



Data Sheet

RISH EINE+

DC DPM (96X96 / 48X96)



Measure



Control



Record



Analyze



Optimize

RISH Eine + has been designed for industrial applications, which frequently require precise and on-site adjustment of the display range. It measures electrical DC parameters like DC voltage and DC current.

Applications

- Distribution and control Panels
- Electrical load monitoring
- In Laboratories
- In Industrial automation

Product Features

Low Back Depth (For 96x96 model)

The instrument has very low back depth (behind the panel) of less than 40 mm.

Re-scalable Display range

The meter is completely programmable and user can easily scale the values as per his requirements on-field. Setting for '-ve' sign and decimal point position is also provided.

Function keys

Using 2 function keys it becomes easy and convenient for user to program the meter without any difficulty.

Bent Characteristics

The meter supports bent characteristics. Hence user can configure the meter as per requirement.

Power Factor Display

The meter can be configured to display power factor also.

Ambient Temperature Indication

The meter gives an accurate indication of the ambient temperature in °C and °F.

Auxiliary Supply

The Auxiliary supply 40-300V AC-DC and 20-60V DC / 20-40V AC are supported.

4 Full digits Ultra Bright LED display

14mm full range display possible of 4 digits having maximum count - 9999.

Wide Input Range

Wide range of voltages and currents to choose from.

Enclosure Protection for dust and water

Conforms to IP 50 (front face) as per IEC 60529.

Compliance to International Safety standards

Compliance to International Safety standard IEC 61010-1- 2010.

EMC Compatibility

Compliance to International standard IEC 61326 Class B



Measure



Control



Record

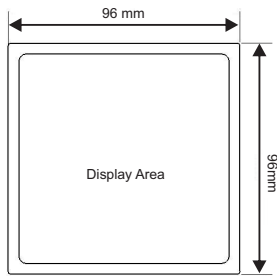
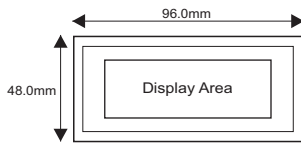


Analyze

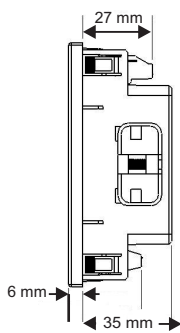
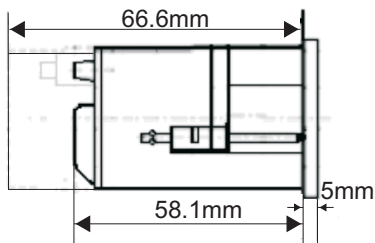


Optimize

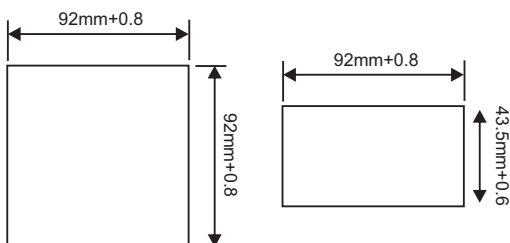
Dimensions Details



Front View



Side View



Panel Cutout

Technical Specifications

Measuring Ranges

Model

Input mV ranges
Input Voltage range

Max continuous input voltage

Model

Input Current ranges

Max continuous input current

Accuracy

RISH Eine+ Voltage
(Input current < 300uA) for V/mV
RISH Eine+ Current
(Voltage drop < 600mV) for A/mA
Ambient Temperature

Influence of Variations

Temperature coefficient
Zero point drift

Display

Type
Display Count Setting
Digit Height
Decimal point position
Negative Display indication
Overload Indication

RISH Eine+ Voltage

-75...0...75mV, -150...0...150mV
-5...0...5V, -10...0...10V, 0...48V,
0...150V, 0...500V, 0...1000V
120% of Nominal value

RISH Eine+ Current

-10...0...10mA, -20...0...20mA,
4...20mA, -1...0...1A, -5...0...5A
120% of Nominal value

<0.5% of Display End value ±1 digit

<0.5% of Display End value ±1 digit

±3 °C

0.05% / °C, plus

0.025% / °C

1 line 4-digit LED display

-9999...-10 or +10...+9999 counts

14mm

Configurable

'-'

" - oL - "

(above 125% of nominal value)

Factor C (The highest value applies if calculated C is less than 1, then C=1 applies)

Linear characteristics:

$$C = \frac{1 - \frac{Y_0}{Y_2}}{1 - \frac{X_0}{X_2}} \text{ or } C=1$$

Bent characteristics:

For $X_0 \leq X \leq X_1$

$$C = \frac{Y_1 - Y_0}{X_1 - X_0} \cdot \frac{X_2}{Y_2} \text{ or } C=1$$

For $X_1 \leq X \leq X_2$

$$C = \frac{1 - \frac{Y_1}{Y_2}}{1 - \frac{X_1}{X_2}} \text{ or } C=1$$

X0 = Start value of input, Y0 = Start value of display, X1 = Elbow value of input, Y1 = Elbow value of display

X2 = End value of input, Y2 = End value of display



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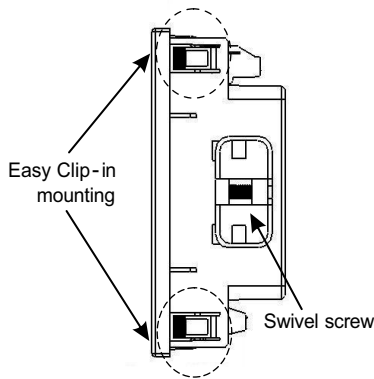


Analyze

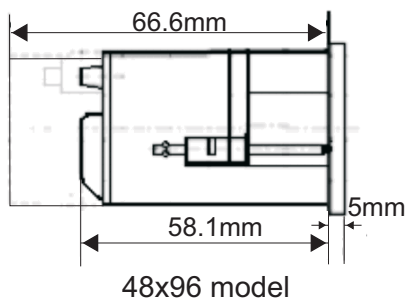


Optimize

Installation

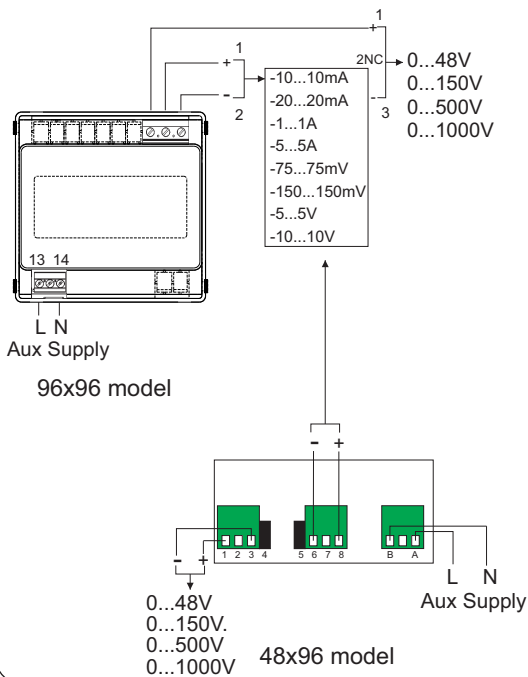


96x96 model



48x96 model

Electrical Connection



Technical Specifications

Auxiliary Supply

External Aux 40 - 300V AC-DC
20 - 60V DC/20-40V AC

Frequency range 45 - 65Hz
VA burden < 4.5VA approx. at 240VLN, 50Hz
< 1VA approx. at 24VLN, 50Hz

Reference Conditions for Accuracy

Reference Temperature 23°C ± 2°C
Auxiliary Supply Voltage Rated Value ±1%
Auxiliary Supply Frequency Rated Value ±1%

Applicable Standards

EMC IEC 61326-1:2005
Immunity IEC 61000-4-1 up to 4. Level 3 industrial
Low level
Safety IEC 61010-1:2010, Permanently connected use
IP for water & dust IEC60529
Pollution degree 2
Installation category III
High Voltage Test 2.2 kV AC, 50Hz for 1 minute between all Electrical circuits.

Environmental

Operating temperature -10 to +55°C
Storage temperature -20 to +70°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

Dimensions and Weight

Bezel size 96 mm x 96 mm DIN43718 (For 96x96 model)
48 mm x 96 mm DIN4371 (48x96 model)
Panel cutout 92 +0.8mm x 92 + 0.8mm (For 96x96 model)
43.5+0.6mm x 92+0.8mm (For 48x96 model)
Overall depth <40mm (For 96x96 model)
<75mm(For 48x96 model)
Weight 310 gm. approx. (For 96x96 model)
250 gm. approx. (For 48x96 model)

Approbations

CE, RoHS



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Ordering Information :

Ordering Information	EI99-	X	1	X	XX	X	5	X	X	0000
Product Type	DC DPM - Rish Eine+									
Size	96 X 96mm	G								
	48 X 96mm	E								
Input Type	DC Voltmeter			C						
	DC Ammeter			D						
Input Range-DC Ammeter	10mA DC				31					
	20mA DC				32					
	4-20mA				33					
	50mA DC				35					
	200mA DC				13					
	100mA DC				14					
	500mADC				52					
	1A DC				41					
	5A DC				42					
	(-)10mA-(+)10mA DC				45					
	(-)20mA-(+)20mA DC				46					
	-50-0-50mA DC				34					
	-100-0-100mA DC				37					
	(-)1A-(+)1A DC				47					
	(-)5A-(+)5A DC				48					
Input Range-DC Voltmeter	50mV DC				36					
	75mV DC				11					
	150mV DC				12					
	5V DC				21					
	10V DC				22					
	48VDC				49					
	150VDC				50					
	500V DC				23					
	1000V DC				24					
	(-)75-0-(+)75mV DC				53					
Auxiliary Supply	20-40VAC/20-60VDC					D				
	40-300V AC/DC					M				
Accuracy	Class 0.5									
IP Protection	Standard-IP50						0			
	Optional-IP54(On request-Chargeable)						1			
Test certificate	Not Required							0		
	Required (On request-Chargeable)							1		

Order Code Example : EI99-G1C50M5110000

RISH Eine+, Size 96X96mm, Input 150V DC, Aux supply 40-300V AC/DC, Accuracy 0.5, with IP54, with Test certificate



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RISHABH



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