



Application :

RISH DPM Power 96x96 series measures system active Power (Import / Export), Reactive Power (Import / Export), Apparent Power & Power Factor of Three phase and Single phase Network. It has 4 digit single line auto ranging LED display with polarity indication.

Product Range :

- **Active Power (kW) DPM.**
- **Reactive Power (kVAr) DPM.**
- **Apparent Power (kVA) DPM.**
- **Power Factor (PF) meter.**

Product Features :

* On Site Programmable PT/CT Ratios :

It is possible to program primary of external Potential Transformer (PT) & primary of external Current Transformer (CT) on site via front panel keys by entering into programming mode.

* User Selectable CT Secondary 5A/1A :

The secondary of external Current Transformer (CT) can be programmed on site to either 5A or 1A using front panel keys.

* User Selectable 3 Phase 3W or 4W :

User can program on site the network connection as either 3 Phase 3 Wire or 4 Wire using front panel keys.

* Note: For Power Factor DPM, customer need to specify CT ratio, PT ratio & network type 3 phase (3 or 4 wire) / single phase (1P2W) requirement while ordering.

User Selectable Power Parameter :

User can select any one of the power parameter (Active / Reactive / Apparent) on site as per its requirement, reducing inventory cost.

True RMS Measurement :

The instrument measures distorted waveform up to 15th harmonic.

High Brightness LED Display :

Single line four digit. Digit heights 11 mm or 20 mm.

Enclosure Protection for Dust and Water :

Conforms to IP 54 (front face) as per IEC60529

Compliance to International Safety Standards :

Compliance to International Safety standard IEC 61010-1 - 2001

EMC Compatibility :

Compliance to International standard IEC 61326

Low Back Depth :

The instrument has very low back depth (behind the panel) of less than 80 mm.

Technical Specifications :

Input Voltage :

Nominal Input Voltage (AC RMS)	Phase-Neutral 57.7 - 277V L-N (Line-Line 100 - 480V L-L)
Max Continuous Input Voltage	120% of rated value

Input Current :

Nominal Input Current	1 or 5AAC RMS (programmable on site)
System CT Primary Values	Std. values up to 9999A
Max Continuous Input Current	120% of rated value

Auxiliary Supply :

AC Auxiliary Supply	110V AC -15%/+20% / 230V AC -15%/+20% / 380V AC-15%/+20
AC / DC Auxiliary Supply	100 to 250V AC/DC ± 10%
AC Auxiliary Supply Frequency Range	45 to 66 Hz
DC Auxiliary Supply	12 to 48V DC ± 10%

VA Burden :

Nominal Input Voltage Burden	< 0.2 VA approx. per phase
Nominal Input Current Burden	< 0.6 VA approx. per phase
AC Supply Burden	Approx. 4 VA

Overload Withstand :

Voltage	2 x rated value for 1 sec, repeated 10 times at 10 sec intervals
Current	20 x rated value for 1 sec, repeated 5 times at 5 min intervals

Operating Measuring Ranges :

Voltage	5...120% of rated value
Current	5...120% of rated value
Frequency	40...70 Hz
Power Factor	0.5 Lag...1...0.5 lead for kW,kVAr DPM / 0.1 Lag...1...0.1 lead for PF DPM

Reference Condition For Accuracy:

Reference Temperature	23°C +/- 2°C
Input Waveform	Sinusoidal (distortion factor 0.005)
Input Frequency	50 or 60 Hz ±2%
Auxiliary Supply Voltage	Rated Value ±1%
Auxiliary Supply Frequency	Rated Value ±1%

Accuracy :

Active Power, Apparent Power	±0.5% of range(50...100% of rated value) (0.5 Lag...1...0.5 Lead)
Reactive Power	±1% of range(50...100% of rated value) (0.5 Lag...1...0.5 Lead)
Power Factor	±2° (0.1 Lag...1...0.1 Lead)

Influence of Variations :

Temperature Coefficient : (for rated value range of use (0...50°C))	0.025% / °C for Voltage (50...20% of rated value) and 0.05% / °C for Current (10...120% of rated value)
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Display

Response time to step input	min 1 sec approx.
Resolution	0.001 (4 digit)

Applicable Standards :

EMC	IEC 61326
Immunity	IEC 61000-4-3, 10V/m min - Level 3 industrial low level

Safety :

IP for Water and Dust
 Pollution Degree
 Installation Category
 High Voltage Test

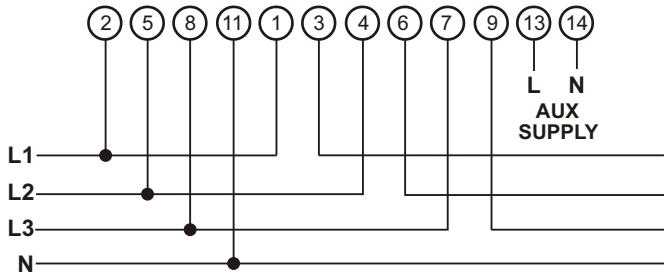
IEC 61010-1- 2001 , Permanently connected use
 IEC60529
 2
 III
 2.2 kV AC, 50Hz for 1 minute between all electrical circuits

Environmental

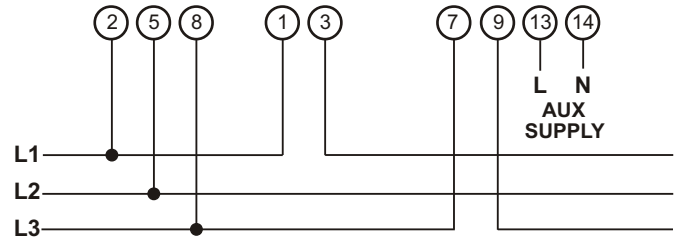
Operating temperature -10 to + 55°C
 Storage temperature -20 to + 65°C
 Relative humidity 0...90% non condensing
 Warm up time Minimum 3 minute
 Shock 15g in 3 planes
 Vibration 10...55 Hz, 0.15mm amplitude
 Enclosure IP54 (front face only)

Electrical Connection :

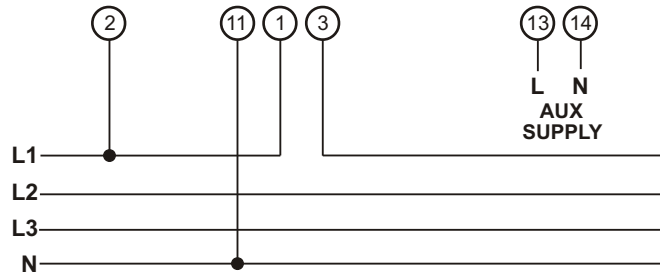
For 3 Phase 4 Wire Unbalanced Load



For 3 Phase 3 Wire Unbalanced Load

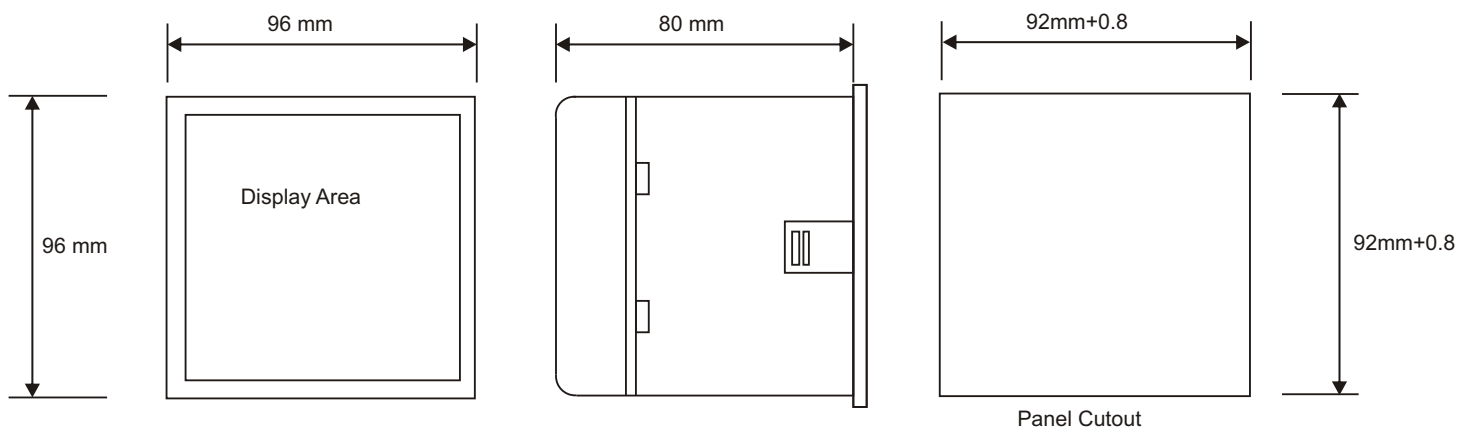


For Single Phase



It is recommended that the wires used for connection to the instrument should have lugs soldered at the end. That is, the connection should be with lugged wires for secure connections. The maximum diameter of the made lug should be 7.0mm and maximum thickness 3.5mm. Permissible cross section of the connection wires : $\leq 4.0 \text{ mm}^2$ single wire or $2 \times 2.5 \text{ mm}^2$ fine wire

Dimensions



Ordering information	Ordering Code
	DPM
Parameter	
Power Factor	PF
Power (Active / Reactive / Apparent)*	PW
System Type (Connection network)**	
3 Phase 3 Wire	3
3 Phase 4 Wire	4
1 Phase	1
Input Voltage	
110V L- L (63.5V L - N)	110
230V L- L (133V L - N)	230
415V L- L (239.6V L - N)	415
440V L- L (254V L - N)	440
Input Current	
1 Amps	1
5 Amps	5
AC Auxiliary Supply	
110 V AC -15% / +20%	L
230 V AC -15% / +20%	M
380 V AC - 15% / +20 %	H
100 to 250 V AC/DC \pm 10%	AD
12 to 48 V DC \pm 10%	D
Digital Height	Rated Value \pm 1%
11 mm	11
20 mm	20

* Any one of the parameter can be selected to be displayed on site.

** CT ratio / PT ratio / Network type (3 wire / 4 wire) programmable on site only for power DPM (S / P / Q).

Order Code Example :

DPM – PF – 3 – 415 – 5 – M – 11

DPM, Power factor, 3 phase 3 wire, 415 V AC L-L nominal voltages, 5 Amp, 230 V AC auxiliary supply, 11mm digit height.



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