



# RISH EINE NX

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## With Touch Key



Measure



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### Application:

The Digital meter PROGRAMMABLE RISH Eine NX have been designed for industrial application ,which frequently require precise and on-site adjustment of the display range. It can be used in industrial automation and for laboratory uses.

### Salient Features:

- True RMS measurement.
- Attractive look with two touch keys.
- 3 digit or 4 digit ultra bright 7 Segment LED display.
- Fast & Easy Installation on panel with click fit arrangement

### Product Features:

#### ► Display parameters:

Voltage VLN or Current.

#### ► True RMS Measurement:

The instrument measures distorted waveform upto 15th harmonic.

#### ► Ultra bright LED Display:

Voltage DPM has 3 digit 1 line seven segment LED display. Ammeter/Current DPM has 4 digit 1 line seven segment LED display.

#### ► Front panel keys:

Two keys are useful for easy setup navigation and changing setup parameters.

#### ► On site programmable PT parameters:(For volt DPM)

Potential Transformer (PT) primary and secondary is programmable on site through front panel keys.

PT Primary value ranging from 57.5 VLN to 900 kVLN.

PT Secondary value ranging from 57.5 VLN to 480 VLN.

#### ► On site programmable CT parameters:(For Ammeter)

Current Transformer (CT) primary and secondary is programmable on site through front panel keys.

CT Primary value ranging from 1A to 9999A.

CT Secondary value ranging from 1A/5A.

#### ► Auxiliary supply:

Higher Auxiliary power supply with voltage range 60V-300V AC/DC.

#### ► Enclosure Protection for dust and water:

Conforms to IP 50 (for front face) & IP 20 (for back) & as per IEC60529.

#### ► EMC Compatibilty:

Compliance to IEC61326.



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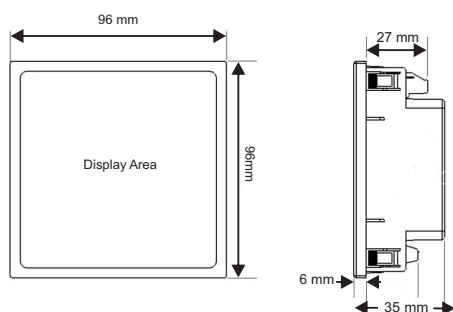
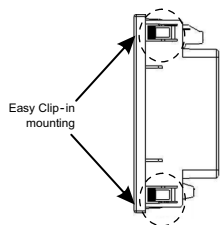


Analyze

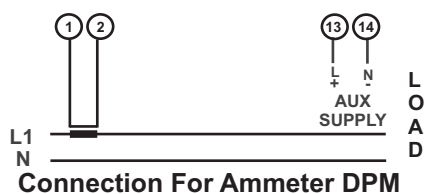
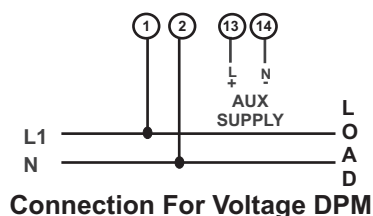


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### Installation



### Electrical Connection:



### Technical Specifications:

<b>Operating Measuring Ranges:</b>	
Voltage Range	10V ..... 519V
Current Range	For 1A(15mA -1.2A) & For 5A(55mA- 6A)
Frequency	45...65 Hz.
<b>Input Voltage: (for Volt DPM)</b>	
Full Scale Input voltage (AC RMS)(FS)	480 VLN.
Max continuous input voltage	519 VLN. (OL >1.083 X PT Primary).
Input voltage burden	<0.3 VA approx at 230V.
<b>Input Current: (for Ammeter)</b>	
Input current.	1A or 5A.
Max continuous input current	120% of CT Primary.(OL >1.21 X CT Primary).
Input current burden	<0.3 VA approx.
<b>Auxiliary Supply:</b>	
Higher AC-DC External Aux.	60-300V AC/DC.
Frequency range	45 to 65 Hz.
VA burden	5 VA Approx.
<b>Overload Withstand:</b>	
Voltage	600VLN for 1 second, repeated 10 times at 10 second intervals.
Current	2 x 5A for 1 second, repeated 5 times at 5 second intervals.
<b>Reference conditions for Accuracy:</b>	
Reference temperature	23°C ±2°C.
Input waveform	Sinusoidal (distortion factor 0.005).
Input frequency	50 or 60 Hz ±2%.
Auxiliary supply voltage	Nominal Value ±1%.
Auxiliary supply frequency	Nominal Value ±1%.
<b>Display update rate:</b>	
Response time to step input	Less than 1 second.
<b>Accuracy:</b>	
Voltage	± 1.0 % of FS (optional ± 0.5 %)
Current	± 1.0 % of 5A (optional ± 0.5 %)
<b>Influence of Variations:</b>	
Temperature coefficient :	0.03 % /°C for Voltage.
(for range of use (0°C to 55°C))	0.05 % /°C for Current.
<b>Applicable Standards:</b>	
EMC	IEC 61326-1 (Table-2).
Safety	IEC 61010-1-2018, Permanently connected use.
IP for water & dust	IEC 60529.
<b>Environmental:</b>	
Operating temperature	0°C to +55°C.
Storage temperature	-25°C to +70°C.
Relative humidity	0... 90% non condensing.
Warm up time	Minimum 3 minute.
Shock	Half sine wave, Peak acceleration 30gn (300 m/s <sup>2</sup> ).
Vibration	10... 55 Hz, 0.15mm amplitude.
<b>Enclosure:</b>	
Front	IP 50
Back	IP 20
<b>Dimensions:</b>	
Housing dimensions	96 x 96 x 40 mm.
Panel cut-out	92.8 x 92.8 mm.
<b>Safety:</b>	
Pollution degree	2
Installation category	III
High Voltage Test	2 kV AC, 50Hz for 1 minute between



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**Ordering Information:**

Product Code : ED99 - G - 1 - X - XX - H - 5 - 0 - 0 - 0 - 0000

V : AC Voltage DPM

A : AC Ammeter DPM

8C : Input type-57.5-480VLN(Programmable)

8D : Input type-1/5A (Programmable)

5 : Accuracy - 0.5

1 : Accuracy - 1

**Order Code Example:**

**ED99-G1V8AH50000000.**

ED99- 96x96, 1-Phase, Voltage DPM, 57.5- 480 VLN,60-300 VAC/DC,Class 0.5,standard IP50.



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# RISH EINE NX With Touch Key



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### Application:

The Digital meter PROGRAMMABLE RISH Eine NX have been designed for industrial application ,which frequently require precise and on-site adjustment of the display range. It can be used in industrial automation and for laboratory uses.

### Salient Features:

- True RMS measurement.
- Attractive look with Two touch keys.
- User Selectable 3Ph4Wire,3Ph3Wire and single phase network
- 4 digits ultra bright LED display.
- Fast & Easy Installation on panel with Click fit arrangement.
- Optional RS485 ( MODBUS ) for remote settings and monitoring.
- Relay output.

### Product Features:

- ▶ **Display parameters:**  
Voltage VLN, Voltage Line-Line or Line current or System Voltage or Current.
- ▶ **True RMS Measurement:**  
The instrument measures distorted waveform upto 15th harmonic.
- ▶ **1 line 4 digits LED display:**  
1 Line 4 digits seven segment LED display for simultaneous reading of voltage or current.
- ▶ **Front panel keys:**  
Using two key, it is possible to go to desired parameter on screen instantly. Two keys are also useful for easy setup navigation and changing setup parameters.
- ▶ **Potential Free Relay Contact (Optional):**  
User selectable relay output. Relay output can be configured as Limit (Alarm) switch or Timer output to operate relay in cyclic manner

### ▶ Display Autoscroll:

Display auto scroll enables user to see all parameters without key operation.  
On site selection of auto/manual scrolling.

### ▶ Communication:

Optional Isolated multi baud rate RS485 ( MODBUS ) output for remote viewing, configuration and external logging.

### ▶ On site programmable PT parameters:(For volt DPM)

Potential Transformer (PT) primary and secondary is programmable on site through front panel keys and MODBUS.  
PT Primary value ranging from 100 VLL to 999 kVLL.  
PT Secondary value ranging from 100 VLL to 500 VLL.

### ▶ On site programmable CT parameters:(For Ammeter)

Current Transformer (CT) primary and secondary is programmable on site through front panel keys and MODBUS.  
CT Primary value ranging from 1A to 9999A.  
CT Secondary value ranging from 1A/5A.

### ▶ Auxiliary supply:

Higher Auxiliary power supply with voltage range 60V-300V AC/DC

### ▶ Enclosure Protection for dust and water:

Conforms to IP 50 (for front face) & IP 20 (for back) & as per IEC60529.

### ▶ EMC Compatibility:

Compliance to IEC61326.



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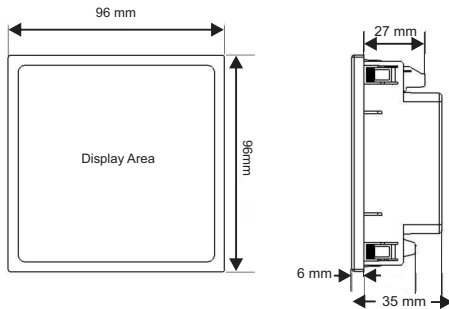
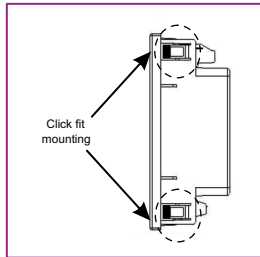


Analyze

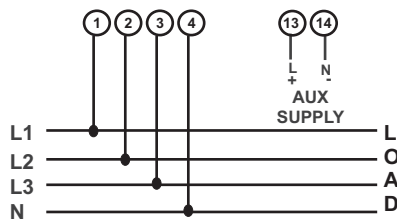


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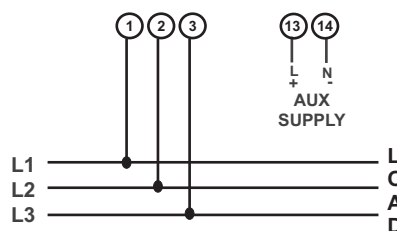
### Installation



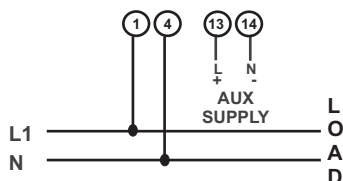
### Electrical Connection: For Voltage DPM



**Connection For  
3PH - 4 Wire Network**



**Connection For  
3PH - 3 Wire Network**



**Connection For  
1PH - 2 Wire Network**

### Technical Specifications:

#### Operating Measuring Ranges:

Voltage Range	11 -- 346VLN. (19 --- 600VLL)
Current Range	For 1A (30mA-1.2A) & For 5A(55mA-6A)
Frequency	40...70 Hz.

#### Input Voltage: (for Volt DPM)

Nominal Input voltage (AC RMS)	57.7-288VLN. (100V..500VLL)
Max continuous input voltage	120% of Nominal volt of Primary .(OL >1.21 x PTP )
Input voltage burden	0.3 VA approx per Phase at 230VAC

#### Input Current: (for Ammeter)

Nominal Input current	1A / 5A per Phase.
Max continuous input current	120% of Nominal current of Primary.(OL >1.21 x CTP )
Input current burden	0.3 VA approx per Phase.

#### Auxiliary Supply:

Higher AC-DC External Aux.	60-300V AC/DC.
Frequency range	45 to 65 Hz.
VA burden	5 VA Approx.

#### Overload Withstand:

Voltage	620 VLL for 1 second, repeated 10 times at 10 second intervals.
Current	2 x 5A value for 1 second, repeated 5 times at 5 second intervals.

#### Reference conditions 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	Nominal Value ±1%.
Auxiliary supply frequency	Nominal Value ±1%.

#### Display update rate:

Response time to step input	Less than 1 second.
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#### Accuracy:

Voltage	± 1.0 % (As Per Nominal Voltage Set) (opt. ± 0.5)
Current	± 1.0 % of 1A/5A (opt. ± 0.5)

#### Influence of Variations:

Temperature coefficient :	0.025 % /°C for Voltage.
(for range of use (0°C to 55°C)	0.05 % /°C for Current.

#### Applicable Standards:

EMC	IEC 61326 -1(Table-2).
Safety	IEC 61010-1-2018, Permanently connected use.
IP for water & dust	IEC 60529.

#### Interfaces: (Optional)

Relay	250 VAC, 5 AAC / 30VDC, 5A DC
MODBUS	Rs485, max.1200m Baud rate : 4.8, 9.6,19.2, 38.4, 57.6 KBPS

#### Environmental:

Operating temperature	0°C to +55°C.
Storage temperature	-25°C to +70°C.
Relative humidity	0... 90% non condensing.
Warm up time	Minimum 3 minute.
Shock	Half sine wave, Peak acceleration 30gn (300 m/s^2), 10... 55 Hz, 0.15mm amplitude.

#### Enclosure:

Front	IP 50
Back	IP 20

#### Dimensions :

Housing dimensions	96 x 96 x 40 mm.
Panel cut-out	92.8 x 92.8 mm.

#### Safety:

Pollution degree	2
Installation category	III
High Voltage Test	2kV AC, 50Hz for 1 minute between aux. and measuring input.



Measure



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Record



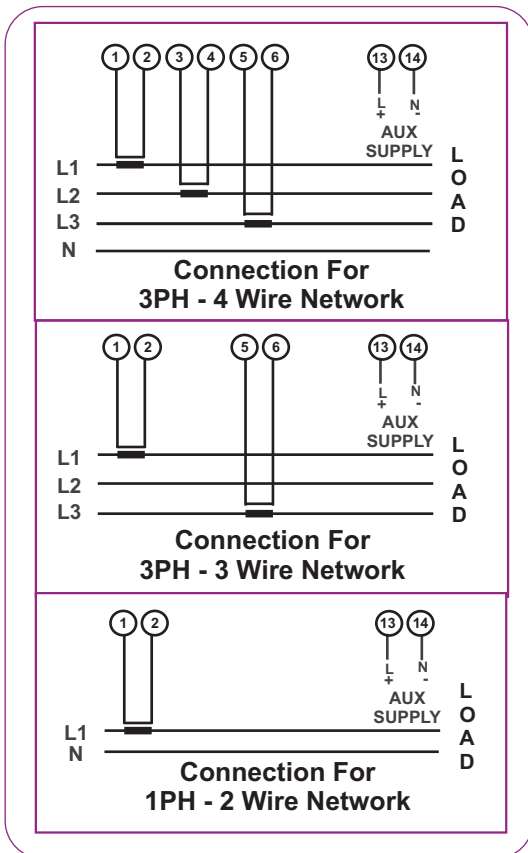
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### For Current DPM



Weight 200gm Approx.

### Electrical Parameters:

Sr No.	Parameters	3 Phase 4 Wire		3 Phase 3 Wire		1 Phase 2 Wire	
		Voltage	Ammeter	Voltage	Ammeter	Voltage	Ammeter
1	System Voltage	✓		✓		✓	
2	System Current		✓		✓		✓
3	Volts L1-N	✓				✓	
4	Volts L2-N	✓					
5	Volts L3-N	✓					
6	Volts L1-2	✓		✓			
7	Volts L2-3	✓		✓			
8	Volts L3-1	✓		✓			
9	Current L1		✓		✓		✓
10	Current L2		✓		✓		
11	Current L3		✓		✓		
13	Timer No. of cycles	✓	✓	✓	✓	✓	✓
14	Relay Limit	✓	✓	✓	✓	✓	✓

### Ordering Information:

Product Code : ED99 - G - 3 - X - XX - H - 5 - 0 - 0 - X - 0000

**V** : AC Voltage DPM  
**A** : AC Ammeter DPM

**8C** : Input type-100-500VLL(Programmable)  
**8D** : Input type-1/5A (Programmable)

**5** : Accuracy - 0.5  
**1** : Accuracy - 1

**Z** : Basic  
**R** : Advanced (1-Relay Output and Modbus)

#### Order Code Example:

ED99-G3V8CH500R0000.

ED99- 96x96, 3-Phase, Voltage DPM, 100 - 500 VLL,60-300 VAC/DC,Class 0.5,standard IP50,Advanced,





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