



# New Product Extension Summary for 3M Authorized Distributors

## 3M™ Link Connectors, 2-Position

Issue Number: 811  
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### Product Description

3M announces an addition to its Link Connector Family. The new 3M Link Connector, 2-Position uses the advantages of 3M's IDC technology and is designed to provide a safe and reliable electrical connection in lighting/LED applications such as residential, office, hospitality and industrial lighting, as well as backlight applications, industrial fieldbus networks or between several components in other low power applications. The Link Connector family includes 2- and 4-position wiremount and boardmount products and can accommodate discrete or flat ribbon cable with conductor sizes between 18 and 22 AWG.

Mounting Location	Configuration	Part Number	Tech Sheet
Wiremount	W/M CONN FOR 18AWG	38102-0018-000 FL	TS-2098-D
	W/M CONN FOR 20 AWG	38102-F020-H00 FL	TS-2098-D
	W/M CONN FOR 22 AWG	38102-W022-W00 FL	TS-2098-D
Boardmount	2P BM STRAIGHT BLACK	38202-62S3-000 PL	TS-2099-C
	2P BM RABBLACK	38202-52S3-000 PL	TS-2099-C

### Market Segments/Customer Applications

- Factory Automation
  - Flat Panel Display Manufacturing
  - Semiconductor Manufacturing
  - Fieldbus Systems
  - CC-Link Applications
- LED Lighting
  - General Lighting: residential, office, hospitality, architectural LED fixtures
  - Backlighting: LCD TVs, LED TVs, signage
- Building Automation
- Conveying Systems
- Communication Networks using RS-485 protocol

### Competitive Situation

Although there is not an exact cross identified for the 3M Link Connector, we have identified potential competitive products available in the market place. The table on page 2 provides a detailed comparison of known competitive products.



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#### Competitive Products

Supplier	3M	Hirose	Tyco			Molex
Product	Link Connector	DF 59	Novaseal SSL	SlimSeal SSL	IDC SSL	Flexi-mate
Pitch	2.54 mm	2 mm, 4 mm	4 mm			3.7 mm
Contact Type	IDC	Crimp	Dual IDC		IDC SSL	Crimp
# of Position	2, 4	2,3,4,6	1,2,3,4	2,3,4	2	2
Wire Accommodation	18-22 AWG	22 AWG	18-24 AWG	18-26 AWG	18 AWG	26-28
Connecting Options	Wire-to-Wire T-Branch Wire to Board	Wire-to-Board Short Circuit Pin Board-to-Board	Feed Thru Wire-to-Board	Wire-to-Wire Wire-to-Board	Wire-to-Wire Wire-to-Board	Board-to-board wire-to-board terminator options
Boardmount Configuration	Right Angle(TH) Straight (TH)	Right Angle	Right Angle	Right Angle(TH,SMT) Straight (TH,SMT)	Right Angle	Right Angle
Current Rating (A)	5	3	8 (18 AWG)	5	2.5	2
Voltage	160	100,230	250	300	230	500
IP Rating	IP 20	---	---	IP 67	IP 65,IP 67	---
Temperature Rating	-20 to 70°C	-35 to 105°C	-40 to 105°C		-40 to 85°C	-40 to 85°C

## Selling 3M's Value Proposition

From the competitive situation section, it can be seen that there are a variety of products available that have very similar product features. 3M's Link Connector's design is what sets itself above the competition.

3M Link Connectors use the advantages of 3M's IDC technology and are designed to provide a safe and reliable electrical connection while enabling T-Tab termination as well as cable extensions. The Link Connector, 381 series is hermaphroditic (connector can mate to itself) which reduces the number of different interconnect products needed for wiring. Link Connectors are designed to terminate easily in the field using a standard pair of pliers and do not require any special tooling or pretreatment of cables. The termination process reduces labor installation costs relative to traditional interconnect alternatives. In some fieldbus applications, it was found that in combination with 3M™ Power Clamp Connectors or 3M™ Mini-Clamp Connectors, the customer could reduce its wire usage by 70%.

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Termination Process – No Cable Prep Needed; Simply Squeeze with a Pair of Pliers (NOTE: 4-position shown for demonstration purposes; 2-position follows the same process)

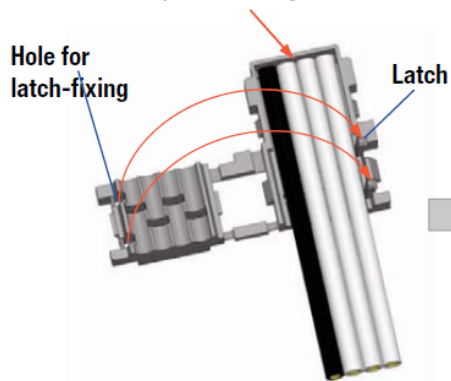
### Components



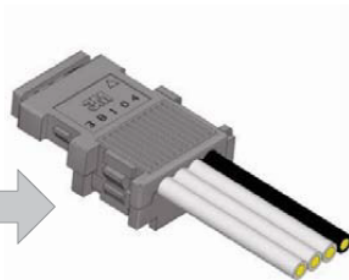
### Work procedure < wire harnessing >

#### 1. Setting cable on cover

- 1) Look for pin numbers on the groove of cover and cable direction.
- 2) Press cable edge onto the insulation cap of cover edge.

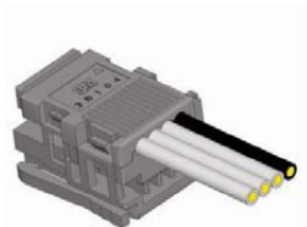


- 3) Fold cover into two and insert in cable.
- 4) Fit the latch edge into the hole and secure it.



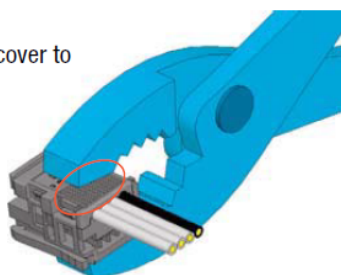
#### 2. Fix to the body temporarily

Adjust 4 latches of the body to fit the 4 grooves on the cover, and press till the latch engages the 1<sup>st</sup> step.



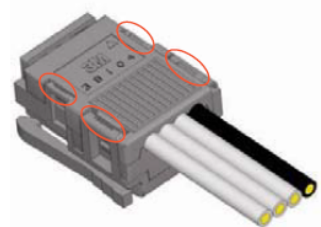
#### 3. Squeeze

Use a pair of pliers to secure the cover to the body at the surface and back with notches.



#### 4. Check

Lastly, check if all 4 latches are engaged.



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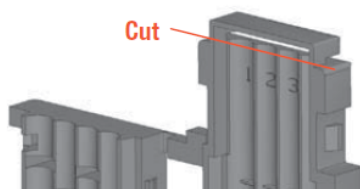
## 3M™ Link Connectors, 2-Position

### Branching

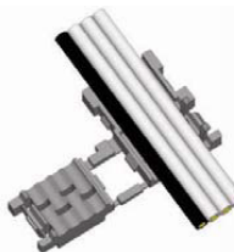
The same wiremount product can be use for branching at any point along a field bus or power line without having to cut the cable by removing the insulation cap at the end of the cover.

#### Work procedures < T-split fabrication >

A) Cut the insulation cap base at the edge of cover with a nipper.



B) Check pin numbers of cover slot and cable direction to set the cable.

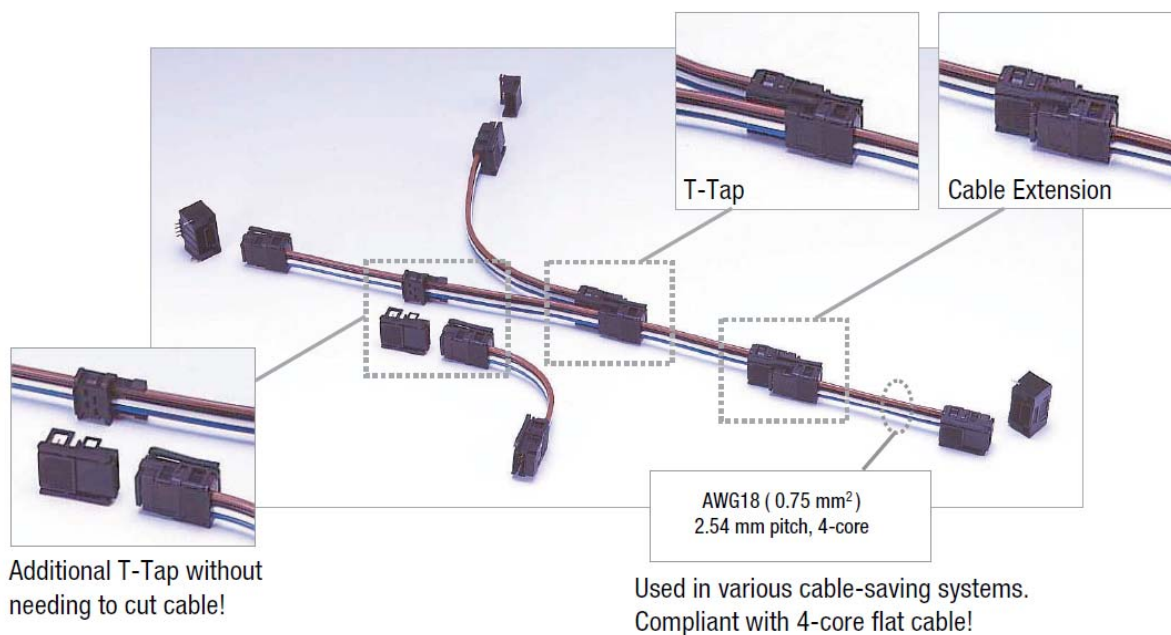


C) The terminal edge fabrication work sequence is 1-3), 1-4), 2~4).



The 3M Link Connector design and termination process allows for easy installation that is capable of cable extension or branching.

### Cable Extension and T-Tap



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The 3M Link Connector can be used with wire gauges from 18 AWG to 22 AWG and allows different components to be interconnected that may have different wire gauges. The covers are color-coded for proper wire usage. The covers are also designed to increase wire alignment and retention allowing for proper wire termination. Latches and polarization ensure proper mating of the connectors.

### Product Features/Advantages/Benefits

- Hermaphroditic four-point contact mating structures reduces the number of different components required to interconnect and ensures a reliable interconnect
- Easy, labor saving and reliable IDC termination
- T-Tap termination enable mid-cable terminations without special preparation or handling of the cable or wires in order to interconnect fieldbus and power lines at any point
- Easy field termination with no special wire preparation – no stripping, tinning or special tooling
  - Can terminate with a common pair of pliers
- Design accepts multiple wire diameters of 1.1 to 2.54 mm, conductor sizes of 18 to 22 AWG
- 5 Amp maximum current carrying capability per contact
- Latching mechanism maintains a reliable interconnection in demanding field applications

### Sales Support Materials

- Customer drawing
- Specification sheet
- 3D models
- Product samples
- Assembly procedure

Part Number	Configuration	Product Data Sheets	Tech Sheet
38102-0018-000 FL	W/M CONN FOR	78-5102-0094-8	TS-2098-D
38102-F020-H00 FL	W/M CONN FOR 20 AWG	78-5102-0094-8	TS-2098-D
38102-W022-W00 FL	W/M CONN FOR 22 AWG	78-5102-0094-8	TS-2098-D
38202-62S3-000 PL	2P BM STRAIGHT BLACK	78-5102-0095-5	TS-2099-C
38202-52S3-000 PL	2P BM RA BLACK	78-5102-0096-3	TS-2099-C

### Ordering Information/Lead Time

See the most recent revision of the customer drawing for available product options and part numbers. Lead times may vary by part number and are available in the 3M price pages, on 3MXpress (secure login required), or by calling 3M Customer Service at 800-225-5373.

### Pricing and Samples

Pricing is available in the 3M price pages. Samples for select popular configurations will be available in the 3M sample center.

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## 3M™ Link Connectors, 2-Position

### Mating Information

Series	Mating Compatibility
381 Series, 2-Position	381 Series, 2-Position 382 Series, 2-Position
381 Series, 4-Position	381 Series, 4-Position 382 Series, 4-Position
382 Series, 2-Position	381 Series, 2-Position
382 Series, 4-Position	381 Series, 4-Position

### Related Products

This product is launched in association with several other factory automation products. Reference The 3m.com/automation microsite for information on all industrial and lighting solutions.

### Contact Information

For information in the USA, please contact 3M Customer Service at: 800-225-5373.

For information outside the United States, please contact your local 3M Subsidiary. A directory of 3M Subsidiaries can be found at the following web address:

[http://www.3m.com/us/electronics\\_mfg/interconnects/sales\\_contacts/index.jhtml](http://www.3m.com/us/electronics_mfg/interconnects/sales_contacts/index.jhtml)

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