

AMP-LATCH Universal I/O Pin Connectors with Slotted Mounting Ears

Related Product Data:

Electrical Characteristics—page 5
Ribbon Cable—page 40
Application Tooling—pages 81 & 82

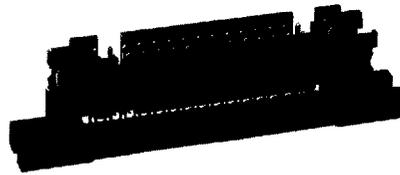
Technical Documents:

Product Specifications—
108-1336 Universal I/O Pin Connectors
108-40004 Ribbon Cable, PVC Insulated, AMP

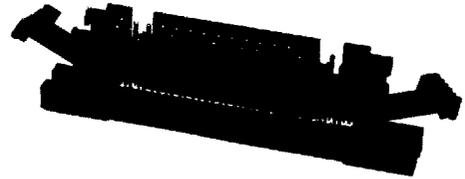
Application Specifications:
114-7011 Universal I/O Pin Connectors

Instruction Sheets:

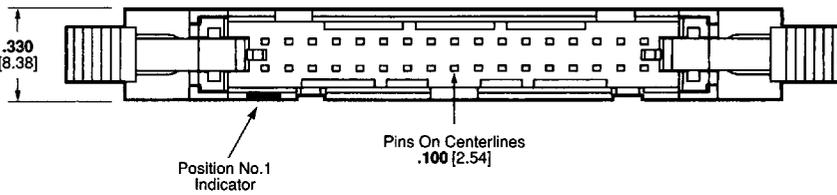
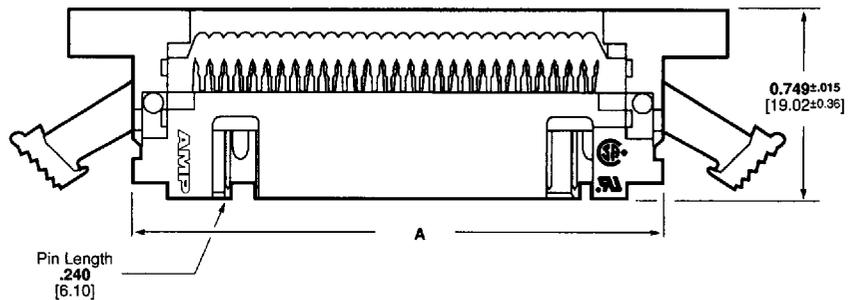
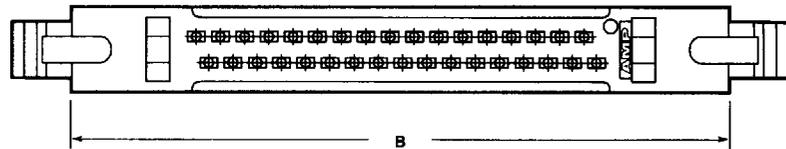
Instructional material covering operation, setup, maintenance, repair, etc. is included with each machine, tool or die set. If this material is required prior to receiving your tooling, call the **AMP Tooling Assistance Hotline 1-800-722-1111** for the applicable documents.



Without Latches



With Latches



Polarizer, Snap-In

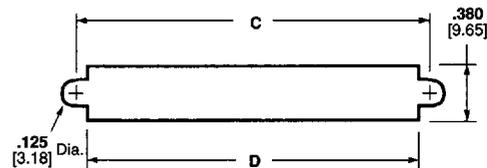
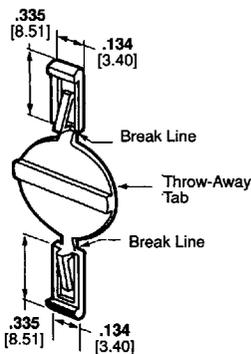
Material:

Thermoplastic, black

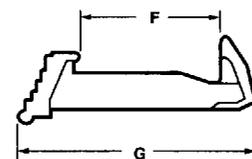
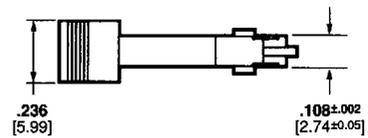
Part Nos.:

499991-2 (bulk packed, 50 to pack)
499991-3 (bulk packed, 1000 to box)

The snap-in polarizer provides military polarization.



Panel Cutout



Latch
(Base part No. 111451 Illustrated)

Note: Recommended panel cutout illustrated above serves as a guide only. They are not to be used for actual design or construction of customer equipment. Consult AMP customer drawings for detailed cutout dimensions.

AMP-LATCH Universal I/O Pin Connectors with Slotted Mounting Ears (Continued)

Ordering Information:

When ordering a connector, use **Table I** to determine the six digit base part number for the desired contact plating, pin connector without latches or kit part numbers of pin connectors with latches. Complete the part number by adding the proper suffix or prefix/suffix numbers for the desired connector size. The prefix/suffix numbers for all sizes are listed in **Table II**.

Contact Plating Code:

A. Phosphor Bronze—Duplex plated .000015 [0.00038] gold on the pin end, .000100-.000200 [0.00254-0.00508] bright tin-lead on cable termination end, entire contact underplated with .000050 [0.00127] nickel

B. Phosphor Bronze—Duplex plated .000030 [0.00076] gold on the pin end, .000100-.000200 [0.00254-0.00508] bright tin-lead on cable termination end, entire contact underplated with .000050 [0.00127] nickel

Base Part Numbers (Table I)

Part No. without Latches	Contact Plating Code	Pin Connector Kit Nos. (with Latches Preassembled)	
		Latch Part Number 111451-1 Mates with AMP-LATCH Receptacles without Strain Relief	Latch Part Number 111451-3 Mates with AMP-LATCH Receptacles with Strain Relief
111447	A	111493	111505
111448	B	111494	111506

- Notes:**
1. The connector kits include a housing, recessed cover and latches (preassembled). See Table III to order latches separately.
 2. No slot on end with position No.1 indicator for 10 and 14 position connectors.
 3. No slot for snap-in polarizer on end with position No.1 indicator for 10 and 14 position connectors.

Prefixes and Suffixes (Table II)

No. of Pos.	Dimensions				Prefix	Suffix
	A	B	C	D		
10	.992 25.20	1.476 37.08	1.204 30.58	1.042 26.47		-1
14	1.192 30.28	1.676 42.57	1.404 35.66	1.242 31.54		-2
16	1.292 32.82	1.776 45.11	1.504 38.20	1.342 34.07		-3
20	1.492 37.90	1.976 50.19	1.704 43.28	1.542 39.17		-4
24	1.692 42.98	2.176 55.27	1.904 48.36	1.742 44.25		-5
26	1.792 45.52	2.276 57.81	2.004 50.90	1.842 46.79		-6
30	1.992 50.60	2.476 62.89	2.204 55.98	2.042 51.87		-7
34	2.192 55.68	2.676 67.97	2.404 61.06	2.242 56.95		-8
40	2.492 63.30	2.976 75.59	2.704 68.68	2.542 64.57		-9
44	2.692 68.38	3.176 80.67	2.904 73.76	2.742 69.65	1-	-0
50	2.992 76.00	3.476 88.29	3.204 81.38	3.042 77.27	1-	-1
60	3.492 88.70	3.976 100.99	3.704 94.08	3.542 89.97	1-	-2
64	3.692 93.78	4.176 100.07	3.904 99.16	3.742 95.05	1-	-3

Latches (Table III)

Dimensions		Part Number
F	G	
.416 10.57	.771 19.58	111451-1
.576 14.63	.931 23.65	111451-3

Electrical Characteristics and Introduction

Electrical Characteristics

Contact Current Rating—1 ampere (continuous)

Operating Temperature—
-55°C to +105°C

Dielectric Withstanding Voltage—
Receptacles (all)—1000 Volts, RMS
Card Edge Connectors—1000 Volts, RMS
DIP Plugs—300 Volts, RMS
Paddle Board Connectors—500 Volts, RMS
Pin Connectors—500 Volts, RMS
Ejection Style Pin Headers (all)—
1000 Volts, RMS
Ribbon Cable—2000 Volts, RMS

No. of Positions	Cable Centerlines	PCB Area	Mating Height
20	.050	0.47 in. ²	0.565
	1.27	303 mm ²	14.35
	.039	0.134 in. ²	0.390
50	1.00	86.64 mm ²	9.91
	.025	0.213 in. ²	0.584
	0.64	137 mm ²	14.83
	.050	1.01 in. ²	0.565
	1.27	645 mm ²	14.25
	.039	0.335 in. ²	0.390
50	1.00	216 mm ²	9.91
	.025	0.426 in. ²	0.584
	0.64	275 mm ²	14.83

Chart gives an example of a 20-position and a 50-position configuration showing the optimum pc board space and mating connector system height. These factors are of prime importance when you considered the premium placed on system space.

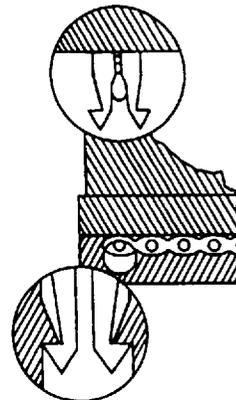
AMP-LATCH Connectors and Mass Termination

AMP-LATCH connectors use insulation displacement contacts (IDC), where each contact has a slotted-beam geometry to mass terminate the conductors. As a wire is pressed down into the slot, the beam tips pierce and displace the insulation. As the conductor is pressed farther into the slot, the contact provides sufficient conductor deformation to achieve a gastight interface.

The design of the contact supplies residual spring pressure to maintain a long term gastight connection. Since the connector **is** gastight, it will not corrode or otherwise degrade from normal environmental exposures.

Just as AMP-LATCH connectors help users derive the full benefits of ribbon cable, one-step application tooling allows them to realize the full productivity of mass termination. AMP offers a full range of die sets and tools, from hand tools to automatic cable assembly machines, to meet every production requirement.

Latching feature of AMP-LATCH Connectors



AMP-LATCH connectors have an additional feature not found in competitive connectors: Contact Latching. As the cable is terminated, a cover snaps down over the contacts.

Each contact individually latches to the cover. Where cable shearing occurs because of inappropriate handling AMP offers the following to protect the cable:

- Pull Tabs
- Strain Reliefs
- Ejection Latches (Mounted on the Headers and Pin Connectors)

*In AMP-LATCH connectors, the normal force (the amount of residual spring pressure the contact exerts against the conductor to maintain a gastight connection) is not supported by the plastic in the cover and is obtained solely by the contact design. The latching is **not** related to IDC normal force.*