

## AMP CO ULTRA

### 1. SCOPE

#### 1.1. Content

This specification covers performance, tests and quality requirements for AMP NETCONNECT\* **AMP CO ULTRA** used to provide a universal modular connection interface between premise wiring of an office and the users network of communications equipment (for data and voice networking systems) upgradeable. The assemblies are designed for installation into a diversity of PATCH PANELS and INSTALLATION KITS; the module is prepared to accommodate the Shielded Edge Connector PN 336455-1.

#### 1.2. Qualification

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

### 2. APPLICABLE DOCUMENTS

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. CommScope® Documents

- A. C-1711686, C-2153014, C-2153074, C-2153075, C-2153112, C-2153113, C-2153173:  
Customer Drawings for AMP CO Ultra Kits with Clamp Housing
- B. C-1711655, C-1711855, C-1711856, C-1711857, C-1711858, C-1711859, C-1711860, C-1711861, C-1711862, C-1711864, C-1711865, C-1711866, C-1711869, C-1711870, C-1711873, C-1711875, C-1711876, C-2153065, C-2153073:  
Customer Drawings for AMP CO Ultra Kits with Tie Housing
- C. 501-93024: Qualification Test Report for AMP CO Ultra Kits with Clamp Housing
- D. 501-93033: Qualification Test Report for AMP CO Ultra Kits with Tie Housing
- E. 114-93015, 114-93024, 114-93025:  
Application Specifications for AMP CO Ultra Kits with Clamp Housing
- F. 114-93018, 114-93018-1, 114-93018-2, 114-93019, 114-93021, 114-93022, 114-93023:  
Application Specifications for AMP CO Ultra Kits with Tie Housing
- G. 108-22137: Product Specification Shielded Edge Connector
- H. TEC-138-702: Supplier Requirements for Product Environmental Compliance

#### 2.2. Industry Documents

- A. ISO/IEC 11801 ed. 2.1: Generic cabling for customer premises
- B. IEC 60512: Basic testing procedures and measuring methods for electromechanical components for electronic equipment. Test Spec. as indicated in Fig. 1
- C. IEC 60068: Basic environmental testing procedures. Test Spec. as indicated in Fig. 1

### 3. REQUIREMENTS

#### 3.1. Design and Construction

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

#### 3.2. Materials

Materials shall be in accordance to Commscope requirements about environmental-related substances as per spec. TEC-138-702.

#### 3.3. Wire Range

- See Product Spec. 108-22137 Shielded Edge Connector Mark II, AMP\* Communications Outlet System Plus

#### 3.4. Ratings

- Voltage: 72 V ac max.
- Current: signal application only (0.75 A)
- Temperature: -40 to 70°C

#### 3.5. Tooling

Pistol-grip 1711500-X with AMP CO Ultra Adapter PN 1711784-1 for Clamp Housing or Adapter PN 1711784-2 for Tie Housing (alternatively Impact Tools 1583608-1 or 1375308-1 may be used).

#### 3.6. Performance 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.

#### 3.7. Product Qualification and Requalification Test Sequence

Test Description	Requirement	Procedure
Examination of product	Meets requirements of product drawing	Visual, dimensional and functional per applicable quality inspection plan
<b>ELECTRICAL</b>		
Shield resistance	100 mΩ max. initial and final.	See Fig. 3
Voltage proof	ISO/IEC 11801 Amend. 2 1 minute hold 2 mA max. with no breakdown or flashover 1500 V dc or ac peak contact-ground using 1 Insert 4 Port 1 Insert Cat.5E Dual 1 Insert Dual Cat. 6 Shielded	IEC 60512-4-1 Test 4a, method A Test between contact and ground shield

<b>TRANSMISSION</b>		
NEXT Loss (Near End Cross Talk)	Class F <sub>A</sub> Channel NEXT requirements according to ISO/IEC 11801 2 <sup>nd</sup> Edition, Amend. 1	ISO/IEC 11801 2 <sup>nd</sup> Edition Amend. 1 Paragraph 6.4.1. <b>(1)</b>
PSNEXT (Power Sum Near End Cross Talk)	Class F <sub>A</sub> Channel PSNEXT requirements according to ISO/IEC 11801 2 <sup>nd</sup> Edition, Amend. 1	ISO/IEC 11801 2 <sup>nd</sup> Edition Amend. 1 Paragraph 6.4.1.
IL (Insertion Loss)	Class F <sub>A</sub> Channel Insertion Loss requirements according to ISO/IEC 11801 2 <sup>nd</sup> Edition, Amend. 1	ISO/IEC 11801 2 <sup>nd</sup> Edition Amend. 1 Paragraph 6.4.1.
RL (Return Loss)	Class F <sub>A</sub> Channel Return Loss requirements according to ISO/IEC 11801 2 <sup>nd</sup> Edition, Amend. 1	ISO/IEC 11801 2 <sup>nd</sup> Edition Amend. 1 Paragraph 6.4.1.
ACR-F	Class F <sub>A</sub> ACR-F requirements according to ISO/IEC 11801 2 <sup>nd</sup> Edition, Amend. 1	ISO/IEC 11801 2 <sup>nd</sup> Edition Amend. 1 Paragraph 6.4.1.
Power Sum ACR-F	Class F <sub>A</sub> Power Sum ACR-F requirements according to ISO/IEC 11801 2 <sup>nd</sup> Edition, Amend. 1	ISO/IEC 11801 2 <sup>nd</sup> Edition Amend. 1 Paragraph 6.4.1.
<b>MECHANICAL</b>		
Durability, front/rear housing retention	90 N min.	Measure force required to dismantle the housing at a max. rate of 25 mm/min, after 3 cycles
Tensile strength	200 N max.	Measure force required to mate the housing at a max. rate of 25 mm/min
Frame housing retention	90 N min.	Measure housing retention once assembled into the frame at a max. rate of 25 mm/min (without cables)
<b>ENVIRONMENTAL</b>		
Thermal shock housing interface	See Note	25cycles between -40°C and 70 °C Duration exposure 30 min
Flowing mixed gas corrosion Jack-plug interface and IDC-wire interface	See Note	IEC 60068-2-60, test method C Test conditions: SO <sub>2</sub> 0.5 ppm (volume) H <sub>2</sub> S 0.1 ppm (volume) T = 25 ± 2 °C HR = 75 ± 3 % Test time 4 days

Figure 1

**(1)** Permanent Link configuration per Fig. 4.

**NOTE**

Shall meet visual requirements, show no physical damage and shall meet requirements of additional tests as specified in Test Sequence in Figure 2.

## Product Qualification and Re-qualification Test Sequence.

	Test Sequence				
	Hsg+Insert+ Edge Conn. ELEC	Hsg+Insert+ Edge Conn. TX	Hsg Assembled MEC	Complete Kit MEC	Hsg+Insert+ Edge Conn. CHEM
Examination of product	1,7	1,8	1,5	1,4	1,3
<b>ELECTRICAL</b>					
Shield resistance	2,6		2,4		
Voltage proof	3,5				
<b>MECHANICAL</b>					
Durability, front/rear housing retention			3		
Tensile strength				2	
Frame housing retention				3	
<b>ENVIRONMENTAL</b>					
Thermal shock	4				
Flowing mixed gas corrosion Jack Plug interface					2
<b>TRANSMISSION</b>					
NEXT (Near End Cross Talk)		2			
PSNEXT (Power Sum Near End Cross Talk)		3			
IL (Insertion Loss)		4			
RL (Return Loss)		5			
ACR-F		6			
Power Sum ACR-F		7			

Figure 2

**NOTE** 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. All test groups shall each consist of a minimum of 3 specimens.

###### B. Test Sequence

Qualification inspection shall be verified by testing specimens as specified in Figure 1.

##### 4.2. Requalification Testing

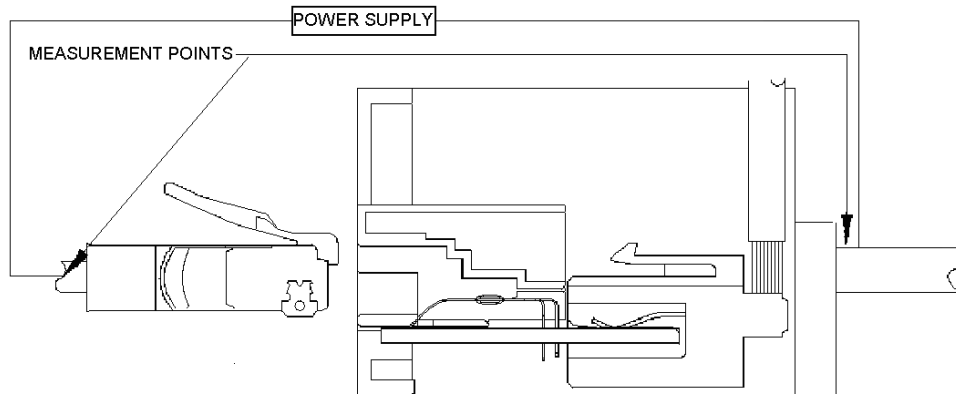
If changes significantly affecting form, fit or function are made to the product or manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality and reliability engineering.

#### 4.3. Acceptance

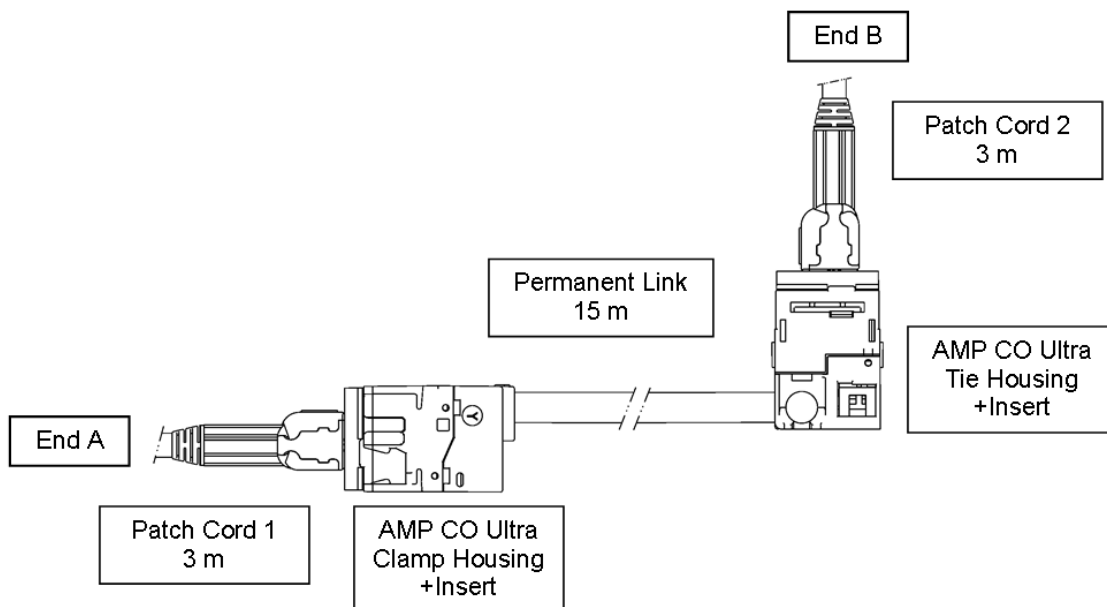
Acceptance is based on verification that the product meets the requirements of Figure 1. Failures attributed to equipment, test setup or operator deficiencies shall not disqualify the product. If product failure occurs, corrective action shall be taken and specimens resubmitted for qualification. Testing 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 application product drawing and this specification. Figures related to tests:



**Figure 3**  
Input/output and shield resistance measurement points as shown



**Figure 4**  
Class FA Channel configuration

## 5. REVISION SUMMARY

This paragraph is reserve for a revision summary of changes and additions made to this specification. Following changes were made for this revision:

- Product Specification template was updated from TE Connectivity template to Commscope product specification template to comply with corporate guidelines.
- Figure 1, Tensile Strength was updated to 200N max in order to lower the Durability Retention force required to unmate the front and rear housings.