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EIA-364-04B

EIA STANDARD

TP-04B

Normal Force Test Procedure for Electrical Connectors

EIA-364-04B

(Revision of EIA-364-04A)

August 2015



Electronic Components Industry Association

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(From Standards Proposal No. 5345.02 formulated under the cognizance of the CE-2.0 Committee on EIA National Connector and Sockets Standards and reaffirmed by Standards Proposal 5461.02.)

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TEST PROCEDURE No. 04B

NORMAL FORCE TEST PROCEDURE
FOR
ELECTRICAL CONNECTORS

(From EIA Standards Proposal No. 5345.02, formulated under the cognizance of the EIA CE-2.0 Committee on National Connector and Socket Standards, and previously published in EIA-364-04A.)

1 Introduction

1.1 Scope

This procedure establishes two methods to determine the magnitude of normal force, at the point of the electrical connection, generated by a contact system at a given deflection within its normal operating levels. This data and its relationship to contact pressure allow the electrical integrity and stability of the contact interface to be evaluated in proper perspective when integrated with other monitored attributes. The two methods of obtaining normal force are as indicated in table 1. When not specified in the referencing document method A shall be used.

Table 1 – Test methods

Test method	Description
A	Spring rate (force/deflection)
B	Direct measuring normal force transducer gage

2 Test resources

2.1 Equipment

2.1.1 Test method A

2.1.1.1 A holding fixture of sufficient size to accommodate the contact or connector assembly shall be used and shall not modify the natural beam deflection characteristics. Said fixture shall hold the connector assembly in a manner so as not to disturb the natural position or locking feature of the contact relative to the plastic housing.

2.1.1.2 A load cell shall be utilized to generate the force measurement with a range capable of covering the measurement limits within an accuracy of $\pm 0.5\%$.

2.1.1.3 A probe of sufficient size to cover the contact area shall be attached to the load cell as follows: