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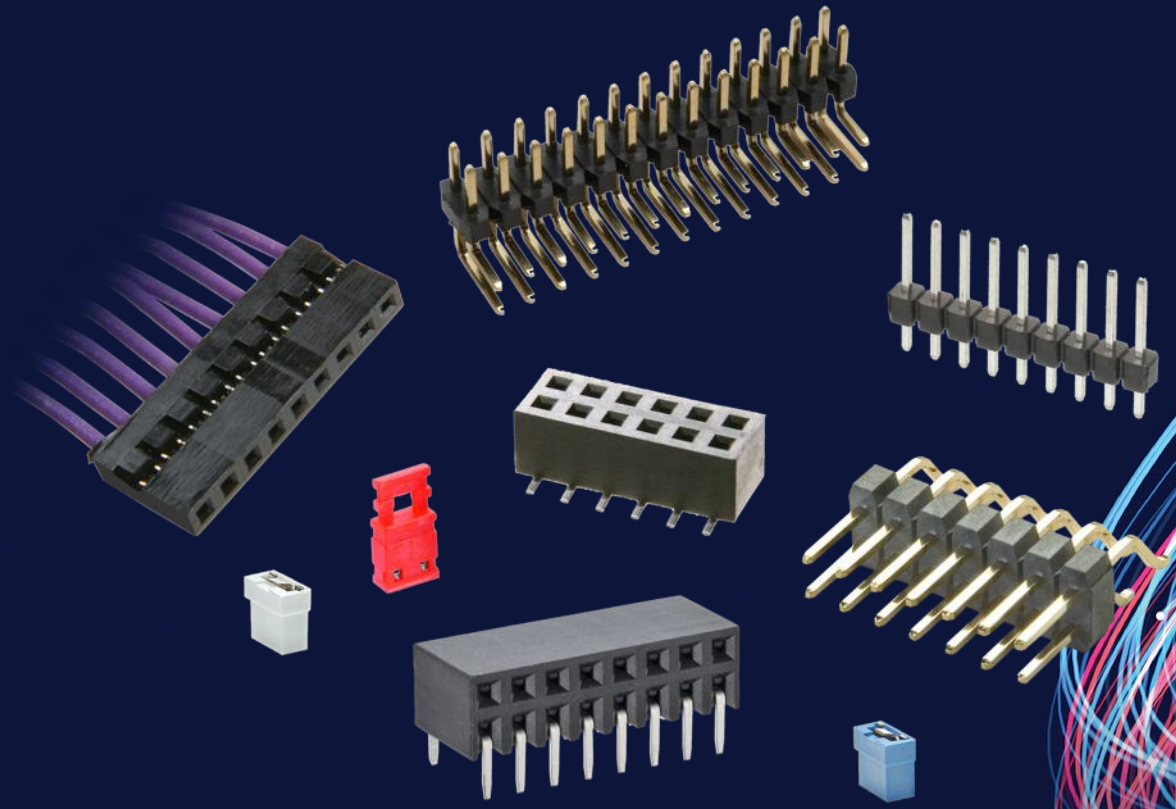

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M20 and M22

(2.54mm and 2.00mm pitch)

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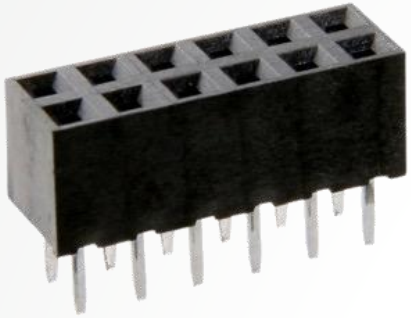
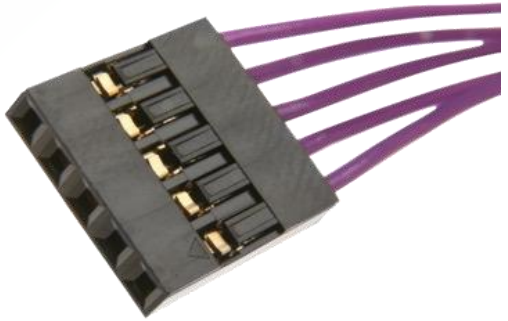
M20 AND M22 CONNECTORS - GREAT DESIGN FLEXIBILITY





Today's electronics and PCB designers are faced with many connector challenges, including applications with increased PCB density, height restrictions and quality product – all whilst designing to a budget. The Industry Standard Pin Headers and Sockets from Harwin fulfil these requirements, and come in two common pitch sizes:

- M20 – 2.54mm (0.1") pitch
- M22 – 2.00mm (0.079") pitch

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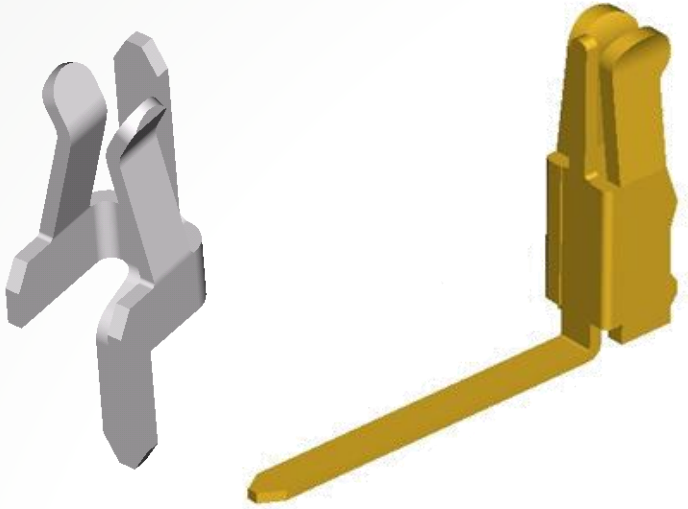
THE HEART OF THE CONNECTOR



M20 and M22 sockets feature dual beam contacts, typically in phosphor bronze or other high-quality spring material. The dual beam connection gives good durability, repeatable retention and a reliable connection, offering a dependable, cost-effective connector. Design types include flat beam designs (as shown above) and tuning fork designs.

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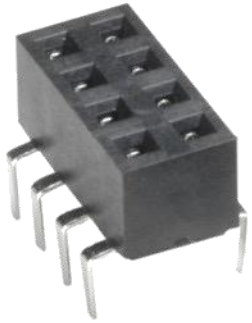
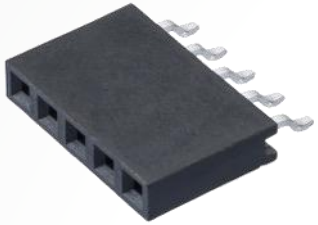
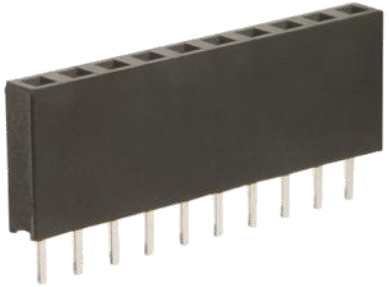
PCB MOUNT - SINGLE & DOUBLE ROW, SURFACE MOUNT & THROUGHBOARD







Female Receptacle (Socket) connectors are available for PCB mounting in the following variations:

M20 (2.54mm pitch):

- Throughboard PC Tail for Straight Top Entry, Dual Entry (Bottom Entry) and Right-Angle
- Surface Mount for Straight Top Entry, Dual Entry (Bottom Entry) and Right-Angle

M22 (2.00mm pitch):

- Throughboard PC Tail for Straight Top Entry
- Surface Mount for Straight Top Entry, Dual Entry (Bottom Entry) and Right-Angle

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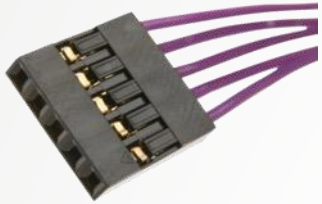
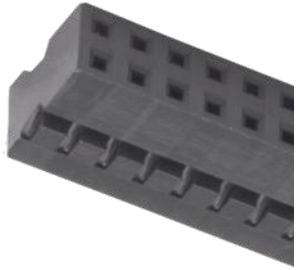
COMPLETE CABLE CONNECTOR SOLUTIONS





Both the M20 and M22 ranges offer a complete cable connector solution:

- Single and Double row crimp housings
- Loose and reeled crimp contacts
- Hand Crimp Tooling - Z20-320 for loose M20 contacts, Z22-020 for loose M22 contacts

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PCB THROUGHBOARD - STANDARD CONNECTORS, MULTIPLE OPTIONS

The male plug connectors (commonly referred to as Pin Headers) with Throughboard Tails come with standard orientations of Straight and Right-Angle in both single and double row, and a variety of mating pin lengths.

- M20 – Mating pin lengths of 5.8mm, 6.1mm and 7mm;
- M22 – Mating pin lengths of 3.5mm and 4.2mm (recommended for mating with crimp connectors).

Housings are all made from high-temperature material suitable to withstand reflow soldering.

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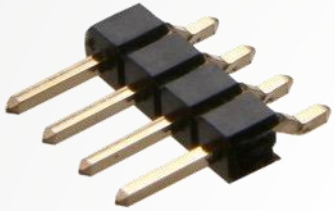
SURFACE MOUNT - TAPE AND REEL FOR AUTO-PLACEMENT



The Surface Mount Pin Headers come in both Straight and Right-Angle configurations. Each can be supplied in tape and reel packaging format to facilitate automated assembly processes to the PCB. Straight SMT connectors in tape and reel will be fitted with disposable pick-and-place caps.

- M20 – 5.8mm mating pin length in Straight Single/Double row, Right-Angle Double row. 6mm for Right-Angle Single row.
- M22 – 3.5mm or 4.2mm for Straight Double row. 4mm for Right-Angle Single row, 3.2mm or 4.2mm for Right-Angle Double row.

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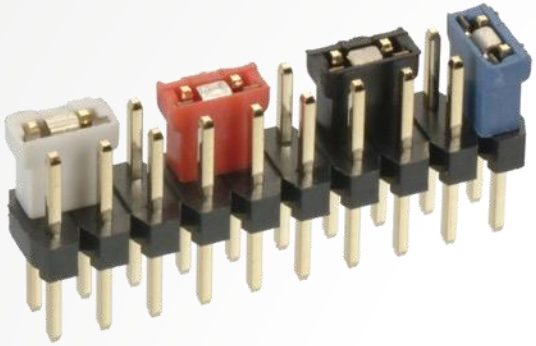
JUMPER SOCKETS - PROGRAMMING CONNECTORS



Jumper sockets (also known as shunts) provide additional programming options, changing data streams with manual placement of the sockets on a double-row pin header.

- M20 (2.54mm) – Open top, closed top, short fixed handle, short and long flexible handle. The handles facilitate easy placement and removal of the sockets.
- M22 (2.00mm) – Open top sockets only. The open top allows access to the internal contact for a test probe.

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ELECTRICAL SPECIFICATIONS

Current Rating	M20 = **3A** per contact M22 = **Up to 2A** per contact
Contact Resistance	**20mΩ max**
Insulation Resistance	1,000MΩ min

Component Specifications are given in more detail on individual connector Technical Drawings, located on each individual product page under Downloads.

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MECHANICAL & ENVIRONMENTAL SPECIFICATIONS

Durability	**Up to 300** mating operations
Temperature Range	-40°C to +105°C (M22 Cable, Polarized = -25°C to +85°C)
Soldering Heat Resistance	260°C for 10 seconds (M22 Polarized = 245°C for 5 seconds)

All Throughboard M20 and M22 connectors are manufactured using the same housing materials used on the Surface Mount connectors, and can therefore withstand the same reflow soldering processes.

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MARKETS

Many applications use 2.54mm and 2mm pitch connectors – these products are now very well established as standard connectors on embedded PCs, motherboards and larger electronics systems.

- Consumer Electronics
- Communications
- Drives and Controls
- Industrial Monitoring
- Personal Computing

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