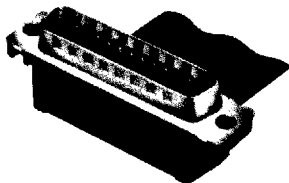
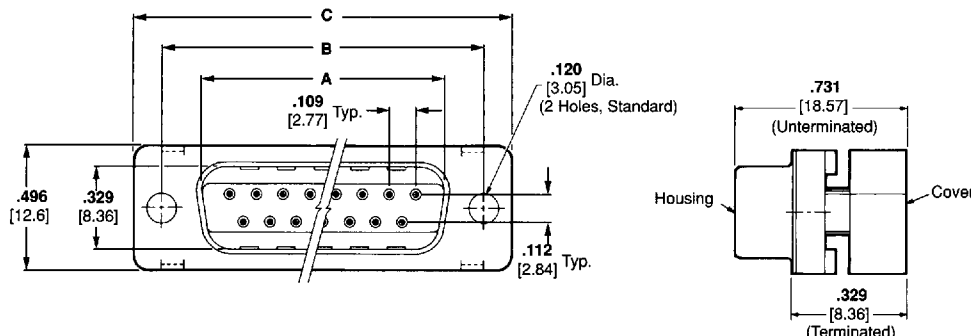


AMPLIMITE HDF-20 Low Profile Metal-Shell Connectors (for Round Conductor Flat Ribbon Cable)

Plug Assemblies (with Grounding Indents)



Housing and Covers are
Preassembled; Cable Stabilizer
is Separate.



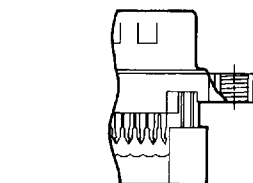
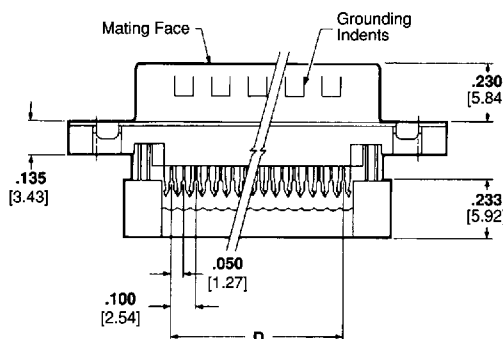
Material and Finish:

Front Shell—Steel, tin plated

Housing, Cover & Cable Stabilizer—Black thermoplastic, 94V-0 rated

Threaded Inserts—Brass, unplated

Contacts—Phosphor bronze, duplex plated .000030 [0.00076] gold on mating end, .000100-.000200 [0.00254-.00508] bright tin-lead on termination end, with entire contact underplated .000050 [0.00127] nickel



With Optional 4-40 Threaded Inserts

Related Product Data:

Electrical Characteristics—page 5

Mateable Receptacles:

HDF-20 Metal-Shell—page 31

Mating/Panel Mounting—page 36

Ribbon Cable—page 40

Accessories:

Mating Hardware—pages 37 & 38

Application Tooling—pages 81 & 82

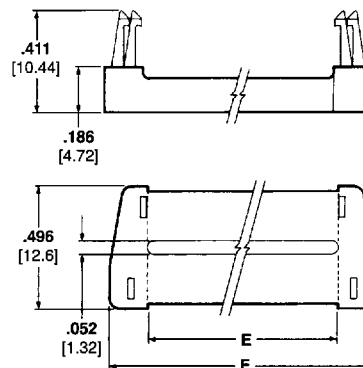
Technical Documents:

Product Specifications—

108-40004 Ribbon Cable,
PVC Insulated, AMP
108-40012 HDF-20 Low Profile
Connectors

Application Specifications:

114-40005 Ribbon Cable Connectors



Optional Cable Stabilizer—90° or 180° Exit

No. of Contact Pos. (Shell Size)	Dimensions						Optional Cable Stabilizer Part No.	Plug Assembly Part No.	
	A	B	C	D	E	F		With Standard Mounting Holes	With Threaded Inserts
9 (1)	.666 16.92	.984 24.99	1.216 30.89	.400 10.16	.480 12.19	.759 19.28	747275-4	747306-4	747043-4
15 (2)	.994 25.25	1.312 33.32	1.541 39.14	.700 17.78	.780 19.81	1.087 27.61	747275-3	747306-3	747043-3
25 (3)	1.534 38.96	1.852 47.04	2.090 53.09	1.200 30.48	1.280 32.51	1.623 41.22	747275-2	747306-2	747043-2
37 (4)	2.183 55.45	2.500 63.50	2.732 69.39	1.800 45.72	1.880 47.75	2.275 57.78	747275-1	747306-1	747043-1

Note: All plug assemblies are supplied with housing and cover preassembled (shown above).

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
	1.00	86.64 mm ²	9.91
50	.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
50	.039	0.335 in. ²	0.390
	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 consider the premium placed on system space.

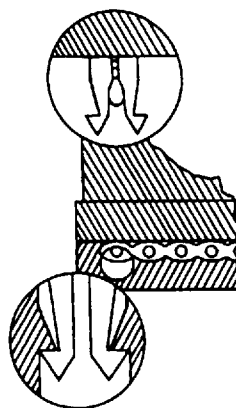
AMP-LATCH Connectors and Mass Termination

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.

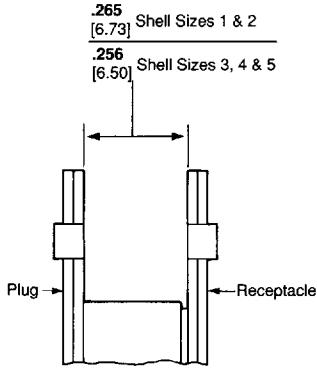
Each contact individually latches to the cover. Where cable shearing occurs because of inappropriate handling AMP offers the following to protect the cable:

- 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.*

AMPLIMITE HDF-20 Plugs/Receptacles Mating and Panel Mounting Specifications

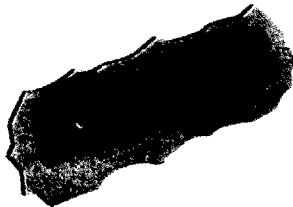
Plug/Receptacle Mating



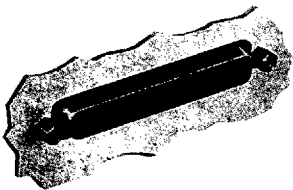
The .265/.256 [6.73/6.50] dimensions are required to assure full mating of connector halves. These dimensions must be taken into consideration when determining the method of mounting, panel thickness, etc.

Panel Mounting

Plugs and receptacles can be mounted to a panel from either the front or rear, using a variety of accessory hardware. Typical examples are shown below.

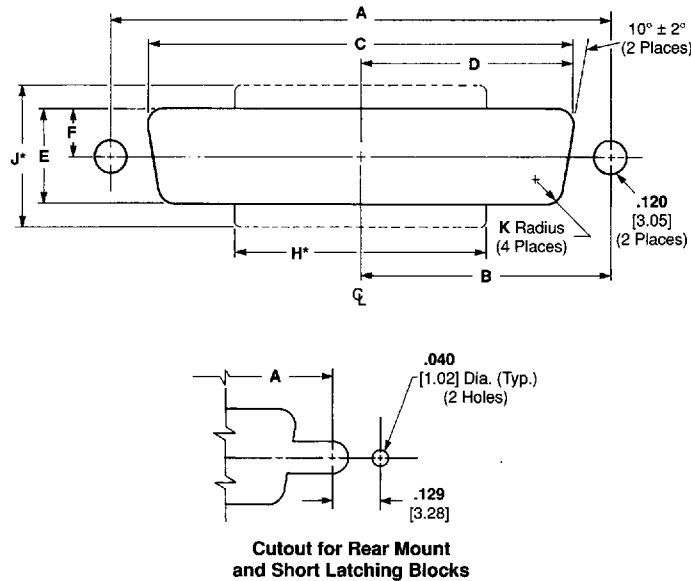


Typical Front-Panel Mounted
HDF-20 Plug



Typical Rear-Panel Mounted
HDF-20 Receptacle

Panel Cutouts



Shell Size (No. of Contact Pos.)	Mounting Method	Dimensions								
		A	B	C	D	E	F	H*	J*	K
1 (9)	Front	.984	.492	.874	.437	.550	.257	—	—	.083
	Rear	24.99	12.50	22.20	11.10	13.97	6.53	—	—	2.11
2 (15)	Front	1.312	.656	1.202	.601	.550	.257	—	—	.083
	Rear	33.32	16.66	30.53	15.27	13.97	6.53	7.62	16.00	2.11
3 (25)	Front	1.852	.926	1.743	.872	.550	.257	—	—	.083
	Rear	47.04	23.52	44.27	22.15	13.97	6.53	7.62	16.00	2.11
4 (37)	Front	2.500	1.250	2.391	1.196	.550	.257	—	—	.083
	Rear	63.50	31.75	60.73	30.38	13.97	6.53	7.62	16.00	2.11
5 (50)	Front	2.326	1.163	2.218	1.109	.555	.278	1.718	.745	.132
	Rear	59.08	29.54	56.34	28.17	14.10	7.06	43.64	18.92	3.35

*Panel cutout configuration with H and J dimensions provides clearance for mounting connectors with cable clamp assemblies.

For drawings, technical data or samples, contact your AMP sales engineer or call the AMP Product Information Center: 1-800-522-6752.
Dimensions are in inches and millimeters unless otherwise specified. Values in brackets are metric equivalents.
Specifications subject to change. Consult AMP for latest specifications.