



---

**Medium Range Siameze Insulation Displacement Terminals**

---

**1. SCOPE**

1.1. Content

This specification covers performance, tests and quality requirements for the TE Connectivity Medium Range Siameze Insulation Displacement Terminals designed for general use as a magnet wire to external interface when inserted into a plastic pocket (cavity) designed to TE Connectivity guidelines. The terminal is compatible with Single and Double build copper magnet wire 12 through 23 AWG (2.05 through 0.57 mm) unless otherwise specified on the TE Connectivity Customer drawing.

1.2. Qualification

When tests are performed on the subject product line, procedures specified in Figure 1 shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

**2. APPLICABLE DOCUMENTS AND FORMS**

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

2.1. TE Connectivity Specifications

109-197	Test Specification (AMP Test Specifications vs EIA and IEC Test Methods)
114-13210	Application Specification
501-134140	Qualification Test Report

2.2. Industry Standards

EIA-364	Electrical Connector/Socket Test Procedures Including Environmental Classifications
---------	---

**3. REQUIREMENTS**

3.1. Design and Construction

Product shall be of the design, construction, materials and physical dimensions specified on the applicable product drawing.

3.2. Materials

Materials used in the construction of this product shall be as specified on the applicable TE drawing.

3.3. Performance Requirements and Test Description

Product is designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1. Unless otherwise specified, all tests shall be performed at ambient environmental conditions per EIA-364. All electrical and environmental tests shall be performed with the terminals inserted into a TE Connectivity bobbin with a connection configuration per Figure 3 or an approved alternate configuration.

3.4. Test Requirements and Procedure Summary

Test Description	Requirement	Procedure
Initial examination of product.	Meets requirements of product drawing.	EIA-364-18. Visual and dimensional (C of C) inspection per product drawing.
Final examination of product	Meets visual requirements	EIA-364-18. Visual inspection
<b>ELECTRICAL</b>		
Low level contact resistance.	20% maximum increase from initial LLCR reading. See Figure 3.	EIA-364-23. Subject specimens to 100 milliamperes maximum and 20 millivolts maximum open circuit voltage.
Current cycling.	See Note 2. See Figure 4. Note: Alternate current carrying capacities may be specified due to different terminal base material.	EIA-364-55, Test Condition A, Test Method 2. Subject specimens to 100% of rated current for wire size being tested for 50 cycles of 15 minutes ON and 15 minutes OFF.
<b>MECHANICAL</b>		
Retention force	90 N [20 lbf] minimum. See Note 1. 60 N [13.5 lbf] minimum for low profile designs (ref. P/N 2238310-x)	EIA-364-8. Determine retention force at a maximum rate of 25.4 mm [1 in] per minute.
<b>ENVIRONMENTAL</b>		
Thermal shock.	See Note 2.	EIA-364-32. Subject specimens to 10 cycles between -65 and 125°C.
Humidity-temperature cycling.	See Note 2.	EIA-364-31, Method IV. Subject specimens to 10 cycles (10 days) between 25 and 65°C at 80 to 100% RH.
Temperature life	See Note 2.	EIA-364-17. Subject specimens to 118 C for 33 days.

**Figure 1**



**NOTE**

- 1) *Force required to extract the terminal from a pocket (cavity) molded to TE Connectivity guidelines in Nylon 6/6 30% GF or acceptable alternate material.*
- 2) *(2) Shall meet visual requirements, show no physical damage, and meet the requirements of additional tests as specified in the Product Qualification and Requalification Test Sequence shown in Figure 2.*

3.5. Product Qualification and Requalification Test Sequence

Test or Examination	Test Group (a)			
	1	2	3	4
	Test Sequence (b)			
Initial examination of product	1	1	1	1
Low level contact resistance	2,4,6	2,4		2,4
Current cycling		3		
Retention force			2	
Thermal shock	5			
Humidity-temperature cycling	3			
Temperature life				3
Final examination of product	7	5	3	5

**Figure 2**



**NOTE**

(a) See paragraph 4.1.

(b) Numbers indicate sequence in which tests are performed.

**4. QUALITY ASSURANCE PROVISIONS**

4.1. Qualification Testing

A. Specimen Selection

Specimens shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production. Test groups 1,2 and 4 shall consist of 20 terminals (10 interconnected assemblies) per magnet wire size. Test group 3 shall consist of 10 terminals and 10 test cavities.

B. Test Sequence

Qualification inspection shall be verified by testing specimens as specified in Figure 2.

4.2. Requalification Testing

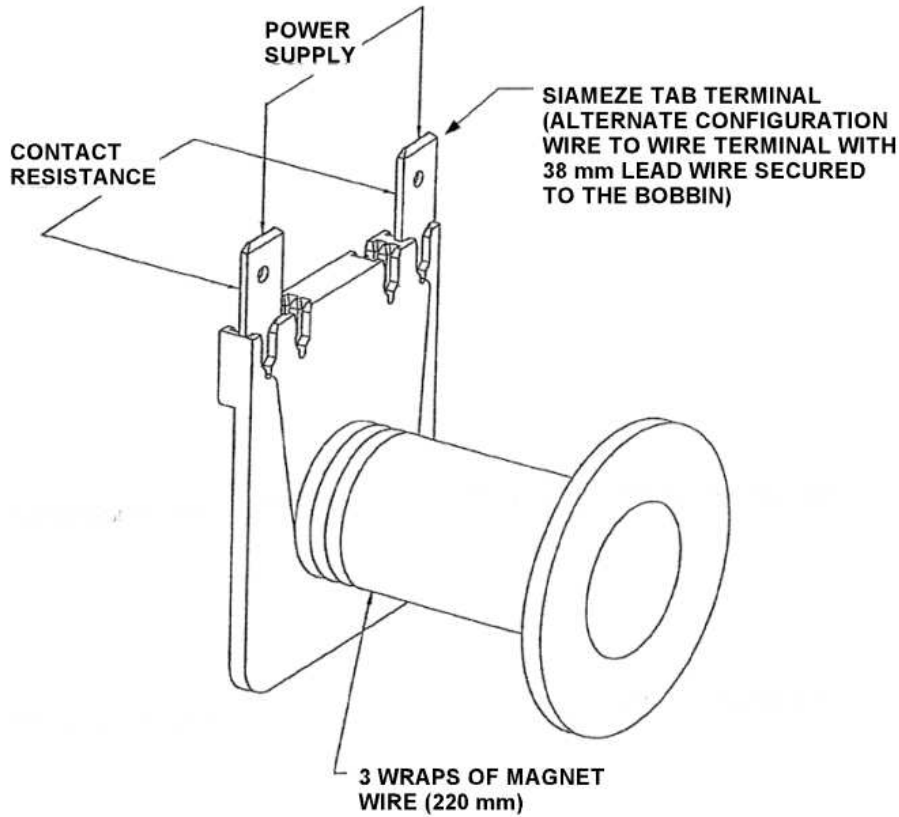
If changes significantly affecting form, fit or function are made to the product or manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality and reliability engineering.

4.3. Acceptance

Acceptance is based on verification that the product meets the requirements in Figure 1. Failures attributed to equipment, test setup or operator deficiencies shall not disqualify the product. If product failure occurs, corrective action shall be taken and specimens resubmitted for qualification. Testing to confirm corrective action is required before resubmittal.

4.4. Quality Conformance Inspection

The applicable quality inspection plan shall specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.



Note: Bobbin configuration not mandatory. Separate test cavities with 220 mm of magnet wire between connections is an acceptable alternative as long as sufficient strain relief protection is provided to prevent wire movement during handling and testing.

Figure 3  
Test Configuration

Wire Size (AWG [mm $\varnothing$ ])	Current Carrying Capacity (amperes)
12 (2.05)	26
13 (1.83)	26
14 (1.63)	24
15 (1.45)	21
16 (1.29)	18
17 (1.15)	16

Wire Size (AWG [mm $\varnothing$ ])	Current Carrying Capacity (amperes)
18 (1.02)	13
19 (0.91)	11
20 (0.81)	10
21 (0.72)	9
22 (0.65)	8
23 (0.57)	7

Figure 4