

TERMINATING MODULE 791804	MODULAR PLUG		CABLE			
	CATEGORY	PART NUMBER	TYPE	WIRE INSULATION DIAMETER (mm [in.])	OUTSIDE DIAMETER (mm [in.])	WIRE SIZE RANGE (AWG)
-1	5e EMT	336330-[ ]	UTP or FTP Stranded	0.80-1.0 [.031-.039]	5.0-6.0 [.197-.236]	26-24
		336352-[ ]		0.89-1.09 [.035-.043]		
	6	1375202-[ ]	UTP Stranded	0.80-1.0 [.031-.039]	5.0-6.0 [.197-.236]	26-24
		1711345-[ ]	PiMF Stranded			
		1375204-[ ]	UTP or FTP Solid		24-23	
-2	5e EMT	336349-1	UTP or FTP Stranded	0.80-1.0 [.031-.039]	5.0-6.0 [.197-.236]	26-24
-3	5e EMT	336462-[ ]	UTP or FTP Stranded	0.89-1.09 [.035-.043]	6.0-7.0 [.236-.276]	26-24
		336643-[ ]				
	6	1479184-[ ]	UTP Stranded	0.89-1.09 [.035-.043]	6.0-7.0 [.236-.276]	26-24
		1711346-[ ]	PiMF Stranded			
		1479185-[ ]	UTP or FTP Solid		24-23	
-4	5e EMT	1711413-[ ]	UTP or FTP Stranded	0.80-1.0 [.031-.039]	4.7-5.3 [.185-.208]	26-24
	6	1933441-[ ]	UTP Stranded	0.89-1.09 [.035-.043]		26-24
		1933442-[ ]	UTP Solid			24-23

EMT is electromagnetic technology UTP is unshielded twisted pair FTP is foil-wrapped shielded twisted pair PiMF is pairs in metal foil

Figure 1

The terminating module is designed to be used with the modular plug dual terminator (shown in Figure 1) to terminate the modular plugs listed in Figure 1 to create a cable assembly. During termination, terminators 1320840-1 and 1320840-2 are capable of testing the cable assembly for electrical circuit continuity. Terminator 1320840-3 will not provide electrical circuit continuity testing. Read these instructions completely before using the module.

For detailed information about the modular plug dual terminator, refer to customer manual [409-10010](#).



**NOTE**

Dimensions in this instruction sheet are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.

Reasons for re-issue of this instruction sheet are provided in Section 8, REVISION SUMMARY.

When reading this document, pay particular attention to DANGER and CAUTION statements.



**DANGER**

Denotes an imminent hazard which may result in moderate or severe injury.



**CAUTION**

Denotes a condition which may result in product or equipment damage.

**1. DESCRIPTION**

These terminating modules fit interchangeably into the modular plug dual terminator. Each module features dual nest areas for positioning the modular plugs, inserters for terminating the contacts, and stuffers for terminating the primary and secondary strain reliefs. Since each feature is independently adjustable, crimp heights can be adjusted to meet International Electrotechnical Commission (IEC) specifications.

**2. INSTALLATION**

1. Install the modular plug dual terminator according to 409-10010.
2. Disconnect the air supply.



**DANGER**

To avoid personal injury, always **disconnect the air supply** before attempting to install or remove the module from the terminator. A lockout valve has been provided in the air line.

3. Remove the plastic guard from the module by removing four screws and two terminals from the limit switch (refer to the module customer drawing for location).
4. For terminators -1 and -2 (only), refer to Figure 2, and:
  - a. Connect the cable from the automatic circuit tester to the back of the module, and tighten the screws to secure cable.
  - b. Check that the two single-wire terminations on the limit switch to the left of the tester cable (viewing from the back of the module) are firmly connected to the limit switch at the top-most and bottom-most terminals (normally-closed position). Verify that the green wire of the tester cable is connected to the terminator and to a suitable ground on an AC outlet.
  - c. Set up the automatic circuit tester according to 409-10010.
5. Position the module so that the T-slot at the top will slide onto the arm of the terminator so that the module rests on the base plate of the terminator. Tighten the screws at the bottom front of the module, securing the module to the base plate.

**Using Terminators -1 and -2 Only**

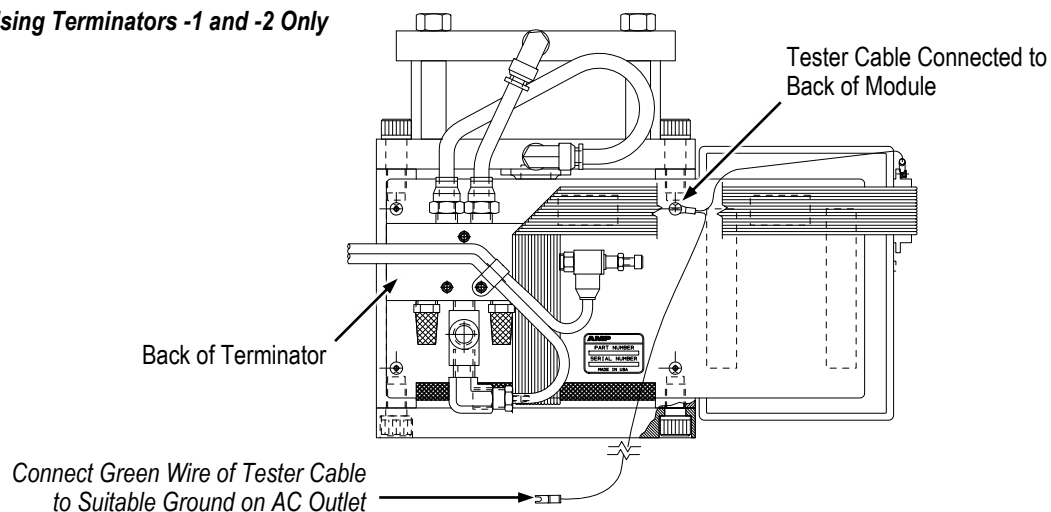


Figure 2

6. Re-connect the air supply to the terminator (regulated air supply of 551 to 689 kPa [80 to 100 psi] at 0.47 liters/sec [1.0 scfm]).
7. Re-install the plastic guard onto the module. Run samples according to [409-10010](#) to inspect the crimp height of each modular plug. If necessary, adjust the crimp height as described in Section 3.

### 3. TOOLING ADJUSTMENT



**NOTE**

Normally, the module is adjusted for crimp height measurement prior to shipment, and little or no adjustment will be required by the customer. However, if wearable parts are replaced, a small amount of adjustment may be required.

Two setscrews are provided at each side of the ram head (at the top of the module) for adjustment purposes. The front setscrews allow adjustment of the hexagonal crimper. The back setscrews allow adjustment of the contact inserter and secondary strain relief. See Figure 3. If the contacts have the proper crimp height, the secondary strain relief will have the proper height as well (by construction).

Refer to the application specification for crimp requirements:

- [114-13035](#) 8-position category 6 shielded and unshielded modular plugs
- [114-22008](#) 8-position category 5e EMT modular plugs
- [114-93006](#) 8-position category 6 shielded modular plugs

If adjustment is required to obtain proper crimp height, proceed as follows:

1. Remove the module from the terminator by reversing the installation instructions provided in Section 2.
2. Place the module on a horizontal, flat surface.
3. Check the clearance between the hexagonal crimper legs and the hexagonal anvil with a piece of thin paper. Clearance must be within the dimensions given in Figure 3. If adjustment is required, slightly loosen the socket head cap screws at the front of the ram and the front locking setscrews at the front of the ram head. Then rotate the front setscrews to adjust the hexagonal crimper.



**NOTE**

A 360-degree rotation of the front setscrews makes a difference of approximately 0.8 mm [.032 in.].

4. If the contact crimp height is still not correct, loosen the back locking setscrews at the back of the ram head. Make sure that the back locking setscrews are loosened. Rotate the back setscrews to adjust the crimp height (simultaneously adjusting the secondary strain relief). Rotate the screws *clockwise* to move the contact inserter downward.



**NOTE**

A 360-degree rotation of the back setscrews makes a difference of approximately 0.8 mm [.032 in.].

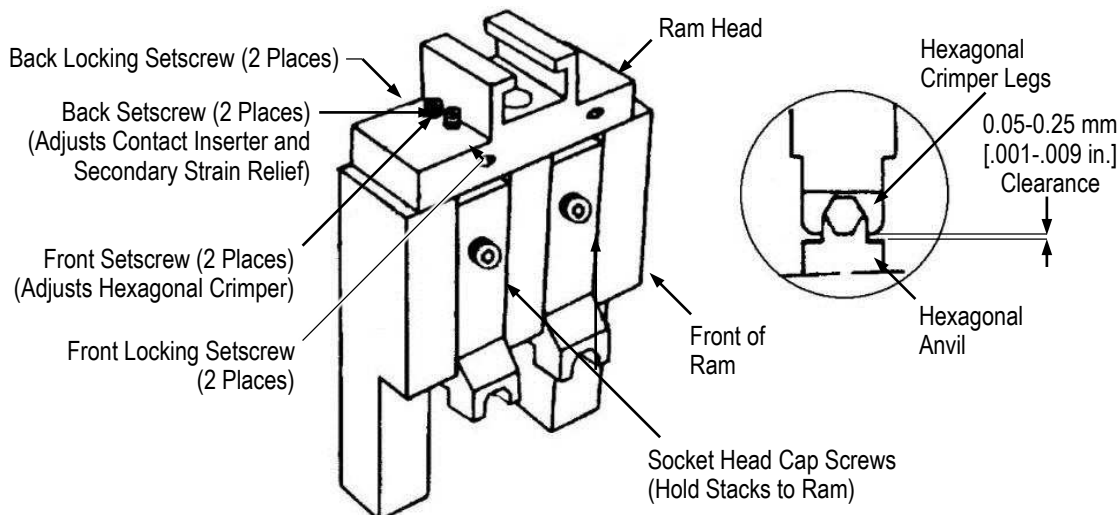


Figure 3

5. After adjustment has been made, push the three parts at each side of the ram to the upper-most position, and tighten the socket head cap screws at the front of the ram. Re-position the ram on the module. Then re-install the module on the terminator as described in Section 2.
6. If the hexagonal anvil has been moved or replaced, it may require some in-out adjustment as follows:
  - a. Remove the ram.
  - b. Loosen the button head cap screw on the hexagonal anvil. See Figure 4.
  - c. Place a modular plug (with the shield assembled, if applicable) on the hexagonal anvil.



**NOTE**

When the anvil is positioned properly, the front surface of the anvil is in the same vertical plane as the transition point between the modular plug cylinder and shoulder as shown in Figure 4.

- d. When the in-out position of the hexagonal anvil is adjusted, tighten the button head cap screw.

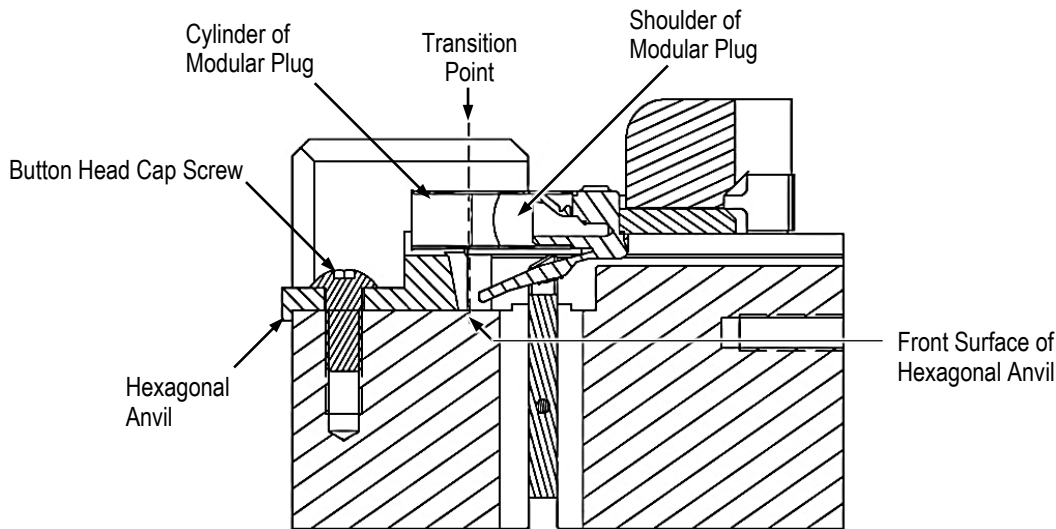


Figure 4

**4. TERMINATING, TESTING, AND INSPECTING MODULAR PLUG**

1. Strip the cable according to application specification for the modular plug (given in Section 3).



**NOTE**

Do not strip the insulation from the individual conductors.

2. Insert stripped cables into the modular plugs, and insert the cables and modular plugs into the module nests. Make sure of the following:
  - the cable conductors are oriented to the applicable contact slots before inserting the conductors into the modular plugs,
  - the cable conductors are bottomed in the contact slots of the modular plugs, and that they remain bottomed throughout the cycling of the terminator, and
  - the modular plugs bottom in the module nests; the modular plug release tab must snap firmly into place.
3. Press the foot switch to cycle the terminator.
4. When termination is complete:

For terminators -1 and -2 (only), the tester will automatically examine the cable assembly and respond with either a short tone or a long tone (refer to Figure 5). After the cable assembly is tested, hold the cable assembly release down, and remove the cable assembly from the module.



**CAUTION**

Removing the cable assembly before a tone has sounded may cause good terminations to test as failures.



**NOTE**

Any coupled cable assembly may be tested or re-tested by inserting and latching the modular plugs into the nest areas and pressing the TEST pushbutton.

For terminator -3, hold the cable assembly release down, and remove the cable assembly from the module.

**TESTING SUMMARY (Terminators -1 and -2 Only)**

**1:1/1:N ORIENTATION**

TEST	CONDITION	TEST INDICATORS
The tester checks for open conductors.	There are one or more open conductors.	A long tone will sound and the OPEN LED will light. The wire position LEDs will also light, corresponding to the open conductors of the plug located in the right-hand nest. Note that if "opens" are found, the tester abandons further testing; therefore, shorts that may have also been present will not be indicated.
If there are no open conductors, the tester checks for short circuits.	The cable assembly has two or more shorted conductors.	A long tone will sound and the SHORT LED will light. The wire position LEDs will also light, corresponding to the shorted conductors of the plug located in the right-hand nest.
No "opens" or "shorts" are found.	The cable assembly is considered good.	The tester will sound a short tone and the GOOD LED will light.

**CROSSED CONDUCTORS**

TEST	CONDITION	TEST INDICATORS
With the position selector switch in the Learn position, the tester compares the cable assembly against a "learned" cable pattern. When a cable assembly has a "learned" cable pattern, open conductors, as well as, crossed conductors, are noted.	Contacts that were "learned" as "open" are found to have continuity to other conductors in the cable assembly.	The tester will sound a long tone, light both the OPEN and SHORT LEDs, and light the wire position LEDs corresponding to the connected conductors of the plug located in the right-hand side of the nest.
If there are no connections where there should be "opens", the tester will conduct the "opens" test.	The cable assembly has one or more open conductors.	The tester will sound a long tone, the OPEN LED will light, and the wire position LEDs will light, corresponding to the open conductors of the plug located in the right-hand side of the nest.
If there are no opens present, the tester performs the "shorts" test.	The cable assembly has two or more shorted conductors.	The tester will sound a long tone, the SHORT LED will light, and the wire position LEDs will light, corresponding to the open conductors of the plug located in the right-hand side of the nest.
The cable assembly passes all three tests.	The cable assembly is considered good.	Tester will sound a short tone and GOOD LED will light.

Figure 5

5. Inspect the crimps on the modular plugs using an indicator with a 0.25-mm [.010-in.] diameter needle-point probe. Refer to the application specification (given Section 3) for crimp height and other terminated modular plug criteria.

Problems associated with bad cable assemblies should be recorded to aid in troubleshooting. Check for the source of recurring problems in the following order:

- a. Check the settings against the test cable.

- b. Check that the correct combination of cable and plugs is being terminated.
- c. Check crimp height and strain relief settings. If necessary, make corresponding adjustments to the module.
- d. Check that the spring plungers are all correctly resting on the contact probes.
- e. Inspect and replace any defective mechanical tooling parts.

## 5. MAINTENANCE, INSPECTION, AND TROUBLESHOOTING

It is recommended that each module be inspected immediately upon arrival to ensure that the module has not been damaged during shipping and at regularly scheduled intervals.

### 5.1. Daily Maintenance

1. At the end of each shift, clean the foreign particles from the module using a soft, clean, lint-free cloth or brush. Make sure that the contact inserters and strain relief stuffers are secured in place. Check the area under the base plate for foreign matter and debris.
2. For terminators -1 and -2 only, inspect the module for secure engagement of the connectors and cable from the tester to the module and of the wires to the limit switch on the left at the back of the module.
3. Lubricate the module ram, if necessary, with a **thin** coat of high-pressure grease. **Do not** lubricate excessively. Store the module in a clean, dry place.
4. Make sure to keep the terminating areas of the stuffers and nest areas especially clean. **Do not** oil or grease the terminating areas of the stuffers or the contact slides.

### 5.2. Periodic Inspection

Personnel responsible for the module should perform regular inspections, record the results, and keep a record of inspections. It is recommended that inspections be performed at least once a month. Work environment, company standards, or amount of module use may dictate more frequent inspections.



#### **CAUTION**

*Failure to perform periodic inspection and cleaning can cause the module to make defective modular plug terminations leading to discontinuities on individual wire circuits.*

### 5.3. Troubleshooting

Refer to the troubleshooting section in [409-10010](#) (modular plug dual terminator customer manual).

## 6. REPLACEMENT AND REPAIR

Refer to the documentation package included with the module for a list of recommended customer-replaceable spare parts. To order replacement parts or for customer evaluation and repair service, call 1-800-522-6752, or fax your purchase order to 717-986-7605, or write to:

CUSTOMER SERVICE (038-035)  
TYCO ELECTRONICS CORPORATION  
PO BOX 3608  
HARRISBURG, PA 17105-3608

## 7. RESTRICTION ON HAZARDOUS SUBSTANCES (RoHS) INFORMATION

Information on the presence and location of any substances subject to RoHS can be found at <http://www.te.com/customer-support/rohssupportcenter>.

## 8. REVISION SUMMARY

Revisions to this instruction sheet include:

- Updated document to corporate requirements
- Added terminator part numbers to document title and to text that applies to tester, and step 4c to Section 2
- Removed terminator 856195-6
- Replaced previous paragraph of Section 2, table in step 1 of Paragraph 3.1, Paragraph 3.3, and Figures 5 and 7 with reference to terminator customer manual