

# HARWIN

## Datamate

### DATAMATE METAL BACKSHELLS

OCTOBER 2017

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**1. DESCRIPTION OF CONNECTOR ACCESSORIES & INTENDED APPLICATION**

Datamate Metal Backshells are designed to provide EMI / RFI screening. The female cable versions include attachment features for screening braid, providing strain relief and mechanical protection for additional performance improvements. The male PCB/Panel mount cable options complete the shielding and provide flexibility for various applications.

These fully machined metal backshells are made from aluminium alloy with electroless nickel plating. They suit most applications, and offer significant cost savings over comparable Micro-D options. They are designed to be used in conjunction with the relevant J-Tek or Mix-Tek Datamate connectors to provide Cable-to-Board and Cable-to-Panel mount solutions that enhance the connectors to ensure electrical and mechanical longevity and security

**2. RATINGS**

**2.1. MATERIALS**

*All materials are listed on individual drawings.*

Backshells.....	Aluminium Alloy, Electroless Nickel plating
Jackscrews and Circlips/E-Clips.....	Stainless Steel
BAND-IT tie .....	Stainless Steel
Connector.....	Refer to applicable drawing

**2.2. ELECTRICAL CHARACTERISTICS**

*See also graphical data in Appendix 2. Tests were performed on mated connectors.*

RF Attenuation.....10kHz to 400MHz @ >30dBs  
(performed in general accordance with MIL-STD-1377 (1971))

All other Specifications.....refer to Component Specification C005xx

**2.3. ENVIRONMENTAL & MECHANICAL CHARACTERISTICS**

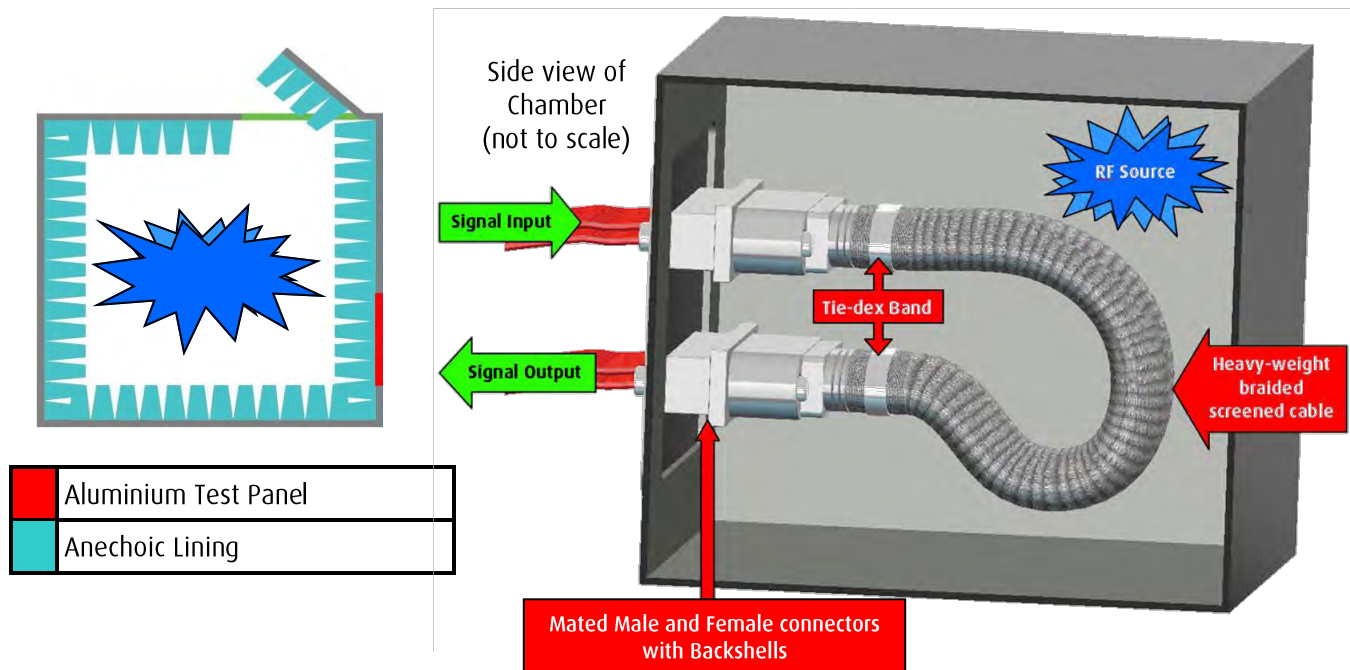
Operating Temperature Range .....-55°C to +125°C  
Durability (EIA-364-13C) .....500 operations

All other Specifications.....refer to Component Specification C005xx

## APPENDIX 1 – TEST METHODOLOGY FOR RF ATTENUATION

The following information has been summarised from Harwin Test report 360.

Below is the test setup used to measure the RF Attenuation provided by the metal backshells and heavy-weight Braided Screened Cable.



- Two J-Tek Male crimp connectors with backshells of 06, 14 and 26 sizes, were secured to an aluminium panel using the panel-mount jackscrews and nuts provided in the standard connector kit (not all sizes shown above).
- Two J-Tek Female crimp connectors were equipped with backshells were terminated to 1 metre long wires, and screened with 1 metre of heavy-weight braiding secured to the female backshells using the BAND-IT Tie-Dex bands, Harwin Part M80-9470000.
- The Datamate female cable assembly was mated to the male panel mounted connectors and secured using the jackscrews provided in the standard kit prior to testing, as shown in the side view of the chamber.
- This panel was fitted into an Anechoic lined chamber with an isolated RF generator inside. Attenuation of RF Frequencies between 10kHz and 400Mhz were tested and the results are shown in Appendix 2.

**APPENDIX 2 – TEST CERTIFICATE PAGE 1**



Telephone: 01202 861175 Fax: 01202 861176  
Email: info@aqlemc.co.uk Web: www.aqlemc.co.uk

**AQL-EMC Limited**  
16 Cobham Road  
Ferndown Industrial Estate  
Wimbome  
Dorset BH21 7PG

# CERTIFICATE OF TEST

**Certificate number** : 6387  
**Date of issue** : 17<sup>th</sup> October 2017  
**Issue number** : 1

### ADMINISTRATIVE INFORMATION

**Customer** : Harwin PLC  
**Customer address** : Fitzherbert Road, Portsmouth, Hampshire, UK.  
**Customer Representative** : Mr. S. Flower  
**Control / Test Plan Reference** : As per Harwin PO HAR7485 & HAR24557  
**Test specifications** : MIL STD 1377 (1971)  
**Customer Order Number** : HAR7485 & HAR24557  
**Test date** : 1<sup>st</sup> to 6<sup>th</sup> September 2010  
**Test engineer** : Mr. R.J. Hardy  
**Location of Testing** : AQL EMC Ltd. Ferndown, Dorset, UK.

### TEST ITEM DETAILS

**Item** : Datamate J-Tek Connectors & metal b/shells  
**Manufacturer** : Harwin PLC  
**Part Number** : 6-Way, 14-Way and 26-Way  
**Serial Number** : Prototype  
**Condition of Equipment** : Good

### EMC TEST RESULTS SUMMARY

Test	Result
RF Attenuation Measurements performed in General Accordance with MIL STD 1377 (1971) Screened Cable / Connector Method.	
Datamate J-Tek 6 Way connectors with 6 Way metal backshells	10kHz to 400MHz @ >30dBs RF Attenuation
Datamate J-Tek 14 Way connectors with 14 Way metal backshells	10kHz to 400MHz @ >30dBs RF Attenuation
Datamate J-Tek 26 Way connectors with 26 Way metal backshells	10kHz to 400MHz @ >30dBs RF Attenuation
Please note that this test was performed with the J-Tek connectors equipped with metal backshells correctly terminated to a heavy-weight Braided Screened Cable. Overall RF Screening performance of any screened cable assembly is reliant upon both the Connector and Cable used and the termination therein.	

IT IS CERTIFIED THAT THE TESTS DETAILED IN THIS CERTIFICATE HAVE BEEN CARRIED OUT AS SPECIFIED.  
FULL TEST DETAILS ARE RETAINED IN THE AQL EMC FILE REFERENCE: T5153 & T6387

Signed:

Mr. L.J. Beale  
Senior EMC Engineer

Signed:

Mr. R.J. Hardy  
EMC Consultant

THIS CERTIFICATE MAY NOT BE REPRODUCED OTHER THAN IN FULL, EXCEPT WITH THE PRIOR WRITTEN APPROVAL OF AQL EMC LTD

**APPENDIX 3 – TEST CERTIFICATE PAGE 2**

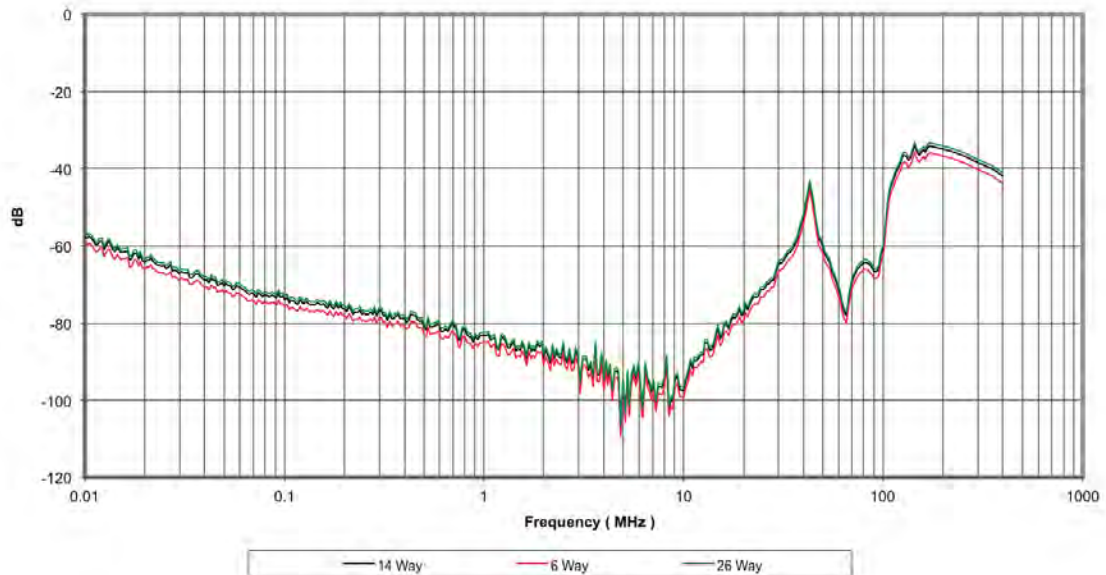


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Email: [info@aqlemc.co.uk](mailto:info@aqlemc.co.uk) Web: [www.aqlemc.co.uk](http://www.aqlemc.co.uk)

**AQL-EMC Limited**  
16 Cobham Road  
Ferndown Industrial Estate  
Wimborne  
Dorset BH21 7PG

# CERTIFICATE OF TEST

**Harwin J-Tek Connectors equipped with Metal Backshells  
Typical Screened Cable RF Attenuation**



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