

# Application Specification

## 114-5103

### Common Termination (CT) AMP-IN Header Termination of 2mm Pitch MT, Vertical(V) and Horizontal(H) Types

1. Scope:

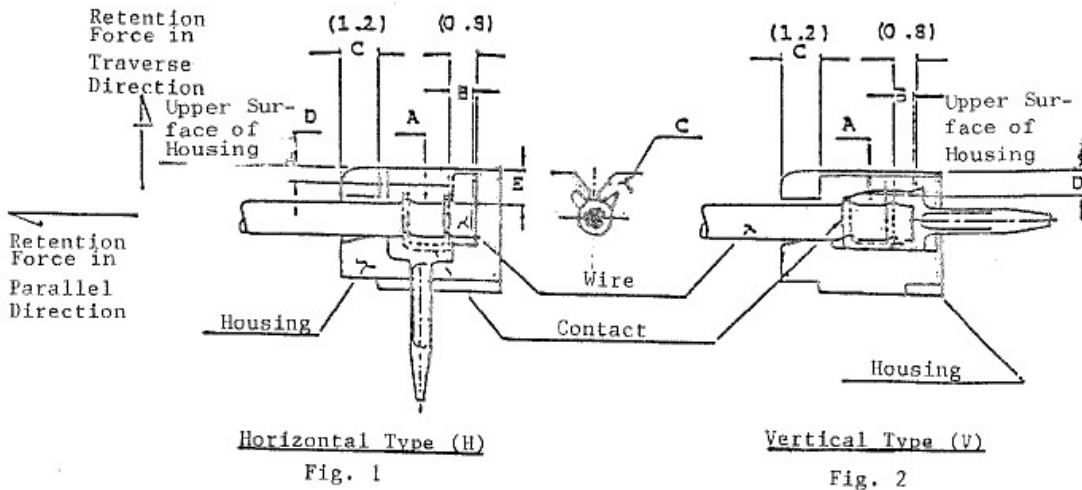
1.1 Contents:

This specification covers the requirements for termination of condition by automatic machine application (S-DECAM) and manual tool (Mini-press).

2. Applicable Documents:

Nomenclature	Catalog No.	Applicable Wire
CT AMP-IN Horizontal Type (H)	□-173983-□	UL-1061, UL-1571 AWG #28-#26 Insulation Diameter 0.83mm-1.05mm
CT AMP-IN Horizontal Type (V)	□-173985-□	

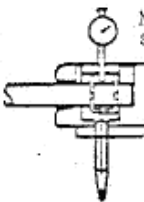
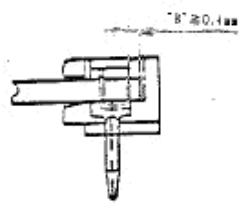
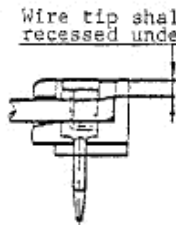
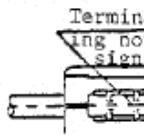
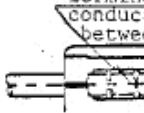
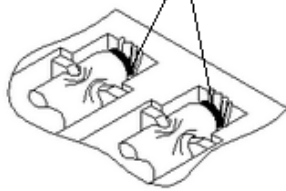
3. Details of Nomenclature & Terminating Condition:

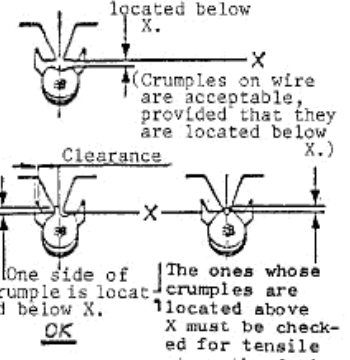
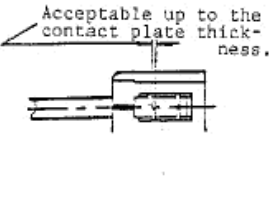
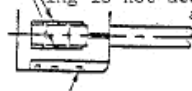

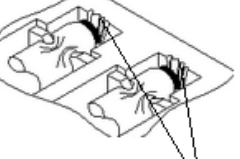


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4. Termination Condition and Inspection Criteria:

No.	Item	Terminating Condition	Inspection Criteria
1	Depth of Wire Insertion (A of Figs. 1 and 2)	Regardless of wire sizes and insulation diameter, depth of wire insertion into contact slot shall be $1.3\text{mm}^{+0.1}_{-0.15}$ when measured from upper surface of the housing to the tool marked insulation surface of the wire as shown in Figs. 1 and 2.	 <p>Measurement shall be done by height gauge, etc., as explained in the sketch.</p>
2	Length of Wire End Protrusion (B of Figs. 1 and 2)	Length of wire end protrusion after termination shall be such that dimension "B" between contact slot and wire end shown in Figs.1 and 2 shall be 0.4mm min. Excessive dimension is not acceptable.	
3	Depth of Wire Tip (D of Figs. 1 and 2)	Wire tip insulation shall not protrude from upper surface of the housing.	 <p>Wire tip shall be recessed under top surface of housing.</p>
4	Exposure of Wire Conductors	Any evidence of cut on wire insulation and/or exposure of strands is not acceptable.  Wire conductor exposed on the top is acceptable.	<p>Termination appearing normal without sign of damage is acceptable.</p>  <p>Termination with conductor exposing between the slot is acceptable.</p>  <p>Exposed on the top is acceptable</p> 

No.	Item	Terminating Condition	Inspection Criteria
5	Condition of Wire Retention (C of Figs. 1 and 2)	Terminated wire shall be perfectly inserted into the wire support hole of the housing shown in Figs. 1 and 2. Elongation of wire insulation is acceptable if it does not adversely affect the required function.	 <p>Wire shall be located below X. (Crumples on wire are acceptable, provided that they are located below X.)</p> <p>Clearance</p> <p>One side of crumple is located below X. <b>OK</b></p> <p>The ones whose crumples are located above X must be checked for tensile strength of wire.</p>
6	Position of Upper Edge of Contact Slot	After termination, all positions shall be aligned at the upper edge of the contact slot. Misalignment smaller than 0.2mm (contact plate thickness) at upper edge of contact is acceptable.	 <p>Acceptable up to the contact plate thickness.</p>
7	Damage of Contact and Housing	After termination, any evidence of tooled mark damage at the housing and contact slot areas is not acceptable except scratch mark by wire conductor as right fig.  Dimpled zone after termination shall appear symmetrical.	<p>(Housing) (Dimple)</p> <p>Dimple</p> <p>Scratch or dimple is acceptable, but exfoliation of plating is not acceptable.</p>  <p>Toolmark is allowable.</p> <p>(However, it shall be free from crack, bulge, etc.)</p> <p>(Contact)</p> <p>Scratches are allowable, but, exfoliation of plating is not acceptable.</p>   <p>Allowed scratch mark by wire conductor</p>

No.:	Item	Terminating Condition	Inspection Criteria
8	Misalignment of Wire	<p>Terminated wire shall be located at the center of the contact.</p> <p>After termination, four (4) places at upper edge of the contact slot shall appear symmetrical.</p> <p>As for V-type, however, tooled mark (2 places on the slot) on terminated surface of the insulation shall be visible.</p> <p><u>Normal Termination Condition (H-TYPE)</u></p>	<p><u>Acceptance Criteria</u></p> <p><u>(V-TYPE)</u></p> <p>Tooled mark shall be visible on the insulation surface. (2 places on the slot)</p>
9	Others	Any housings once used for termination shall not be reused.	

5. Wire Retention Force: (All of the actual measurement shall conform to the requirements.)

The requirements for the tensile strength, when the pull-off load is applied in the directions, traverse and along the contact axis, are shown in the table shown below.

Discrete Wires

Wire size	Traverse Direction	Parallel Direction
AWG #28	11. 8N (1. 2kgf) Min.	14. 7N (1. 5kgf) Min.
AWG #26 (UL-10272)	11. 8N (1. 2kgf) Min.	19. 6N (2. 0kgf) Min.
AWG #26 (except UL-10272) & #24	14. 7N (1. 5kgf) Min.	19. 6N (2. 0kgf) Min.

For shielded wires & 2mm pitch ribbon cables.

Wire size	Traverse Direction	Parallel Direction
AWG #28	7. 8N (0. 8kgf) Min.	14. 7N (1. 5kgf) Min.
AWG #26		19. 6N (2. 0kgf) Min.



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6. Applicable Wire Sizes:

Applicability of the respective wire should be evaluated before use.

6.1 General Wire Specification:

Applicable Wire Specification	Wire Size (Nominal)	Number of Strands / Diameter of Strands	Calculated Cross-Sectional Area (mm <sup>2</sup> )	Diameter of Insulation (mm)
Discrete UL 1571 UL 1061	AWG #26	AWG #26 : (7/0.16)	AWG #26 : (0.14)	AWG #26 : (0.93~1.05)
Ribbon Cable UL 2651 UL 20058				
Flat Shielded Cable UL 1533 UL 2547 UL 1691 UL 2791	AWG #28	AWG #28 : (7/0.127)	AWG #28 : (0.09)	AWG #28 : (0.83~0.97)

Note: The compatibility and applicability of the terminating wires are to be evaluated by AMP engineering, respectively according to the types and manufacture's product name, before starting production run.

6.2 Aluminum Shielded, Flat Cables:

Termination Cable Condition: The terminated condition of the cable shall be conforming to Fig.3, for the cables conforming to UL-2547 and UL-1533 Types.

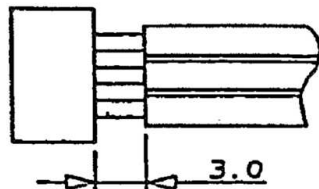


Fig.3 Terminated Condition for Flat Shield Cables

6.3 Copper Shielded, Flat Cables:

Termination Cable Condition: The terminated condition of the cable shall be conforming to Fig.4, for the cables conforming to UL-2791 and UL-1691 Types.

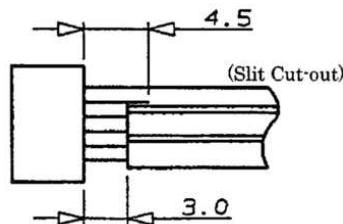


Fig.4 Terminated Condition for Copper-Shielded, Flat Cables

6.4 Requirements for General Purpose Ribbon Cables:

Terminated Cable Condition:

Preparation : Slit cut-outs shall be made between the conductors to the length as specified in Fig.5.

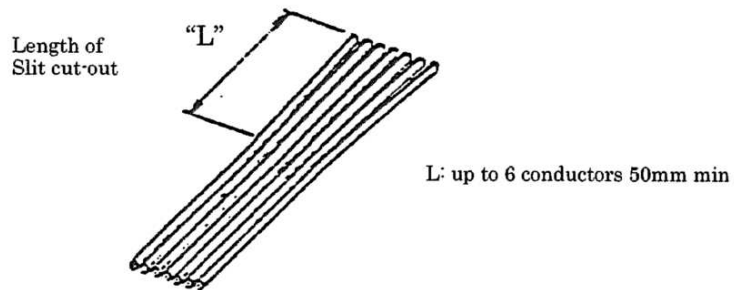


Fig.5 Terminated Condition for General Purpose Ribbon Cables.