

3M™ Mini-Clamp Connectors

3M Mini-Clamp Connectors are designed to provide connection reliability and cost performance in I/O applications commonly found in a wide range of sensor control systems, including Factory Automation and Industrial Controls. 3M Mini-Clamp products use the advantage of 3M's IDC technology which does not require any special tooling or pre-treatment of cables, and can be terminated using a standard pair of pliers. Benefits of the Mini-Clamp products include a simple installation process that does not create material debris or waste; a labor saving IDC termination process relative to traditional interconnect alternatives; ease of assembly for system building; and a design that provides for consistent quality and reliability. Features include semi-transparent cover, color-coded covers to provide for the proper wire usage, wire alignment and retention built into the cover. These features provide for proper wire termination along with latches and polarization to allow for proper mating of the connectors.

The 3M Mini-Clamp Connectors are part of a serial field bus system solution that is designed to reduce the space of sensor wires in factory automation machines when compared to parallel wiring approaches. The total field installation costs (assembly and wiring) can be reduced when the 3M Mini-Clamp products are used – especially in combination with the 3M Link Connector offering. The termination process of traditional connectors (crimp

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Fast Facts

- Easy, labor saving and reliable IDC termination
- Easy field termination with no special wire preparation - no stripping, tinning or special tooling
- Design accepts multiple wire diameters 0.8 to 2.0 mm (.031 to .079") / conductor sizes (20-26 AWG / 0.14 to 0.5 mm²)
- Integrated wire retention cover design to retain the wires while terminating to the IDC
- Wiring reduction solution when leveraging the complete 3M offering
- Mating Latches provide a reliable interconnection in demanding applications
- Compact design saves board space
- High number of mating cycles (300)
- Current rating (3 Amps)
- EU and China RoHS Compliant*

Typical Applications:

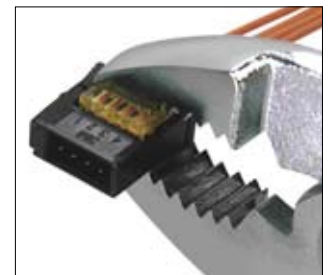
- Factory Automation and Industrial Controls
- Semiconductor / LCD Manufacturing Machines
- Medical
- Packaging Systems
- Conveyor Systems
- Motion Test and Measurement Systems
- Traffic Light and Control Systems
- Elevators/Lift Systems
- Elevator Controls
- Flowmeters
- Pressure Sensors (Air, Water)
- Base Press Control Electronics
- Food and Packaging Industries
- Automotive and Metal Industries



3M™ Mini-Clamp Plug Connector



3M™ Mini-Clamp Socket Connectors



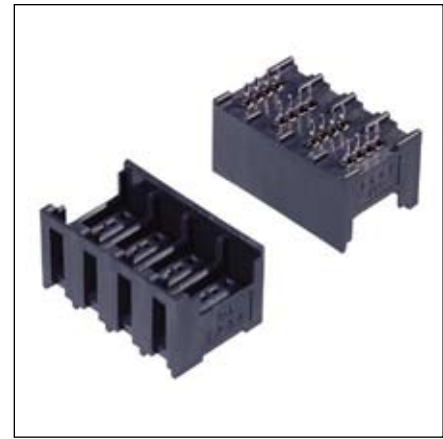
Easy wire termination without special tools



3M™ Mini-Clamp Boardmount Connectors, 4-pin single row



Boardmount/Wiremount	Description	Tech Sheet
3M™ Mini-Clamp II Wiremount	371 Series, 3- and 4-pin Plug Connectors	TS-2233
	373 Series, 3- and 4-pin Socket Connectors	TS-2234
	373 Series, 3- and 4-pin Panel Mount Sockets Connectors	TS-2234
3M Mini-Clamp Boardmount	372 Series, 3- and 4-pin Single Row Straight/ Vertical Socket Connectors	TS-2093
	372 series, 6-pin (2 x 3 pins) Socket Connector	TS-2093
	372 Series, 8-pin (2 x 4 pins) Socket Connector	TS-2093
	372 Series, 12-pin (4 x 3 pins) Socket Connector	TS-2093
	372 Series, 16-pin (4 x 4 pins) Socket Connector	TS-2093



3M™ Mini-Clamp Boardmount Connector 16-pin (4x4)

connectors or terminal blocks) is complicated, labor intensive and typically creates debris and waste which may be an issue in clean room environments found in the semiconductor, LCD and medical applications. The 3M Mini-Clamp connector will provide for an easier and debris-free wire termination process.

The connectors have an integrated guide and retention feature built into the cover, which provides reliable positioning of the individual wires. The semi-transparent cover allows for visual inspection of the wire position prior to the termination of the wire to the IDC. This IDC style connector helps reduce maintenance work by providing higher connection reliability and helps alleviate the need for cable preparation such as stripping and tinning. Polarizing tabs help provide proper mating and latching devices help provide a reliable connection, even under severe conditions such as mechanical stress and vibration in industrial environments.

Dust caps are also available for use in more harsh and dusty environments.

Complimentary Field-Bus System Product List

- 3M Link Connector Wiremount, Hermaphroditic, 381 Series, .100" IDC, 4 pin, TS-2098
- 3M Link Connector Boardmount, 382 Series, .100" Straight/Vertical and Right Angle, 4 pin, TS-2099

*"RoHS Compliant 2002/95/EC" means that the product or part ("Product") does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. This information represents 3M's knowledge and belief, which may be based in whole or in part on information provided by third party suppliers to 3M. In the event any product is proven not to conform with 3M's Regulatory Information Appendix, then 3M's entire liability and Buyer's exclusive remedy will be in accordance with the Warranty stated below.

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