MINIATURE RIBBONS

IDC SUPERIBBON™ & Metal Shell
Vertical Mount Compliant Pin
Solder Cup
Right-Angle Solder Tail
Wire Wrap
Vertical Mount Solder Tail
Accessories & Application Tooling

Cinch

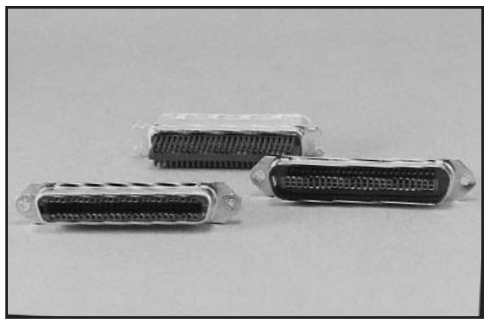
The Miniature Ribbon connector has been a mainstay in the electronics industry for decades. First widely used in telecommunications, it has proven itself to be a very reliable interconnection system, with generous wiping action, high contact pressure, large mating surface area in a relatively compact format, and polarized shells to ensure proper orientation in mating.

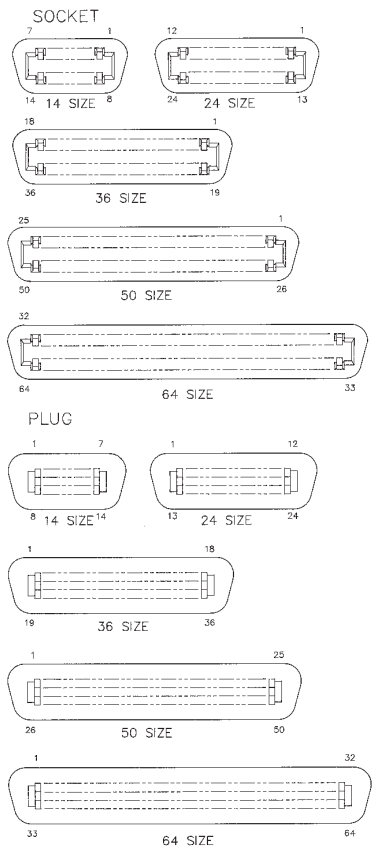
The Miniature Ribbon connector gets its name from the ribbon-like shape of the mating end of the contact. It is a derivative of the first connector design to incorporate this type of interconnection where mating members are equally flexible. Each contact is backed up by its respective insulator, resulting in high contact pressure without concern over relaxation that can occur with a beam or cantilever design. Industry standard sizes for this product are 14, 24, 36, 50, and 64 positions. Cinch adheres to industry-standard contact numbering and mating geometry.

Cinch has led the way in making the Miniature Ribbon connector one of the most cost-effective yet high-quality connector systems in the industry. From its roots in the telecommunications industry where it is traditionally known as the "Key Telephone" style connector (USOC Type RJ21), Cinch's innovations in termination, latching, and accessories have helped make the Miniature Ribbon family the choice for applications in computers and instrumentation as well. It is called out as the standard connector for a parallel printer interface (IEEE 1284-B, also known as "Centronics"), multi-purpose peripheral interface (SCSI-1), and instrumentation interface (IEEE-488, also know as "GPIB").

Cinch manufactures one of the most diverse lines of Miniature Ribbon products in the industry. From SUPERIBBON™ all-plastic products with solderless termination to full-metal shell products with solder terminations, and even filtered versions designed to solve EMI problems, Cinch can provide the Miniature Ribbon products you need.

Several options are available so you can find the right Cinch Miniature Ribbon product for your application. Cinch's method of integrating features into the product often *reduces overall installed cost compared to other alternatives.* Select the termination type, the configuration, the latching and mounting methods to be used, and any accessories that would make the installation of the connector complete.





Connector Face Views

All-Plastic	Metal Shell	
6-6	6-14	IDC
	6-24	Solder Cup
6-30	6-30	Wire Wrap
6-38	6-34	Vertical-Mount Solder Tail
6-42	6-42	Vertical-Mount Compliant Pin
	6-46	Right Angle Solder Tail
6-48		Filtered Vertical-Mount Solder-Tail
6-48		Male/Female Adapter

Accessories information starts on page 6-51.
Tooling Information starts on pafe 6-54.

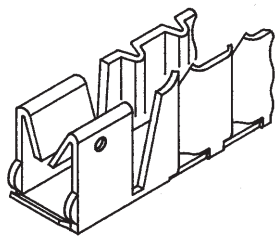
SUPERIBBON is a trademark of Cinch Connectors, Inc.Systems, Inc.

Termination Options

Cinch offers products suitable for termination by various methods:

- IDC -- Cinch's patented Insulation Displacement Contact (IDC) provides reliable, low-cost termination to discrete wire, either loose or in jacketed cable. With the use of special tools designed for field and/or factory use, wires can be terminated to the connector without individual cutting, stripping, or soldering. Reliable performance is ensured by the exclusive 4-point contact termination, and the built-in wire strain relief prevents mechanical stress from reaching the termination points.

  Cinch IDC connectors are available in both Metal Shell and All-Plastic SUPERIBBON versions. They are available to terminate solid conductor (some 22 AWG, and 24-26 AWG) or stranded (24-28 AWG) wire. Likewise, a full range of termination tooling is available.



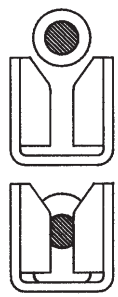
Termination section of IDC contact

- Wire Wrap -- This termination style, which is also solderless, is often used when termination must be done in place, such as in wired backplanes, etc. Cinch wire-wrap terminated Miniature Ribbon connectors are available in both Metal Shell and All-Plastic versions, with either .025" or .045" sq. tails.

- Solder Cup -- For those applications where nothing but the lowest termination resistance will do, Cinch offers Metal Shell Miniature Ribbon connectors with solder-cup termination. Available with or without insulator barriers between contact terminal areas, these products will accept up to one 22 AWG solid wire or one 24 AWG stranded wire per contact.

- Solder Tail -- This style allows Cinch Miniature Ribbon connectors to be through-hole soldered directly to a printed circuit board. They are available in Vertical Mount and Right-Angle Mount versions.

- Compliant Pin -- This style allows termination to a printed circuit board without soldering. This eliminates the costly cleaning/rework associated with soldering, yet the Cinch modified-C type termination will not damage the board's plating as standard press-fit terminals can.



Piercing/compressing action as wire is pressed into contact

Configuration

Cinch Miniature Ribbon and SUPERIBBON products are available as connectors alone to be mounted to a system's panel or printed circuit board, or complete with hoods for use on various types of cable assemblies. Hooded products are available with cable exits straight back 180 degrees from the mating face (Top-Entry) or with cable exits on either end, 90, or 270 degrees from the mating face (Standard and Reverse Orientation End-Entry). Finally, overmold kits are available allowing you to efficiently and economically manufacture your own "custom" cable assemblies.

End-Entry SuperShield™ connectors and All-Plastic SUPERIBBON connectors feature an integral cable clamp that prevents stress on the termination area, even when the hood is removed during assembly or repair.

Top-Entry products have cable clamps built into the hoods. These clamps are adjustable to fit a range of cable sizes.

SuperShield is a trademark of Cinch Connectors , Inc.

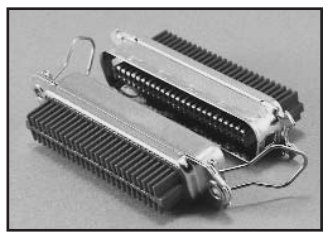
Latching Options

Miniature Ribbon and SUPERIBBON products exhibit a degree of self-locking inherent in the contact design; however, additional locking means are recommended to prevent connectors from being unmated inadvertently. Choices include:

- Screwlock Hardware -- the simplest connectors require the use of separate threaded hardware to lock mating connectors together. Some Cinch Miniature Ribbon cable connectors include locking screws; hardware for other configurations may be found in the Accessories section of the Miniature Ribbon line.

  Some panel-mount products are available with fixed female (internal thread) screwlocks that provide an integral threaded screwlock as part of the connector.

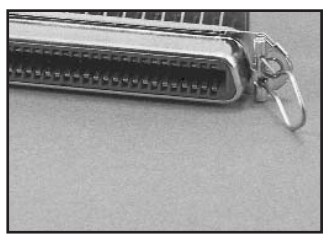
- Bail Latches -- as an alternative to screwlock hardware, Cinch offers many configurations with industry-standard bail latches. These connectors have wire clips on each end of the socket, and mating plugs have notched ends that these clips snap into.

  Bail latches offer the advantage of operating without any tools. Because of this, they have been standardized into several applications, including “Centronics” 36-position parallel printer interface and SCSI-1 peripheral interface bus.

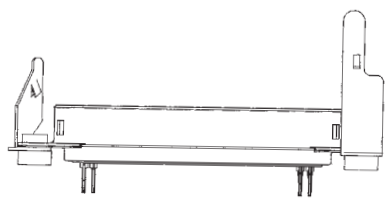
  Bail latch sockets include standard “straight” latches, suitable for top entry configurations. Special latches can be ordered to replace one standard latch to fit under the cable on end entry mating plug assemblies.

- InstaLatch™ -- all Cinch SUPERIBBON all-plastic sockets and some metal shell Miniature Ribbon sockets are available with a Cinch-patented latching system called InstaLatch. In this passive latching system, spring clips at each end of the socket automatically lock into windows in the shell of the mating plug securing the two connectors together. Audible feedback confirms that the connectors are indeed locked.

  InstaLatches may be unlocked by depressing the latch at either end of the connector, using almost any small, pointed-end tool. A special tool is also available to unlatch InstaLatches when connectors are laid out in a tight arrangement.

- J-Hooks -- These devices, available on selected Miniature Ribbon products, automatically lock onto the nose and hood of mating end entry connectors. They are easily unlatched without special tools and are more accessible than other latches in certain applications.

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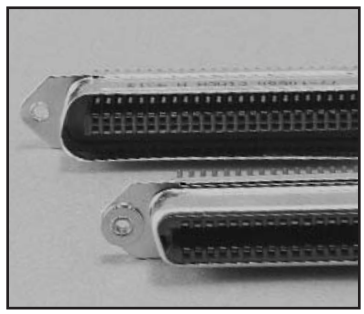
InstaLatch is a trademark of Cinch Connectors, Inc.

Mounting Options



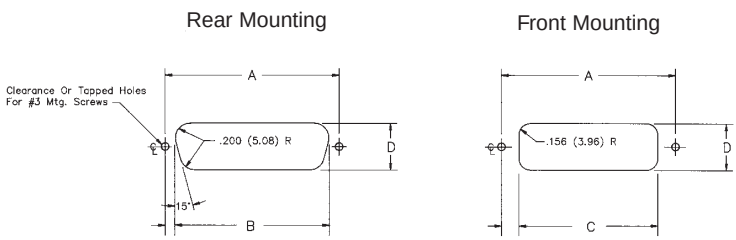
Various mounting options are available with Cinch Miniature Ribbon and SUPERIBBON products:

- Through-Hole/Threaded Hole -- These products require separate hardware to mount the connector to a panel or other component. Versions are available to accommodate #3, #4, and in some cases, through #8 hardware.

  Standard size cutouts are adequate for mounting panel-mount connectors to system panels with this type of hardware. They may be front- or rear-mounted. (Sockets with bail latches, however, must be front-mounted unless a modified cutout is used to clear the latch retaining hardware.)

  Metal Shell PC Mount products are available in some versions with standoffs to the printed circuit board. These may be conductive or insulated.

Standard Panel Cutout Recommendations



MOUNTING LAYOUTS

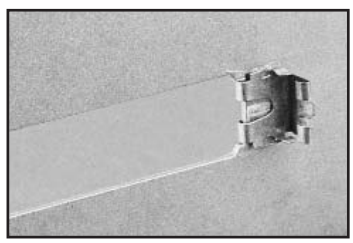
Dimensions

Plug or Fixed-Mount Socket | **Float-Mount Socket**

Size	A	B	C	D	A	B	C	D
14	1.417 (35.99)	1.098 (27.89)	.940 (23.88)	.580 (14.73)	1.417 (35.99)	1.153 (29.29)	.995 (25.27)	.635 (16.13)
24	1.842 (46.79)	1.523 (38.68)	1.365 (34.67)	.580 (14.73)	1.842 (46.79)	1.578 (40.08)	1.420 (36.07)	.635 (16.13)
36	2.352 (59.74)	2.033 (51.64)	1.875 (47.63)	.580 (14.73)	2.352 (59.74)	2.088 (53.04)	1.930 (49.02)	.635 (16.13)
50	2.947 (74.85)	2.628 (66.75)	2.472 (62.79)	.580 (14.73)	2.947 (74.85)	2.683 (68.15)	2.525 (64.14)	.635 (16.13)

SUPERIBBON, Plug or Socket

Size	A	B	C	D
14	1.417 (35.99)	1.172 (29.77)	.787 (19.99)	.610 (15.49)
24	1.842 (46.79)	1.597 (40.56)	1.212 (30.78)	.610 (15.49)
36	2.352 (59.74)	2.107 (53.52)	1.722 (43.74)	.610 (15.49)
50	2.947 (74.85)	2.703 (68.66)	2.317 (58.85)	.610 (15.49)
64	3.592 (91.24)	3.298 (83.77)	2.912 (73.96)	.610 (15.49)



- Panel Clips -- These devices are add-on accessories for All-Plastic products and are available as optional configurations on certain Metal Shell products. They allow you to mount the connector to the system panel without screws, nuts, or spacers, and leave the connector's mounting holes free for use in latching, if so desired.

- Boardlocks -- These devices, found on certain solder-tail PC mount products, fasten the connector to the printed circuit board with solder as part of the wave soldering process. Thus, there is no additional labor required to complete the assembly, and a cost savings can often be realized.

Features

- ***Patented contact terminates Discrete Wire (loose or jacketed cable) without stripping or soldering solid- and stranded-wire versions available.***
- ***All-plastic design reduces cost.***
- ***Available in plug and socket styles in 14, 24, 36, 50, and 64 position sizes.***
- ***Includes InstaLatch passive latch feature for automatic latching. Sockets are also available without latches.***
- ***Available with .125" or #4-40 mounting holes. 50-position size plug also available to lock with industry-standard Bail Latches.***
- ***Designed for panel mount, 180° (Top-Entry), or 90° (Standard) / 270° (Reverse) End-Entry cable application.***
- ***Integral Cable Clamp on End-Entry versions provides superior strain relief, even with hood removed.***
- ***Full range of application tooling is available for termination, unlatching, etc. See page 6-54 for details.***
- ***UL Recognized - Files E170218 (UL1977), E130965 (UL1863).***
- ***CSA Approved - File LR31996-7.***

Materials

Insulator: Gray UL94V-0 rated glass-filled polyester, except where noted

Contact: Copper alloy

Contact Plating: select gold over 50µin. select nickel standard; 30µin. select gold over 50µin. select nickel available where indicated

Environmental

Operating Temperature: -40°C to +105°C

Shock: 50G Peak, per EIA Std. RS364, TP27, Condition A

Vibration: 3 cycles @ 10-55Hz in each of 3 axes per EIA Std. 364, TP28, Condition A

Moisture Resistance: Per EIA Std. RS364, TP31, Condition B, with Step 7B excluded

Electrical

Voltage Rating: 500 VAC @ sea level; 125 VAC @ 70,000 ft.

Withstanding Voltage: 1200 VAC RMS @ sea level, per EIA Std. RS364, TP20

Contact Rating: 5 Amps (4 Amps per CSA)

Contact Resistance: 6 milliohms maximum, per EIA Std. RS364, TP6

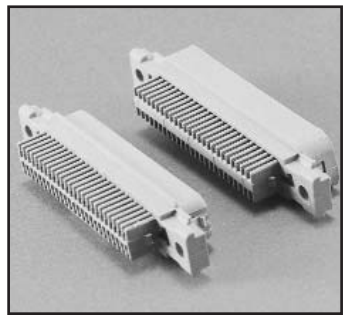
Contact Resistance Change During Life Conditioning:

Wire Size	Resistance Change (milliohms, max.)
24 AWG Solid	0.5
26 AWG Solid	0.5
26 AWG Stranded	2.0
28 AWG Stranded	5.0

Insulation Resistance: 5000 Megohms minimum initial; 1000 Megohms minimum after moisture

Mechanical Characteristics

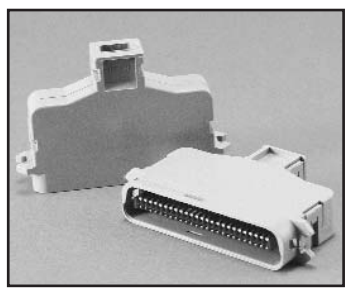
Durability: 200 mating/unmating cycles



Mating / Unmating Forces:

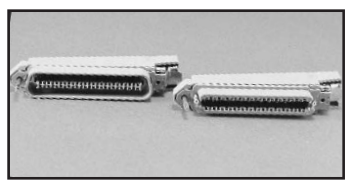
	Mating Force (max.) with InstaLatches		Unmating Force (min.) without InstaLatches	
Size	**Lb.**	**Kg**	**Lb.**	**Kg**
14	12	5.44	2	0.91
24	17	7.71	4	1.81
36	23	10.43	6	2.72
50	32	14.52	7	3.18
64	37	16.78	8	3.63

Termination: Solid IDC versions terminate 22 AWG - 26 AWG solid wire;
Stranded IDC versions terminate 24 AWG - 28 AWG stranded wire;
Recommended Wire Insulation: soft PVC, .040" (1.02mm) max. OD



Wire Grip Strength (using recommended wire type):

	Minimum Force	
Wire Size	**Lb.**	**Kg**
24 AWG Solid	7	3.42
26 AWG Solid	5	2.44
26 AWG Stranded	5	2.44



Panel Mount

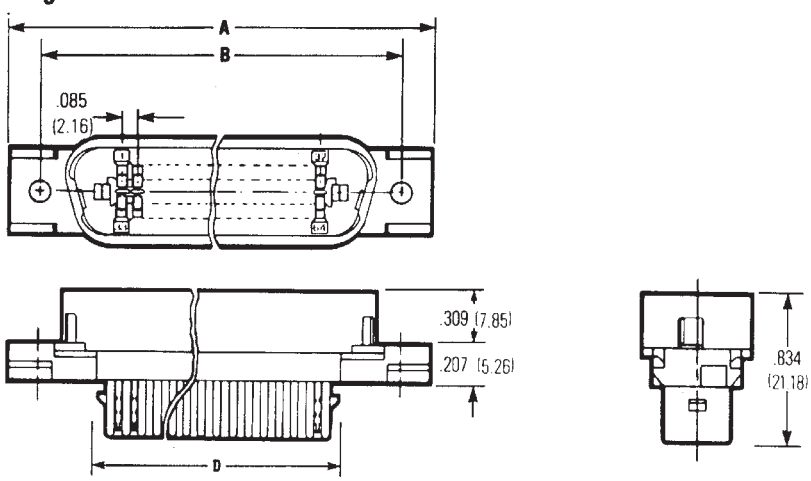
Panel mount connectors provide signal I/O from a panel or system cabinet.

See pages 6-51 thru 6-53 for accessories such as wire restraints, panel clips, mounting screws, and dust covers that make the use of Cinch SUPERIBBON connectors even more cost-effective in panel-mount applications.

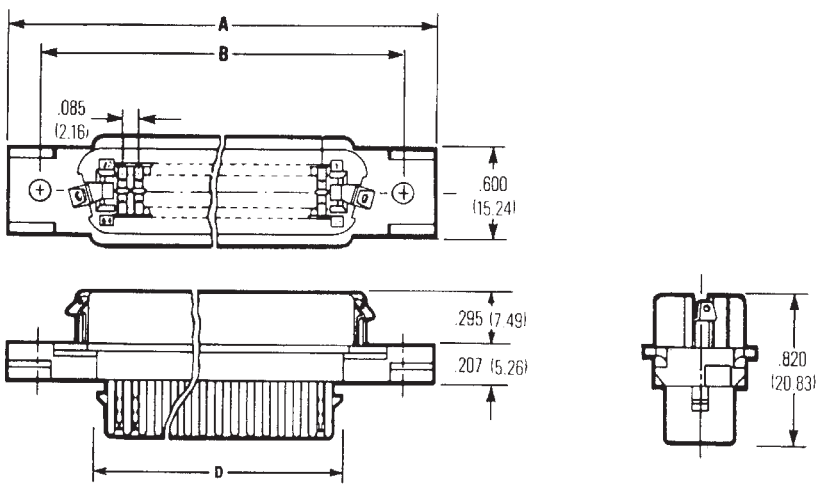
Dimensions

	A		B		D	
Size	in	mm	in	mm	in	mm
14	1.745	44.32	1.417	35.99	0.738	18.75
24	2.170	55.12	1.842	46.79	1.163	29.54
36	2.680	68.07	2.352	59.74	1.673	42.49
50	3.275	83.19	2.947	74.85	2.268	57.61
64	3.875	98.43	3.542	89.97	2.863	72.72

Plug



Socket



Ordering Information, Panel Mount

Plug, InstaLatching

Mount	Size	Solid Wire Commercial	Solid Wire 30Au/Ni
.125 Hole	14	97-12140-11	97-12140-11A
	24	97-12240-11	97-12240-11A
	36	97-12360-11	97-12360-11A
	50	97-12500-11	97-12500-11A
	64	97-12640-11	97-12640-11A
#4-40 Hole	14	97-12140-01	97-12140-01A
	24	97-12240-01	97-12240-01A
	36	97-12360-01	97-12360-01A
	50	97-12500-01	97-12500-01A
	64	97-12640-01	97-12640-01A

Socket

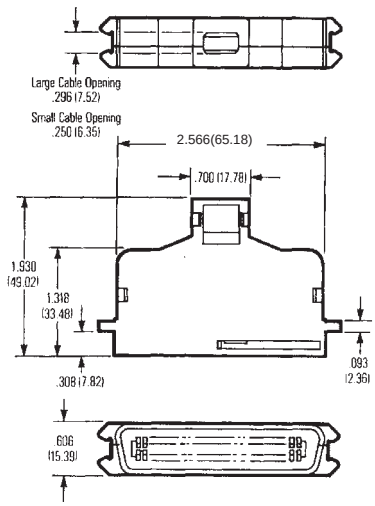
Latch	Mount	Size	Solid Wire Commercial	Solid Wire 30Au/Ni
InstaLatches	.125 Hole	14	97-22140-11	97-22140-11A
		24	97-22240-11	97-22240-11A
		36	97-22360-11	97-22360-11A
		50	97-22500-11	97-22500-11A
		64	97-22640-11	97-22640-11A
	#4-40 Hole	14	97-22140-01	97-22140-01A
		24	97-22240-01	97-22240-01A
		36	97-22360-01	97-22360-01A
		50	97-22500-01	97-22500-01A
		64	97-22640-01	97-22640-01A
No Latches	.125 Hole	14	97-22140-12	97-22140-12A
		24	97-22240-12	97-22240-12A
		36	97-22360-12	97-22360-12A
		50	97-22500-12	97-22500-12A
		64	97-22640-12	97-22640-12A
	#4-40 Hole	14	97-22140-02	97-22140-02A
		24	97-22240-02	97-22240-02A
		36	97-22360-02	97-22360-02A
		50	97-22500-02	97-22500-02A
		64	97-22640-02	97-22640-02A

180° (Top-Entry) Cable

Snap-on plastic top-entry hoods are available separately to provide strain relief to a cable when one of the mounting/ latching options from page 6-9 fits your requirements. See page 6-53 for details and ordering information for top-entry all-plastic hoods.

For bail latching applications, a 50-position size top-entry plug is available. It locks with industry-standard bail latches for positive locking/unlocking without tools. It also locks with InstaLatch latches for passive automatic latching.

For these products, insulator material is blue UL94V-0 rated glass-filled polyester, and hood material is gray UL94V-0 rated glass-filled polyester.



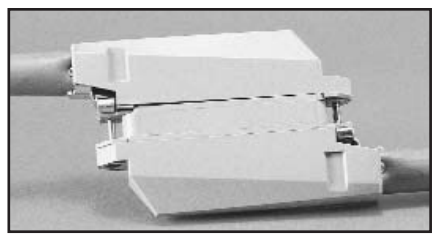
Ordering Information, 180° (Top-Entry) Cable Bail Latching Plug

	Solid Wire			
	Large (.296") Cable Opening		Small (.250") Cable Opening	
Size	Commercial	30Au/Ni	Commercial	30Au/Ni
50	77-32500LP	77-32500LPA	77-32500SP	77-32500SPA

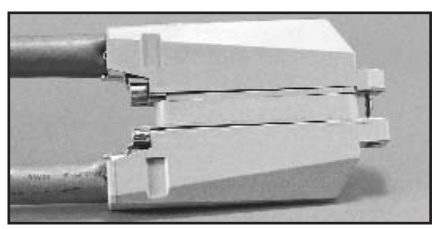
90° (Standard) / 270° (Reverse) End-Entry Cable

End-Entry connectors include a hood and integral cable clamp for cable exit from the end
of the connector.

- The standard-orientation plug has the cable clamp on the position-1 end, and the standard-orientation socket has the clamp on the high position end.
- Cables may be extended end-to-end (i.e., “running cable”) by mating standard-orientation plugs and sockets, or “doubled back” by mating a standard-orientation connector with a reverse-orientation mate.
- Cables may exit either direction on a cable-to-panel application by choosing standard or reverse-orientation, depending on the desired direction of cable exit.
- Pointed-nose versions of the standard-orientation, 50-position size are slightly smaller than the square-end product and are suited to applications with limited space such as bridging adapters, etc.
- #4-40 versions include screws that are 3/4" long, suitable for locking directly to the body of another connector. For locking to connectors panel-mounted with screwlock hardware, shorter screws are required. See pages 6-51 thru 6-53 for these and other accessories, such as dust covers.



Running Cable Application

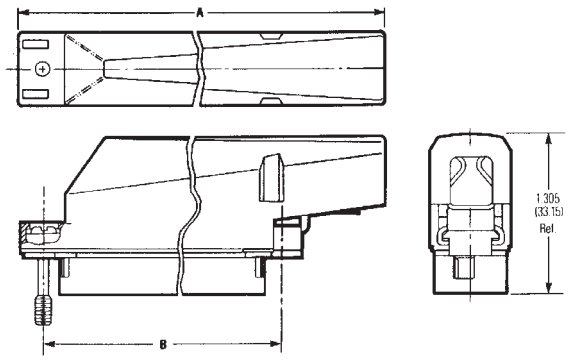


Doubled-Back Cable Application

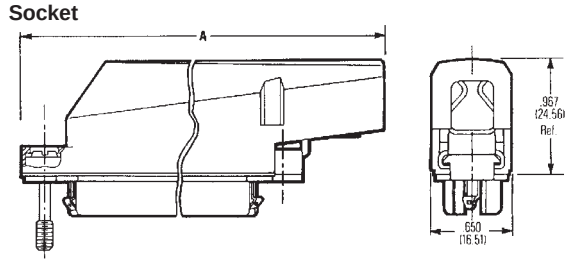
Dimensions, Square End

Size	A in	A mm	B in	B mm
14	2.114	53.70	1.417	35.99
24	2.539	64.49	1.842	46.79
36	3.049	77.44	2.352	59.74
50	3.677	93.40	2.947	74.85
64	4.511	114.58	3.542	89.97

Plug



Socket



Ordering Information, Square End

Standard (90°) Orientation

Plug, InstaLatching

Mount	Size	Solid Wire Commercial	Solid Wire 30Au/Ni
.125 Hole	14	97-12140-90	97-12140-90A
	24	97-12240-90	97-12240-90A
	36	97-12360-90	97-12360-90A
	50	97-12500-90	97-12500-90A
	64	97-12640-90	97-12640-90A
#4-40 Hole with Screw	14	97-12140-91	97-12140-91A
	24	97-12240-91	97-12240-91A
	36	97-12360-91	97-12360-91A
	50	97-12500-91	97-12500-91A
	64	97-12640-91	97-12640-91A

Socket

Latch	Mount	Size	Solid Wire Commercial	Solid Wire 30Au/Ni
InstaLatches	.125 Hole	14	97-22140-90	97-22140-90A
		24	97-22240-90	97-22240-90A
		36	97-22360-90	97-22360-90A
		50	97-22500-90	97-22500-90A
		64	97-22640-90	97-22640-90A
	#4-40 Hole with Screw	14	97-22140-91	97-22140-91A
		24	97-22240-91	97-22240-91A
		36	97-22360-91	97-22360-91A
		50	97-22500-91	97-22500-91A
		64	97-22640-91	97-22640-91A
No Latches	.125 Hole	14	97-22140-92	97-22140-92A
		24	97-22240-92	97-22240-92A
		36	97-22360-92	97-22360-92A
		50	97-22500-92	97-22500-92A
		64	97-22640-92	97-22640-92A
	#4-40 Hole with Screw	14	97-22140-93	97-22140-93A
		24	97-22240-93	97-22240-93A
		36	97-22360-93	97-22360-93A
		50	97-22500-93	97-22500-93A
		64	97-22640-93	97-22640-93A

Ordering Information, Square End (Cont'd)

Reverse (270°) Orientation

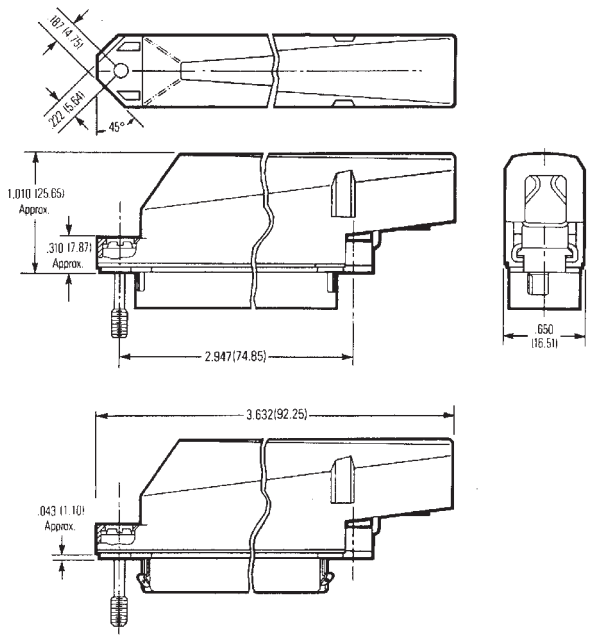
Plug, InstaLatching

Mount	Size	Solid Wire Commercial	Solid Wire 30Au/Ni
.125 Hole	14	97-12140-270	97-12140-270A
	24	97-12240-270	97-12240-270A
	36	97-12360-270	97-12360-270A
	50	97-12500-270	97-12500-270A
	64	97-12640-270	97-12640-270A
#4-40 Hole with Screw	14	97-12140-271	97-12140-271A
	24	97-12240-271	97-12240-271A
	36	97-12360-271	97-12360-271A
	50	97-12500-271	97-12500-271A
	64	97-12640-271	97-12640-271A

Socket

Latch	Mount	Size	Solid Wire Commercial	Solid Wire 30Au/Ni
InstaLatches	.125 Hole	14	97-22140-270	97-22140-270A
		24	97-22240-270	97-22240-270A
		36	97-22360-270	97-22360-270A
		50	97-22500-270	97-22500-270A
		64	97-22640-270	97-22640-270A
	#4-40 Hole with Screw	14	97-22140-271	97-22140-271A
		24	97-22240-271	97-22240-271A
		36	97-22360-271	97-22360-271A
		50	97-22500-271	97-22500-271A
		64	97-22640-271	97-22640-271A
No Latches	.125 Hole	14	97-22140-272	97-22140-272A
		24	97-22240-272	97-22240-272A
		36	97-22360-272	97-22360-272A
		50	97-22500-272	97-22500-272A
		64	97-22640-272	97-22640-272A
	#4-40 Hole with Screw	14	97-22140-273	97-22140-273A
		24	97-22240-273	97-22240-273A
		36	97-22360-273	97-22360-273A
		50	97-22500-273	97-22500-273A
		64	97-22640-273	97-22640-273A

Pointed-End 50-Position 90° End-Entry Cable



Ordering Information, Pointed-End

		Solid Wire #4-40 Threaded Hole with Screw	
		Commercial	30Au/Ni
Plug, InstaLatching			
	With Dust Cover	97-12500-91PD	97-12500-91PDA
	Without Dust Cover	97-12500-91P	97-12500-91PA
Socket, InstaLatching			
	With Dust Cover	97-22500-91PD	97-22500-91PDA
	Without Dust Cover	97-22500-91P	97-22500-91PA
Socket, No Latches			
	With Dust Cover	97-22500-93PD	97-22500-93PDA
	Without Dust Cover	97-22500-93P	97-22500-93PA

Features

- ***Patented contact terminates Discrete Wire (loose or jacketed cable) without stripping or soldering. Solid and stranded wire versions available.***
- ***Metal shell provides grounding and shielding capability.***
- ***Available in plug and socket styles in 14, 24, 36, and 50 position sizes.***
- ***Designed for panel mount, 180° (Top-Entry), or 90° (Standard) / 270° (Reverse) End-Entry cable applications.***
- ***Available as overmold kit in 36 and 50 position sizes.***
- ***All Plugs lock with InstaLatch passive latch feature for automatic latching. Sockets available with InstaLatches where indicated.***
- ***Industry-standard bail latch feature available for locking/unlocking without tools in applications such as SCSI-1 and Centronics.***
- ***Full range of application tooling available for termination, unlatching, etc. See page 6-54 for details.***
- ***UL Recognized - Files E170218 (UL1977), E130965 (UL1863).***
- ***CSA Approved - File LR31996-7.***

Materials

Insulator: Blue UL94V-0 rated glass-filled polyester

Contact: Copper alloy

Contact Plating: Select gold over 50µin. select nickel standard; 30µin. select gold over 50µin. select nickel available where indicated

Shell: Steel

Shell Plating: Zinc with clear chromate coating standard Tin available where indicated

Environmental

Operating Temperature: -40°C to +105°C

Shock: 50G Peak, per EIA Std. RS364, TP27, Condition A

Vibration: 3 cycles @ 10-55Hz in each of 3 axes per EIA Std. 364, TP28, Condition A

Moisture Resistance: Per EIA Std. RS364, TP31, Condition B, with Step 7B excluded

Electrical

Voltage Rating: 500 VAC @ sea level; 125 VAC @ 70,000 ft.

Withstanding Voltage: 1200 VAC RMS @ sea level, per EIA Std. RS364, TP20

Contact Rating: 5 Amps (4 Amps per CSA)

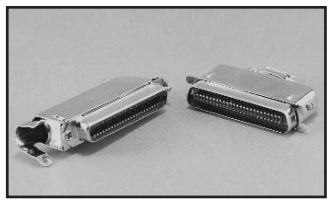
Contact Resistance: 6 milliohms maximum, per EIA Std. RS364, TP6

Contact Resistance Change During Life Conditioning:

Wire Size	Resistance Change (milliohms, max.)
24 AWG Solid	0.5
26 AWG Solid	0.5
26 AWG Stranded	2.0
28 AWG Stranded	5.0

Insulation Resistance: 5000 Megohms minimum initial; 1000 Megohms minimum after moisture

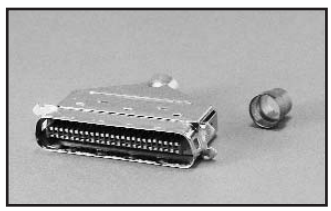
Mechanical Characteristics



Durability: 200 mating/unmating cycles

Mating / Unmating Forces:

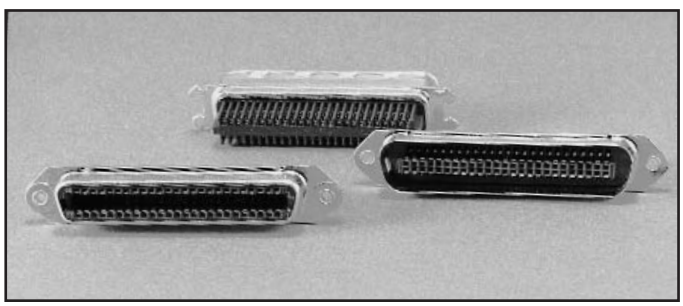
	Mating Force (max.) with InstaLatches		Unmating Force (min.) without InstaLatches	
Size	**Lb.**	**Kg**	**Lb.**	**Kg**
14	12	5.44	2	0.91
24	17	7.71	4	1.81
36	23	10.43	6	2.72
50	32	14.52	7	3.18



Termination: Solid IDC versions terminate 22 AWG - 26 AWG solid wire; Stranded IDC versions terminate 24 AWG - 28 AWG stranded wire; Recommended Wire Insulation: soft PVC, .040" (1.02mm) max. OD

Wire Grip Strength (using recommended wire type):

	Min. Force	
Wire Size	**Lb.**	**Kg**
24 AWG Solid	7	3.42
26 AWG Solid	5	2.44
26 AWG Stranded	5	2.44



Panel Mount

"Panel mount" products are connectors without hoods. They are typically used to provide signal I/O from a system panel or cabinet, where strain relief to a cable jacket is not required.

- Standard versions have .103" mounting holes (sockets have .103" with float bushings) for use with #3 hardware, or with .185" mounting holes for use with #8 hardware.
- Select sizes are available with .120" or .113" mounting holes for use with #4 hardware, or with integral panel clips, which allow snap-in front mounting on .093" thick panels for more cost-effective assembly.
- Bail latching sockets are available, as are bail latching plugs. While the plugs would not be panel-mounted, they are available for premold/solder overmolding applications.
- SuperShield products include modified shells that assure interference fit between mated connectors for improved shielding performance.

See page 6-4 for recommended standard panel cutout dimensions.

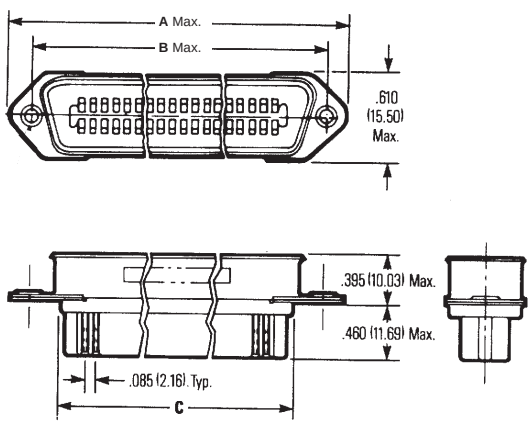
See pages 6-51 thru 6-52 for accessories such as wire restraints, mounting screws, and dust covers, which make the use of Cinch Miniature Ribbon connectors even more cost-effective in panel-mount applications.

See the appropriate cable connector section that follows for products that include hoods for exposed-cable applications.

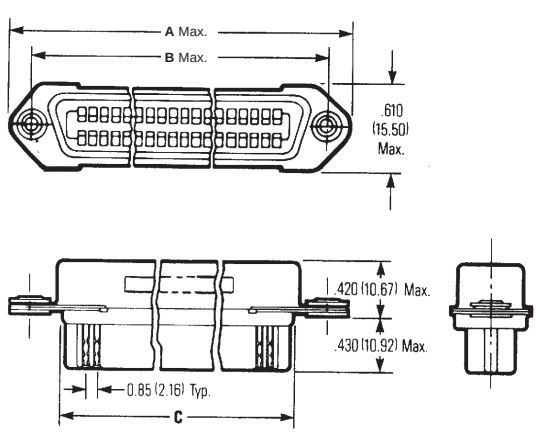
Dimensions

	A		B		C		D	
Size	in	mm	in	mm	in	mm	in	mm
14	1.750	44.45	1.417	35.99	0.910	23.11	-	-
24	2.175	55.25	1.842	46.79	1.335	33.91	-	-
36	2.685	68.20	2.352	59.74	1.845	46.86	2.426	61.62
50	3.280	83.31	2.947	74.85	2.440	61.98	3.020	76.71

Plug



Socket



Ordering Information, Panel Mount

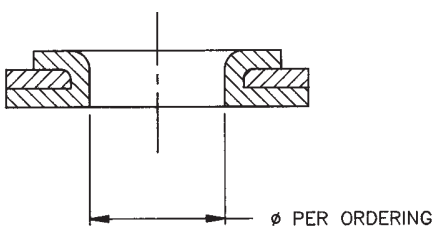
Plug, InstaLatching

Mount	Size	Solid Wire Commercial	Solid Wire 30Au/Ni
.103 Hole	14	77-12140	77-12140A
	24	77-12240	77-12240A
	36	77-12360	77-12360A
	50	77-12500	77-12500A
.103 Hole Tin-Plated Shells	24	77-12240-32	77-12240-32A
	36	77-12360-32	77-12360-32A
	50	77-12500-32	77-12500-32A
.185 Hole	14	77-12140-185	77-12140-185A
	24	77-12240-185	77-12240-185A
	36	77-12360-185	77-12360-185A
	50	77-12500-185	77-12500-185A
.185 Hole Tin-Plated Shells	24	77-12240-186	77-12240-186A
	36	77-12360-186	77-12360-186A
	50	77-12500-186	77-12500-186A
.120 Hole	50	77-12500-120	77-12500-120A
.120 Hole, Tin-Plated Shells	50	77-12500-121	77-12500-121A
SuperShield, .133 Hole	50	77-12500-SH	77-12500-SHA
Bail Latching	36	77-12360-5	77-12360-5A
Tin-Plated Shells	50	77-12500-10	77-12500-10A
.103 Hole	50	77-12500-41	77-12500-41A
Fixed 4-40 Screwlock	50	77-12500-43	77-12500-43A
SuperShield, .103 Hole	50	77-12500-SC	77-12500-SCA

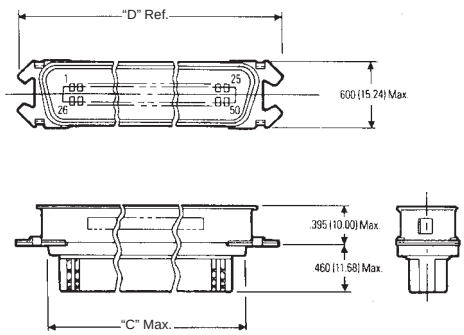
* Integral Panel Clips

**Integral Panel Clips, for front-mount only, require modified panel cutout. See page 6-52 for details.*

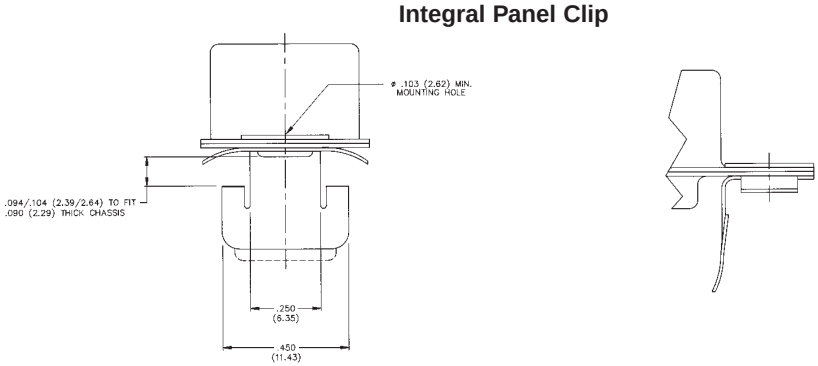
Through Hole



Bail Latching



Integral Panel Clip



6

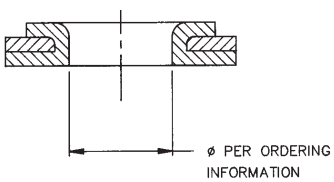
Call Toll Free: 1 (800) 323-9612

Ordering Information, Panel Mount (Cont'd)

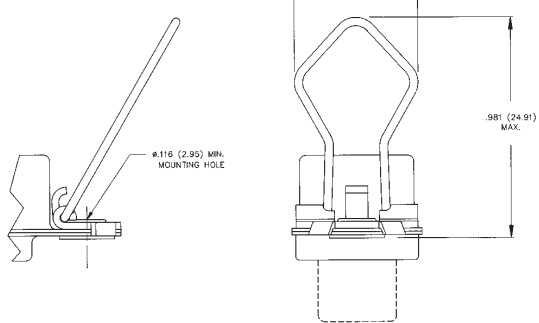
	Socket			
			Solid Wire	
	Mount	Size	Commercial	30Au/Ni
No Latches	Float Mounts with .103 Hole	14	77-22140	77-22140A
		24	77-22240	77-22240A
		36	77-22360	77-22360A
		50	77-22500	77-22500A
	.103 Hole Tin-Plated Shells	24	77-22240-34	77-22240-34A
		36	77-22360-34	77-22360-34A
		50	77-22500-34	77-22500-34A
	.185 Hole	14	77-22140-185	77-22140-185A
		24	77-22240-185	77-22240-185A
		36	77-22360-185	77-22360-185A
		50	77-22500-185	77-22500-185A
	.185 Hole Tin-Plated Shells	24	77-22240-186	77-22240-186A
		36	77-22360-186	77-22360-186A
		50	77-22500-186	77-22500-186A
	.120 Hole	50	77-22500-120	77-22500-120A
	Integral Panel Clips*, .103 Hole	50	77-22500-41	77-22500-41A
	Integral Panel Clips* Fixed 4-40 Screwlocks	50	77-22500-43	77-22500-43A
Bail Latches	.116 Hole	14	77-42140	77-42140A
		24	77-42240	77-42240A
		36	77-42360	77-42360A
		50	77-42500	77-42500A
	.116 Hole with Tin-Plated Shell	36	77-42360-5	77-42360-5A
		50	77-42500-5	77-42500-5A
InstaLatches	.103 Hole Tin-Plated Shell	50	77- 22500-36	77- 22500-36A
	.113 Hole Tin-Plated Shell	50	77-22500-38	77-22500-38A
	SuperShield, .103 Hole with Integral Panel Clips*	50	77-22500-SC	77-22500-SCA

** Integral Panel Clips, for front-mount only, require modified panel cutout.*
See page 6-52 for details.

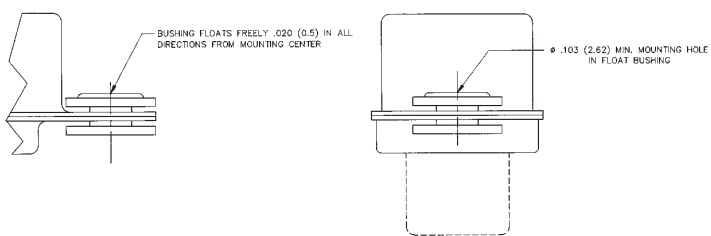
Through Hole



Bail Latching



Float Mount



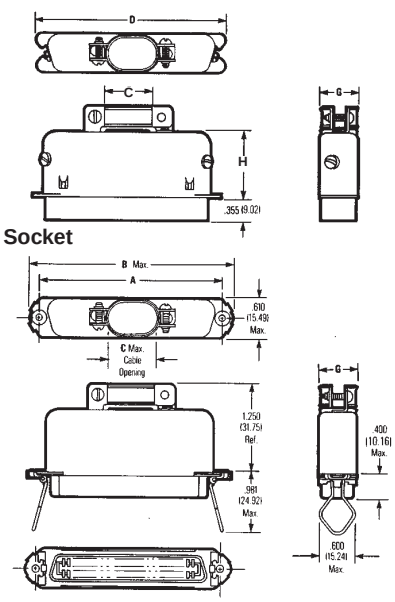
180° (Top-Entry) Cable

Top-Entry products include a connector, hood (or overmold can), and associated hardware.

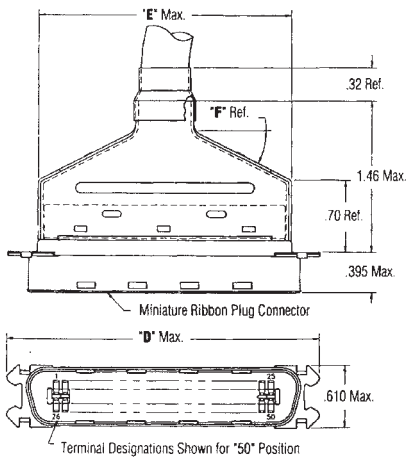
They are typically used at the end of a cable, where it is subject to physical strain and protection of the termination area is required.

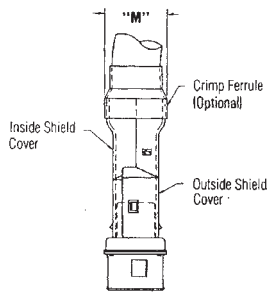
- Includes all hardware required to attach hood to connector.
- Bail latching sockets have latch hardware integral to the connector body, making cable assembly more efficient.
- Bail latching plugs include notches that lock with industry-standard bail-latch sockets.
- Select configurations are available as overmold kits, which lower assembly costs by eliminating premolding and foil soldering. Kits include connector and overmold cans. Crimp ferrules, which ground cable shields and provide strain relief, must be ordered separately.
- Ordering information for crimp ferrules is at end of end-entry product section. See page 6-22.

Plug



Overmold Kit





Dimensions

	A		B		C		D		E		F	G		H		M	
Size	in	mm	in	mm	in	mm	in	mm	in	mm	Deg.	in	mm	in	mm	in	mm
14	1.417	35.99	1.750	44.45	.306	7.77	1.495	37.97	-	-	-	.422	10.72	.843	21.41	-	-
24	1.842	46.79	2.175	55.25	.473	11.10	1.920	48.77	-	-	-	.473	12.01	.825	20.96	-	-
36	2.352	59.74	2.685	68.20	.639	16.23	2.431	61.75	1.83	46.48	37°	.473	12.01	.905	22.99	.52	13.21
50	2.947	74.85	3.270	83.06	.766	19.46	3.025	76.84	2.43	61.72	27°	.473	12.01	.995	25.27	.60	15.24

Ordering Information, 180° (Top-Entry) Cable

Plug, InstaLatching

	Mount	Size	Solid Wire Commercial	Solid Wire 30Au/Ni
	Bail Latching	14	77-32140	77-32140A
		24	77-32240	77-32240A
		36	77-32360	77-32360A
		50	77-32500	77-32500A
	Captive 4-40 Screws	50	77-32500-30	77-32500-30A
Overmold kit	Bail Latching, Tin Shell	36	77-32360-51	77-32360-51A
		50	77-32500-51	77-32500-51A
	.103 Hole, Tin Shell	36	77-32360-52	77-32360-52A
		50	77-32500-52	77-32500-52A

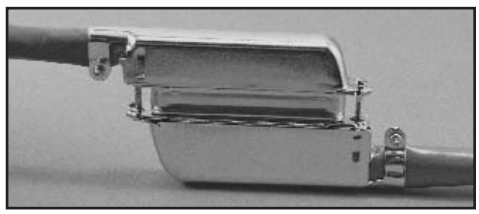
Socket

	Mount	Size	Solid Wire Commercial	Solid Wire 30Au/Ni
	With Bail Latches	14	77-62140	77-62140A
		24	77-62240	77-62240A
		36	77-62360	77-62360A
		50	77-62500	77-62500A
Overmold kit InstaLatch	.103 Hole, Tin-Plated Shells	50	77-62500-54	77-62500-54A
	.113 Hole, Tin-Plated Shells	50	77-62500-55	77-62500-55A

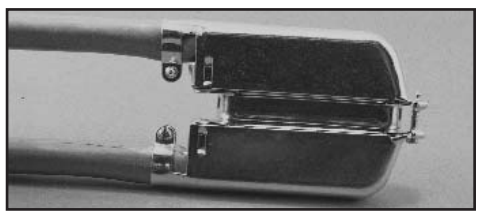
90° (Standard) / 270° (Reverse) End-Entry Cable

End-Entry connectors, available in 50 position size only, include a hood and integral cable clamp for cable exit from the end of the connector.

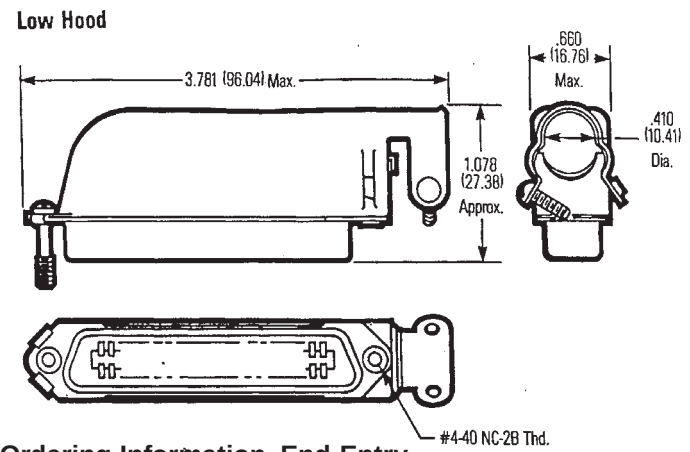
- The standard-orientation plug has the cable clamp on the position 1/26 end, and the standard-orientation socket has the clamp on the position 25/50 end.
- Cables may be extended end-to-end (i.e., “running cable”) by mating standard-orientation plugs and sockets, or “doubled back” by mating a standard-orientation connector with a reverse-orientation mate.
- Cables may exit either direction on a cable-to-panel application by choosing standard or reverse-orientation, depending on the desired direction of cable exit.
- Include screw that is 5/8" long, suitable for locking directly to the body of another connector. For locking to connectors panel-mounted with screwlock hardware, shorter screws are required. See page 6-51 for these and other accessories, such as dust covers.

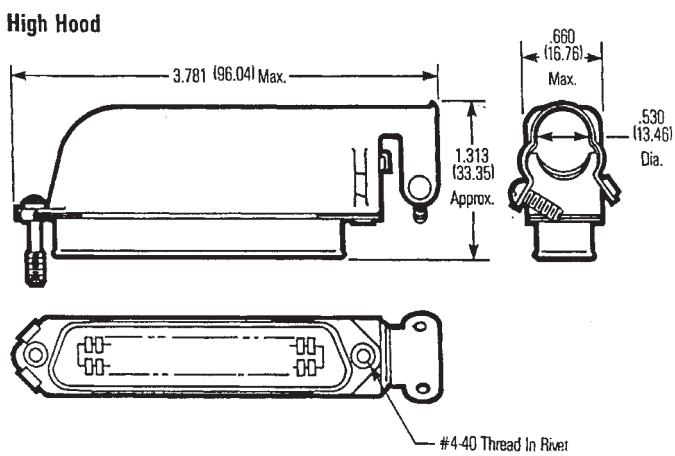


Running Cable Application



Double-Back Cable Application





Ordering Information, End-Entry

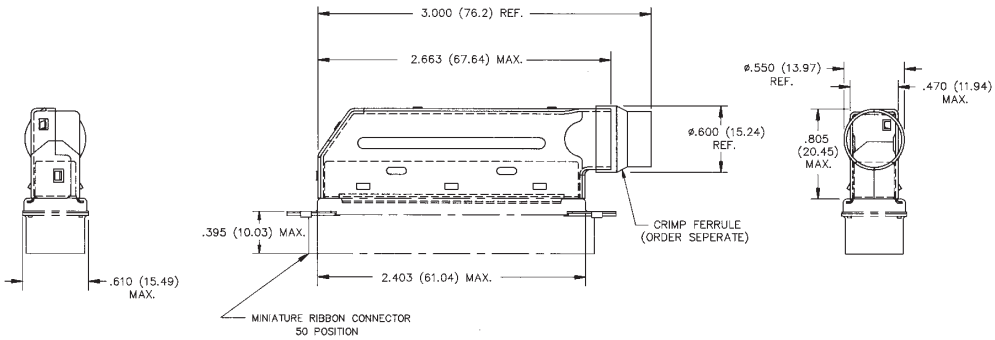
Standard (90°) Orientation

	Mount	Size	Solid Wire Commercial	Solid Wire 30Au/Ni
Plug	High (Standard) Hood	50	77-72500	77-72500A
	Low-Profile Hood	50	77-72500-1	77-72500-1A
	SuperShield, 4-40 Screw	50	77-72500-SS	77-72500-SSA
Socket no latches	High (Standard) Hood	50	77-82500	77-82500A
	Low-Profile Hood	50	77-82500-1	77-82500-1A
	SuperShield, 4-40 Screw	50	77-82500-SS	77-82500-SSA

Reverse (270°) Orientation

	Mount	Size	Solid Wire Commercial	Solid Wire 30Au/Ni
Plug	High (Standard) Hood	50	77-72500-270	77-72500-270A
	Low-Profile Hood	50	77-72500-271	77-72500-271A
Socket no latches	High (Standard) Hood	50	77-82500-270	77-82500-270A
	Low-Profile Hood	50	77-82500-271	77-82500-271A

Overmold Kit, End-Entry
(May be assembled with cable exit in either direction)



Ordering Information, End-Entry Overmold Kit

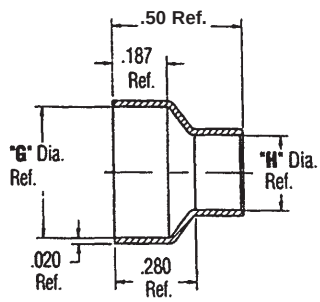
			Solid Wire	
		Size	Commercial	30Au/Ni
	Plug, Bail Latching, Tin Shell	50	77-72500-51	77-72500-51A
Socket InstaLatch	.103 Hole, Tin-Plated Shells	50	77-82500-54	77-82500-54A
	.113 Hole, Tin-Plated Shells	50	77-82500-55	77-82500-55A

Overmold Crimp Ferrules

- Connect cable's shield to can of overmold kit
- Seal off cable exit to keep molding compound from penetrating termination cavity

See page 6-56 for tools and dies required to crimp ferrules onto overmold cans.

Ferrule



Ordering Information, Overmold Crimp Ferrules

Kit Size	Max. Cable O.D.	Ferrule Part Number	Dimensions G	H
36	0.400	CF-64	.480 (12.19)	.400 (10.16)
50	0.390	CF-60	.580 (14.73)	.390 (9.91)
	0.480	CF-57	.580 (14.73)	.480 (12.19)

.085 in. (2.16mm) Density Miniature Ribbon

Solder Cup
Metal Shell

Cinch

Features

- ***Terminates Discrete Wire (loose or jacketed cable) with ultra-low-resistance solder connections.***
- ***Metal shell provides grounding and shielding capability.***
- ***Available in plug and socket styles in 14, 24, 36, and 50 position sizes.***
- ***Designed for panel mount, 180° (Top-Entry), or 90° (Standard) / 270° (Reverse) End-Entry cable applications.***
- ***All plugs lock with InstaLatch passive latch feature for automatic latching.***
- ***Industry-standard bail latch feature available for locking/unlocking without tools in applications such as SCSI-1 and Centronics.***
- ***UL Recognized - Files E170218 (UL1977), E130965 (UL1863).***
- ***CSA Approved - File LR31996-7.***

Materials

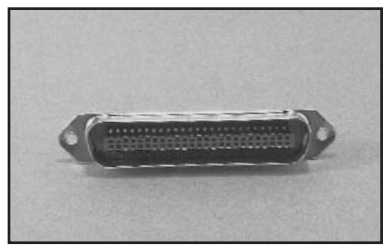
Insulator: Blue UL94V-0 rated diallyl phthalate type MDG, per MIL-M14F

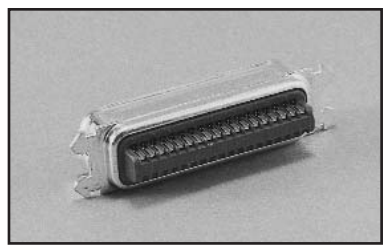
Contact: Copper alloy

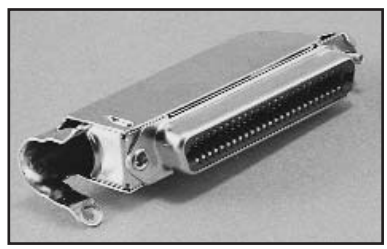
Contact Plating: Select gold over 50µin. select nickel standard;
30µin. select gold over 50µin. select nickel available where indicated

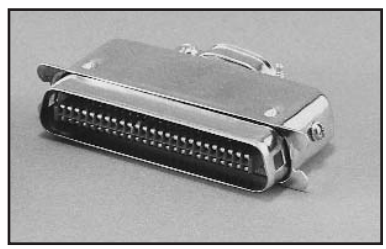
Shell: Steel

Shell Plating: Zinc with clear chromate coating









Environmental

Operating Temperature: -40°C to +105°C

Shock: 50G Peak, per EIA Std. RS364, TP27, Condition A

Vibration: 3 cycles @ 10-55Hz in each of 3 axes per EIA Std. 364, TP28, Condition A

Moisture Resistance: Per EIA Std. RS364, TP31, Condition B, with Step 7B excluded

Electrical

Voltage Rating:	500 VAC @ sea level; 125 VAC @ 70,000 ft.
Withstanding Voltage:	1200 VAC RMS @ sea level, per EIA Std. RS364, TP20
Contact Rating:	5 Amps (4 Amps per CSA)
Contact Resistance:	6 Milliohms maximum, per EIA Std. RS364, TP6
Insulation Resistance:	5000 Megohms minimum initial; 1000 Megohms minimum after moisture

Mechanical

Durability: 200 mating/unmating cycles

Mating / Unmating Forces:

	Mating Force (max.)		Unmating Force (min.)	
Size	**Lb.**	**Kg**	**Lb.**	**Kg**
14	5	2.27	2	0.91
24	8	3.63	4	1.81
36	12	5.44	6	2.72
50	15	6.80	7	3.18

Termination: Each contact accepts maximum 22 AWG solid wire or maximum 24 AWG stranded wire

Panel Mount

"Panel mount" products are connectors without hoods. They are typically used to provide signal I/O from a system panel or cabinet, where strain relief to a cable jacket is not required.

- Available with high barrier insulators that extend beyond the end of the solder cup, physically isolating adjacent contacts.
- Standard versions have .103" mounting holes (sockets have .103" with float bushings) for use with #3 hardware, or .185" mounting holes for use with #8 hardware.
- Select sizes are available with .120" mounting holes for use with #4 hardware, or with integral panel clips, which allow snap-in front mounting for more cost-effective assembly.
- Bail latching sockets are available, as are bail latching plugs. While the plugs would not be panel-mounted, they are available for premold/solder overmolding applications.

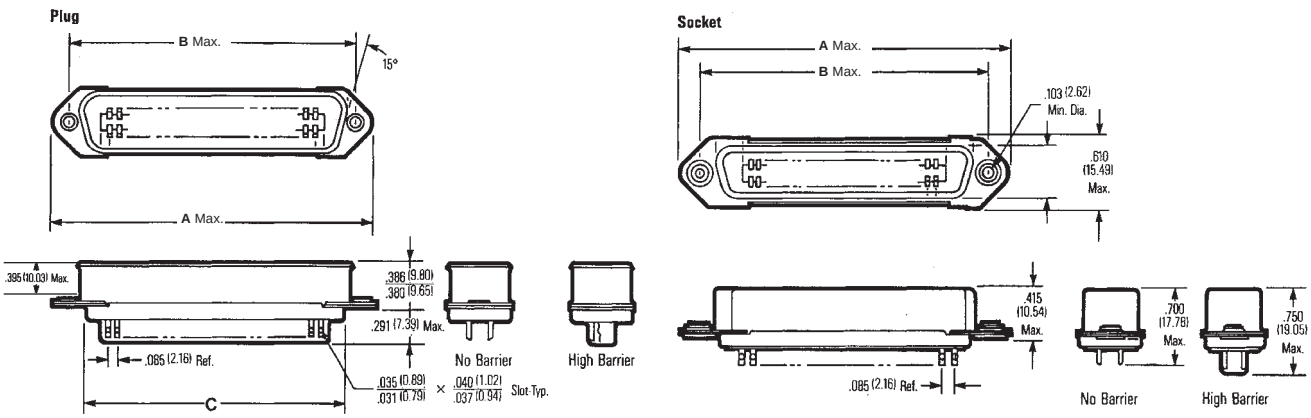
See page 6-4 for recommended standard panel cutout dimensions.

See page 6-51 for accessories such as mounting screws and dust covers, which make the use of Cinch Miniature Ribbon connectors even more cost-effective in panel-mount applications.

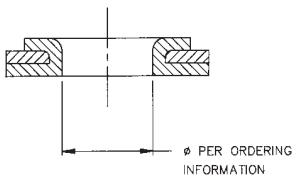
See the appropriate cable connector section that follows for products that include hoods for exposed-cable applications.

Dimensions

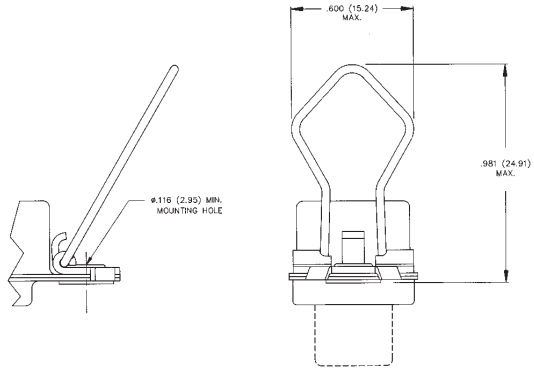
	A		B		C	
Size	**in**	**mm**	**in**	**mm**	**in**	**mm**
14	1.750	44.45	1.417	35.99	0.910	23.11
24	2.175	55.25	1.842	46.79	1.335	33.91
36	2.685	68.20	2.352	59.74	1.845	46.86
50	3.260	82.80	2.947	74.85	2.440	61.98



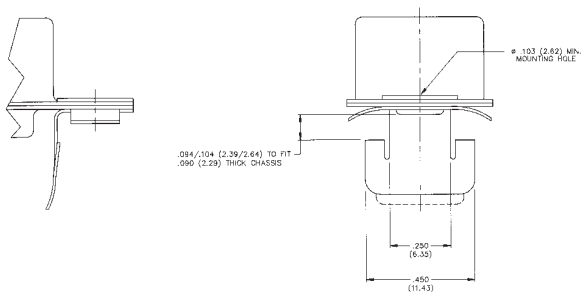
Through Hole



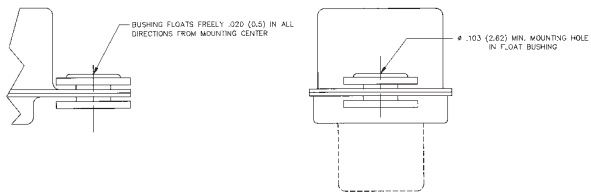
Bail Latches



Integral Panel Clips



Float Mounts



Ordering Information, Panel Mount

Plug, InstaLatching

Mount	Size	No Barrier Commercial	No Barrier 30Au/Ni	High Barrier Commercial	High Barrier 30Au/Ni
.103 Hole	14	57-10140	57-10140A	57-10140-6	57-10140-6A
	24	57-10240	57-10240A	57-10240-6	57-10240-6A
	36	57-10360	57-10360A	57-10360-14	57-10360-14A
	50	57-10500	57-10500A	57-10500-6	57-10500-6A
.185 Hole	14	57-10140-185	57-10140-185A	-	-
	24	57-10240-4	57-10240-4A	-	-
	36	57-10360-22	57-10360-22A	-	-
	50	57-10500-48	57-10500-48A	-	-
.120 Hole	50	-	-	57-10500-120	57-10500-120A
Integral Panel Clips*, .103 Hole	50	-	-	57-10500-41	57-10500-41A
Bail Latching	36	-	-	57-10360-28†	57-10360-28A†
Tin-Plated Shells	50	-	-	57-10500-79	57-10500-79A

† *IEEE 1284-B (for foil wrap & overmold applications)*

Socket

Latch	Mount	Size	No Barrier Commercial	No Barrier 30Au/Ni	High Barrier Commercial	High Barrier 30Au/Ni
No latches	Float Mounts with .103 Hole	14	57-20140	57-20140A	57-20140-6	57-20140-6A
		24	57-20240	57-20240A	57-20240-6	57-20240-6A
		36	57-20360	57-20360A	57-20360-10	57-20360-10A
		50	57-20500	57-20500A	57-20500-6	57-20500-6A
	.185 Hole	14	57-20140-4	57-20140-4A	-	-
		24	57-20240-2	57-20240-2A	-	-
		36	57-20360-3	57-20360-3A	-	-
		50	57-20500-15	57-20500-15A	-	-
	.120 Hole	50	-	-	57-20500-120	57-20500-120A
	Integral Panel Clips*, .103 Hole	50	-	-	57-20500-41	57-20500-41A
Bail latches	.116 Hole	14	57-40140	57-40140A	57-40140-HB	57-40140-HBA
		24	57-40240	57-40240A	57-40240-HB	57-40240-HBA
		36	57-40360†	57-40360A†	57-40360-9†	57-40360-9A†
		50	57-40500	57-40500A	57-40500-4	57-40500-4A
	.116 Hole with Tin-Plated Shell	50	57-40500-5	57-40500-5A	57-40500-28†	57-40500-28A†

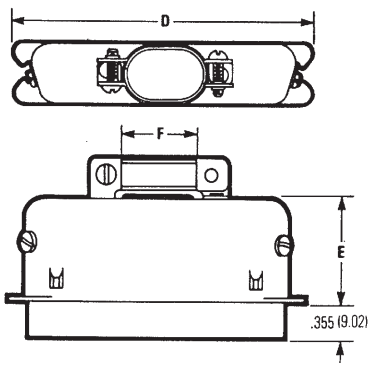
** Integral Panel Clips, for front-mount only, require modified panel cutout. See page 6-52 for details.*
† *IEEE 1284-B*

180° (Top-Entry) Cable

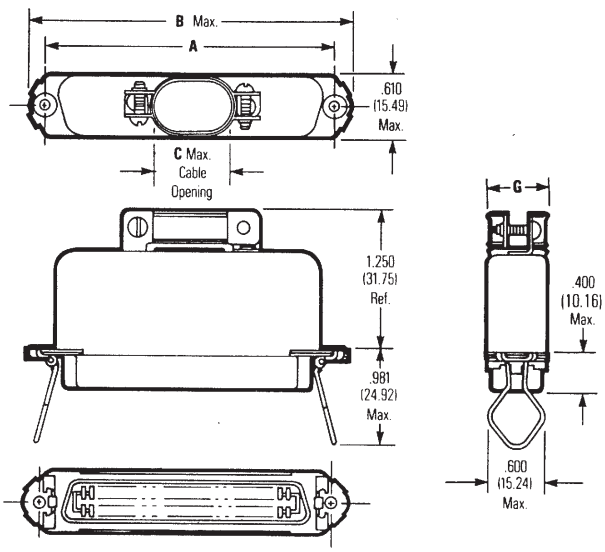
Top-Entry products include a connector, hood, and associated hardware. They are typically used at the end of a cable, where it is subject to physical strain and protection of the termination area is required.

- Includes all hardware required to attach hood to connector.
- Bail latching sockets have latch hardware integral to connector body, making cable assembly less costly.
- Bail latching plugs include notches that lock with industry-standard bail-lock sockets.

Plug



Socket



Dimensions

	A		B		C		D		E		F		G	
Size	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
14	1.417	35.99	1.750	44.45	.306	7.77	1.495	37.97	.843	21.41	.306	7.77	.422	10.72
24	1.842	46.79	2.175	55.25	.473	11.10	1.920	48.77	.825	20.96	.473	12.01	.473	12.01
36	2.352	59.74	2.685	68.20	.639	16.23	2.431	61.75	.905	22.99	.640	16.26	.473	12.01
50	2.947	74.85	3.270	83.06	.766	19.46	3.025	76.84	.995	25.27	.766	19.46	.473	12.01

Ordering Information, 180° (Top-Entry) Cable

Plug, InstaLatching

		No Barrier		High Barrier	
Mount	Size	Commercial	30Au/Ni	Commercial	30Au/Ni
Bail Latching	14	57-30140	57-30140A	-	-
	24	57-30240	57-30240A	-	-
	36	57-30360	57-30360A	-	-
	50	57-30500	57-30500A	57-30500-3	57-30500-3A
#4-40 Holes for captive screw	50	57-30500-4	57-30500-4A	-	-

Socket

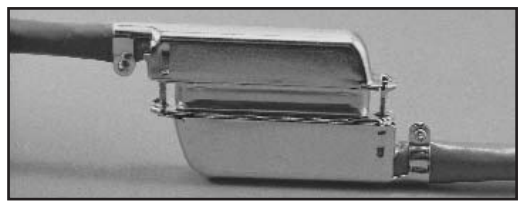
		No Barrier		High Barrier	
Mount	Size	Commercial	30Au/Ni	Commercial	30Au/Ni
With Bail Latches	14	57-60140	57-60140A	-	-
	24	57-60240	57-60240A	-	-
	36	57-60360	57-60360A	-	-
	50	57-60500	57-60500A	-	-

6

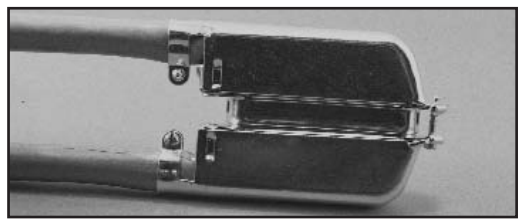
90° (Standard) / 270° (Reverse) End-Entry Cable

End-Entry connectors, available in 50 position size only, include a hood and integral cable clamp for cable exit from the end of the connector

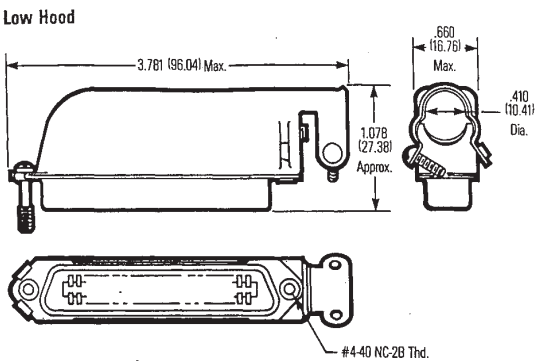
- The standard-orientation plug has the cable clamp on the position 1/26 end, and the standard-orientation socket has the clamp on the position 25/50 end.
- Cables may be extended end-to-end (i.e., “running cable”) by mating standard-orientation plugs and sockets, or “doubled back” by mating a standard-orientation connector with a reverse-orientation mate.
- Cables may exit either direction on a cable-to-panel application by choosing standard- or reverse-orientation, depending on the desired direction of cable exit.
- Include screw that is 5/8" long, suitable for locking directly to the body of another connector. For locking to connectors panel-mounted with screw-lock hardware, shorter screws are required. See page 6-51 for these and other accessories, such as dust covers.

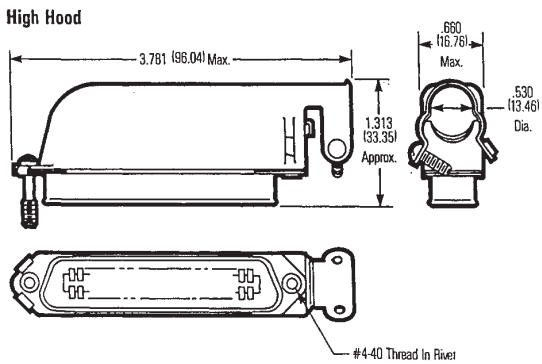


Running Cable Application



Double-Back Cable Application





Ordering Information, End-Entry

Plug, InstaLatching (High Barrier, with Dust Cover)

		Standard (90°) Orientation		Reverse (270°) Orientation	
Mount	**Size**	**Commercial**	**30Au/Ni**	**Commercial**	**30Au/Ni**
High (Standard) Hood	50	57-10500-14	57-10500-14A	57-10500-270	57-10500-270A
Low-Profile Hood	50	57-10500-7	57-10500-7A	57-10500-271	57-10500-271A

Socket (High Barrier, with Dust Cover)

		Standard (90°) Orientation		Reverse (270°) Orientation	
Mount	**Size**	**Commercial**	**30Au/Ni**	**Commercial**	**30Au/Ni**
High (Standard) Hood	50	57-20500-7	57-20500-7A	57-20500-270	57-20500-270A
Low-Profile Hood	50	57-20500-19	57-20500-19A	57-20500-271	57-20500-271A

.085 in. (2.16mm) Density Miniature Ribbon

Wire Wrap
Metal Shell and All-Plastic

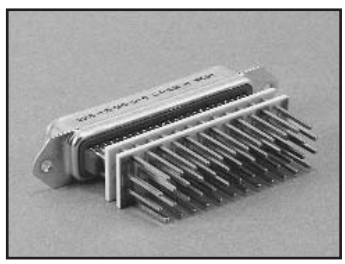
Cinch

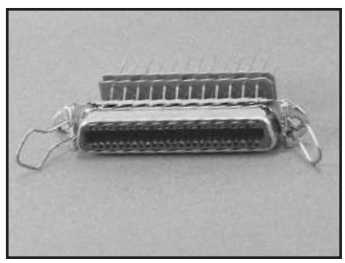
Features

- ***Terminates Discrete Wire without soldering, on .025" sq. or .045" sq. tails.***
- ***All-plastic design reduces cost. Metal Shell available where indicated for improved shielding.***
- ***Available in plug and socket styles in 14, 24, 36, 50, and 64 position sizes.***
- ***All plugs lock with InstaLatch passive latch feature for automatic latching. Sockets available with InstaLatches where indicated.***
- ***Available with industry-standard bail latch feature for positive locking/unlocking without tools.***
- ***UL Recognized - Files E170218 (UL1977), E130965 (UL1863).***
- ***CSA Approved - File LR31996-7.***

Materials

Insulator (Metal Shell Product): Blue UL94V-0 rated dialyll phthalate type MDG per MIL-M14F
Insulator (All-Plastic Product): Gray UL94V-0 rated dialyll phthalate type MDG per MIL-M14F
Contact: Copper alloy
Contact Plating: Select gold over 50µin. select nickel standard;
30µin. select gold over 50µin. select nickel available where indicated
Wire-Wrap Terminal: Cupro nickel
Shell (Metal Shell Product): Steel
Shell Plating (Metal Shell Product): Zinc with clear chromate coating





Environmental

Operating Temperature: -40°C to +105°C
Shock: 50G Peak, per EIA Std. RS364, TP27, Condition A
Vibration: 3 cycles @ 10-55Hz in each of 3 axes per EIA Std. 364, TP28, condition A
Moisture Resistance: Per EIA Std. RS364, TP31, Condition B, with step 7B excluded

Electrical

Voltage Rating:	500 VAC @ sea level; 125 VAC @ 70,000 ft.
Withstanding Voltage:	1200 VAC RMS @ sea level, per EIA Std. RS364, TP20
Contact Rating:	5 Amps (4 Amps per CSA)
Contact Resistance:	6 milliohms maximum, per EIA Std. RS364, TP6
Insulation Resistance:	5000 Megohms minimum initial; 1000 Megohms minimum after moisture

Mechanical

Durability: 200 mating/unmating cycles

Mating / Unmating Forces:

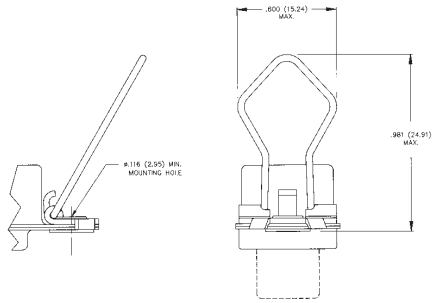
	Mating Force (max.) with InstaLatches		Unmating Force (min.) without InstaLatches	
Size	**Lb.**	**Kg**	**Lb.**	**Kg**
14	12	5.44	2	0.91
24	17	7.71	4	1.81
36	23	10.43	6	2.72
50	32	14.52	7	3.18
64	37	16.78	8	3.63

Metal Shell

- Metal Shell Wire Wrap connectors are available with .025" sq. or .045" sq. x 1.35" (.56" wrap length) terminals. .045" sq. terminals are also available with .850" (.28" wrap length) terminals.
- Available with .103" mounting holes for #3 hardware. Sockets also available with bail latches and .116" holes.

See page 6-4 for recommended standard panel cutout dimensions.

See page 6-51 for accessories such as mounting screws, bent bail latches, and dust covers, which make the use of Cinch Miniature Ribbon connectors even more cost-effective.

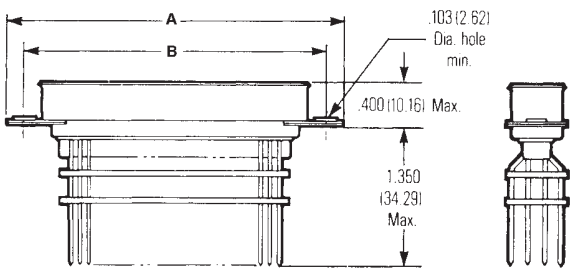


Bail Latches

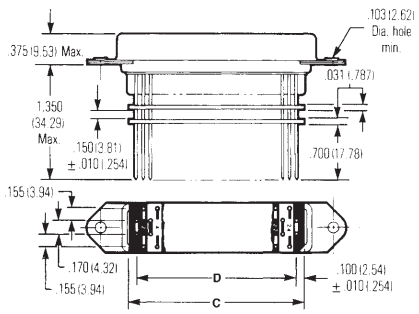
Dimensions

Sizes	A in	A mm	B in	B mm	C in	C mm	D in	D mm
14	1.750	44.45	1.417	35.99	0.710	18.03	0.510	12.95
24	2.175	55.25	1.842	46.79	1.135	28.83	0.935	23.75
36	2.665	67.69	2.352	59.74	1.645	41.78	1.445	36.70
50	3.260	82.80	2.947	74.85	2.240	56.90	2.040	51.82

Metal Plug



Metal Socket



Ordering Information, Metal Shell

Plug, InstaLatching

		.025" sq. x 1.35" Terminals		.045" sq. x 1.35" Terminals		.045" sq. x .85" Terminals	
	Size	Commercial	30Au/Ni	Commercial	30Au/Ni	Commercial	30Au/Ni
.103 Hole	14	57-10140-WW1	57-10140-WW1A	57-10140-WW2	57-10140-WW2A	57-10140-WW3	57-10140-WW3A
	24	57-10240-WW1	57-10240-WW1A	57-10240-WW2	57-10240-WW2A	57-10240-WW3	57-10240-WW3A
	36	57-10360-WW1	57-10360-WW1A	57-10360-WW2	57-10360-WW2A	57-10360-WW3	57-10360-WW3A
	50	57-10500-WW1	57-10500-WW1A	57-10500-WW2	57-10500-WW2A	57-10500-WW3	57-10500-WW3A

Socket

		.025" sq. x 1.35" Terminals		.045" sq. x 1.35" Terminals		.045" sq. x .85" Terminals	
	Size	Commercial	30Au/Ni	Commercial	30Au/Ni	Commercial	30Au/Ni
.103 Hole	14	57-20140-WW1	57-20140-WW1A	57-20140-WW2	57-20140-WW2A	57-20140-WW3	57-20140-WW3A
	24	57-20240-WW1	57-20240-WW1A	57-20240-WW2	57-20240-WW2A	57-20240-WW3	57-20240-WW3A
	36	57-20360-WW1	57-20360-WW1A	57-20360-WW2	57-20360-WW2A	57-20360-WW3	57-20360-WW3A
	50	57-20500-WW1	57-20500-WW1A	57-20500-WW2	57-20500-WW2A	57-20500-WW3	57-20500-WW3A
Bail Latches, .116 Hole	14	57-20140-WW4	57-20140-WW4A	-	-	-	-
	24	57-20240-WW4	57-20240-WW4A	-	-	-	-
	36	57-20360-WW4	57-20360-WW4A	-	-	-	-
	50	57-20500-WW4	57-20500-WW4A	-	-	-	-

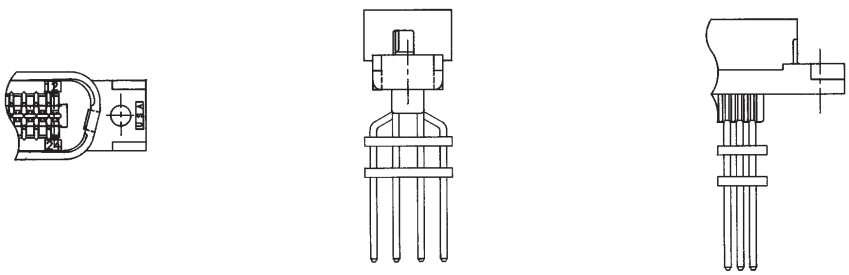
All-Plastic

- All-plastic Wire Wrap connectors are available with .025" sq. or .045" sq. x 1.35" (.56" wrap length) terminals.
- Available with .141" or .125" mounting holes as indicated, for #4 hardware.
- Includes InstaLatch passive latch feature for automatic latching. Sockets also available without latches.

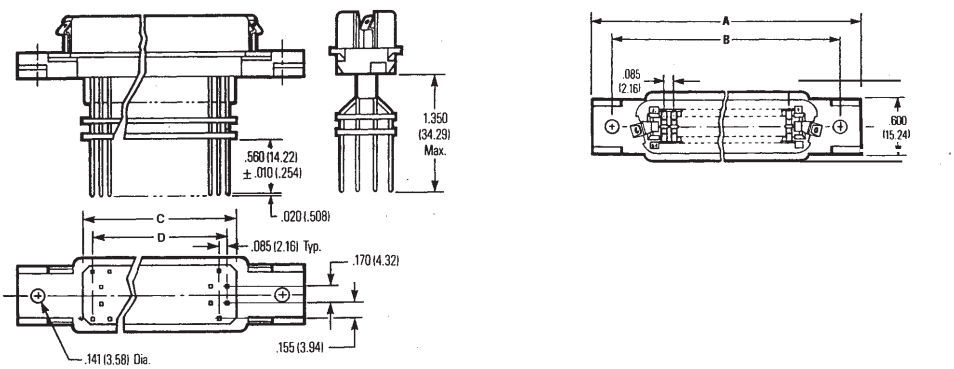
See pages 6-4 and 6-52 for recommended panel cutout dimensions.

See pages 6-51 thru 6-52 for accessories such as mounting screws and dust covers, which make the use of Cinch Miniature Ribbon connectors even more cost-effective in panel-mount applications.

Plug



All-Plastic Socket



Dimensions, All-Plastic

	A		B		C		D	
Size	in	mm	in	mm	in	mm	in	mm
14	1.745	44.32	1.417	35.99	0.710	18.03	0.510	12.95
24	2.170	55.12	1.842	46.79	1.135	28.83	0.935	23.75
36	2.680	68.07	2.352	59.74	1.645	41.78	1.445	36.70
50	3.275	83.19	2.947	74.85	2.240	56.90	2.040	51.82
64	3.875	98.43	3.542	89.97	2.835	72.01	2.635	66.93

Ordering Information, All-Plastic

Plug, InstaLatching

Mount	Size	.025" sq. x 1.35" Terminals		.045" sq. x 1.35" Terminals	
		Commercial	30Au/Ni	Commercial	30Au/Ni
.140 Hole	24	-	-	97-10240-WW2	97-10240-WW2A
	64	-	-	97-10640-WW2	97-10640-WW2A

Socket

	Mount	Size	.025" sq. x 1.35" Terminals		.045" sq. x 1.35" Terminals	
			Commercial	30Au/Ni	Commercial	30Au/Ni
No latches	.141 Hole	14	97-22140-WW5	97-22140-WW5A	97-22140-WW6	97-22140-WW6A
		24	97-22240-WW5	97-22240-WW5A	97-22240-WW6	97-22240-WW6A
		36	97-22360-WW5	97-22360-WW5A	97-22360-WW6	97-22360-WW6A
		50	97-22500-WW5	97-22500-WW5A	97-22500-WW6	97-22500-WW6A
	.159 Hole	64	97-22640-WW5	97-22640-WW5A	97-22640-WW6	97-22640-WW6A
InstaLatches	.141 Hole	14	97-22140-WW1	97-22140-WW1A	97-22140-WW2	97-22140-WW2A
		24	97-22240-WW1	97-22240-WW1A	97-22240-WW2	97-22240-WW2A
		36	97-22360-WW1	97-22360-WW1A	97-22360-WW2	97-22360-WW2A
		50	97-22500-WW1	97-22500-WW1A	97-22500-WW2	97-22500-WW2A
	.159 Hole	64	97-22640-WW1	97-22640-WW1A	97-22640-WW2	97-22640-WW2A

.085 in. (2.16mm) Density Miniature Ribbon

Vertical-Mount Solder Tail Metal Shell

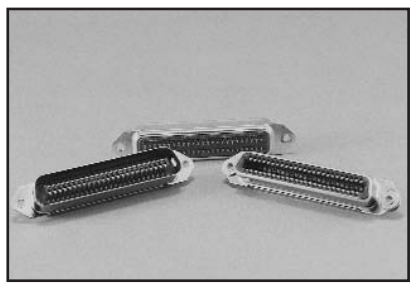
Cinch

Features

- ***Straight Solder Tails for solder termination to printed circuit board in lengths for use on all standard thickness boards.***
- ***Surface Mount Compatible; withstands vapor-phase and IR reflow processes.***
- ***Metal shell provides grounding and shielding capability.***
- ***Available in plug and socket styles in 14, 24, 36, and 50 position sizes.***
- ***All plugs lock with InstaLatch passive latch feature for automatic latching.***
- ***Industry-standard bail latch feature available for locking/unlocking without tools in applications such as SCSI-1 and Centronics.***
- ***Available, where indicated, with J-Hook latches that automatically lock down mating end-entry connectors.***
- ***Available, where indicated, with through-hole or threaded standoffs for improved board mounting.***
- ***Sockets available with through holes or with float mounts to provide limited self-alignment.***
- ***UL Recognized - Files E170218 (UL1977), E130965 (UL1863).***
- ***CSA Approved - File LR31996-7.***

Materials

Insulator: Blue UL94V-0 rated diallyl phthalate type MDG, per MIL-M14F
Contact: Copper alloy
Contact Plating: Select gold over 50µin. select nickel standard;
30µin. select gold over 50µin. select nickel available where indicated.
Gold flash on solder tails
Shell: Steel
Shell Plating: Zinc with clear chromate coating standard. Tin available where indicated.



Environmental

Operating Temperature: -40°C to +105°C
Shock: 50G Peak, per EIA Std. RS364, TP27, Condition A
Vibration: 3 cycles @ 10-55Hz in each of 3 axes per EIA Std. 364, TP28, Condition A
Moisture Resistance: Per EIA Std. RS364, TP31, Condition B, with Step 7B excluded

Electrical

Voltage Rating:	500 VAC @ sea level; 125 VAC @ 70,000 ft.
Withstanding Voltage:	1200 VAC RMS @ sea level, per EIA Std. RS364, TP20
Contact Rating:	5 Amps (4 Amps per CSA)
Contact Resistance:	6 milliohms maximum, per EIA Std. RS364, TP6
Insulation Resistance:	5000 Megohms minimum initial; 1000 Megohms minimum after moisture

Mechanical

Durability: 200 mating/unmating cycles
Mating / Unmating Forces:

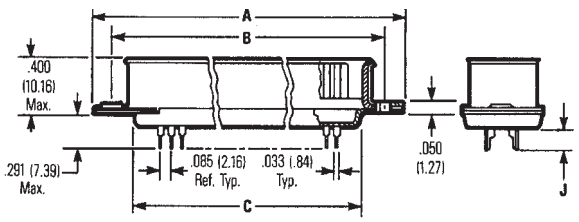
	Mating Force (max.)		Unmating Force (min.)	
Size	**Lb.**	**Kg**	**Lb.**	**Kg**
14	5	2.27	2	0.91
24	8	3.63	4	1.81
36	12	5.44	6	2.72
50	15	6.80	7	3.18

Plug, InstaLatching

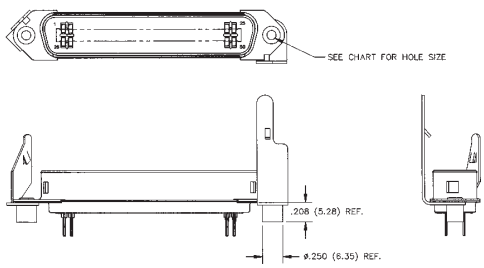
Dimensions

Size	A in	A mm	B in	B mm	C in	C mm
14	1.750	44.45	1.417	35.99	0.910	23.11
24	2.175	55.25	1.842	46.79	1.335	33.91
36	2.685	68.20	2.352	59.74	1.845	46.86
50	3.260	82.80	2.947	74.85	2.440	61.98

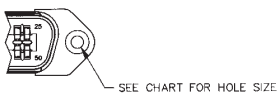
Plug

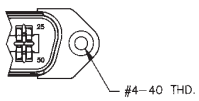


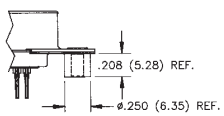
J-Hook Latches

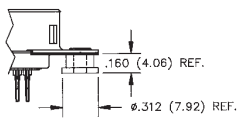


Conductive Standoff

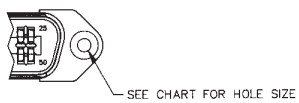


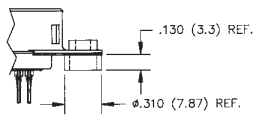






Insulated Standoff





Ordering Information, Plug, InstaLatching

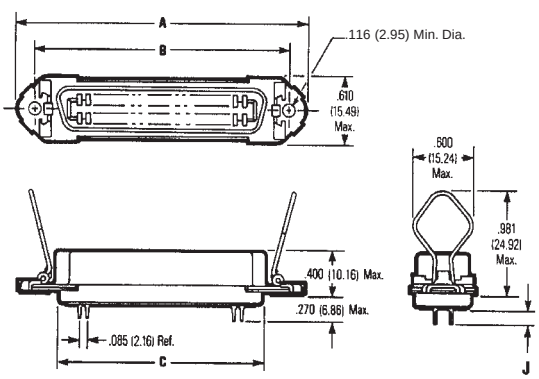
	Mount	Size	.110" Tail Length (J) (for PCB thickness up to .062" nominal) Commercial	.110" Tail Length (J) 30Au/Ni	.145" Tail Length (J) (for PCB thickness up to .093" nominal) Commercial	.145" Tail Length (J) 30Au/Ni	.190" Tail Length (J) (for PCB thickness up to .125" nominal) Commercial	.190" Tail Length (J) 30Au/Ni
	.103 Hole	14	57-10140-4	57-10140-4A	57-10140-5	57-10140-5A	57-DS14P2-3	57-DS14P2-3A
		24	57-10240-3	57-10240-3A	57-10240-5	57-10240-5A	57-10240-12	57-10240-12A
		36	57-10360-13	57-10360-13A	57-10360-17	57-10360-17A	57-10360-25	57-10360-25A
		50	57-10500-27	57-10500-27A	57-10500-46	57-10500-46A	57-10500-73	57-10500-73A
	.185 Hole	14	57-DS14P1-1	57-DS14P1-1A	57-DS14P1-2	57-DS14P1-2A	57-DS14P1-3	57-DS14P1-3A
		24	57-DS24P1-1	57-DS24P1-1A	57-DS24P1-2	57-DS24P1-2A	57-DS24P1-3	57-DS24P1-3A
		36	57-DS36P1-1	57-DS36P1-1A	57-DS36P1-2	57-DS36P1-2A	57-DS36P1-3	57-DS36P1-3A
		50	57-DS50P1-1	57-DS50P1-1A	57-DS50P1-2	57-DS50P1-2A	57-DS50P1-3	57-DS50P1-3A
	Conductive Standoff .120 (Ref) Hole	50	-	-	-	-	57-10500-76	57-10500-76A
	Conductive Standoff 4-40 Hole	50	-	-	-	-	57-10500-77	57-10500-77A
	Insulated Standoff .120 (Ref) Hole	50	-	-	-	-	57-10500-68	57-10500-68A
	Insulated Standoff 4-40 Hole	50	-	-	-	-	57-10500-69	57-10500-69A
J-Hook Latches	Conductive Standoff .120 (Ref) Hole	50	-	-	-	-	57-10500J-76	57-10500J-76A
J-Hook Latches	Conductive Standoff 4-40 Hole	50	-	-	-	-	57-10500J-77	57-10500J-77A
J-Hook Latches	Insulated Standoff .120 (Ref) Hole	50	-	-	-	-	57-10500J-68	57-10500J-68A
J-Hook Latches	Insulated Standoff 4-40 Hole	50	-	-	-	-	57-10500J-69	57-10500J-69A

Socket

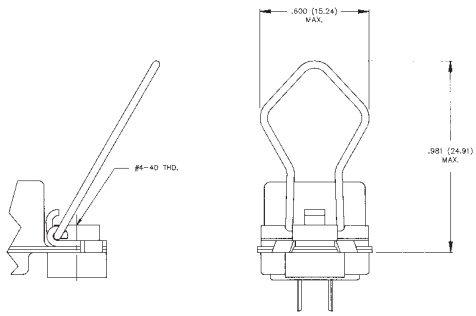
Dimensions

Size	A in	A mm	B in	B mm	C in	C mm
14	1.750	44.45	1.417	35.99	0.910	23.11
24	2.175	55.25	1.842	46.79	1.335	33.91
36	2.685	68.2	2.352	59.74	1.845	46.86
50	3.260	82.8	2.947	74.85	2.440	61.98

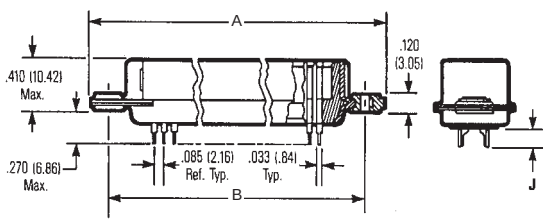
Socket with Bail Latches



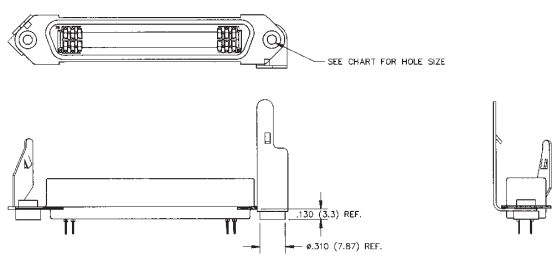
Bail Latches with Standoffs



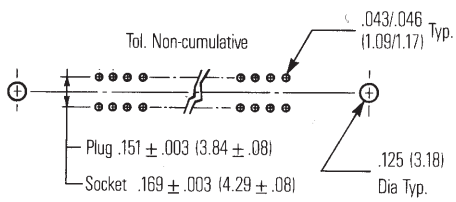
Socket with Float Bushing



J-Hook Latches



Recommended PCB Hole Layout



6

Socket

Ordering Information

	Latch Mount	Size	.110" Tail Length (J) (for PCB thickness up to .062" nominal) Commercial	.110" Tail Length (J) (for PCB thickness up to .062" nominal) 30Au/Ni	.145" Tail Length (J) (for PCB thickness up to .093" nominal) Commercial	.145" Tail Length (J) (for PCB thickness up to .093" nominal) 30Au/Ni	.190" Tail Length (J) (for PCB thickness up to .125" nominal) Commercial	.190" Tail Length (J) (for PCB thickness up to .125" nominal) 30Au/Ni
No Latches	Float Mounts with .103 Hole	14	57-20140-8	57-20140-8A	-	-	-	-
		24	57-20240-8	57-20240-8A	-	-	-	-
		36	57-20360-9	57-20360-9A	-	-	-	-
		50	57-20500-31	57-20500-31A	-	-	-	-
	.185 Hole	14	57-20140-12	57-20140-12A	57-20140-10	57-20140-10A	57-DS14S1-3	57-DS14S1-3A
		24	57-20240-14	57-20240-14A	57-20240-11	57-20240-11A	57-20240-23	57-20240-23A
		36	57-20360-15	57-20360-15A	57-20360-13	57-20360-13A	57-20360-19	57-20360-19A
		50	57-20500-65	57-20500-65A	57-20500-58	57-20500-58A	57-20500-85	57-20500-85A
Bail Latches	.116 Hole	14	57-40140-8	57-40140-8A	57-40140-11	57-40140-11A	57-DS14S-3	57-DS14S-3A
		24	57-40240-9	57-40240-9A	57-40240-11	57-40240-11A	57-40240-14	57-40240-14A
		36	57-40360-12†	57-40360-12A†	57-40360-16†	57-40360-16A†	57-40360-24†	57-40360-24A†
		50	57-40500-9	57-40500-9A	57-40500-16	57-40500-16A	57-40500-24	57-40500-24A
	Conductive Standoff 4-40 Hole	50	-	-	-	-	57-40500-26	57-40500-26A
J-Hook Latches	Insulated Standoff .120 (Ref) Hole	50	-	-	-	-	57-20500J-78	57-20500J-78A
	Insulated Standoff 4-40 Hole	50	-	-	-	-	57-20500J-79	57-20500J-79A

† *IEEE 1284-B*

.085 in. (2.16mm) Density Miniature Ribbon

Vertical-Mount Solder Tail
All-Plastic

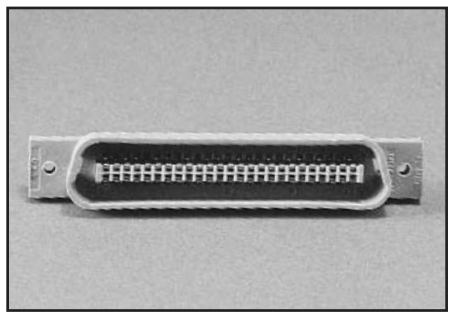
Cinch

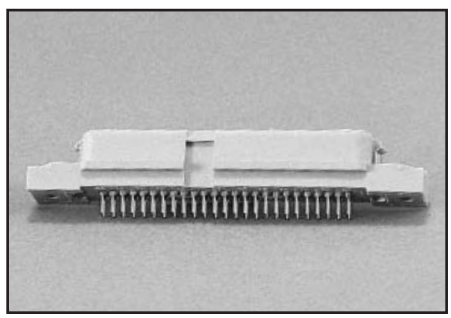
Features

- ***Straight Solder Tails for solder termination to printed circuit board.***
- ***Available with .145" or .190" tail lengths to suit applications with any thickness PC board.***
- ***All-plastic design reduces cost.***
- ***Available in plug and socket styles in 14, 24, 36, 50, and 64 position sizes.***
- ***All plugs lock with InstaLatch passive latch feature for automatic latching. Sockets available with InstaLatches, with Bail Latches in sizes indicated, or with no latches.***
- ***Available with through holes or with #4-40 holes for mounting/latching.***
- ***UL Recognized - Files E170218 (UL1977), E130965 (UL1863).***
- ***CSA Approved - File LR31996-7.***

Materials

Insulator: Gray UL94V-0 rated glass-filled polyester
Contact: Copper Alloy
Contact Plating: Select gold over 50µin. select nickel standard; 30µin. select gold over 50µin. select nickel available where indicated. Gold flash on solder tails





Environmental

Operating Temperature: -40°C to +105°C
Shock: 50G Peak, per EIA Std. RS364, TP27, Condition A
Vibration: 3 cycles @ 10-55Hz in each of 3 axes per EIA Std. 364, TP28, Condition A
Moisture Resistance: Per EIA Std. RS364, TP31, Condition B, with Step 7B excluded

Electrical

Voltage Rating:	500 VAC @ sea level; 125 VAC @ 70,000 ft.
Withstanding Voltage:	1200 VAC RMS @ sea level, per EIA Std. RS364, TP20
Contact Rating:	5 Amps (4 Amps per CSA)
Contact Resistance:	6 milliohms maximum, per EIA Std. RS364, TP6
Insulation Resistance:	5000 Megohms minimum initial; 1000 Megohms minimum after moisture

Mechanical

Durability: 200 mating/unmating cycles

Mating / Unmating Forces:

	Mating Force (max.) with InstaLatches		Unmating Force (min.) without InstaLatches	
Size	**Lb.**	**Kg**	**Lb.**	**Kg**
14	12	5.44	2	0.91
24	17	7.71	4	1.81
36	23	10.43	6	2.72
50	32	14.52	7	3.18
64	37	16.78	8	3.63

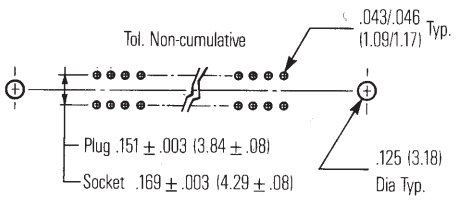
Vertical-mount Miniature Ribbon connectors provide I/O directly from printed circuit boards, where the mating face of the connector is in a plane parallel to that of the board.

See page 6-51 for accessories such as dust covers, bent bail latches, and mounting screws that make the use of Cinch Miniature Ribbon connectors even more cost-effective in board-mount applications.

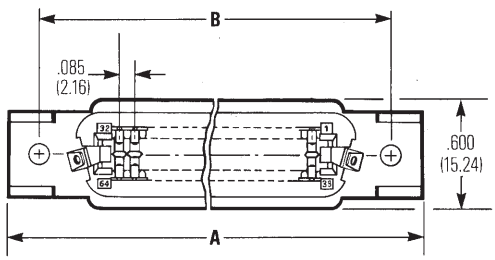
Dimensions

	A		B	
Size	in	mm	in	mm
14	1.745	44.32	1.417	35.99
24	2.170	55.12	1.842	46.79
36	2.680	68.07	2.352	59.74
50	3.275	83.19	2.947	74.85
64	3.875	98.43	3.542	89.97

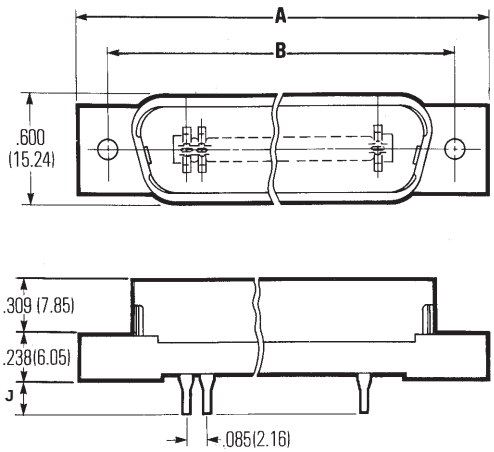
Recommended PCB Hole Layout



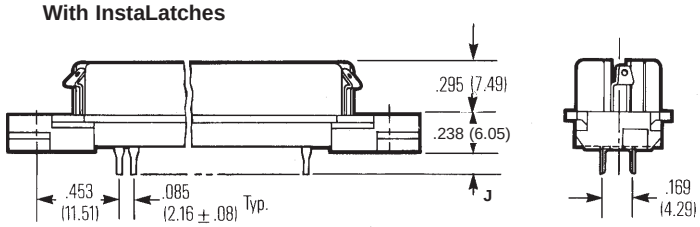
Socket



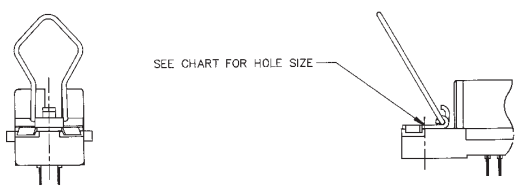
Plug



With InstaLatches



With Bail Latches



Call Toll Free: 1 (800) 323-9612

Ordering Information, Vertical-Mount Solder Tail

Plug, InstaLatching

Mount	Size	.138" Tail Length (J) (for PCB thickness up to .093" nominal) Commercial	30Au/Ni	.183" Tail Length (J) (for PCB thickness up to .125" nominal) Commercial	30Au/Ni
.125 Hole	14	97-DSP14-2	97-DSP14-2A	97-DSP14-3	97-DSP14-3A
	24	97-DSP24-2	97-DSP24-2A	97-DSP24-3	97-DSP24-3A
	36	97-DSP36-2	97-DSP36-2A	97-DSP36-3	97-DSP36-3A
	50	97-DSP50-2	97-DSP50-2A	97-DSP50-3	97-DSP50-3A
	64	97-DSP64-2	97-DSP64-2A	97-DSP64-3	97-DSP64-3A
#4-40 Hole	14	97-DSP14-12	97-DSP14-12A	97-DSP14-13	97-DSP14-13A
	24	97-DSP24-12	97-DSP24-12A	97-DSP24-13	97-DSP24-13A
	36	97-DSP36-12	97-DSP36-12A	97-DSP36-13	97-DSP36-13A
	50	97-DSP50-12	97-DSP50-12A	97-DSP50-13	97-DSP50-13A
	64	97-DSP64-12	97-DSP64-12A	97-DSP64-13	97-DSP64-13A

Socket

Latch	Mount	Size	.138" Tail Length (J) (for PCB thickness up to .093" nominal) Commercial	30Au/Ni	.183" Tail Length (J) (for PCB thickness up to .125" nominal) Commercial	30Au/Ni
No latches	.125 Hole	14	97-DSS14-22	97-DSS14-22A	97-DSS14-23	97-DSS14-23A
		24	97-DSS24-22	97-DSS24-22A	97-DSS24-23	97-DSS24-23A
		36	97-DSS36-22	97-DSS36-22A	97-DSS36-23	97-DSS36-23A
		64	97-DSS64-22	97-DSS64-22A	97-DSS64-23	97-DSS64-23A
	.160 Hole	50	97-DSS50-22	97-DSS50-22A	97-DSS50-23	97-DSS50-23A
	#4-40 Hole	14	97-DSS14-32	97-DSS14-32A	97-DSS14-33	97-DSS14-33A
		24	97-DSS24-32	97-DSS24-32A	97-DSS24-33	97-DSS24-33A
		36	97-DSS36-32	97-DSS36-32A	97-DSS36-33	97-DSS36-33A
		50	97-DSS50-32	97-DSS50-32A	97-DSS50-33	97-DSS50-33A
		64	97-DSS64-32	97-DSS64-32A	97-DSS64-33	97-DSS64-33A
InstaLatches	.125 Hole	14	97-DSS14-2	97-DSS14-2A	97-DSS14-3	97-DSS14-3A
		24	97-DSS24-2	97-DSS24-2A	97-DSS24-3	97-DSS24-3A
		36	97-DSS36-2	97-DSS36-2A	97-DSS36-3	97-DSS36-3A
		64	97-DSS64-2	97-DSS64-2A	97-DSS64-3	97-DSS64-3A
	.160 Hole	50	97-DSS50-2	97-DSS50-2A	97-DSS50-3	97-DSS50-3A
	#4-40 Hole	14	97-DSS14-12	97-DSS14-12A	97-DSS14-13	97-DSS14-13A
		24	97-DSS24-12	97-DSS24-12A	97-DSS24-13	97-DSS24-13A
		36	97-DSS36-12	97-DSS36-12A	97-DSS36-13	97-DSS36-13A
		50	97-DSS50-12	97-DSS50-12A	97-DSS50-13	97-DSS50-13A
		64	97-DSS64-12	97-DSS64-12A	97-DSS64-13	97-DSS64-13A
Bail Latches, .116 Hole		24	97-DSS24-42	97-DSS24-42A	97-DSS24-43	97-DSS24-43A
		36	97-DSS36-42	97-DSS36-42A	97-DSS36-43	97-DSS36-43A
		50	97-DSS50-42	97-DSS50-42A	97-DSS50-43	97-DSS50-43A

.085 in. (2.16mm) Density Miniature Ribbon

Vertical-Mount Compliant Pin
All-Plastic and Metal Shell

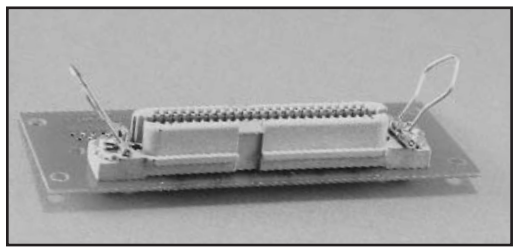
Cinch

Features

- ***Straight Compliant Pin for solderless termination to printed circuit board.***
- ***All-plastic design reduces cost. Metal Shell also available where indicated for improved shielding.***
- ***Available in plug and socket styles in 14, 24, 36, 50, and 64 position sizes.***
- ***All plugs lock with InstaLatch passive latch feature for automatic latching. Sockets available with InstaLatches, with Bail Latches where indicated, or with no latches.***
- ***Available with through holes or with #4-40 holes for mounting/latching.***
- ***Includes Seating Cover that allows for flat-rock insertion and serves as dust cover after insertion.***
- ***UL Recognized - Files E170218 (UL1977), E130965 (UL1863).***
- ***CSA Approved - File LR31996-7.***

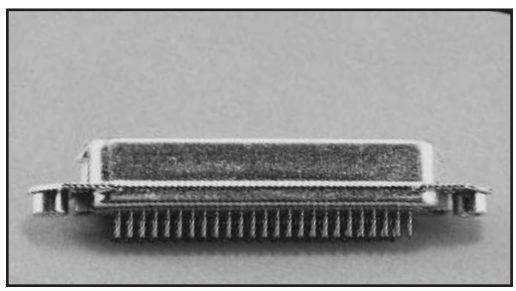
Materials

Insulator and Seating Cover: Gray UL94V-0 rated glass-filled polyester
Contact: Phosphor bronze
Contact Plating: Select gold over 50µin. select nickel standard; 30µin. select gold over 50µin. select nickel available where indicated. Gold flash in termination area
Shell (Metal Shell Version Only): Steel
Shell Plating (Metal Shell Version Only): Tin



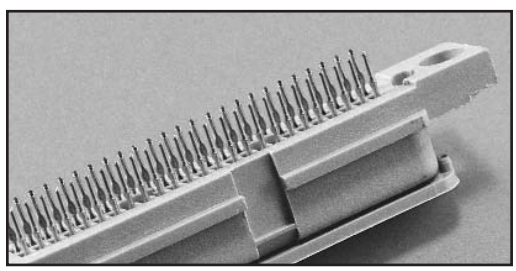
Environmental

Operating Temperature: -40°C to +105°C
Shock: 50G Peak, per EIA Std. RS364, TP27, Condition A
Vibration: 3 cycles @ 10-55Hz in each of 3 axes per EIA Std. 364, TP28, Condition A
Moisture Resistance: Per EIA Std. RS364, TP31, Condition B, with Step 7B excluded



Electrical

Voltage Rating:	500 VAC @ sea level; 125 VAC @ 70,000 ft.
Withstanding Voltage:	1200 VAC RMS @ sea level, per EIA Std. RS364, TP20
Contact Rating:	5 Amps (4 Amps per CSA)
Contact Resistance:	6 milliohms maximum, per EIA Std. RS364, TP6
Insulation Resistance:	5000 Megohms minimum initial; 1000 Megohms minimum after moisture



Mechanical

Durability: 200 mating/unmating cycles
Mating / Unmating Forces:

	Mating Force (max.) with InstaLatches		Unmating Force (min.) without InstaLatches	
Size	**Lb.**	**Kg**	**Lb.**	**Kg**
14	12	5.44	2	0.91
24	17	7.71	4	1.81
36	23	10.43	6	2.72
50	32	14.52	7	3.18
64	37	16.78	8	3.63

Connector/PCB Insertion Force (maximum): 25 lbs (12.3Kg) per contact

Connector/PCB Retention Force: 5 lb. (2.44Kg) per contact **(minimum, without mounting hardware)**

Vertical-mount Miniature Ribbon connectors provide I/O directly from printed circuit boards, where the mating face of the connector is in a plane parallel to that of the board.

Compliant-pin connectors terminate without solder to plated-through holes in printed circuit boards. The tail conforms to the hole, providing a gas-tight termination without damaging the plating in the printed circuit board.

The seating cover acts as an insertion tool fixture, and *must be left in place until the connector is installed on the PCB.* It may also be left on after insertion to serve as a dust cover to protect the connector from contamination.

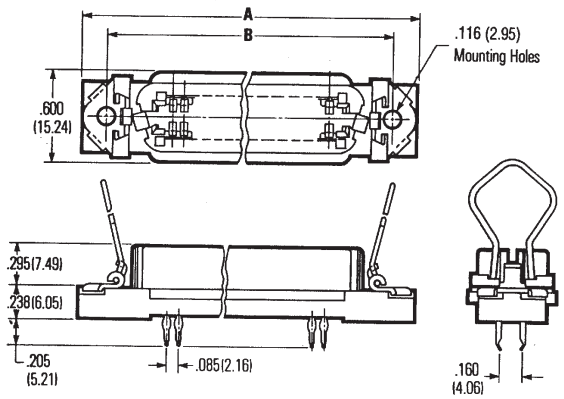
See pages 6-51 through 6-53 for accessories such as bent bail latches and mounting screws that make the use of Cinch Miniature Ribbon connectors even more cost-effective in board-mount applications.

Dimensions

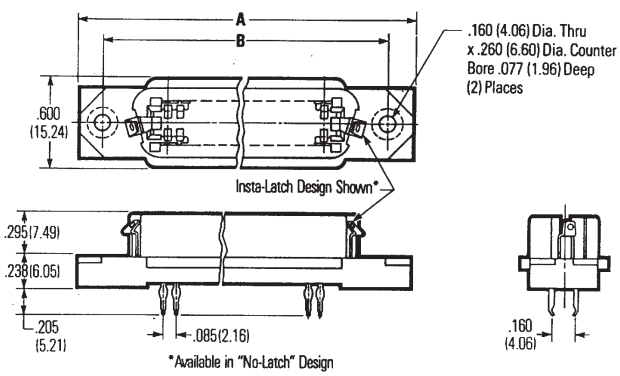
	A		B		C	
Size	**in**	**mm**	**in**	**mm**	**in**	**mm**
14	1.745	44.32	1.417	35.99	.625	15.88
24	2.170	55.12	1.842	46.79	1.050	26.67
36	2.680	68.07	2.352	59.74	1.560	39.62
50	3.275	83.19	2.947	74.85	2.155	54.74
64	3.875	98.43	3.542	89.97	2.750	69.85

Plug

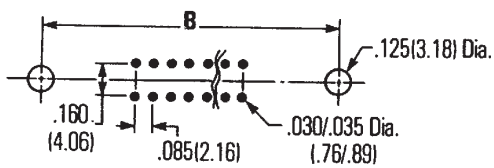
Socket with Bail Latches



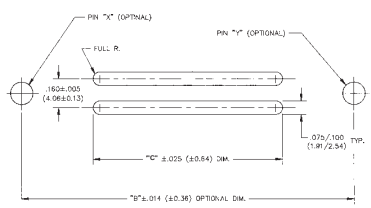
Socket with InstaLatches



Recommended PCB Hole Layout



Insertion Fixture Backer Plate



Ordering Information, Vertical-Mount Compliant Pin

All-Plastic Plug, InstaLatching

Mount	Size	Commercial	30Au/Ni
.125 Hole	14	97-CP-14	97-CP-14A
	24	97-CP-24	97-CP-24A
	36	97-CP-36	97-CP-36A
	50	97-CP-50	97-CP-50A
	64	97-CP-64	97-CP-64A
#4-40 Hole	14	97-CP-14T	97-CP-14TA
	24	97-CP-24T	97-CP-24TA
	36	97-CP-36T	97-CP-36TA
	50	97-CP-50T	97-CP-50TA
	64	97-CP-64T	97-CP-64TA

All-Plastic Socket

	Latch Mount	Size	Commercial	30Au/Ni
No latches	.160 Hole	14	97-CS-14	97-CS-14A
		24	97-CS-24	97-CS-24A
		36	97-CS-36	97-CS-36A
		50	97-CS-50	97-CS-50A
		64	97-CS-64	97-CS-64A
	#4-40 Hole	14	97-CS-14T	97-CS-14TA
		24	97-CS-24T	97-CS-24TA
		36	97-CS-36T	97-CS-36TA
		50	97-CS-50T	97-CS-50TA
		64	97-CS-64T	97-CS-64TA
InstaLatches	.160 Hole	14	97-CSI-14	97-CSI-14A
		24	97-CSI-24	97-CSI-24A
		36	97-CSI-36	97-CSI-36A
		50	97-CSI-50	97-CSI-50A
		64	97-CSI-64	97-CSI-64A
	#4-40 Hole	14	97-CSI-14T	97-CSI-14TA
		24	97-CSI-24T	97-CSI-24TA
		36	97-CSI-36T	97-CSI-36TA
		50	97-CSI-50T	97-CSI-50TA
		64	97-CSI-64T	97-CSI-64TA
Bail latches	.116 Hole	14	97-CSB-14	97-CSB-14A
		24	97-CSB-24	97-CSB-24A
		36	97-CSB-36	97-CSB-36A
		50	97-CSB-50	97-CSB-50A
		64	97-CSB-64	97-CSB-64A

Metal Shell Socket, with InstaLatches

		Commercial	30Au/Ni
Conductive Standoff with .120 Hole	50	57-CSI-50	57-CSI-50A

.085 in. (2.16mm) Density Miniature Ribbon

Right-Angle Solder Tail Metal Shell

Cinch

Features

- ***Right-Angle Solder Tails for solder termination to printed circuit board.***
- ***Metal shell provides grounding and shielding capability.***
- ***Available in plug and socket styles in 14, 24, 36, and 50 position sizes.***
- ***Sockets available with industry-standard bail latch feature for positive locking/unlocking without tools, for applications such as SCSI-1 and Centronics.***
- ***#4-40 threaded board mounting holes provide means to secure and ground connector to board.***
- ***UL Recognized - File E170218.***

Materials

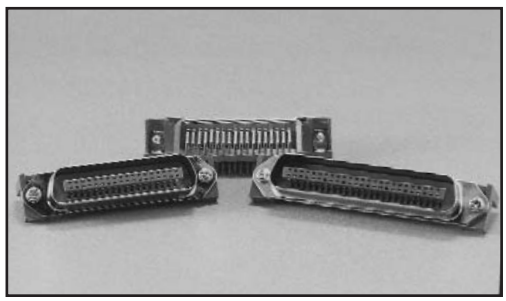
Insulator: Blue UL94V-0 rated glass-filled polyester

Contact: Phosphor bronze

Contact Plating: Select gold over nickel in mating area as indicated; tin-lead on solder tails

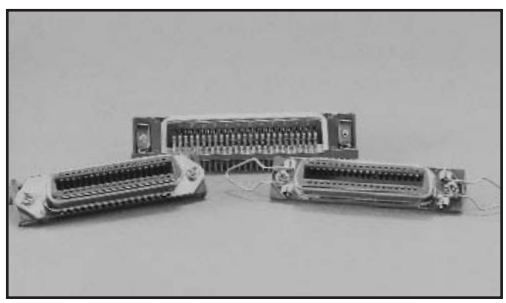
Shell: Steel

Shell Plating: Nickel



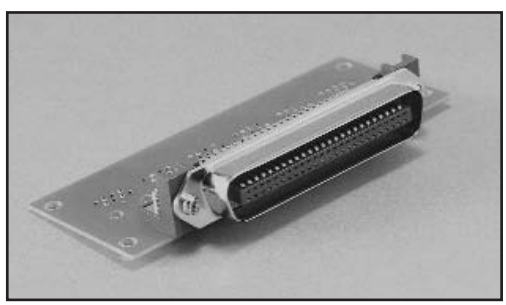
Environmental

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



Electrical

Withstanding Voltage:	1000 VAC RMS @ sea level
Contact Rating:	5 Amps
Contact Resistance:	30 milliohms maximum
Insulation Resistance:	1000 Megohms minimum



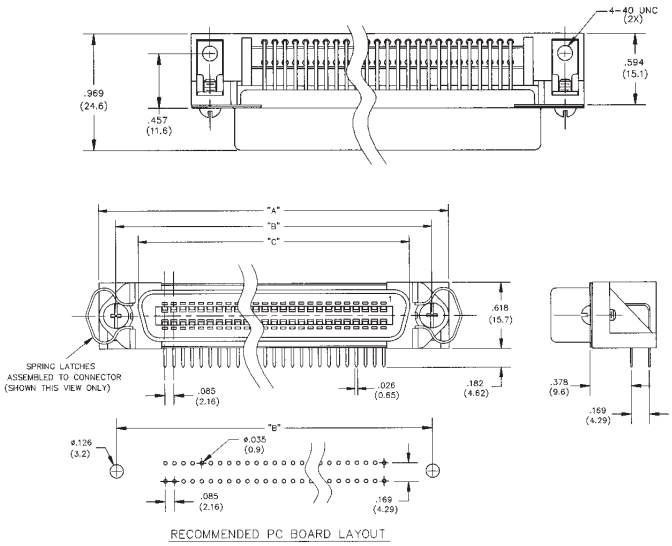
Right-Angle Miniature Ribbon connectors provide I/O directly from printed circuit boards, where the mating face of the connector is perpendicular to the board. It is well-suited to front-panel I/O on plug-in cards, rear-I/O from system/peripheral motherboards, etc.

See page 6-51 for accessories such as dust covers, bent bail latches and mounting screws that make the use of Cinch Miniature Ribbon connectors even more cost-effective in board-mount applications.

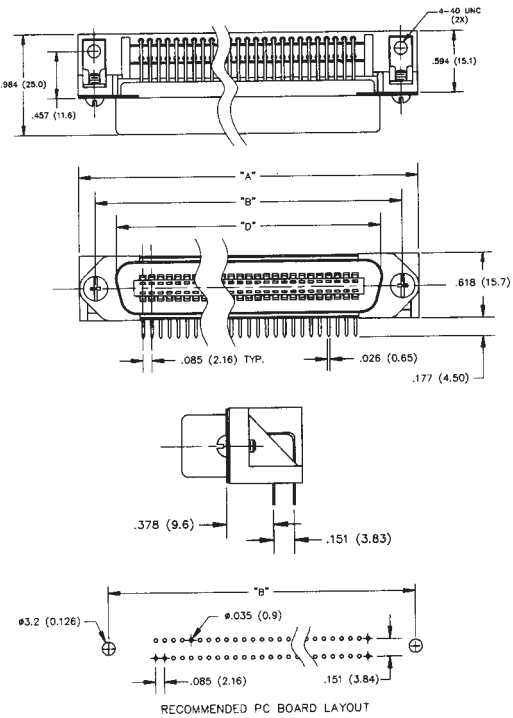
Dimensions

	A		B		C		D	
Size	in	mm	in	mm	in	mm	in	mm
14	1.720	43.70	1.417	35.99	0.992	25.20	1.008	25.60
24	2.146	54.50	1.842	46.79	1.417	36.00	1.436	36.00
36	2.661	67.60	2.352	59.74	1.925	48.90	1.943	49.35
50	3.260	82.80	2.947	74.85	2.520	64.00	2.538	64.00

Socket



Plug



Ordering Information, Right-Angle Solder Tail

Plug, 4-40 Board Mount

Size	Flash	15Au/Ni	30Au/Ni
36	57-LRP36-F	57-LRP36-15	57-LRP36-30
50	57-LRP50-F	57-LRP50-15	57-LRP50-30

Socket, 4-40 Board Mount

Latch	Size	Flash	15Au/Ni	30Au/Ni
No Latches	14	57-LRS14-F	57-LRS14-15	57-LRS14-30
	24	57-LRS24-F	57-LRS24-15	57-LRS24-30
	36	57-LRS36-F	57-LRS36-15	57-LRS36-30
	50	57-LRS50-F	57-LRS50-15	57-LRS50-30
Bail Latch	14	57-LRS14-BF	57-LRS14-B15	57-LRS14-B30
	24	57-LRS24-BF	57-LRS24-B15	57-LRS24-B30
	36	57-LRS36-BF†	57-LRS36-B15†	57-LRS36-B30†
	50	57-LRS50-BF	57-LRS50-B15	57-LRS50-B30

† *IEEE 1284-B*

.085 in. (2.16mm) Density Miniature Ribbon

Filtered Vertical-Mount Solder Tail and Male/Female Adapter

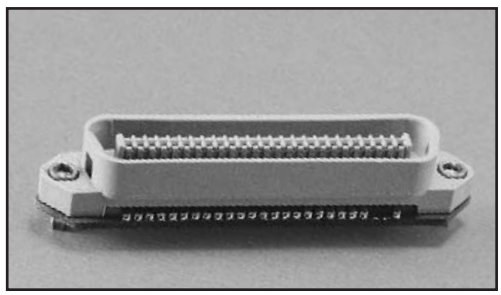
Cinch

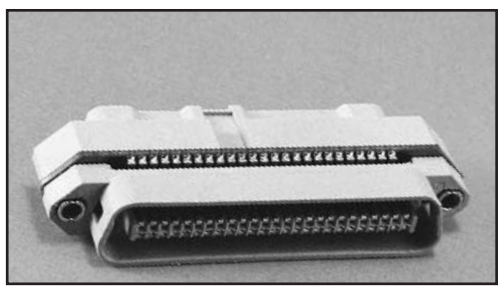
Features

- ***Low-pass (single-pole, capacitive) filtered contacts reduce inbound and outbound conducted EMI standard capacitance values of 50pF through 1,200pF.***
- ***Saves space by incorporating required filter functions directly into footprint of I/O connector.***
- ***Available as straight Solder Tail plug for solder termination to printed circuit board (nominal thickness through .093") and as plug/socket adapter, in 50-position size.***
- ***All-plastic design reduces cost.***
- ***All plugs lock with InstaLatch passive latch feature for automatic latching.***
- ***Adapters available with InstaLatches, with Bail Latches, or with no latches on socket side.***
- ***Available with through holes, #4-40 holes, #6-32 holes, or M3 holes for mounting/latching.***

Materials

Insulator: Gray UL94V-0 rated glass-filled polyester
Contact: Copper alloy
Contact Plating: 30µin. select gold over 50µin. select nickel standard; tin-lead on solder tails
Mounting Hardware Plating: Tin-lead





Environmental

Operating Temperature: -50°C to +105°C
Shock: 50G Peak, per EIA Std. RS364, TP27, Condition A
Vibration: 3 cycles @ 10-55Hz in each of 3 axes per EIA Std. 364, TP28, Condition A
Moisture Resistance: Per EIA Std. RS364, TP31, Condition B, with Step 7B excluded

Electrical

Voltage Rating: 500VDC @ sea level
Contact Rating: 3 Amps
RF Current Rating: 0.3 Amps
Leakage Current: 10mA maximum per contact when subjected to 1000 VAC test voltage, applied over 30 seconds and held for 60 seconds per FCC Part 68.5
Voltage Surge: Withstands 1,500V peak longitudinal voltage surge with 10µsec. risetime, 160µsec. decay
Contact Resistance: 6 milliohms maximum, per EIA Std. RS364, TP6
Insulation Resistance: 5000 Megohms minimum
Dissipation Factor: 5% maximum @ 25°C, 1kHz and 1 VAC RMS maximum

Insertion Loss:

Capacitance @ 25°C, 1kHz, 1 VAC RMS max.	Insertion Loss, min. (dB, @ 25°C, @ 50 ohm, no load, per MIL-STD-220) 10MHz	30MHz	50MHz	70MHz	100MHz	500MHz	1GHz
50pF±15%	-	-	-	-	2	14	11
100pF±15%	-	-	-	-	3	14	11
220pF±15%	-	-	4	7	12	14	11
470pF±15%	-	5	11	14	20	14	11
820pF±15%	3	3	16	20	20	14	11
1,000pF±15%	3	3	16	20	20	14	11
1,200pF±15%	3	3	16	20	20	14	11

Mechanical

Durability: 200 mating/unmating cycles

Mating / Unmating Forces:

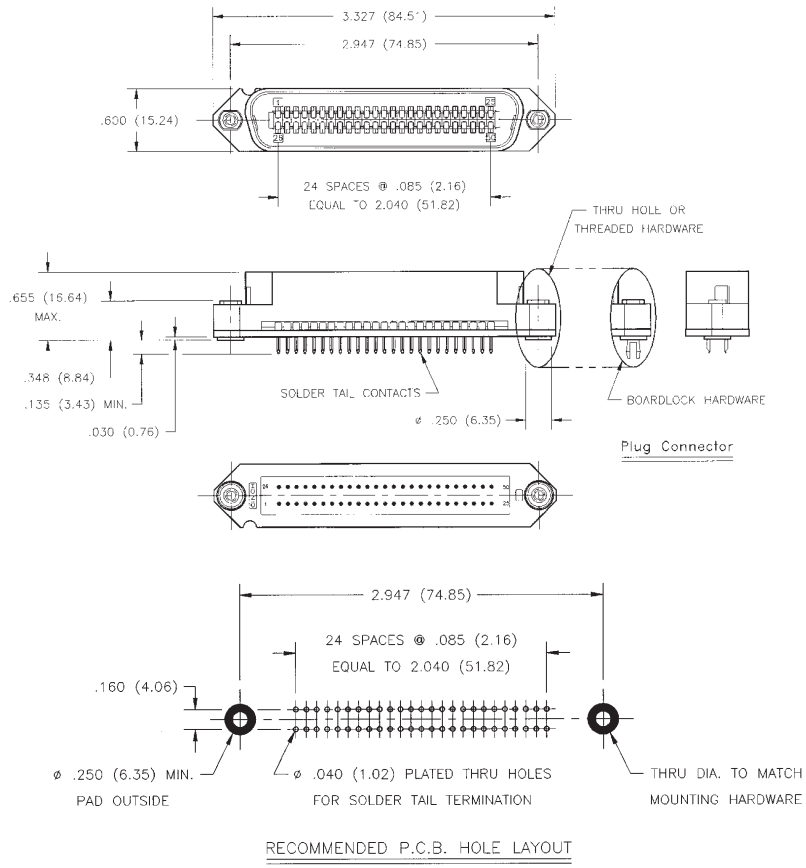
Size	Mating Force (max.) with InstaLatches Lb.	Kg	Unmating Force (min.) without InstaLatches Lb.	Kg
50	32	14.52	7	3.18

Filtered Vertical-Mount Solder Tail Plug

Vertical-mount Filtered Miniature Ribbon plugs provide filtered I/O directly from printed circuit boards, where the mating face of the connector is in a plane parallel to that of the board. Filtering keeps conducted EMI from passing between the system board and I/O cable.

The connector's filter must be grounded to the system at the mounting holes, via either top flange or through the lower standoff to a pad on the component side of the printed circuit board.

See page 6-51 for accessories such as dust covers and mounting screws that make the use of Cinch Filtered Miniature Ribbon connectors even more cost-effective in board-mount applications.



Ordering Information, Filtered Vertical-Mount Solder Tail Plug, 50 Position

	Capacitance	.144 Hole	#4-40 Hole	#6-32 Hole	M3 -0.5 Hole
Through or threader hole	50pF±15%	CF97-50PB-TH	CF97-50PB-4T	CF97-50PB-6T	CF97-50PB-3T
	100pF±15%	CF97-50PC-TH	CF97-50PC-4T	CF97-50PC-6T	CF97-50PC-3T
	220pF±15%	CF97-50PD-TH	CF97-50PD-4T	CF97-50PD-6T	CF97-50PD-3T
	470pF±15%	CF97-50PE-TH	CF97-50PE-4T	CF97-50PE-6T	CF97-50PE-3T
	820pF±15%	CF97-50PF-TH	CF97-50PF-4T	CF97-50PF-6T	CF97-50PF-3T
	1,000pF±15%	CF97-50PH-TH	CF97-50PH-4T	CF97-50PH-6T	CF97-50PH-3T
	1,200pF±15%	CF97-50PJ-TH	CF97-50PJ-4T	CF97-50PJ-6T	CF97-50PJ-3T
Threaded Boardlock	50pF±15%	-	CF97-50PB-4B	CF97-50PB-6B	CF97-50PB-3B
	100pF±15%	-	CF97-50PC-4B	CF97-50PC-6B	CF97-50PC-3B
	220pF±15%	-	CF97-50PD-4B	CF97-50PD-6B	CF97-50PD-3B
	470pF±15%	-	CF97-50PE-4B	CF97-50PE-6B	CF97-50PE-3B
	820pF±15%	-	CF97-50PF-4B	CF97-50PF-6B	CF97-50PF-3B
	1,000pF±15%	-	CF97-50PH-4B	CF97-50PH-6B	CF97-50PH-3B
	1,200pF±15%	-	CF97-50PJ-4B	CF97-50PJ-6B	CF97-50PJ-3B

Filtered Panel Mount Feedthrough Adapter

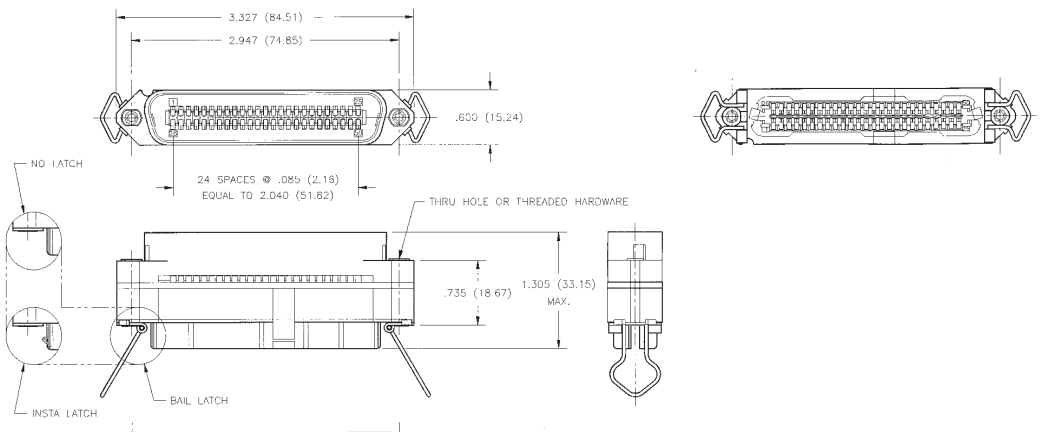
Filtered Ribbon Panel Mount Adapters provide filtered I/O in systems where internal cabling carries signals to the system panel.

By filtering right at the panel, EMI that could otherwise be generated over the length of the internal cable is prevented. The use of a plug/socket adapter also yields a benefit in serviceability. Should it ever be necessary to replace the filter, an adapter can be readily replaced without replacing a bulky, more expensive cable assembly.

The adapter must be grounded to the system panel through the mounting hardware, which extends to both plug and socket flanges; thus, the adapter may be mounted with either side to the panel.

Adapters are also available without filter capacitors. Often referred to as “connector savers”, these devices are most useful as “throw away” intermediate interconnects in applications where numerous mating/unmating cycles are required.

See page 6-51 for accessories such as bent bail latches, dust covers, and mounting screws that make the use of Cinch Miniature Ribbon Filtered Adapters even more cost-effective in panel mount-applications.

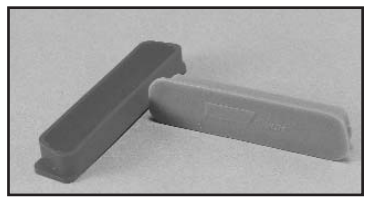


Ordering Information, Filtered Adapter, 50 position

	Capacitance	#4-40 Hole	#6-32 Hole	M3 -0.5 Hole
Socket without latches	None (Connector Saver)	CF97-50AA-4T	CF97-50AA-6T	CF97-50AA-3T
	50pF±15%	CF97-50AB-4T	CF97-50AB-6T	CF97-50AB-3T
	100pF±15%	CF97-50AC-4T	CF97-50AC-6T	CF97-50AC-3T
	220pF±15%	CF97-50AD-4T	CF97-50AD-6T	CF97-50AD-3T
	470pF±15%	CF97-50AE-4T	CF97-50AE-6T	CF97-50AE-3T
	820pF±15%	CF97-50AF-4T	CF97-50AF-6T	CF97-50AF-3T
	1,000pF±15%	CF97-50AH-4T	CF97-50AH-6T	CF97-50AH-3T
	1,200pF±15%	CF97-50AJ-4T	CF97-50AJ-6T	CF97-50AJ-3T
Socket with InstaLatches	None (Connector Saver)	CF97-50AA-4TI	CF97-50AA-6TI	CF97-50AA-3TI
	50pF±15%	CF97-50AB-4TI	CF97-50AB-6TI	CF97-50AB-3TI
	100pF±15%	CF97-50AC-4TI	CF97-50AC-6TI	CF97-50AC-3TI
	220pF±15%	CF97-50AD-4TI	CF97-50AD-6TI	CF97-50AD-3TI
	470pF±15%	CF97-50AE-4TI	CF97-50AE-6TI	CF97-50AE-3TI
	820pF±15%	CF97-50AF-4TI	CF97-50AF-6TI	CF97-50AF-3TI
	1,000pF±15%	CF97-50AH-4TI	CF97-50AH-6TI	CF97-50AH-3TI
	1,200pF±15%	CF97-50AJ-4TI	CF97-50AJ-6TI	CF97-50AJ-3TI
Socket with Bail latches	None (Connector Saver)	CF97-50AA-4TB	CF97-50AA-6TB	CF97-50AA-3TB
	50pF±15%	CF97-50AB-4TB	CF97-50AB-6TB	CF97-50AB-3TB
	100pF±15%	CF97-50AC-4TB	CF97-50AC-6TB	CF97-50AC-3TB
	220pF±15%	CF97-50AD-4TB	CF97-50AD-6TB	CF97-50AD-3TB
	470pF±15%	CF97-50AE-4TB	CF97-50AE-6TB	CF97-50AE-3TB
	820pF±15%	CF97-50AF-4TB	CF97-50AF-6TB	CF97-50AF-3TB
	1,000pF±15%	CF97-50AH-4TB	CF97-50AH-6TB	CF97-50AH-3TB
	1,200pF±15%	CF97-50AJ-4TB	CF97-50AJ-6TB	CF97-50AJ-3TB

The following accessories are available to make your application using Cinch Miniature Ribbon and SUPERIBBON products as complete and cost-effective as possible.

Dust Covers for all Metal Shell and All-Plastic Miniature Ribbon Connectors



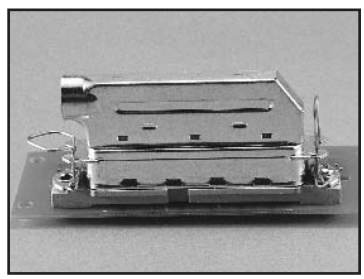
Dust covers may be added to Miniature Ribbon or SUPERIBBON assemblies to protect the mating area from damage or contamination when the connector is left unmated. They can be useful for protection from handling damage during assembly, or can be left on the connector for protection of unused system I/O ports.

Compliant-pin Miniature Ribbon products come with special seating fixtures that must be used to install the connectors onto the printed circuit board. These may be replaced after insertion; however, with standard dust covers to maintain the standard color code, if so desired. Material: UL94V-0 rated polyethelene (blue for plug covers; red for socket covers)

Ordering Information, Dust Covers

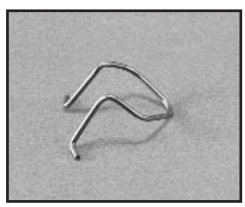
Size	Plug Cover	Socket Cover
14	57-1001	57-1002
24	57-1003	57-1004
36	57-1005	57-1006
50	57-1008	57-1022
64	57-1009	57-1010

Bent Bail Latch for End-Entry Applications



Standard Bail Latches will not lock under a plug cable in a typical end-entry application. This latch, which is bent at a 90° angle, may be used to replace a standard latch in this situation.

Material: Stainless Steel



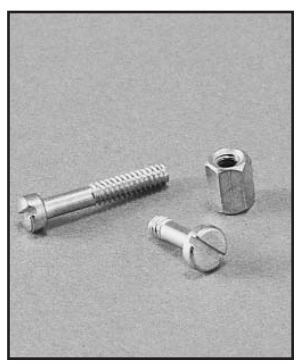
Ordering Information, Bent Bail Latch

Part No. 57-BL-90

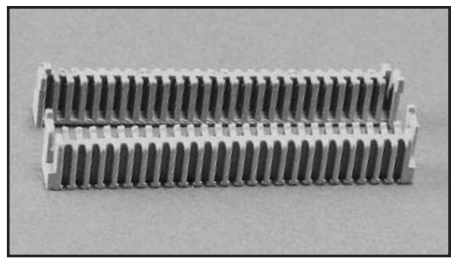
Mounting Screws and Related Hardware

Many Cinch Miniature Ribbon and SUPERIBBON products include all the hardware required for the most common application for the product; however, these alternatives may be desirable to better fit product to a specific use.

Part No.	Description	Typical Applications
4-40UNC2AX11/32	#4-40 x .343 Pan Head Screw	• SUPERIBBON to mate with female screwlock • PC Mount connector to PCB (secured from rear)
4-40UNC2AX17/32	#4-40 x .525 Pan Head Screw	• SUPERIBBON to threaded panel
4-40UNC2AX5/8	#4-40 x .625 Fillister Head Screw	• Metal Shell Running Cable (included on standard end-entry metal shell products)
4-40UNC2AX3/4	#4-40 x .750 Pan Head Screw	• SUPERIBBON Running Cable (included on standard end-entry SUPERIBBON products) • SUPERIBBON to front-panel mounted SUPERIBBON held by panel clips
4-40UNC2AX7/8	#4-40 x .875	• Miscellaneous
4-40X1/4SPCR	Hex Spacer, #4-40 Internal Thread x .250	• Female Screwlock



Wire Restraints for Panel-Mount SUPERIBBON™ All-Plastic Connectors



Wire restraints provide added security to terminated wires, preventing radial pullout. They are intended for use on panel mounted connectors where hoods are not required (wire restraints cannot be applied simultaneously with hoods), and snap on after connector termination.

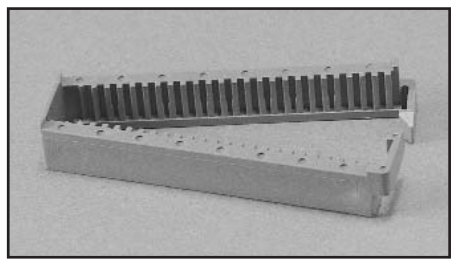
Material: Gray UL94V-0 rated polyester.

Ordering Information, SUPERIBBON Wire Restraints

(Two restraints required per connector)

Size	Plug	Socket
14	97-WR-P14	97-WR-S14
24	97-WR-P24	97-WR-S24
36	97-WR-P36	97-WR-S36
50	97-WR-P50	97-WR-S50
64	97-WR-P64	97-WR-S64

Wire Restraints for Panel-Mount Miniature Ribbon Metal Shell Connectors



Metal Shell Wire Restraints serve the same purpose as their SUPERIBBON counterparts, but are for IDC terminated metal shell connectors. These one-piece restraints snap in place around the termination area after assembly.

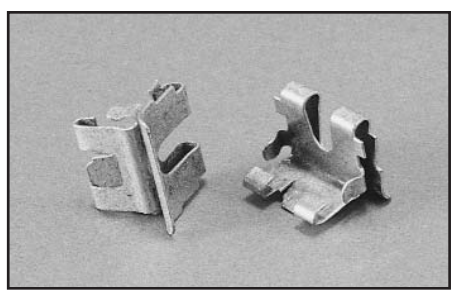
Material: Blue UL94V-0 rated polyester.

Ordering Information, Miniature Ribbon Wire Restraints

(One restraint required per connector)

Size	Plug or Socket
36	77-WR-36
50	77-WR-50

Panel Mounting Clips for All-Plastic Miniature Ribbon Connectors



These clips slip into each end of a modified panel cutout, and allow all-plastic Miniature Ribbon connectors to be snapped into place and securely front-mounted to the panel with no additional hardware. Threaded holes are not required in the panel, and connectors can be loaded without needing access to the rear of the panel.

Material: Steel
Finish: Tin-cadmium/clear chromate

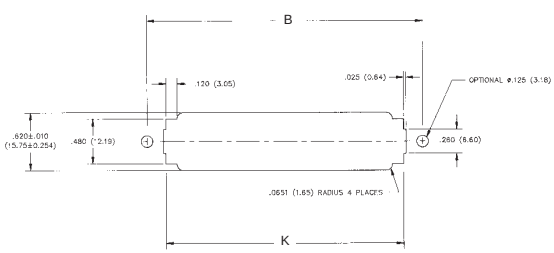
Ordering Information, Panel Mounting Clips

(Two clips required per connector)

Chassis Thickness	Panel Clip Part Number
.062" (1.57mm)	97-MC-062
.093" (2.36mm)	97-MC-093
.125" (3.18mm)	97-MC-125

Dimensions

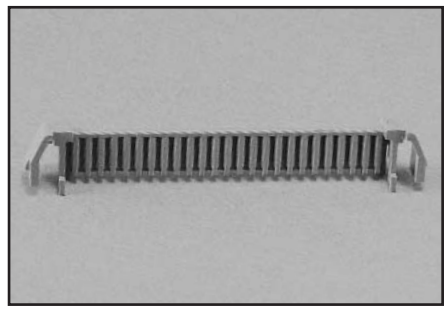
	B		K	
Size	in	mm	in	mm
14	1.417	35.99	1.060	26.92
24	1.842	46.79	1.485	37.72
36	2.352	59.74	1.995	50.67
50	2.947	74.85	2.590	65.79
64	3.542	89.97	3.185	80.90



RECOMMENDED PANEL CUTOUT FOR FRONT MOUNT WITH WIRE RESTRAINTS OR PANEL CLIPS

6

Wire Restraint with Integral Panel Clip



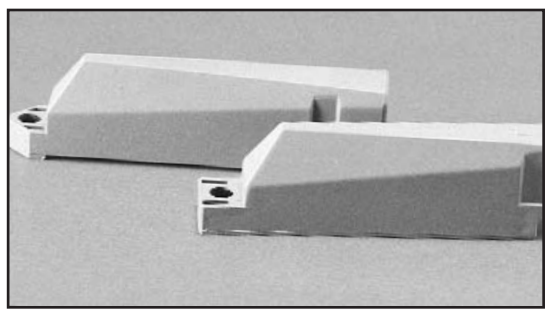
This accessory for All-Plastic Miniature Ribbon products combines the Wire Restraint and Panel Mounting Clip into one molded device. Available only for 50 position size connectors, it provides a significant material and labor cost savings compared to alternate mounting methods.

Material: Gray UL94V-0 rated polyester.

Ordering Information, Wire Restraint with Integral Panel Clip
(Two required per connector)

Chassis Thickness	Panel Clip Part Number
.062" (1.57mm)	97-WRC-062
.093" (2.36mm)	97-WRC-093

Hoods for SUPERIBBON Connectors

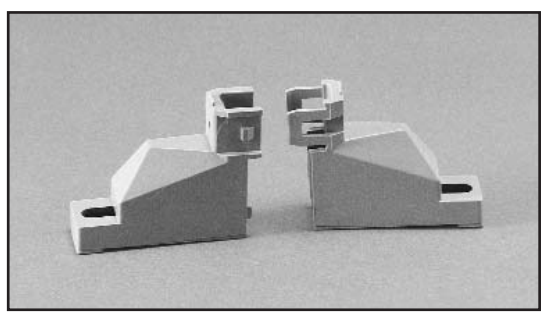


180° (Top-Entry) Hoods can be used with panel-mount All-Plastic SUPERIBBON connectors to provide strain relief and protection of the wire terminations. The two-piece snap-on assembly has adjustable tabs that allow effective strain relief on a wide range of cable sizes.

90°/270° (End-Entry) Hoods are for replacement on End-Entry SUPERIBBON connectors. They are available for all sizes, as well as for the pointed-nose 50 position size. *Note: End-Entry Hoods cannot be added to panel-mount connectors because the finished assembly would not have the end-entry cable grip. See pages 6-10 thru 6-13 for complete end-entry connectors.*

Material: Gray UL94V-0 rated polyester.

Ordering Information, Hoods for All-Plastic Miniature Ribbon



	Size	180° (Top-Entry)	90°/270° (End-Entry)
Square Nose	14	97-14-180	97-14-90
	24	97-24-180	97-24-90
	36	97-36-180	97-36-90
	50	97-50-180	97-50-90
	64	97-64-180	97-64-90
Pointed Nose	50	-	97-50-90P

A full range of tooling is available to make the use of Cinch Miniature Ribbon and SUPERIBBON™ products as cost-effective as possible. From hand repair tools to the high production rate Auto-Clinch™ termination tool, Cinch has the tool to fit your needs.

Auto-Clinch Model 200S Termination Tool

Auto-Clinch is a semi-automatic Connector Termination Machine that terminates IDC connectors pair-by-pair. The basic machine comes equipped ready to terminate 50-position end-entry Miniature Ribbon or SUPERIBBON connectors, which it can do in approximately 1.5 minutes.

The Auto-Clinch is pneumatically powered and requires a min. 60psi air supply. It is electrically controlled, and requires a 117V, 60Hz Single Phase electrical circuit (5 Amps). Weight: 120 lbs. (54.48kg.), Dimensions: 25.5" (64.77cm.) wide; 20" (50.8cm) deep; 9" (22.86cm) high. *Note: These specifications may change with the addition of certain options.*

Order Part No. AC-371

Several options are available that make the Auto-Clinch a versatile application tool:

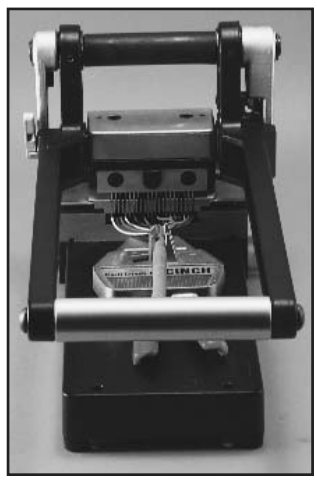
- Remote Visual Color Display shows wire color codes. It can be used to train new operators or to assist the operator in terminating non-standard wire sequences. **Part No. ACO-482**
- The Selective Programmer allows the operator to set the machine to skip over positions that are not to be terminated, thus speeding up the termination process. **Part No. ACO-495**
- The End-Entry Cable Clamp closer automatically closes the cable clamp on end-entry SUPERIBBON or SuperShield connectors as they are terminated. **Part No. ACO-374**
  A power assist for this device is also available. **Part No. ACO-405**
- The Top-Entry Adapter dresses the wires during termination such that they are properly aligned for exit through a Top-Entry hood. **Part No. ACO-218**
  NOTE: Auto-Clinch™ cannot be equipped with both Cable Clamp Closer and Top-Entry Adapter simultaneously.
- Insertion Blades are included for terminating solid wire. For replacement, order **Part No. ACB-443**
  To terminate stranded wire, order stranded-wire blades, **Part No. ACB-872**
- Nests for Panel Mount and Top-Entry Ribbon Connectors, and All Plastic SUPERIBBON connectors allow the use of Auto-Clinch to terminate other IDC Ribbon Connectors:

	For All-Plastic IDC Connectors		For Metal-Shell IDC Connectors			
Connector Size	End-Entry	Top-Entry	End-Entry	Panel Mount/Top-Entry Sockets	Panel Mount/Top-Entry Plugs	Top-Entry Plug With Hood*
14	ACEN-850	ACTN-568	-	ACMN-231	-	ACMN-232
24	ACEN-851	ACTN-569	-	ACMN-229	-	ACMN-230
36	ACEN-852	ACTN-797	-	ACMN-228	ACMN-203	ACMN-227
50	ACEN-853	ACTN-798	ACMN-484	ACMN-527	ACMN-858	ACMN-526
64	ACEN-570	ACTN-799	-	-	-	-

* For Bail-Latch plugs with hood where hood forms rear of connector body, i.e., 77-32500.
For overmold kits, use panel mount/top-entry plug nests.

AutoClinch is a trademark of Cinch Connector Division of Labinal Components & Systems, Inc.

Certi-Clinch™ Portable Termination Tool



Certi-Clinch is a portable, manually operated tool that terminates Cinch all-plastic and metal shell Miniature Ribbon connectors with discrete-wire IDC contacts. It is designed for field use assembling cables on-site, yet is efficient enough to fit well into lower-volume factory assembly operations.

Its 10.5 lb. (4.77Kg) weight and versatile configuration make it readily portable for field use, and allow temporary use with virtually no setup time to handle peak demands in factory environments. A leather case is available for carrying Certi-Clinch onto a job site or for storing Certi-Clinch in the factory when not being used.

Certi-Clinch measures 6" (15.24cm) wide x 13" (33.02cm) long x 6.5" (16.5cm) high.

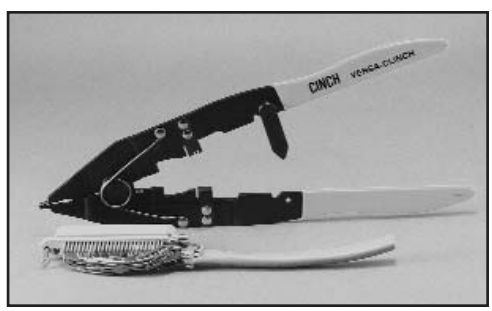
Ordering Information, Certi-Clinch

Model	Description
SCT-330	Certi-Clinch Tool with 25-pair nest, for Solid Wire
SCT-335	Certi-Clinch Tool with 32-pair nest, for Solid Wire
SCT-360	Certi-Clinch Tool with 25-pair nest, for Stranded Wire
SCT-342	Kit to convert 25-pair tool to 32-pair operation
SCT-343	Kit to convert 32-pair tool to 25-pair operation
SCT-645	Insertion Blades to convert 25-pair tool to Stranded Wire
SCT-038	Insertion Blades to convert 32-pair tool to Stranded Wire
SCT-649	Carrying Case for all Certi-Clinch Tools

Handi-Clinch™ Hand Termination Tool

This hand-operated tool terminates wires individually to Cinch SUPERIBBON™ and metal shell Miniature Ribbon IDC connectors. Its integral nest holds the connector in place during use. **Part No. HCTT-539**

Versa-Clinch™ Multi-Function Hand Tool

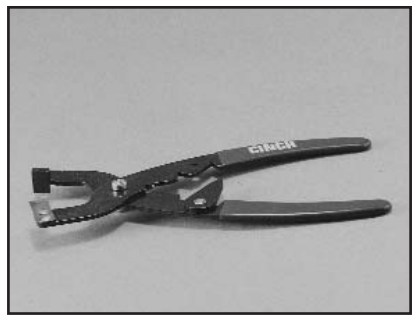


This versatile tool performs four basic functions in applying Cinch SUPERIBBON and metal shell Miniature Ribbon products:

- Terminate individual wires to the IDC contact
- Unlatch the hood for removal on end-entry SUPERIBBON products
- Open and close the cable clamp on SUPERIBBON and SuperShield
- Unlock InstaLatches to unmate connectors

Part No. VCTT-361

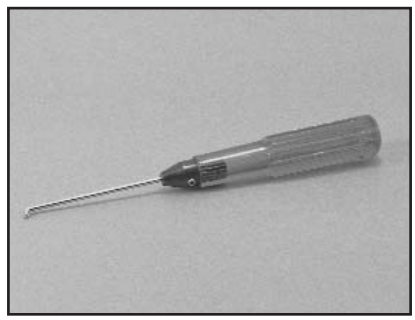
Termination Repair Pliers



These plier type tools allow you to rework misterminated cable assemblies and/or perform specialized termination operations. They terminate wires individually into Cinch IDC contacts. Repair Pliers for Standard Termination: **Part No. SRT-345**

Repair Pliers for Half-Tap (Daisy-Chaining) allows you to terminate one wire to multiple contacts to short contacts together, or even to two separate connectors to make back/back connections, etc. **Part No. HT-560**

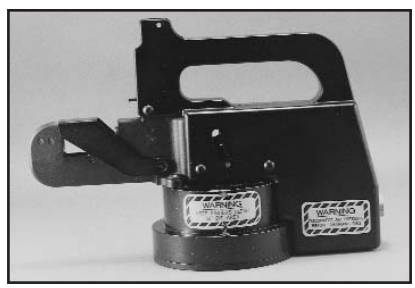
InstaLatch™ Unlatching Tool



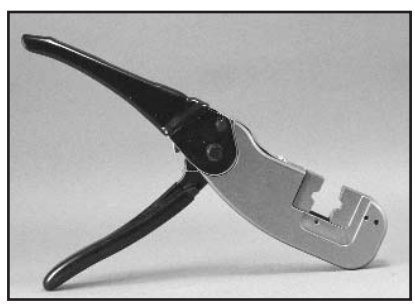
While InstaLatches may be unlocked with something as simple as a center punch or ballpoint pen, this tool provides a "hooked" end that allows you to unlock InstaLatches even in tight areas. **Part No. UT-304**

Crimping Tools for Overmold Kit Ferrules

Two model tools are available to crimp ferrules onto overmold kits:



- Pneumatically powered bench-top press, which is portable so it can be placed in storage when not required. **Part No. FCT-551**
- Hand-operated crimping tool, satisfactory for lower-volume applications. **Part No. FCT-552**

Both tools use the same crimp dies. Select the crimp die(s) below for the particular ferrule being used (ferrules shown on page 6-22).

Crimp Die Part No.	Crimp Ferrule Part No.
CD08	CF57
CD09	CF60
CD10	CF64