FMA SERIES
MICROFORCE SENSORS
For Use in Industrial Knitting Machines
The FMA Series may be used in industrial knitting machines to monitor the yarn/thread tension, helping to provide feedback for precise control.

The FMA Series piezoresistive-based force sensors offer a digital output for reading force over the specified full scale force span and temperature range. They are fully calibrated and temperature compensated for sensor offset, sensitivity, temperature effects, and nonlinearity using an on-board Application Specific Integrated Circuit (ASIC).

The direct mechanical coupling allows for easier interface with the sensor (using tubing, membrane or a plunger), providing repeatable performance and a more reliable mechanical interface to the application. These sensors offer a more stable output which is directly proportional to the force applied to the mechanically-coupled sphere.

The digital I2C interface permits multiple addresses on the same bus, allowing the use of multiple sensors and helping to reduce system complexity. The optional internal diagnostics function enables fault detection.

**PRODUCT NOMENCLATURE**

<table>
<thead>
<tr>
<th>FM</th>
<th>A</th>
<th>M</th>
<th>S</th>
<th>D</th>
<th>XX</th>
<th>025</th>
<th>W</th>
<th>C</th>
<th>S</th>
<th>3</th>
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</thead>
<tbody>
<tr>
<td>MicroForce Sensors</td>
<td>Type</td>
<td>Coupling</td>
<td>Contact Element</td>
<td>Option Code</td>
<td>Option Code 1</td>
<td>Force Range</td>
<td>Force Unit</td>
<td>Force Type</td>
<td>Output</td>
<td>Transfer Function</td>
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<tr>
<td>Compensated/amplified</td>
<td>Mechanical</td>
<td>Sphere</td>
<td>No diagnostics</td>
<td>Sensor short and open diagnostics</td>
<td>Future placeholder</td>
<td>5 (Newtons)</td>
<td>Newton (N)</td>
<td>Compression</td>
<td>SPI</td>
<td>10% to 90%</td>
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<td>5 mm x 5 mm</td>
<td>±8% FSS BFSL</td>
<td>±2% FSS BFSL</td>
<td>±1.6 FSS</td>
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</tbody>
</table>

1 Custom configurations are available upon request. Please contact Honeywell Sales.
2 Three characters specify the desired force level; allowable characters are the numbers 0 through 9 for currently configurable force ranges.
3 For other available transfer functions, contact Honeywell Customer Service.

**WARNING**

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

MISUSE OF DOCUMENTATION

The information presented in this document is for reference only. Do not use this document as a product installation guide. Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

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