

MTA 156 Connector
NOTE


All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters [and inches]. Unless otherwise specified, dimensions have a tolerance of ± 0.13 [$\pm .005$] and angles have a tolerance of $\pm 2^\circ$. Figures and illustrations are for identification only and are not drawn to scale.

1. INTRODUCTION

This specification covers the requirements for application of wire to MTA (Mass Termination Assembly) 156 Connectors. These requirements are applicable to hand or automatic machine application tools.

Specific wire and insulation ranges relative to the products covered in this specification are 26–18 AWG tin plated solid, concentric fused stranded, and concentric stranded wire with standard PVC thermoplastic insulation having a maximum insulation outside diameter of 2.41 mm [.095 in.] when terminated one position at a time, or 1.78 mm [.070 in.] when mass terminating. Stranded wire configurations approved by Tyco Electronics are 18 AWG 7, 16, and 19 stranded; 20 AWG 7, 10, and 19 stranded; 22–24 AWG 7, 10, and 19 stranded; and 26 AWG 7 stranded. Underwriters Laboratories (UL) Inc. UL1061 is the preferred wire for mass termination use with UL1007 also being initially approved for single termination with all wire AWG.

Other wires evaluated and approved by Tyco Electronics are provided in the table in Figure 1. Wires approved are specifically shown by UL wire style and wire AWG tested. Only wire AWGs specifically shown in the table in Figure 2 for each UL style are approved by Tyco Electronics. Other wires should be submitted for formal evaluation by Tyco Electronics prior to use to verify proper product function. For specific connector assembly part numbers and wire sizes, contact the Product Information number at the bottom of this page.

When corresponding with Tyco Electronics Personnel, use the terminology provided in this specification to help facilitate your inquiry for information. Basic terms and features of components are provided in Figure 1.

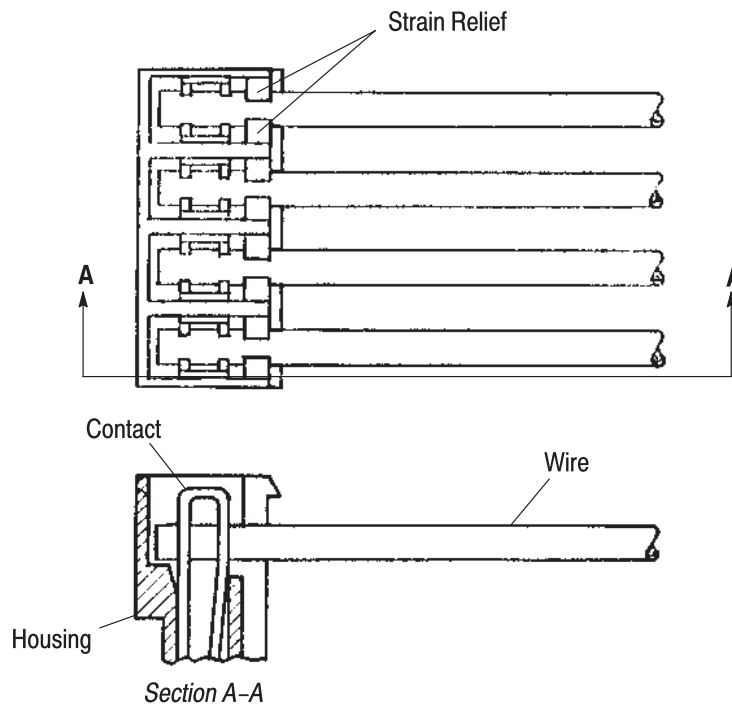


Figure 1 (cont'd)

MTA 156 CONNECTORS	WALL mm [in.]	APPROVED WIRE (AWG)				
		18	20	22	24	26
UL 1007 PVC Insulation	0.38 [.015]	✓	✓	✓	✓	✓
UL 1061 Semi-Rigid PVC Insulation	0.23 [.009]	✓	✓	✓	✓	✓
UL 1180 TEFLON● Insulation - T.F.E.	0.38 [.015]			✓		
UL 1213 TEFLON Insulation - T.F.E.	0.25 [.010]	✓		✓	✓	
UL 1316 PVC/Nylon Wall	0.38 [.015]	✓		✓		
UL 1429 Irradiated PVC - X.L.P.V.C.	0.25 [.010]	✓	✓	✓	✓	
UL 1430 Irradiated PVC - X.L.P.V.C.	0.38 [.015]	✓	✓	✓	✓	
UL 1569 PVC	0.38 [.015]	✓				
UL 3265 Irradiated Polyethylene - X.L.P.E.	0.25 [.010]			✓		
UL 3266 Irradiated Polyethylene - X.L.P.E.	0.38 [.015]	✓	✓	✓	✓	

NOTE: When selecting approved wire styles noted in this list, the MTA Application Specifications guidelines must be followed. Also, due to wire variations in insulation wall thickness, hardness, and wire stranding, we would recommend evaluating the wire selected before final application approval.

Figure 1 (end)

2. REFERENCE MATERIAL

2.1. Revision Summary

- Updated document to corporate requirements and new format
- Changed text in Section 1, INTRODUCTION
- Added new table to Figure 1
- Added new Section 2, REFERENCE MATERIAL and Section 4, QUALIFICATIONS
- Added new Figure 5

2.2. Customer Assistance

Reference Part Numbers 640426 (Product Code 1524 for Standard); 644329 (Product Code 1521 for Quad); and 640859 (Product Code 1533 for Card Edge) are representative numbers of MTA 156 Connectors. Use of these numbers will identify the product line and expedite your inquiries through a service network established to help you obtain product and tooling information. Such information can be obtained through a local Tyco Electronics Representative or, after purchase, by calling the Product Information Center at the number at the bottom of this page.

2.3. Drawings

Customer Drawings for specific products are available from the service network. The information contained in Customer Drawings takes priority if there is a conflict with this specification or with any technical documentation supplied by Tyco Electronics.

2.4. Specifications

Product Specifications 108-1051 (Wire-to-Post), 108-1058 (Card Edge), and 108-1065 (Wire-to-Wire) provides product performance requirements and test information.

2.5. Instructional Material

The following list includes available instruction sheets (408-series) that provide assembly procedures for operation, maintenance and repair of tooling; and customer manuals (409-series) that provide setup, operation, and maintenance of machines.

Document Number	Document Title
408-4146	Terminating Head 58247-3 for MTA-156 Receptacle Connectors
408-4260	Mass Termination Assembly (MTA) Applicator Assemblies 58575-1 and 58576-1
408-4405	Mass Insertion Terminating Head 58646-1
408-4439	Ribbon Cable Mass Insertion Tooling Head 58646-2

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Document Number	Document Title
408-6701	Mass Termination Assemblies (MTA) 156 Tooling Assembly 58040-1
408-6789	Pistol Grip Pneumatic Handle Assembly 58075-1
408-6790	Pistol Grip Manual Handle Assembly 58074-1
408-6794	Terminating Head 58061-1 for MTA-156 Card Edge Connectors Using Discrete Wire
408-6795	MTA Terminating Head 58082-1
408-6923	Manual Arbor Frame Assembly 58024-1
408-6930	Terminating Head 58247-1 for MTA-156 Receptacle Connectors Using Discrete Wire
408-7907	Insertion Tools 59803-1 and 59804-1 for MTA Connectors
408-7995	Mass Termination Assembly (MTA) .156 Connector-Holding Fixture
408-8054	Insulation Displacement Applicator for MTA Connectors (466727-1)
408-8069	Insulation Displacement Applicator for MTA Card Edge Connectors (567020-1)
408-9380	MTA Terminating Head 58247-2 (Extended-Wear Type)
408-9393	Pneumatic Power Bench Assembly 58338-1
408-9466	Feed Track Assembly 933568-1 for MTA-.156 Closed-End Receptacle Connectors
408-9636	Feed Track Assembly 853546-1 and Base Assembly 853542-1
408-9637	Feed Track Assembly 853547-1 and Base Assembly 853542-1
408-9650	Die Set Assembly 854176-1 and Base Assembly 854200-1
408-9667	Die Set Assembly 854175-1 and Base Assembly 854200-1
409-5746	Electric Power Unit 931800-1
409-5590	2700-lb. Pneumatic Power Unit 312522-[]

3. REQUIREMENTS

3.1. Wire Termination

After termination, wire shall meet the requirements specified in Figure 2.

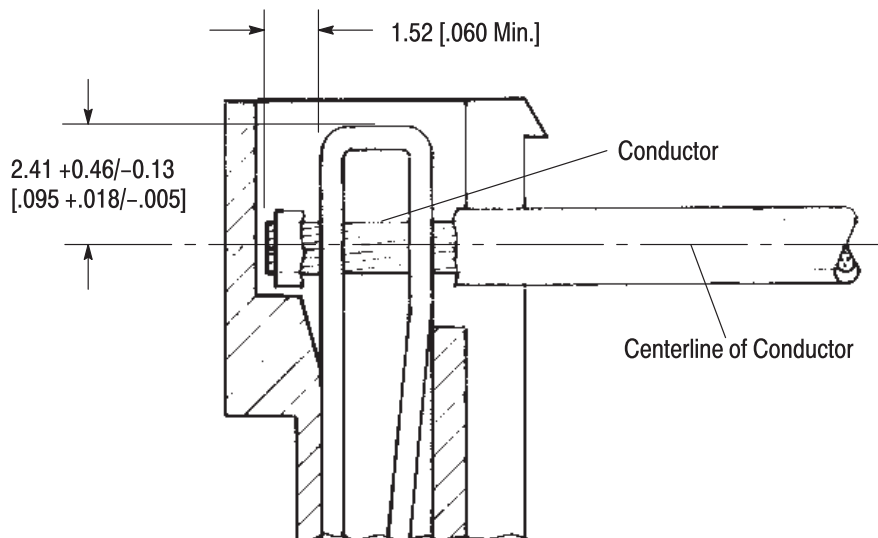


Figure 2

3.2. Contact Damage

There shall be no evidence of physical damage or distortion to any portion of the contact after wire termination.

3.3. Housing Damage

A. There shall be no cracks, breaks, or other visible damage to the housing due to wire termination.

B. Skiving of plastic on the inside wall of the housing cavity is permissible provided that conditions specified in Paragraph 3.3.A are met.

3.4. Broken Strands

There shall be no broken strands in the conductor after termination.

3.5. Exposed Conductor

Exposed conductors shall not exceed the limits specified in Figure 3 after termination.

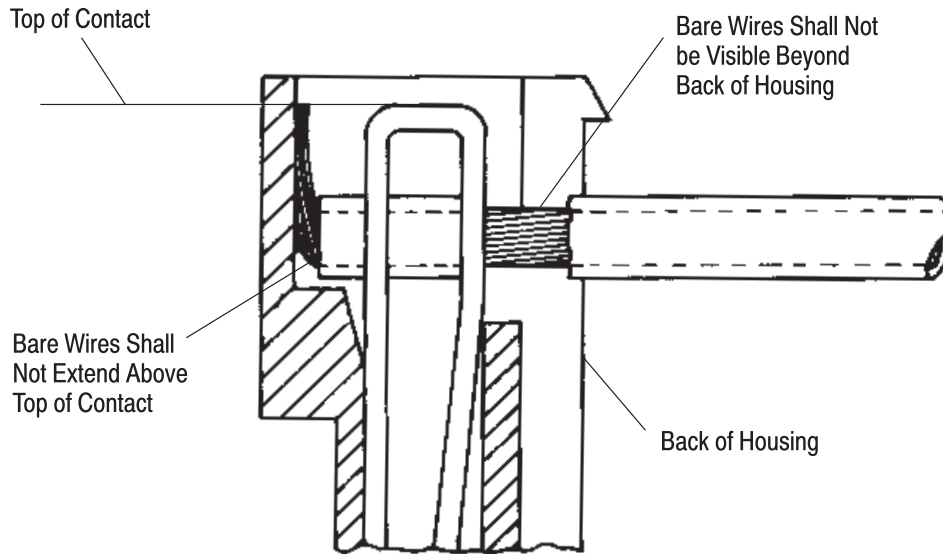


Figure 3

3.6. Conductor Insulation

Conductor insulation shall be contained within the confines of the insulation strain relief as shown in Figure 4.

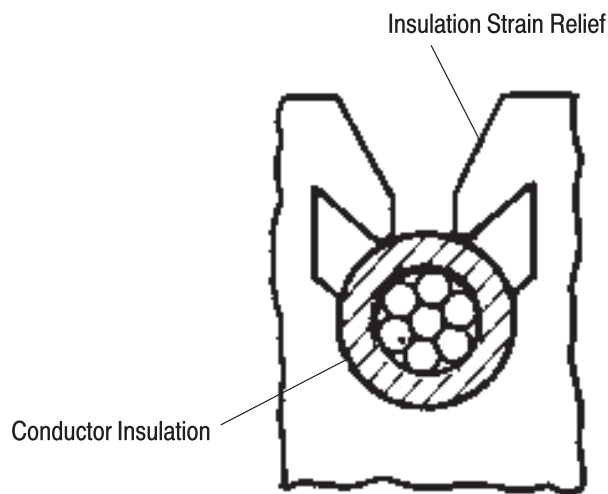


Figure 4

4. QUALIFICATIONS

MTA 156 Connectors are Recognized by Underwriters Laboratories Inc. (UL) in File No. E28476 and are Certified by CSA International in File No. LR7189.

5. TOOLING

Figure 5 provides tooling information for termination of MTA 156 Connectors. Related documentation may be found in Paragraph 2.5, Instructional Material.

ONE-AT-A-TIME TERMINATION TOOLING PART NUMBERS						
MTA CONNECTOR ASSEMBLY		INTERCHANGEABLE HEAD	INTERCHANGEABLE HEAD AND LOOSE PIECE FEED TRACK	INTERCHANGEABLE HEAD AND TAPE FEED TRACK	SPECIAL APPLICATOR	T-HANDLE TOOL
		Manual Hand Tool 58074-1 Air Hand Tool 58075-1 Air Bench Mount Tool 58338-1 Electric Bench Machine 931800-1	Air Bench Mount Tool 58338-1 Electric Bench Machine 931800-1			
MTA-156 Connector	Closed End	58247-1 (Standard)	933568-1	853547-1 853542-1 (Base)	466727-1	59804-1
		58247-2 (Ext Wear)				
		58247-3 (Ribbon Cable)				
	Feed-Thru	58443-1	---	---	---	
	Posted (Closed End)	58082-1	---	---	---	
MTA-156 Card-Edge	Closed End	58061-1	---	---	567020-1	---
MTA-156 Quad	Closed End	58392-1	---	---	---	59804-1

MTA-156 MASS TERMINATION TOOLING PART NUMBERS								
MTA CONNECTOR ASSEMBLY		INTERCHANGEABLE HEAD		HARNESS BOARD HOLDING FIXTURE			INTERCHANGEABLE HEAD AND TAPE FEED TRACK	
		PART NO.	USED WITH	PART NO.	APPLICATOR	TOOLING	PART NO.	USED WITH
MTA-156 Connector	Closed End	---	---	58244-1	---	Manual Bench Tool 58024-1 and Tooling Assy 58040-1	854176-1	312522-1
				58244-3	58576-1		854200-1 (Base)	
	Feed-Thru	58646-1 (Discrete Wire) 58646-2 (Notched Cable)	58074-1 (Manual Hand Tool)	58245-1	---			
				58245-3	58576-1			
	Card Edge	---	---	59848-1	---			
				59848-3	58576-1			
Closed End (Posted)	---	---	58009-1	---		---		
			58009-2	58576-1		---		
Feed Thru (Posted)	---	---	58010-2	58576-1				
MTA-156 Quad	Closed End	---	---	58244-1	---			
				58244-3	58576-1			
	Feed Thru	---	---	58245-1	---			
				58245-3	58576-1			

Figure 5