

# 3M™ Mini-Clamp Connectors

## NEW! Right Angle, Surfacemount 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 a semi-transparent cover, color-coded covers to provide for the proper wire usage, and wire alignment and retention built into the cover. These features allow proper wire termination along with latches and polarization to allow for proper mating of the connectors.

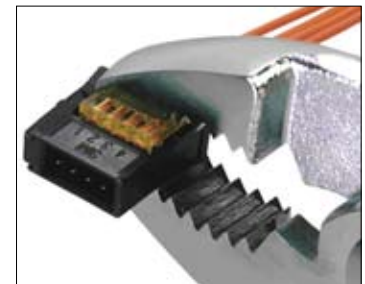
3M Mini-Clamp Connectors are part of a serial field bus system solution that is designed to reduce the space of sensor wires in factory automation machines when compared to parallel wiring approaches. The total field installation costs (assembly and wiring) can be reduced when the 3M Mini-Clamp products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



3M™ Mini-Clamp Socket, 2 mm, Surfacemount, Right Angle



3M™ Mini-Clamp Socket Connectors



3M™ Mini-Clamp Plug Connector

### 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 mm<sup>2</sup>)
- 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
- Robust PC board solder tab retention design for the surfacemount socket
- Compact design saves board space
- High number of mating cycles (300)
- Current rating (3 Amps)
- EU RoHS Compliant\* and labeled pursuant to the China RoHS marking standard SJ/T 11364-2006

### 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
- Gaming
- LED Lighting
- Signage



Description	Tech Sheet
<b>3M™ Mini-Clamp Boardmount Connectors</b>	
372 Series, 3- & 4-pin Single Row RA SMT Connector	TS-2271
372 Series, 3- & 4-pin Single Row Str./Ver. 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

Description	Tech Sheet
<b>3M™ Mini-Clamp II Wiremount Connectors</b>	
371 Series, 3- & 4-pin Plug Connectors	TS-2233
373 Series, 3- & 4-pin Socket Connectors	TS-2234
373 Series, 3- & 4-pin Panel Mount Socket Connectors	TS-2234

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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.

The newest addition to the 3M Mini-Clamp Connector product line is the right angle surfacemount socket which has a compact design that retains the reliable dual-wipe, high mating cycle and positive mating latch that provides a reliable interconnect in demanding applications. This socket includes three options for properly placing and locating the component on the PC board, and has a robust PC board retention tab design. 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
- 3M™ Power Clamp Wiremount Socket, 355 Series 3 mm, IDC, 5 Position, TS-2273
- 3M™ Power Clamp Header, 356 Series 3 mm, 2 Row, Straight, 10 Position, 5 position x 2, TS-2274
- 3M™ Power Clamp Branch Connector, 357 Series 3 mm, 2 Sockets and 2 Plugs, 5 Position x 4, TS-2275

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