

Technical Data:

Centerline— 1.27mm (staggered)
Number of Positions—4, 6, 8, 10, 12, 14, 16, 18 and 20 positions
Contact Material— Phosphor bronze
Contact Finish— Tin-lead
Housing Material— Thermoplastic polyester, red, glass-filled - for surface mount versions polyamide 4.6

Flammability rating— per UL 94 V-0
UL-recognised— File E28476 Vol. 23 Section 4
Contact Resistance— 10 M Ω max.
Insulation Resistance— 1.000 M Ω min
Nominal Voltage— 230 V

Current Rating— 1.5 A max.
Temperature Range— -40°C to +105°C (operating)
Mating Force— 5N max. per contact
Unmating Force— 1N min. per contact
Minimum Contact Force— 2N min.

PC Board Connectors:

PC Board Thickness— 1.6mm nominal
PC Board Hole Diameter— 0.8mm for solder connectors

Ribbon Connectors:

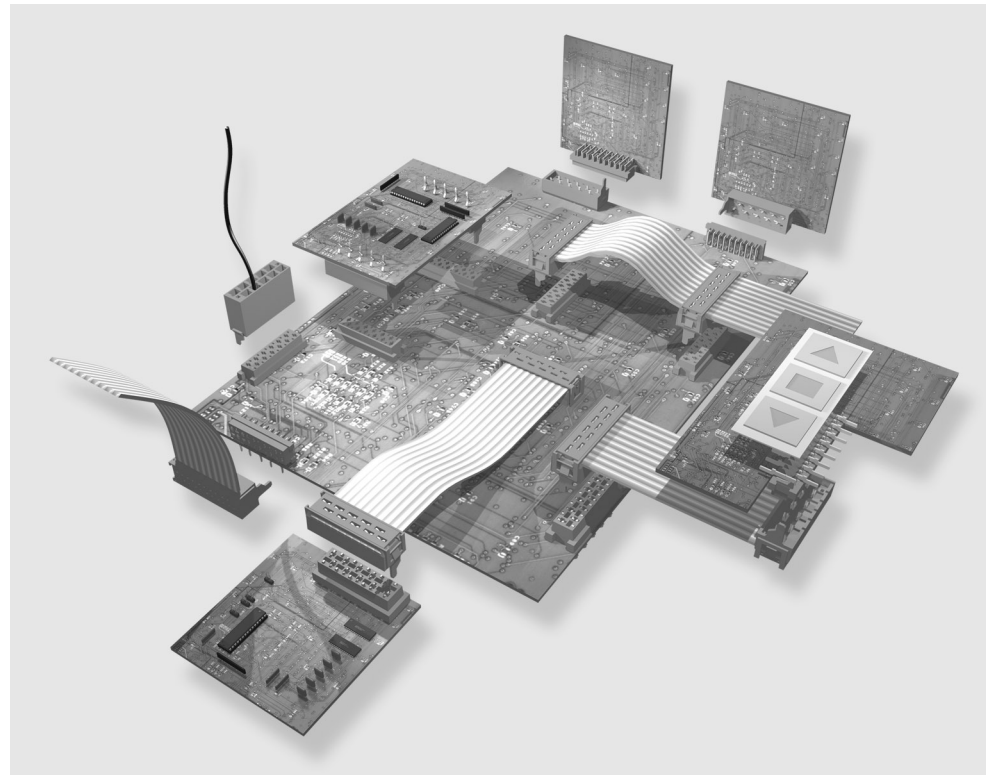
Cable Type— Ribbon Cable, UL Style 2651
Conductor Spacing— 1.27mm (.050")
Conductor Diameter— Solid - 0.30mm diameter
 Stranded - 0.08mm²
 7x0.12 - 0.13mm (other diameters and/or configurations on request)
Insulation Type— semi-rigid PVC
Insulation Diameter— 0.9 ± 0.1mm

Discrete Wire (COSI) Connectors:

Cable Type— AWG 28-24 and 24-20

Technical Specifications:

Product Specification
108-19052
Application Specification
114-19016, 114-19051



Miniaturisation and the trend towards higher density of electronic functions on a substrate led to the introduction of smaller interconnection systems. The AMP Micro-MaTch connector family, with its contact spacing of 1.27mm, fully complies with the electronic packaging requirements of today and the future. The system offers a range of board and wire connectors, enabling a variety of wire-to-board and board-to-board interconnections. The AMP Micro-MaTch contact concept shown here is essentially different from other systems available.

By its design the traditional failure mode in tinplated connections, fretting corrosion, is prevented. Due to an additional positioning spring in the

female part, relative movements caused by vibrations/thermal expansion between male and female contacts are absorbed. By preventing movements on the contact spot, a gas tight connection can be guaranteed under all circumstances.

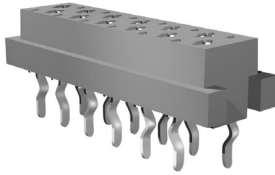
The contact spring is located in the board connector and not in the cable connector, which is usually the case. The counter part, incorporated in the cable connector, is a simple pin, either with an insulation displacement section, suitable for the mass-termination of cable or with a kinked solder leg to be soldered onto a PC Board. The separation of these two basic functions of the contact system - contact force generation and wire termination

enables the independent optimisation of both functions and also leads to the relatively simple contact shapes.

Because of their shapes contacts can be post-plated, leaving no bare edges in the contact and wire slot area. The contact spring system features an additional spring member - the positioning spring - which compensates positional tolerances. In this way the spring contact can be fully optimised for its basic function, so that the relatively high contact force, required for tin-plated contact systems, can be guaranteed under all circumstances.

Female-on-Board Connectors

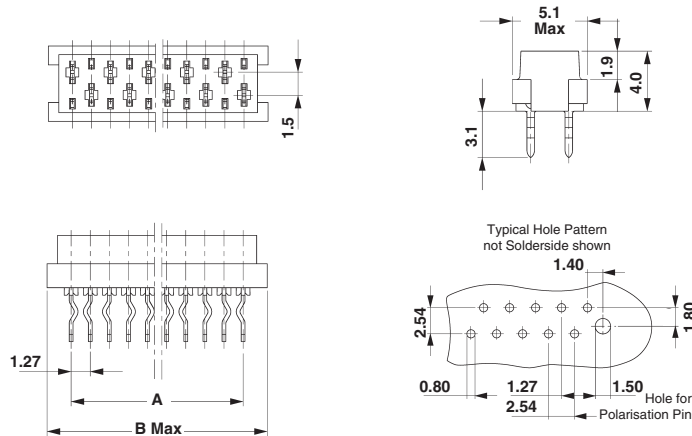
Top Entry



This connector version incorporates the patented AMP Micro-MaTch contact spring system and is designed to be soldered onto PC Boards with a nominal thickness of 1.6mm.

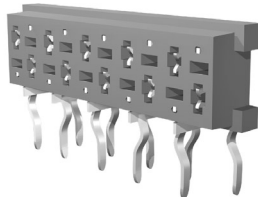
The solder legs are indented, providing firm retention of the connector before and during the solder operations.

As polarisation is accomplished directly between the AMP Micro-MaTch male connectors and the PC Board, this top entry female connector does not have any polarising features. Therefore, the orientation of the connector on the PC Board is irrelevant.



No. of Positions	Dimensions mm		Part Numbers	
	A	B	Connectors / Reel	Connectors / Box
4	3.81	7.1	215079-4	7-215079-4
6	6.35	9.7	215079-6	7-215079-6
8	8.89	12.2	215079-8	7-215079-8
10	11.43	14.7	1-215079-0	8-215079-0
12	13.97	17.3	1-215079-2	8-215079-2
14	16.51	19.8	1-215079-4	8-215079-4
16	19.05	22.4	1-215079-6	8-215079-6
18	21.59	24.9	1-215079-8	8-215079-8
20	24.13	27.4	2-215079-0	9-215079-0

Side Entry

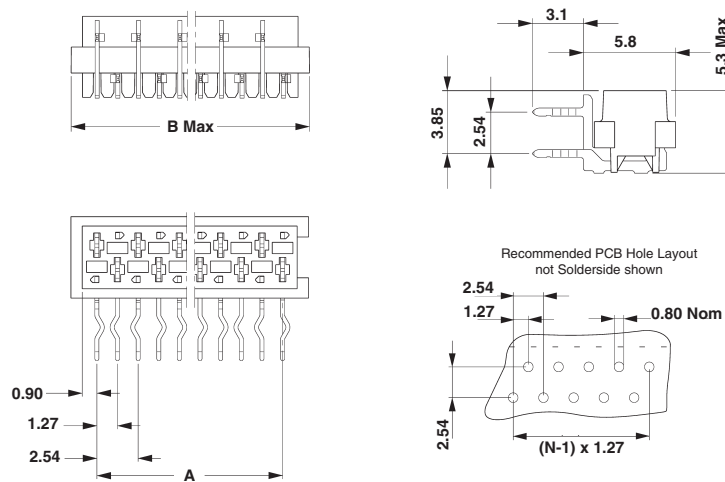


This connector version is identical to the top entry version with two exceptions:

- The solder legs are parallel to the mating face of the connector instead of perpendicular
- Its housing is polarised, so that polarisation is accomplished directly between the two mating connectors. Proper orientation of the connectors on the PC Board is relevant here

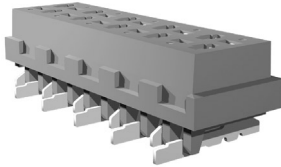
Notes:

1. Connectors are always sideways mounted onto an adhesive tape
2. Standard packaging quantity is 2500 connectors on a reel with a diameter of 600mm
3. At additional charge a special packaging option is available: 250 connectors on a reel with a diameter of 250mm, packed in a dedicated dispenser box



No. of Positions	Dimensions mm		Part Numbers	
	A	B	Connectors / Reel	Connectors / Box
4	3.81	7.1	215460-4	7-215460-4
6	6.35	9.7	215460-6	7-215460-6
8	8.89	12.2	215460-8	7-215460-8
10	11.43	14.7	1-215460-0	8-215460-0
12	13.97	17.3	1-215460-2	8-215460-2
14	16.51	19.8	1-215460-4	8-215460-4
16	19.05	22.4	1-215460-6	8-215460-6
18	21.59	24.9	1-215460-8	8-215460-8
20	24.13	27.4	2-215460-0	9-215460-0

Female-on-Board Connector - Surface Mount Device (SMD)

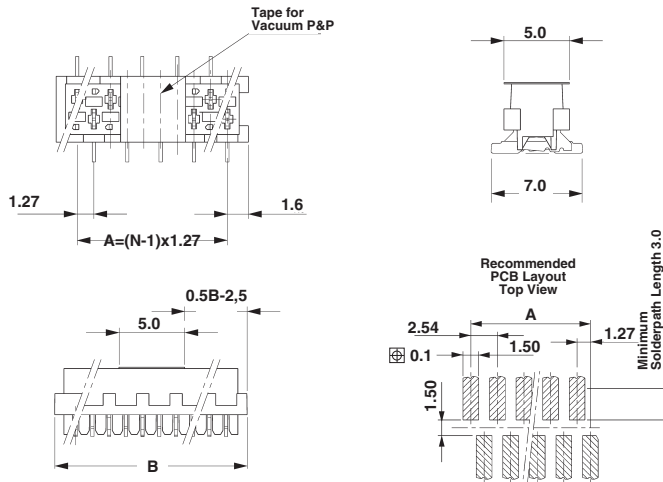


This SMD connector version is designed for standard reflow and infrared solder processes ("FULL SMD"). Polarisation is accomplished by the housing, therefore no polarisation holes in the PC Board are required.

The contact is designed with an additional spring to compensate for differences in thermal expansion between housing and PCB. Due to this feature, tension on the solder joints is prevented.

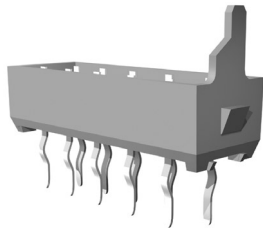
Notes:

- To enable automatic Pick & Placement, connectors are always packed in embossed tape according to EIA481 specification
- Standard packaging quantity is 900 pcs on a reel with a diameter of 330mm
- Connectors are supplied with or without a feature for vacuum Pick & Placement
- For this connector no additional solder hold down is required



No. of Positions	Dimensions mm		Part Numbers	
	A	B	Without vacuum tape	With vacuum tape
4	3.81	7.1	188275-4	7-188275-4
6	6.35	9.7	188275-6	7-188275-6
8	8.89	12.2	188275-8	7-188275-8
10	11.43	14.7	1-188275-0	8-188275-0
12	13.97	17.3	1-188275-2	8-188275-2
14	16.51	19.8	1-188275-4	8-188275-4
16	19.05	22.4	1-188275-6	8-188275-6
18	21.59	24.9	1-188275-8	8-188275-8
20	24.13	27.4	2-188275-0	9-188275-0

Male-on-Board Connector



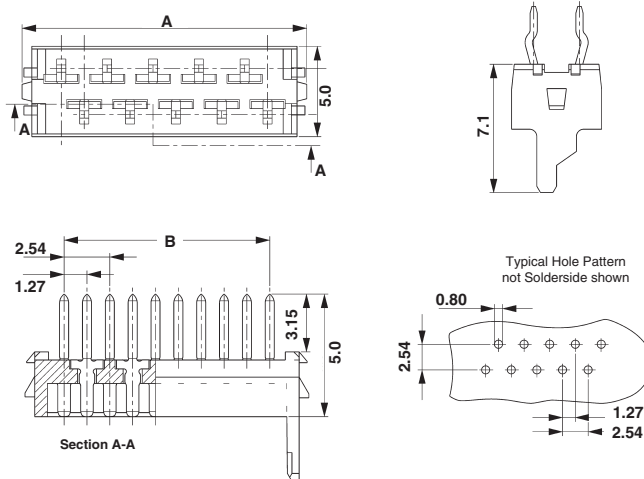
This male connector version is designed to be soldered onto PC Boards with a nominal thickness of 1.6mm.

The solder legs are indented for firm retention of the connector in the PC Board.

The connector housing features a polarising pin on one end for proper orientation of this connector version.

Notes:

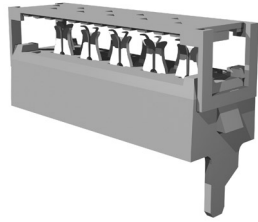
- Connectors are always sideways mounted onto an adhesive tape
- Standard packaging quantity is 2500 connectors on a reel with a diameter of 600mm
- At additional charge a special packaging option is available: 250 connectors on a reel with a diameter of 250mm, packed in a dedicated dispenser box



No. of Positions	Dimensions mm		Part Numbers	
	A	B	Connectors / Reel	Connectors / Box
4	3.81	7.1	215464-4	7-215464-4
6	6.35	9.7	215464-6	7-215464-6
8	8.89	12.2	215464-8	7-215464-8
10	11.43	14.7	1-215464-0	8-215464-0
12	13.97	17.3	1-215464-2	8-215464-2
14	16.51	19.8	1-215464-4	8-215464-4
16	19.05	22.4	1-215464-6	8-215464-6
18	21.59	24.9	1-215464-8	8-215464-8
20	24.13	27.4	2-215464-0	9-215464-0

Male-on-Wire and Paddle Board Connectors

Male-on-Wire Connector



For the wire connection, a well-known AMP-LATCH type blade with a single slot is used. The insides of the slots are tin plated for stable and reliable connections.

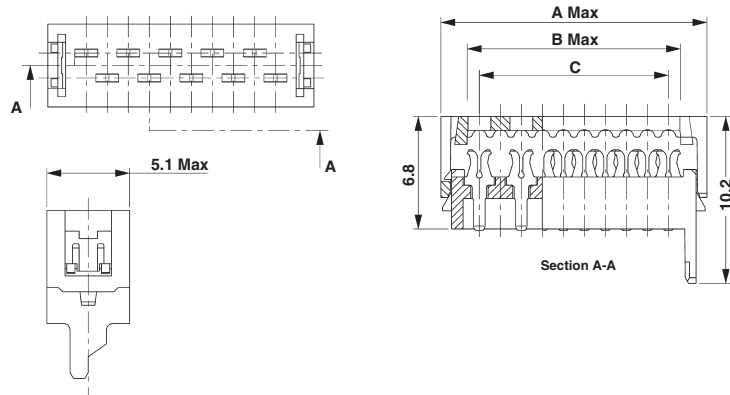
The connector is supplied with a pre-assembled cover, providing excellent positioning of the ribbon cable before and during the insulation displacement process.

After termination the cover is held in place by each individual contact in addition to two plastic latches at both ends of the connector.

Remark: The AMP Micro-MaTch Male-on-Wire connector is specifically designed to be disengaged from its counterpart by pulling the cable in the appropriate direction.

Notes:

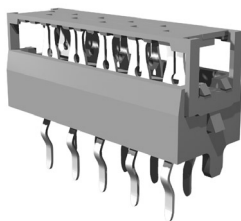
1. Connectors are always sideways mounted onto an adhesive tape
2. Standard packaging quantity is 2500 connectors on a reel with a diameter of 600mm



No. of Positions	Dimensions mm			Part Numbers	
	A	B	C	Connectors / Reel	Connectors / Box
4	8.6	5.4	3.81	215083-4	7-215083-4
6	11.1	8.0	6.35	215083-6	7-215083-6
8	3.6	10.5	8.89	215083-8	7-215083-8
10	16.2	13.0	11.43	1-215083-0	8-215083-0
12	18.7	15.6	13.97	1-215083-2	8-215083-2
14	21.3	18.1	16.51	1-215083-4	8-215083-4
16	23.8	20.7	19.05	1-215083-6	8-215083-6
18	26.3	23.2	21.59	1-215083-8	8-215083-8
20	28.9	25.7	24.13	2-215083-0	9-215083-0
24	34.0	30.8	29.21	2-215083-4	9-215083-4

3. At additional charge a special packaging option is available: 250 connectors on a reel with a diameter of 250mm, packed in a dedicated dispenser box

Paddle Board Connector

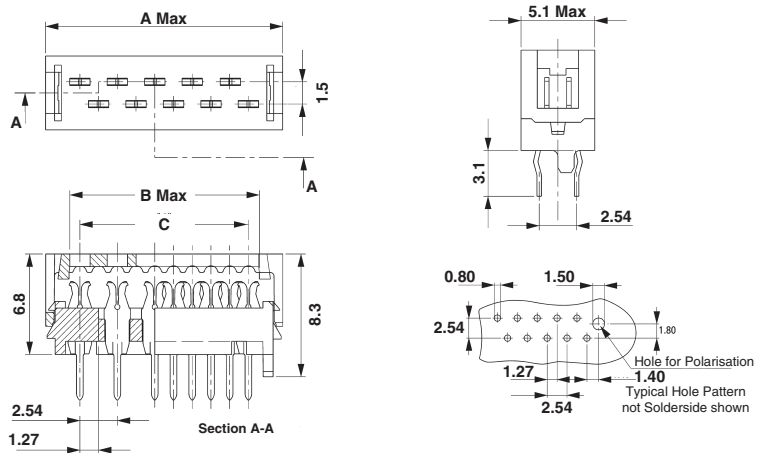


Direct soldering of a ribbon cable onto a PC Board is a very difficult job with the smaller sizes of ribbon cable. If such a permanent cable connection is required, the application can be facilitated by using this connector type.

The Paddle Board connector is applied to the ribbon cable with the same application tooling, available for the termination of the Male-on-Wire connector.

The solder legs are indented and provide mechanical retention of the connector/cable assembly in the PC Board before and during soldering.

This Paddle Board connector version is designed to be soldered onto PC Boards with a nominal thickness of 1.6mm.



No. of Positions	Dimensions mm			Part Numbers	
	A	B	C	Connectors / Reel	Connectors / Box
4	8.6	5.4	3.81	215570-4	7-215570-4
6	11.1	8.0	6.35	215570-6	7-215570-6
8	3.6	10.5	8.89	215570-8	7-215570-8
10	16.2	13.0	11.43	1-215570-0	8-215570-0
12	18.7	15.6	13.97	1-215570-2	8-215570-2
14	21.3	18.1	16.51	1-215570-4	8-215570-4
16	23.8	20.7	19.05	1-215570-6	8-215570-6
18	26.3	23.2	21.59	1-215570-8	8-215570-8
20	28.9	25.7	24.13	2-215570-0	9-215570-0
24	34.0	30.8	29.21	2-215570-4	9-215570-4

Crimp On Snap In (COSI) and SMC Connectors

Crimp On Snap In (COSI) Connector



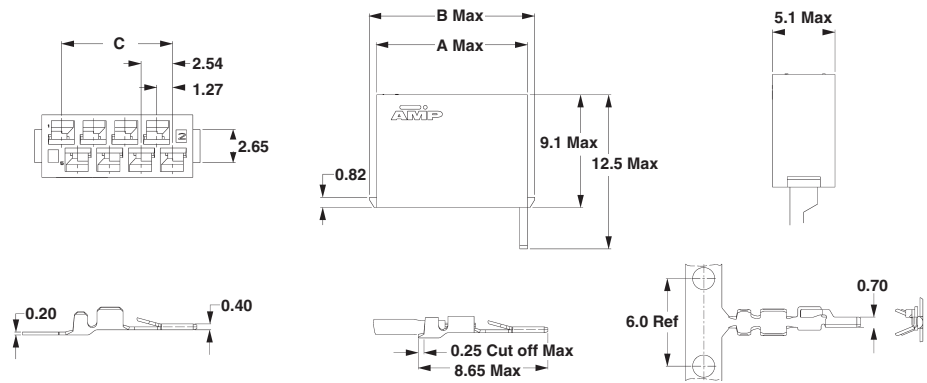
This crimp version for discrete Wire-to-Board applications is fully compatible with all female connectors of the Micro-MaTch family.

Insulation and wire crimp barrel are copies of the well proven AMPLIMITE contacts. After mating with a Micro-MaTch female connector the contacts are fully protected by isolating plastics. Contacts are made of a pretinned Phosphor bronze.

Contacts are supplied in a range for 24-20 AWG and 28-24 AWG. For repair operations an extraction tool is available; PN 734873-1.

Notes:

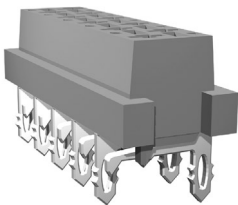
1. Contacts can be crimped using a G-terminator or mini stripper crimper based applicator.
2. For the contacts on strip the standard packaging quantity is 15,000 pcs on a reel with a diameter of 600mm.
3. For repair/service contacts are packaged 750 pcs per reel, to be used with handtools.
4. The housings are bulk packed in a box with a packaging quantity varying from 200 to 900 pcs per box



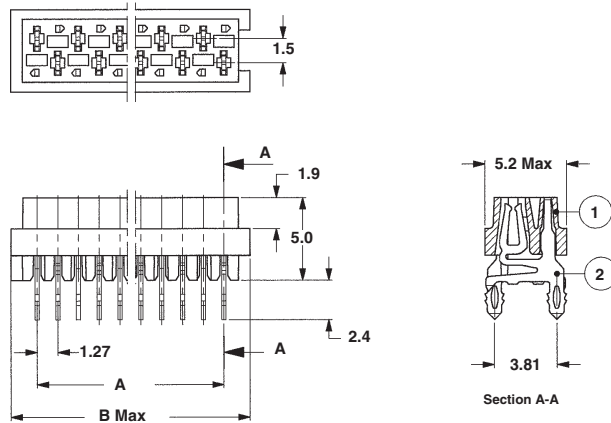
Wire Size Range		Insulation Diameter (mm)	Part Numbers		
(mm ²)	(AWG)		Large reel, 15,000	Small reel, 750	Hand Tool
0.08-0.20	28-24	0.76-1.00	338096-1	1-338096-1	734870-2
0.20-0.50	24-20	1.27-1.52	338097-1	1-338097-1	734870-1

No. of Positions	Dimensions mm			Part Number	Number of pcs/box
	A	B	C		
4	7.2	8.4	3.81	338095-4	900
6	9.8	10.9	6.35	338095-6	700
8	12.3	13.5	8.89	338095-8	500
10	14.9	16.0	11.43	1-338095-0	450
12	17.4	18.5	13.97	1-338095-2	400
14	19.9	21.1	16.51	1-338095-4	350
16	22.5	23.6	19.05	1-338095-6	300
18	25.0	26.2	21.59	1-338095-8	250
20	27.6	28.7	24.13	2-338095-0	200

SMC Connector



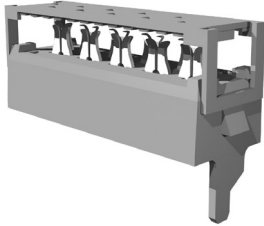
This connector type enables a solderless application to the circuit board. Contact is made on the surface of the PCB, enabling the use of paperphenol and epoxy boards with both drilled and punched holes. This connector is suitable for both Wire-to-Board connections. Because this connector is mounted on the solderless side, the components of both PCBs in a parallel Board-to-Board application, will be in the same direction. By this, the stacking of two or more PCBs is possible. Application tooling available on request.



No. of Positions	Dimensions mm		Part Number Reel Packaging
	A	B max	
4	3.81	7.1	0-100411-4
6	6.35	9.7	0-100411-6
8	8.89	12.2	0-100411-8
10	11.43	14.7	1-100411-0
12	13.97	17.3	1-100411-2
14	16.51	19.8	1-100411-4
16	19.05	22.4	1-100411-6
18	21.59	24.9	1-100411-8
20	24.13	27.4	2-100411-0

Latching Versions

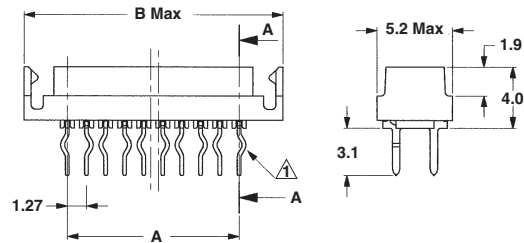
Latching Version



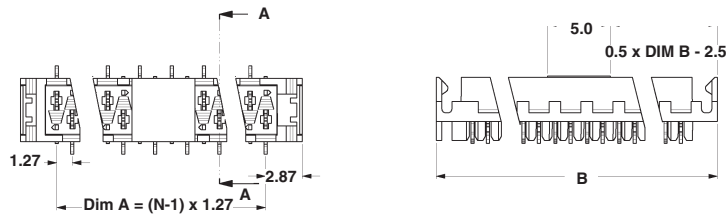
For Wire-to-Board applications this feature provides an audible click during mating. This feature is available for the standard Micro-MaTch female connectors. Cross reference is made by base part number:

x-338068-x instead of x-215079-x
x-338069-x instead of x-188275-x
x-338070-x instead of x-215460-x

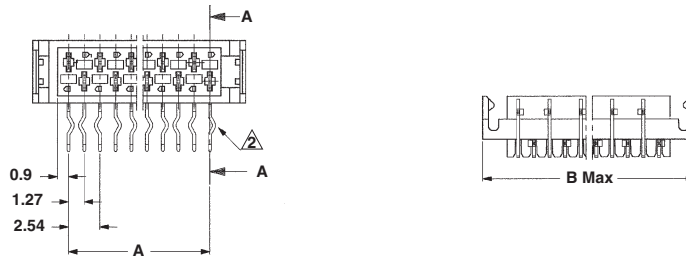
(standard large reel packaging only)



No. of Positions	Dimensions mm		Part Number Reel Packaging
	A	B max	
4	3.81	9.7	0-338068-4
6	6.35	12.2	0-338068-6
8	8.89	14.7	0-338068-8
10	11.43	17.3	1-338068-0
12	13.97	19.8	1-338068-2
14	16.51	22.4	1-338068-4
16	19.05	24.9	1-338068-6
18	21.59	27.4	1-338068-8
20	24.13	30.0	2-338068-0



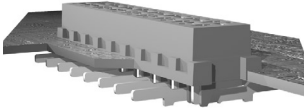
No. of Positions	Dimensions mm		Part Numbers	
	A	B max	with Vac. Tape	without Vac. Tape
4	3.81	9.7	7-338069-4	0-338069-4
6	6.35	12.2	7-338069-6	0-338069-6
8	8.89	14.7	7-338069-8	0-338069-8
10	11.43	17.3	8-338069-0	1-338069-0
12	13.97	19.8	8-338069-2	1-338069-2
14	16.51	22.4	8-338069-4	1-338069-4
16	19.05	24.9	8-338069-6	1-338069-6
18	21.59	27.4	8-338069-8	1-338069-8
20	24.13	30.0	9-338069-0	2-338069-0
24	29.21	35.0	9-338069-4	2-338069-4



No. of Positions	Dimensions mm		Part Number Packaging
	A	B max	
4	3.81	9.7	0-338070-4
6	6.35	12.2	0-338070-6
8	8.89	14.7	0-338070-8
10	11.43	17.3	1-338070-0
12	13.97	19.8	1-338070-2
14	16.51	22.4	1-338070-4
16	19.05	24.9	1-338070-6
18	21.59	27.4	1-338070-8
20	24.13	30.0	2-338070-0

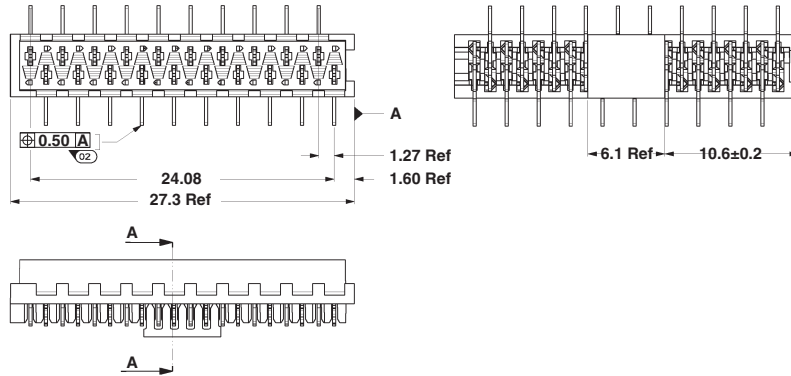
In-board SMD and Male SMD Connectors

In-board SMD Connector

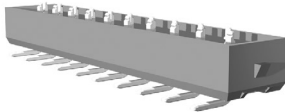


This connector is only tooled in 20 position (9-188431-0) and packaged in embossed tape according to EIA481 standards. The connectors are equipped with a feature for vacuum Pick & Placement. It enables the mounting of a PCB with the solderside direct behind e.g. a display. It is also possible to obtain a parallel BTB application with an extreme low PCB distance of 4.2mm.

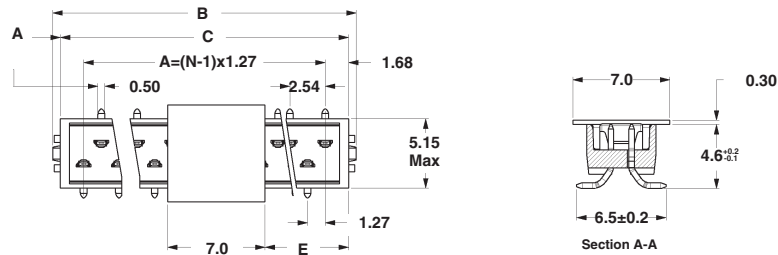
Mating Part Numbers are: 338728, 215083 and 215464



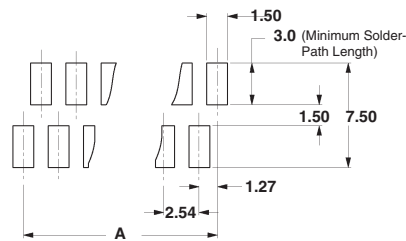
Male SMD



This connector enables the possibility to have a full SMD to SMD Board-to-Board application. It mates with all Micro-MaTch female connectors, and will be packaged according to EIA 481 standard. Consult Tyco Electronics-AMP for more information.



Recommended PCB Layout
Top View



No. of Positions	Dimensions mm					Vacuum Pick and Place Feature	
	A	B	C	D*	E	Part Number with	Part Number without
4	3.8	8.3	7.2	24	0.1	7-338728-4	338728-4
6	6.4	10.8	9.7	24	1.3	7-338728-6	338728-6
8	8.9	13.4	12.2	24	2.6	7-338728-8	338728-8
10	11.4	15.9	14.8	24	3.9	8-338728-0	1-338728-0
12	14.0	18.5	17.3	44	5.1	8-338728-2	1-338728-2
14	16.5	21.0	19.9	44	6.4	8-338728-4	1-338728-4
16	19.0	23.5	22.4	44	7.7	8-338728-6	1-338728-6
18	21.6	26.1	24.9	44	8.9	8-338728-8	1-338728-8
20	24.1	28.6	27.5	44	10.2	9-338728-0	2-338728-0

* Tape Width

Application Tooling

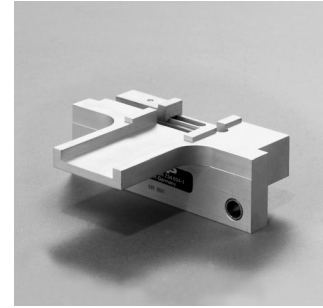
Application Tooling



Pistol handgrip tooling. This is a handtool for terminating Micro-MaTch Male-on-Wire and Paddle Board connectors. Meant for small quantities or repair services. Pistol handgrip and adaptor must be ordered separately.



Standard pistol handgrip.
Part Number 734155-1
This basic tool can be used for both Micro-MaTch and AMP-LATCH applications.



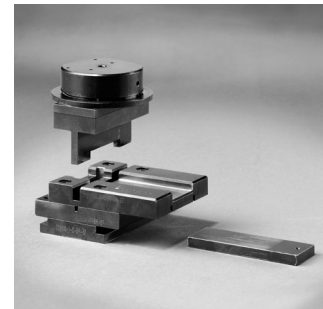
Pistol handgrip adaptor set.
Part Number 734024-1
This adaptor can be used for Micro-MaTch terminations, together with the pistol handgrip.



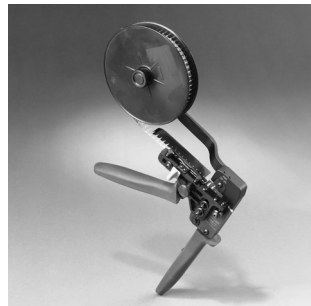
Bench press tooling.
Part Number 733280-3
This complete tool includes a Micro-MaTch dedicated tool set mounted on the bench press 654173-2.



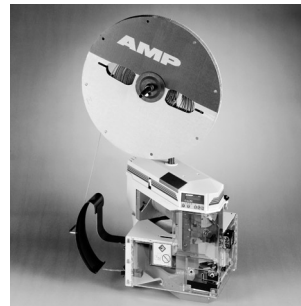
Bench press tooling.
Part Number 91085-2
This basic press is a hand operated version. This press can also be obtained in a pneumatically operated version - **Part Number 91112-3**



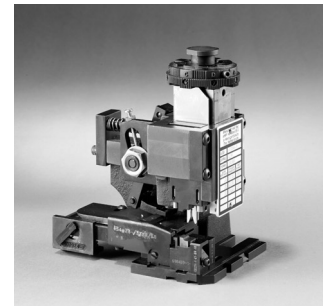
Bench press tooling set.
Part Number 733278-2
This tool set is designed especially for Micro-MaTch. It fits both pneumatically and hand operated presses.



COSI Handtooling.
Part Number 734870-1 for 24-20 AWG,
Part Number 734870-2 for 28-24 AWG.
These dedicated tools can be obtained for services/repair applications



G-terminator.
Part Number 677-499-1

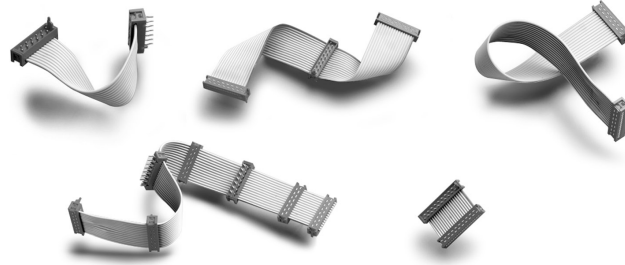


Applicators for G-terminator.
Part Number 677894-1 for AWG 28-24
(Part Number 338096-1).
Part Number 677895-1 for AWG 24-22
(Part Number 338097-1).

Lead Assembly and Sample Box

Lead Assembly

It is possible to deliver custom made Micro-MaTch lead assemblies, in all positions between 4 and 20 in all required cable lengths. All leads are 100% electrically tested on shortcut and connection before shipment. A flexible 7 stranded cable is used for easy assembly. Special cable available on request. For order information contact Tyco Electronics-AMP.

**Sample Box****Part Number 1377074-1**

This box includes samples of all connector types within the Micro-MaTch family, examples of leads, printed circuit boards and a CD-ROM. The CD-ROM includes an electronic version of this section, an animation of the contact principle and CAD files of all connector types.

The sample box is an aid in visualising the variety of applications where Micro-MaTch can be implemented.

