

212, 312 and 412 *RISH VISTA* Series Analog Panel Meters

Data Sheet

212, 312, 412 *RISH VISTA* Series
Analog Panel Meters



The **RISH VISTA** range of analog panel meters offers accurate measurement and indication of most electrical and electronic parameters in industry as per industrial standard case size.

Available models

RISH VISTA 212 (size 2^{1/2"})

RISH VISTA 312 (size , 3^{1/2"})

RISH VISTA 412 (and 4^{1/2"})

The range offers AC and DC ammeters, voltmeters and frequency meters utilizing a high torque pivot and jewel movement.

AC moving iron meters also provided 1.5% high accuracy and true RMS measurement.

Applications

- Marine
- Switchgear
- Distribution systems
- Control panels
- Embedded generation
- Energy management
- Building management
- Utility power monitoring
- Process control
- Motor monitoring

Features

- Measuring and indication of AC amps, volts and DC signals.
- Panel mounting.
- High torque pivot and jewel movement.
- True RMS measurement meters.
- AC and DC inputs.
- Up to 50A DC direct connected.
- Up to 50A AC direct connected.

Benefits

- Moving iron and moving coil mechanisms.
- ANSI standard case sizes.
- Easy to modify for distributions.
- Compliant with : • ANSI C39.1

Application Standard

Scale and pointer for electrical measuring instruments. : ANSI C39.1

Terminal bolts : 1/4 "UNC" -28

Safety requirements and protective measures for Electrical indicating instruments and their accessories. IEC 61010-1
DIN 40050 / 8-70
VDE 0110 /11-72
VDE 0410 /10-76

Ingress Protection IP50

Performance specifications for direct acting indicating analogue electrical measuring instruments & their accessories : ANSI C39.1
IEC 60051

UL Combustibility class. : UL 94 V-0

Comply with following European directives : 2004 / 108 / EC (EMC directive), 2006/95/EC (low voltage directive) & amendment 93/68/EEC, for **CE** Marking.

Specifications

Accuracy	
DC Ammeters and Voltmeters	1.5% 0 to100% of full scale deflection
AC Ammeters and Voltmeters	Moving Iron: 1.5% 10 to100% of full scale deflection
Frequency Meters	0.5% of end scale value
Input Ratings	
DC Moving Coil Ammeters	50 A to 50A
DC Moving Coil Voltmeters	50 mV to 600V
AC Moving Iron Ammeters (EQ)	100mA to 50A
AC Moving Iron Voltmeters (EQ)	6V to 600V
Frequency Meters	45-55-55Hz, 55-60-65Hz, 45-55-65Hz
Overload	continuous
Voltmeters	2 times for 0.5 sec : 9 overloads 2 times for 5 sec : 1 overload
Ammeters	10 times for 0.5 sec : 9 overloads
DC Center Zero Voltmeter	10 times for 5 sec : 1 overload
Enclosure	
Movement	High torque pivot and jewel moving coil and moving iron
Scale Balance	Within 1% of scale length
Relative Humidity	25% to 80% nominal range of use
Operating Temperature	0° C to +40° C
Storage Temperature	-20° C to +55° C
Case	Matt black Case UL94V0 Polycarbonate
Window	Shatterproof polycarbonate
Fixing	Surface mounting: 4 corner studs 4-40 UNC (212& 312) for 412, 6-32 UNC
Compliant With	
Performance	ANSI C39.1 and IEC 60051
Manufacture	UL61010 - B
Scaling	ANSI C39.1
Safety	IEC61010-1 (LVD) and BS EN 61326: (EMC) UL 61010
Vibration	ANSI C39.1 cl. 5.13

Operation

Moving Coil Meter

These meters offers a centre cored, self shielding moving coil movement using hair spring, pivots and spring loaded jewels. Variations in movement are limited by design. All DC volt meters are 1000 ohms per volt, moving coil rectified products run at 900 ohms per volt. (Milivolt meter use the 5 miliamps/50mV resistance).

Moving Iron Meter

This clapper type repulsion design utilizes a hair spring, pivots and spring loaded jewels. The bottom jewel is oil filled to provide damping while the top is spring for resilience. All voltments are manufactured with internal voltage dropper resistors.

Frequency Meter

Frequency meters use a 1mA/36ohm movement driven by an EMC hard frequency conversion circuit.

Dials, Pointers and Scales

Standard dials are matt white black printed scales and a tubular knife-edge black pointer are balanced within 1% of scale length and feature a highly repeatable scale shape, ensuring consistently accurate measurement reading. Dials are interchangeable between the range of products using the same input within the published specification of the meter. Options for non standard customer specific dials are available upon request.

Standard Measuring Ranges

D. C. Current		D. C. Voltage	
Rated Value	Approx Voltage drop	Rated Value	Sensitivity ($\pm 10\%$)
50 μA^4	424 mV	50 mV ⁻⁵	0.16 kohm/V
60 μA^4	600 mV	60 mV ⁻⁵	0.16 kohm/V
100 μA	400 mV	75 mV ⁻⁵	0.16 kohm/V
150 μA	600 mV	100 mV ⁻⁵	0.16 kohm/V
250 μA	140 mV	150 mV ⁻⁵	0.16 kohm/V
400 μA	540 mV	250 mV ⁻⁵	0.16 kohm/V
500 μA	540 mV	400 mV ⁻⁵	0.16 kohm/V
600 μA	540 mV	600 mV ⁻⁵	0.16 kohm/V
1 mA	37 mV	1 V	1 kohm/V
1.5 mA	196 mV	1.5 V	1 kohm/V
2.5 mA	196 mV	2.5 V	1 kohm/V
4 mA	196 mV	4 V	1 kohm/V
5 mA	196 mV	6 V	1 kohm/V
6 mA	196 mV	10 V	1 kohm/V
10 mA	196 mV	15 V	1 kohm/V
15 mA	11 mV	25 V	1 kohm/V
20 mA	60 mV	30 V	1 kohm/V
25 mA	60 mV	40 V	1 Kohm/V
40 mA	60 mV	50 V	1 kohm/V
60 mA	60 mV	60 V	1 kohm/V
100 mA	60 mV	100 V	1 kohm/V
150 mA	60 mV	150 V	1 kohm/V
250 mA	60 mV	200 V	1 kohm/V
400 mA	60 mV	250 V	1 kohm/V
600 mA	60 mV	300 V	1 kohm/V
1 A	60 mV	400 V	1 kohm/V
1.5 A	60 mV	500 V	1 kohm/V
2.5 A	60 mV	600 V	1 kohm/V
4 A	60 mV	1-5 V	1 kohm/V
5 A	60 mV		
6 A	72 mV		
10 A	60 mV		
15 A	60 mV		
20 A	60 mV		
25 A	60 mV		
30 A	60 mV		
40 A	60 mV		
60 A	72 mV		

A.C. Voltage	A.C. Current
6V	100mA
10V	150mA
15V	250mA
25V	400mA
40V	600mA
60V	1A
100V	1.5A
120V	2.5A
132V	4A
150V	5A
250V	6A
400V	10A
500V	15A
600V	20A
	25A
	40A
	50A

Frequency Range

45.....50.....55 Hz
45.....55.....65 Hz
55.....60.....65 Hz
360...400...440 Hz
380...400...420 Hz

Rated input voltage

57.7V, 63.5V, 100V, 110V, 115V, 120V,
127V, 208V, 220V, 230V, 240V, 289V,
380V, 400V, 415V, 440V, 500V

Non-Standard ranges available on request.

Ordering Information

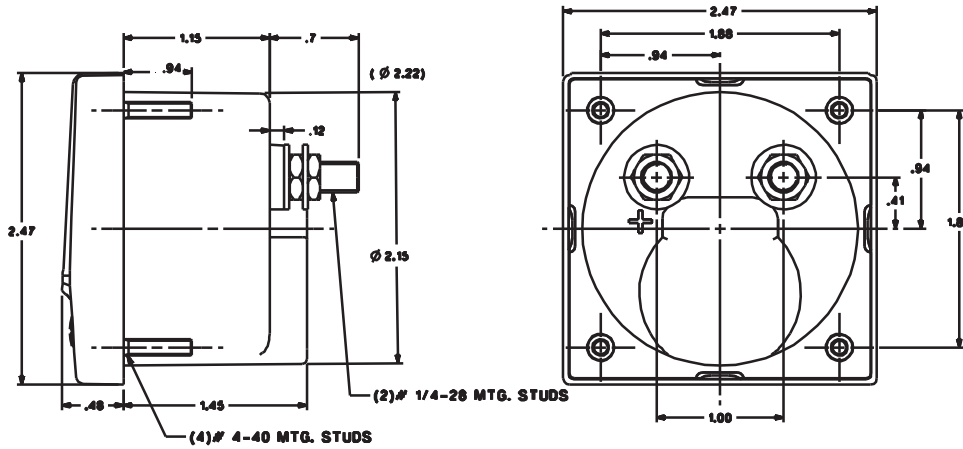
Model & size	<i>RISH VISTA 212 (size 2^{1/2}) / RISH VISTA 312 (size , 3^{1/2}) / RISH VISTA 412 (and 4^{1/2})</i>
Meter Type	Moving Iron / Moving Coil / Frequency.
Measuring Range	DC Voltage / DC Current / AC Voltage / AC Current / Frequency.
Scale	-
Logo	Rishabh

Ordering Example

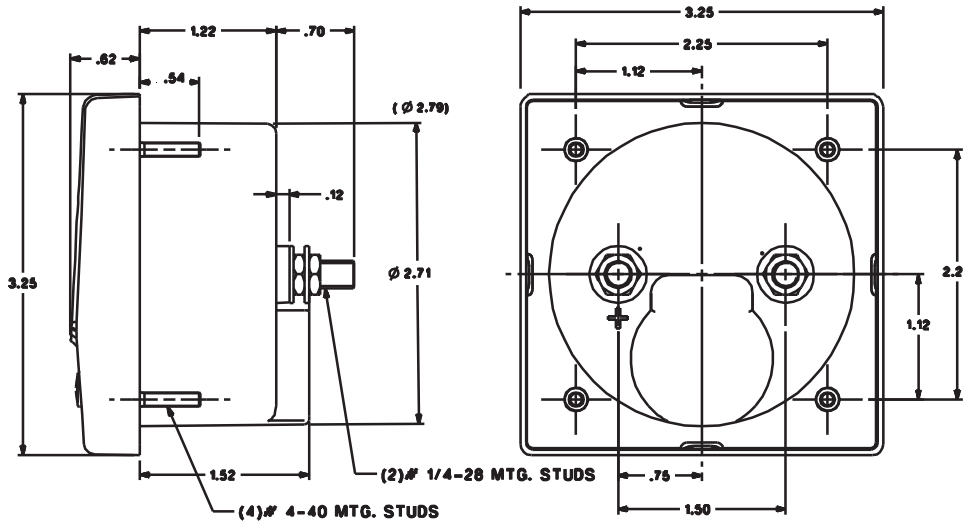
Model & size	<i>RISH VISTA 312 (size , 3^{1/2})</i>
Meter Type	Moving Iron
Measuring Range	AC Voltage. 0 to 500V
Scale	0 to 500V
Logo	Rishabh

Dimension Details

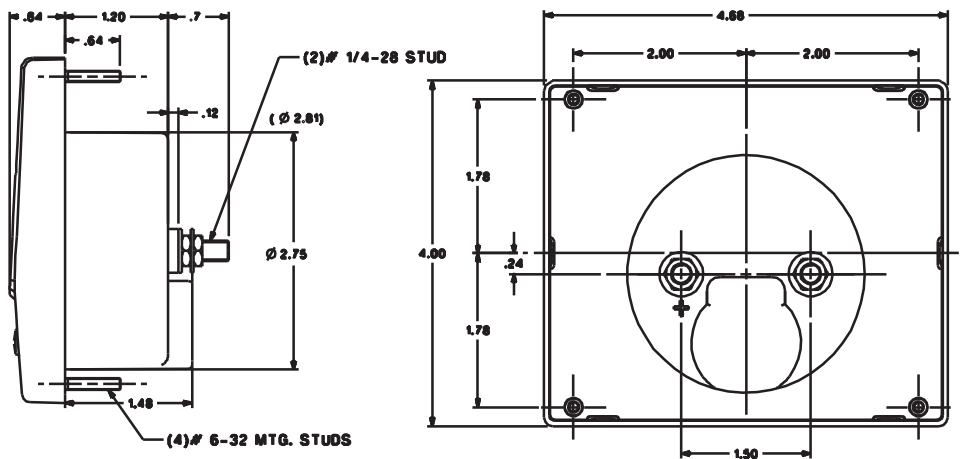
RISH VISTA 212 Analog Panel Meter size 2 -1/2"



RISH VISTA 312 Analog Panel Meter size 3 -1/2"



RISH VISTA 412 Analog Panel Meter size 4 -1/2"



Note : All dimension are in inches.



Measure



Control



Record



Analyze



Optimize

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