



## Harwin Test Report Summary

**HT06701**

Torque and Retention Testing of 16 Position Male  
Cable Housing with Panel Mount Screws for the  
Gecko-SL Series (G125)



## 1. **Introduction.**

### 1.1. **Description and Purpose.**

The following mechanical tests were performed on the 16 position Gecko-SL Series panel mount male connector (G125-3241696M2) under Harwin test report 1733:

- Assembly of male connector to PCB panel cut out.
- Assembly and disassembly of mating connector.
- Panel mount screw-lock retention forces in housing.

The screw-lock retention must withstand the withdrawal force required to disassemble the connector and separate the contacts. Assembly and disassembly operations must cause no significant damage to the connector.

### 1.2. **Conclusion.**

**Result:** All samples met the specified requirements.

## 2. **Test Method, Requirements and Results.**

### 2.1. **List of Test Samples.**

- 20 x G125-2241696F1 – female cable housing with screw-lock.
- 90 x G125-3241696M2 – male cable housing with panel mount.
- 40 x G125-4510000B – M2 round slotted nut.

G125-2241696F1 and G125-4510000B products were re-used for the duration of testing.

### 2.2. **Specification Parameters.**

The testing was conducted in accordance with the detailed product specification (C125). The products were required to meet the following mechanical specifications:

- Screw-Lock Retention Force = 20.0N Min.
- Screw-Lock Torque = 16 to 18 cmN.

### 2.3. **Test Method and Results.**

a) Assembly of male connector to PCB panel cut out.

90 samples of G125-3241696M2 male connectors were assembled to PCB panel cut outs using M2 round slotted nuts (G125-4510000B) to a torque of 18cmN. The samples were visually inspected for indications of damage to the housing and to ensure intended fixing.

Result	Judgement
Assembly Operation	PASS

b) Assembly and disassembly cycling.

90 samples of G125-3241696M2 male connectors (with PCB panel cut outs) were assembled to G125-2241696F1 female connectors to a torque of 18cmN. 5 assembly and disassembly operations were conducted on the samples to determine whether mating under typical conditions has any effect on the screw-lock retention within the housings.

Result	Judgement
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<b>Assembly Operations</b>	PASS
<b>Disassembly Operations</b>	PASS

c) Panel mount screw-lock retention forces.

Panel mount retention force tests were performed on 90 x G125-3241696M2 male connectors using the Lloyd Instruments 'LF Plus' force gauge. The push out pin was aligned against the front face of the screw and force applied at a speed of 25.4mm/min until the screw is removed or the moulding breaks\*.

Result	Removal Force
<b>Maximum Result</b>	80.54N
<b>Minimum Result</b>	29.66N
<b>Average Result</b>	55.39N

\* In all cases the screw was pushed out of the connector. No moulding breakages were observed.



Figure 1: Lloyd Instruments 'LF Plus' auto cycling machine.



Figure 2: Testing set up with push out pin locating into the male connector.

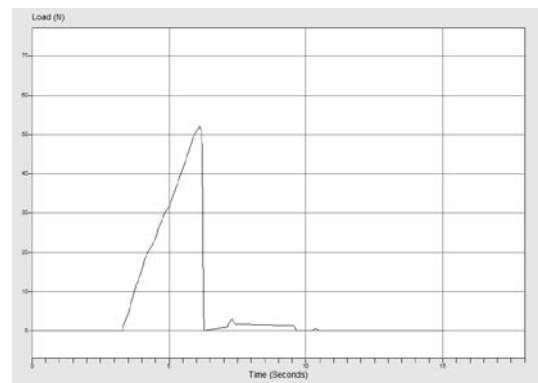


Figure 3: Graph illustrating the screw retention force.