8

SPECIAL APPLICATION CONNECTORS

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Fluorescent tube socket 8-16

Fiber optic bundle connector 8-18

Power cord receptacle 8-20

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Top and side entry and vertical mount types

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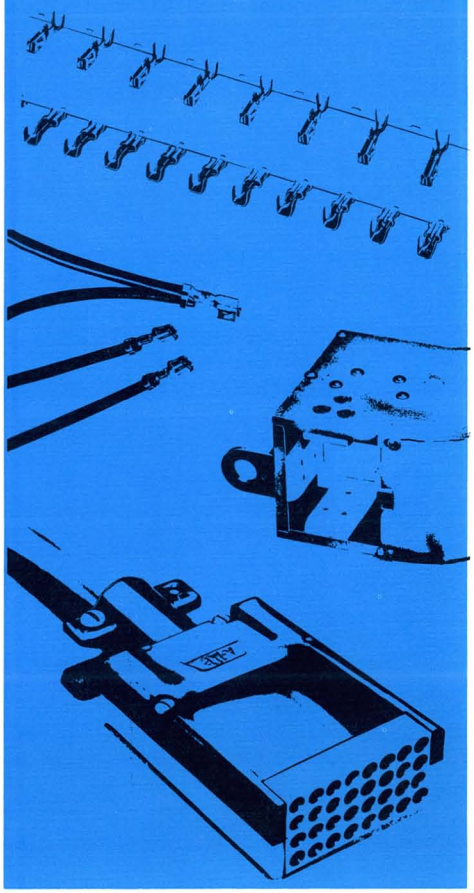
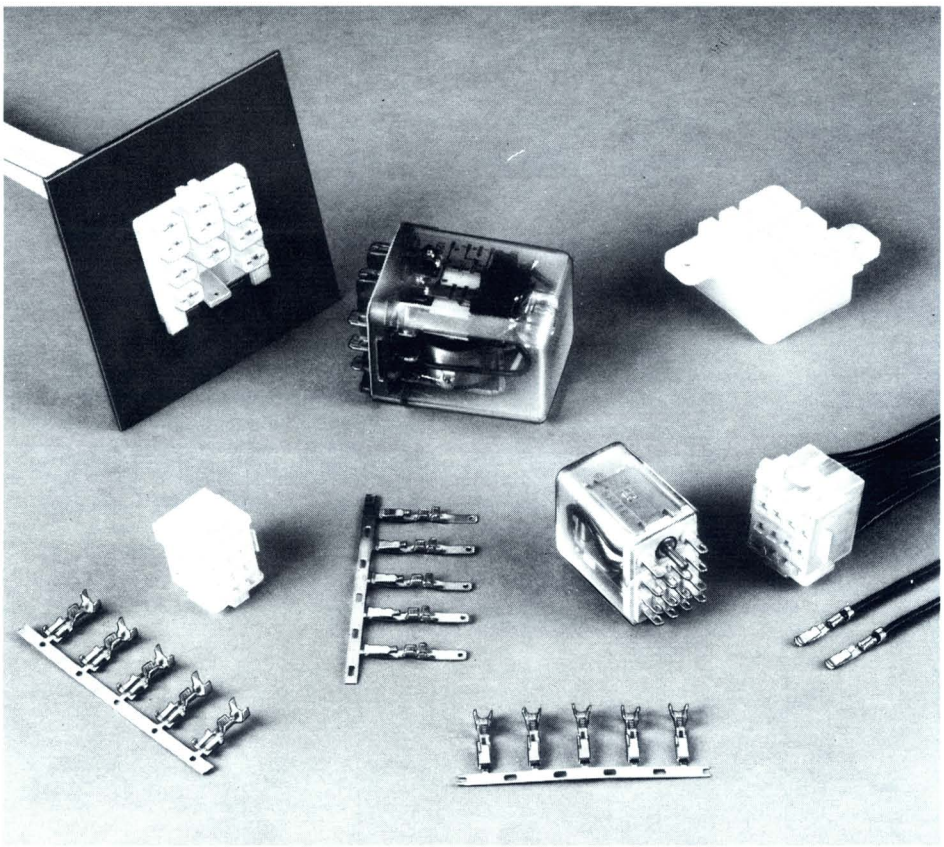




AMP Relay Sockets provide plug-in capabilities for the most popular styles of relays used in today's industrial controls, machine tools, vending machines, amusement game machines, telecommunications equipment and business machines. They are specially designed for panel mounting and are available in a variety of sizes and configurations, including: 11-position sockets which accept various 11-circuit SPDT, DPDT and 3PDT industrial control relays rated at 10 amps and 11- and 14-position sockets which accept 11- and 14-circuit ac and dc miniature relays with a 3-amp rating.

To meet the pluggability requirements of these relays reliably and economically, the entire socket line incorporates such design features as: rugged nylon housings; numbered cavities for easy circuit identification; egg-crating to eliminate the need for insulation sleeving; and large rear cavities for accepting larger wire sizes and daisy-chaining between circuits. Individual socket styles also have distinct design characteristics which enhance their usability and performance. Included are self-locking designs that require no mounting hardware and are grooved to accept retaining clips for added relay mounting retention, if desired, plus a rear-panel mounting design that simplifies production wiring by allowing sockets to be an integral part of pre-assembled wiring harnesses. For additional cost savings, all housings are furnished unloaded — a customer buys receptacles only in quantities to satisfy his exact circuit needs.

The receptacles themselves feature insulation support ears for high termination strength and a leaf-spring design for firm wiping action and retention. They are supplied in reel-stored strips for high-speed machine application, or they can be hand crimped where limited production is desired. Once terminated, the receptacles are merely "snapped" into the housings. Removal for repair or replacement is readily accomplished with a simple extraction tool.

AMP Relay Sockets with Crimp-Type Receptacles

Features

- Plug-in capabilities for most popular styles of relays used today
- High performance crimp-type receptacles
- Socket configurations accommodate various 11-circuit 10-amp industrial control relays plus 11- and 14-circuit 3-amp ac and dc miniature relays
- Rugged nylon housings with circuit cavity identification. Large rear-entry cavities permit daisy-chaining of leads
- Egg-crated design eliminates need for insulation sleeving
- Snap-in receptacles with insulation support ears and leaf-spring design
- Standard crimp contacts with FASTON "110" series tabs for three-lead terminations are available
- Economical high-speed machine terminations
- Housings for rear-panel mounting facilitate pre-assembling of wire harnesses with sockets
- Self-locking housings require no mounting hardware
- Selective loading capability
- Recognized under the Component Program of Underwriters Laboratories — UL File No. E28476
- Canadian Standards Association Certified — CSA File No. LR16455

Dimensioning:
All dimensions in inches.

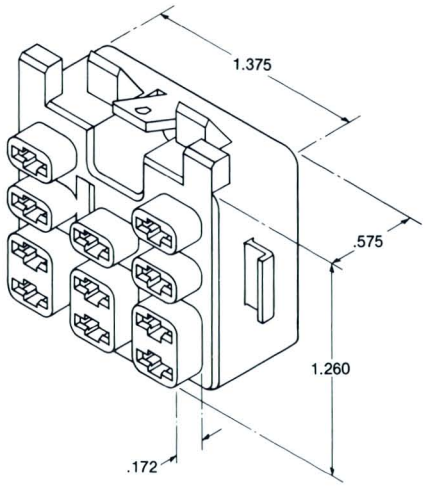
Specifications subject to change. Consult AMP Incorporated for latest design specifications.

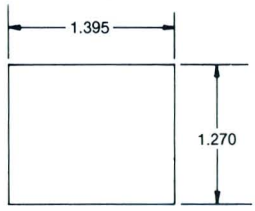
Specifications

11-Position Socket
(for 10 Amp Industrial Control Relays)
(KU Style)

Material: Natural Nylon
Part Number: 1-380993-0

Housing (Self-Mounting)

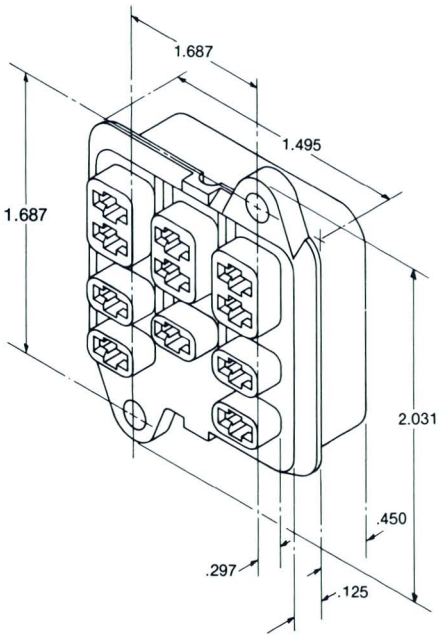


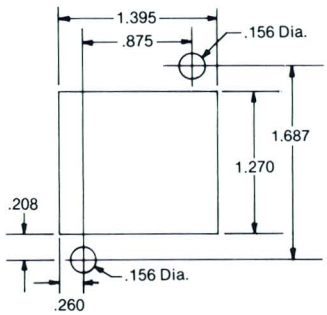


Recommended Panel Cutout
(Panel Thickness, .090 Max. Relays may be mounted on 1.800 x 1.500 centers)

Material: Natural Nylon
(with bailing wire groove)
Part Number: 1-480603-0

Housing (Screw-Mounted)

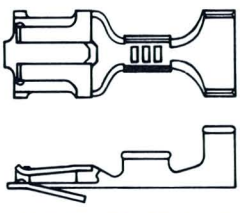




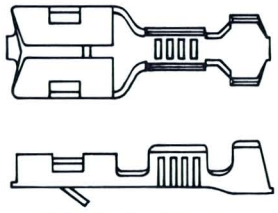
Recommended Panel Cutout

Crimp Type Receptacles

For Housing Numbers 1-480603-0 and 1-380993-0
Fits .187$^{\pm .005}$ Wide x .020$^{\pm .002}$ Thick Tab
Material: Brass
Finish: Tin



Part Number 61347-1



Part Number 350490-1

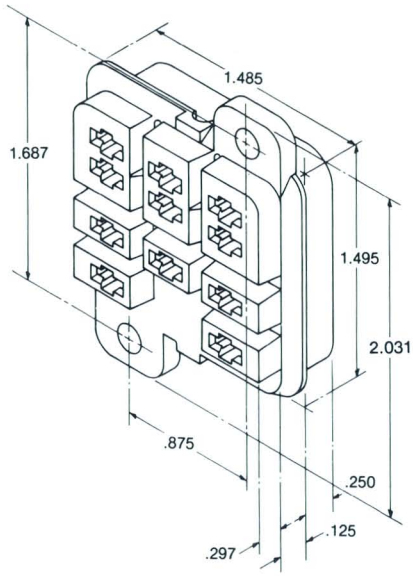
Wire Range	Ins. Dia. Range	Part Number		Hand Tool Number	Extraction Tool Number
		Strip Form	Loose Piece		
No. 20-16 AWG or Two No. 20 AWG	.080-.110 or two .110 (max.)	61347-1 / 61347-2*	350066-1	90088	693597-2
20-16 AWG	.150-.130	350490-1	—	—	693597-2

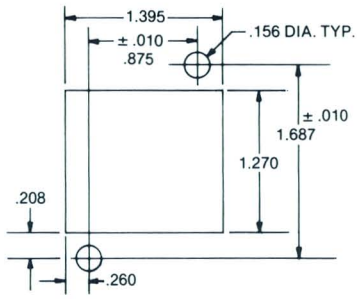
*Receptacles are reverse-reeled for use in Miniature Applicator.

11-Position Socket
(for 10 Amp Industrial Control Relays)
(KU Style)

Material: Natural Nylon
Part Number: 1-480396-0

Housing (Screw-Mounted for Weld or FASTON Tab Contacts)

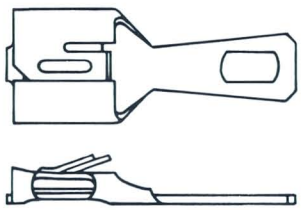




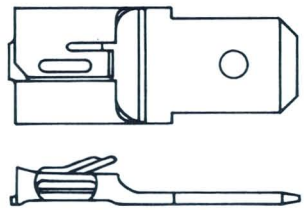
Recommended Panel Cutout

Contacts

For Housing Number 1-480396-0
(Fits .187±.005 Wide x .020±.002 Thick Tab)
Material: Brass
Finish: Tin
Extraction Tool No.: 693597-3



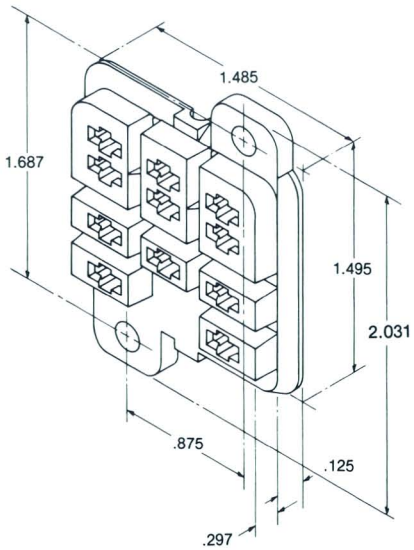
Part Number 60952-1

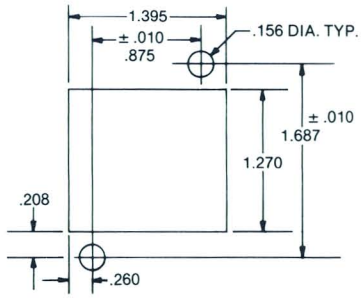


Part Number 61249-1

Housing (Screw-Mounted for Solder DIP Contact)

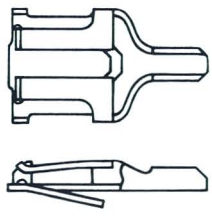
Material: Natural Nylon
Part Number: 1-480396-1





Recommended Panel Cutout

Contacts



For Housing Number 1-480396-1
(Fits .187±.005 Wide x .020±.002 Thick Tab)
Material: Brass
Finish: Tin
Part Number: 61019-1
Extraction Tool No.: 693597-2

Specifications

11-Position Socket
(for 4-Amp Ac and Dc Miniature Relays)
(CR-2 Style)

Material: Natural Nylon
Part Number: 1-380994-0

14-Position Socket
(for 3-Amp Ac and Dc Miniature Relays)
(KH Style)

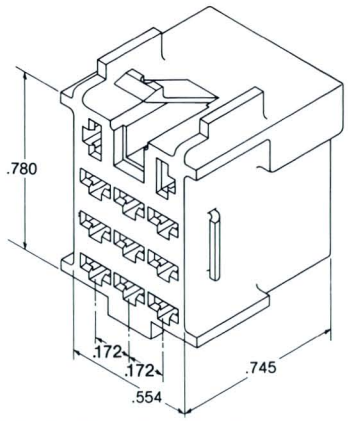
Material: Natural Nylon
Part Number: 350206-1

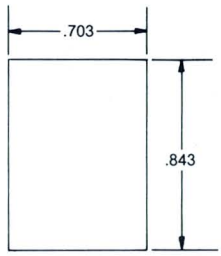
Crimp Type Receptacles
(Fits .100$^{\pm .005}$ Wide x .020$^{\pm .002}$ Thick Tab)
Material: Brass
Finish: Tin

Application Tooling

AMP hand tools produce carefully controlled, uniform pressure crimps with matching dies that fully "bottom" at the completion of each crimp. This is accomplished by the CERTI-CRIMP ratchet device located between the tool handles. These tools are ideally suited for prototype, limited production and servicing applications.

Housing (Self-Mounting)

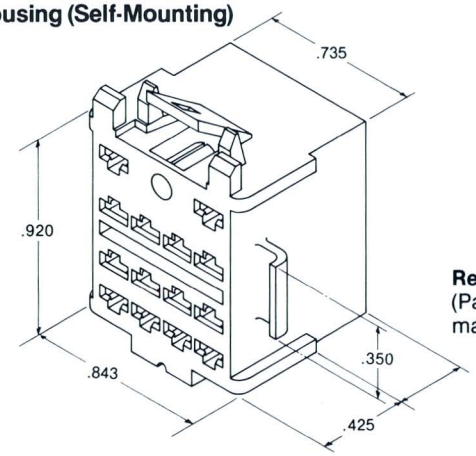


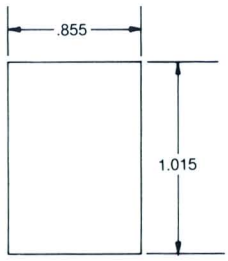


Recommended Panel Cutout
(Panel Thickness .062 max. Relays may be mounted on 1.000 x .875 centers)

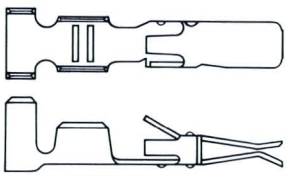
NOTE: Each of these two circuits can accept two No. 18 AWG wires.

Housing (Self-Mounting)

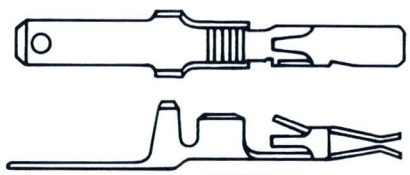




Recommended Panel Cutout
(Panel Thickness .062 max. Relays may be mounted on 1.062 x 1.250 centers)



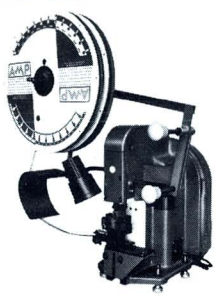
350059
350057



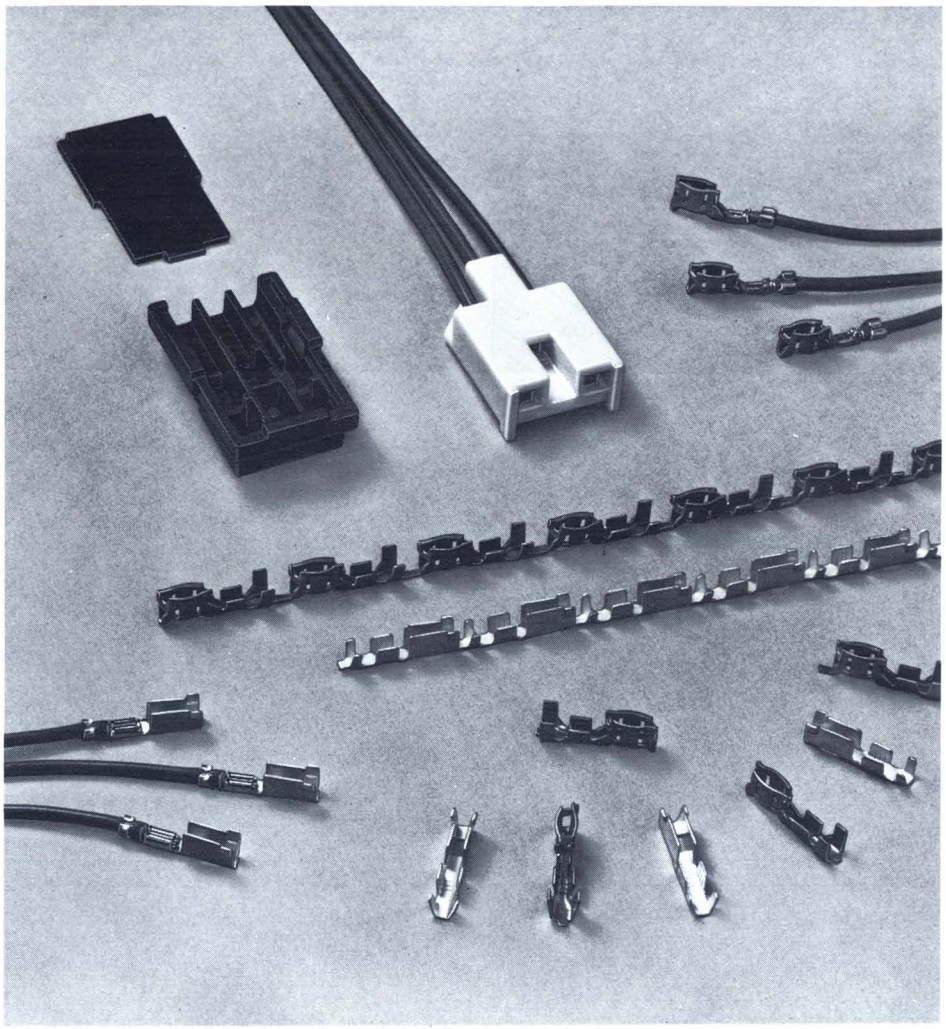
350207
250208

Wire Range	Ins. Dia. Range	Part Number		Hand Tool Number	Extraction Tool Number
		Strip Form	Loose Piece		
No. 20-14 AWG	.075-.132	350057-1 350057-2*	350067-1	90270-1	653597-3
		350207-1	350348-1		
No. 24-18 AWG	.050-.088	350059-1 350059-2*	350068-1	90271-1	653597-3
		350208-1	350349-1		

*Available in Pre-Gold



The AMP-O-LECTRIC Automatic Machine applies receptacles to wire at rates up to 4000 an hour. It can be operated by a foot pedal or an electronic switch tripped by the insertion of stripped wire. It uses standard or miniature side-feed applicators with precision made dies to assure uniform terminations. All adjustments are made rapidly. Crimping height on both wire barrel and insulation support for a given wire size is simply "dialed in".



AMP Cluster Blocks

Features

- Housings available as one- or two-piece assemblies
- One-piece connectors for .090" and .125" pin headers — two-piece connector accepts .090" pins only
- Contacts available in tin-plated phosphor bronze or beryllium copper and plain beryllium copper
- Accepts wire size range 18-16 and 14-12 AWG
- Thermoplastic polyester housings
- Impervious to oils and/or refrigerants
- Insulation compatibility
- Housings available to accept standard and reversed header pin layouts
- High performance electrical and mechanical contact
- High impact resistance housings
- Assemblies accept pins from one side only to prevent reversed polarity
- High-speed application of contacts with AMP automatic terminating machines and quick-change miniature applicators assures volume production at lowest installed cost
- Contacts are easily removed from the housing for maintenance and repair

AMP Cluster Blocks offer manufacturers of air conditioning and refrigeration, low cost, fully insulated, quick-connect attachments for sealed hermetic header pins on compressors.

High impact resistance against shock and abuse and long life performance in the presence of oils and refrigerants are provided by the AMP Cluster Block. Also, since the connectors accept pins from one side only, reversed polarity at time of installation is prevented.

Molded from thermoplastic polyester material, cluster block connectors are available in one and two-piece configurations. The all new one-piece connector version acccpts .090" and .125" pin sizes in either standard or reverse pin layouts. The two-piece connector accepts .090" pins only, in standard pin layout. Contacts are provided in a choice of phosphor bronze or beryllium copper for .090" and .125" pin sizes and in standard or high insertion force type for the .125" pin size.

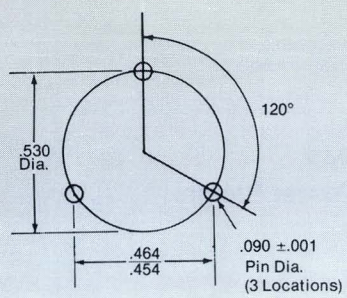
Precision formed contacts are available on reels for high speed automatic machine application for maximum productivity at the lowest applied cost.

Dimensioning:
All dimensions in inches.

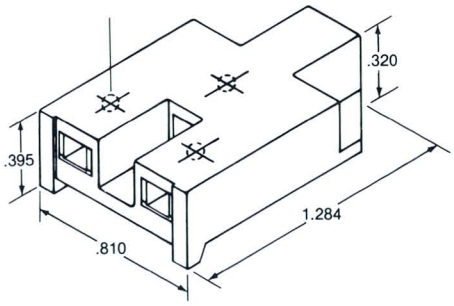
Specifications subject to change. Consult AMP Incorporated for latest design specifications.

Specifications (.090" Cluster Blocks)

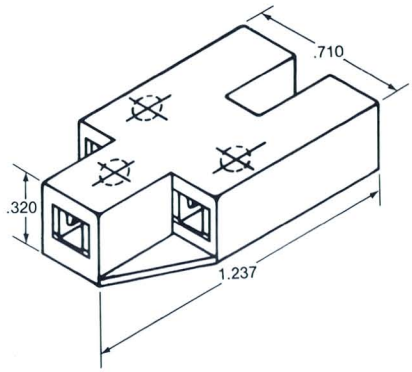
One-Piece Housings



Pin Location

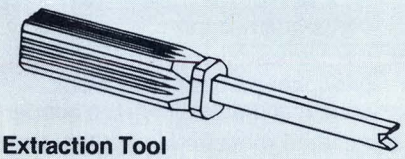


Material: Thermoplastic Polyester
Color: Natural
Accepts Part Number 62131
Part Number 360033-1

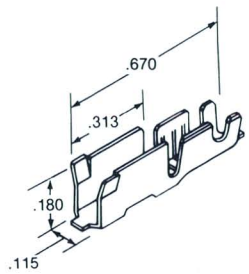


Material: Thermoplastic polyester
Color: Natural
Accepts Part Number 62131
Part Number 360050-1

Contacts



Extraction Tool
Part Number 274185

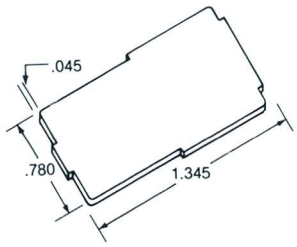


Material	Finish	Part No.
Beryllium Copper	None	62131-1
Beryllium Copper	Post Tin	62131-2
Phosphor Bronze	Post Tin	62131-3

Wire Size Range: 18-16 AWG
Insulation Diameter Range: .059"—.103"
For Housing Numbers 360033-1 and 360050-1

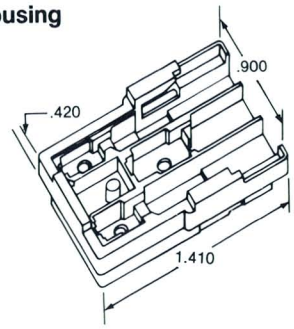
Two-Piece Housing

Cover Plate



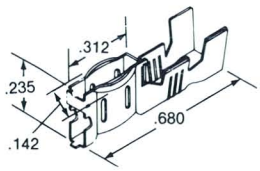
Material: Laminated thermoset plastic
Color: Black
Part Number 480051-1

Housing



Material: Thermoplastic polyester
Color: Natural
Accepts Part Number 42670
Part Number 480091-3

Contacts

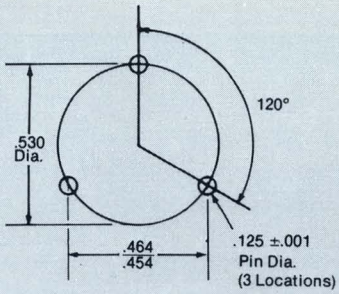


Material	Finish	Part No.
Phosphor Bronze	None	42670-1
Phosphor Bronze	Tin	42670-2
Phosphor Bronze	Silver	42670-3

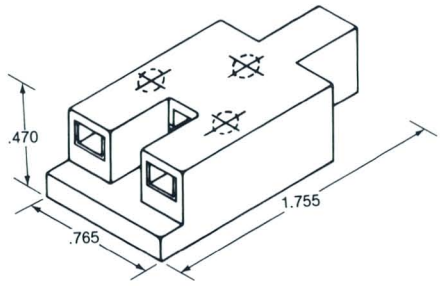
Wire Size Range: 18-16 AWG
Insulation Diameter Range: .070"—.160"
For Housing Numbers 480091-3 and 480051-1

Specifications
(.125" Cluster Blocks)

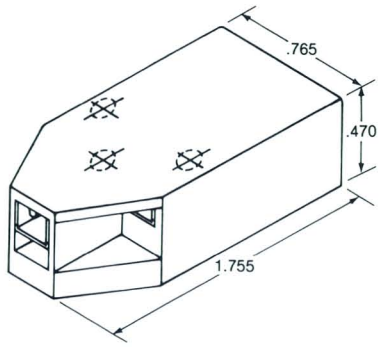
One-Piece Housings



Pin Location



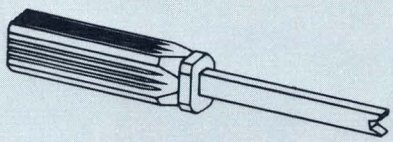
Part Number 360051-1



Part Number 360052-1

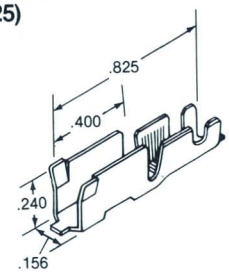
Material: Thermoplastic polyester
Color: Natural
Accepts Part Numbers 62243, 62244, 62324 and 62325

Contacts



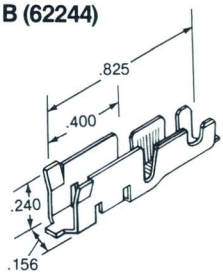
Extraction Tool
Part Number 274186

High Insertion Force Style A (62325)



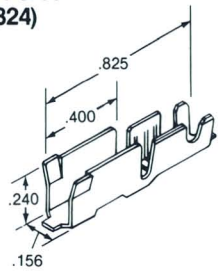
Wire Size Range: 18-16 AWG
Insulation Diameter Range: .130" max.
Accepts Housing Number 360052-1

Standard Insertion Force Style B (62244)



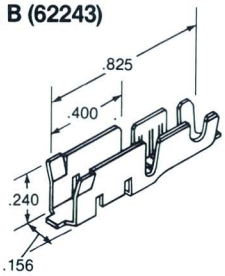
Material	Finish	Style	Part No.
Beryllium Copper	None	A	62325-1
Beryllium Copper	Post Tin	A	62325-2
Phosphor Bronze	Post Tin	A	62325-3
Phosphor Bronze	Silver	A	62325-4
Beryllium Copper	None	B	62244-1
Beryllium Copper	Post Tin	B	62244-2
Phosphor Bronze	Post Tin	B	62244-3
Phosphor Bronze	Silver	B	62244-4

High Insertion Force Style A (62324)



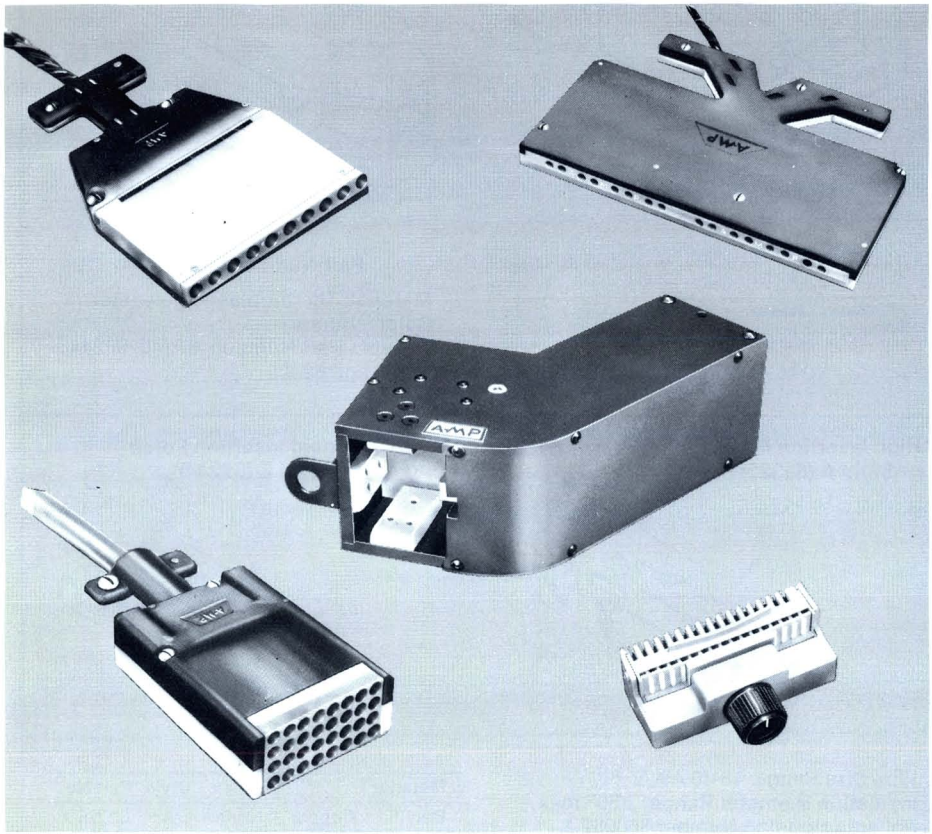
Wire Size Range: 14-12 AWG
Insulation Diameter Range: .170" max.
Accepts Housing Number 360052-1

Standard Insertion Force Style B (62243)



Material	Finish	Style	Part No.
Beryllium Copper	None	A	62324-1
Beryllium Copper	Post Tin	A	62324-2
Phosphor Bronze	Post Tin	A	62324-3
Phosphor Bronze	Silver	A	62324-4
Beryllium Copper	None	B	62243-1
Beryllium Copper	Post Tin	B	62243-2
Phosphor Bronze	Post Tin	B	62243-3
Phosphor Bronze	Silver	B	62243-4

Special Applications Connectors



AMP Test Connectors and Fixtures

As a major producer of electrical/electronic components, AMP has been attuned to the needs of the telecommunication industry and has continually provided the industry with new products and services. This ability is vividly portrayed by the complete family of AMP Test Connectors and Test Fixtures. This product line is currently being used by leading telephone equipment manufacturers to test various types of equipment during production.

The test connectors are especially designed for checking components mounted and wired in an assembled frame. They are ruggedly constructed allowing them to withstand abusive handling and still perform with complete dependability. Housings are molded from a high-impact nylon material, and the face plates which protect the contacts are made of abrasion resistant, spherical glass-filled nylon. The connector contacts are of a leaf-type design and will accept .030" x .050" or .045" sq. posts with low insertion forces for minimum contact wear. Additional connector features are: color coded strain reliefs for polarization and easy circuit identification, replaceable contacts using a simple extraction tool, and a compact design for close connector stacking.

All connector components are packaged in kits for easy assembly, except for the contacts. The crimp snap-in contacts are furnished separately and are available either loose piece or in strip form for hand tool or high-speed automatic machine application.

The test fixtures are zero-force insertion connectors designed to test apparatus having high-density circuit leads . . . without a need for excessive mating force. These devices include: a jumper block fixture which is used to jumper two frames together to test wiring, a bench-mounted wire spring relay fixture designed to test wire spring relays having a maximum of 42 circuit leads, and a vertical unit assembly test fixture which is used to test vertical unit assembly relays before the apparatus is wired. All of these testing devices use leaf-type contacts and durable face plates similar to the test connectors, assuring long life and dependable performance.

FEATURES

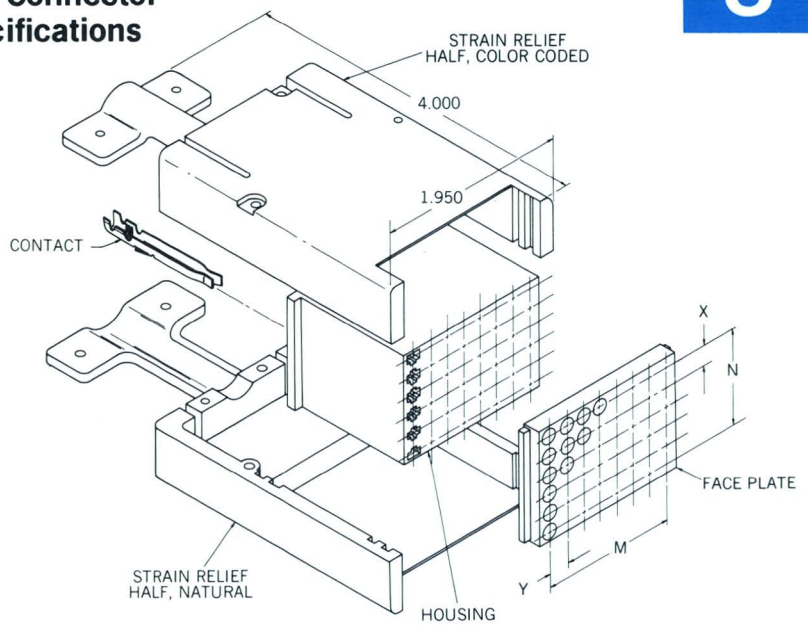
- Rugged construction—high-impact nylon housings; abrasion resistant, spherical glass-filled nylon face plates.
- Leaf-type contacts accept .030" x .050" or .045" sq. posts with low insertion force.
- Color coded connector strain reliefs for polarization.
- Replaceable contacts and face plates.
- Connector kits permit convenient, easy assembly.
- Contacts available loose piece or in strip form for either hand tool or high-speed machine application.
- Test fixtures with zero-force insertion connectors provide high pressure lead connections without excessive mating force.

Single Strain Relief Connectors (for Type "D" and Type "288" Terminal Strips)

Materials:

Housing and Strain Relief—High-Impact Nylon
Face Plate—Spherical Glass-Filled Nylon
Contacts—Phosphor Bronze, Pre-Tinned

Test Connector Specifications



Terminal Strip (Type)	Dimensions X	Dimensions Y	No. of Cavities M (Hor.)	No. of Cavities N (Vert.)	No. of Cavities Total	Color Code	Part No.
D	.187	.187	8	1	8	Red	1-380872-1
			8	2	16		1-380873-1
			8	3	24		1-380874-1
			8	4	32		1-380875-1
			8	5	40		1-380876-1
.288	.200	.200	8	2	16	Blue	1-380877-2
			8	4	32		1-380878-2
			8	6	48		1-380879-2

NOTES:

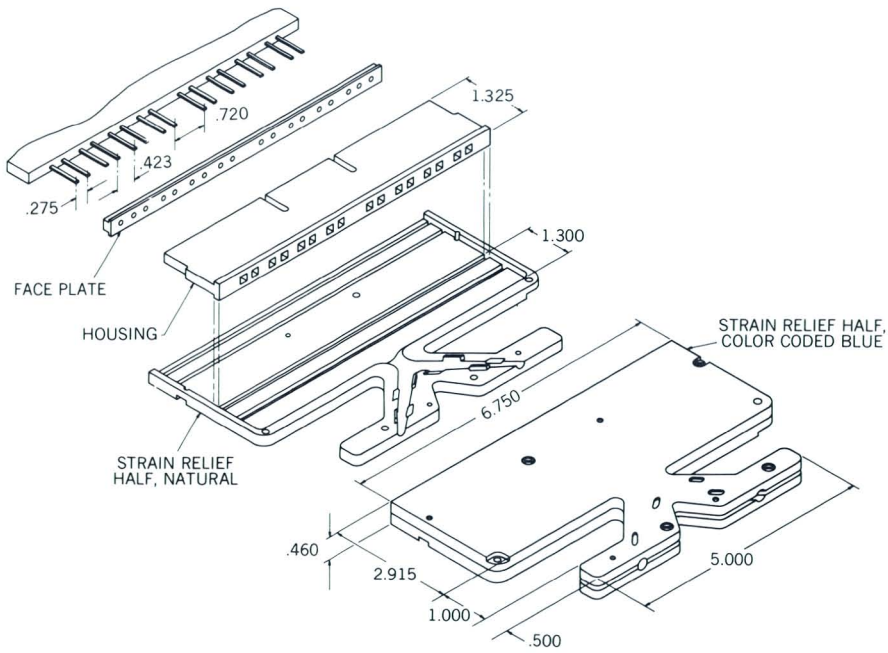
1. Listed part nos. reflect packaged connector kits. Each kit contains a housing, two strain relief halves, a face plate and the necessary assembly hardware. Contacts must be ordered separately as follows: for loose piece contacts, use contact no. 61780-1; for strip form contacts, use contact no. 61759-1.
2. Loose piece contacts are terminated with AMP hand crimping tool no. 90115-2. For applying strip form contacts with the AMP machine that best suits your needs, consult your local AMP Sales Engineer.

Double Strain Relief Connector, 16-Position (for Type "242" Terminal Strips)

Materials:

Housing and Strain Relief—High-Impact Nylon
Face Plate—Spherical Glass-Filled Nylon
Contacts—Phosphor Bronze, Pre-Tinned

Part Number: 1-380897-0



NOTES:

1. Connector is supplied in a kit which includes a housing, a face plate, one strain relief half (natural), one strain relief half (color coded blue) and the necessary assembly hardware. Contacts must be ordered separately as follows: for loose piece contacts, use contact no. 61780-1, for strip form contacts, use contact no. 61759-1.
2. Loose piece contacts are terminated with AMP hand crimping tool no. 90115-2. For applying strip form contacts with the AMP machine that best suits your needs, consult your local AMP Sales Engineer.

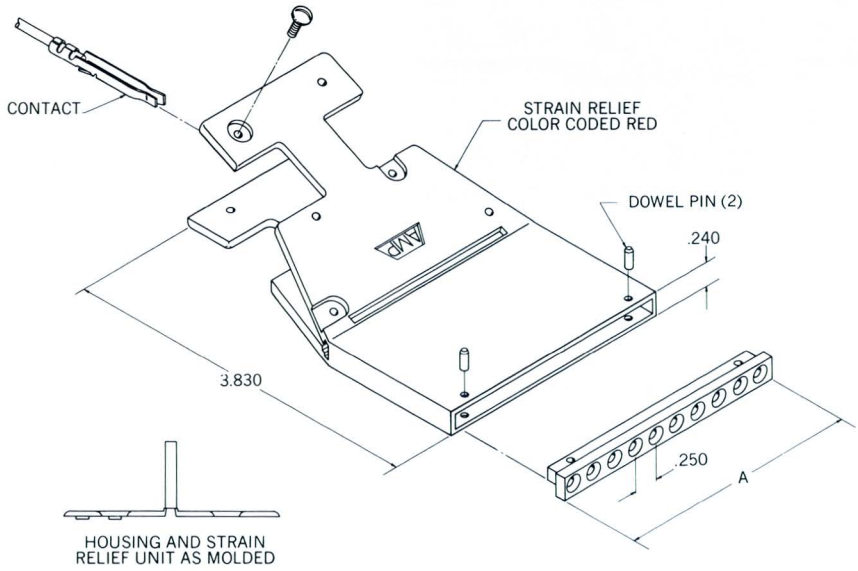
Hinged Strain Relief Connectors (for Type "251" and "256" Terminal Strips)

Materials:
Strain Relief—High-Impact Nylon
Face Plate—Spherical Glass-Filled Nylon
Dowel Pins—Stainless Steel
Contacts—Phosphor Bronze, Pre-Tinned

Jumper Block Test Fixture (for Type "297A" and "297B" Terminal Strips)

Materials:
Housing—Glass-Filled Nylon
Contacts—Beryllium Copper

Test Connector Specifications (Cont.)

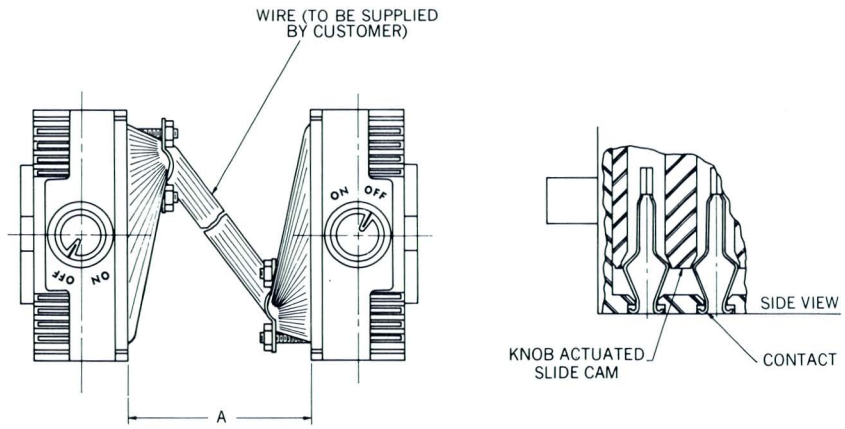


Terminal Strip (Type)	Dimension A	No. of Positions	Part No.
251	1.240	5	1-380939-0
and			
256	2.490	10	1-380896-0

NOTES:

1. Connector is supplied in a kit which includes a strain relief (color coded red), two dowel pins and a face plate—all components pre-assembled. The necessary assembly hardware is also included in the package. Contacts must be ordered separately as follows: for loose piece contacts, use contact no. 61780-1; for strip form contacts, use contact no. 61759-1.
2. Loose piece contacts are terminated with AMP hand crimping tool no. 90115-2. For applying strip form contacts with the AMP machine that best suits your needs, consult your local AMP Sales Engineer.

Test Fixture Specifications

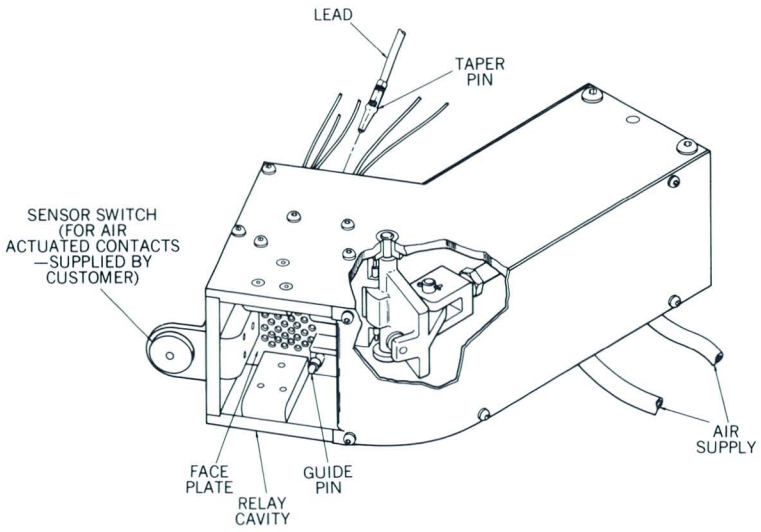


Terminal Strip (Type)	Dimension A	Part No.
297A	6 In.	1-380963-0
and	21 In.	1-380963-1
297B	9 Ft.	1-380963-2
	24 Ft.	1-380963-3

NOTE: The jumper block test fixture is supplied fully assembled, as shown.

Wire Spring Relay Test Fixture

Test Fixture Specifications (Cont.)

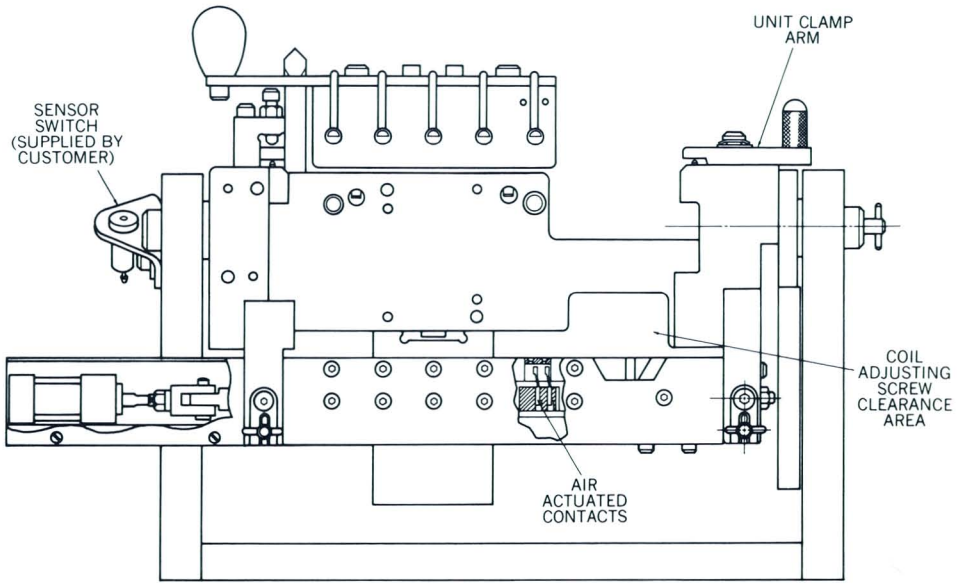


Part Number: 1-380898-0

This bench-mounted unit is a zero-force insertion connector equipped with an air cylinder for operating the contacts during testing. Air cylinders and all fluidic controls are supplied by the customer. A relay to be tested is simply inserted into the fixture and the sensor switch actuated causing the fixture contacts to close and make positive contact with the relay leads. After testing, actuation of the sensor switch again releases the relay for extraction.

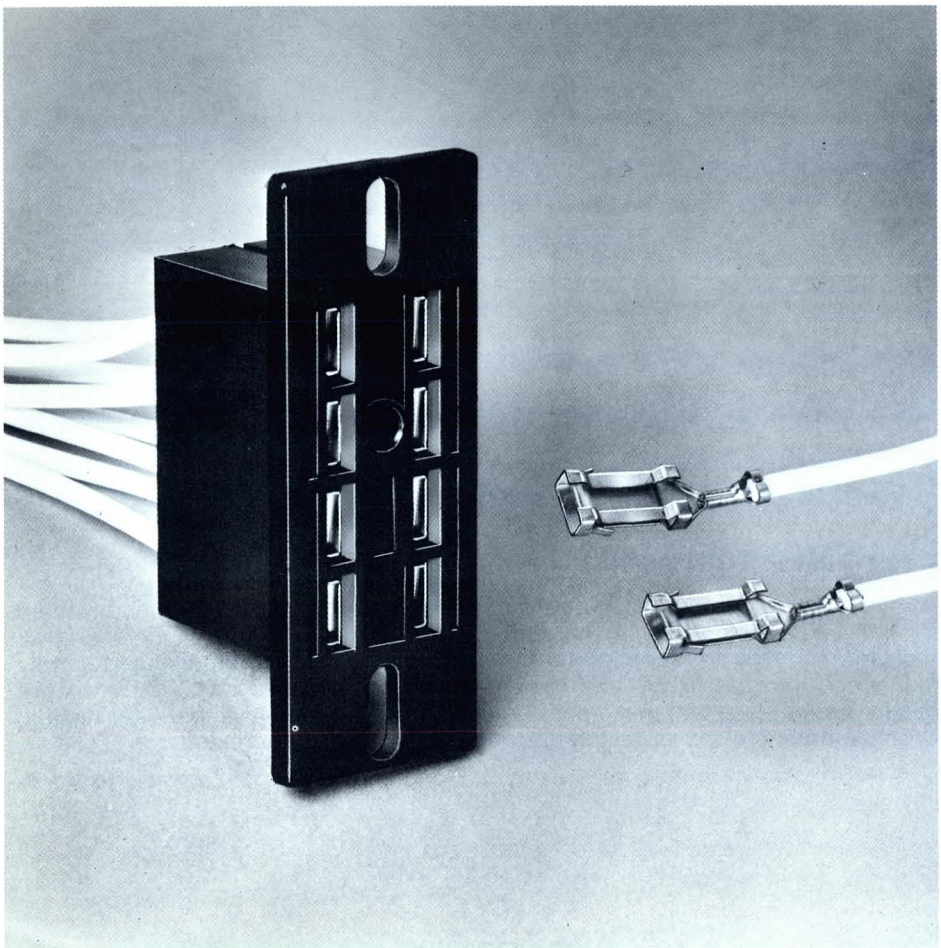
NOTE: Fixture contacts are designed to use AMP "53" Series Taper Pins no. 66354-1. Use AMP hand tool no. 90206-1 for crimping and AMP insertion tool no. 497652-1 for inserting the pins.

Vertical Unit Assembly Test Fixture



Part Number: 1-380996-0

This bench-mounted unit is another zero-force insertion connector which uses an air cylinder for operating its contacts during testing of vertical unit assemblies. It is readily adjusted to a desired angle for easy operation and will accommodate units with various coils without any changeover. It also features a front-mounted coil adjustment screw so that the operator does not have to reach behind the fixture to adjust the coil.



AMP 8-Position Connector for Vending Machine Coin Changers

The new AMP Coin Changer Connector is designed to reduce costs in the manufacture of vending machines through the use of crimp-type hand insertable contacts. This female connector accommodates all 8-circuit male coin mechanism connectors of the type currently in use.

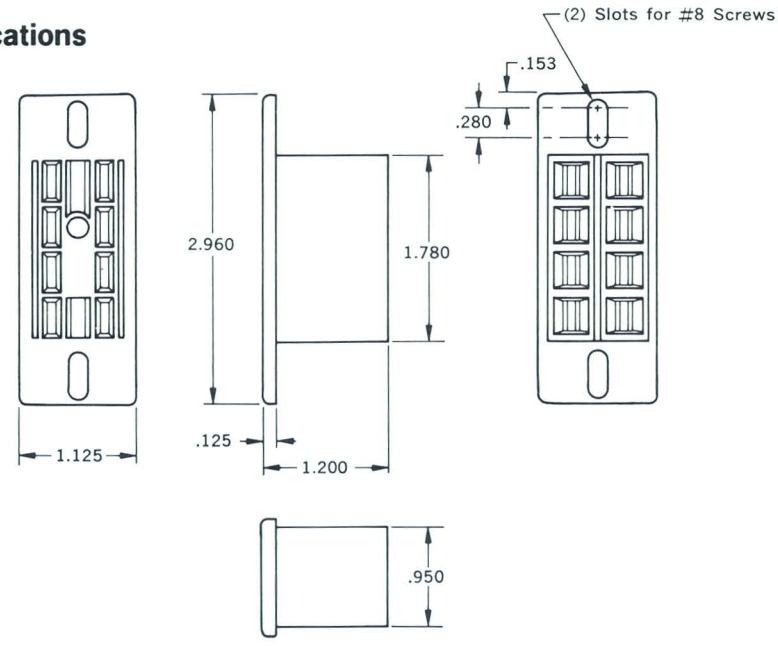
Electrical performance is excellent: contacts handle up to 25 amps with negligible voltage drop using #18-14 AWG stranded wire. The unique lateral locking design of the receptacle contacts assures positive insertion without tools and a uniformly high extraction force. These contacts are available as single pieces for hand crimping or in reel-fed strip form for air or automatic machine application.

Features

- Lowest initial and applied cost from solderless crimp technique
- Mates with all existing coin changer plugs
- Pre-tinned brass or tin-plated Phosphor bronze contacts, for long-life performance
- Simple tool extraction—no insertion tool required
- Low contact insertion, high extraction force
- Durable black nylon housing
- Current capacity to 25 amps with low temperature rise and millivolt drop
- Strip form contacts available for high volume production
- Recognized under Component Recognition Program of Underwriters' Laboratories, Incorporated (File No. E-28476).

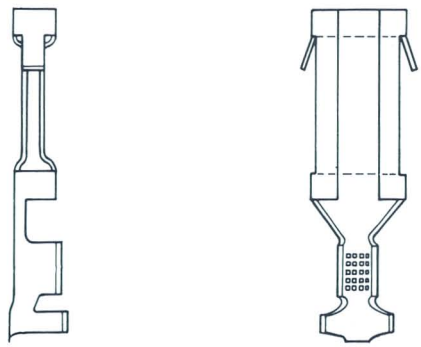
Connector

Specifications



CIRCUIT RECEPTACLE HOUSING

Contact



Specifications

	Part No.	Material and Finish	Wire Size	Insulation Range
8-circuit Housing	1-480289-0†	Nylon, black		
Receptacle Contact	60517-1 †	.012 brass-tin	18-14 AWG	.120-.170"
Receptacle Contact	60517-3	.012 Phosphor bronze-tin	18-14 AWG	.120-.170"

†Recognized under Component Recognition Program of Underwriters' Laboratories, Incorporated.

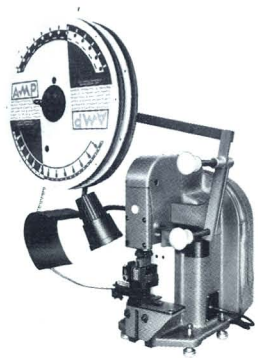
Tooling

Application Tooling

Type of Contact	Tool or Machine	Catalog No.
Single Piece	AMP Hand Crimping Tool	90011
Strip	Automatic Machine	*

Extraction Tooling

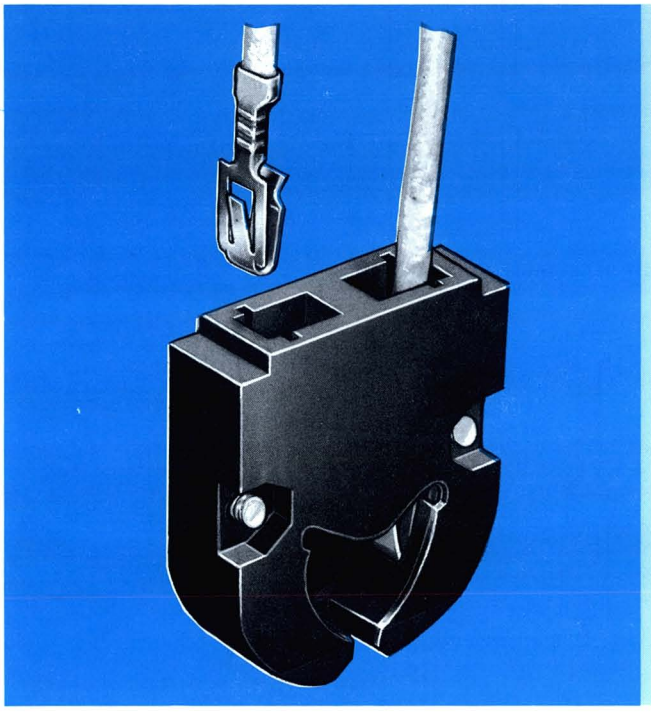
Part	Catalog No.
Handle	465629-1
Tip	465469-1

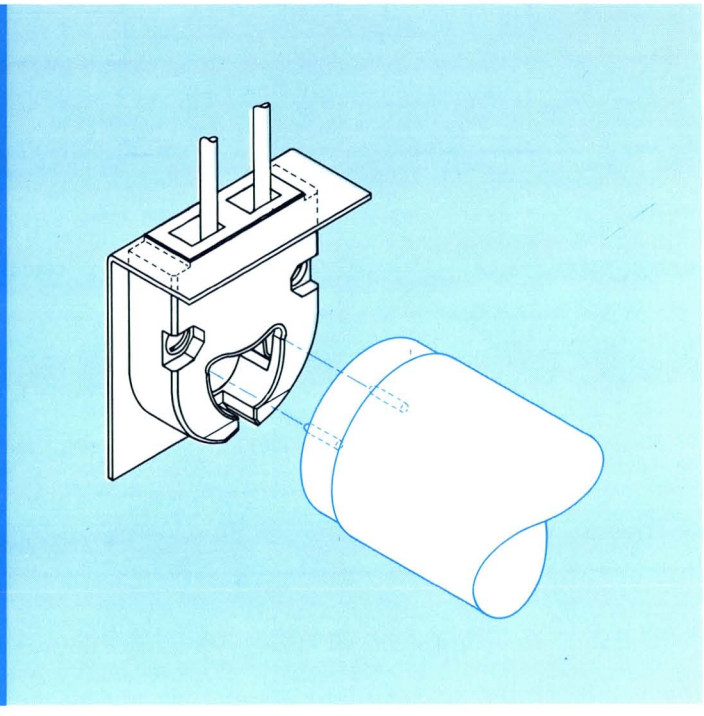


*Automachine Crimping Tools

Substantial savings and the benefits of mass production are obtainable with AMP automachine tooling. The Coin Changer Connector tab contacts are available in strip form for this type of application, and can be terminated to wire leads at rates up to 3,000 per hour, depending on operator skill. Contact AMP for complete specifications and part numbers.

Fluorescent Tube Socket





The A-MP★ Fluorescent Tube Socket is a one piece socket featuring crimp on, snap in contacts. The contacts are crimped to the ballast or starter leads and snapped into the tube socket housing. This eliminates the costly and time consuming process of splicing ballast or starter leads to tube socket housing leads.

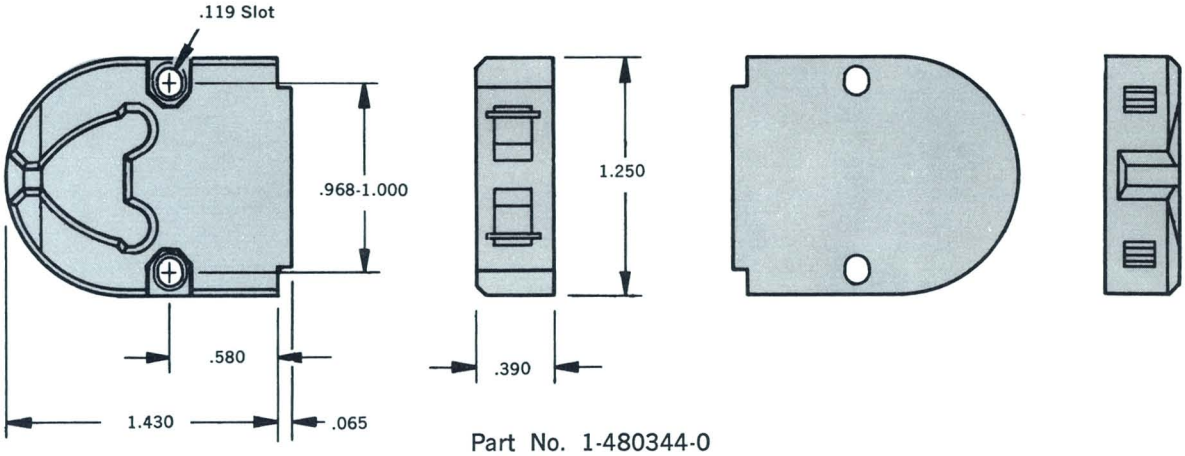
The phenolic housing will accept standard T-8 and T-12 fluorescent tubes and will accommodate a variety of mounting methods. The use of crimp on, snap in contacts eliminates the need for complicated inventories of tube sockets with various lead lengths. These contacts will accommodate wire range 20-16 AWG and are available in continuous strip form for high speed, large volume automatic machine application.

FEATURES

- One piece molded phenolic housing
- Snap in contacts with "F" crimp
- Contacts completely encased in housing
- Accepts T-8 or T-12 fluorescent tubes
- Contacts available in strip form for AMP-O-LECTRIC★ automachine application
- Choice of mounting method
- U. L. approved — 660 watts, 600 V

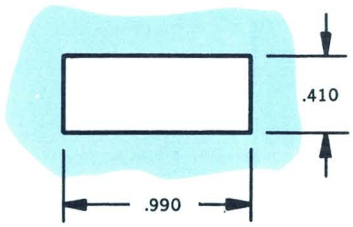
SPECIFICATIONS

HOUSING



Part No. 1-480344-0
Material: Black Phenolic

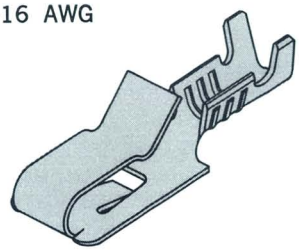
MOUNTING HOLE



.060 Max. Panel Thickness

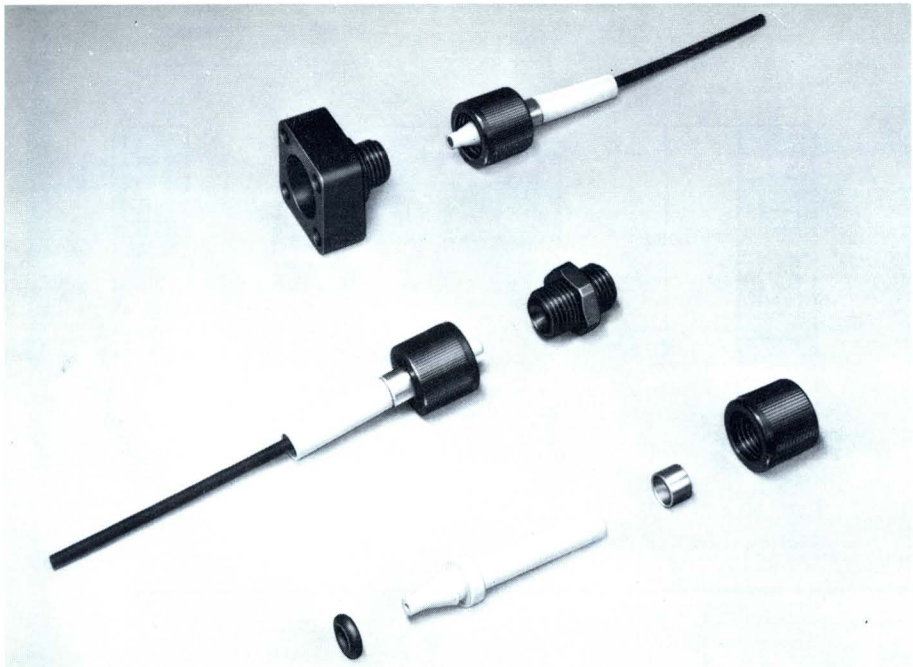
TERMINAL

Wire Range: #20-16 AWG
Material: Brass



Part No. 60805-1

TUBE INFORMATION Pin Spacing: .500 Base: Medium-Bipin Pin Dia.: .094 Pin Length: .281



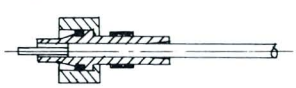
Fiber Optic cables are a promising next-generation data transmission medium. These cables offer many significant advantages over present-day coaxial cable and twisted pair wire. Hundreds of fibers can be bundled into a cable no thicker than the lead in an ordinary pencil and maintain excellent signal carrying capabilities. Along with this tremendous size reduction a corresponding weight reduction is realized. Immunity to stray radio frequencies and electro-magnetic fields that can distort signals in conventional metallic cabling is accomplished. Finally, maximum security is provided since optical fibers are virtually impossible to tap, nor is there conventional radio frequency emission, signal coupling or cross-talk between fibers.

To realize the full benefits offered by fiber optic cable, AMP has developed the Fiber Optic Bundle Connector which achieves a universal termination for medium and high loss cables. The unique design of this circular plastic connector provides a fast, reliable and inexpensive means of terminating the bundle. The basic connector is constructed of lightweight, non-conductive thermoplastic material which compliments similar features of the fiber optic cable. Termination is accomplished with a precision engineered AMP-FIT hand crimping tool. The resulting crimp attachment eliminates the need of epoxy for plastic fiber cables and increases the pull-off strength when epoxy is used.

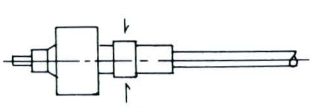
Typical Assembly

Step 1
Strip ½ inch (omit for Dupont PFX)

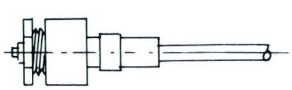
Step 2
Epoxy Fibers (omit for Dupont PFX)



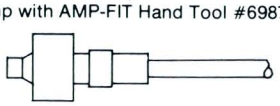
Step 3
Slide on Connector Assembly



Step 4
Crimp with AMP-FIT Hand Tool #69876



Step 5
Mate with Polishing Bushing while Epoxy Cures



Step 6
Polish Fibers

NOTE: Use epoxy and polishing procedure as recommended by fiber manufacturer, if none is available contact AMP.

AMP Fiber Optic Bundle Connector

Features

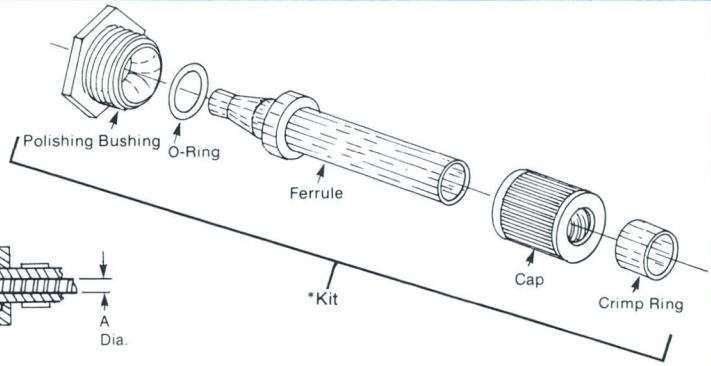
- A universal end termination for the bundles. Once applied, the bundle may be coupled with a transmitter, a photodetector, or another bundle.
- Design using plastic molded parts that lends itself to inherently economical mass production techniques.
- Plastic parts that offer substantial weight savings over metal parts.
- Packing fraction superior to metal ferrules. Plastic ferrule allows easy insertion of bundles with varying diameters. When followed by compression of the tapered end of the ferrule, a good packing fraction is achieved for all bundles.
- Reduced fiber breakage on insertion into the ferrule. No need to force fibers into a small diameter trying to achieve a good packing fraction. Fibers go through with some clearance. Packing is the result of a secondary operation on the nose of the ferrule.
- No metal smearing or scoring of the bundle face during polishing. Soft plastic smearing over the face of the bundle will not degrade or damage the surface. Remaining traces may be removed with a solvent.
- Crimp ring provides strain relief and additional pull off strength to the epoxy attachment of the ferrule to the fiber bundle.
- Crimp ring acts as a back stop to the cap pushing the ferrule away from the bushing in a controlled fashion when unmating the connector.
- Screw thread of the cap allows continuous adjustment when coupling the ferrules to each other in the splice bushing or when coupling against transmitter or detector packages housed in the input/output bushings.
- Redundant sealing by multiple interference fits between ferrule and bushing in addition to O-ring.

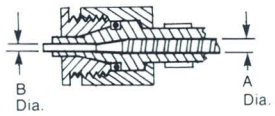
Note: All dimensions in inches.

Specifications subject to change. Consult AMP Incorporated for latest design specifications.

Specifications

Fiber Optic Bundle Connector Kits



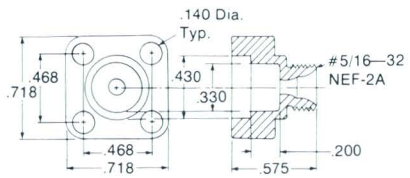


A	B	Kit Part No.
.120	.045	530530-1
.090	.045	530530-2
.075	.075	530530-3*

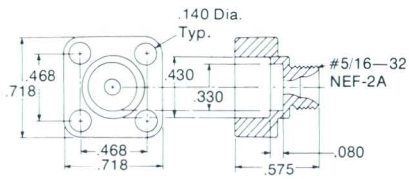
*For E.I. DuPont PFX 0715 Cable

*Individual components of kits can be ordered separately. Consult AMP Incorporated.

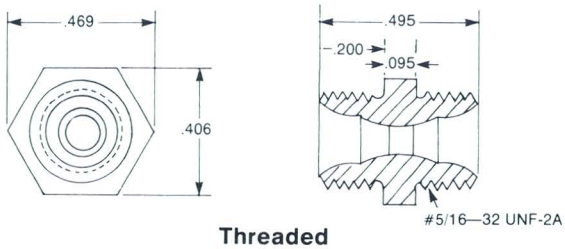
Bushings



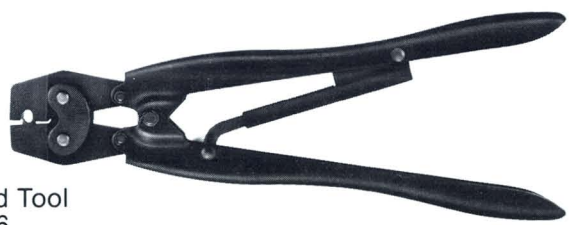
Long Cavity Bushing
Part No. 530524-1
Material:
black thermoplastic



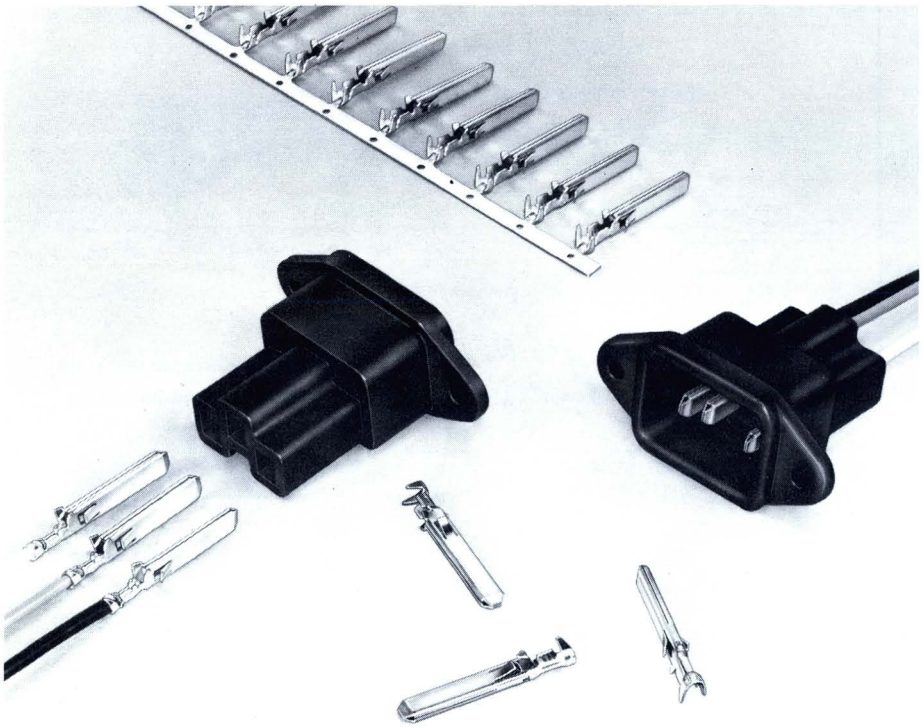
Short Cavity Bushing
Part No. 530525-1
Material:
black thermoplastic



Threaded Butt Splice Bushing
Part No. 530523-1
Material:
black thermoplastic



AMP-FIT Hand Tool
Part No. 69876



AMP Power Cord Receptacle

The AMP Power Cord Receptacle is designed to meet specifications of the international standard CEE-22, which is used by most European countries. In addition, this receptacle is recognized by Underwriters' Laboratories, Inc. under the Component Recognition Program at 250 volts, 15 amperes. It is also certified by CSA for this rating. Due to configuration controls, CEE standards give it a current rating of 250 volts 6 amperes.

Physically, the AMP Power Cord Receptacle is a 3-position male configuration with a self-polarizing housing made of thermoplastic and is suitable for rack or panel mount applications. Tin plated, crimp snap-in contacts have a rectangular cross-section. The ground contact, when seated in the housing, has an extension of .118" [3 mm] more than the power contacts to assure proper grounding prior to power engagement.

Contacts are available in strip form for high speed automatic machine application for maximum cost savings. Loose piece contacts are also available for hand tool application for maintenance repair.

Besides the economies realized by automatic machine application of the contacts, the housing features an egg-crate design of the rear cavities, eliminating the need for costly, post-termination insulation sleeving.

Features

- Designed to International Standards
- Recognized under Component Program of Underwriters' Laboratories, Inc.
- CSA certified
- VDE approved
- Intermateable with International Standard Plugs
- Machine applied crimp, snap-in contacts
- One contact design for both ground and power—eliminates inventory problems
- Rear of housing egg-crated for maximum protection—no post-termination sleeving required

Dimensioning:
All dimensions in inches and millimetres.
Values in brackets are metric equivalents.

Specifications subject to change.
Consult AMP Incorporated for latest design specifications.

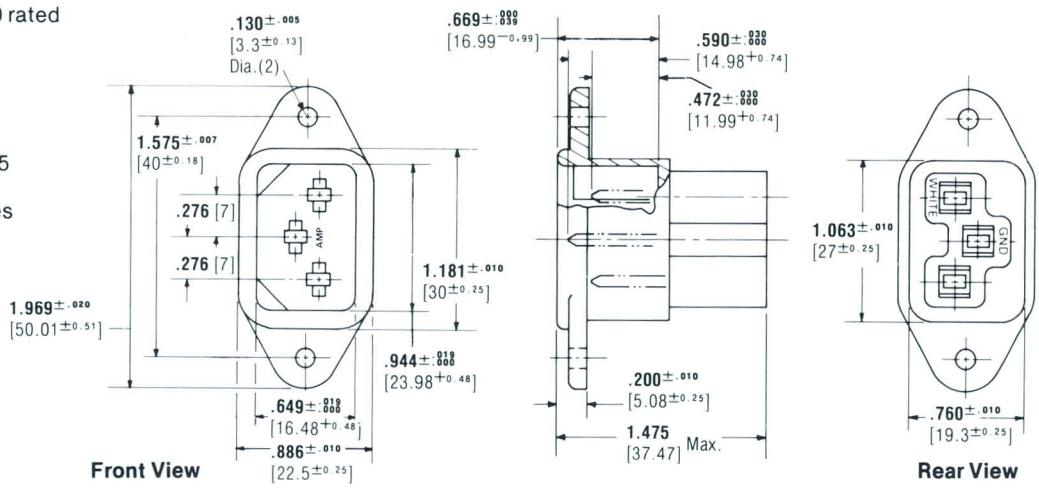
Dimensioning:
1. All dimensions in inches and millimetres. Values in brackets are metric equivalents.
2. Chart contains dimensions in inches over millimetres.

Specifications

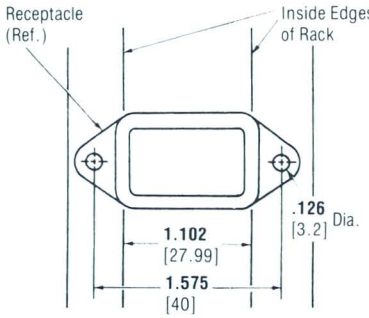
Receptacle Housing

Material: Thermoplastic, 94V-0 rated
Part Number: 206637-1

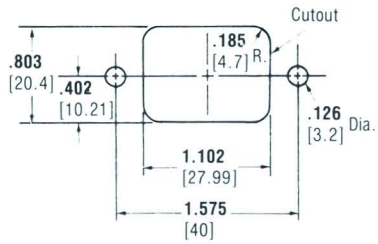
Voltage Rating: 250 volts
Current Rating: UL and CSA, 15 amperes;
CEE, 6 amperes



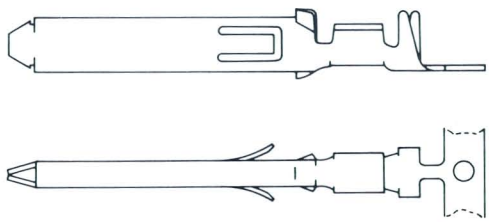
Rack Mounting



Panel Mounting



Contacts



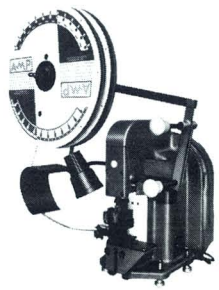
Material: Brass
Finish: Tin

Wire Size Range		Ins. Dia. Range	Contact Part No.		Hand Tool Part No.
AWG	mm²		Strip Form	Loose Piece	
20-16	0.5-1.4	.080-.135 2.03-3.43	206638-2	206638-3	90315-1

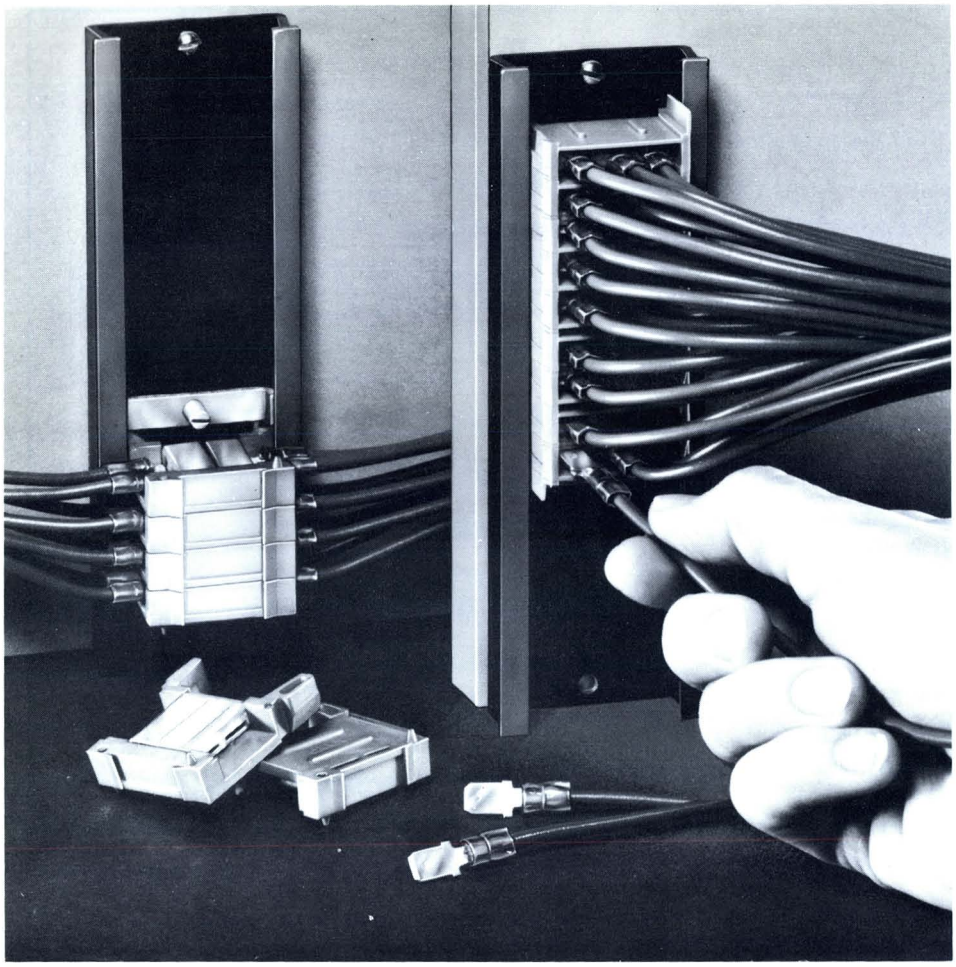
Tooling

Extraction Tool No. 91106-1

A complete line of application tooling is available from AMP to meet your production needs, from precision hand crimping tools and bench-mounted semi-automatic machines to fully automatic lead making machines. Consult AMP Incorporated for the exact machine regarding your application.



AMP-O-LECTRIC Terminating Machine



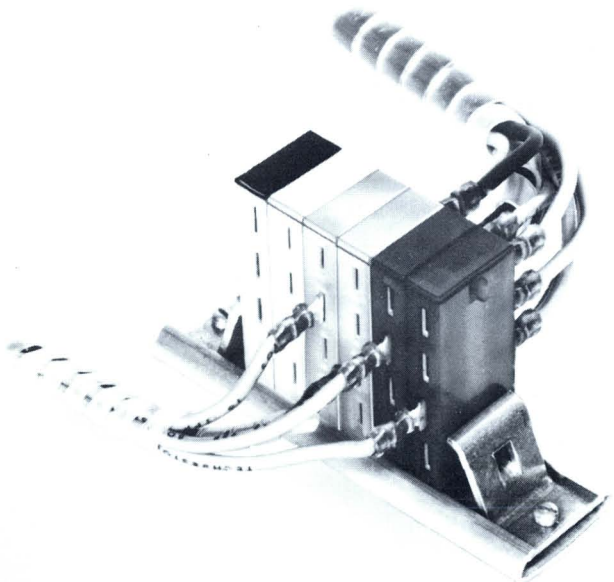
TERMI-BLOK Connectors

Top and Side Entry and Vertical Mount Types

TERMI-BLOK connectors are available in three types — top, side and vertical entry. All are highly reliable and represent an excellent replacement for the terminal boards and barrier boards now in general use in power distribution control circuits for the following reasons: (1) TERMI-BLOK connectors require no tools for circuit insertions and withdrawals; (2) they are modular in design to permit numerous variations in wiring logic and stack configurations; (3) all allow trimmer, more compact wiring, and provide higher density per unit of switchboard area. Both top and side entry types operate at 35 amperes continuous current or maximum wire temperature of 105°C.

TERMI-BLOK connectors consist of:

A. Tracks — plain or insulated
B. Cage Assemblies for 3-way common and 6-way common top entry, and 4-way common side entry
C. End Barriers
D. End Locks
E. Tab Terminals for #22-10 AWG wire size range



Dimensioning:
All dimensions in inches.

Specifications subject to change. Consult AMP Incorporated for latest design specifications.

Top and Side Entry TERMI-BLOK Connectors

Current Rating: 35 amps continuous current or maximum wire temperature of 105°C.

Dielectric Strength (at sea level): 1500 volts A.C. Tested at 2200 volts according to Method 301 of MIL-STD-202.

Current Cycling: 125 percent overload current according to MIL-T-7928C on 3-way cage. (Actual test values as indicated in the table under Voltage Drops.)

Vibration: 10-55 cycles per second according to MIL-T-7928C on 3-way cage. (Actual test values as indicated in the table under Voltage Drops.)

Corrosion: Subjected to salt fog for 100 hours according to MIL-T-7928C on 3-way cage. (Actual test values as indicated in the table under Voltage Drops.)

Voltage Drop: Maximum Millivolt Drop (Measured between end terminals of 3-way cage)

Load	Before Above Tests		After Above Tests	
	3-way	6-way	3-way	6-way
9 amps	1-2	3	2-5	3
22 amps	3-4.5	5	6-7	10
55 amps	7-9	12	12-18	22

Humidity: Subjected to 240-hour humidity test according to Method 103A of Standard MIL-STD-202.

In testing the performance of TERMI-BLOK connectors, reference was made to Military Specification MIL-T-7928 and to Military Standard MIL-STD-202B. The above are the known mechanical or electrical ratings of TERMI-BLOK connectors or, in the case where the testing has not been completed, the manner under which the test is being conducted.

TERMI-BLOK top entry connectors are available in two sizes — Series 3 and 4. Series 3 permits three circuits for approximately each lineal inch of track. Series 4 allows four circuits in the same track space. One size of track accepts both Series. In addition, Series 3 has a taller, thicker nylon housing insulator than Series 4 to offer increased creepage distance to 5/8" minimum with a 1/4" strike distance, for applications where insulator resistance, flashover voltage or moisture resistance is a critical factor. Center-to-center lineal spacing between Series 3 cage assemblies in one size, with center-to-center spacing in the cage assembly of .333".

The same size tracks and end locks are used for top entry and side entry connectors.

Track — Extruded aluminum or PVC track is available in standard lengths. Track can be readily cut to any length with a hacksaw. The .200+" lip on either side of the track permits use of adhesive marking tape for identification of circuits. A lineal slit on the PVC track lip provides space to store extra tabs or a hot line while metering.

Cage Assemblies — Cage assemblies act as commoners when terminal tabs are inserted. The 3-way common and 6-way common top entry types come in two heights — .866" and .966". The 4-circuit side entry version is 1.475" high.

Top Entry Assemblies — The conducting elements (cages) for these connectors are made of tin-plated brass. They are housed in nylon insulators available in ten colors and in natural for circuit color coding. Within each cage a slotted stainless steel spring member accepts, without the use of tools, tab terminals either .031" or .040" thick. This feature greatly increases speed and facility in making and changing connections and in jumpering and patching. Cage assemblies can be added anywhere in the track by unlocking either end lock. Access is at a 90° angle to the panel.

Side Entry Assemblies perform the same function as the top entry versions but permit access from two directions instead of one (in a 180° plane). Terminals can therefore be inserted and withdrawn from two planes, in most instances permitting use in areas with decreased depth.

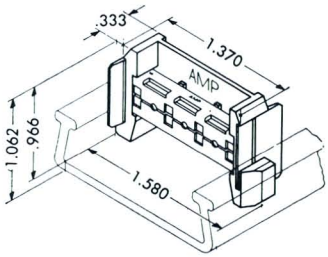
Side entry types are especially well suited for use in shallower panel boxes. They afford a better wiring arrangement and promote greater flexibility than is possible with the use of conventional terminal blocks.

End Barrier — One nylon insulator end barrier is used to enclose the last cage in any given stack of cage assemblies.

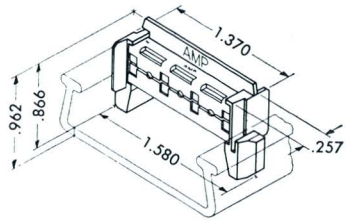
End Lock — Cadmium plated steel end locks (two are necessary per track length) are fixed in position with a screwdriver. These may be loosened, then slid from the track, to add or remove individual cage assemblies or groups of assemblies.

Top Entry Connectors

3-Way Cage Assembly

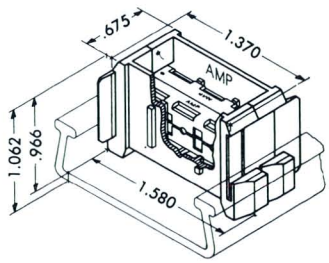


Series 3—Part No. 1-582166-0 thru -9
Part No. 2-582166-9

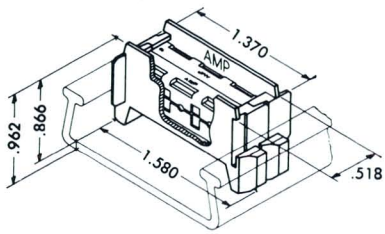


Series 4—Part No. 1-582161-0 thru -9
Part No. 2-582161-9

6-Way Cage Assembly

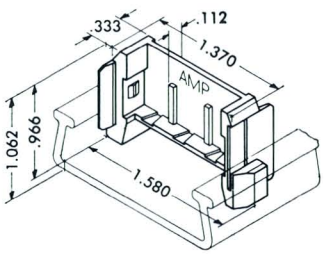


Series 3—Part No. 1-582167-0 thru -9
Part No. 2-582167-9

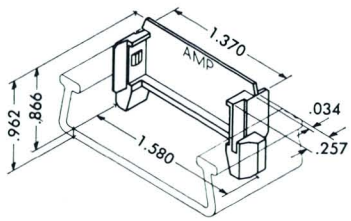


Series 4—Part No. 1-582162-0 thru -9
Part No. 2-582162-9

End Barriers



Series 3—Part No. 2-582168-9*



Series 4—Part No. 2-582163-9*

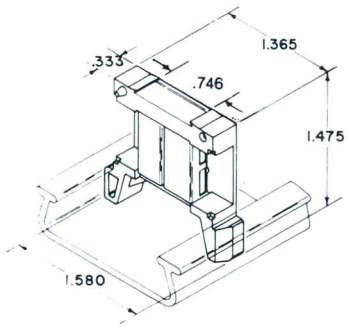
*Colors available on special order.

Color Legend for Nylon Insulator Barriers

Suffix Part No.	Color	Suffix Part No.	Color
-0	Black	-5	Green
-1	Brown	-6	Blue
-2	Red	-7	Violet
-3	Orange	-8	Gray
-4	Yellow	-9	White
Prefix 2- indicates natural nylon			

Side Entry Connectors

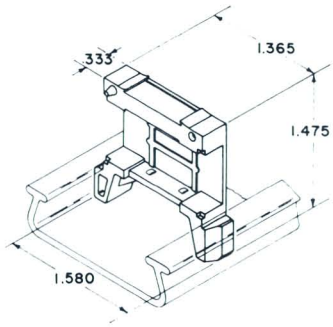
4-Way Cage Assembly



Shell Number	Color
1-380618-1	Black
1-380618-2	Brown
1-380618-3	Red
1-380618-4	Orange
1-380618-5	Yellow
1-380618-6	Green
1-380618-7	Blue
1-380618-8	Violet
1-380618-9	Gray
2-380618-0	White

Terminals — Same as Top Entry

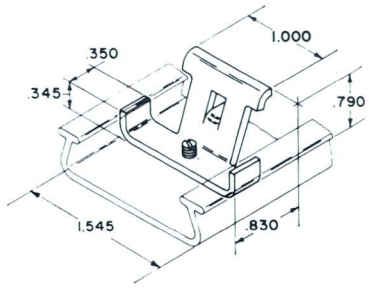
End Barrier

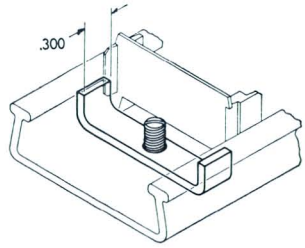


Shell Number	Color
1-480259-1	Black
1-480259-2	Brown
1-480259-3	Red
1-480259-4	Orange
1-480259-5	Yellow
1-480259-6	Green
1-480259-7	Blue
1-480259-8	Violet
1-480259-9	Gray
2-480259-0*	White

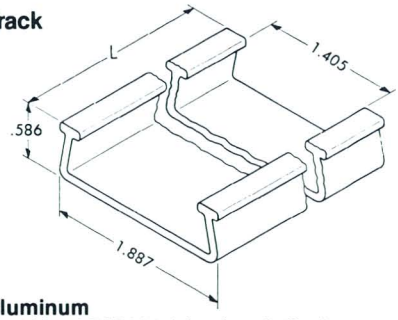
*Colors available on special order
Note: 1- Colors conform to R.E.T.M.A. Standards.

End Lock Assembly* Part No. 1-380664-1



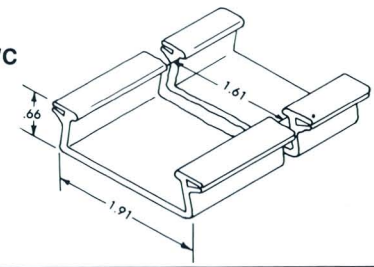


Track



Aluminum
Part No. 1-582164-1 (no insulation)
L-(standard length 6 ft.)
Part No. 1-582173-1 (black insulation)
L-(standard length 4 ft.)

PVC



PVC Part No.	Color	PVC Part No.	Color
29508-1	Black	29508-6	Green
29508-3	Red	29508-7	Blue
29508-4	Orange	29508-9	Gray
29508-5	Yellow	29508-0	White

*End Lock Assemblies and Track are common to both Top and Side Entry TERMI-BLOK Connectors.

Vertical Type TERMI-BLOK Connectors

Features

- No tools required for tab insertion or withdrawal
- Nylon cage assembly housing
- Alphabetically coded receptacles
- Precision crimping of terminals with AMP tooling
- Cage assemblies are available in four different commoning arrangements. Housings for each arrangement are color coded.
- Modules added or removed as needed
- Carries up to 20 amperes continuous (22 to 14 AWG)
- Accommodate tab terminals .031" thick for wire sizes from 22 to 14 AWG

The vertical type of TERMI-BLOK Connector is designed to provide a maximum number of connections per lineal inch. Each housing is less than 3/8" wide and accepts up to eight wires (four each side). These compact modular housings permit a variety of stacking configurations and are completely insulated. The cage assemblies are designed to accept AMP insulated tab terminals which are easily inserted or withdrawn without the use of tools.

To assemble stacks, all that is necessary is to place units in a section of track, snap them together, and secure them with end locks. No end barriers are needed, since each cage assembly is fully enclosed. Track is available in any length up to six feet.

Vertical type TERMI-BLOK connectors fulfill the requirements of high-density applications in switchboards, panelboards, power-control centers, etc.

Electrical Characteristics:

Current Rating: 20 amps continuous current or maximum wire temperature of 105°C. (221°F)

Insulation Resistance: Dielectric strength and vibration performance characteristics are in accordance with those of MIL-STD-202.

Current Cycling: Potential drop was measured at test currents specified in the table. After 50 cycles of overload current (each cycle consists of 30 minutes at 125% of test current, followed by 15 minutes at no load).

Physical Characteristics:

Housing Material: Nylon

Cage Material: Phosphor Bronze conforming to ASTM B-103 and QQ-B-750 or equivalent, tin plated. Gold plated available.

Track and Lock Material: The track is fabricated of aluminum conforming to ASTM B-209 or equivalent.

Terminals: PIDG or PLASTI-GRIP terminals, copper, tin plated, loose piece or tape mounted. Gold plated available.

Engagement and Disengagement Forces: Engagement forces — 5.0 pounds, minimum; 15.0 pounds, maximum. Disengagement forces — 5.0 pounds, minimum; 20.0 pounds, maximum.

Maximum Potential Drop in Millivolts for Current Cycling

Wire Size	Test Current (Amperes)	Potential Drop (Millivolts)	
		Before Test	After Test
22	9.0	12.0	14.0
20	11.0	11.0	13.0
18	16.0	10.0	12.0
16	22.0	9.0	11.0

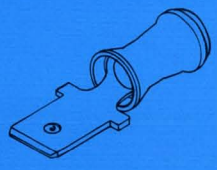
Vertical Type Connectors (Cont.)

Tab Terminals — AMP tab terminals are available in two thicknesses — .031" and .040". The .031" terminal accommodates wire sizes from 22-14 AWG. The .040" terminal accepts wire sizes from 12-10 AWG. Two separate types of AMP terminals are available: The PIDG (Pre-Insulated) terminal provides resistance to severe vibration. The PLASTI-GRIP terminal also fully pre-insulated, is useful for applications where the vibration factor is not so extreme as to require the firmer wire insulation support. Both PIDG and PLASTI-GRIP terminals are available in single-piece, mounted on tape, and in strip form. Single-piece terminals are crimped to wires with an AMP hand tool for prototype work and small production runs. Tape-mounted terminals are fed through hand or bench-mounted tools for higher production requirements. Strip form terminals are crimped to wires at high speeds whenever maximum production levels must be met. Terminal pre-insulation comes in three colors, coded by wire size: yellow for 12-10 AWG; blue for 16-14 AWG; red for 22-16 AWG.

Recommended Terminals for Top, Side and Vertical Mount Type Connectors

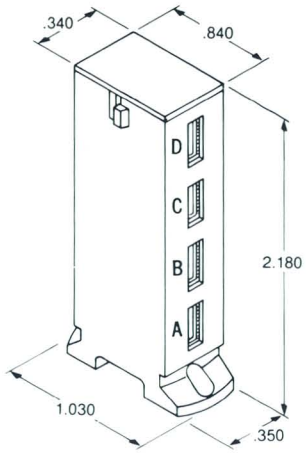
PIDG Vinyl Terminal

PLASTI-GRIP Terminal



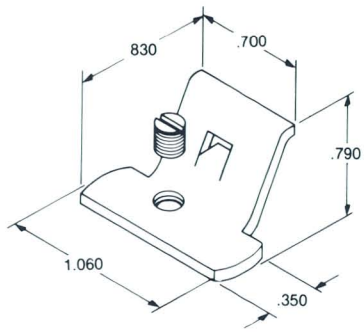
Tooling

Housing and Cage Assembly

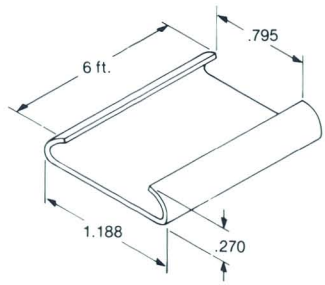


Housing Color Code

Cage Circuit	Color	Part Number
8-Common	red	1-380678-3
Two Sets 4-Common	yellow	1-380679-5
Four Sets 2-Common	natural	1-380680-0
One Set 4-Common and Two Sets 2-Common	natural body black top	1-380727-0



End Lock Assembly
Part No. 1-380683-1



Track
Part No. 1-380707
(Order length desired—Max. 6 feet)

Wire Size	Insulation Color	Part Numbers	
		PIDG Terminals	PLASTI-GRIP Terminals
22-16	Red	66018-2	66034-1
16-14	Blue	66019-2	66035-1
12-10	Yellow	66020-2	66036-1

Note: 12-10 wire size for top and side entry connectors only.

Wire Size	T-Head Hand Tool	Long Handle Tool	Heavy Head Tool	69710 Hand Tool Die No.	69011 AMPLI-PRESS Machine Head No.	69012 AMPLI-PRESS Machine Head No.
22-16	59250	47386	—	—	47498	46283
16-14	59250	47387	—	—	47499	46285
12-10	—	—	59239-4	47806-6	—	47500-1

Other Special Purpose Connectors

FASTON 3-way Switch Connector-Section 4, Page **4-136** . One piece molded nylon housing with crimp snap-in receptacles which accept tab-type contacts used on most common miniature switches.