



- Rugged Metal Case for Rigorous Environments
- Commercially Sealed, Moisture and Dust Proof
- Calibration not Affected by Steel Panel Mounting
- O-Ring Sealed Zero Adjust and Electrical Terminals
- Two sizes: 3-1/2" and 4-1/2"



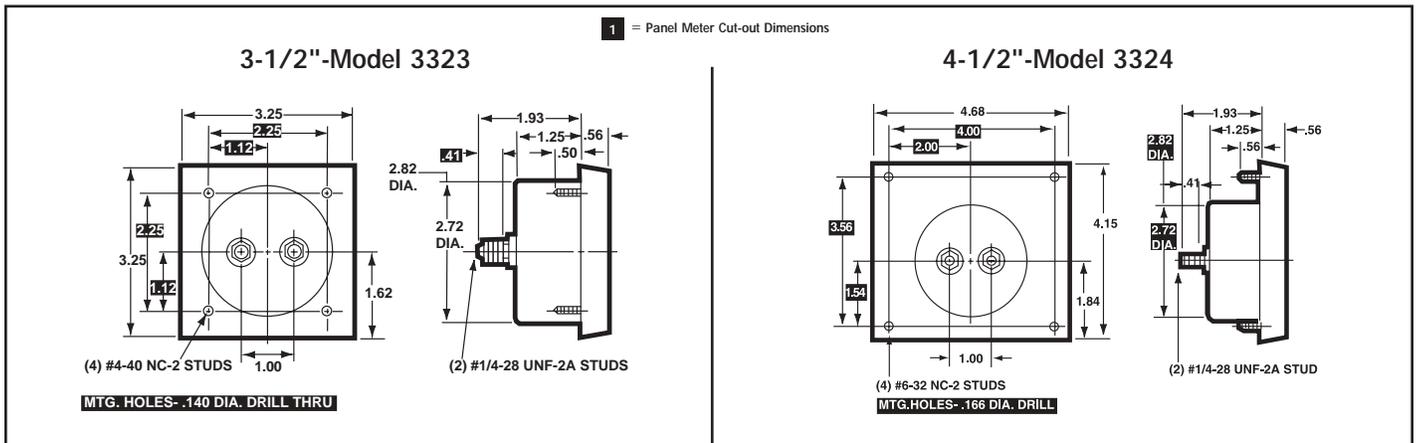
Specifically designed for harsh environments, Simpson's Rugged Seal panel meters are ideal for use in field test equipment or wherever rigorous environmental conditions are encountered. This line of panel meters offers a stylish look with its black metal case and clear glass window. The metal case gives complete magnetic isolation for steel panel mounting, where stray magnetic fields can induce errors in your reading. In addition, each meter is moisture, dirt, and dust proof.

For added environmental protection, both zero adjust and electrical terminals are O-ring sealed. The Rugged Seal meters are available in two convenient sizes; 3-1/2" and

Model Number	Size	Meter Movement
3323	3-1/2"	Annular
3324	4-1/2"	Annular

4-1/2". All DC units feature self-shielding meter movements and  $\pm 2\%$  full scale (F.S.) accuracy. This style meter is ideal for many other electrical functions. See the "Function Reference Table."

## Dimensions and Compatibility



### Compatibility Reference Table

Manufacturer	Size/Model	
	3-1/2"	4-1/2"
Modutec K Series	K3-	K4-

## Specifications

<b>Accuracy:</b>	±2% F.S.
<b>Movement:</b>	Annular, self-shielding
<b>Suspension:</b>	Pivot and jewel
<b>Tracking:</b>	±3%
<b>Shielding:</b>	Calibration is unaffected by magnetic panel mounting.
<b>Response Time:</b>	1.5 seconds maximum
<b>Overload (1 sec.):</b>	10 times F.S.
<b>Overload (Continuous):</b>	1.5 times F.S.
<b>Repeatability:</b>	2%
<b>Dial:</b>	Sharp clear scale. Each dial arc is calibrated to track the specific type of movement .

<b>Resistance:</b>	±15%
<b>Operating Temperature:</b>	4°F to +149°F (-20°C to +65°C)
<b>Case:</b>	Metal shielded cover with black matte finish
<b>Pointer:</b>	Knife-edge with black matte finish
<b>Scale Length:</b>	Model 3323: 2.74" (70.0mm) Model 3324: 4.05" (103.0mm)
<b>Net Weight:</b>	Model 3323: 12oz (0.340kg) Model 3324: 17oz (0.48kg)

## Ordering Information

### DC Microammeter

Range	Approx. Impedance (ohms)	Model/Size and Catalog Number	
		3-1/2" Model 3323	4-1/2" Model 3324
0-50	3,000	16055	16150
0-100	1450	16060	16155

### DC Milliammeter

Range	Approx. Impedance (ohms)	Model/Size and Catalog Number	
		3-1/2" Model 3323	4-1/2" Model 3324
0-1	80	16045	16140

### DC Current Meter

Range	Approx. Impedance (ohms)	Model/Size and Catalog Number	
		3-1/2" Model 3323	4-1/2" Model 3324
0-5	Internal Shunt	16035	<>
0-10	75mV max.	16040	<>

<> Available on special order.

## Function Reference Table

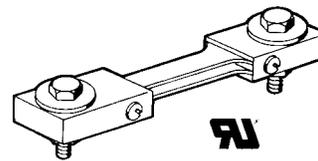
For your convenience, the table below lists Rugged Seal models for other electrical monitoring functions and page reference.

Function	Section	Page
AC Current	E	23
AC Voltage	E	43
DC Voltage	E	83

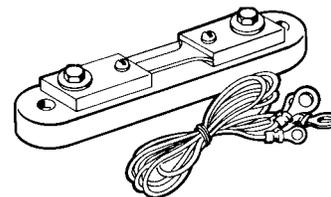
## Accessories

### External Portable and Switchboard Shunts

#### Switchboard



#### Portable



These shunts are adjusted for a 50 millivolt drop for use with switchboard and panel current meters where external shunts are required. Portable shunts have a phenolic base and accept up to 200 amperes. Accuracy ±1%, 5' leads (0.065 Ω resistance) included.

#### Portable 50mV Shunts

Amps	Cat.Number
1	06700
5	06703
10	06704
15	06705
25	06707
30	06708
50	06709
75	06711
100	06713
150	06714
200	06715

#### Switchboard 50mV Shunts

Amps	Cat.Number
100	06500
150	06503
200	06504
250	06505
300	06506
400	06507
500	06508

#### Portable 100mV Shunts

Amps	Cat.Number
10	06716
100	06717