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## Technical Data Sheet

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# *212, 312 & 412 Vista Series Analog Panel Meter*



# 212, 312 & 412 Vista Series

## Application

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

### Available models

VISTA 212 (Size 2<sup>1/2</sup>"

VISTA312 (Size 3<sup>1/2</sup>"

VISTA412 (Size 4<sup>1/2</sup>"

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

## Operation

### Moving Coil Meter

These meters offer a centre cored, self shielding moving coil movement using pivots, hairsprings and sprung jewels. Variations in movement are limited by design. All DC voltmeters are 1000 ohms per volt, moving coil rectified products run at 900 ohms per volt. Millivolt meters use the 5 milliamps/50mV resistance.

### Moving Iron Meter

This clapper type repulsion design utilizes a pivot, hairspring and jewel movement. The bottom jewel is oil filled to provide damping while the top is sprung for resilience. All voltmeters are manufactured with internal voltage dropper resistors.

### Frequency Meter

Frequency meters use a 1mA/36 ohm 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 are balanced within 1% of scale length and feature a highly repeatable flattened arc scale shape, ensuring consistently accurate measurement reading. Dials are interchangeable between the challenge 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.

# 212, 312 & 412 Vista Series

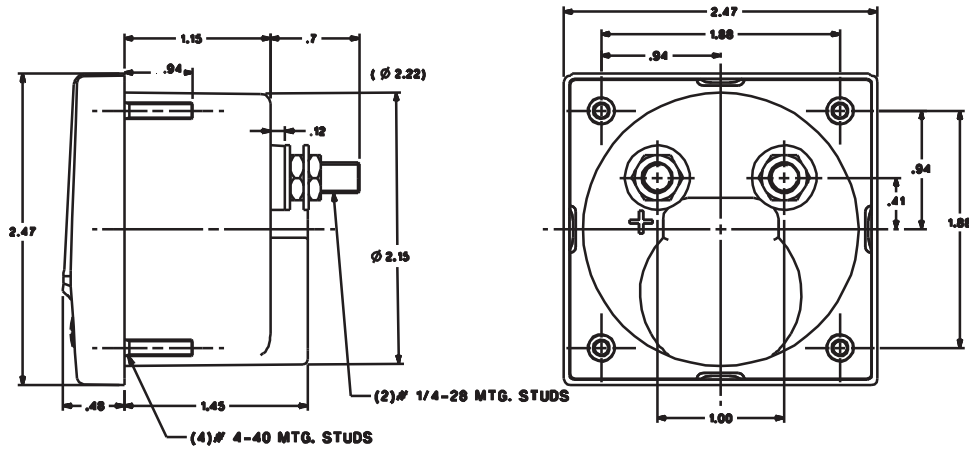
## Specification

<b>Accuracy</b>	
<b>DC Ammeters and Voltmeters</b>	1.5% 0 to100% of full scale deflection
<b>AC Ammeters and Voltmeters</b>	Moving Iron: 1.5% 10 to100% of full scale deflection
<b>Frequency Meters</b>	0.5% of end scale value
<b>Input Ratings</b>	
<b>DC Moving Coil Ammeters</b>	50uA to 50A
<b>DC Moving Coil Voltmeters</b>	50 mV to 600V
<b>AC Moving Iron Ammeters (EQ)</b>	100mA to 50A
<b>AC Moving Iron Voltmeters (EQ)</b>	6V to 600V
<b>Frequency meters</b>	45-50-55Hz, 55-60-65Hz, 45-55-65Hz
<b>Overload</b>	
<b>Voltmeters</b>	2 times for 0.5 sec : 9 overloads 2 times for 5 sec : 1 overload
<b>Ammeters</b>	10 times for 0.5 sec : 9 overloads
<b>DC Center Zero Voltmeter</b>	10 times for 5 sec : 1 overload
<b>Enclosure</b>	
<b>Movement</b>	High torque pivot and jewel moving coil and moving iron
<b>Scale Balance</b>	Within 1% of scale length
<b>Relative Humidity</b>	25% to 80% nominal range of use
<b>Operating Temperature</b>	0° C to +40° C
<b>Storage Temperature</b>	-20° C to +55° C
<b>Enclosure Code</b>	IP42
<b>Case and Cover</b>	Matt black case UL94V. Polycarbonate cover
<b>Bezel Window</b>	Shatterproof polycarbonate
<b>Fixing</b>	Surface mounting: 4 corner studs, 4-40 UNC (212 & 312) for 412, 6-32 UNC
<b>Terminals</b>	011-8-32 UNC 012-1/4"-28 UNC
<b>Compliant With</b>	
<b>Performance</b>	ANSI C39.1 and IEC 51
<b>Manufacture</b>	UL61010 - B
<b>Scaling</b>	ANSI C39.1
<b>Safety</b>	IEC61010-1 (LVD) and BS EN 61326:(EMC) UL 61010
<b>Vibration</b>	ANSI C39.1 cl. 5.13

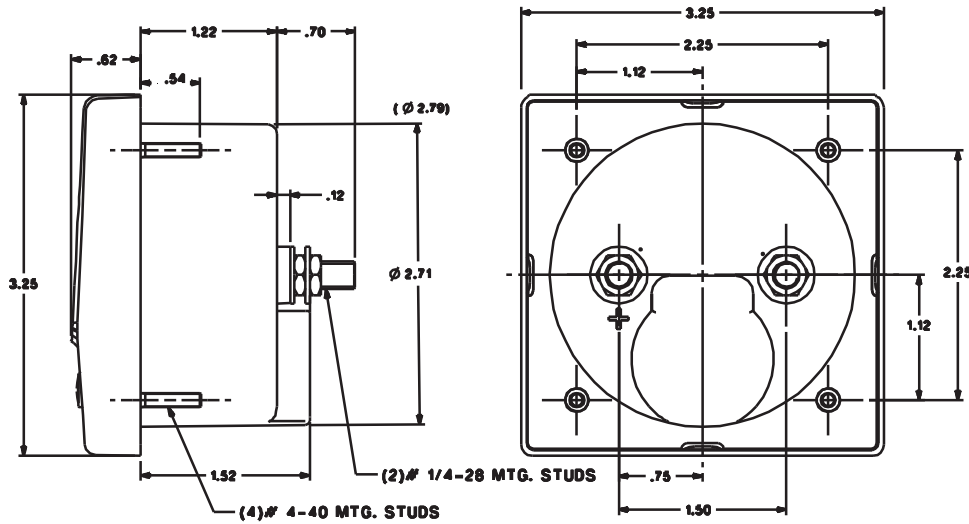
# 212, 312 & 412 Vista Series

## Dimension Details

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



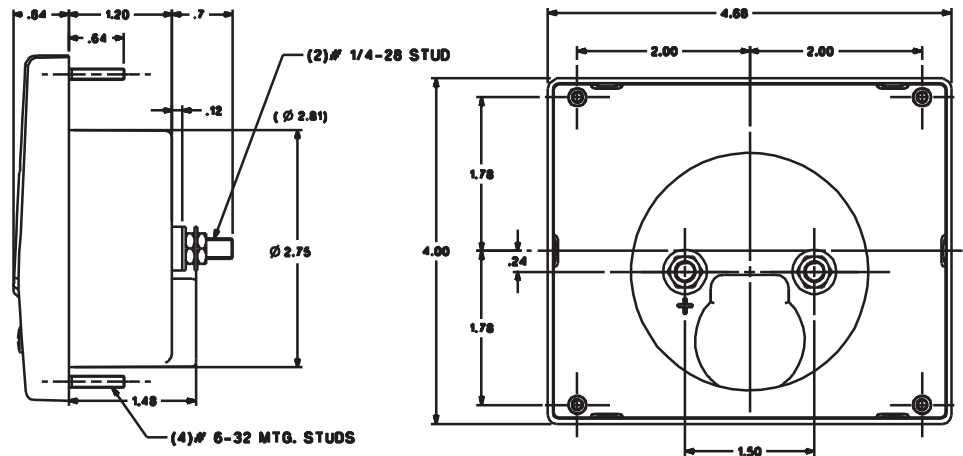
VISTA 312 Analog Panel Meter size 3 -1/2"



**Note:** All dimension are in inches.

# 212, 312 & 412 Vista Series

## VISTA412 Analog Panel Meter size 4 -1/2"



**Note:** All dimension are in inches.

## Ordering Information- Only For Representative Products

### Vista 212 AC Voltmeter

Part No.	Description	Class
EQ2V-V2AX2AW0000ST	212, 60V AC	CL-1.5
EQ2V-V2CX2AW0000ST	212, 150V AC	CL-1.5
EQ2V-V2DX2AW0000ST	212, 300V AC	CL-1.5
EQ2V-V2EX2AW0000ST	212, 500V AC	CL-1.5

### Vista 212 DC Voltmeter

Part No.	Description	Class
PQ2V-V2DL2AW0000ST	212, 10V	CL-1.5
PQ2V-V2EL2AW0000ST	212, 15V	CL-1.5
PQ2V-V2FL2AW0000ST	212, 30V	CL-1.5
PQ2V-V2GL2AW0000ST	212, 50V	CL-1.5

### Vista 212 Frequency Meter

Part No.	Description
ZQ2V-46053AW0000ST	45-55-65 Hz, 120V
ZQ2V-46063AW0000ST	45-55-65 Hz, 480V

### Vista 212 AC Ammeter

Part No.	Description	Class
EQ2V-I03X2AW0000ST	212, 5A	CL-1.5
EQ2V-I04X2AW0000ST	212, 10A	CL-1.5
EQ2V-I05X2AW0000ST	212, 15A	CL-1.5
EQ2V-I06X2AW0000ST	212, 25A	CL-1.5

### Vista 212 DC Ammeter

Part No.	Description	Class
PQ2V-I02L2AW0000ST	212, 1mA	CL-1.5
PQ2V-I04L2AW0000ST	212, 4-20mA	CL-1.5
PQ2V-I06L2AW0000ST	212, 10A	CL-1.5

Part No.	Description
ZQ2V-56053AW0000ST	55-60-65 Hz, 120V
ZQ2V-56063AW0000ST	55-60-65 Hz, 480V

**Vista 312 AC Voltmeter**

Part No.	Description	Class
EQ3V-V2AX2AW0000ST	312, 60V AC	CL-1.5
EQ3V-V2AX2AW0000ST	312, 150V AC	CL-1.5
EQ3V-V2AX2AW0000ST	312, 300V AC	CL-1.5
EQ3V-V2AX2AW0000ST	312, 500V AC	CL-1.5

**Vista 312 DC Voltmeter**

Part No.	Description	Class
PQ3V-V2DL2AW0000ST	312, 10V	CL-1.5
PQ3V-V2EL2AW0000ST	312, 15V	CL-1.5
PQ3V-V2FL2AW0000ST	312, 30V	CL-1.5
PQ3V-V2GL2AW0000ST	312, 50V	CL-1.5

**Vista 312 Frequency Meter**

Part No.	Description
ZQ3V-46053AW0000ST	45-55-65 Hz, 120V
ZQ3V-46063AW0000ST	45-55-65 Hz, 480V

**Vista 412 AC Voltmeter**

Part No.	Description	Class
EQ4V-V2AX2AW0000ST	412, 60V AC	CL-1.5
EQ4V-V2CX2AW0000ST	412, 150V AC	CL-1.5
EQ4V-V2DX2AW0000ST	412, 300V AC	CL-1.5
EQ4V-V2EX2AW0000ST	412, 500V AC	CL-1.5

**Vista 412 DC Voltmeter**

Part No.	Description	Class
PQ4V-V2DL2AW0000ST	412, 10V	CL-1.5
PQ4V-V2EL2AW0000ST	412, 15V	CL-1.5
PQ4V-V2FL2AW0000ST	412, 30V	CL-1.5
PQ4V-V2GL2AW0000ST	412, 50V	CL-1.5

**Vista 412 Frequency**

Part No.	Description
ZQ4V-46053AW0000ST	45-55-65 Hz, 120V
ZQ4V-46063AW0000ST	45-55-65 Hz, 480V

**Vista 312 AC Ammeter**

Part No.	Description	Class
EQ3V-I03X2AW0000ST	312, 5A	CL-1.5
EQ3V-I04X2AW0000ST	312, 10A	CL-1.5
EQ3V-I05X2AW0000ST	312, 15A	CL-1.5
EQ3V-I06X2AW0000ST	312, 25 A	CL-1.5

**Vista 312 DC Ammeter**

Part No.	Description	Class
PQ3V-I02L2AW0000ST	312, 1mA	CL-1.5
PQ3V-I04L2AW0000ST	312, 4-20mA	CL-1.5
PQ3V-I06L2AW0000ST	312, 10A	CL-1.5

Part No.	Description
ZQ3V-56053AW0000ST	55-60-65 Hz, 120V
ZQ3V-56063AW0000ST	55-60-65 Hz, 480V

**Vista 412 AC Ammeter**

Part No.	Description	Class
EQ4V-I03X2AW0000ST	412, 5A	CL-1.5
EQ4V-I04X2AW0000ST	412, 10A	CL-1.5
EQ4V-I05X2AW0000ST	412, 15A	CL-1.5
EQ4V-I06X2AW0000ST	412, 25A	CL-1.5

**Vista 412 DC Ammeter**

Part No.	Description	Class
PQ4V-I02L2AW0000ST	412, 1mA	CL-1.5
PQ4V-I04L2AW0000ST	412, 4-20mA	CL-1.5
PQ4V-I06L2AW0000ST	412, 10A	CL-1.5

Part No.	Description
ZQ4V-56053AW0000ST	55-60-65 Hz, 120V
ZQ4V-56063AW0000ST	55-60-65 Hz, 480V

For more details and product codes, please contact our local office



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