / DC 19-60V AC / DC

SINGLE PHASE
PROGRAMMABLE



*WHILE ORDERING PLEASE MENTION RANGE, CLASS & AUX SUPPLY & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

DIGITAL PANEL METERS MULTI-FUNCTION METER / LOAD MANAGER/ POWER ANALYZERS

SINGLE PHASE MULTIFUNCTION METER - TRMS[PMF-5311]



PMF-5311



FEATURES

- 10 Parameters on 7 Display Pages
- Measures V, A, PF, Hz, KW, KVA, KVAh, KVAh & KVAh
- Auto / Manual Scroll Display (User selectable)
- SMPS, TRANSFORMER Power Supply
- Ideal for Testing of Electrical Appliances
- User Programmable CT Ratio
- TRMS Measurement
- 3 Rows of 4 Digit RED Seven Segment
- RS 485 Port (5KV Isolated) (Optional)
- MODBUS RTU Protocol (Optional)
- I-LOG MASTER Software (Optional)

APPLICATION

- Home Appliance Testing
- Energy Audit
- QC
- Studying Energy Efficiency of Electrical Equipement
- Building Management - Systems
- Power Management
- Generator! Motor Characteristics
- Plant - Maintenance

SPECIFICATION

Functions

RMS Voltage	: 20 - 600Vrms (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
RMS Current	: 0.020 - 10.00Arms (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
Active Power	: 0.030 - 6.000 KW (Accuracy :- $\pm 0.5\%$ ES +1 dgt.)
Apparent Power	: 0.030 - 6.000 KVA (Accuracy :- $\pm 0.5\%$ ES +1 dgt.)
Reactive Power	: 0.030 - 6.000 KVAh (Accuracy :- $\pm 1.0\%$ ES +1 dgt.)
Power Factor	: 0.3 Lag - 1.0 - 0.3 Lead (Accuracy :- ± 0.01 PE +1 dgt.)
Line Frequency	: 45.00 - 65.00 Hz (Accuracy :- ± 0.1 Hz)
Active Energy (KWh)	: 000000.00 - 999999.99 Kwh (Accuracy Class 1,0,5)
Apparent Energy (KVAh)	: 000000.00 - 999999.99 KVAh (Accuracy Class 1,0,5)
Reactive Energy (KVAh)	: 000000.00 - 999999.99 KVAh (Accuracy Class 1,0,5)
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Polarity Indication	: L(Lagging/Inductive) or C (Leading/Capacitive)
Under Range Indication	: Error Code 01 Blinking when Current Non Detectable
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second

Refresh Rate	: 3 Samples/Second
Maximum Overload	: Voltage 1.2 Times Continuous Current 2 Times Continuous
Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC

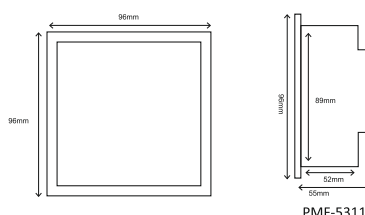
VA Burden (Typical)

Auxiliary	: <2.5 VA
Voltage Input	: <0.2 VA / Phase
Current Input	: <0.2 VA / Phase

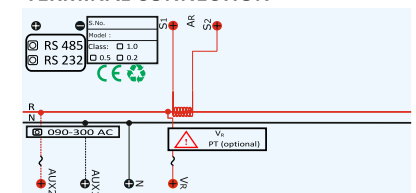
CT Primary Range	: 1A to 50kA AC Programable
CT Secondary Range	: 0.5A to 5A AC Programable
Metering Standard	: IEC 62053-21/22
Installation Category	: Cat II (IEC / EN61010 - 1)
Pollution	: Degree 2 (IEC / EN61010 - 1)
Environment	
Calibration	: 27°C $\pm$ 5°C
Operating	: 0° to 50°C, RH <70%
Storage	: -10° to 60°C, RH < 70%
Dielectric Strength	: 2.5 KV at 50 Hz for 1 mm
Insulation Resistance	: > 20 MOhms at 500 V DC

DIMENSIONS (MM)

MODEL	PENTA PMF 5311
FRONT	96 X 96
DEPTH (Behind Bezel)	52
Panel Cut -Out	92 (+0.8-0.0) x 92 (+0.8-0.0)



TERMINAL CONNECTION



*WHILE ORDERING PLEASE MENTION RANGE, CLASS & AUX SUPPLY & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

DIGITAL PANEL METERS MULTI-FUNCTION METER / LOAD MANAGER/ POWER ANALYZERS

THREE PHASE MULTIFUNCTION METER (PMF - 5331, PMF - 5337)



PMF - 5331



PMF - 5337

FEATURES

- 28 Parameters on 14 Display Pages In PMF-5331
- 36 Parameters on 20 Display Pages In PMF-5337
- Auto / Manual Scroll Display (User selectable)
- SMPS, TRANSFORMER Power Supply
- Ideal for Testing of Electrical Appliances
- User Programmable CT Ratio, PT RATIO
- TRMS Measurement
- 3 Rows of 4 Digit RED Seven Segment
- 3 Phase 4 wire, 3 Phase 3 wire Programmable
- RS 485 Port (5KV Isolated) (Optional)
- MODBUS RTU Protocol (Optional)
- I-LOG MASTER Software (Optional)
- Two Relay Output for alarm can be provided.(optional)



SPECIFICATION

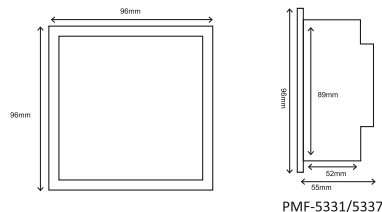
Functions

RMS Voltage	: 20 - 600Vrms (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
RMS Current	: 0.020 - 10.00Arms (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
Active Power	: 0.030 - 6.000 KW (Accuracy :- $\pm 0.5\%$ ES +1 dgt.)
Apparent Power	: 0.030 - 6.000 KVA (Accuracy :- $\pm 0.5\%$ ES +1 dgt.)
Reactive Power	: 0.030 - 6.000 KVAR (Accuracy :- $\pm 1.0\%$ ES +1 dgt.)
Power Factor	: 0.3 Lag -1.0- 0.3 Lead (Accuracy :- ± 0.01 PE +1 dgt.)
Line Frequency	: 45.00-65.00 Hz (Accuracy :- ± 0.1 Hz)
Active Energy (KWh)	: 000000.00 - 999999.99 Kwh (Accuracy Class 1,0.5)
Apparent Energy (KVAh)	: 000000.00 - 999999.99 KVAh (Accuracy Class 1,0.5)
Reactive Energy (KVArh)	: 000000.00 - 999999.99 KVArh (Accuracy Class 1,0.5)
THD (V,I)	: Indicative
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Polarity Indication	: L(Lagging/Inductive) or C (Leading/Capacitive)
Under Range Indication	: Error Code 01 Blinking when Current Non Detectable
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second

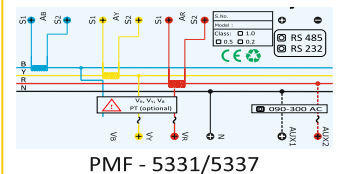
Refresh Rate	: Per 8.0ms
Maximum Overload	: Voltage 1.2. Times Continuous Current : 2 Times Continuous
Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
VA Burden (Typical)	
Auxiliary	: <2.5 VA
Voltage Input	: <0.2 VA / Phase
Current Input	: <0.2 VA / Phase
PT Primary Range	: 50 to 500kV AC Programable
PT Secondary Range	: 50 to 500V AC Programable
CT Primary Range	: 1A to 50kA AC Programable
CT Secondary Range	: 0.5A to 5A AC Programable
Metering Standard	: IEC 62053-21/22
Installation Category	: Cat II (IEC / EN61010 - 1)
Pollution	: Degree 2 (IEC / EN61010 - 1)
Environment	
Calibration	: 27°C $\pm$ 5°C
Operating	: 0° to 50°C, RH <70%
Storage	: -10° to 60°C, RH < 70%
Dielectric Strength	: 2.5 KV at 50 Hz for 1 mm
Insulation Resistance	: > 20 MOhms at 500 V DC

DIMENSIONS (MM)

MODEL	PENTA PMF - 5331/5337
FRONT	96 X 96
DEPTH (Behind Bezel)	52
Panel Cut -Out	92 (+0.8-0.0) x 92 (+0.8-0.0)



TERMINAL CONNECTION



ORDERING INFORMATION

MODEL	PARAMETERS DISPLAYED	ACCURACY CLASS	AUX SUPPLY
PMF - 5331	Voltage(Line to Line) Voltage(Line to Neutral) Current Frequency (Class 0.2) Power Factor(Class 0.5) Active Power(W) Apparent Power(VA) Active Energy(kWh) RPM Run Hour Load Hours	1.0 0.5	45-270V AC /DC 19-60V AC /DC
PMF - 5337	Reactive Power(VAR) Reactive Energy (kVArh) Apparent Energy (kVAh) VTHD ITHD	1.0 0.5	45-270V AC /DC 19-60V AC /DC

*WHILE ORDERING PLEASE MENTION RANGE, CLASS & AUX SUPPLY & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

DIGITAL PANEL METERS MULTI-FUNCTION METER / LOAD MANAGER/ POWER ANALYZERS

THREE PHASE LCD MULTIFUNCTION METER (PLM - 613X Series)



PLM - 6135/6137



PLM - 613D

FEATURES

- 75 Parameters on 34 Display Pages In PLM-6137
- 36 Parameters on 20 Display Pages In PLM-6135 & 613D
- Auto / Manual Scroll Display (User selectable)
- SMPS, TRANSFORMER Power Supply
- Ideal for Testing of Electrical Appliances
- Phase Angle & Phasor Angle Measurement
- Set Date & Time (RTC)
- User Programmable CT Ratio, PT RATIO
- TRMS Measurement
- 128 X 64 Graphical Display with White Backlight.
- 3 Phase 4 wire, 3 Phase 3 wire Programmable.
- RS 485 Port (5KV Isolated) (Optional)
- MODBUS RTU Protocol (Optional)
- I-LOG MASTER Software (Optional)
- Two Relay Output for alarm can be provided.(optional)
- Measurement of Min. & Max. Event
- Neutral & Power Interrupt Count.



SPECIFICATION

Functions

RMS Voltage	: 20 - 600Vrms (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
RMS Current	: 0.020 - 10.00Arms (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
Active Power	: 0.030 - 6.000 KW (Accuracy :- $\pm 0.5\%$ ES +1 dgt.)
Apparent Power	: 0.030 - 6.000 KVA (Accuracy :- $\pm 0.5\%$ ES +1 dgt.)
Reactive Power	: 0.030 - 6.000 KVAR (Accuracy :- $\pm 1.0\%$ ES +1 dgt.)
Power Factor	: 0.3 Lag - 1.0 - 0.3 Lead (Accuracy :- ± 0.01 PE +1 dgt.)
Line Frequency	: 45.00 -65.00 Hz (Accuracy :- ± 0.1 Hz)
Active Energy (KWh)	: 000000.00 - 999999.99 Kwh (Accuracy Class 1,0,5)
Apparent Energy (KVAh)	: 000000.00 - 999999.99 KVAh (Accuracy Class 1,0,5)
Reactive Energy (KVARh)	: 000000.00 - 999999.99 KVARh (Accuracy Class 1,0,5)
THD (V,I)	: Indicative
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Polarity Indication	: L(Lagging/Inductive) or C (Leading/Capacitive)
Under Range Indication	: Error Code 01 Blinking when Current Non Detectable
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second

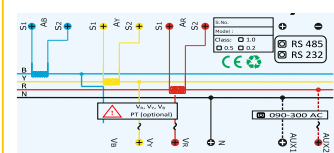
Refresh Rate	: Per 8.0ms
Maximum Overload	: Voltage 1.2 Times Continuous Current 2 Times Continuous
Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
VA Burden (Typical)	
Auxiliary	: <2.5 VA
Voltage Input	: <0.2 VA / Phase
Current Input	: <0.2 VA / Phase

PT Primary Range	: 50 to 500kV AC Programmable
PT Secondary Range	: 50 to 500V AC Programmable
CT Primary Range	: 1A to 50kA AC Programmable
CT Secondary Range	: 0.5A to 5A AC Programmable
Metering Standard	: IEC 62053-21/22
Installation Category	: Cat II (IEC / EN61010 - 1)
Pollution	: Degree 2 (IEC / EN61010 - 1)

Environment

Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Operating	: 0° to 50°C , RH <70%
Storage	: -10° to 60°C , RH < 70%
Dielectric Strength	: 2.5 KV at 50 Hz for 1 mm
Insulation Resistance	: > 20 MOhms at 500 V DC

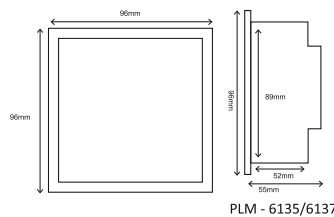
TERMINAL CONNECTION



PLM - 6135/6137

DIMENSIONS (MM)

MODEL	PLM - 6135/6137	PLM - 6135D
FRONT	96 X 96	115 X 96
DEPTH (Behind Bezel)	52	60
Panel Cut -Out	$92^{(+0.8-0.0)} \times 92^{(+0.8-0.0)}$	NA



PLM - 6135/6137

ORDERING INFORMATION

MODEL	PARAMETERS DISPLAYED		ACCURACY CLASS	AUX SUPPLY
PLM - 6135/ PLM-613D	Voltage(Line to Line)	Active Energy (kWh)	1.0 0.5	45-270V AC /DC 19-60V AC /DC
	Voltage(Line to Neutral)	RPM		
	Current	Run Hour		
	Frequency (Class 0.2)	Load Hours		
	Power Factor(Class 0.5)	Reactive Power (VAR)		
	Active Power (W)	Reactive Energy (kVARh)		
	Apparent Power (VA)	Apparent Energy (kVAh)		
PLM - 6137	VTHD	Max. -Min. Event	1.0	45-270V AC /DC 19-60V AC /DC
	I THD	Neutral Current	0.5	
	Phase Angle	RTC Time		

*WHILE ORDERING PLEASE MENTION RANGE, CLASS & AUX SUPPLY & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

ENERGY METER / INTEGRATED METER

ENERGY CUM MULTIFUNCTION METER (PE - 3110, PE - 3130)



PE - 3110



PE - 3130

FEATURES

- 1 Rows of 6 Digit RED Seven Segment
- Displays Active Energy(kWh) or apparent energy(kVAh) [USER SETTABLE].
- Active & Apparent energy - Energy accumulation /integration, reverse lock, saved in external flash
- Old energy register back-up for re-start energy reading.
- Auto / Manual Scroll Display (User selectable)
- User Programmable CT Ratio,PT RATIO
- TRMS Measurement
- 3 Phase 3 element 4 wire system (pe3130),
- 1 Phase 2 wire 1 element(pe3110) .
- RS 485 Port (5KV Isolated) (Optional)
- MODBUS RTU Protocol (Optional)
- I-LOG MASTER Software (Optional)
- Single Relay Output for alarm can be provided.(optional)



SPECIFICATION

Functions

RMS Voltage	: 20 - 600Vrms (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
RMS Current	: 0.020 - 10.00Arms (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
Active Power	: 0.030 - 6.000 KW (Accuracy :- $\pm 0.5\%$ ES +1 dgt.)
Power Factor	: 0.3 Lag -1.0 - 0.3 Lead (Accuracy :- ± 0.01 PE +1 dgt.)
Line Frequency	: 45.00 - 65.00 Hz (Accuracy :- ± 0.1 Hz)
Active Energy (KWh)	: 000000.00 - 999999.99 Kwh (Accuracy Class 1,0,5)
Apparent Energy (KVAh)	: 000000.00 - 999999.99 KVAh (Accuracy Class 1,0,5)
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Polarity Indication	: L(Lagging/Inductive) or C (Leading/Capacitive)
Under Range Indication	: Error Code 01 Blinking when Current Non Detectable
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second
Refresh Rate	: Per 8.0ms
Maximum Overload	: Voltage 1.2 Times Continuous Current 2 Times Continuous

Auxiliary Supply : 150-300V AC, 45-270V AC /DC, 19-60V AC /DC

VA Burden (Typical)

Auxiliary	: <2.5 VA
Voltage Input	: <0.2 VA / Phase
Current Input	: <0.2 VA / Phase

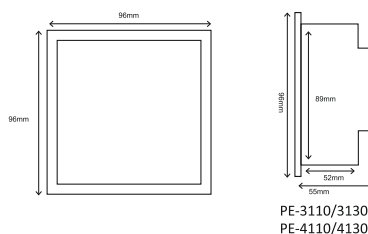
PT Primary Range	: 50 to 500kV AC Programable
PT Secondary Range	: 50 to 500V AC Programable
CT Primary Range	: 1A to 50kA AC Programable
CT Secondary Range	: 0.5A to 5A AC Programable
Metering Standard	: IEC 62053-21/22
Installation Category	: Cat II (IEC / EN61010 - 1)
Pollution	: Degree 2 (IEC / EN61010 - 1)

Environment

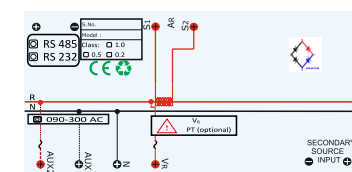
Calibration	: 27°C $\pm$ 5°C
Operating	: 0° to 50°C, RH <70%
Storage	: -10° to 60°C, RH < 70%
Dielectric Strength	: 2.5 KV at 50 Hz for 1 mm
Insulation Resistance	: > 20 MOhms at 500 V DC

DIMENSIONS (MM)

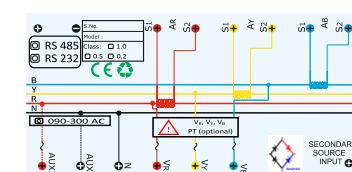
MODEL	PE-3110/3130
FRONT	96 X 96
DEPTH (Behind Bezel)	52
Panel Cut -Out	92 ^(+0.8-0.0) x 92 ^(+0.8-0.0)



TERMINAL CONNECTION



PE - 3110 / PE - 4110



PE - 3130 / PE - 4130

ORDERING INFORMATION

MODEL	PARAMETERS DISPLAYED	ACCURACY CLASS	AUX SUPPLY
PE - 3110 SINGLE PHASE	Voltage(Line to Neutral) Current Frequency (Class 0.2) Power Factor(Class 0.5) Active Power(W) Active Energy(kWh) Apparent Energy (kVAh) Load Hours	1.0 0.5	45-270V AC /DC 19-60V AC /DC 150-300V AC
PE - 3130 DUAL SOURCE	Voltage(Line to Line) Voltage(Line to Neutral) Current Frequency (Class 0.2) Power Factor(Class 0.5) Active Power(W) Active Energy(kWh) Apparent Energy (kVAh) Load Hours	1.0 0.5	45-270V AC /DC 19-60V AC /DC

*WHILE ORDERING PLEASE MENTION RANGE, CLASS & AUX SUPPLY & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

ENERGY METER / INTEGRATED METER

DUAL SOURCE ENERGY CUM MULTIFUNCTION METER (PE - 4115, PE - 4135)



PE - 4115



PE - 4135

FEATURES

- 2 Rows of 6 Digit RED Seven Segment
- Displays Active Energy(kWh) or apparent energy(kVAh) [USER SETTABLE] FOR BOTH EB & DG SIMULTANIOUSLY.
- Active & Apparent energy - Energy accumulation /integration, reverse lock, saved in external flash
- Old energy register back-up for re-start energy reading.
- Auto / Manual Scroll Display (User selectable)
- Load hour for secondary source(DG) are displayed.
- Smart voltage sensing(AC & DC)of secondary source.
- User Programmable CT Ratio,PT RATIO
- TRMS Measurement
- 3 Phase 3 element 4 wire system (pe3130), 1 Phase 2 wire 1 element(pe3110) .
- RS 485 Port (5KV Isolated) (Optional)
- MODBUS RTU Protocol (Optional)
- I-LOG MASTER Software (Optional)
- Single Relay Output for alarm can be provided.(optional)



SPECIFICATION

Functions

RMS Voltage	: 20 - 600Vrms (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
RMS Current	: 0.020 - 10.00Arms (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
Active Power	: 0.030 - 6.000 KW (Accuracy :- $\pm 0.5\%$ ES +1 dgt.)
Power Factor	: 0.3 Lag - 1.0 - 0.3 Lead (Accuracy :- ± 0.01 PE +1 dgt.)
Line Frequency	: 45.00 - 65.00 Hz (Accuracy :- ± 0.1 Hz)
Active Energy (KWh)	: 000000.00 - 999999.99 Kwh (Accuracy Class 1,0.5)
Apparent Energy (KVAh)	: 000000.00 - 999999.99 KVAh (Accuracy Class 1,0.5)
DG HOUR	: HHHH.MM FORMAT (ACCURACY +-1 MIN)
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Polarity Indication	: L(Lagging/Inductive) or C (Leading/Capacitive)
Under Range Indication	: Error Code 01 Blinking when Current Non Detectable
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second
Refresh Rate	: Per 8.0ms
Maximum Overload	: Voltage 1.2 Times Continuous Current 2 Times Continuous

Auxiliary Supply : 150-300V AC, 45-270V AC /DC, 19-60V AC /DC

DG SENSING VOLTAGE : 24V-270V AC/DC

VA Burden (Typical)

Auxiliary	: <2.5 VA
Voltage Input	: <0.2 VA / Phase
Current Input	: <0.2 VA / Phase

PT Primary Range	: 50 to 500kV AC Programable
PT Secondary Range	: 50 to 500V AC Programable
CT Primary Range	: 1A to 50kA AC Programable
CT Secondary Range	: 0.5A to 5A AC Programable
Metering Standard	: IEC 62053-21/22
Installation Category	: Cat II (IEC / EN61010 - 1)
Pollution	: Degree 2 (IEC / EN61010 - 1)

Environment

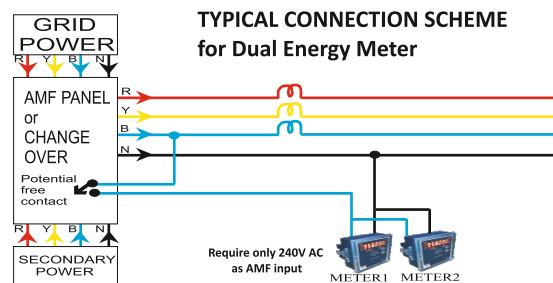
Calibration	: 27°C $\pm$ 5°C
Operating	: 0° to 50°C, RH <70%
Storage	: -10° to 60°C, RH < 70%
Dielectric Strength	: 2.5 KV at 50 Hz for 1 mm
Insulation Resistance	: > 20 MOhms at 500 V DC

DIMENSIONS (MM)

MODEL	PE-4115/4135
FRONT	96 X 96
DEPTH (Behind Bezel)	52
Panel Cut -Out	92 ^(+0.8-0.0) x 92 ^(+0.8-0.0)

ORDERING INFORMATION

MODEL	PARAMETERS DISPLAYED	ACCURACY CLASS	AUX SUPPLY
PE - 4115 DUAL SOURCE SINGLE PHASE	Voltage(Line to Neutral) Current Frequency (Class 0.2) Power Factor(Class 0.5) Active Power(W) Active Energy(kWh) Apparent Energy (kVAh) DG Load Hours OLD ENERGY	1.0 0.5	45-270V AC /DC 19-60V AC /DC 150-300V AC
PE - 4135 DUAL SOURCE THREE PHASE	Voltage(Line to Line) Voltage(Line to Neutral) Current Frequency (Class 0.2) Power Factor(Class 0.5) Active Power(W) Active Energy(kWh) Apparent Energy (kVAh) Load Hours DG LOAD HOUR	1.0 0.5	45-270V AC /DC 19-60V AC /DC



*WHILE ORDERING PLEASE MENTION RANGE, CLASS & AUX SUPPLY & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

DIGITAL PANEL METERS

DC METERING

DC VOLT METERS



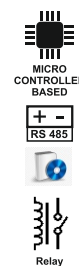
PENTA DCV



NANO DCV



HEXA DCV



FEATURES

- Displays DC Voltage
- Voltage range of 0-800V can be measured.
- Password Protected.
- Small Ranges Available For Better Accuracy
- Auto/Manual scrolling of parameters
- Easy Programming with push buttons on front facia.
- RS-485 option available on demand.
- Relay Output for alarm can be provided.(optional)

SPECIFICATION

Display	: 4 Digit Red LED Super Bright Display	Maximum Overload	: Voltage : 1.2 Times Continuous
Digit Height	: 0.56"/14.2.mm	Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
Maximum display	: 9999(Max.) Counts	Input Voltage	: 0- 750V DC(Direct)
Resolution	: 0.001 to 1 Count Depending on Range/ Scale Display	SCALE	: KV RANGE VIA PROGRAMMING POSSIBLE.
Display Stability	: With in ± 1 Digit		
Faceplate /Lens	: Polycarbonate Transparent	Accuracy Class	: 1 & 0.5
Case/Housing Material	: FR-ABS Black	VA (Burden)	
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass	Auxiliary	: ≤ 1.5 VA
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.	Voltage Input	: ≤ 1.0 VA
Decimal Point	: Auto Scrolling	Environment	
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals	Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second	Operating	: 0° to $+60^{\circ}\text{C}$, RH<70%
Refresh Rate	: Per 8.0ms	Storage	: -10° to $+70^{\circ}\text{C}$, RH<70%
		Metering Standard	: IEC62052-11

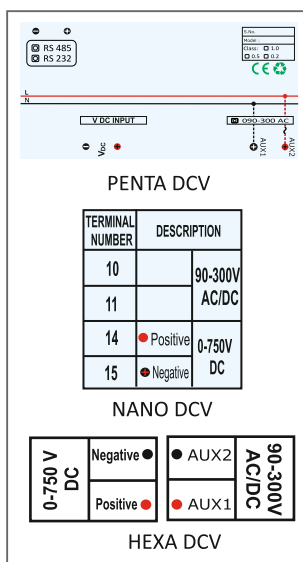
DIMENSIONS (MM)

MODEL	NANO DCV	HEXA DCV	PENTA DCV
FRONT	72 X 72	48 X 96	96 X 96
DEPTH (Behind Bezel)	59	74	39.5
Panel Cut -Out	68 X 68	44 ^(+0.5-0.0) X 92 ^(+0.8-0.0)	92 ^(+0.8-0.0) X 92 ^(+0.8-0.0)

ORDERING INFORMATION

MODEL	MEASURING RANGE	ACCURACY CLASS	AUX SUPPLY
PENTA DCV	0-10V DC 0-20V DC 0-50V DC 0-100V DC	0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
	0-200 V DC 03-750V DC	1.0 0.5	
NANO DCV	03-750V DC	1.0 0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
HEXA DCV			45-270V AC /DC

TERMINAL CONNECTION



*WHILE ORDERING PLEASE MENTION RANGE, CLASS & AUX SUPPLY & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

DIGITAL PANEL METERS

DC METERING

DC AMMETERS



PENTA DCA



NANO DCA



HEXA DCA

NEGATIVE SCALE
AVAILABLE ON
DEMAND



FEATURES

- Displays DC Current
- Direct and shunt settable current range available.
- Password Protected.
- Small Ranges Available For Better Accuracy
- Auto/Manual scrolling of parameters
- Easy Programming with push buttons on front facia.
- RS-485 option available on demand.
- Relay Output for alarm can be provided.(optional)

SPECIFICATION

Display	: 4 Digit Red LED Super Bright Display
Digit Height	: 0.56"/14.2.mm
Maximum display	: 9999(Max.) Counts
Resolution	: 0.001 to 1 Count Depending on Range/ Scale Display
Display Stability	: With in ± 1 Digit
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second
Refresh Rate	: Per 8.0ms

Maximum Overload	: Current : 2 Times Continuous(mV)
Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
Input Current	: 0-20A DIRECT, 0 - 75mV/0-60mV DC(SETTABLE)
SHUNT	: 1A-50kA PROGRAMABLE.
Accuracy Class	: 1 & 0.5
VA (Burden)	
Auxiliary	: ≤ 1.5 VA
Current Input	: ≤ 1.0 VA
Environment	
Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Operating	: 0° to $+60^{\circ}\text{C}$, RH<70%
Storage	: -10° to $+70^{\circ}\text{C}$, RH<70%
Metering Standard	: IEC62052-11

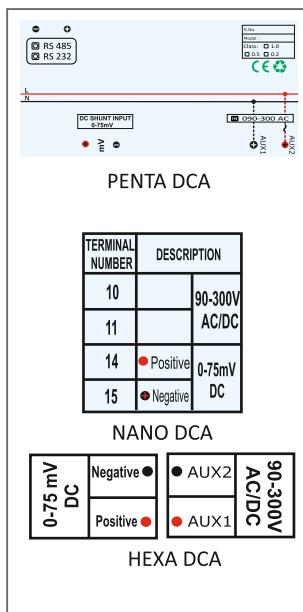
DIMENSIONS (MM)

MODEL	NANO DCA	HEXA DCA	PENTA DCA
FRONT	72 X 72	48 X 96	96 X 96
DEPTH (Behind Bezel)	59	74	39.5
Panel Cut -Out	68 X 68	44 (+0.5-0.0) x 92 (+0.8-0.0)	92 (+0.8-0.0) x 92 (+0.8-0.0)

ORDERING INFORMATION

MODEL	MEASURING RANGE	ACCURACY CLASS	AUX SUPPLY
PENTA DCA	0-10A DC(DIRECT) 0-20A DC(DIRECT) 0-75mV (SHUNT INPUT) 0-60mV(SHUNT INPUT) -75-0-75 mV(SHUNT OR TRANSDUCER I/P) -60-0-60 mV (SHUNT OR TRANSDUCER I/P)	1.0 0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
NANO DCA	0-10A DC(DIRECT) 0-20A DC(DIRECT) 0-75mV (SHUNT INPUT) 0-60mV(SHUNT INPUT)	1.0 0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
HEXA DCA	-75-0-75 mV(SHUNT OR TRANSDUCER I/P) -60-0-60 mV (SHUNT OR TRANSDUCER I/P)		45-270V AC /DC

TERMINAL CONNECTION



*WHILE ORDERING PLEASE MENTION RANGE, CLASS & AUX SUPPLY & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

DIGITAL PANEL METERS

DC METERING

DC VAMETERS



PENTA DCVA



NANO DCVA

NEGATIVE SCALE
AVAILABLE ON
DEMAND



FEATURES

- Displays DC Current & DC Voltage Simultaneously.
- Voltage range of 0-800V & Direct and shunt settable
- current range available.
- Password Protected.
- Small Ranges Available For Better Accuracy
- Auto/Manual scrolling of parameters
- Easy Programming with push buttons on front facia.
- RS-485 option available on demand.
- Relay Output for alarm can be provided.(optional)

SPECIFICATION

Display	: 4 Digit Red LED Super Bright Display	Maximum Overload	: Voltage : 1.2 Times Continuous
Digit Height	: 0.56"/14.2.mm		Current : 2 Times Continuous(mV)
Maximum display	: 9999(Max.) Counts	Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
Resolution	: 0.001 to 1 Count Depending on Range/ Scale Display	Input Current	: 0-20A DIRECT , 0 - 75mV/0-60mV DC(SETTABLE)
Display Stability	: With in ± 1 Digit	Input Voltage	: 0- 750V DC(Direct)
Faceplate /Lens	: Polycarbonate Transparent	SCALE	: KV RANGE VIA PROGRAMMING POSSIBLE.
Case/Housing Material	: FR-ABS Black	SHUNT	: 1A-50kA PROGRAMABLE.
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass	Accuracy Class	: 1 & 0.5
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.	VA (Burden)	
Decimal Point	: Auto Scrolling	Auxiliary	: ≤ 1.5 VA
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals	Current Input	: ≤ 1.0 VA
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second	Voltage Input	: ≤ 1.0 VA
Refresh Rate	: Per 8.0ms	Environment	
		Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
		Operating	: 0° to $+60^{\circ}\text{C}$, RH<70%
		Storage	: -10° to $+70^{\circ}\text{C}$, RH<70%
		Metering Standard	: IEC62052-11

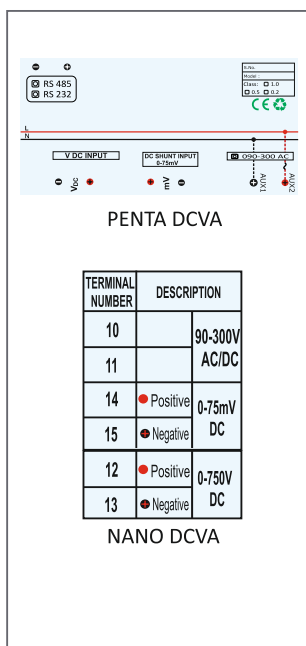
DIMENSIONS (MM)

MODEL	NANO DCVA	PENTA DCVA
FRONT	72 X 72	96 X 96
DEPTH (Behind Bezel)	59	39.5
Panel Cut -Out	68 X 68	92 ^(+0.8-0.0) x 92 ^(+0.8-0.0)

ORDERING INFORMATION

MODEL	MEASURING RANGE		ACCURACY CLASS	AUX SUPPLY
PENTA DCVA	V	A		
	0-10V DC	0-10A DC(DIRECT)		150-300V AC (TX Supply)
	0-20V DC	0-20A DC(DIRECT)	1.0	45-270V AC /DC
	0-50V DC	0-75mV (SHUNT INPUT)	0.5	19-60V AC /DC
	0-100V DC	0-60mV(SHUNT INPUT)		
NANO DCVA	0-200 V DC	-75-0-75 mV (SHUNT OR TRANSDUCER I/P)		
	03-750V DC	-60-0-60 mV (SHUNT OR TRANSDUCER I/P)	1.0	150-300V AC (TX Supply)
			0.5	45-270V AC /DC

TERMINAL CONNECTION



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DIGITAL PANEL METERS

DC METERING

SINGLE CHANNEL DC KWH METER - PENTA DC113



PENTA DC113



FEATURES

- Displays Energy(kWh),Power(kW),Voltage,Current.
- Voltage Full scale programmable.
- Current full scale programmable independently.
- Reverse lock option for not accumulating the reverse current energy. This can be used for the better study of charging and discharging circuit
- Programmable shunt secondary 50mV to 75mV.
- Energy resetting at 999999K* multiplication factor
- 16X4 ALPHANUMERIC GREEN, BLUE LCD Display
- & V,A,kW Parameter Display
- RS 485 Port (5KV Isolated) (Optional)
- Modbus Rtu Protocol (optional)
- I-log Master Software (optional)
- Auto / Manual Scroll Display (User selectable)
- SMPS, TRANSFORMER Power Supply

APPLICATION

- Solar power generation analysis
- Battery charging stations & panels
- Energy Audit
- Power Management

SPECIFICATION

Functions

DC Voltage	: 0– 200VDC (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
DC Current	: 0.020 - 10.00A DIRECT, : 0-75 mV (VIA SHUNT)(Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
DC Power	: 0.030 - 2.000 KW DIRECT (Accuracy :- $\pm 0.5\%$ ES +1 dgt.)
DC Energy (KWh)	: 000000 - 999999 Kwh (Accuracy Class 1,0,5)
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Polarity Indication	: Negative Polarity Indication Available On Demand
Under Range Indication	: Error Code 01 Blinking when Current Non Detectable
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second
Refresh Rate	: Per 8.0ms
Maximum Overload	: Voltage : 1.2 Times Continuous Current : 2 Times Continuous
Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-90V AC /DC

VA Burden (Typical)

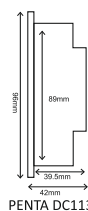
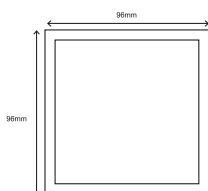
Auxiliary	: <2.5 VA
Voltage Input	: <0.2 VA
Current Input	: <0.2 VA / CHANNEL
Metering Standard	: IEC 62053-21/22
Installation Category	: Cat II (IEC / EN61010 - 1)
Pollution	: Degree 2 (IEC / EN61010 - 1)
Input Current	: 0-20A DIRECT , 0 - 75mV/0-60mV DC(SETTABLE)
Input Voltage	: 0- 750V DC(Direct)
SCALE	: KV RANGE VIA PROGRAMMING POSSIBLE.
SHUNT	: 1A-50kA PROGRAMABLE.

Environment

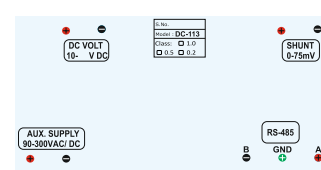
Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Operating	: 0° to 50°C , RH <70%
Storage	: -10° to 60°C , RH < 70%
Dielectric Strength	: 2.5 KV at 50 Hz for 1 mm
Insulation Resistance	: > 20 MOhms at 500 V DC

DIMENSIONS (MM)

MODEL	PENTA DC113
FRONT	96 X 96
DEPTH (Behind Bezel)	39.5
Panel Cut -Out	92 (+0.8-0.0) x 92 (+0.8-0.0)



TERMINAL CONNECTION



PENTA DC113

*WHILE ORDERING PLEASE MENTION RANGE, CLASS & AUX SUPPLY & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

DIGITAL PANEL METERS

DC METERING

FOUR CHANNEL DC KWH METER - DCEM1170 & DCEM1173 (TELECOM & SOLAR)



PENTA DCEM1170



PENTA DCEM1173



FEATURES

- Displays Bus Voltage, 4 Channel Currents (total current of all four),
- 4 channel individual kilo watt & 4 channel Energy (kwh).
- Current channel I/P via Shunt with wide range Programming options.
- Hourly logging facility of all 15 parameters for minimum 8 days with time stamp.
- RTU Integration programming available on display.
- All 5 channels fully isolated. (bus voltage & current)
- Remote/Local switching of channel groups between 1, 2 & 3, 4
- Energy resetting at 999999K* multiplication factor
- 16X4 ALPHANUMERIC GREEN, BLUE LCD Display in DCEM1173 model.
- 16X2 ALPHANUMERIC GREEN, BLUE LCD Display in DCEM1170 model.
- RS 485 Port (5KV Isolated) (Optional)
- Modbus Rtu Protocol (optional)
- I-log Master Software (optional)
- Auto / Manual Scroll Display (User selectable)
- SMPS, TRANSFORMER Power Supply

SPECIFICATION

Functions

DC BUS Voltage	: 0– 200VDC (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
DC Current	: 0-75 mV or 50mV (VIA SHUNT) (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
DC Power	: 0.000-9999 KW or MW (Accuracy :- $\pm 0.5\%$ ES +1 dgt.)
DC Energy (KWh)	: 000000 — 999999 Kwh (Accuracy Class 1 & 0.5)
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF, Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Polarity Indication	: Negative Polarity Indication Available On Demand
Under Range Indication	: Error Code 01 Blinking when Current Non Detectable
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second OR 2KV for 1 minute
Refresh Rate	: Per 8.0ms
Maximum Overload	: Voltage : 1.2 Times Continuous Current : 2 Times Continuous
Auxiliary Supply	: 36 TO 72 VOLT DC (SELF-POWERED AUXILIARY AVAILABLE)

VA Burden (Typical)

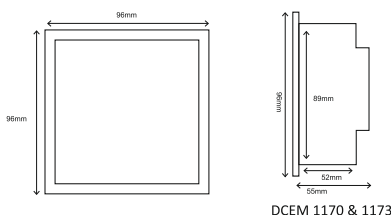
Auxiliary	: <2.5 VA
Voltage Input	: <0.2 VA
Current Input	: <0.2 VA / CHANNEL
Metering Standard	: IEC 62053-21/22
Installation Category	: Cat II (IEC / EN61010 - 1)
Pollution	: Degree 2 (IEC / EN61010 - 1)
EMISSION1	: CISPR22 CLASS A
Fast Transient	: 4KV IEC 61000-4-4
Surge withstand	: IEC 6100-4-5
Damped Oscillatory	: IEC 6100-4-12:ESD:IEC61000-4-2
SCALE	: KV RANGE VIA PROGRAMMING POSSIBLE.
SHUNT	: 1A-50kA PROGRAMABLE.

Environment

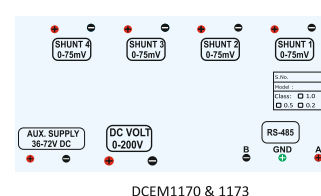
Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Operating	: 0° to 50°C , RH <70%
Storage	: -10° to 60°C , RH <70%
Dielectric Strength	: 2.5 KV at 50 Hz for 1 mm
Insulation Resistance	: > 20 MOhms at 500 V DC

DIMENSIONS (MM)

MODEL	PENTA DCEM1170/1173
FRONT	96 X 96
DEPTH (Behind Bezel)	52
Panel Cut -Out	92 (+0.8-0.0) x 92 (+0.8-0.0)



TERMINAL CONNECTION



*WHILE ORDERING PLEASE MENTION RANGE, CLASS & AUX SUPPLY & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

DIGITAL PANEL METERS PROCESS INDICATORS

RPM METER/ 0-10V PROGRAMMABLE DISPLAY DPM (PPI-010)



PENTA PPI-010



NANO PPI-010



HEXA PPI-010



FEATURES

- Display Solution for digital signal of 0-10V coming from any device or transducer.
- Can be programmed upto 9999K Value.
- Password Protected.
- Lower value to higher value & vice versa can be programmed.
- Auto scaling response time less than 1 second.
- Easy Programming with push buttons on front facia.
- RS-485 option available on demand.
- Relay Output for alarm can be provided.(optional)
- Data logging facility. (optional).

SPECIFICATION

Display	: 4 Digit Red LED Super Bright Display
Digit Height	: 0.56"/14.2.mm
Maximum display	: 9999(Max.) Counts
Resolution	: 0.001 to 1 Count Depending on Range/ Scale Display
Display Stability	: With in ± 1 Digit
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second
SRefresh Rate	: Per 8.0ms

Maximum Overload	: Voltage : 1.2 Times Continuous
Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
Input Voltage	: 0- 10V DC(Direct)
SCALE	: 0 - 9999k value.
Accuracy Class	: 1 & 0.5
VA (Burden)	
Auxiliary	: ≤ 1.5 VA
Voltage Input	: ≤ 1.0 VA
Environment	
Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Operating	: 0° to $+60^{\circ}\text{C}$, RH<70%
Storage	: -10° to $+70^{\circ}\text{C}$, RH<70%
Metering Standard	: IEC62053-10

DIMENSIONS (MM)

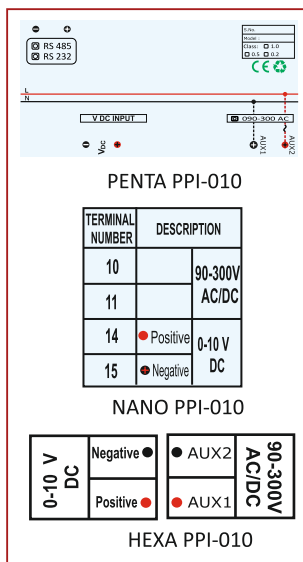
MODEL	NANO PPI-010	HEXA PPI-010	PENTA PPI-010
FRONT	72 X 72	48 X 96	96 X 96
DEPTH (Behind Bezel)	59	74	39.5
Panel Cut -Out	68 X 68	44 ^(+0.5-0.0) X 92 ^(+0.8-0.0)	92 ^(+0.8-0.0) X 92 ^(+0.8-0.0)

ORDERING INFORMATION

MODEL	MEASURING RANGE	ACCURACY CLASS	AUX SUPPLY
PENTA PPI 0-10V	0-10V DC (PROGRAMMABLE)	1.0 0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
NANO PPI 0-10V	0-10V DC (PROGRAMMABLE)	1.0 0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
HEXA PPI 0-10V			45-270V AC /DC

*WITHOUT DECIMAL DISPLAY AVAILABLE IN ALL THREE MODELS ON DEMAND.

TERMINAL CONNECTION



*WHILE ORDERING PLEASE MENTION RANGE, CLASS & AUX SUPPLY & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

DIGITAL PANEL METERS PROCESS INDICATORS

RPM METER/ 4-20MA PROGRAMMABLE DISPLAY DPM (PPI-420)



PENTA PPI-420



NANO PPI-420



HEXA PPI-420



FEATURES

- Display Solution for digital signal of 4-20mA/0-20mA coming from any device or Closed Loop transducer/sensor .
- Can be programmed upto 9999K Value.
- Password Protected.
- Lower value to higher value & vice versa can be programmed.
- Auto scaling response time less than 1 second.
- Easy Programming with push buttons on front facia.
- RS-485 option available on demand.
- Relay Output for alarm can be provided.(optional)
- Data logging facility. (optional).

SPECIFICATION

Display	: 4 Digit Red LED Super Bright Display
Digit Height	: 0.56"/14.2.mm
Maximum display	: 9999(Max.) Counts
Resolution	: 0.001 to 1 Count Depending on Range/ Scale Display
Display Stability	: With in ± 1 Digit
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second
Refresh Rate	: Per 8.0ms

Maximum Overload	: DC Current : 1.2 Times Continuous of rated.
Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
Input Signal	: 4-20mA / 0-20mA DC(Direct)
SCALE	: 0 - 9999k value.
Accuracy Class	: 1 & 0.5
VA (Burden)	
Auxiliary	: ≤ 1.5 VA
Voltage Input	: ≤ 1.0 VA
Environment	
Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Operating	: 0° to $+60^{\circ}\text{C}$, RH<70%
Storage	: -10° to $+70^{\circ}\text{C}$, RH<70%
Metering Standard	: IEC62053-10

DIMENSIONS (MM)

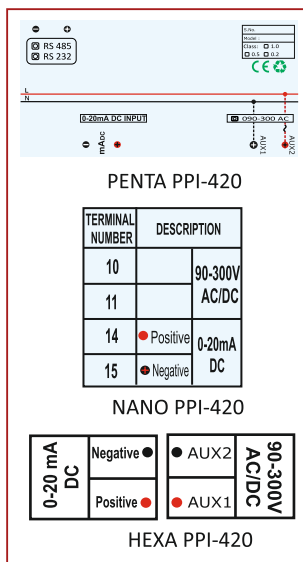
MODEL	NANO PPI-420	HEXA PPI-420	PENTA PPI-420
FRONT	72 X 72	48 X 96	96 X 96
DEPTH (Behind Bezel)	59	74	39.5
Panel Cut -Out	68 X 68	44 ^(+0.5-0.0) X 92 ^(+0.8-0.0)	92 ^(+0.8-0.0) X 92 ^(+0.8-0.0)

ORDERING INFORMATION

MODEL	MEASURING RANGE	ACCURACY CLASS	AUX SUPPLY
PENTA PPI-420	4-20mA DC 0-20 mA DC (PROGRAMMABLE)	1.0 0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
NANO PPI-420	4-20mA DC 0-20 mA DC (PROGRAMMABLE)	1.0 0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
HEXA PPI-420			45-270V AC /DC

*WITHOUT DECIMAL DISPLAY AVAILABLE IN ALL THREE MODELS ON DEMAND.

TERMINAL CONNECTION



*WHILE ORDERING PLEASE MENTION RANGE, CLASS & AUX SUPPLY & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

DIGITAL PANEL METERS PROCESS INDICATORS

RPM METER/PROXIMITY SENSING DISPLAY(PPI-S)



PENTA PPI-S

5 SPEED SENSING
MODES AVAILABLE
FOR ALL KINDS OF SHAFT
SENSING



HEXA PPI-S



FEATURES

- Measures and displays RPM from input signal generated via
- NPN ,PNP Proximity & micro switch sensors.
- No of Poles can be programmed.
- Password Protected.
- Instantaneous RPM of the rotating motor shaft is displayed.
- Auto scaling response time less than 1 second.
- Easy Programming with push buttons on front facia.
- RS-485 option available on demand.
- Relay Output for alarm can be provided.(optional)
- Data logging facility. (optional).

SPECIFICATION

Display	: 4 Digit Red LED Super Bright Display	Maximum Overload	: DC voltage : 1.2 Times Continuous of rated.
Digit Height	: 0.56"/14.2.mm	Sensing speeds	: Slowest, Slow, Medium, Fast, Fastest.
Maximum display	: 0-8000 rpm.	Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
Resolution	: 0001 to 1 Count Depending on Range/ Scale Display	Input Signal	: 24 V DC Pulse from proximity sensor and microswitch.
Display Stability	: With in ± 2 Digit	SCALE	: 0 - 8000 value.
Faceplate /Lens	: Polycarbonate Transparent	Accuracy Class	: 1 & 0.5
Case/Housing Material	: FR-ABS Black	VA (Burden)	
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass	Auxiliary	: ≤ 1.5 VA
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.	Voltage Input	: ≤ 1.0 VA
Decimal Point	: Auto Scrolling	Environment	
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals	Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second	Operating	: 0° to $+60^{\circ}\text{C}$, RH<70%
Refresh Rate	: Per 8.0ms	Storage	: -10° to $+70^{\circ}\text{C}$, RH<70%
		Metering Standard	: IEC62053-10

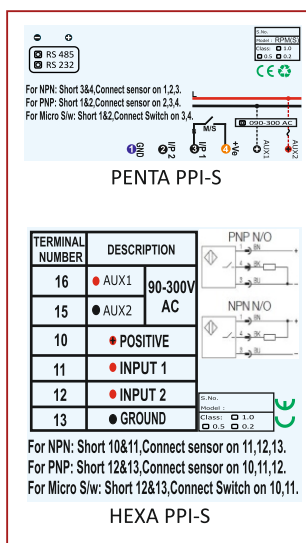
DIMENSIONS (MM)

MODEL	HEXA PPI-S	PENTA PPI-S
FRONT	48 X 96	96 X 96
DEPTH (Behind Bezel)	74	39.5
Panel Cut -Out	44 ^(+0.5-0.0) x 92 ^(+0.8-0.0)	92 ^(+0.8-0.0) x 92 ^(+0.8-0.0)

ORDERING INFORMATION

MODEL	SENSING VIA	ACCURACY CLASS	AUX SUPPLY
PENTA PPI-S	NPN SENSOR PNP SENSOR MICRO SWITCH	1.0 0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
HEXA PPI-S	NPN SENSOR PNP SENSOR MICRO SWITCH	1.0 0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC

TERMINAL CONNECTION



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DIGITAL PANEL METERS PROCESS INDICATOR

COUNTER OR TOTALIZER(PPI-C)



PENTA PPI-C



HEXA PPI-C

5 SPEED SENSING
MODES AVAILABLE
FOR ALL KINDS OF SHAFT
SENSING



FEATURES

- Counts and displays the no. of pulses counted from NPN ,PNP Proximity & micro switch sensors .
- Single button reset for fast action.
- Memory retention.
- Reset via Back panel terminals (optional)
- Response time of display less than 10ms.
- Easy Programming with push buttons on front facia.
- RS-485 option available on demand.
- Relay Output for alarm can be provided.(optional)
- Data logging facility. (optional).

SPECIFICATION

Display	: 6 Digit Red LED Super Bright Display
Digit Height	: 0.56"/14.2.mm & 0.40"/10.1 mm(hexa series)
Maximum display	: 0-999999 counts.
Resolution	: 0001 to 1 Count Depending on Range/ Scale Display
Display Stability	: With in ± 2 Digit
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second
Refresh Rate	: Per 8.0ms

Maximum Overload	: DC voltage : 1.2 Times Continuous of rated.
Sensing speeds	: Slowest, Slow, Medium, Fast, Fastest.
Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
Input Signal	: 24 V DC Pulse from proximity sensor and microswitch.
SCALE	: 0 - 999999 value.
Accuracy Class	: 1 & 0.5
VA (Burden)	
Auxiliary	: ≤ 1.5 VA
Voltage Input	: ≤ 1.0 VA
Environment	
Calibration	: $27^{\circ} \text{C} \pm 5^{\circ} \text{C}$
Operating	: 0° to $+60^{\circ} \text{C}$, RH<70%
Storage	: -10° to $+70^{\circ} \text{C}$, RH<70%
Metering Standard	: IEC62053-10

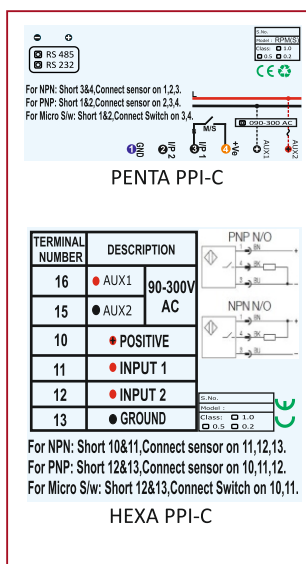
DIMENSIONS (MM)

MODEL	HEXA PPI-C	PENTA PPI-C
FRONT	48 X 96	96 X 96
DEPTH (Behind Bezel)	74	39.5
Panel Cut -Out	44 ^(+0.5-0.0) x 92 ^(+0.8-0.0)	92 ^(+0.8-0.0) x 92 ^(+0.8-0.0)

ORDERING INFORMATION

MODEL	SENSING VIA	ACCURACY CLASS	AUX SUPPLY
PENTA PPI-C	NPN SENSOR PNP SENSOR MICRO SWITCH	1.0	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
HEXA PPI-C	NPN SENSOR PNP SENSOR MICRO SWITCH	1.0	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC

TERMINAL CONNECTION



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PROTECTION RELAYS & TIMERS

DIGITAL DOOR/FLUSH MOUNT



VOLTAGE MONITOR RELAY - VMR-964[3PH], VM962[1PH]



VMR-964



VMR-962

FEATURES

- Single Solution for monitoring voltage and protect device from voltage faults.
- Auto / Manual Scroll Display (User selectable)
- SMPS, TRANSFORMER Power Supply
- Ideal for Protection of Industrial Motors individual led for each fault.
- All tripping parameters fully field Programmable
- Under-over voltage, single phase prevention.
- TRMS Measurement
- 1 Rows of 4 Digit RED Seven Segment
- 3phase and single phase model available.
- RS 485 Port (5KV Isolated) (Optional)
- MODBUS RTU Protocol (Optional)
- I-LOG MASTER Software (Optional)
- One Relay Output (2 amps) available for contactor tripping.



PARAMETER (Voltage)

- RY (Phase- Phase)
- YB (Phase- Phase)
- BR (Phase- Phase)
- Average (Phase- Phase)
- RN (Phase- Neutral)
- YN (Phase- Neutral)
- BN (Phase- Neutral)
- Average (Phase- Neutral)

ALARM/TRIPS:

- Under Voltage
- Over Voltage
- Voltage Asymmetry/Unbalance
- Phase Loss

SPECIFICATION

Functions

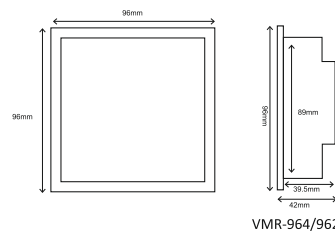
- RMS Voltage : 20 - 600Vrms (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
- Faceplate /Lens : Polycarbonate Transparent
- Case/Housing Material : FR-ABS Black
- Connectors /Terminal : Nylon 66, 33%GF,Black/Brass
- Mounting Clamps : Sturdy, Moulded Glass filled nylon with screws.
- Decimal Point : Auto Scrolling
- Fault Indication : Error Code for all faults.
- Dielectric Strength : 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
- Impulse Withstand : 3.5.KV, 1.2/50 micro Second
- Refresh Rate : Per 8.0ms
- Maximum Overload : Voltage : 1.2 Times Continuous
- Auxiliary Supply : 150-300V AC, 45-270V AC /DC, 19-60V AC /DC

VA Burden (Typical)

- Auxiliary : <2.5 VA
- Voltage Input : <0.2 VA / Phase
- Relay contact : 2 AMPS , 250V AC POTENTIAL FREE
- Metering Standard : IEC 62053-21/22
- Installation Category : Cat II (IEC / EN61010 - 1)
- Pollution : Degree 2 (IEC / EN61010 - 1)
- Environment**
- Calibration : $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
- Operating : 0° to 50°C , RH <70%
- Storage : -10° to 60°C , RH < 70%
- Dielectric Strength : 2.5 KV at 50 Hz for 1 mm
- Insulation Resistance : > 20 MOhms at 500 V DC

DIMENSIONS (MM)

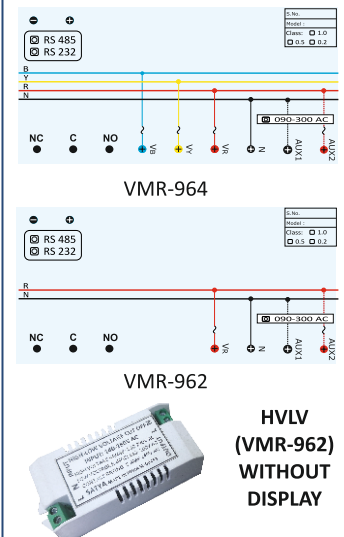
MODEL	PENTA VMR-964/962	HVLV
FRONT	96 X 96	105 X 40
DEPTH (Behind Bezel)	39.5	28
Panel Cut -Out	$92^{(+0.8-0.0)} \times 92^{(+0.8-0.0)}$	Not Applicable



ORDERING INFORMATION

MODEL	DISPLAY & PROTECTION	ACCURACY CLASS	AUX SUPPLY
VMR-964 (3PHASE)	VOLTAGE (L-L & L-N) UNDER-OVER SPP	1.0 0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
VMR-962 (1PHASE)	VOLTAGE (L-N) UNDER-OVER	1.0 0.5	150-300V AC (TX Supply) 45-270V AC /DC 19-60V AC /DC
VMR-962(HVLV) (1 PHASE WALL MOUNT)	SELF POWERED UNDER-OVER	1.0	150-270 V SELF POWERED

TERMINAL CONNECTION



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PROTECTION RELAYS & TIMERS

DIGITAL DIN RAIL MOUNT



VOLTAGE MONITOR RELAY - VMR-964D , VMR-964D+



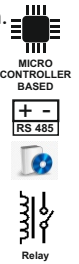
VMR-964D



VMR-964D+

FEATURES

- Single Solution for monitoring voltage Under-over voltage, single phase prevention.
- and protect device from voltage faults TRMS Measurement
- Auto / Manual Scroll Display (User selectable)
- 1 Rows of 4 Digit RED Seven Segment
- 3phase and single phase model available.
- SMPS, TRANSFORMER Power Supply RS 485 Port (5KV Isolated) (Optional)
- Ideal for Protection of Industrial Motor MODBUS RTU Protocol (Optional)
- individual led for each fault.
- I-LOG MASTER Software (Optional)
- All tripping parameters fully field programmable
- One Relay Output (2 amps) available for contactor tripping.



PARAMETER (Voltage)

- RY (Phase- Phase) Average (Phase- Phase) BN (Phase- Neutral)
- YB (Phase- Phase) RN (Phase- Neutral) Average (Phase- Neutral)
- BR (Phase- Phase) YN (Phase- Neutral)

SPECIFICATION

Functions

- RMS Voltage : 20 - 600Vrms (Accuracy :- $\pm 0.5\%$ FS + 1 dg.)
- Faceplate /Lens : Polycarbonate Transparent
- Case/Housing Material : FR-ABS Black
- Connectors /Terminal : Nylon 66, 33%GF,Black/Brass
- Mounting Clamps : Sturdy, Moulded Glass filled nylon with screws.
- Decimal Point : Auto Scrolling
- Fault Indication : Error Code for all faults.
- Dielectric Strength : 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
- Impulse Withstand : 3.5.KV, 1.2/50 micro Second
- Refresh Rate : Per 8.0ms
- Maximum Overload : Voltage : 1.2 Times Continuous
- Auxiliary Supply : 150-300V AC, 45-270V AC /DC, 19-60V AC /DC

DIMENSIONS (MM)

MODEL	VMR-964D/VMR-964D+
FRONT	95 X 35
DEPTH (Behind Bezel)	65

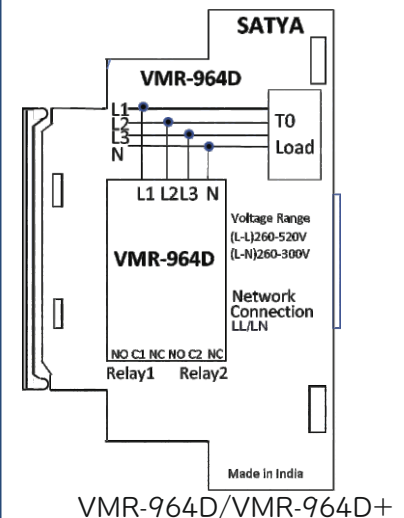
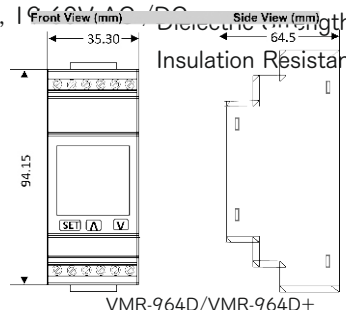
ALARM/TRIPS:

- Under Voltage
- Over Voltage
- Under Frequency
- Over Frequency
- Voltage Asymmetry/Unbalance
- Phase Loss
- Phase Sequence
- Neutral Loss

VA Burden (Typical)

- Auxiliary : <2.5 VA
- Voltage Input : <0.2 VA / Phase
- Relay contact : 2 AMPS , 250V AC POTENTIAL FREE
- 5 AMPS, 160-270V ,IN HVLV WALL MOUNT
- Metering Standard : IEC 62053-21/22
- Installation Category : Cat II (IEC / EN61010 - I)
- Insulation : Degree 2 (IEC / EN61010 - I)
- Environment
- Calibration : $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
- Operating : 0° to 50°C , RH <70%
- Storage : -10° to 60°C , RH < 70%
- Dielectric Strength : 2.5 KV at 50 Hz for 1 mm

TERMINAL CONNECTION



ORDERING INFORMATION

MODEL	DISPLAY & PROTECTION	ACCURACY CLASS	AUX SUPPLY
VMR-964 D LED DISPLAY (3PHASE/1PHASE)	VOLTAGE (L-L & L-N) UNDER-OVER SPP VOLTAGE IMBALANCE	1.0 0.5	200-600V AC (L-L) 45-270V AC /DC (L-N) 19-60V AC /DC SELFPOWERED
VMR-964 D+ LCD DISPLAY (3PHASE/1PHASE)	VOLTAGE (L-L & L-N) UNDER-OVER SPP VOLTAGE IMBALANCE	1.0 0.5	200-600V AC (L-L) 45-270V AC /DC (L-N) 19-60V AC /DC SELFPOWERED

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PROTECTION RELAYS & TIMERS

DIGITAL DOOR/FLUSH & DIN RAIL MOUNT

ProgeTech

CURRENT MONITOR-OC-964, OC-962, OC-964D, OC962D



OC-962



OC-964 D

FEATURES(OC-964,OC-962)

- Single Solution for monitoring current and protecting device from load faults.
- Auto / Manual Scroll Display (User selectable)
- SMPS, TRANSFORMER Power Supply
- Ideal for Protection of Industrial Motors individual led for each fault.
- All tripping parameters fully field Programmable
- Under current, Over current trips.
- TRMS Measurement
- 1 Rows of 4 Digit RED Seven Segment
- 3phase and single phase model available.
- RS 485 Port (5KV Isolated) (Optional)
- MODBUS RTU Protocol (Optional)
- I-LOG MASTER Software (Optional)
- One Relay Output (2 amps) available for contactor tripping.



PARAMETER (Current)

- R Phase
- Y Phase
- B Phase
- Average

ALARM/TRIPS:

- Under Voltage
- Over Voltage
- Under Frequency
- Over Frequency
- Voltage Asymmetry/Unbalance
- Phase Loss
- Phase Sequence
- Neutral Loss

SPECIFICATION

Functions

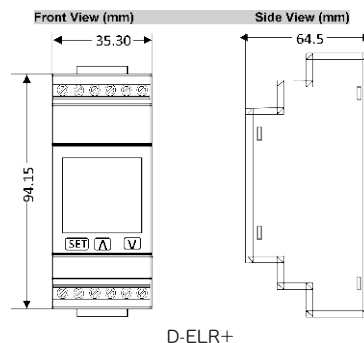
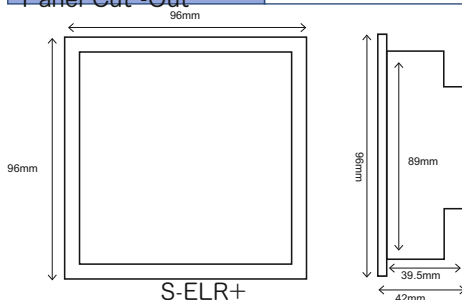
RMS Current input	: 50mA - 10A(CT set.) (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Fault Indication	: Error Code for all faults.
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second
Refresh Rate	: Per 8.0ms
Maximum Overload	: Current : 2 Times Continuous
Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-90V AC /DC

VA Burden (Typical)

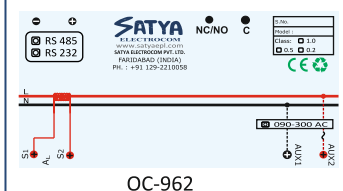
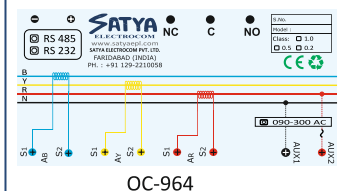
Auxiliary	: <2.5 VA
Current Input	: <0.2 VA / Phase
Relay contact	: 2 AMPS , 250V AC POTENTIAL FREE
Metering Standard	: IEC 62053-21/22
Installation Category	: Cat II (IEC / EN61010 - 1)
Pollution	: Degree 2 (IEC / EN61010 - 1)
Environment	
Calibration	: 27°C $\pm$ 5°C
Operating	: 0° to 50°C, RH <70%
Storage	: -10° to 60°C, RH < 70%
Dielectric Strength	: 2.5 KV at 50 Hz for 1 mm
Insulation Resistance	: > 20 MOhms at 500 V DC

DIMENSIONS (MM)

MODEL	S-ELR +	D-ELR +
FRONT	96 X 96	95 X 35
DEPTH (Behind Bezel)	39.5	65
Panel Cut -Out	92 ^(+0.8-0.0) X 92 ^(+0.8-0.0)	



TERMINAL CONNECTION



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PROTECTION RELAYS & TIMERS

DIGITAL DOOR/FLUSH & DIN RAIL MOUNT

EARTH LEAKAGE RELAY - S-ELR+, D-ELR+



S-ELR+



D-ELR+

FEATURES(S-ELR+,D-ELR+)

- Single Solution for monitoring leakage currents & Avoid Human Shock.
- Operates in Auto & Manual Reset mode (User selectable)
- Wide Range SMPS Power Supply
- 50% indication available.
- Delay time programmable from 100mS-999 SEC.
- CBCT along with relay available in all sizes & packaging (nylon, resin cast & tape).
- Settable Current sensing 10mA-30A.
- 1 Row of 4 Digit RED Seven Segment.
- Row of 3 Digit RED Seven Segment.
- Relay test Feature also available.
- RS 485 Port (5KV Isolated) (Optional)
- MODBUS RTU Protocol (Optional)
- I-LOG MASTER Software (Optional)
- Two Relay Output (8/16 amps) available for Hooter operation & contactor tripping.



SPECIFICATION

Functions

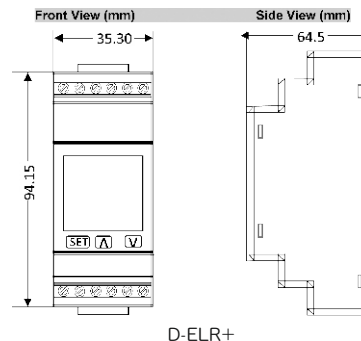
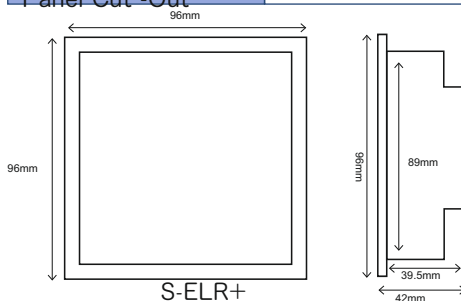
RMS Current input	: 10mA - 30A(setable.) (Accuracy :- $\pm 0.5\%$ FS)
Trip Delay	: 100mS- 999 sec.(settable)
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Fault Indication	: Error Code for all faults.
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second
Refresh Rate	: Per 8.0ms
Dimensions (mm)	: Current : 2 Times Continuous

VA Burden (Typical)

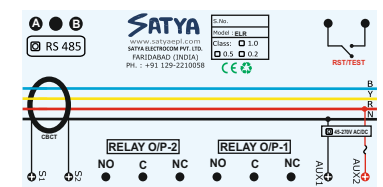
Auxiliary	: <2.5 VA
Current Input	: <0.2 VA / Phase
Relay contact	: 8 AMPS/16 AMPS , 250V AC POTENTIAL
Metering Standard	: IEC 62053-21/22
Installation Category	: Cat II (IEC / EN61010 - I)
Pollution	: Degree 2 (IEC / EN61010 - I)
Environment	
Calibration	: 27°C $\pm$ 5°C
Operating	: 0° to 55°C, RH <70%
Storage	: -10° to 60°C, RH < 70%
Dielectric Strength	: 2.5 KV at 50 Hz for 1 mm
Insulation Resistance	: > 20 MOhms at 500 V DC

Maximum Overload

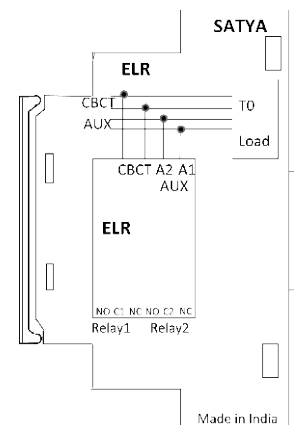
MODEL	S-ELR +	D-ELR +
FRONT	96 X 96	95 X 35
DEPTH (Behind Bezel)	39.5	65
Panel Cut -Out	92 $\pm$ 0.8-0.0) x 92 $\pm$ 0.8-0.0)	



TERMINAL CONNECTION



S-ELR+



D-ELR+

ORDERING INFORMATION

MODEL	DISPLAY & PROTECTION	ACCURACY CLASS	AUX SUPPLY
S-ELR+	IMBALANCE CURRENT	0.5	45-270 V AC/DC 90-440V AC/DC
D-ELR+	IMBALANCE CURRENT	0.5	45-270 V AC/DC 90-440V AC/DC

AC MOTOR PROTECTION RELAY (MPR - 01)



MPR-01

FEATURES

- Single Solution to Protect your Motors from any kind of Electrical Fault
- Auto / Manual Scroll Display (User selectable)
- SMPS, TRANSFORMER Power Supply
- Ideal for Protection of Industrial Motors
- Bar Graph Indication of Load Current.
- All tripping parameters fully field Programmable
- User Programmable CT Ratio
- TRMS Measurement
- 3 Rows of 4 Digit RED Seven Segment
- 3 Phase 4 wire Programmable
- RS 485 Port (5KV Isolated) (Optional)
- MODBUS RTU Protocol (Optional)
- I-LOG MASTER Software (Optional)
- Two Relay Output for alarm can be provided.(optional)



PARAMETERS:

- RY (Phase- Phase) Voltage
- YB (Phase- Phase) Voltage
- BR (Phase- Phase) Voltage
- Average (Phase- Phase) Voltage
- RN (Phase- Neutral) Voltage
- YN (Phase- Neutral) Voltage
- BN (Phase- Neutral) Voltage
- Average (Phase- Neutral) Voltage
- R Phase
- Y Phase
- B Phase
- Average
- Frequency
- Run Hour
- System Power Factor
- Kilo-watt

ALARM/TRIPS:

- Under Voltage
- Over Voltage
- Voltage Asymmetry/Unbalance
- Phase Loss
- Phase Reversal
- Under Current
- Over Current
- Current Phase Loss
- Current Imbalance
- Under Frequency
- Locked Rotor
- Rotor Earth Fault
- No Load Run/Dry Run Indication

SPECIFICATION

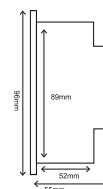
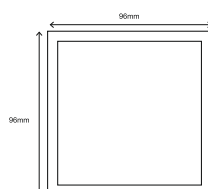
Functions

RMS Voltage	: 20 - 600Vrms (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
RMS Current	: 0.020 - 10.00Arms (Accuracy :- $\pm 0.5\%$ FS +1 dgt.)
Active Power	: 0.030 - 6.000 KW (Accuracy :- $\pm 0.5\%$ ES +1 dgt.)
Apparent Power	: 0.030 - 6.000 KVA (Accuracy :- $\pm 0.5\%$ ES +1 dgt.)
Reactive Power	: 0.030 - 6.000 KVAR (Accuracy :- $\pm 1.0\%$ ES +1 dgt.)
Power Factor	: 0.3 Lag- 1 - 0.3 Lead (Accuracy :- ± 0.01 PE +1 dgt.)
Line Frequency	: 45.00 -65.00 Hz (Accuracy :- ± 0.1 Hz)
Active Energy (KWh)	: 000000.00 - 999999.99 Kwh (Accuracy Class 1,0,5)
Apparent Energy (KVAh)	: 000000.00 - 999999.99 KVAh (Accuracy Class 1,0,5)
Reactive Energy (KVARh)	: 000000.00 - 999999.99 KVARh (Accuracy Class 1,0,5)
THD (V,I)	: Indicative
Faceplate /Lens	: Polycarbonate Transparent
Case/Housing Material	: FR-ABS Black
Connectors /Terminal	: Nylon 66, 33%GF,Black/Brass
Mounting Clamps	: Sturdy, Moulded Glass filled nylon with screws.
Decimal Point	: Auto Scrolling
Polarity Indication	: L(Lagging/Inductive) or C (Leading/Capacitive)
Fault Indication	: Error Code for all faults.
Dielectric Strength	: 2.5KV @50 Hz for 1 minute between Input -Auxiliary & Case - Terminals
Impulse Withstand	: 3.5.KV, 1.2/50 micro Second

Refresh Rate	: Per 8.0ms
Maximum Overload	: Voltage : 1.2 Times Continuous Current : 2 Times Continuous
Auxiliary Supply	: 150-300V AC, 45-270V AC /DC, 19-60V AC /DC
VA Burden (Typical)	
Auxiliary	: <2.5 VA
Voltage Input	: <0.2 VA / Phase
Current Input	: <0.2 VA / Phase
Relay contact	: 2 AMPS , 250V AC POTENTIAL FREE
CT Primary Range	: 1A to 50kA AC Programable
CT Secondary Range	: 0.5A to 5A AC Programable
Metering Standard	: IEC 62053-21/22
Installation Category	: Cat II (IEC / EN61010 - 1)
Pollution	: Degree 2 (IEC / EN61010 - 1)
Environment	
Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Operating	: 0° to 50°C , RH <70%
Storage	: -10° to 60°C , RH < 70%
Dielectric Strength	: 2.5 KV at 50 Hz for 1 mm
Insulation Resistance	: > 20 MOhms at 500 V DC

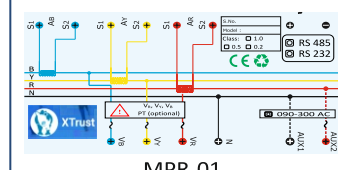
DIMENSIONS (MM)

MODEL	PENTA MPR-01
FRONT	96 X 96
DEPTH (Behind Bezel)	52
Panel Cut -Out	92 (+0.8-0.0) x 92 (+0.8-0.0)



PENTA-MPR-01

TERMINAL CONNECTION



*WHILE ORDERING PLEASE MENTION RANGE, CLASS & AUX SUPPLY & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.



PROTECTION RELAYS & TIMERS

ANALOG DIN & WALL MOUNT



SINGLE PHASE PREVENTER (BASIC,AUTO-START, WITH STAR-DELTA TIMER)



FEATURES

- These relays are suitable for monitoring incoming 3-phase supply from Mains
- Fixed/adjustable unbalance settings(customer Specific also can be provided)
- Fixed/adjustable under voltage/over-voltage settings (customer Specific also can be provided)
- Fixed/adjustable trip delays
- Built-in or external power supply
- Resetting Auto / Manual / Remote
- Output contacts : 1 CO or 2 CO
- Choice of enclosures (DIN-Rail, Flush, Plug-in)
- Use of SMD Technology
- User-friendly LED indications

**VERY EASY WIRING IN
SPP+SD**

ALARM/TRIPS:

- Phase Failure [Phase Loss/Single Phasing]
- Phase sequence reversal
- Voltage Unbalance
- Under Voltage
- Over Voltage

SPECIFICATION

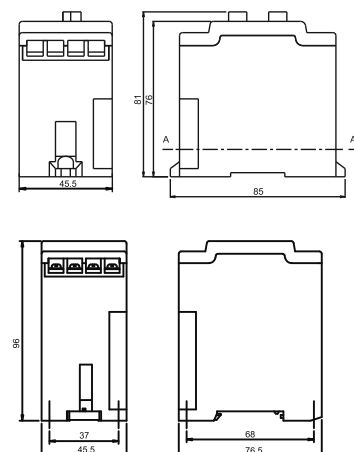
Rated Voltage	: 415 V , 3 Ph. ,50 Hz	Over Voltage Setting	: 456+5v (Hysterisis -16 to 20V)
Auxiliary Supply*	: 110V AC/220-240 AC/380-415 AC(ON SELECT MODELS)	Led Indications	: Trip, Power ON, Healthy ,
Operating Voltage Range	: 225 TO 500 AC/70 TO 110% OF Aux. Supply Voltage/190 TO 456V		: UV-OV Cut-off
Power Consumption	: 5VA (max) at Rated Voltage (Transformer based Supply)	Enclosure Material	: ABS/PA6-30%GF
Relay Contact Rating	: 5A at 250V AC (Resistive)	Mounting Hardware	: M3.5/M4 Screws
Relay Output Rating	: 1NO/1CO/2NO/3NO(Model specific)	Terminal screw size	: 4BAx8mm With Captive Washer
Unbalance Trip Voltage Setting	: 36 to 42V / 30 to 60V (Variable)/40 or 60V(Model Specific)	Wire Length*	: 300mm of 0.5 sq.mm size
Reset Gap(hysterisis)	: 6 To 9V(Auto reset in auto start models)	Net Weight	: 295 gms
Time Trip Delay	: 3 Sec(±1sec)	Environment	
ON Delay time	: 30(±5sec) or variable upto 5 mins	Calibration	: 27°C ± 5°C
Pause time	: 60±5 msec(Star-Delta Timer)	Operating	: 0° to 50°C, RH <70%
Under Voltage Setting	: 190 ± 5V(Hysterisis- 6 to 10 V)	Storage	: -10° to 60°C, RH < 70%

ORDERING INFORMATION

	MODEL	FUNCTIONS	CONTACT	MOUNTING
BASIC	SP-12F	UNBALANCE, PHASE REVERSAL	1NO+1NC	FLUSH / WALL MOUNT WITH TERMINAL
	SP-11FW	UNBALANCE, PHASE REVERSAL	1NO	FLUSH / WALL MOUNT WITH WIRES
	SP-12DI	UNBALANCE, PHASE REVERSAL WITH INDICATION	1NO+1NC	DIN RAIL MOUNT WITH TERMINAL
	SP-22D	UNBALANCE, PHASE REVERSAL, & SEPARATE AUXILIARY SUPPLY	1NO+1NC	DIN RAIL MOUNT WITH TERMINAL
AUTO START	SPS-11FW	UNBALANCE, PHASE REVERSAL, & AUTO-MANUAL BY PASS	1NO	FLUSH / WALL MOUNT WITH WIRES
	SPS-21FW	DOUBLE UNBALANCE (40 OR 60V) SETTABLE, PHASE REVERSAL & AUTO-MANUAL BY PASS	1NO	FLUSH / WALL MOUNT WITH WIRES
	SPS-31FW	UNBALANCE, PHASE REVERSAL, UNDER-OVER VOLTAGE TRIP & AUTO-MANUAL BY PASS	1NO	FLUSH / WALL MOUNT WITH WIRES
	SPS-32FW	UNBALANCE, PHASE REVERSAL, AUTO-MANUAL BYPASS, DELAY TIMER	1NO-SPP 1NO-TIMER	FLUSH / WALL MOUNT WITH WIRES
SPP+SD	SPSD-23D	DOUBLE UNBALANCE(40 OR 60V) PHASE REVERSAL, STAR-DELTA TIMER	1NO-SPP 1NO-STAR 1 NO-DELTA	DIN RAIL MOUNT WITH TERMINAL
	SPSD-33D	DOUBLE UNBALANCE(40 OR 60V) PHASE REVERSAL, STAR-DELTA TIMER, AUTO-MANUAL BYPASS	1NO-SPP 1NO-STAR 1 NO-DELTA	DIN RAIL MOUNT WITH TERMINAL

DIMENSIONS (MM)

HOUSING	FLUSH/W	DIN
FRONT	85 X 45.5	76 X 45.5
DEPTH	81	96
Mounting Size	68 X 37	68 X 37



*WHILE ORDERING PLEASE MENTION FUNCTIONS REQUIRED, RELAY CONTACT TYPE, MOUNTING FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.



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PROTECTION RELAYS & TIMERS

ANALOG DIN & WALL MOUNT



MOTOR/PUMP PROTECTION RELAY FOR 1 & 2 PH (BASIC, AUTO-SWITCH)



SCR-42D



SCR-42DD



SVR-32D



SVR-42D

FEATURES

- These Relays Are Suitable For Starting & Protecting Motors From Voltage Fluctuations.
- Auto Switch Are Meant For Motor Starter Where Both START & RUN Capacitors Are Used.
- Fixed/adjustable under voltage/over-voltage settings (customer Specific also can be provided)
- Fixed/adjustable trip delays(Model Specific)
- Built-in or external power supply(Model Specific)
- Resetting Auto / Manual / Remote
- Output contacts : 1 CO or 2 CO
- Choice of enclosures (DIN-Rail, Flush, Plug-in)
- Use of SMD Technology
- User-friendly LED indications

ALARM/TRIPS:

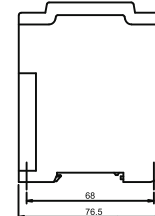
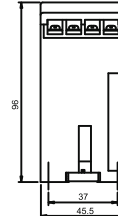
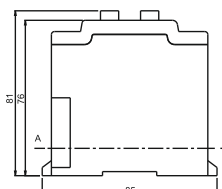
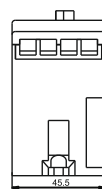
- Under Voltage
- Over Voltage
- On Delay Timer

SPECIFICATION

Rated Voltage	: 110-440 V ,50 HZ	Led Indications	: Trip, Power ON, Healthy ,
Auxiliary Supply	: 110/220/230/240/380/415/440 V AC		: UV-OV Cut-off
Operating Voltage Range	: 225 TO 500 AC/70 TO 110% OF Aux. Supply Voltage/190 TO 456V	Enclosure Material	: ABS/PA6-30%GF
Power Consumption	: 5VA (max) at Rated Voltage (Transformer based Supply)	Mounting Hardware	: M3.5/M4 Screws
Relay Contact Rating	: 5A at 250V AC,10A at 250V AC,40A at 250V AC(Resistive)	Terminal screw size	: 4BAx8mm With Captive Washer
Relay Output Rating	: 1CO/2NO(Model specific)	Wire Length*	: 300mm of 0.5 sq.mm size
Reset Type	: Auto-Reset	Net Weight	: 295 gms
Reset Gap(hysteresis)	: 6 To 9V(Auto reset in auto start models)	Environment	
Time Trip Delay	: 3 Sec(±1sec)	Calibration	: 27°C ± 5°C
ON Delay time	: 30(±5sec) or variable upto 5 mins	Operating	: 0° to 50°C, RH <70%
Over Voltage Setting	: 110%(fixed) & 105% to 120% (variable)	Storage	: -10° to 60°C, RH < 70%
Under Voltage Setting	: 80% (fixed) & 75% to 95% (variable)		

DIMENSIONS (MM)

HOUSING	FLUSH/W	DIN
FRONT	85 X 45.5	76 X 45.5
DEPTH	81	96
Mounting Size	68 X 37	68 X 37



ORDERING INFORMATION

	MODEL	FUNCTIONS	CONTACT	MOUNTING
BASIC AUTO SWITCH+UV/OV	SVR-32D	UNDER-OVER CUTOFF, VARIABLE ON DELAY(3-30sec),ON DELAY BYPASS	1NO+1NC	DIN RAIL MOUNT WITH TERMINAL
	SVR-42D	VARIABLE UNDER-OVER CUTOFF, VARIABLE ON DELAY(0,3,7,10)	1NO+1NC	DIN RAIL MOUNT WITH TERMINAL
	SCR-42D	AUTO-MANUAL BYPASS , UNDER-OVER CUTOFF,2.5s ON DELAY 10A RELAY FOR AUX. CONTACTOR	1NO 1NO	DIN RAIL MOUNT WITH TERMINAL
	SCR-42DD	AUTO-MANUAL BYPASS , UNDER-OVER CUTOFF, 2.5s ON DELAY 40A RELAY NO AUX. CONTACTOR NEEDED	1NO 1NO	DIN RAIL MOUNT WITH TERMINAL
	SCR-32D	AUTO-MANUAL BYPASS ,SELF-POWERED UNDER-OVER CUTOFF,2.5s ON DELAY 40A RELAY NO AUX. CONTACTOR NEEDED	1NO 1NO	DIN RAIL MOUNT WITH TERMINAL

*WHILE ORDERING PLEASE MENTION FUNCTIONS REQUIRED, RELAY CONTACT TYPE, MOUNTING FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.



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PROTECTION RELAYS & TIMERS

ANALOG DIN & WALL MOUNT



TIMERS(ON/OFF DELAY ,CYCLIC ,STAR-DELTA, COMPRESSOR DUTY)



ST-1XR



ST2XR



ST-3X



STC-1X



SSDT-1



SCD-1D

FEATURES

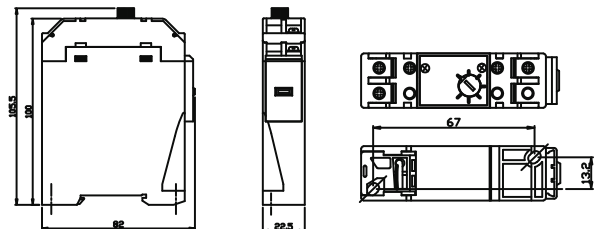
- These Relays Are Suitable For Wide Range Of Timing Based Applications In Various Sectors.
- Delay Intervals Are Variable Through Knob On Front Panel.
- Wide Range Of Auxiliary Supply Are Available As Per Customer Requirement.
- Customizable Timing Ranges Available
- Output contacts : 1 CO or 2 CO
- Choice of enclosures (DIN-Rail, Flush, Plug-in)
- Use of SMD Technology
- User-friendly LED indications

SPECIFICATION

Auxiliary Supply	: 12VDC,24VAC/DC,110VAC,220-240VAC,380-415VAC	Wait time	: 10sec/180 sec(SCD-1)
Dual Auxiliary Supply	: 110V/220-240 VAC OR 220-240VAC/380-415 V AC	Volt drop@imax	: 3.5V(SCD-1)
Time Ranges	: 0.3-180s / 1 hour on-off delay (as per requirement), Upto 4 hours in cyclic	Led Indications	: Relay ON, Power ON
Power Consumption	: 8VA (max) at 240V,13VA (max) at 415 V	Enclosure Material	: ABS/PA6-30%GF
Relay Contact Rating	: 5A (Resistive) ,10A (star-delta),0.6A (compressor duty)	Mounting Hardware	: M3.5/M4 Screws
Relay Output Rating	: 1CO/2CO(Model Specific)	Terminal screw size	: 4BAx8mm With Captive Washer
Reset Time	: 50 to 150 ms(25 ms for SCD-1)	Net Weight	: 125 gms
Time Setting Accuracy	: $\pm 10\%$ (max) of full scale	Environment	
Repeat Accuracy	: $\pm 0.5\%$	Calibration	: $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$
Run Time	: 20 /100 sec (only for star-delta)	Operating	: 0° to 50°C , RH <70%
Pause Time	: 50/100ms (only for star-delta)	Storage	: -10° to 60°C , RH < 70%

DIMENSIONS (MM)

HOUSING	DIN RAIL/FLUSH
FRONT	82 X 22.5
DEPTH	105.5
Mounting Size	68 X 13.2



ORDERING INFORMATION

	MODEL	FUNCTIONS	CONTACT	MOUNTING	TIME DIAGRAM
ANALOG TIMERS	ST-1XR	ON DELAY TIMER (UPTO 180 SEC)	1CO/2CO	DIN RAIL MOUNT WITH TERMINAL	
	ST-2XR	ON DELAY/OFF DELAY SETTABLE TIMER (UPTO 180 SEC)	1CO/2CO	DIN RAIL MOUNT WITH TERMINAL	
	ST-3X	MULTI-TIME RANGE ON/OFF DELAY TIMER (UPTO 1 HOUR SETTING)	1CO/2CO	DIN RAIL MOUNT WITH TERMINAL	
	STC-1X	CYCLIC ON-OFF TIMERS (UPTO 4 HOUR SETTING)	1CO/2CO	DIN RAIL MOUNT WITH TERMINAL	
	SSDT-1	BASIC STAR-DELTA TIMER	1NO-STAR 1NO-DELTA	DIN RAIL MOUNT WITH TERMINAL	
	SCD-1D	COMPRESSOR DUTY TIMER (UPTO 180 SEC WAIT TIME)	SOLID-STATE O/P	DIN RAIL MOUNT WITH TERMINAL	

*WHILE ORDERING PLEASE MENTION FUNCTIONS REQUIRED, RELAY CONTACT TYPE, MOUNTING FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.



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WATER LEVEL CONTROLLER

ANALOG DIN/PANEL & WALL MOUNT

ProgeTech



SWLC-12D



SWLC-2140D



SWLC-21FW



SWLC-31D



PWLC-140C

FEATURES

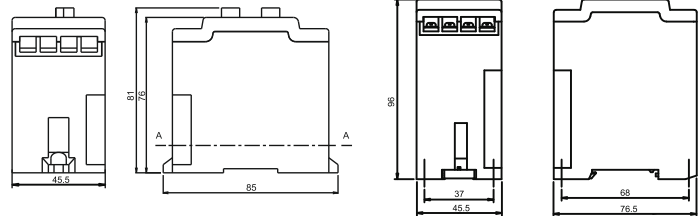
- These Relays Are Suitable For Operating Water Pump For Home, Industry, Commercial Places
- Cable Size & Length No Restriction For Water Level Monitoring
- Can Be Used In Starter With START & RUN Capacitors
- 40 A In-built Relay, Dry Run Protection Available In Specific Models
- Solution Available For Overhead Tanks, Underground Tanks, Submersible Pumps.
- Auto-manual Bypass Available (model Specific)
- Output Contacts : 1 Co
- Choice Of Enclosures (din-rail, Flush, Plug-in)
- Use Of Smd Technology
- User-friendly Led Indications

SPECIFICATION

Rated Voltage(Aux. Supply)	: 110V,220-240V AC,380-415V AC	Led Indications	: Relay ON, Power ON
Power Consumption	: 5VA (max) at Rated Voltage (Transformer based Supply)	Enclosure Material	: ABS/PA6-30%GF
Relay Contact Rating	: 10A at 250V AC,40A at 250V AC(Resistive)	Mounting Hardware	: M3.5/M4 Screws
Relay Output Rating	: 1CO/1NO (Model specific)	Terminal screw size	: 4BAx8mm With Captive Washer
Reset Type	: Auto-Manual Switch Available.	Wire Length*	: 300mm of 0.5 sq.mm size
		Net Weight	: 285 gms
		Environment	
		Calibration	: 27°C ± 5°C
		Operating	: 0° to 50°C, RH <70%
		Storage	: -10° to 60°C, RH < 70%

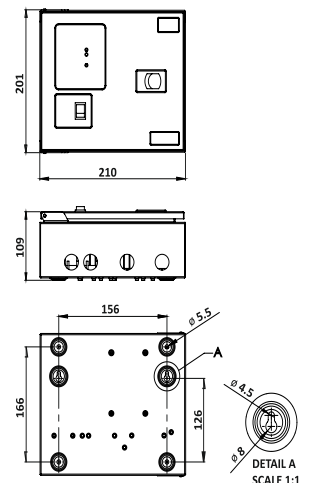
DIMENSIONS (MM)

HOUSING	FLUSH/W	DIN	PANEL
FRONT	85 X 45.5	76 X 45.5	210 X 181
DEPTH	81	96	109
Mounting Size	68 X 37	68 X 37	166 X 156



ORDERING INFORMATION

	MODEL	FUNCTIONS	CONTACT	MOUNTING
WLC RELAYS	SWLC-12D	BASIC 3 SENSE WATER LEVEL CONTROL	1NO+1NC	DIN RAIL MOUNT WITH TERMINAL
	SWLC2140D	AUTO-OFF BYPASS SWITCH,40A RELAY FOR HIGH RATING MOTORS	1NO	DIN RAIL MOUNT WITH TERMINAL
	SWLC-21FW	AUTO-MANUAL BYPASS SWITCH, 10A RELAY O/P WITH WIRES	1NO	DIN RAIL MOUNT WITH WIRES
	SWLC-31D	UNDERGROUND SUMP SENSE, DRY RUN PROTECTION	1NO	DIN RAIL MOUNT WITH TERMINAL
FULL SOLUTION	SSWLC-22F	FOR SUBMERSIBLE PUMPS, EASY INTEGRATION WITH 1PH STARTERS	1NO 1NO	WALL MOUNT WITH TERMINAL
	PWLC-140	PUMP STARTER PANEL FOR UNDERGROUND SUMP SOURCE & OVERHEAD TANK, DRY RUN PROTECTION	40A DIRECT	WALL MOUNT WITH TERMINAL
	PWLC-140C	PUMP STARTER PANEL FOR MUNICIPAL SUPPLY SOURCE & OVERHEAD TANK, DRY RUN PROTECTION, AUTO-OFF BYPASS	40A DIRECT	WALL MOUNT WITH TERMINAL



*WHILE ORDERING PLEASE MENTION FUNCTIONS REQUIRED, RELAY CONTACT TYPE, MOUNTING FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.



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FEATURES

- Superior Aesthetics and Consistency of Dimensions
- Multiple Conductor Compatibility: Suitable for different size of Bus bars / conductors in the same CT
- Multiple Mounting Options: Suitable for Bus Bar Mounting as well as Panel Mounting
- Fire Retardant
- Embossed terminal Markings: Eliminates the risk of marking stickers peeling off
- Robust Construction: High Mechanical strength resulting in increased safety during transit
- Finger Safe Operation for Secondary Terminal Connection with IP20
- Pin type lug upto 4sq. mm feasibility
- Option of Terminal sealing: Provides protection from power theft
- Manufactured with State-of-Art processes complying to ISO:14001 and R0HS directive
- Ease of traceability

APPLICATIONS

Current Transformers are available for various combinations of Burden and class of accuracy for various applications. The Insulating materials used are complying with requirements of IEC:60085 for Insulation Class-E (or better).

- Metering
- Protection
- Revenue
- Core Balance
- Indication
- Summation
- Differential Protection
- Interposing
- Motor/Power Control Center
- Meters & UPS Manufactures

CONSTRUCTION

SATYA Low Voltage Current Transformers are designed for supplying to Measuring Instruments and Protective Devices. These are suitable for System Voltage 415V/660V/ 1000V and frequency 50/60 Hz. Basic construction is in five different Groups as under, meeting various application requirements.

- POLYCARBONATE ENCAPSULATED
- RESIN CAST
- TAPE INSULATED
- Wound Primary Type (WPL)
- Window / Plug - In Type (BPL)

GENERAL SPECIFICATIONS

- System Voltage: 720V, 50/60 Hz.
- Bask Insulation Level: 0.66 / 3.0 kV
- Rated Primary Current: 1 A to 7500 A
- Rated Secondary Current: 5 A or 1 A
- Storage Temperature : -40°C to +90°C
- Average Ambient: -20°C to +45°C
- Short - Time Thermal Current (Ith): 40xIn for Wound Type CT and 60xIn for Window Type CT.
- Insulation Class: E (Offered B or F on request)
- Connections: (S1-S2) Two brass terminals of MS Size
- Applicable Standard: IEC -61869/IS- 2705 / 1992
- Standard Burden: 1.25,2.5,3.75,5,7.5,10,15,20,30,40,60 VA
- Instrument Security Factor: 5 or 10
- Dynamic Current (Idyn.): 2.5 x Ith.

CLASS OF ACCURACY

- 0.2S, 0.5S for Tariff (Revenue)
- 0.2, 0.5 for Precise Measurement
- 3.0, 5.0 for Indication Purpose
- 1.0 for General Metering
- 5P / 10P for Protection and PS / PX for Special Purpose Protection

CHARACTERISTIC

A Current Transformer converts an alternating current generally very high in a proportion to its transformation ratio. Measuring CT's convert the primary current, at the class of accuracy, as designed over a current range from 1 to 120% (as the case may be) of its rated primary current. The design of Measuring CT requires CT to perform within the limits of error as given by the standard specifications, when connected to its rated burden. Measuring CT advantageously saturates above the normal working range to protect an instrument connected against damages by limiting the secondary current during the fault that may appear in the system.

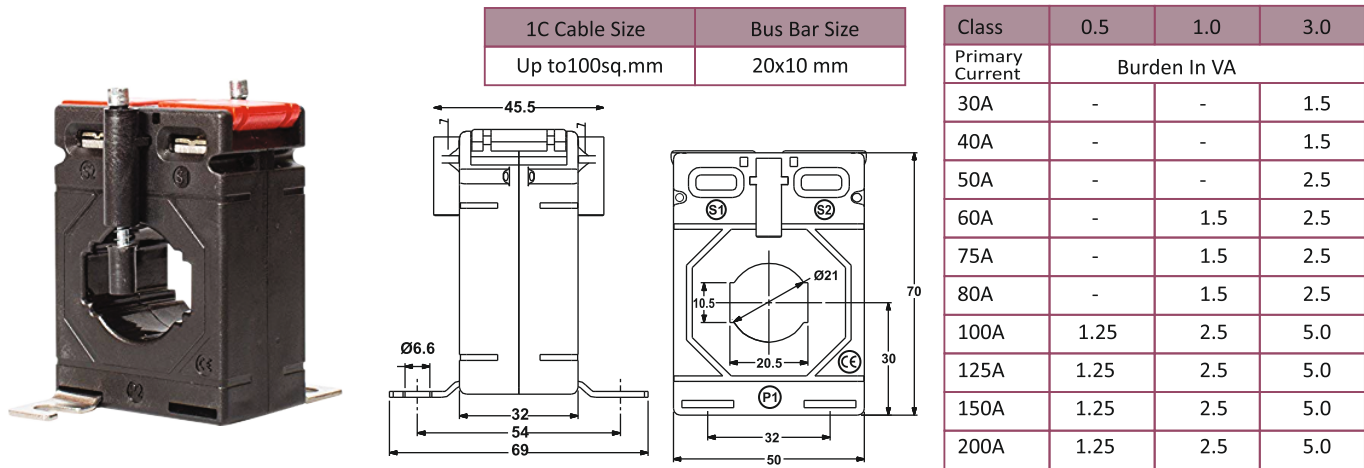
***WHILE ORDERING PLEASE MENTION INNER DIAMETER, OUTER DIAMETER, RATIO, CLASS & VA BURDEN TO AVOID ANY CONFUSION & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.**



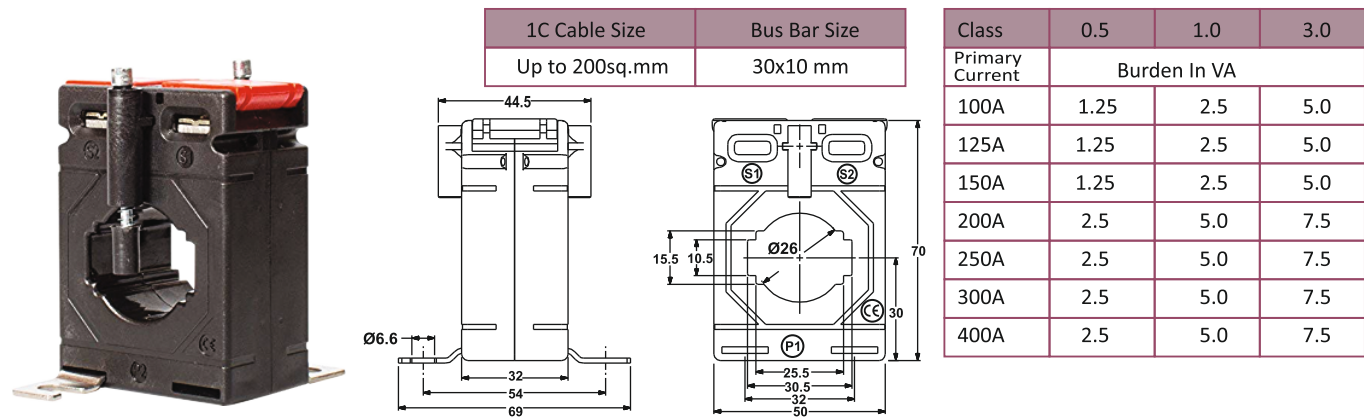
CURRENT TRANSFORMERS

ENCAPSULATED SQUARE TYPE CT (BPL)

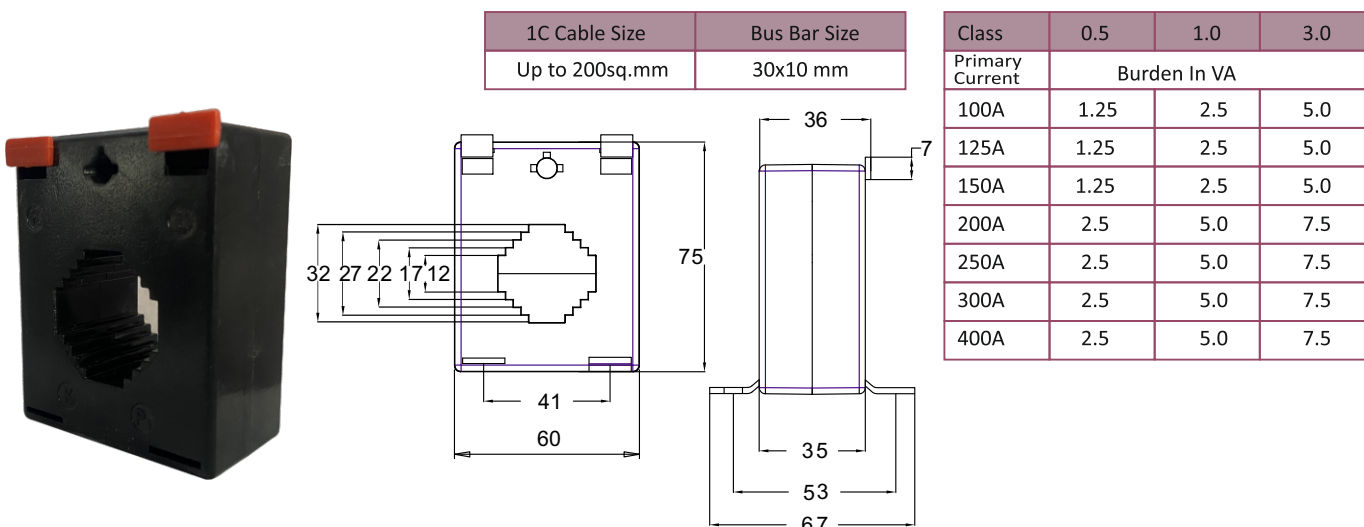
MODEL NO - 7050 - ST - 2210 (METERING CLASS CT)



MODEL NO - 7050 - ST - 3210 (METERING CLASS CT)



MODEL NO - 7560 - ST - 3212 (METERING CLASS CT)

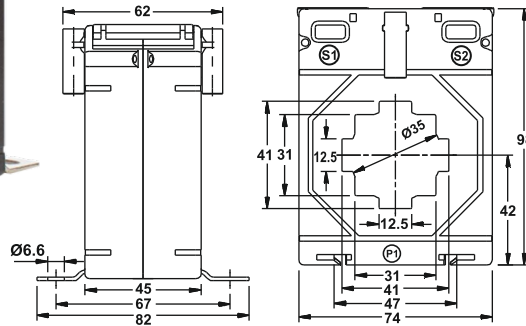
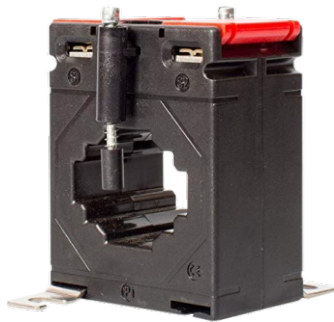


*WHILE ORDERING PLEASE MENTION INNER DIAMETER, OUTER DIAMETER, RATIO, CLASS & VA BURDEN TO AVOID ANY CONFUSION & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

CURRENT TRANSFORMERS

ENCAPSULATED SQUARE TYPE CT (BPL)

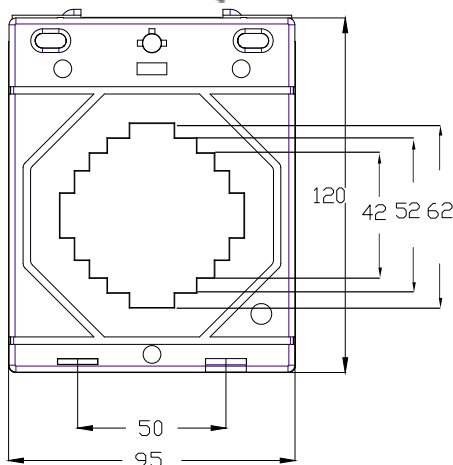
MODEL NO - 10075 - ST - 4210 (METERING CLASS CT)



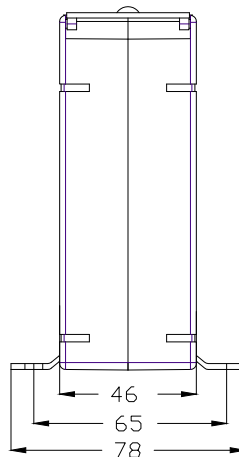
1C Cable Size	Bus Bar Size
Up to 400sq.mm	40x10 mm

Class	0.2S/0.5S	0.2	0.5	1.0
Primary Current	Burden In VA			
40A	-	-	-	1VA
50A	-	-	-	1.5VA
60A	-	-	-	1.5VA
75A	-	-	-	2.5VA
80A	-	-	-	2.5VA
100A	1VA	-	1.5VA	3.75VA
120A	1VA	-	1.5VA	2.5VA
125A	1VA	-	1.5VA	2.5VA
150A	1.5VA	1VA	3.75VA	5VA
200A	2.5VA	2.5VA	5VA	10VA
250A	5VA	3.75VA	5VA	10VA
300A	5VA	5VA	10VA	15VA
400A	5VA	10VA	10VA	15VA
500A	5VA	10VA	15VA	20VA
600A	5VA	15VA	15VA	20VA

MODEL NO - 12095 - ST - 6215 (METERING CLASS CT)



1C Cable Size	Bus Bar Size
Up to 800sq.mm	60x12mm



Class	0.2S/0.5S	0.2	0.5	1.0
Primary Current	Burden In VA			
100A	-	-	-	1VA
120A	-	-	-	1.5VA
125A	-	-	-	2.5VA
150A	-	-	-	2.5VA
200A	-	-	1.5VA	3.75VA
250A	-	-	2.5VA	5VA
300A	1.5VA	1.5VA	5VA	7.5VA
400A	2.5VA	2.5VA	10VA	12.5VA
500A	2.5VA	3.75VA	10VA	15VA
600A	5VA	5VA	15VA	15VA
750A	5VA	10VA	15VA	20VA
800A	7.5VA	12.5VA	20VA	20VA
1000A	10VA	15VA	20VA	30VA
1250A	10VA	15VA	20VA	30VA
1600A	10VA	15VA	20VA	30VA

*WHILE ORDERING PLEASE MENTION INNER DIAMETER, OUTER DIAMETER, RATIO, CLASS & VA BURDEN TO AVOID ANY CONFUSION
& FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

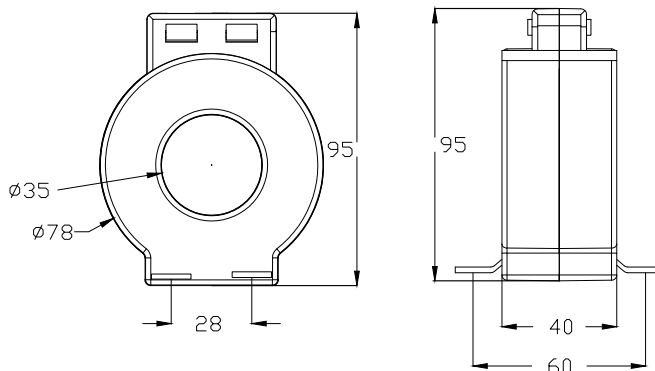
CURRENT TRANSFORMERS

ENCAPSULATED ROUND TYPE CT (BPL)

MODEL NO - 8040 - ST - R-35 (METERING CLASS CT)



1C Cable Size	Bus Bar Size
Up to 200sq.mm	30x10 mm

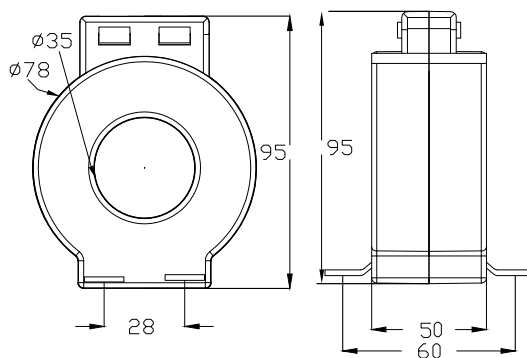


Class	0.5	1.0
Primary Current	Burden In VA	
50A	-	1.5VA
60A	-	1.5VA
75A	-	1.5VA
100A	1.5VA	2.5VA
120A	1.5VA	2.5VA
125A	2.5VA	3.75VA
150A	2.5VA	5VA
200A	5VA	5VA
250A	5VA	5VA
300A	5VA	5VA

MODEL NO - 8050 - ST - R-35 (METERING CLASS CT)



1C Cable Size	Bus Bar Size
Up to 200sq.mm	30x10 mm

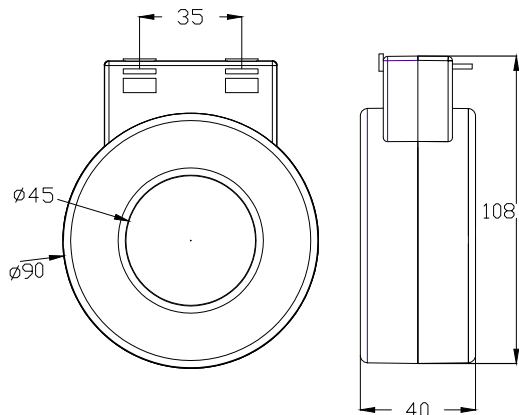


Class	0.2	0.5S	0.5	1.0
Primary Current	Burden In VA			
50A	-	-	-	1.5VA
60A	-	-	-	1.5VA
75A	-	-	1.5VA	2.5VA
100A	-	-	2.5VA	5VA
120A	-	-	2.5VA	5VA
125A	-	-	2.5VA	5VA
150A	-	2.5VA	5VA	10VA
200A	2.5VA	5VA	10VA	15VA
250A	2.5VA	5VA	10VA	15VA
300A	2.5VA	5VA	10VA	15VA

MODEL NO - 9040 - ST - R-45 (METERING CLASS CT)



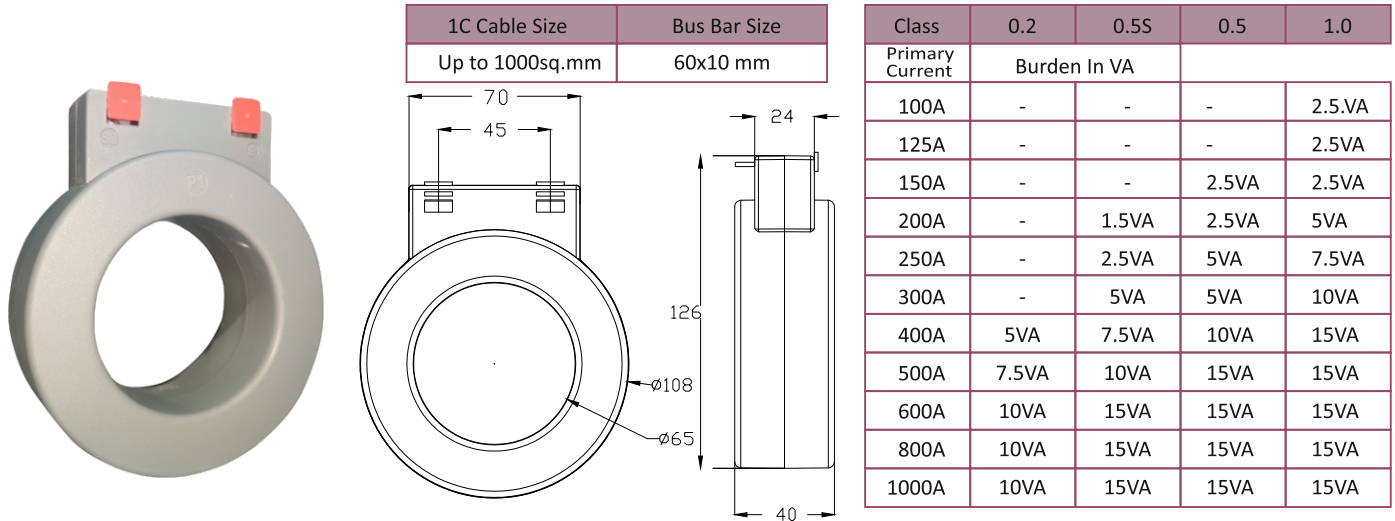
1C Cable Size	Bus Bar Size
Up to 600sq.mm	45x10 mm



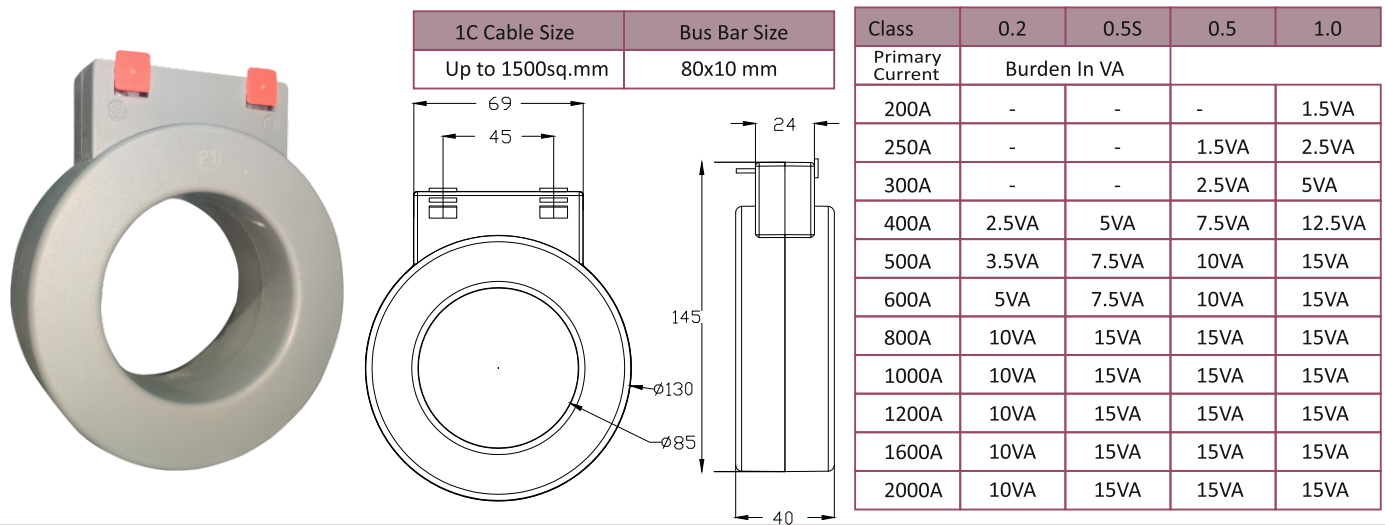
Class	0.2	0.5S	0.5	1.0
Primary Current	Burden In VA			
100A	-	-	1VA	2.5VA
120A	-	-	1VA	2.5VA
125A	-	-	1VA	2.5VA
150A	-	-	1.5VA	3.75VA
200A	1.5VA	5VA	5VA	10VA
250A	2.5VA	7.5VA	7.5VA	15VA
300A	3.75VA	10VA	10VA	15VA
400A	5VA	10VA	15VA	15VA
500A	5VA	10VA	15VA	15VA
600A	5VA	10VA	15VA	15VA
800A	5VA	10VA	15VA	15VA

*WHILE ORDERING PLEASE MENTION INNER DIAMETER, OUTER DIAMETER, RATIO, CLASS & VA BURDEN TO AVOID ANY CONFUSION
& FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

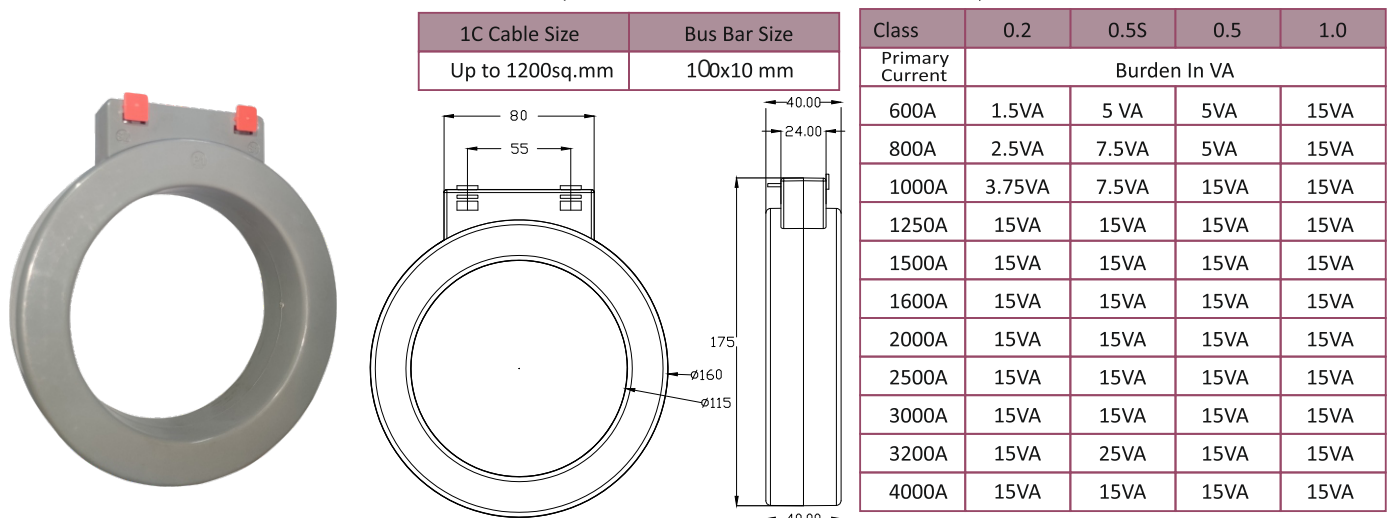
MODEL NO - 11540 - ST - R-65 (METERING CLASS CT)



MODEL NO - 13540 - ST - R-85 (METERING CLASS CT)



MODEL NO - 17040 - ST - R-115 (METERING CLASS CT)

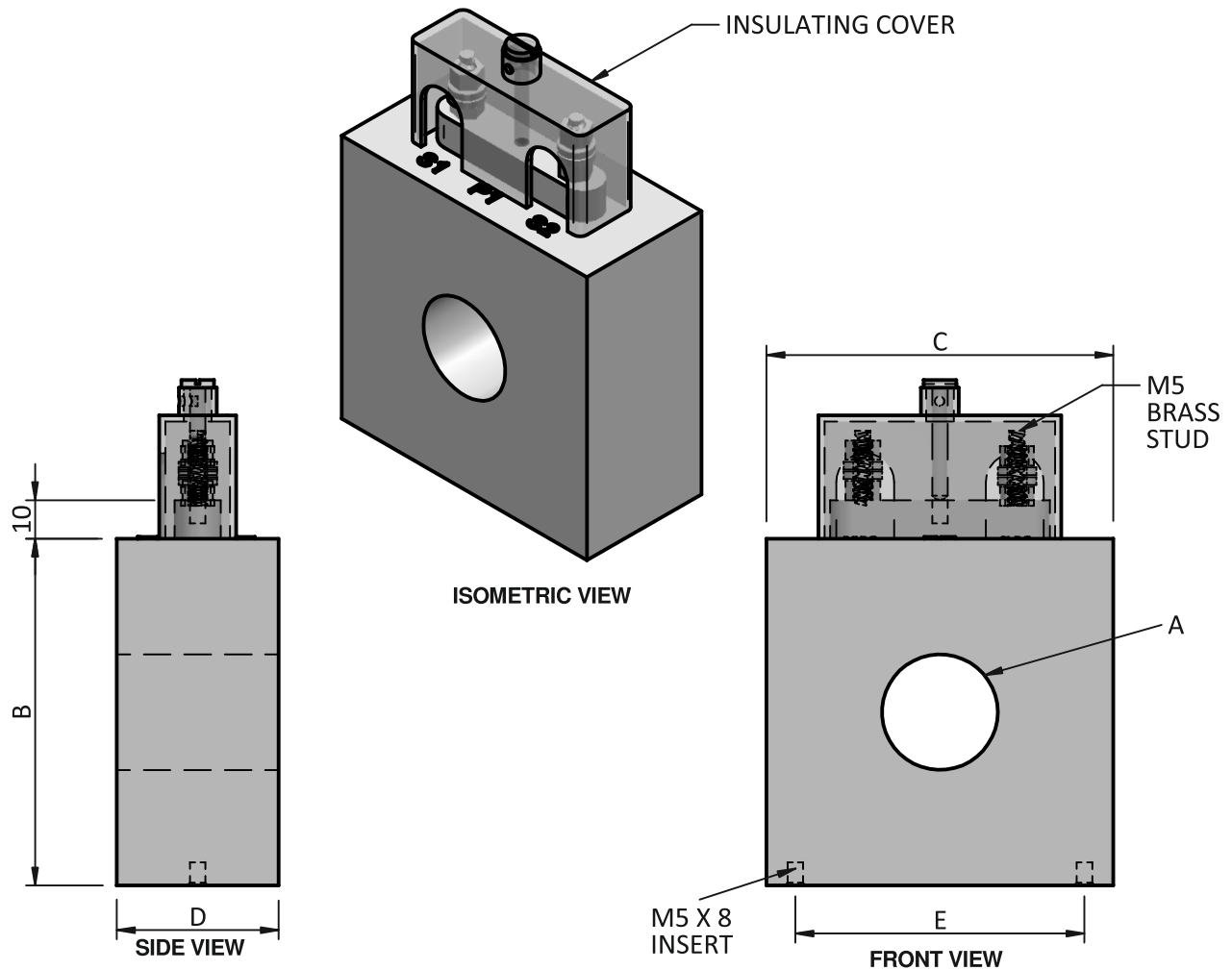


*WHILE ORDERING PLEASE MENTION INNER DIAMETER, OUTER DIAMETER, RATIO, CLASS & VA BURDEN TO AVOID ANY CONFUSION & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

CURRENT TRANSFORMERS

SQUARE TYPE RESIN CAST CT (BPL)

MODEL NO - 110*110-R-70 (METERING CLASS CT)



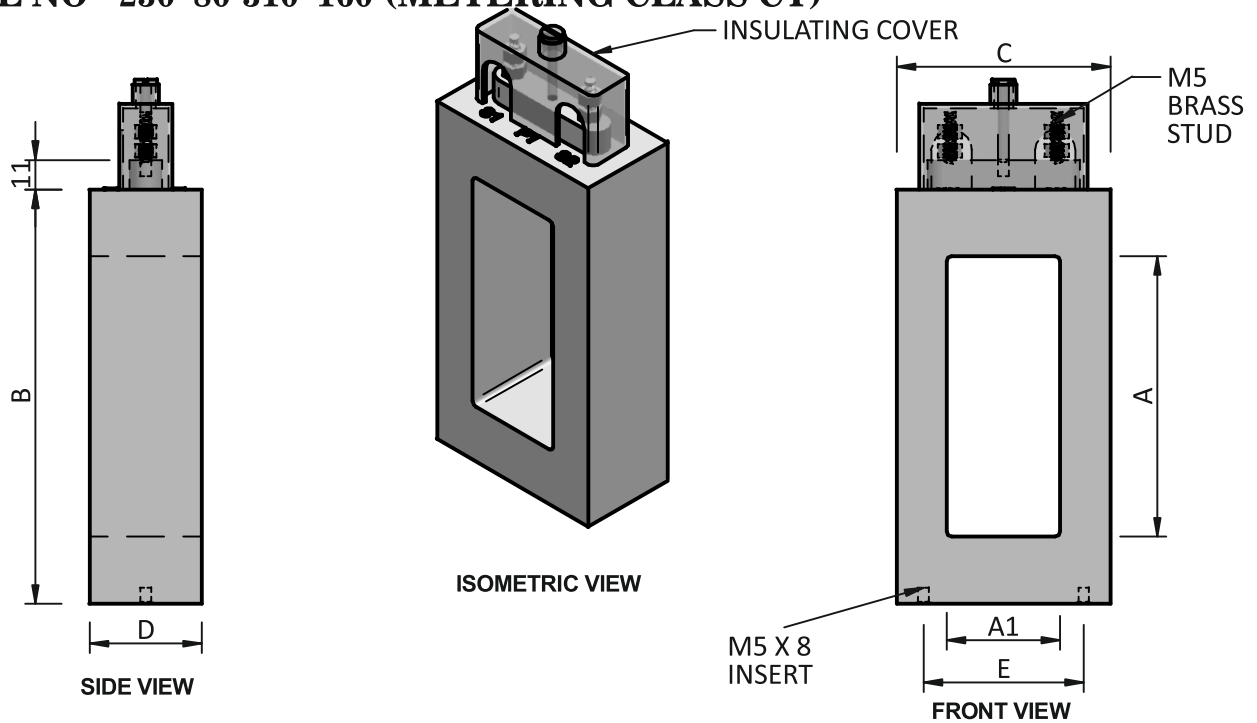
PRIMARY CURRENT (AMP)	TYPE	ID A	OD		HEIGHT			MOUNTING HOLE CENTER
			5VA B*C	10/15 VA B*C	5VA D	10VA D	15VA D	E
100	RING	30	80*80	80*80	35	40	45	65
150	RING	30	80*80	80*80	35	40	45	65
200	RING	35	80*80	80*80	35	40	45	55
250	RING	45	80*80	80*80	35	40	45	65
300	RING	45	80*80	80*80	35	50	45	65
400	RING	45	80*80	80*80	35	40	45	65
500	RING	55	110*110	110*110	35	35	45	65
600	RING	55	110*110	110*110	35	35	45	70
800	RING	70	110*110	110*110	35	45	45	85

*WHILE ORDERING PLEASE MENTION INNER DIAMETER, OUTER DIAMETER, RATIO, CLASS & VA BURDEN TO AVOID ANY CONFUSION
& FOR BULK RES PLEASE CONTACT SALES.

CURRENT TRANSFORMERS

SQUARE TYPE RESIN CAST CT (BPL)

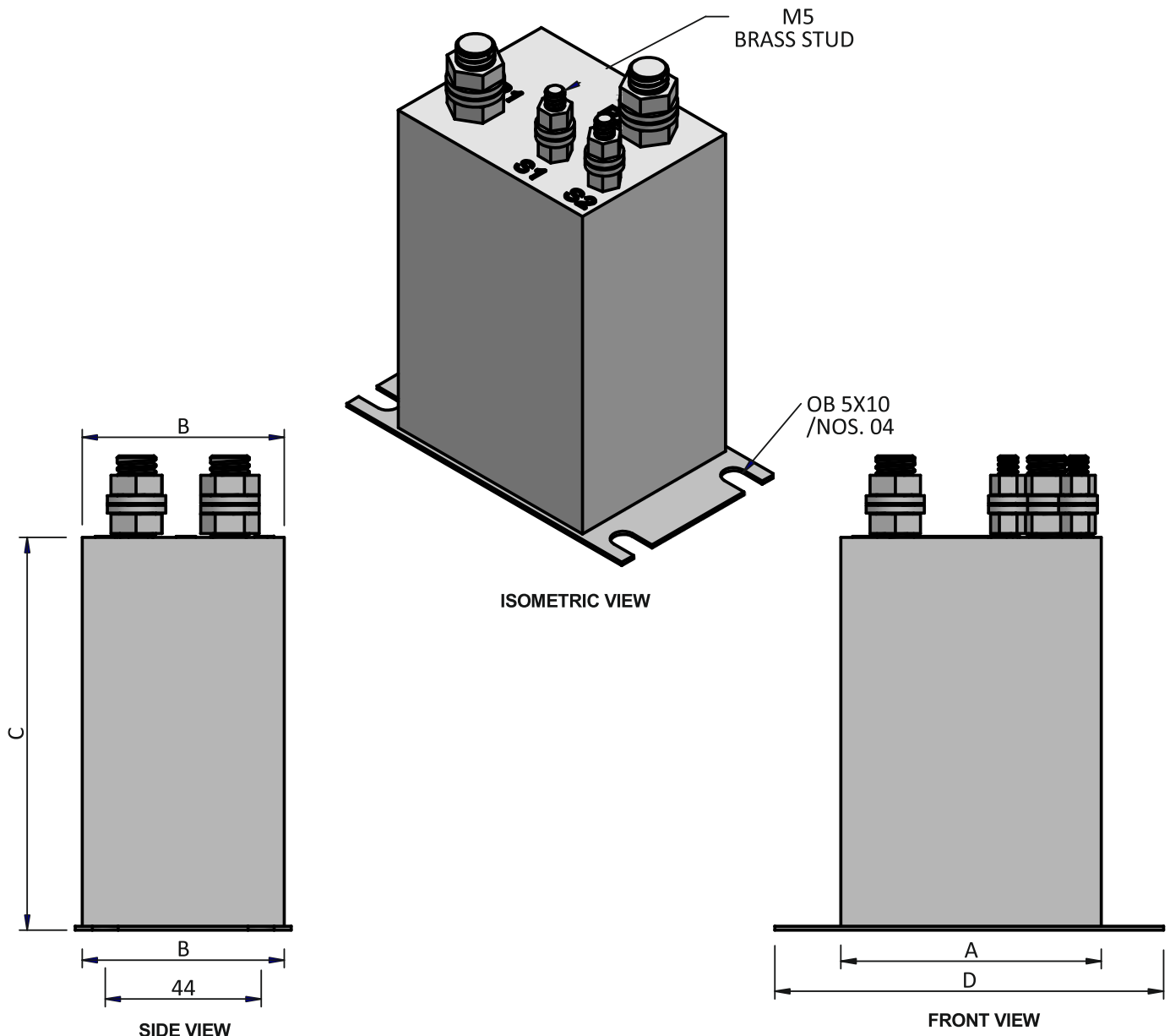
MODEL NO - 230*80-310*160 (METERING CLASS CT)



PRIMARY CURRENT (AMP)	TYPE	ID A	OD	HEIGHT			MOUNTING HOLE CENTER E
			5/10/15 VA B*C	5VA D	10VA D	15VA D	
400	RECTANGULAR	45*30	115*80	35	40	45	40
500	RECTANGULAR	65*30	125*80	35	40	45	40
600	RECTANGULAR	65*30	125*80	35	40	45	40
800	RECTANGULAR	85*30	145*80	35	40	45	40
1000	RECTANGULAR	110*30	170*80	35	40	45	40
1200	RECTANGULAR	110*30	170*80	35	40	45	60
1500	RECTANGULAR	110*50	170*100	35	40	45	60
1600	RECTANGULAR	110*50	170*100	35	40	45	60
2000	RECTANGULAR	110*50	170*100	35	40	45	60
2500	RECTANGULAR	130*50	190*100	35	40	45	60
3000	RECTANGULAR	160*50	220*100	35	40	45	106
3200	RECTANGULAR	160*50	220*100	35	40	45	106
4000	RECTANGULAR	160*80	220*130	35	40	45	106
5000	RECTANGULAR	230*80	310*160	35	40	45	100
6000	RECTANGULAR	230*100	310*180	35	40	45	100

*WHILE ORDERING PLEASE MENTION INNER DIAMETER, OUTER DIAMETER, RATIO, CLASS & VA BURDEN TO AVOID ANY CONFUSION
& FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

MODEL NO - 70*50*100 (METERING CLASS CT)

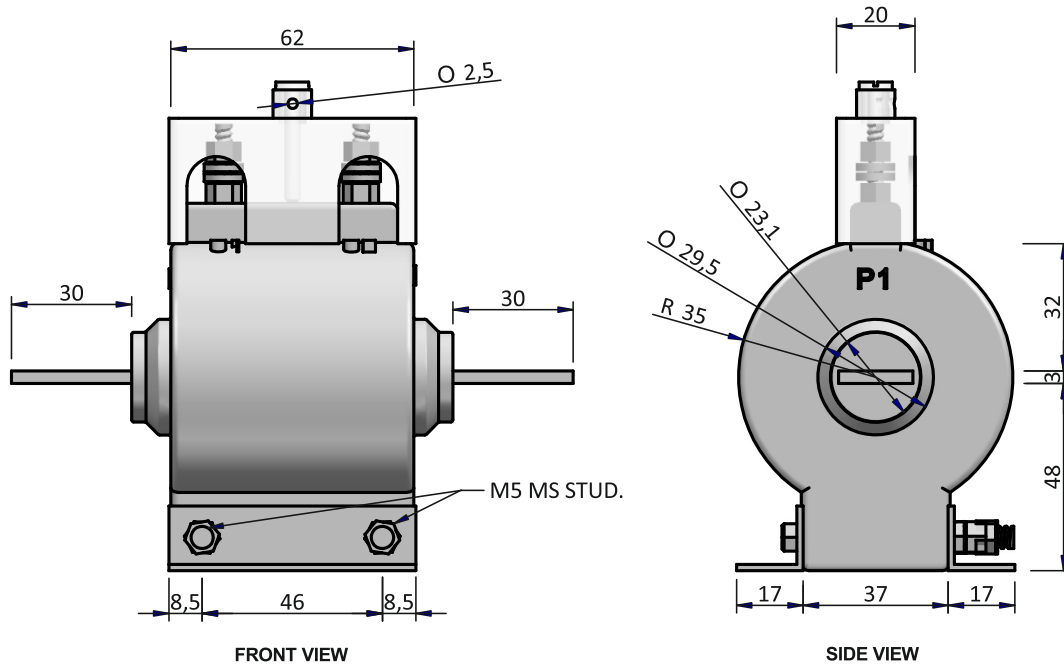
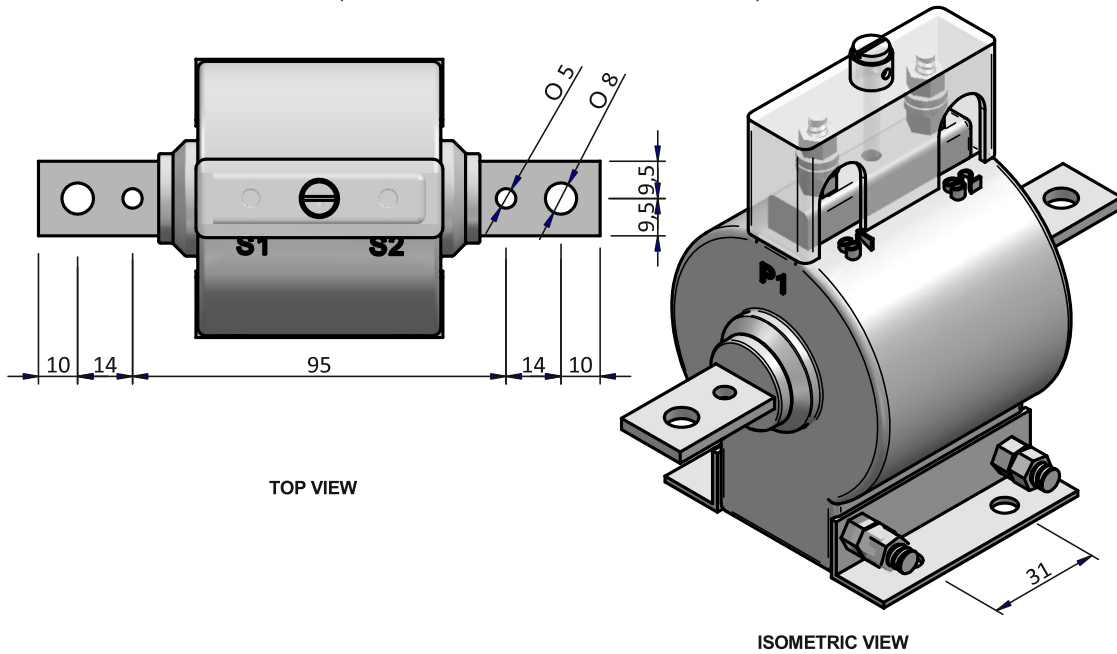


PRIMARY CURRENT	DIMENSION				PRIMARY BRASS STUD. SIZE
	A	B	C	D	
2.5-20	70	55	100	100	M8
25-50	70	55	100	100	M8
60-100	70	55	100	100	M10

*WHILE ORDERING PLEASE MENTION INNER DIAMETER, OUTER DIAMETER, RATIO, CLASS & VA BURDEN TO AVOID ANY CONFUSION & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

CURRENT TRANSFORMERS BUSBAR TYPE RESIN CAST CT (WPL)

MODEL NO - 150*75-*100 (METERING CLASS CT)



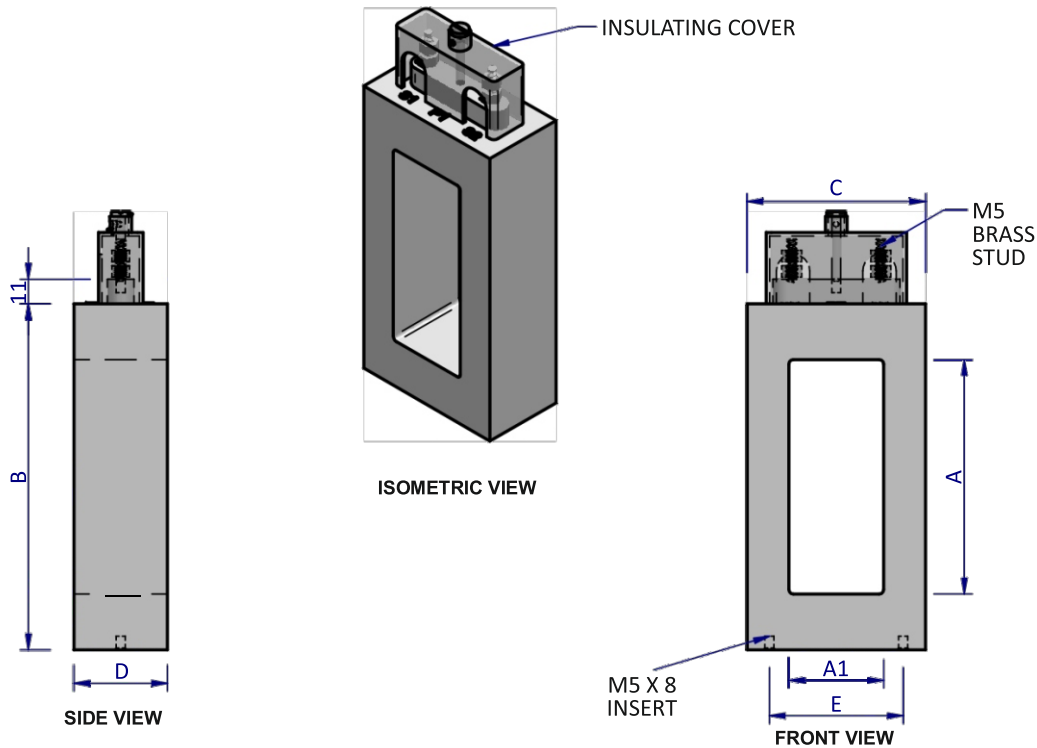
PRIMARY CURRENT	DIMENSION			PRIMARY BRASS STUD. SIZE
	Length	Width	Height	
2.5-20	150	75	100	M8
25-50	150	75	100	M8
60-100	150	75	100	M10

*WHILE ORDERING PLEASE MENTION INNER DIAMETER, OUTER DIAMETER, RATIO, CLASS & VA BURDEN TO AVOID ANY CONFUSION & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.

CURRENT TRANSFORMERS

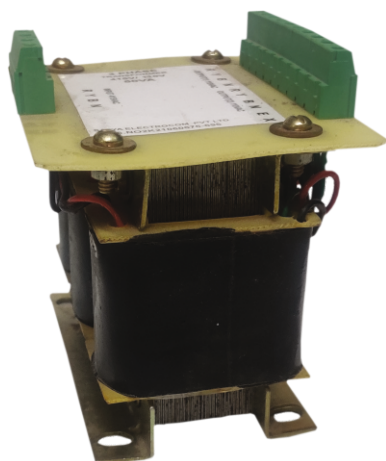
RECTANGULAR TYPE RESIN CAST CT (BPL)

MODEL NO - 230*80-310*160 PROTECTION CLASS CT

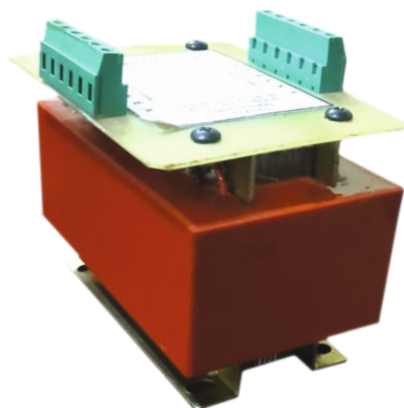


PRIMARY CURRENT (AMP)	TYPE	ID A*A1	OD 5/10/15 VA B*C	HEIGHT			MOUNTING HOLE CENTER E
				5VA D	10VA D	15VA D	
400	RCCT RECT.	45*25	115*65	40	45	50	40
600	RCCT RECT.	65*25	115*80	40	45	50	40
800	RCCT RECT.	85*25	155*80	40	45	50	40
1000	RCCT RECT.	105*25	175*80	40	45	50	60
1250	RCCT RECT.	105*40	215*95	40	45	50	60
1600	RCCT RECT.	105*40	215*95	40	45	50	60
2000	RCCT RECT.	105*40	215*95	40	45	50	60
2500	RCCT RECT.	125*40	215*130	40	45	50	60
3000	RCCT RECT.	155*50	215*130	40	45	50	106
3200	RCCT RECT.	155*80	215*130	40	45	50	106
4000	RCCT RECT.	155*80	310*160	40	45	50	106
5000	RCCT RECT.	155*80	310*160	40	45	50	100
6000	RCCT RECT.	230*80	310*160	40	45	50	100

*WHILE ORDERING PLEASE MENTION INNER DIAMETER, OUTER DIAMETER, RATIO, CLASS & VA BURDEN TO AVOID ANY CONFUSION & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.



TAPE WOUND POTENTIAL TRANSFORMER					
PT RATIO	VA	CLASS	DIMENSION		
			Length	Width	Height
$415/\sqrt{3}/110/\sqrt{3}$	25	1.0	125	70	90
$415/\sqrt{3}/110/\sqrt{3}$	50	1.0	125	70	90
$415/\sqrt{3}/110/\sqrt{3}$	100	1.0	125	70	90



RESIN CAST POTENTIAL TRANSFORMER					
PT RATIO	VA	CLASS	DIMENSION		
			Length	Width	Height
$415/\sqrt{3}/110/\sqrt{3}$	25	1.0	150	100	90
$415/\sqrt{3}/110/\sqrt{3}$	50	1.0	150	100	90
$415/\sqrt{3}/110/\sqrt{3}$	100	1.0	150	100	90

NOTE : PT IS ALSO AVAILABLE IN CUSTOMIZED RATIOS & ACCURACY CLASS AS PER REQUIREMENT.

*WHILE ORDERING PLEASE MENTION INNER DIAMETER, OUTER DIAMETER, RATIO, CLASS & VA BURDEN TO AVOID ANY CONFUSION & FOR BULK CUSTOMIZED INQUIRES PLEASE CONTACT SALES.