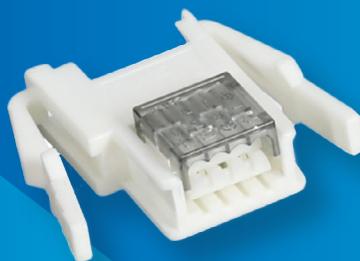


3M Science.
Applied to Life.™

3M IDC Connectors

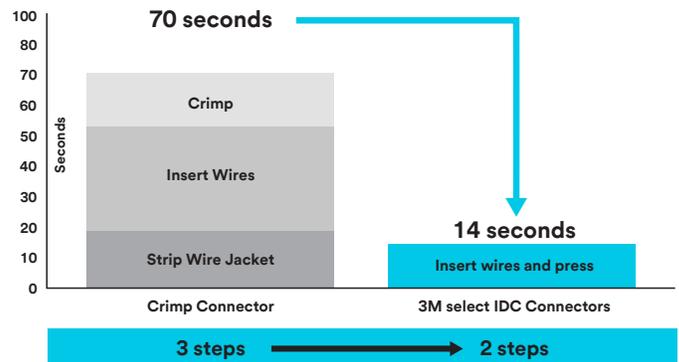
- 3M™ Mini-Clamp Connector Series
- 3M™ Power Clamp Connector Series
- 3M™ Link Connector Series
- 3M™ Mini Stack Connector Series



Time-saving, durable and field-installable solutions

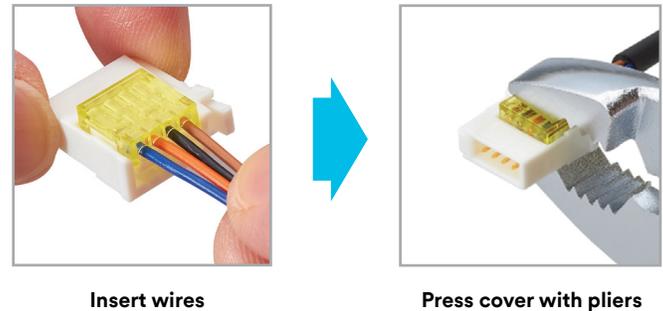
Insulation Displacement Contact technology

All 3M signal, power, and network connectors included in this brochure feature Insulation Displacement Contact (IDC) termination. Invented by 3M in 1961, IDC connectors allow technicians to terminate multiple wires simultaneously without wire stripping for fast, reliable installation and maintenance in the field.

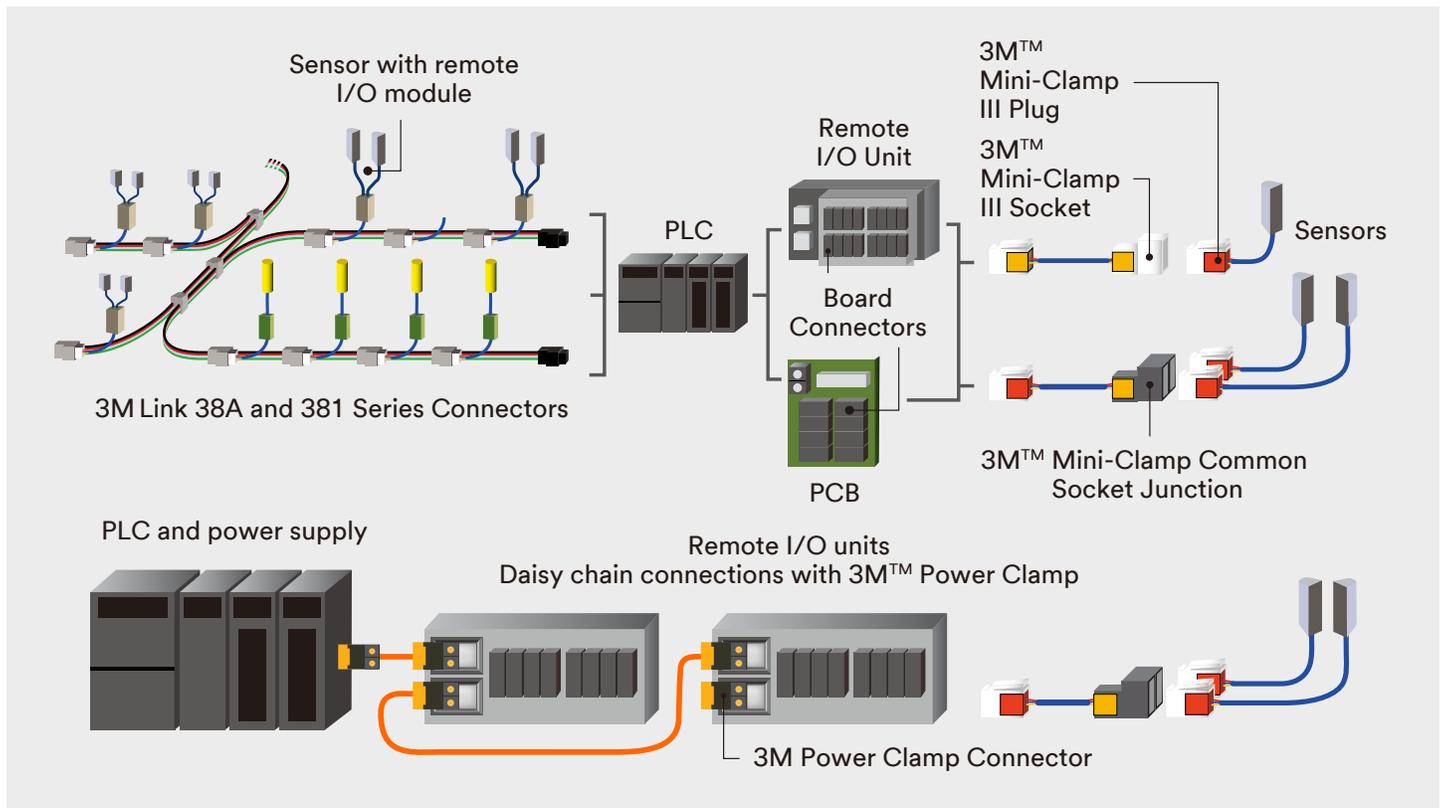


Fast, simple connectivity system-wide

3M offers connectors for wire-to-board, wire-to-wire and branching applications, so designers can efficiently connect a variety of configurations including PLCs to remote I/Os, power supply to devices, sensor systems and networks, splicing off main bus and trunk lines, tap connections, and other systems in less time, with less labor, wire and waste.



3M IDC connectors for a wide range of applications



Note: The technician installation time savings is based on 3M lab evaluations and a limited sample size compared to standard hand crimping methods. Your results may vary.

3M™ Mini-Clamp Connectors

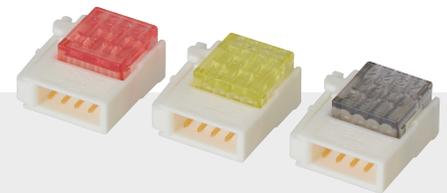
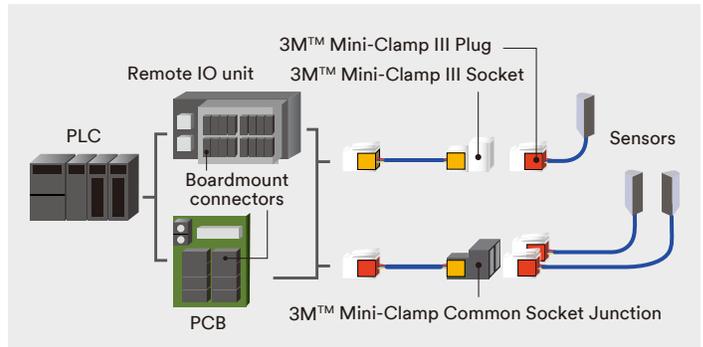
The 3M Mini-Clamp series of connectors is a quick termination, space-saving solution for industrial automation, sensor, LED and many other electronic component applications.

- 3M Insulation Displacement Contact (IDC) technology allows for termination of 3 to 8 wires simultaneously, ideal for field applications
- Helps save up to 80% wiring time vs. crimp-style connectors (see note below)
- No wire stripping – helps reduce risk of conductor damage, reduces waste
- No special tool required – IDC termination using standard pliers
- Transparent cover allows visual confirmation of proper wire insertion before IDC termination
- Two socket designs – standard for free hanging wire-to-wire connections, panel mount for through-panel installation
- Audible “clicking” sound verifies secure connection
- Supports wire sizes 30-20 AWG
- The 3M™ Mini-Clamp Connector Tool is available for optimized wire termination in mass production



80%
Time Savings

Less than
15 seconds
to terminate
4 wires



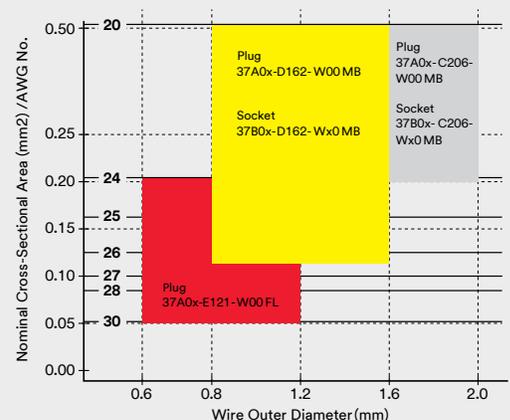
Featuring: 3M™ Mini-Clamp III Connector Series

3M Mini-Clamp III Connectors are a series of connectors updated and improved over all previous 3M Mini-Clamp connectors. Compact, space-saving 3M Mini-Clamp III connectors deliver fast and reliable IDC installation and maintenance in the factory and the field. Features include:

- Compatible with all previous 3M Mini-Clamp plugs, sockets and boardmount sockets
- Latch guard on 3M Mini-Clamp III plugs adds protection in environments where connectors are pulled through tight spaces
- Supports a wider range of wire sizes, with fewer connectors, helping simplify inventory
- Supports wire sizes 30-20 AWG (see table)
- Improved wire holding mechanics provide stability during IDC termination

Wire Accommodation

Cover Color	AWG No.	Nominal Conductor Cross-Sectional Area mm ²	Wire Outer Diameter mm
Red	30 - 24	0.05 - 0.2	0.6 - 1.2
Yellow	26 - 20	0.12 - 0.5	0.8 - 1.6
Gray	24 - 20	0.20 - 0.5	1.4 - 2.0

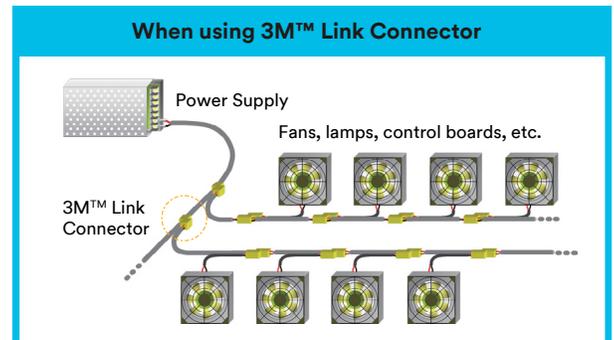
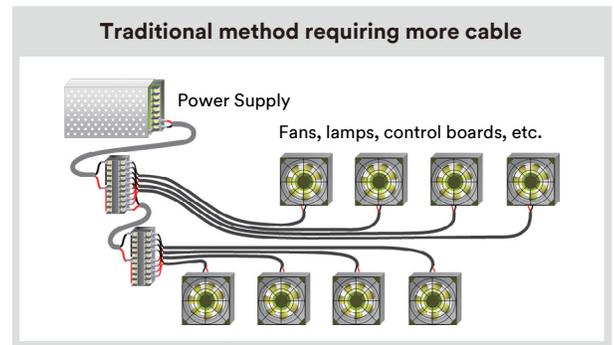


Note: The 80% technician installation time savings is based on 3M lab evaluations based on 3M Mini-Clamp connectors in a limited sample size and compared to standard hand crimping methods. Your results may vary.

3M™ Link Connector Series

The range of 3M Link Connectors allows technicians to branch off of main bus line or trunk lines anywhere along the system by using detachable or permanent one-piece connectors to connect additional sensors or other components - saving space, simplifying installation, and reducing longer lengths of wiring back to terminal blocks, power supplies or control units.

- Latching mechanism on detachable connectors maintain a reliable connection in demanding field applications
- Ideal connector for a tap connection to extend main bus lines
- Supports wire sizes 22-16 AWG
- Available in 2 or 4 positions
- Features color-coded connectors to easily identify the connector required depending on wire size
- No special tools are required for assembly



Fast, single-motion branching and splicing three ways

3M™ Link Connectors are available in standard detachable, one-piece (including the splash-proof IP54 option), and 3M™ Branch Mini-Clamp versions. Various 3M Link series connectors support round or flat cable, including a few options for discrete wire.



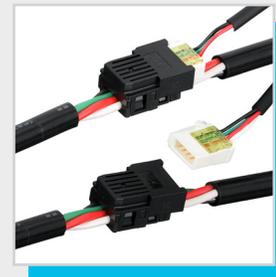
3M™ Link Connector 381 and 382 Series (Detachable 2-piece type)

A detachable, versatile solution for wire-to-wire network connections. It allows single-action IDC termination for T-branching and splicing of sensor and field networks. Hermaphroditic connector mates with itself and with the 3M™ Link Connector 382 Series boardmount connector.



3M™ One Piece Branch Link Connector 387 Series

This smaller, compact connector allows for field T-branching from the main trunk line to branch wires and components, helping to eliminate separate wiring back to the terminal block or control unit. A version for tap connections is also available.



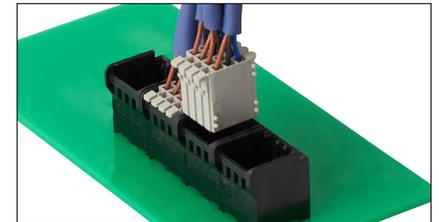
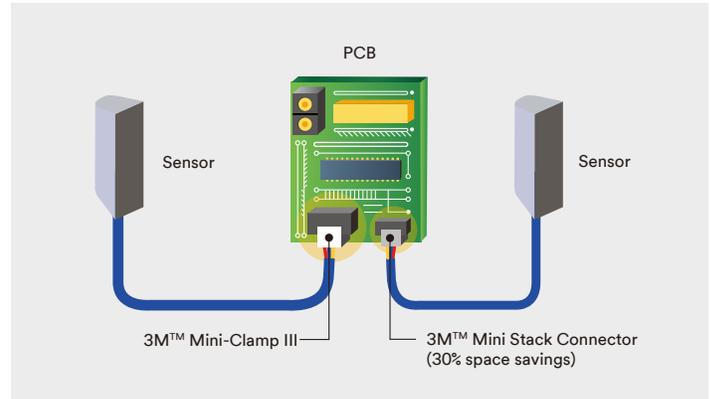
3M™ Branch Mini-Clamp Link Connector 38A Series

This connector works with 3M™ Mini-Clamp Connectors for branching from main bus lines to sensors or other components. The connector provides a detachable method from the T-branch connection providing additional flexibility, helping simplify designs and reduce wiring.

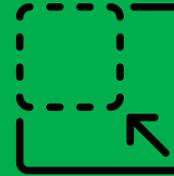
3M™ Mini Stack Connector Series

The ideal solution when PCB space is at a premium, these thin, stackable connectors can help save up to 30% board space vs. 3M™ Mini-Clamp connectors.

- Helps save up to 60% wiring time vs. crimp-style connectors
- Stack up to 4 connectors in a block for easy mating and unmating
- No wire stripping or pre-treatment of wire needed – saves time and reduces waste
- Integrated terminals and housing make handling easy
- Supports wire sizes 30-22 AWG
- Boardmount headers - fixed tabs prevent lifting, helping to provide a secure connection during and after soldering
- The 3M™ Mini Stack Connector Hand Tool is available for efficient IDC termination



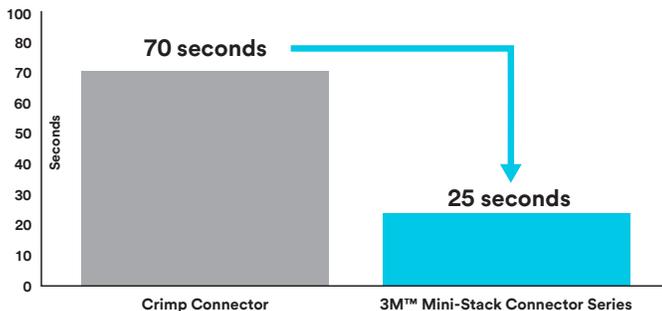
60%
less wiring time



30%
reduced board footprint

Time-saving

The 3M™ Mini Stack Connector Wiremount Socket 3S5 Series features Insulation Displacement Contact (IDC), a simple, reliable termination process that can help save 60% or more in wiring time vs. crimp-style connectors. (see note below)

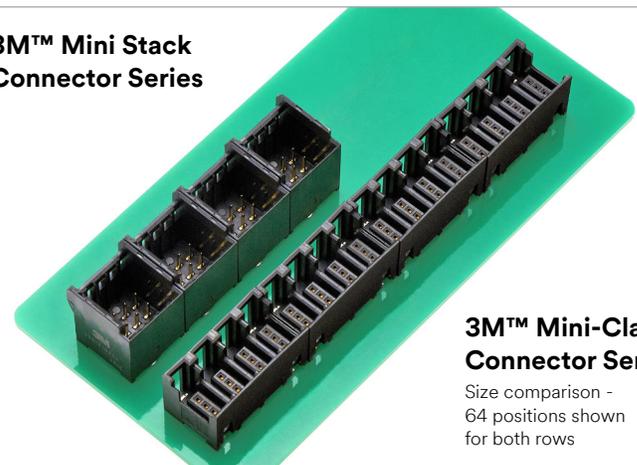


Note: The 30% reduced board footprint is based on 3M lab evaluation and a limited sample size, and the 60% technician installation time savings is based on 3M lab evaluations and a limited sample size compared to standard hand crimping methods. Your results may vary.

Space-saving

3M™ Mini Stack Connector Boardmount Header 3S6 Series helps reduce board footprint by 30% or more vs. 3M™ Mini-Clamp Connector Series. (see note below)

3M™ Mini Stack Connector Series



3M™ Mini-Clamp Connector Series

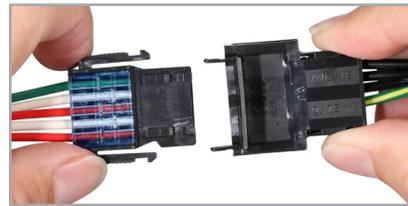
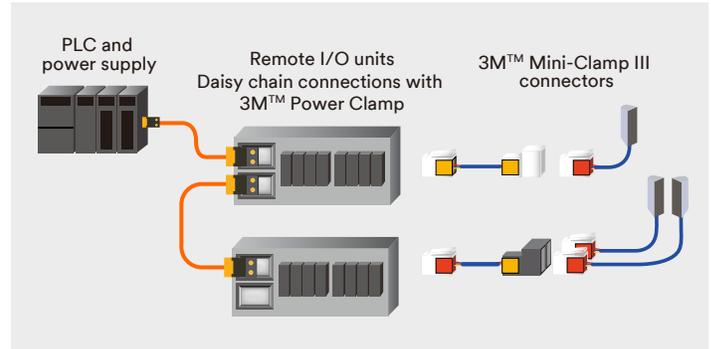
Size comparison - 64 positions shown for both rows

3M™ Power Clamp Connector Series

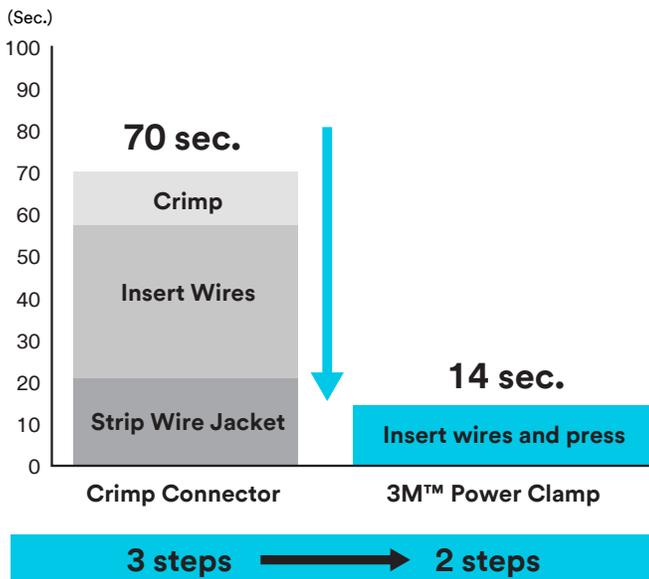
3M™ Power Clamp Connectors are quick-terminating connectors for field networking, factory automation and industrial controls. The 3M Power Clamp family includes wiremount connectors for a range of wire sizes and applications, as well as branch connectors and through-hole boardmount headers.

- Easy, quick and reliable IDC termination
- Supports 250 volts, 10A max. (1 contact) or 7A max. (2 or more contacts)
- Supports wire sizes 20-18 AWG
- Polarization ensures proper interconnecting of mated pairs
- Semi-transparent color-coded (for AWG) covers for wire inspection prior to IDC termination
- Latches provide a reliable connection in demanding applications

A typical 3M Power Clamp application could include connections to remote units or sensor networks, to a power supply using a daisy chain method as shown in the figure below. The remote units are often utilized as terminal blocks to connect sensors with 3M Mini-Clamp or 3M Mini Stack connectors.



80% less wiring time



Note: 80% technician work time savings is based on 3M lab evaluations and is determined vs. standard by-hand crimping method. Your results may vary.

A wide variety of 3M™ Power Clamp Connectors is available for a variety of applications



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