SERIES RHM240A0X
MODEL 410C01

SIMPLE ASSEMBLY FORCE MONITORING SYSTEM

- Indirectly monitors force during manufacturing processes
- Avoids damage & detects tool wear
- Monitors process deviations
- Provides data for quality assurance
- Single screw installation, onto machine structure

DO YOUR CUSTOMERS DEMAND ZERO DEFECTS?

Simple, ready-to-use monitoring systems that use piezoelectric quartz ICP® strain sensors and signal conditioners are ideal for product quality assurance applications that require the measurement of repetitive cycles. ICP® strain sensors feature high stiffness, sensitivity stability, repeatability, high resolution, extremely long life, and robust packaging for harsh industrial environments.

Proper assembly force is vital to the strength of a formed metal part. An assembly force that is too low results in poor mechanical strength of the joint. A force that is too high causes excessive deformation, and can damage or reduce the fatigue life of a component. Assembly processes such as clinching, crimping, orbital forming, press-fit, riveting, and staking may be validated through installation of a RHM240A0X onto the machine’s structural frame.

Strain sensor signals may also be used to protect machinery from excessive forces, trend tool wear, capture process deviations, and document the process to help ensure delivery of high quality parts with zero defects. As with all PCB® instrumentation, these products are complemented with toll-free applications assistance, 24-hour customer service, and are backed by a no-risk policy that guarantees satisfaction or your money refunded.
ICP® STRAIN SENSORS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>RHM240A01</th>
<th>RHM240A02</th>
<th>RHM240A03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity</td>
<td>(+20%)</td>
<td>100 mV/µc</td>
<td>50 mV/µc</td>
</tr>
<tr>
<td>Measurement Range</td>
<td>50 pk µc</td>
<td>100 pk µc</td>
<td>300 pk µc</td>
</tr>
<tr>
<td>Frequency Range (-5%)</td>
<td>0.015 to 2500 Hz</td>
<td>0.004 to 2500 Hz</td>
<td>0.004 to 2500 Hz</td>
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<tr>
<td>Broadband Resolution (1 to 10000 Hz)</td>
<td>0.0001 µc</td>
<td>0.0002 µc</td>
<td>0.001 µc</td>
</tr>
</tbody>
</table>

Environmental
Temperature Range (Operating) -65 to +250 °F (-54 to +121 °C)

Electrical
Output Bias Voltage 8 to 14 VDC
Discharge Time Constant ≥ 36 sec ≥ 150 sec ≥ 150 sec

Mechanical
Sensing Element Quartz
Housing Material Stainless Steel
Electrical Connector 10-32 Coaxial Jack
Sealing Epoxy
Mounting Torque 7.38 ft-lb (10 N-m)
Size (Width x Length x Height) 0.67 x 1.81 x 0.6 in 17 x 46 x 15.2 mm

Supplied Accessories
Model M081A100 M6 x 1.00 flathead screw

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model Number</th>
<th>410C01</th>
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</thead>
<tbody>
<tr>
<td>Performance</td>
<td></td>
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<tr>
<td>Channels</td>
<td>1</td>
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<tr>
<td>Output Voltage (Instantaneous)</td>
<td>±10 V</td>
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<tr>
<td>Output Voltage (Peak)</td>
<td>0 to 10 V</td>
</tr>
<tr>
<td>High Frequency Response</td>
<td>10 kHz</td>
</tr>
<tr>
<td>Low Frequency Response, AC coupled (-5%)</td>
<td>0.5 Hz</td>
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<tr>
<td>Low Frequency Response, DC coupled</td>
<td>Governed by Sensor DTC</td>
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<tr>
<td>Voltage Gain (Incremental Steps)</td>
<td>x1, x2, x4, x8, x10, x16, x20</td>
</tr>
</tbody>
</table>

Environmental
Temperature Range (Operating) +60 to +110 °F (+15 to +45 °C)

Electrical
Power Required (+10%) 24 VDC
Current Draw 200 mA
Broadband Electrical Noise (1 Hz to 10 kHz) 200 µV rms
Peak Hold Reset Solid State Ready
Discharge Time Constant (AC coupled) 1 sec

Physical
Size (Length x Height x Width) 4.46 x 3.9 x 1.78 in (113 x 99 x 45 mm)
Mounting 35 mm DIN Rail
Electrical Connector (Sensor Input) BNC Jack
Electrical Connector (Analog Output, Peak Output, Power, Ground) Removable Screw Terminals

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