
AMP CO PRO

1. INTRODUCTION

1.1 Purpose

Testing was performed on AMP NETCONNECT® AMP CO PRO®, to determine its conformance to the requirements of Tyco Electronics Product Specification 108-93037, Rev. C.

1.2 Scope

This report covers the electrical, mechanical, environmental and transmission performance of the AMP NETCONNECT® AMP CO PRO (2 pieces) manufactured by CommScope®, Inc. The testing was performed between November 26, 2008 and April 27, 2009.

1.3 Conclusion

The AMP CO PRO modules meet the electrical, mechanical, environmental and transmission performance requirements of CommScope Product Specification 108-93037, Rev. C.

1.4 Product Description

The AMP CO PRO provides a universal modular connection interface between premise wiring of an office and the user's network of communications equipment (for data and voice networking systems) upgradable. These assemblies are designed for installation into 24ports HIGH DENSITY PATCH PANELS. The module is prepared to accommodate the shielded edge connector 336455-1.

1.5 Test Samples

The test samples were randomly selected from pre-production and normal current production lots, and the following part numbers were used for tests:

4 samples of REAR COVER AMP CO PRO MODULE PN 1711684-1

17 samples of HOUSING AMP CO PRO MODULE PN 1711681-1

23 samples of PRE-ASSEMBLED MODULE AMP CO PRO PN 1711680-1

1.6 Qualification Test Sequence

	Test Group				
	Test Sequence				
	Hsg+insert+ edge conn Group1	Hsg+insert+ edge conn Group2	Hsg ensambled Group3	Complete panel Group4	Hsg+insert+ edge conn Group5
	Test Sequence				
Examination of product	1,7	1,8	1,5	1,4	1,3
ELECTRICAL					
Shield resistance	2,6		2,4		
Voltage proof	3,5				
MECHANICAL					
Durability, front/rear housing retention			3		
Tensile strength				2	
Panel housing retention				3	
ENVIRONMENTAL					
Thermal shock	4				
Flowing mixed gas corrosion, jack-plug interface					2
TRANSMISSION					
NEXT (Near End Cross Talk)		2			
PS NEXT (Power Sum Near End Cross Talk)		3			
IL (Insertion Loss)		4			
RL (Return Loss)		5			
ACR-F		6			
PS ACR-F		7			

2. SUMMARY OF TESTING

2.1 Examination of product – All Groups

All samples submitted for testing were selected from normal current production lots.

2.2 Shield resistance – Groups 1 and 3.

All shield resistance measured values with low level method were lower than 100 mOhm initial and final (maximum specified value).

2.3 Voltage proof – Group 1

No dielectric breakdown or flashover occurred during the test, having applied 1500 VAC Peak between contacts and shield.

Accessories connected: 1 insert 4PORT, 1 insert Cat5e Dual, 1 insert Cat6 Shielded.

2.4 Durability, front/rear housing retention – Group 3

All housing dismantle force measured values were higher than 90 N (minimum specified value).

2.5 Tensile Strength – Group 4

All housing mate force measured values were lower than 40 N (maximum specified value).

2.6 Panel housing retention – Group 4

All housing retention force measured values were higher than 90 N (minimum specified value).

2.7 Thermal shock housing interface – Group 1

All tested samples meet visual requirements, show no physical damages and meet the requirements of additional tests specified in test sequence.

2.8 Flowing mixed gas corrosion. Jack-plug interface and IDC-wire interface – Group 5

All tested samples meet visual requirements, show no physical damages and meet the requirements of additional tests specified in test sequence.

2.9 Transmission tests. – Group 2

Samples tested meet the requirements of Transmission tests requirements according to ISO/IEC 11801 2nd edition Amendment 1 and related standards.

Channel measurements have been carried on with 2-connector Class F_A Channel configuration.

3. TESTS METHODS

3.1 Examination of product (Reference Standard: IEC 60512, test 1a, 1b).

Product drawings and inspections plans were used to examine the samples. They were examined visually and functionally.

3.2 Shield Resistance (Reference Standard: IEC 60512-2-1, test 2a).

Shield Termination Resistance measurements were done between indicated points, at low level current using four terminal technique (Figure 1).

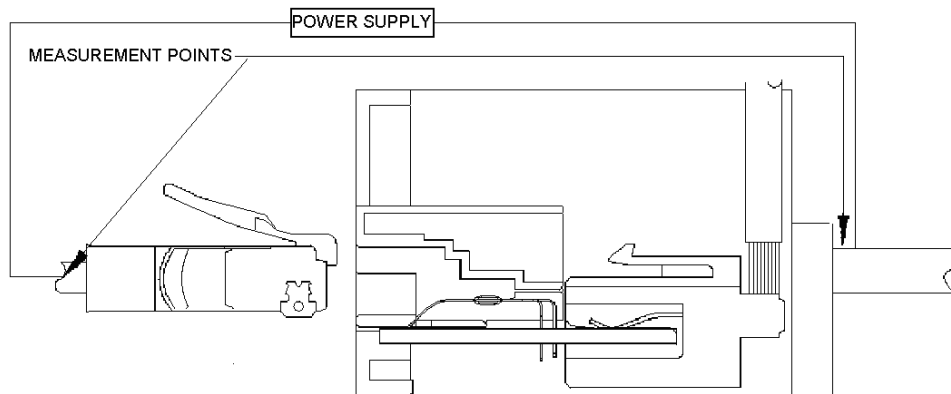


Figure 1

3.3 Voltage Proof (Reference Standard: IEC 60512-2, test 4a).

A 1500 V DC or AC peak voltage was applied between contacts and shield during 60 s. Maximum leakage current was set to 5 mA.

Accessories connected: 1 insert 4PORT, 1 insert Cat5e Dual, 1 insert Cat6 Shielded.

3.4 Durability, front/rear housing retention.(Reference Standard: IEC 60512, test 13a).

Samples were placed in a tensile strength machine and the force required to dismantle the housings was measured at a maximum rate of 25 mm/min. Samples are dismantled 4 times. Last force measured is recorded.

3.5 Tensile strength (Reference Standard: IEC 60512, test 11d)

Samples were placed in a tensile strength machine and was measured the force required to mate the housings at a maximum rate of 25mm/min.

3.6 Panel housing retention (Reference Standard: IEC 60512, test 13a).

Samples were placed in a tensile strength machine and was measured the housing retention force once assembled into the panel at a maximum rate of 25 mm/min (without cables).

3.7 Thermal shock cycling. Housing interface (Reference Standard: IEC 60068-2-14).

Subject samples to 25 cycles between -40° and 70°C. Duration exposure shall be 30 minutes at each temperature.

- 3.8 Flowing mixed gas corrosion. Jack-plug interface and IDC-wire interface (Reference Standard: IEC 60068-2-60. Test Method C).

Samples were placed during 4 days in a chamber with:

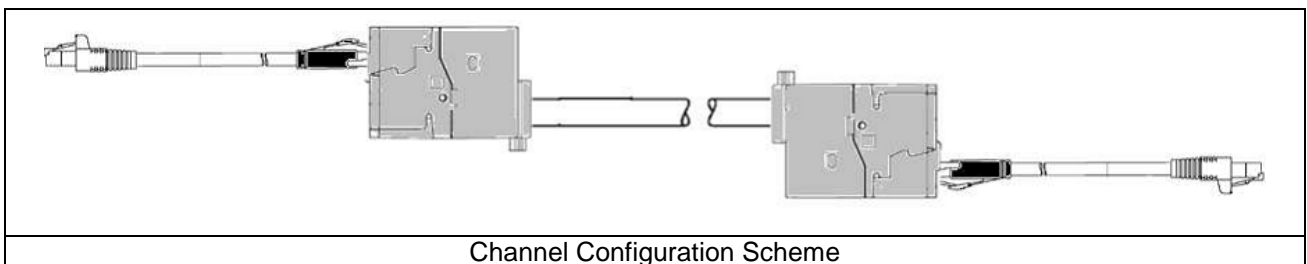
SO₂ = 0.5 ppm (Volume).

H₂S = 0.1ppm (Volume).

T = 25° C ± 2° C, HR = 75 % ± 3 %.

- 3.9 Transmission Tests (Reference Document: Shielded Edge Connector Product Specification 108-22137).

Near End Cross-Talk (NEXT), Power Sum Near End Cross-Talk (PSNEXT), Insertion Loss (IL), Return Loss (RL), Alien Crosstalk Ratio at the far-end (ACR-F) and Power Sum Alien Crosstalk Ratio at the far-end (PS ACR-F) were measured according to ISO/IEC 11801 2nd edition Amendment 1.



Channel Configuration Scheme