MAXIMUM SOLUTIONS

Mill-Max Introduces Low-Force Spring Options for High-Reliability Spring-Loaded Interconnects

Readily available low-force springs offer designers the ability to tailor forces for specific interconnect applications

Mill-Max introduces low-force spring options for a variety of spring-loaded pins. These springs are drop-in replacements for the standard springs, requiring no changes to the form or fit of the existing spring-loaded pins.

Mill-Max has developed low-force spring alternatives for our high reliability spring-loaded pins, providing off-the-shelf solutions to satisfy a range of interconnect requirements. The superior design and construction of Mill-Max spring-loaded pins means they can provide high reliability connections at reduced forces; a critical benefit other manufacturers cannot match. The three new springs - numbers 50, 72, & 62 – are offered as low-force options for a diverse selection of our spring-loaded product line including our lowest profile, wire termination, and higher current designs.

Typically, higher force spring pins are used to ensure reliable electrical performance, however, there are cases where lower spring force may be advantageous and required. For example, high pin count arrays found in testing and development environments, large data transfer interconnects often found in medical imaging equipment, and in magnetic connectors to ensure the spring pin force does not exceed the holding force of the magnets. These new springs from Mill-Max offer force reductions of 25% (72 spring), 30% (50 spring) and 54% (62 spring) as compared to the standard force springs while providing similar electrical performance, and meet the same requirements for stroke, cycle life, and shock and vibration. Our website provides all the technical data required for comparison.

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The table below provides examples of some of the parts available with the low-force alternative springs and the forces associated with them (All forces are measured at ½ stroke). You can determine if a spring-loaded pin is available with an alternative spring by checking the part numbers listed on the product page. The 10th & 11th digits of the Mill-Max part number identify the spring number that is used in the spring-loaded pin.

Part Number	Spring Options (Low force/Standard force)	Force (g) (Low force/Standard force)	Spring-Loaded Pin Description
0965-0-15-20-XX-14-11-0	XX = 50/80	80/115	Lowest profile, SMT, .100" pitch
0975-0-15-20-XX-14-11-0	XX = 50/80	80/115	Lowest profile, through hole, .100" pitch
0933-0-15-20-XX-14-11-0	XX = 72/75	45/60	Solder cup wire termination
0992-0-15-20-XX-14-11-0	XX = 72/75	45/60	Crimp wire termination
0858-0-15-20-XX-14-11-0	XX = 62/82	55/120	High current, through hole, 4 mm pitch
0859-0-15-20-XX-14-11-0	XX = 62/82	55/120	High current, SMT, 4 mm pitch

Beyond the parts listed in this table, the lower force springs can be assembled into many of the spring-loaded pins on our website and some of these pins can be used to make low-force connectors as well. Contact our technical services staff to discuss your application and how we may be able to address your needs.

For more information, please visit www.mill-max.com/PR715.

About Mill-Max

Mill-Max is the leading US manufacturer of machined interconnect components with a vertically integrated manufacturing facility headquartered at 190 Pine Hollow Rd., Oyster Bay, NY 11771. Its full product line includes spring-loaded connectors, SIP, DIP, PGA and BGA sockets, board-to-board interconnects and pin headers, surface mount and custom products, PCB pins and receptacles, solder terminals, wrapost receptacles and terminals. The company's complete manufacturing facility includes engineering, tooling, primary and secondary machining, stamping, plating, injection molding, and assembly.

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