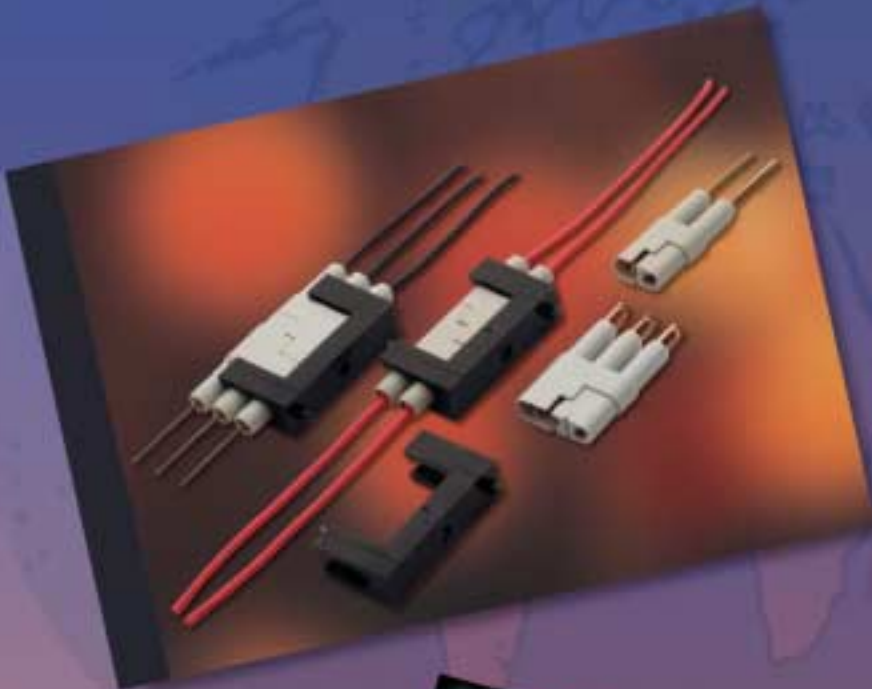


AVX
A KYOCERA GROUP COMPANY



DataSheet Live



ELCO
Varicon

The Varicon Range	2
Introduction to Varicon	3
Input/Output Rack and Panel Connectors	
Series 8014	6
Series 8016	12
Varilok® Loose Contacts – Connector Polarization	23
Series 8017	24
Series 8026	26
Series 8223	30
In-line Two Piece Plug and Receptacles	
Series 8020	32
Series 8022	33
Two Piece Printed Circuit Board Plug and Receptacles	
Series 8218	34
Series 8219	36
Series 7008	38
Series 7022	40
Series 7023	41
Series 7024	42
Series 7038	44
Contact Strips	
Series 7000	46
Series 5101	47
Series 5203	48
Series 5204	49
Series 5208	50
Series 5301	51
Series 5304	52
Installation Equipment	53
Military Cross Reference	54

The Varicon Range



Pitch	Number of Contacts	Body Style	Termination Types	Current Rating (Amps)	Series Number
0.050"	2 to 152	Plugs and Receptacles	Staggered, Fixed: Solder, Eyelet	5	8218
0.050"	18, 30, 36, 42, 54, 72	Plugs and Receptacles	Staggered, Fixed: Straight & Right Angle Solder, Eyelet	5	8219
0.075" x 0.130" & 0.075" x 0.150"	20, 38, 56, 90, 120	Plugs and Receptacles	Staggered, Removable: Taper Tab, Eyelet, Wire Wrap, Crimp	8	8016
	75, 100, 130				8017
0.100"	17, 23, 29, 35, 41	Receptacles	As Series 7024	8	7008
0.100"	17, 23, 29, 35, 41, 47	Plugs	Staggered, Fixed: Solder	6	7022
0.100"	17, 23, 29, 35, 41, 47	Receptacles	Staggered, Fixed: Solder	6	7023
0.100"	17, 23, 29, 35, 41	Receptacles	Staggered, Fixed: Solder, Taper Tab, Eyelet, Wire Wrap, Bus Line	8	7024
0.100"	17, 23, 29, 35, 41, 47	Receptacles	Staggered, Removable: Taper Tab, Eyelet, Wire Wrap, Crimp	8	7038
0.100"	33, 75, 117, 165	Plugs and Receptacles	Wire Wrap, Crimp	5	8026
0.100"	24, 48, 72, 96	Plugs and Receptacles	Square Grid Dual Row, Fixed: Straight and Right Angle Solder, Eyelet, Wire Wrap, Crimp Wrappable Removable	5	8223
4mm	50, 64	Plug and Receptacle	Crimp	2	8014
0.200"	2, 3	Plugs and Receptacles	In-line Fixed: Solder Crimp	8.5	8020
0.200"	3	Plug and Receptacle	In-line Fixed: Solder Crimp	8.5	8022

Introduction

Elco's Varicon product range is available as two-piece input / output and board level connectors (intermateable plugs and receptacles). Varicon contacts are also available in strips, on disposable carriers, ready for staking to p.c. cards. They all use the famous, fork-like Varicon® (fixed) or Varilok® (insertable / removable) hermaphroditic contact design.

VARICON DESIGN ADVANTAGES

Elco's hermaphroditic Varicon contact utilizes a fork-like design incorporating four large mating surfaces that are coined to achieve exceptional hardness and smoothness. The mating surfaces are wedged together by the spring-like design of the contact and by the innate properties of the contact material. The Varicon contact has proven its reliability in innumerable applications and with over one-million contacts being produced daily, billions of successful, trouble-free operating hours have been logged.

FEATURES

- Four intimate contact areas, electrically parallel
- High current carrying capability, excellent heat dissipation
- Self-cleaning, wiping action burnishes contacting surfaces reducing constrictive resistance
- Low contact resistance 3 to 4 milliohms
- Stable in vibration and adverse environments
- High contact normal pressure achieved at low stress levels

HIGH RELIABILITY

The mating surfaces provide a gas-tight connection and resists corrosion caused by adverse environments. This seal is made possible by the spring-like properties of the Varicon contact and by the smoothness of the coined mating surfaces. After being mated for years, the contacts still retain clean, unoxidized mating surfaces.

LOW RESISTANCE

Because of the spring-like properties of the Varicon contact, both sides of the contact are always under considerable pressure when mated. Their sliding and wiping action burnishes the surfaces in a self-cleaning action reducing any constrictive resistance. The low contact resistance remains a permanent feature of the Varicon contact even after thousands of mating and unmating cycles.

HIGH CURRENT CAPACITY

The low contact resistance contributes substantially to Varicon's high current-carrying capacitor. Also, its heat-dissipating characteristics are enhanced by its flat configuration.



SHOCK AND VIBRATION RESISTANCE

Should external forces cause any decrease in contact pressure between two of the four mating surfaces, it is automatically compensated by redistributing the contact pressure between the other two mating surfaces.

ECONOMY

Varicon contacts are stamped from sheet stock instead of screw-machined. Consequently, this production method not only increases the production capacity but decreases production cost as there is little waste.

VERSATILITY

The Varicon concept can be used in a card-mounted plug that mates with a receptacle, or Varicon contacts can be staked directly to a pc board and soldered into place. This latter method eliminates the need for a conventional plug reducing the cost of the connection system while retaining the proven reliability of the Varicon interconnection.

CONTACT TYPES

Two basic sizes of our Varicon contact are available: standard and miniature Varicon. And each size has two major variations: the fixed Varicon contact and the Varilok insertable / removable version. The standard size is rated at 8 amps and has a withdrawal force range of 2 to 16 ounces per contact. The miniature size is specifically for high density applications and is rated at 5 amps with a withdrawal force of 2 to 8 ounces per contact. (For exact specifications, check the individual series listing.)



Miniature Varicon®

Approx. 2X Actual Size



Standard Varicon®

Introduction

CONTACT MATERIAL

The primary contact material used is phosphor bronze. The electrical conductivity of copper alloys are extremely good. Within the Varicon concept, the contacts must also perform as springs and these alloys offer the elastic properties and the endurance required by today's rugged applications.

CONTACT PLATING

A nickel underplate of 50 to 100 microinches, followed by a minimum of 10 microinches of gold plate is Elco's standard contact plating. The gold plate prevents the formation of insulating oxide films while the nickel plate provides a hard backing. It, in turn, reduces wear on the gold and prevents diffusion between the gold and base metal. Other plating thicknesses, such as those required by military specifications, can be supplied on request.

VARILOK CRIMP-AND-INSERT CONTACTS

The crimp-termination, insertable / removable Varilok contact offers a solderless connection between wire and contact as well as strain relief for the wire. This contact snaps into the insulator quickly and easily. With our simple tool it can be removed without difficulty, yet it locks securely into place and cannot twist or bend out of alignment.



Loose Varilok Contacts



Reel-Mounted Varilok Contacts

Varilok contacts also are available with wire-wrappable, solder and taper-tab tail configurations. Available loose for small scale production and replacement purposes, the Varilok contact is also supplied on reels for use with fast, economical automatic crimping machines reducing man-hour requirements and production costs in medium and large-scale production runs. Because the contact can be crimped to the wire and installed into the insulator at any point during the manufacturing operation, it offers the user convenience and flexibility. Reels contain 1800 standard contacts or 3000 miniature contacts.

Introduction

MINI-VARILOK

The Mini-Varilok is half the size of the standard Varilok contact. It's designed for hand or machine crimping to solid or stranded AWG #22 to #30 wire. Its basic features are identical to the standard Varilok however it also incorporates a decreased insertion force and is used for high density applications. Production methods for the Mini-Varilok are the same as the standard Varilok.

CONTACT RETENTION

The Varilok contact, after undergoing five insertion / extraction cycles and being subjected to the vibration and shock tests of MIL-C-28731, still withstands an axial load in excess of 10 pounds (6 for mini-varilok).

WIRE SIZE

The Varilok contact with its open crimp barrel conforms to practically all specifications written for screw-machined contacts with closed crimp barrels. The crimp barrel of the Varilok contact is designed to accommodate wire sizes AWG #18 to #26. It's also possible to crimp together two stranded #22 or smaller wires. The Mini-Varilok accommodates wire sizes AWG #22 to #30. Table I lists the various sizes of wire to which Varilok contacts can be crimped, and indicates the minimum conductor diameter and the maximum insulator diameter that can be accommodated by the contacts. The crimp barrel is also crimped to the wire's insulation for strain relief and the large, overlapping ears of the barrel accommodate a wide range of wire insulation sizes (Table I). For an optimum crimp connection, the insulation is stripped one-eighth inch from the end of the conductor.

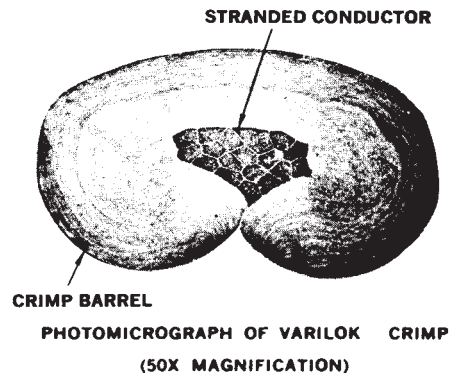
**Table I
Wire Sizes
(AWG)**

(Ref: MIL-W-16878/4 – Type E wire)

Single Wire	Varilok	Mini-Varilok	Conductor Diameter (Nominal)	Insulator Diameter (Max. Overall)
#18	Yes	No	.048	.074
#20	Yes	No	.038	.062
#22	Yes	Yes	.030	.054
#24	Yes	Yes	.024	.048
#26	Yes	Yes	.019	.043
#28	No	Yes	.015	.039
#30 (Stranded)	No	Yes	.012	.036

CRIMP CHARACTERISTICS

The illustration shows an enlarged cross-section of a typical Varilok crimp on a #22 stranded wire. No significant voids are visible. The complete deformation of the wire strands indicates optimum contact between the contact barrel and the conductors.



TENSILE STRENGTH

Table II lists the values, in pounds, of tensile strength (wire pull-out force) for Varilok and Mini-Varilok contacts crimped to stranded AWG #18 to #30 wires.

**Table II
Tensile Strength
(In Pounds)**

Wire Size (AWG)	#18	#20	#22	#24	#26	#28	#30
Stranded Wire	40	25	15	10	5	3	1.5

CRIMPING EQUIPMENT

All equipment needed to crimp Varilok and Mini-Varilok contacts is normally available from stock. Crimping equipment for production crimping as well as hand-operated crimping pliers are designed to realize the full electrical, mechanical and economical advantages of the Varilok and Mini-Varilok contact.

Series 8014

Elco has introduced a new, metric version of the famous Varicon connector. The wire to board 8014 series is available in 50 or 64 positions and suitable for use in a VME front plate.

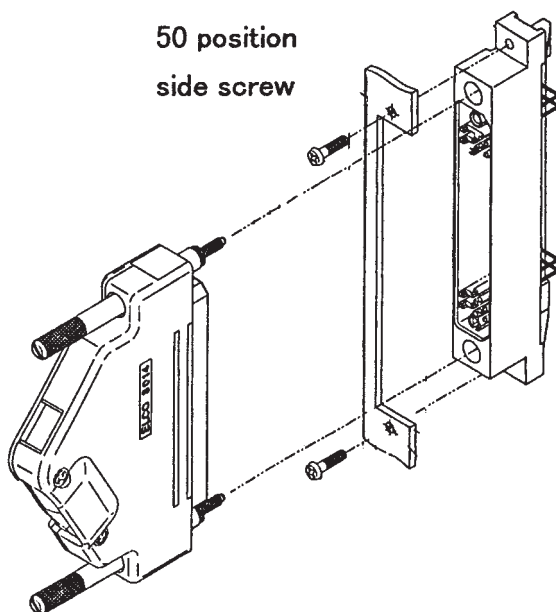
The Varicon contact is well known for high reliability and durability under all conditions. Contacts are specified at 2 amps and low contact resistance. In the 8014 series, the familiar hermaphroditic contact is shrouded on both sides to protect and guide the contact to a perfect mating. Board termination is right angle or vertical to plated through holes. The connectors have actuating screws to assist mating and unmating and to provide secure attachment. The covers have integral cable clamps. The 50 position cover is plastic and 64 position is die cast aluminum.

TECHNICAL SPECIFICATIONS

Number of Contacts: 50, 64	Dielectric Withstanding Voltage: 2000V rms/min.
Contact Spacing: 4.0mm	Durability: 200 cycle
Current Rating: 2Amp/pin	Applicable Wire Size: AWG #18~#26
Voltage Rating: 125V	Operating Temperature: -55~+105°C

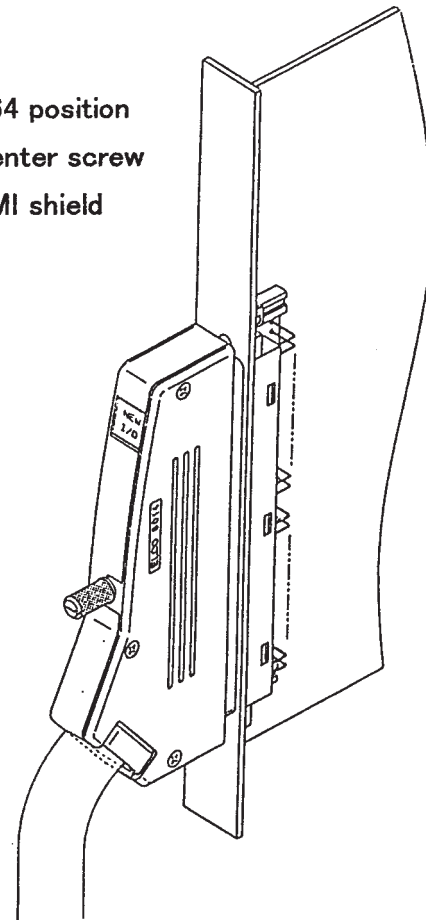
MATERIAL / FINISH

Insulator: Plug PBT Rec. PBT	Hardware: see individual drawing
Contact: Phosphor Bronze Finish / Gold over Nickel	



50 position
side screw

64 position
center screw
EMI shield



ORDERING CODE (64 pos. Center-Screw Type Plug)

10

8014

264

XXX

XXX

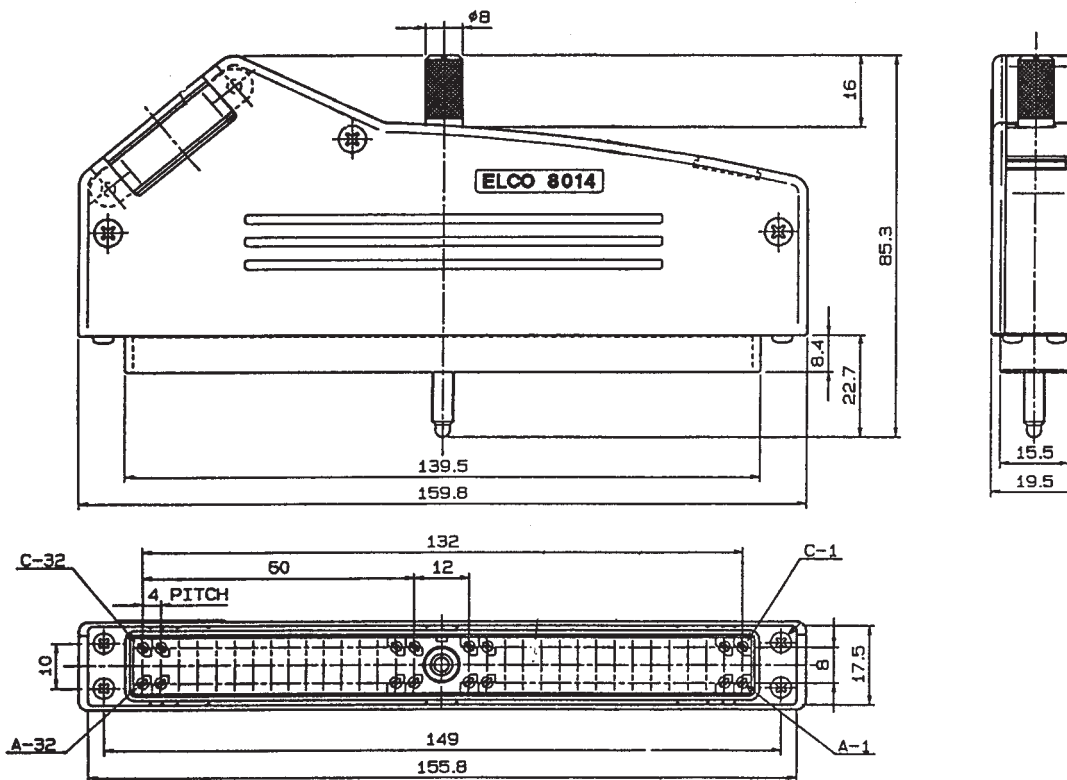
Variation 1 / Contact Code

- 000 = No contact loaded
- 100 = Wire crimp contact (loose pieces attached)
- 200 = Straight through hole

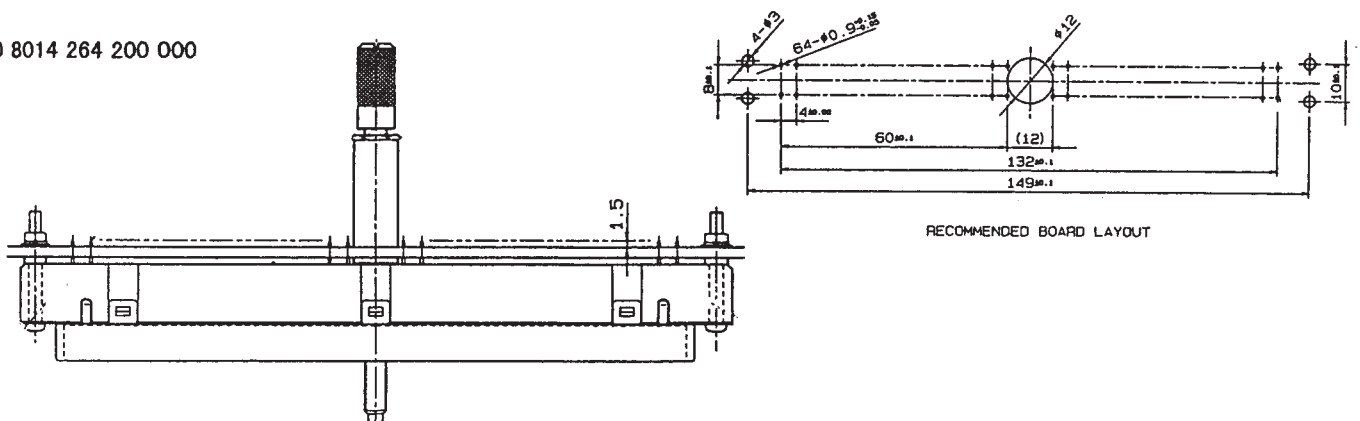
Variation 2 / Finish, Color

- 000 = without cover, center-screw, green insulator
- 100 = with cover, center-screw, green insulator

10 8014 264 100 100



10 8014 264 200 000



ORDERING CODE (64 pos. Center-Screw Type Receptacle)

20

8014

264

XXX

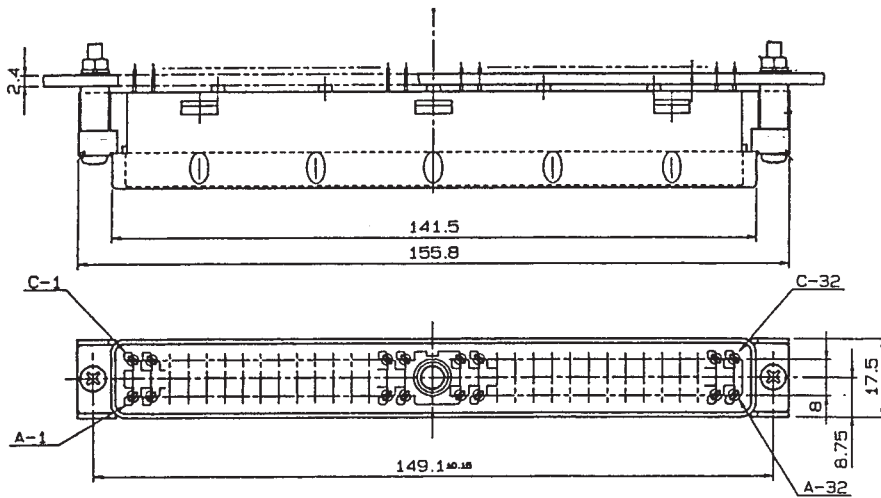
XXX

Variation 1 / Contact Code

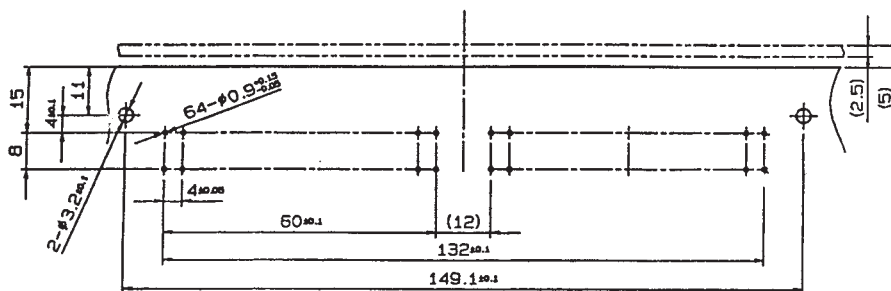
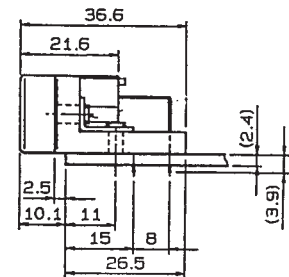
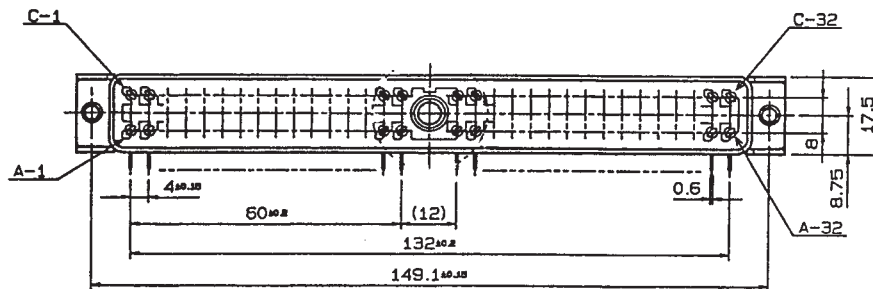
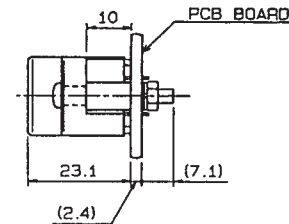
- 000 = No contact loaded
- 100 = Wire crimp contact (loose pieces attached)
- 200 = Straight through hole
- 999 = Right angle through hole

Variation 2 / Finish, Color

- 000 = R/A through hole, center lock nut, green insulator
- 100 = ST through hole, center lock nut, green insulator



20 8014 264 200 100



20 8014 264 999 000

RECOMMENDED BOARD LAYOUT t=2.4

Series 8014

ORDERING CODE (50 pos. Side-Screw, Plug)

10

8014

350

XXX

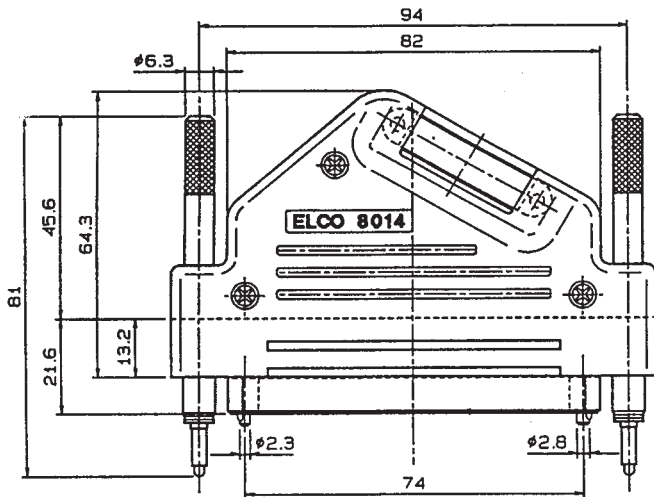
XXX

Variation 1 / Contact Code

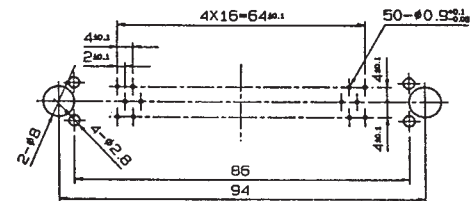
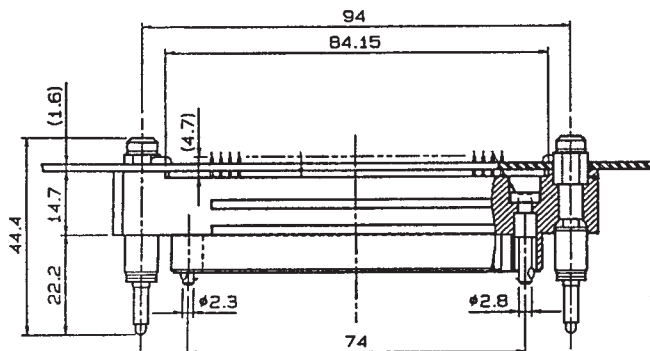
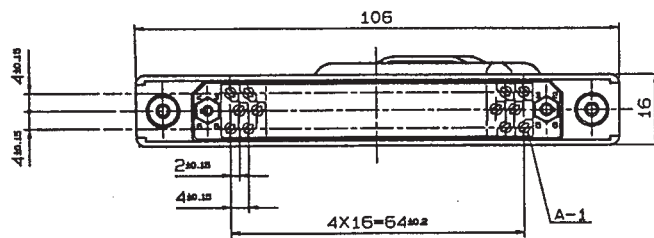
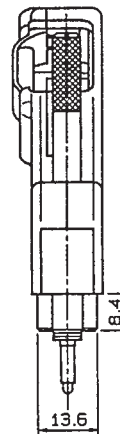
- 000 = No contact loaded
- 100 = Wire crimp contact (loose pieces attached)
- 200 = Straight through hole

Variation 2 / Finish, Color

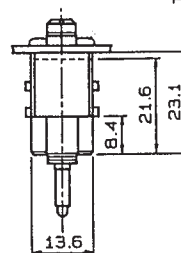
- 028 = Side-screw, gray insulator
- 128 = Side-screw, gray insulator with cover
- (038 = Side-short-screw, gray insulator. . . . special)



10 8014 350 100 128



RECOMMENDED BOARD LAYOUT



10 8014 350 200 038

ORDERING CODE (50 pos. Side-Screw Receptacle)

20

8014

350

999

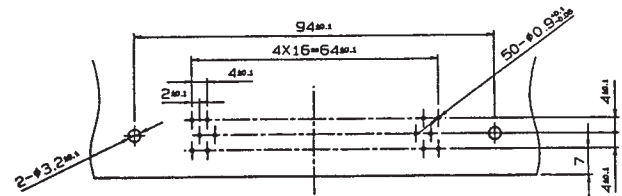
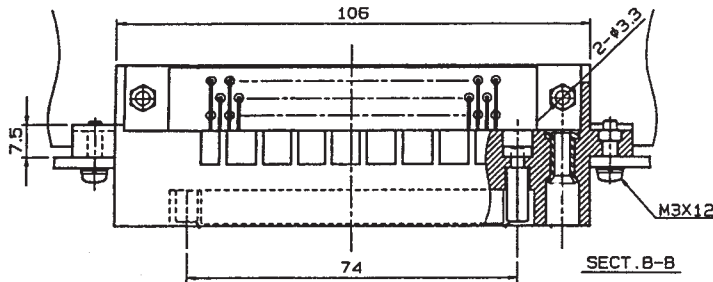
028

**Variation 1 /
Contact Code**

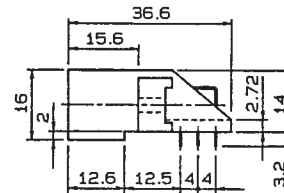
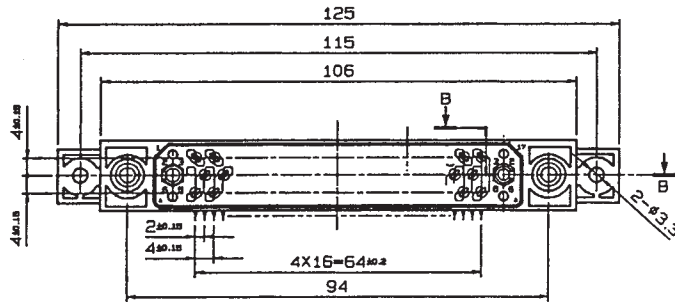
999 = Right angle through hole

**Variation 2 /
Finish, Color**

028 = Side-screw, gray insulator



RECOMMENDED BOARD LAYOUT



ORDERING CODE (Crimp Contact)

70

8014

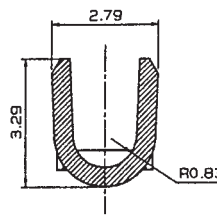
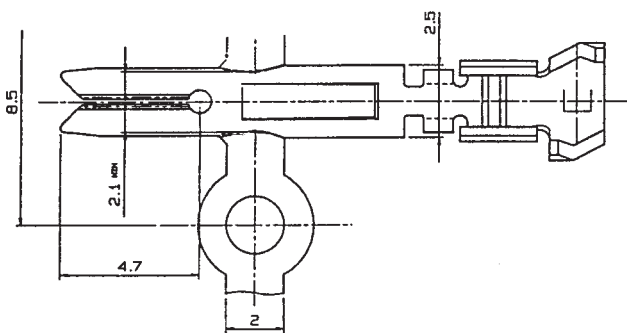
000

000

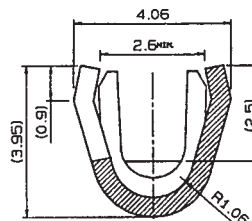
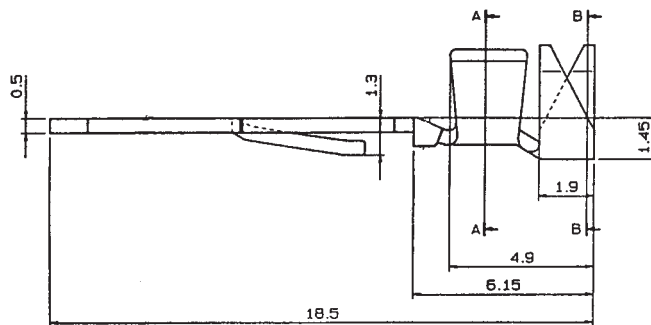
858

Finish Code

858 = 10 microinches Gold over Nickel Plate

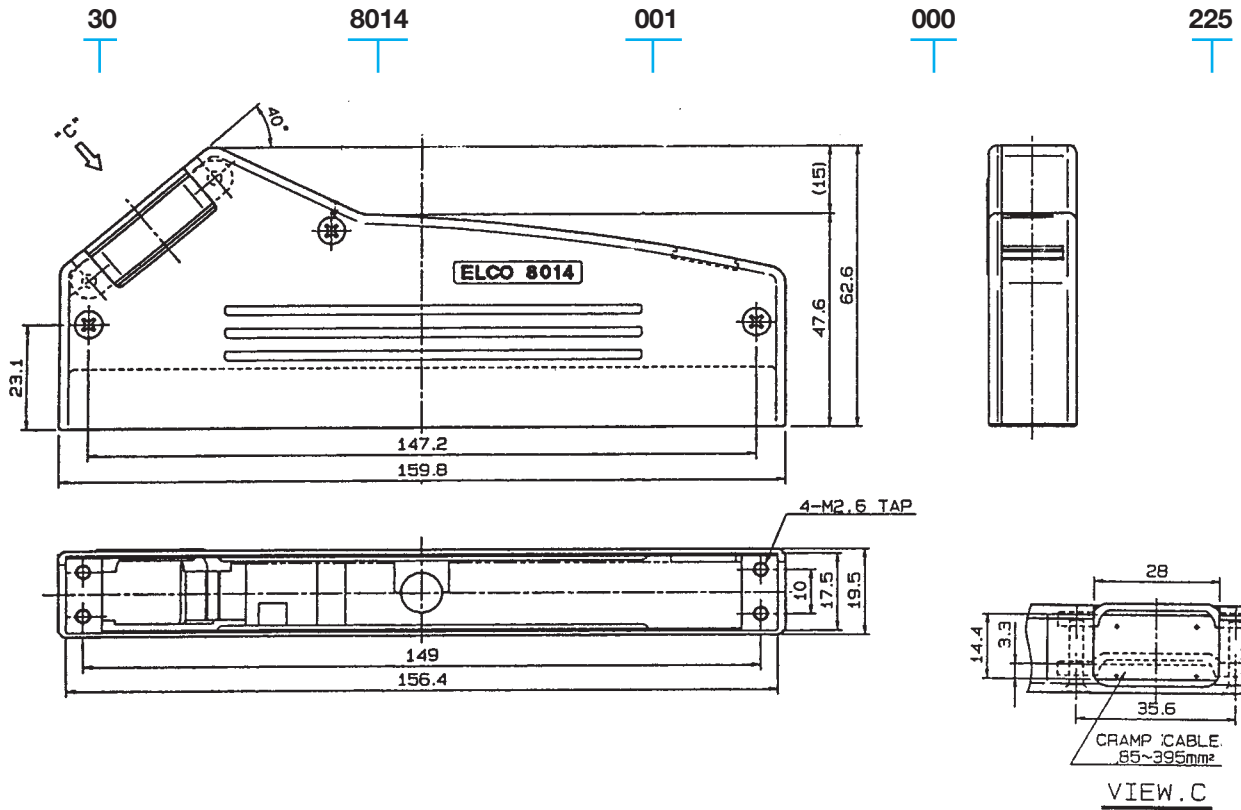


SECT. A-A

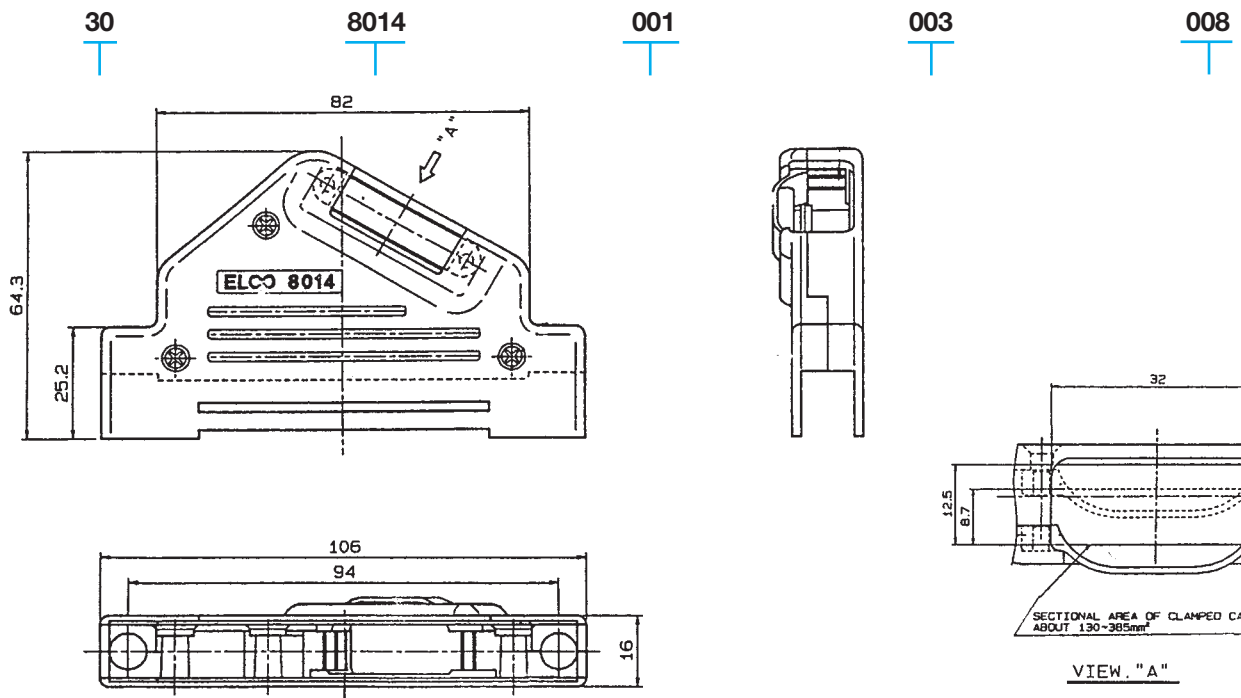


SECT. B-B

ORDERING CODE (Cover, 64 pos. Center-Screw, Aluminum Die Cast)



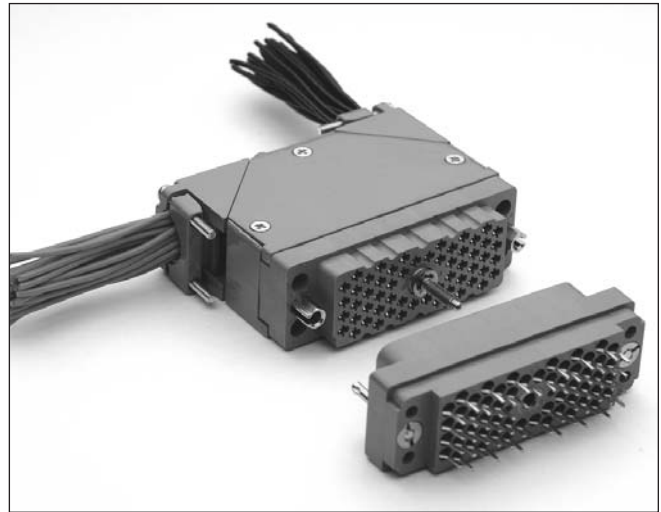
ORDERING CODE (50 pos. Side-Screw, Plastic (gray))



Series 8016 – .075" x .130" x .150" Grid Pattern

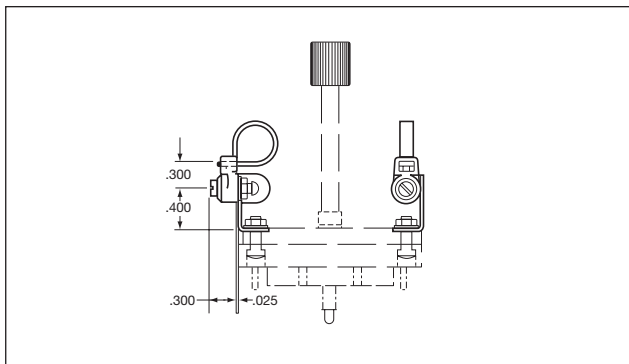
FEATURES

- Available in five sizes: 20, 38, 56, 90 and 120 contacts
- Insertable / removable Varilok contacts
- Crimp, solder, solderless wrap, and taper tab terminations
- Exceptional versatility: all hardware can be mounted on plug or receptacle (see ordering code)
- Actuating screw facilitates mating and unmating, locks mated connectors together
- Polarizing hardware can be set to any of six positions at factory; can also be reset by user (see polarizing code)
- Optional cover with top or side cable entry and clamp
- Optional cable strain relief clamp with adjustable strap for large or small cable bundles (fits on sizes 38 and 56)
- Plug and receptacle contacts are protected from mishandling
- Guide pins and sockets ensure correct alignment when mating
- U.L. recognized polyester material
- Aluminum covers
- CSA acceptable polyester material
- QPL approved polyester material



CABLE STRAIN RELIEF CLAMP

- Adjustable for large or small cable bundles
- Versatile clamp assembly permits mounting in various directions. Can be mounted on plug and/or receptacle.
- Order Number 30-8026-9601 for plug and cable-to-cable applications
- Order Number 30-8026-9602 for receptacle applications
- Available for sizes 38 and 56



TECHNICAL SPECIFICATIONS

Current Rating:

8 amperes, maximum

Contact Resistance:

6 milliohms, maximum

Contact Material:

Phosphor bronze

Contact Plating:

Gold, 10 microinches min.,
over Nickel,
50-100 microinches

Insulator Material:

Thermoplastic 94V-O glass
filled polyester

Insulation Resistance:

5,000 megohms, min.
(polyester)

Sea Level: 1250 volts RMS

3.4" Hg: 625 volts RMS

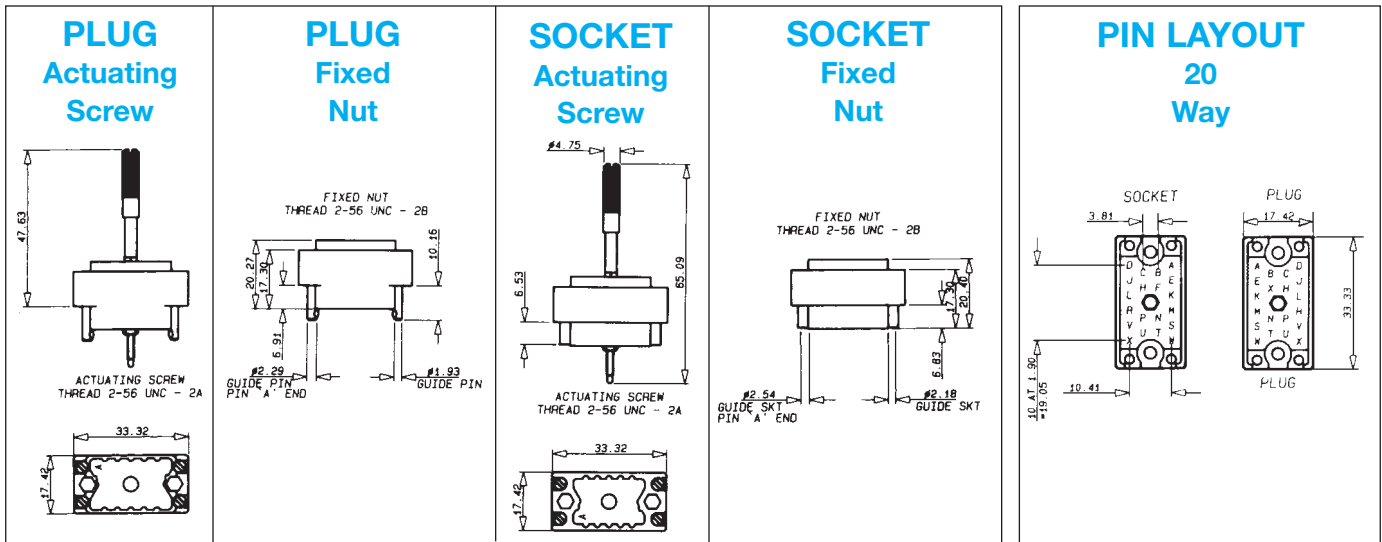
**Cover and Clamp Material
and Finish:**

Aluminum with clear chromate
under grey enamel finish

Commercial Specification:

Covered under the components
recognition program of
Underwriters' Laboratory, Inc.
File No. E-27610

Series 8016 – Rectangular Connector – 20 Way



ORDERING CODE



Contact Termination

*000 = Contacts not fitted and ordered separately, see page 23 for full list of options

217 = Solder 0.098" x 2.49mm

218 = Wire Wrap –
0.025 x 0.050 x 0.567" / 0.64 x 1.27 x 14.4mm

296 = Wire Wrap –
0.025 x 0.026 x 0.579" / 0.64 x 1.27 x 19.3mm

504 = Solder Tail –

750 = Wire Wrap –
0.025 x 0.050 x 0.760" / 0.64 x 1.27 x 19.3mm

*Crimp contacts always ordered separately. See page 23 for details.

CONNECTOR PLUG AND RECEPTACLE COMBINATIONS

Plug	Receptacle	007/507/607	008/508/608			909/509/609	910/510/610	911/511/611	912/512/612		
		001/501/601									
002/502/602											
903/503/603											
904/504/604											
905/505/605											
906/506/606											

Select variation code combinations marked with square in the table.

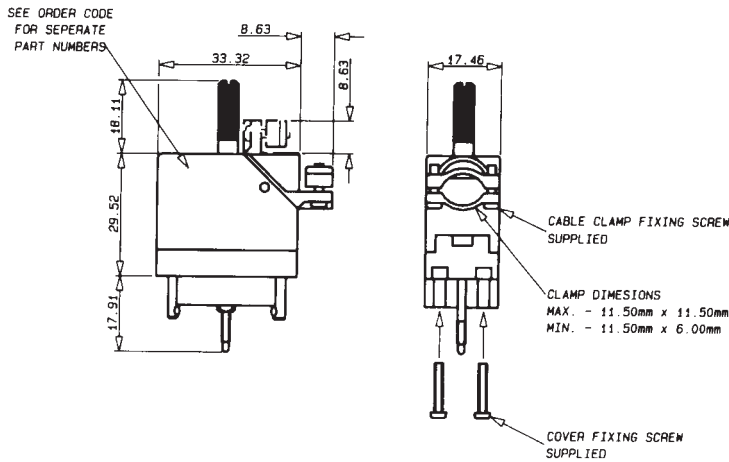
VARIATION CODE

Insulator Body Type	European Version		USA Versions				Cover and Cable Entrance	Actuating Screw	Fixed Nut
	Grey Polyester		Grey Polyester		Green Polyester				
	Aluminum Cover	No Cover	Cover	No Cover	Cover	No Cover			
Male (Exposed Contacts)	—	001	—	501	—	601	None	Yes	No
	903	002	—	502	—	602	None	No	Yes
	904	—	503	—	603	—	Top*	Yes	No
	905	—	504	—	604	—	Side*	Yes	No
	906	—	505	—	605	—	Top*	No	Yes
Female (Recessed Contacts)	—	007	—	507	—	607	None	No	Yes
	909	008	—	508	—	608	None	Yes	No
	910	—	509	—	609	—	Top*	Yes	No
	911	—	510	—	610	—	Side*	Yes	No
	912	—	511	—	611	—	Top*	No	Yes
	—	—	512	—	612	—	Side*	No	Yes

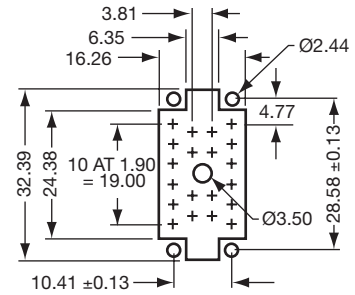
*These covers should only be used with crimp contacts.

Series 8016 – Rectangular Connector – 20 Way

CLAMPING AND COVER DIMENSIONS

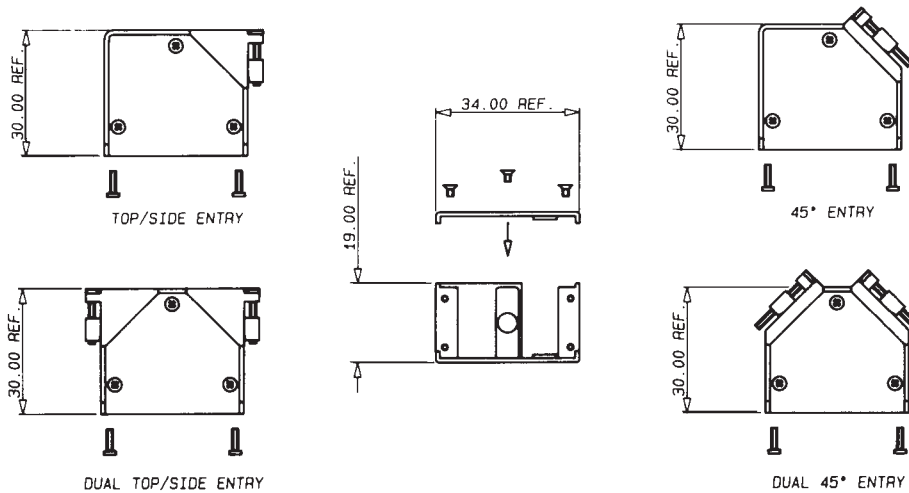


RECOMMENDED LAYOUT FOR FRONT CHASSIS MOUNTING & PCB LAYOUT



STANDARD COVERS

Metric Screws European Version	Cover Part Number	Imperial Screws USA Version	Number of Contacts	Cable Entrance	Clamp	
					Description	Size mm (inches)
	30-8016-9829-20-000	30-8016-9829-00-000	20	Side	Standard	11.53 (0.454) Dia.
	30-8016-9831-20-000	30-8016-9831-00-000	20	Top	Standard	11.53 (0.454) Dia.

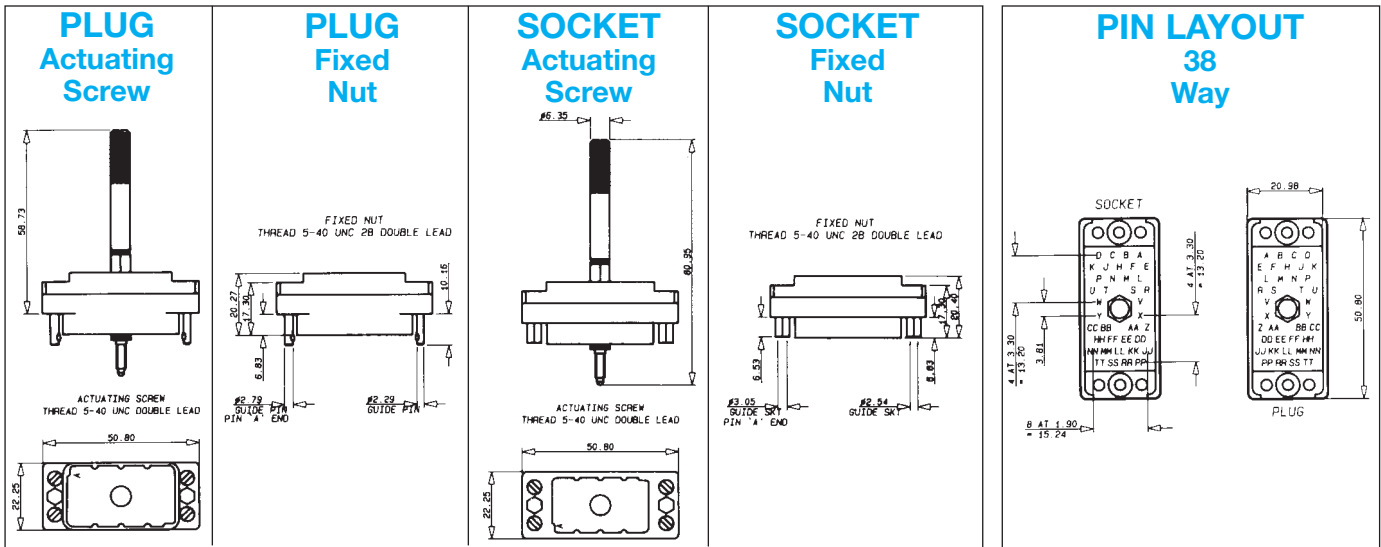


REMOVABLE SIDE PLATE COVERS

millimeters (inches)

Cover Part Number	Number of Contacts	Cable Entrance	Clamp		
			Description	Minimum Size	Maximum Size
30-8016-020-000-413	20	Side/Top	Standard	5 x 10 (0.197 x 0.394)	10 x 10 (0.394 x 0.394)
30-8016-020-000-415	20	45°	Standard	5 x 10 (0.197 x 0.394)	10 x 10 (0.394 x 0.394)
30-8016-020-000-423	20	Dual 90° Side/Top	Special	2 - 5 x 10 (0.197 x 0.394)	2 - 10 x 10 (0.394 x 0.394)
30-8016-020-000-425	20	Dual 45° Entry	Special	2 - 5 x 10 (0.197 x 0.394)	2 - 10 x 10 (0.394 x 0.394)

Series 8016 – Rectangular Connector – 38 Way



ORDERING CODE



Contact Termination

*000 = Contacts not fitted and ordered separately, see page 23 for full list of options

217 = Solder 0.098" x 2.49mm

218 = Wire Wrap –
0.025 x 0.050 x 0.567" / 0.64 x 1.27 x 14.4mm

296 = Wire Wrap –
0.025 x 0.026 x 0.579" / 0.64 x 1.27 x 19.3mm

504 = Solder Tail –

750 = Wire Wrap –
0.025 x 0.050 x 0.760" / 0.64 x 1.27 x 19.3mm

*Crimp contacts always ordered separately. See page 23 for details.

CONNECTOR PLUG AND RECEPTACLE COMBINATIONS

Plug	Receptacle													
	007/507/607	008/508/608	909/509/609	910/510/610	911/511/611	912/512/612	923/523/623	924/524/624	925/525/625	926/526/626	935/535/635	936/536/636	937/537/637	938/538/638
001/501/601														
002/502/602														
903/503/603														
904/504/604														
905/505/605														
906/506/606														
919/519/619														
920/520/620														
921/521/621														
922/522/622														
931/531/631														
932/532/632														
933/533/633														
934/534/634														

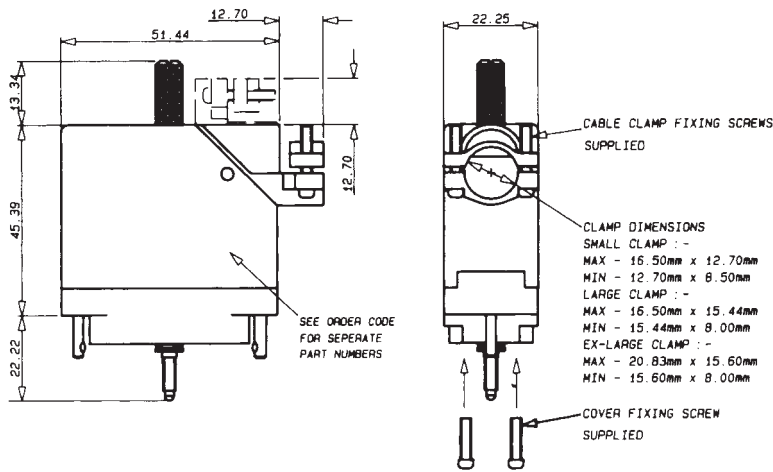
Select variation code combinations marked with square in the table.

VARIATION CODE

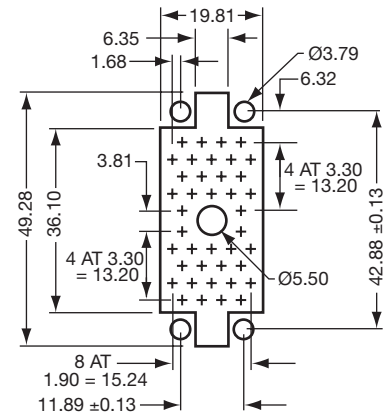
Insulator Body Type	European Version				USA Version								Cover & Cable Entrance	Actuating Screw	Fixed Nut
	Grey Polyester				Grey Polyester				Green Polyester						
	Aluminum Cover			No Cover	Aluminum Cover			No Cover	Aluminum Cover			No Cover			
	Std. Clamp	Large Clamp	Ex-Large Clamp		Std. Clamp	Large Clamp	Ex-Large Clamp		Std. Clamp	Large Clamp	Ex-Large Clamp				
Male (Exposed Contacts)	—	—	—	001	—	—	—	501	—	—	—	601	None	Yes	No
	—	—	—	002	—	—	—	502	—	—	—	602	None	No	Yes
	903	919	931	—	503	519	531	—	603	619	631	—	Top	Yes	No
	904	920	932	—	504	520	532	—	604	620	632	—	Side	Yes	No
	905	921	933	—	505	521	533	—	605	621	633	—	Top	No	Yes
	906	922	934	—	506	522	534	—	606	622	634	—	Side	No	Yes
Female (Recessed Contacts)	—	—	—	007	—	—	—	507	—	—	—	607	None	No	Yes
	—	—	—	008	—	—	—	508	—	—	—	608	None	Yes	No
	909	923	935	—	509	523	535	—	609	623	635	—	Top	Yes	No
	910	924	936	—	510	524	536	—	610	624	636	—	Side	Yes	No
	911	925	937	—	511	525	537	—	611	625	637	—	Top	No	Yes
	912	926	938	—	512	526	538	—	612	626	638	—	Side	No	Yes

Series 8016 – Rectangular Connector – 38 Way

CLAMPING AND COVER DIMENSIONS



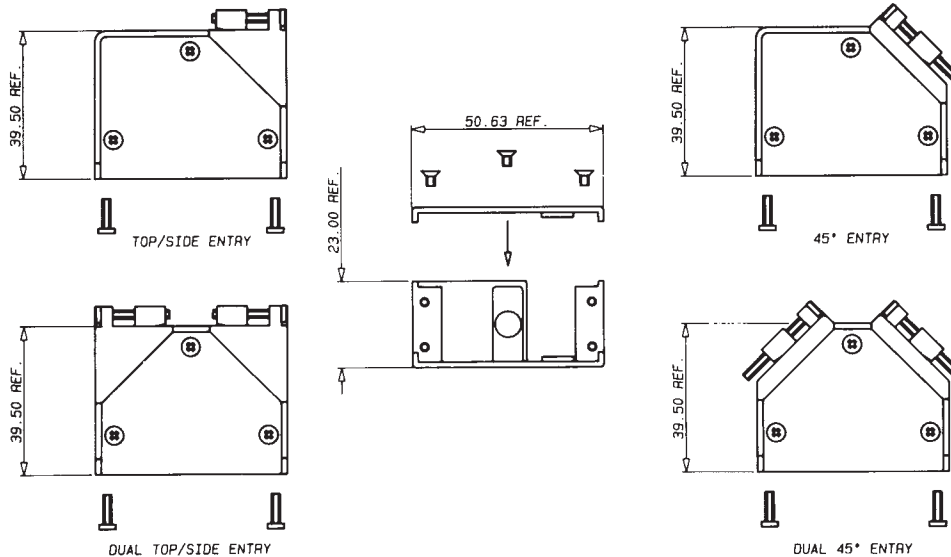
RECOMMENDED LAYOUT FOR FRONT CHASSIS MOUNTING & PCB LAYOUT



STANDARD COVERS

Metric Screws European Version	Cover Part Number	Imperial Screws USA Version	Number of Contacts	Cable Entrance	Clamp	
					Description	Size mm (inches)
	30-8016-9821-20-000	30-8016-9821-00-000	38	Side	Standard	16.51 X 12.70 (0.650 x 0.500)
	30-8016-9822-20-000	30-8016-9822-00-000	38	Top	Standard	16.51 X 12.70 (0.650 x 0.500)
	30-8016-9825-20-000	30-8016-9825-00-000	38	Side	Large	16.51 X 15.44 (0.650 x 0.608)
	30-8016-9826-20-000	30-8016-9826-00-000	38	Top	Large	16.51 X 15.44 (0.650 x 0.608)
	30-8016-9838-20-000	30-8016-9838-00-000	38	Side	Extra-Large	20.83 X 15.60 (0.820 x 0.614)
	30-8016-9839-20-000	30-8016-9839-00-000	38	Top	Extra-Large	20.83 X 15.60 (0.820 x 0.614)

OPTIONAL REMOVABLE SIDE PLATE COVER

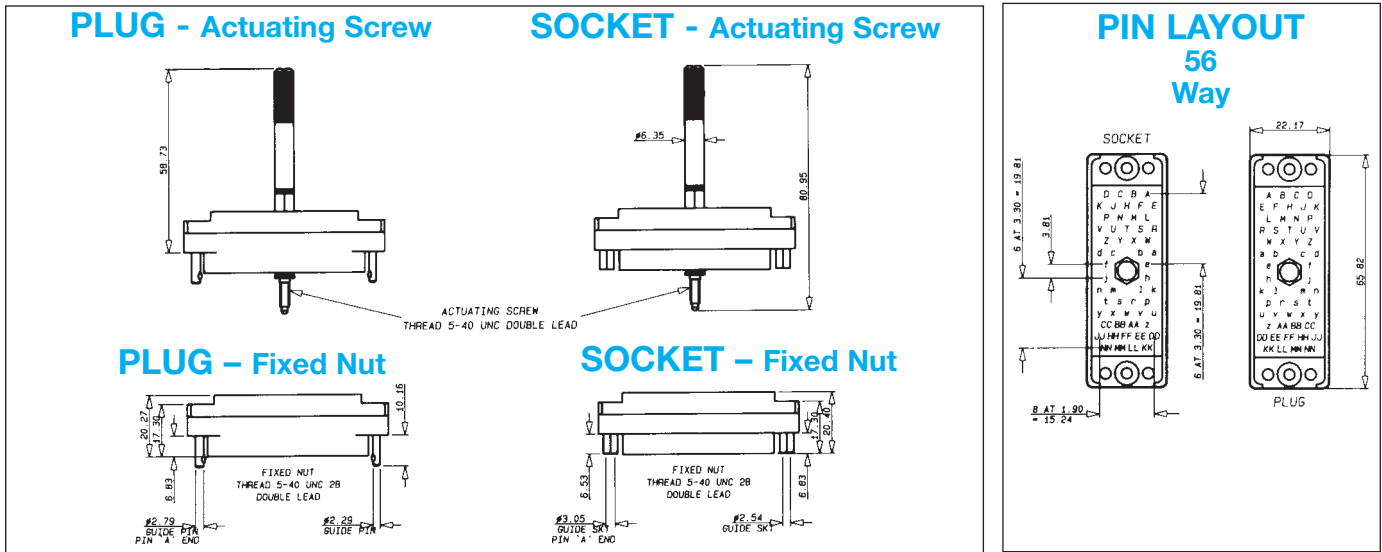


REMOVABLE SIDE PLATE COVERS

millimeters (inches)

Cover Part Number	Number of Contacts	Cable Entrance	Description	Clamp	
				Minimum Size	Maximum Size
30-8016-038-000-413	38	Side/Top	Standard	6 x 14 (0.236 x 0.551)	17 x 14 (0.669 x 0.551)
30-8016-038-000-415	38	45°	Standard	6 x 14 (0.236 x 0.551)	17 x 14 (0.669 x 0.551)
30-8016-038-000-423	38	Dual 90° Side/Top	Special	2 - 6 x 14 (0.236 x 0.551)	2 - 17 x 14 (0.669 x 0.551)
30-8016-038-000-425	38	Dual 45° Entry	Special	2 - 6 x 14 (0.236 x 0.551)	2 - 17 x 14 (0.669 x 0.551)

Series 8016 – Rectangular Connector – 56 Way



ORDERING CODE



Contact Termination

*000 = Contacts not fitted and ordered separately, see page 23 for full list of options

217 = Solder 0.098" x 2.49mm

218 = Wire Wrap –
 0.025 x 0.050 x 0.567" / 0.64 x 1.27 x 14.4mm

296 = Wire Wrap –
 0.025 x 0.026 x 0.579" / 0.64 x 1.27 x 19.3mm

504 = Solder Tail –

750 = Wire Wrap –
 0.025 x 0.050 x 0.760" / 0.64 x 1.27 x 19.3mm

*Crimp contacts always ordered separately. See page 23 for details.

CONNECTOR PLUG AND RECEPTACLE COMBINATIONS

Plug	Receptacle													
	007/507/607	008/508/608	909/509/609	910/510/610	911/511/611	912/512/612	923/523/623	924/524/624	925/525/625	926/526/626	935/535/635	936/536/636	937/537/637	938/538/638
001/501/601														
002/502/602														
903/503/603														
904/504/604														
905/505/605														
906/506/606														
919/519/619														
920/520/620														
921/521/621														
922/522/622														
931/531/631														
932/532/632														
933/533/633														
934/534/634														

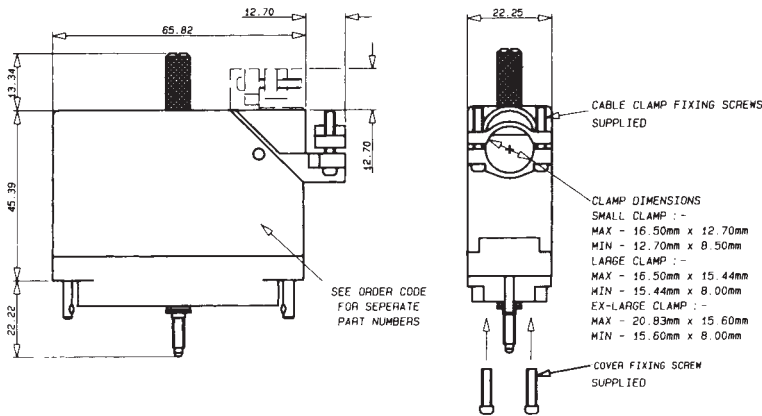
Select variation code combinations marked with square in the table.

VARIATION CODE

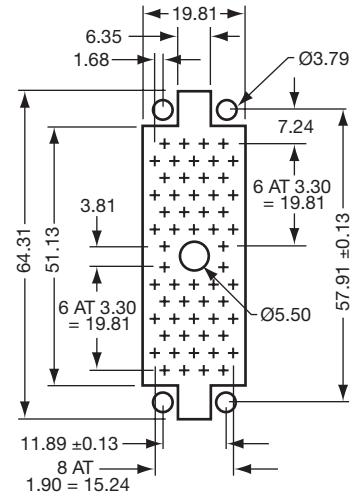
Insulator Body Type	European Version				USA Version								Cover & Cable Entrance	Actuating Screw	Fixed Nut
	Grey Polyester				Grey Polyester				Green Polyester						
	Aluminum Cover			No Cover	Aluminum Cover			No Cover	Aluminum Cover			No Cover			
	Std. Clamp	Large Clamp	Ex-Large Clamp		Std. Clamp	Large Clamp	Ex-Large Clamp		Std. Clamp	Large Clamp	Ex-Large Clamp				
Male (Exposed Contacts)	—	—	—	001	—	—	—	501	—	—	—	601	None	Yes	No
	—	—	—	002	—	—	—	502	—	—	—	602	None	No	Yes
	903	919	931	—	503	519	531	—	603	619	631	—	Top	Yes	No
	904	920	932	—	504	520	532	—	604	620	632	—	Side	Yes	No
	905	921	933	—	505	521	533	—	605	621	633	—	Top	No	Yes
	906	922	934	—	506	522	534	—	606	622	634	—	Side	No	Yes
Female (Recessed Contacts)	—	—	—	007	—	—	—	507	—	—	—	607	None	No	Yes
	—	—	—	008	—	—	—	508	—	—	—	608	None	Yes	No
	909	923	935	—	509	523	535	—	609	623	635	—	Top	Yes	No
	910	924	936	—	510	524	536	—	610	624	636	—	Side	Yes	No
	911	925	937	—	511	525	537	—	611	625	637	—	Top	No	Yes
	912	926	938	—	512	526	538	—	612	626	638	—	Side	No	Yes

Series 8016 – Rectangular Connector – 56 Way

CLAMPING AND COVER DIMENSIONS



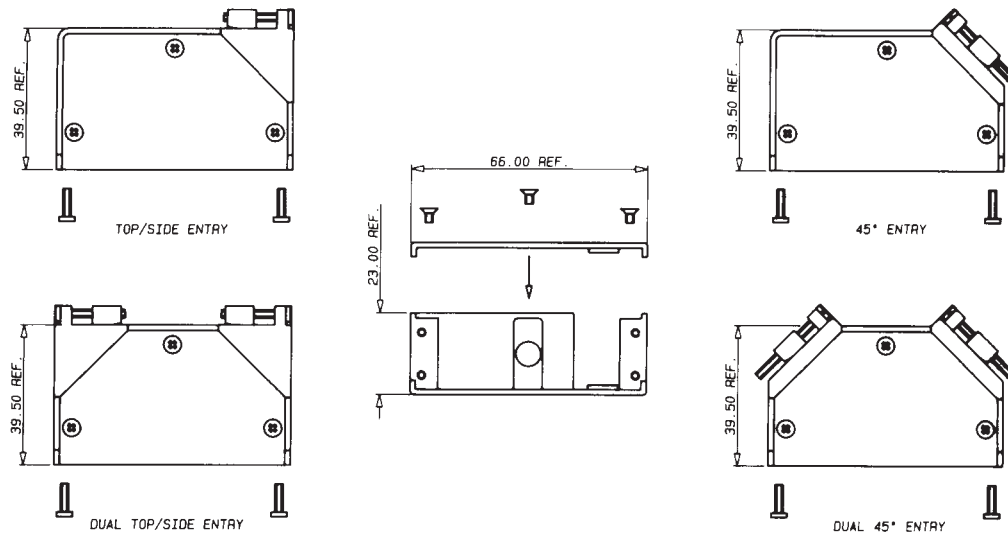
RECOMMENDED LAYOUT FOR FRONT CHASSIS MOUNTING & PCB LAYOUT



STANDARD COVERS

Metric Screws European Version	Cover Part Number	Imperial Screws USA Version	Number of Contacts	Cable Entrance	Clamp	
					Description	Size mm (inches)
	30-8016-9823-20-000	30-8016-9823-00-000	56	Side	Standard	16.51 X 12.70 (0.650 x 0.500)
	30-8016-9824-20-000	30-8016-9824-00-000	56	Top	Standard	16.51 X 12.70 (0.650 x 0.500)
	30-8016-9827-20-000	30-8016-9827-00-000	56	Side	Large	16.51 X 15.44 (0.650 x 0.608)
	30-8016-9828-20-000	30-8016-9828-00-000	56	Top	Large	16.51 X 15.44 (0.650 x 0.608)
	30-8016-9840-20-000	30-8016-9840-00-000	56	Side	Extra-Large	20.83 X 15.60 (0.820 x 0.614)
	30-8016-9842-20-000	30-8016-9842-00-000	56	Top	Extra-Large	20.83 X 15.60 (0.820 x 0.614)

OPTIONAL REMOVABLE SIDE PLATE COVER

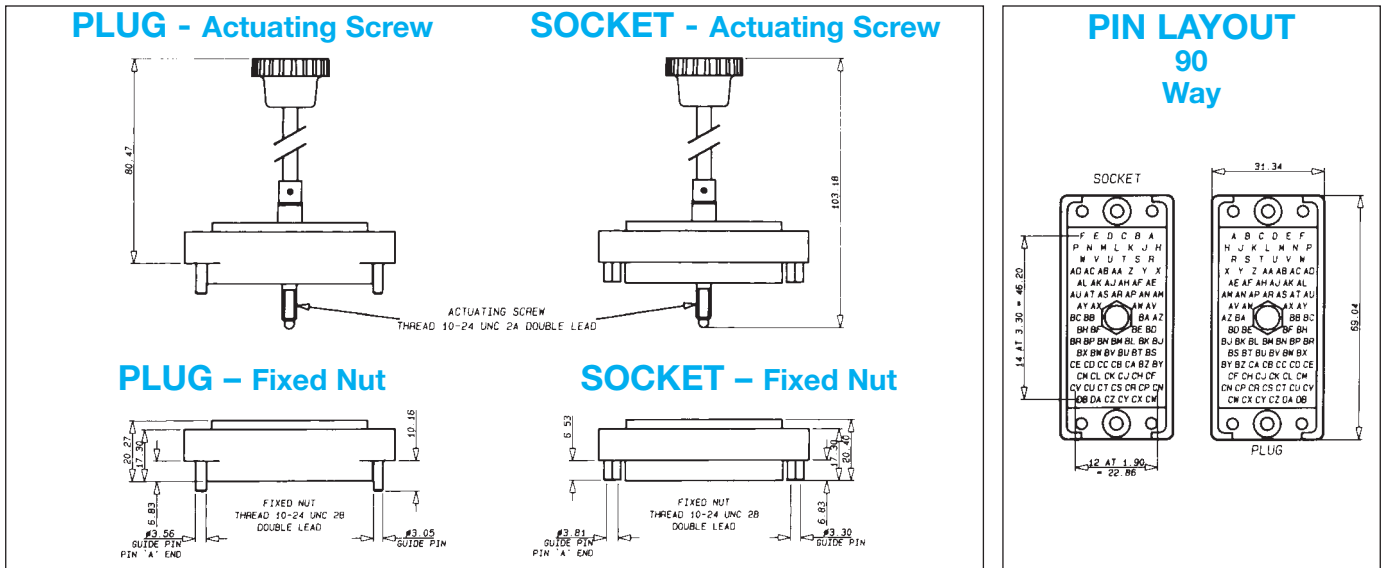


REMOVABLE SIDE PLATE COVERS

millimeters (inches)

Cover Part Number	Number of Contacts	Cable Entrance	Description	Clamp	
				Minimum Size	Maximum Size
30-8016-056-000-413	56	Side/Top	Standard	6 x 14 (0.236 x 0.551)	17 x 14 (0.669 x 0.551)
30-8016-056-000-415	56	45°	Standard	6 x 14 (0.236 x 0.551)	17 x 14 (0.669 x 0.551)
30-8016-056-000-423	56	Dual 90° Side/Top	Special	2 - 6 x 14 (0.236 x 0.551)	2 - 17 x 14 (0.669 x 0.551)
30-8016-056-000-425	56	Dual 45° Entry	Special	2 - 6 x 14 (0.236 x 0.551)	2 - 17 x 14 (0.669 x 0.551)

Series 8016 – Rectangular Connector – 90 Way



ORDERING CODE



Contact Termination

*000 = Contacts not fitted and ordered separately, see page 23 for full list of options

217 = Solder 0.098" x 2.49mm

218 = Wire Wrap –
0.025 x 0.050 x 0.567" / 0.64 x 1.27 x 14.4mm

296 = Wire Wrap –
0.025 x 0.026 x 0.579" / 0.64 x 1.27 x 19.3mm

504 = Solder Tail –

750 = Wire Wrap –
0.025 x 0.050 x 0.760" / 0.64 x 1.27 x 19.3mm

*Crimp contacts always ordered separately. See page 23 for details.

CONNECTOR PLUG AND RECEPTACLE COMBINATIONS

Plug	Receptacle									
	007/507/607	008/508/608	909/509/609	910/510/610	911/511/611	912/512/612	935/535/635	936/536/636	937/537/637	938/538/638
001/501/601										
002/502/602										
903/503/603										
904/504/604										
905/505/605										
906/506/606										
931/531/631										
932/532/632										
933/533/633										
934/534/634										

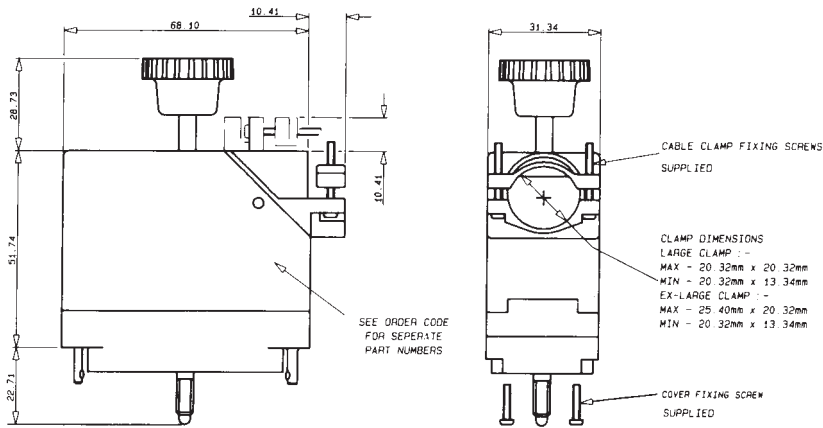
Select variation code combinations marked with square in the table.

VARIATION CODE

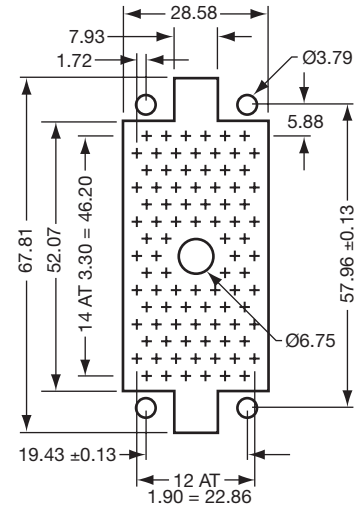
Insulator Body Type	European Version			USA Version						Cover & Cable Entrance	Actuating Screw	Fixed Nut
	Grey Polyester			Grey Polyester			Green Polyester					
	Cover		No Cover	Cover		No Cover	Cover		No Cover			
	Large Clamp	Ex-Large Clamp		Large Clamp	Ex-Large Clamp		Large Clamp	Ex-Large Clamp				
Male (Exposed Contacts)	—	—	001	—	—	501	—	—	601	None	Yes	No
	—	—	002	—	—	502	—	—	602	None	No	Yes
	903	931	—	503	531	—	603	631	—	Top	Yes	No
	904	932	—	504	532	—	604	632	—	Side	Yes	No
	905	933	—	505	533	—	605	633	—	Top	No	Yes
	906	934	—	506	534	—	606	634	—	Side	No	Yes
Female (Recessed Contacts)	—	—	007	—	—	507	—	—	607	None	No	Yes
	—	—	008	—	—	508	—	—	608	None	Yes	No
	909	935	—	509	535	—	609	635	—	Top	Yes	No
	910	936	—	510	536	—	610	636	—	Side	Yes	No
	911	937	—	511	537	—	611	637	—	Top	No	Yes
	912	938	—	512	538	—	612	638	—	Side	No	Yes

Series 8016 – Rectangular Connector – 90 Way

CLAMPING AND COVER DIMENSIONS



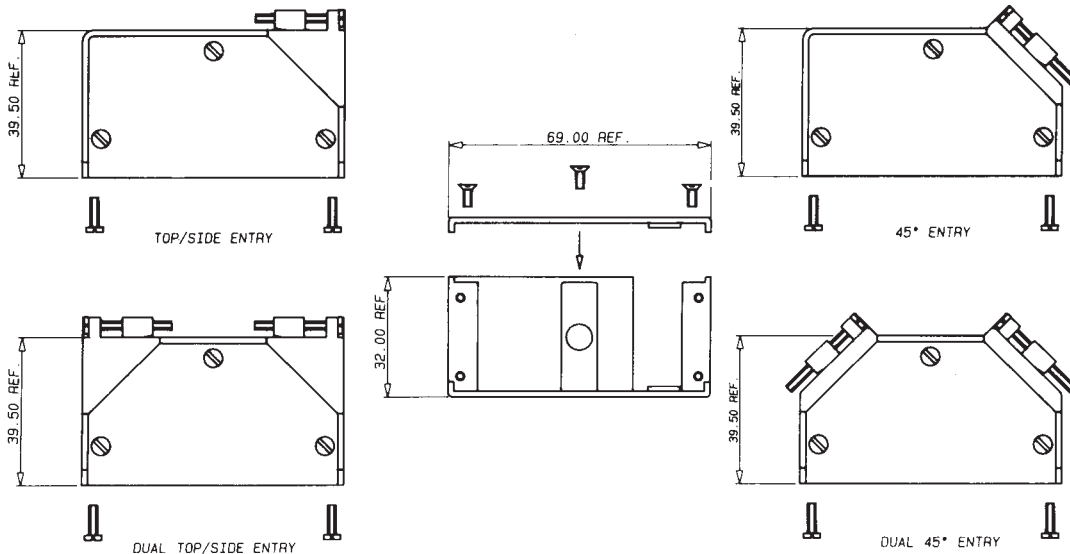
RECOMMENDED LAYOUT FOR FRONT CHASSIS MOUNTING & PCB LAYOUT



STANDARD COVERS

Cover Part Number Metric Screws European Version	Cover Part Number Imperial Screws USA Version	Number of Contacts	Cable Entrance	Clamp	
				Description	Size mm (inches)
30-8016-9832-20-000	30-8016-9832-00-000	90	Side	Large	20.32 (0.800) Dia.
30-8016-9833-20-000	30-8016-9833-00-000	90	Top	Large	20.32 (0.800) Dia.
30-8016-9843-20-000	30-8016-9843-00-000	90	Side	Extra-Large	25.40 x 20.32 (1.00 x 0.008)
30-8016-9844-20-000	30-8016-9844-00-000	90	Top	Extra-Large	25.40 x 20.32 (1.00 x 0.008)

OPTIONAL REMOVABLE SIDE PLATE COVER

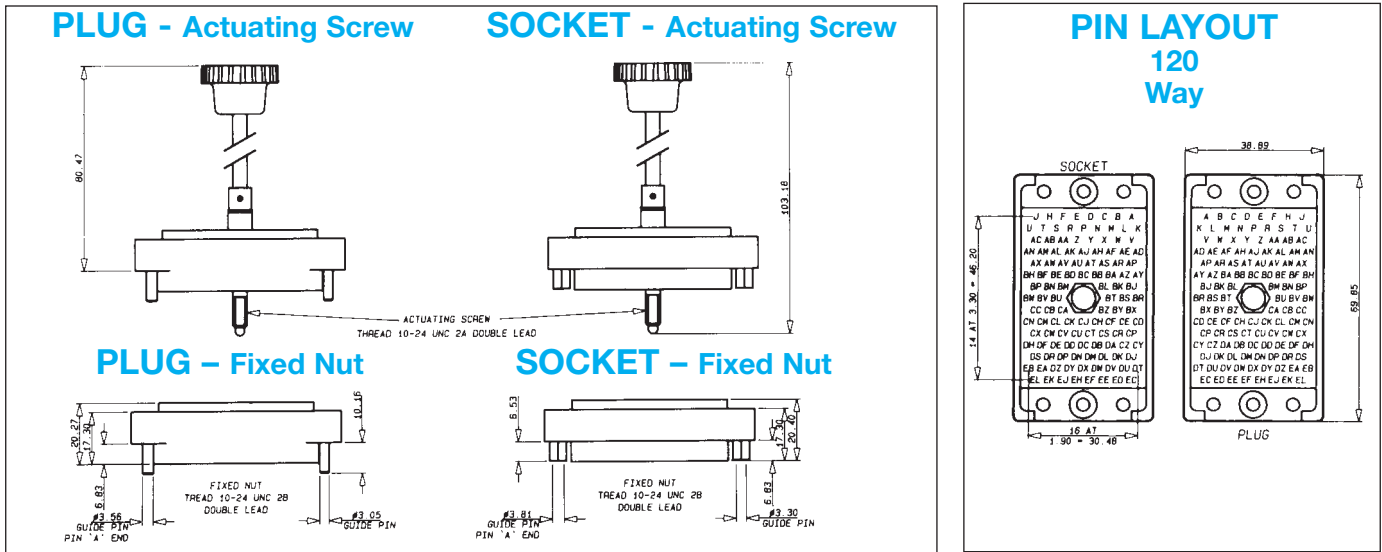


REMOVABLE SIDE PLATE COVERS

millimeters (inches)

Cover Part Number	Number of Contacts	Cable Entrance	Description	Clamp	
				Minimum Size	Maximum Size
30-8016-090-000-413	90	Side/Top	Standard	7 x 21 (0.276)	21 x 21 (0.827 x 0.827)
30-8016-090-000-415	90	45°	Standard	7 x 21 (0.276)	21 x 21 (0.827 x 0.827)
30-8016-090-000-423	90	Dual 90° Side/Top	Special	2 - 7 x 21 (0.276)	2 - 21 x 21 (0.827 x 0.827)
30-8016-090-000-425	90	Dual 45° Entry	Special	2 - 7 x 21 (0.276)	2 - 21 x 21 (0.827 x 0.827)

Series 8016 – Rectangular Connector – 120 Way



ORDERING CODE



Contact Termination

*000 = Contacts not fitted and ordered separately, see page 23 for full list of options

217 = Solder 0.098" x 2.49mm

218 = Wire Wrap –
0.025 x 0.050 x 0.567" / 0.64 x 1.27 x 14.4mm

296 = Wire Wrap –
0.025 x 0.026 x 0.579" / 0.64 x 1.27 x 19.3mm

504 = Solder Tail –

750 = Wire Wrap –
0.025 x 0.050 x 0.760" / 0.64 x 1.27 x 19.3mm

*Crimp contacts always ordered separately. See page 23 for details.

CONNECTOR PLUG AND RECEPTACLE COMBINATIONS

Plug	Receptacle											
	007/507/607	008/508/608	509/609	510/610	511/611	512/612	535/635	536/636	537/637	538/638		
001/501/601												
002/502/602												
503/603												
504/604												
505/605												
506/606												
531/631												
532/632												
533/633												
534/634												

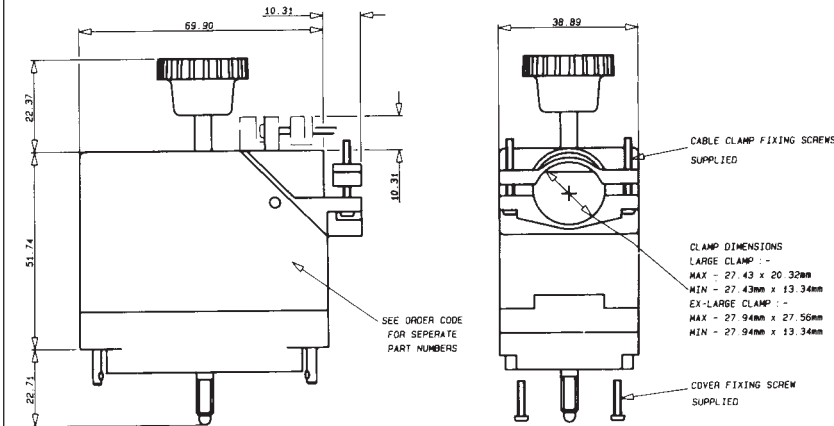
Select variation code combinations marked with square in the table.

VARIATION CODE

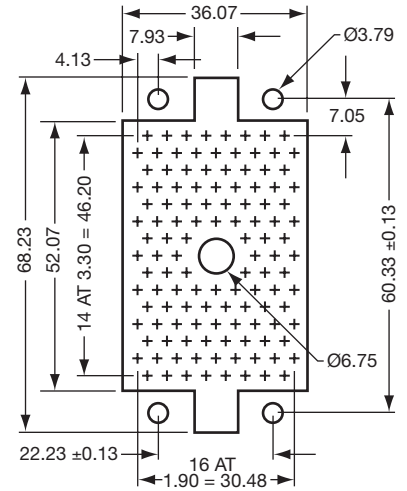
Insulator Body Type	European Version			USA Version						Cover & Cable Entrance	Actuating Screw	Fixed Nut
	Grey Polyester			Grey Polyester			Green Polyester					
	Large Clamp	Ex-Large Clamp	No Cover	Large Clamp	Ex-Large Clamp	No Cover	Large Clamp	Ex-Large Clamp	No Cover			
Male (Exposed Contacts)	—	—	001	—	—	501	—	—	601	None	Yes	No
	—	—	002	—	—	502	—	—	602	None	No	Yes
	503	531	—	503	531	—	603	631	—	Top	Yes	No
	504	532	—	504	532	—	604	632	—	Side	Yes	No
	505	533	—	505	533	—	605	633	—	Top	No	Yes
	506	534	—	506	534	—	606	634	—	Side	No	Yes
Female (Recessed Contacts)	—	—	007	—	—	507	—	—	607	None	No	Yes
	—	—	008	—	—	508	—	—	608	None	No	No
	509	535	—	509	535	—	609	635	—	Top	Yes	No
	510	536	—	510	536	—	610	636	—	Side	Yes	No
	511	537	—	511	537	—	611	637	—	Top	No	Yes
	512	538	—	512	538	—	612	638	—	Side	No	Yes

Series 8016 – Rectangular Connector – 120 Way

CLAMPING AND COVER DIMENSIONS



RECOMMENDED LAYOUT FOR FRONT CHASSIS MOUNTING & PCB LAYOUT



STANDARD COVERS


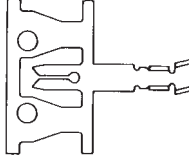


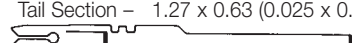
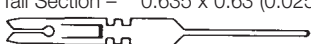

Cover Part Number Imperial Screws	Number of Contacts	Cable Entrance	Clamp	
			Description	Size mm (inches)
30-8016-9834-00-000	120	Side	Large	20.32 x 27.43 (0.800 x 1.080)
30-8016-9835-00-000	120	Top	Large	20.32 x 27.43 (0.800 x 1.080)
30-8016-9845-00-000	120	Side	Extra-Large	27.94 x 27.56 (1.100 x 1.085)
30-8016-9846-00-000	120	Top	Extra-Large	27.94 x 27.56 (1.100 x 1.085)

NB: There are no removable side plate covers for the 120 Way version.

Loose Contacts

Varilok® connectors can be specified as either fully loaded, to include the connector body and a variety of pre-loaded contact termination types or the empty body and a selection

of separately specified and ordered contacts. The table below details the various loose contacts available.

Contact Style	Description	Plating Specification	Order Code
 * Ordered separately	Crimp Contact Loose	0.25µM Gold All Over (Standard) 0.25µM Gold Nose & Tail (Optional)	60 8017 0313 00 339 60 8017 0313 00 042
 * Ordered separately	Crimp Contact End Carrier (1800 Contacts per reel)	0.25µM Gold All Over (Standard) 0.25µM Gold Nose & Tail (Optional) 0.25µM Gold All Over (Standard) 0.25µM Gold Nose & Tail (Optional)	60 8017 0323 99 339 60 8017 0323 99 042 60 8017 0323 00 339** 60 8017 0323 00 042**
Tail Section – 2.49 x 0.61 (0.098 x 0.024)  * If fitted type 217	Solder Tag Contact	0.25µM Gold All Over (Standard)	60 8017 0513 00 339
Tail Section – 1.27 x 0.63 (0.025 x 0.005)  * If fitted type 218	14.4mm Maxiwrap Contact	0.25µM Gold All Over (Standard)	60 8017 0613 00 339
Tail Section – 1.27 x 0.63 (0.025 x 0.005)  * If fitted type 750	19.3mm Maxiwrap Contact	0.25µM Gold All Over (Standard)	60 8017 0623 00 339
Tail Section – 0.635 x 0.63 (0.025 x 0.005)  * If fitted type 296	14.0 Miniwrap Contact	0.25µM Gold All Over (Standard)	60 8017 0633 00 339
Tail Section – 0.635 x 0.63 (0.025 x 0.005)  * If fitted type 504	4.3mm PC Solder Contact for ø 1.00 mm P.T.H.	0.25µM Gold All Over (Standard)	60 8017 0663 00 339

* Indicates standard contact

Plating code 343 conforms to MIL SPEC requirement

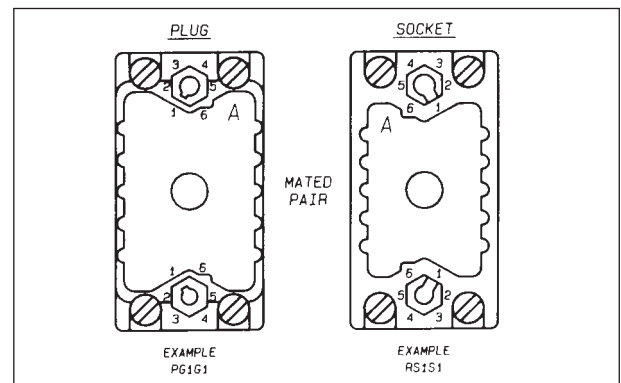
** Order code to be used when purchasing through a USA source.

CONNECTOR POLARIZATION

Varicon® 8016 Series connectors are designed with an integral polarizing system to ensure in high density environments that the correct halves are mated together.

As a factory standard, male plugs are set to the code P-G-1-G-1, with the female receptacles being set to the opposite matching code R-S-1-S-1.

Customers who need to use this facility can either configure the polarization codes themselves, or for an additional charge provide AVX with the required polarization codes for presetting by the factory, which will be supplied as a special part 58-8016-XXX-000-XXX.



ORDERING CODE

P
Type of Connector Half
Plug = P
Socket = R

G
Location Side
(Large Dia.)
Guide Pin = G
Guide Socket = S

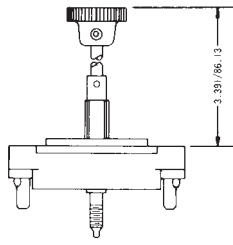
1
Positions
1 through 6

G
Location Side
(Small Dia.)
Guide Pin = G
Guide Socket = S

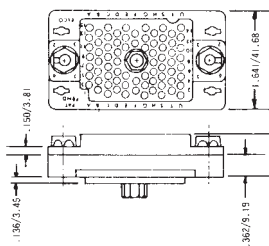
1
Positions
1 through 6

75/100/130 CONTACTS

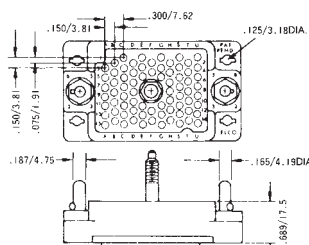
Plug with Actuating Screw 001



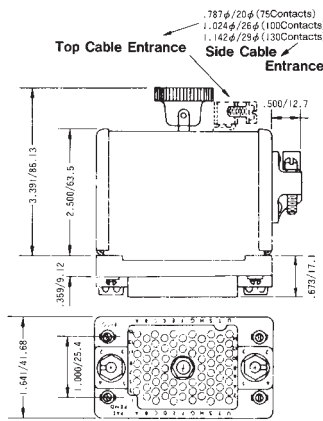
Receptacle with Fixed Nut 007



Plug with Fixed Screw 002

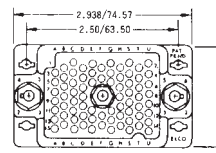


Receptacle with Actuating Nut 008

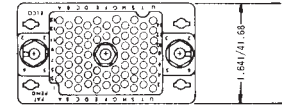


75 CONTACTS

Plug

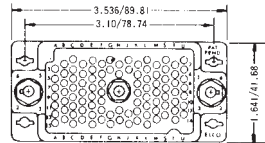


Receptacle

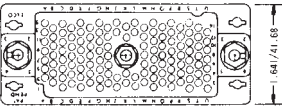


100 CONTACTS

Plug

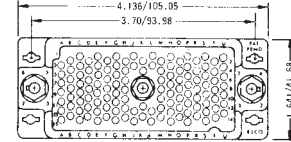


Receptacle

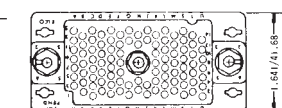


130 CONTACTS

Plug



Receptacle



ORDERING CODE

00	8017	XXX	XXX	OXX
Prefix	Series Number	Number of Positions 75, 100, 130		See Variation Code

Contact Code

217 = Solder 0.098" x 2.49mm – 60 8017 0513 00 339

218 = Wire Wrap – 0.025 x 0.050 x 0.567" / 0.64 x 1.27 x 14.4mm 60 8017 0613 00 339

750 = Wire Wrap – 0.025 x 0.050 x 0.760" / 0.64 x 1.27 x 19.3mm 60 8017 0623 00 339

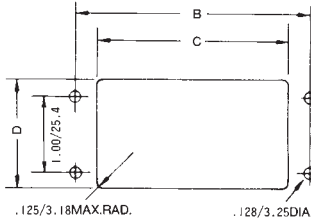
296 = Wire Wrap – 0.025 x 0.026 x 0.579" / 0.64 x 0.66 x 14.7mm 60 8017 0633 00 339

313 = Wire Crimp (Contacts Loose) – Must be ordered separately 60 8017 0313 00 339

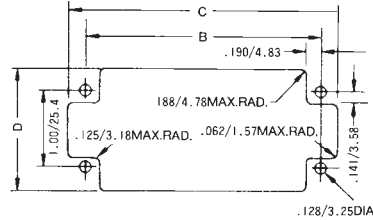
323 = Wire Crimp (1800 Contacts on a Reel) – Must be ordered separately 60 8017 0323 99 339

RECOMMENDED CHASSIS LAYOUT

Layout for Front Chassis Mounting



Layout for Back Chassis Mounting



All Tolerances $\pm .005/\pm .127$

No. of Pos.	Front Chassis Mtg.			Back Chassis Mtg.		
	B	C	D	B	C	D
75	2.500/63.50	1.953/49.61	1.437/36.50	2.500/63.50	2.953/75.00	1.656/42.06
100	3.100/78.74	2.546/64.67	1.437/36.50	3.100/78.74	3.562/90.47	1.656/42.06
130	3.700/93.98	3.156/80.16	1.437/36.50	3.700/93.98	4.156/105.56	1.656/42.06

Dimensions inches/mm

VARIATION CODE

Insulator Body Type	Variation Code No.	Cover & Cable Entrance	Actuating Screw	Fixed Screw
Plug	001	No	Yes	No
	002	No	No	Yes
	003	Top	Yes	No
	004	Side	Yes	No
	005	Top	No	Yes
	006	Side	No	Yes

Insulator Body Type	Variation Code No.	Cover & Cable Entrance	Fixed Nut	Actuating Nut
Receptacle	007	No	Yes	No
	008	No	No	Yes
	009	Top	Yes	No
	010	Side	Yes	No
	011	Top	No	Yes
	012	Side	No	Yes

CONNECTOR PLUG AND RECEPTACLE COMBINATIONS

Plug	Receptacle					
	007	008	009	010	011	012
001						
002						
003						
004						
005						
006						

Tools

CONTACT INSERTION TOOLS

These are small hand tools which provide a positive method for inserting contacts into the rear of the insulator by applying pressure on the contacts directly to the end of the insulation crimp.

Tool	Contact Capability
06 1742 0400 00 000	Varilok®
	No. 60 8017 Family
06 7698 01 000 0000	Mini Varilok®
	No. 60 8216 Family



Contact Insertion Tool

HAND CRIMP TOOLS

This tool is designed for hand crimping of contacts. The tool is well suited for maintenance, model shop, laboratory and small scale production purposes. Two crimping cavities are available; Upper Cavity will crimp wire 18-20 AWG and the Lower Cavity will crimp wire 22-26 AWG.



VARILOCK® Hand Crimp Tool



MINI VARILOCK® Hand Crimp Tool

Part No.	Contact Capability	Wire Type & Size
06 7852 7002 01 000	Varilok®	Stranded AWG
	No. 60 8017 0313	No. 18-26
	Mini Varilok®	Stranded AWG
06 7858 01 000 0000	No. 60 8216 0313	No. 22-30

CONTACT EXTRACTION TOOLS

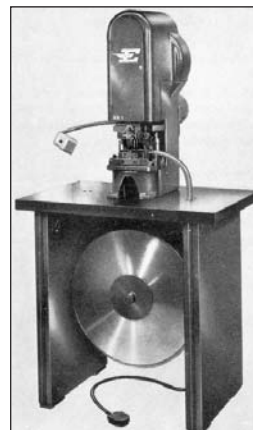
This tool is designed to extract contacts from the front of the insulator quickly and easily, without damage to either contacts or insulator.



Contact Extraction Tool

Tool	Contact Capability
06 1877 0400 00 000	Varilok®
	No. 60 8017 Family
06 7699 01 000 0000	Mini Varilok®
	No. 60 8216 Family

CRIMPING MACHINES



These heavy duty crimping machines are designed for fast and economical production-line crimping of contacts supplied on reels. The machines incorporate the unique DIALMATIC crimp adjustment which permits the machine operator to crimp contacts to wires of different sizes by simply adjusting two knobs.

SPECIFICATIONS

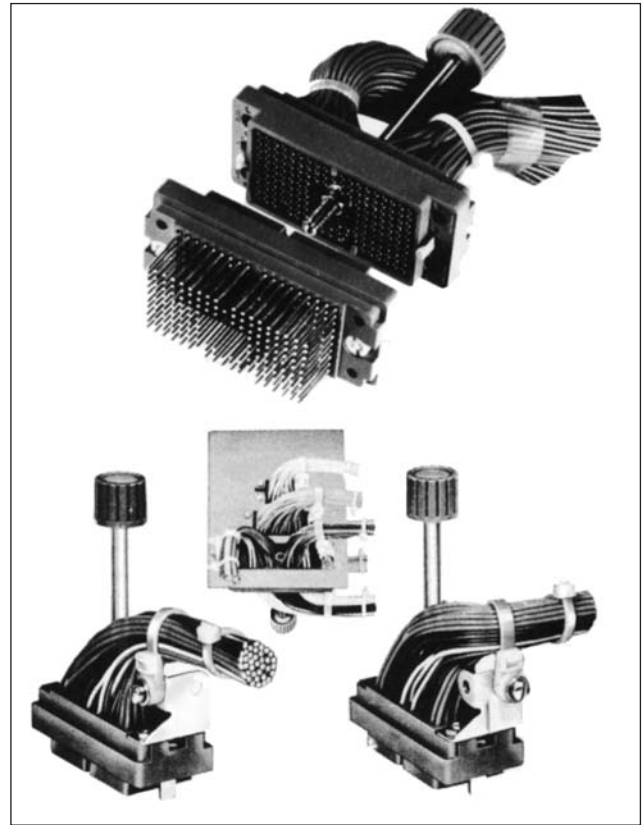
Press Rating: 3 Ton Capacity
Power: 240V AC, 50 Cycles

Part No.	Contact	Wire Size
HR-1 06 1984 0100	Varilok®	AWG No. 18-26
HR-3 06 7705 0100	Mini Varilok®	AWG No. 22-30

Series 8026 – 0.100" Rectangular Connector

FEATURES

- Economical miniature high-density connectors suitable for high-reliability and military applications.
- 0.100" (2.54mm) square grid rack and panel connectors with male and female insulators are available in four sizes: 33, 75, 117 and 165 contacts.
- Insertable / removable mini-varilok and mini-wrap contacts.
- Crimp and/or solderless wrap terminations.
- Exceptional versatility: all hardware can be mounted on plug or receptacle (see ordering code).
- Actuating screw facilitates mating and unmating; locks mated connectors together.
- Keyed and shrouded insulator design prevents incorrect mating and protects contacts from mishandling.
- Simplified polarizing hardware permits 36 polarization combinations per connector pair.
- Optional covers with top or side cable entry and clamp.
- Optional cable clamps.
- Choice of any combination of hardware — or no hardware.
- U.L. recognized-diallyl phthalate material.
- QPL approved-diallyl phthalate material.



TECHNICAL SPECIFICATIONS CONTACTS

Current Rating:
5 amperes

Contact Resistance:
6 milliohms

Withdrawal Force:
2 to 8 ounces max. per contact

Material:
Phosphor Bronze

Standard Plating:
Gold, 10 microinches min.,
over Nickel,
50-100 microinches

Spacing:
0.100" (2.54mm)

INSULATORS

Insulation Resistance:
5,000 megohms, min.
(diallyl phthalate insulators)
5,000 megohms, min.
(polycarbonate insulators)

Dielectric Withstanding Voltage:
Sea Level: 1,000 Volts rms
Materials:
0.100" (2.54mm) spacing –
diallyl phthalate, glass-filled,
flame resistant

ORDERING CODE

00

8026

033

000

803

Number of Contacts
033 = 33
075 = 75
117 = 117
165 = 165

Contact Code

Order crimp contacts separately by Part Number. Otherwise specify contact code 491.
000 = Crimp (3000 - contact reel)



Part Number
60 8216 0323 00 339

000 = Crimp (loose contact)
Accepts #22-30 AWG wire



Part Number
60 8216 0313 00 339

491 = Wire wrappable removable contact .025" (.635mm) sq. x .564" (14.33mm) tail



Part Number
60 8216 0413 00 339

Variation Code

Add 050 to order alternative keying (Pin & Socket)
i.e. 701 = Standard hermaphroditic keying
751 = Pin and socket keying
Complete a 15 digit assembly number for each mating part, male and female.

Series 8026 – 0.100" Rectangular Connector

VARIATION CODES

33 Contacts
Table 1

Insulator Body Type	Variation Code No.	Actuating Screw	Fixed Nut	Keying Hardware	Cover
Male (Exposed Contacts)	701	Yes	No	Yes	No
	702	Yes	No	No	No
	703	No	Yes	Yes	No
	704	No	Yes	No	No
	733	No	No	Yes	No
	734	No	No	No	No
Female (Recessed Contacts)	801	No	Yes	Yes	No
	802	No	Yes	No	No
	803	Yes	No	Yes	No
	804	Yes	No	No	No
	833	No	No	Yes	No
	834	No	No	No	No

33 Contacts
Table 2

Insulator Body Type	Variation Code No.	Actuating Nut	Fixed Nut	Keying Hardware	Cover
Male (Exposed Contacts)	501	Yes	No	Yes	No
	502	Yes	No	No	No
	503	No	Yes	Yes	No
	504	No	Yes	No	No
	601	No	Yes	Yes	No
Female (Recessed Contacts)	602	No	Yes	No	No
	603	Yes	No	Yes	No
	604	Yes	No	No	No

75, 117 & 165 Contacts
Table 3

Insulator Body Type	Variation Code No.			Cable Entrance	Actuating Screw	Fixed Nut	Keying Hardware	
	Without Cover	Cover Small Clamp	Cover Large Clamp					
Male (Exposed Contacts)	701	—	—	No	Yes	No	Yes	
	702	—	—	No	Yes	No	No	
	703	—	—	No	No	Yes	Yes	
	704	—	—	No	No	Yes	No	
	733	—	—	No	No	No	Yes	
	734	—	—	No	No	No	No	
	—	705	713	Top	Yes	No	Yes	
	—	706	714	Side	Yes	No	Yes	
	—	707	715	Top	Yes	No	No	
	—	708	716	Side	Yes	No	No	
	—	709	717	Top	No	Yes	Yes	
	—	710	718	Side	No	Yes	Yes	
	—	711	719	Top	No	Yes	No	
	—	712	720	Side	No	Yes	No	
	—	735	739	Top	No	No	Yes	
	—	736	740	Side	No	No	Yes	
	—	737	741	Top	No	No	No	
	—	738	742	Side	No	No	No	
	Female (Recessed Contacts)	801	—	—	No	No	Yes	Yes
		802	—	—	No	No	Yes	No
803		—	—	No	Yes	No	Yes	
804		—	—	No	Yes	No	No	
833		—	—	No	No	No	Yes	
834		—	—	No	No	No	No	
—		805	813	Top	No	Yes	Yes	
—		806	814	Side	No	Yes	Yes	
—		807	815	Top	No	Yes	No	
—		808	816	Side	No	Yes	No	
—		809	817	Top	Yes	No	Yes	
—		810	818	Side	Yes	No	Yes	
—		811	819	Top	Yes	No	No	
—		812	820	Side	Yes	No	No	
—		835	839	Top	No	No	Yes	
—		836	840	Side	No	No	Yes	
—		837	841	Top	No	No	No	
—		838	842	Side	No	No	No	

Table 4

Insulator Body Type	Variation Code No.			Cable Entrance	Actuating Nut	Fixed Screw	Keying Hardware
	Without Cover	Cover Small Clamp	Cover Large Clamp				
Male (Exposed Contacts)	501	—	—	No	Yes	No	Yes
	502	—	—	No	Yes	No	No
	503	—	—	No	No	Yes	Yes
	504	—	—	No	No	Yes	No
	—	505	513	Top	Yes	No	Yes
	—	506	514	Side	Yes	No	Yes
	—	507	515	Top	Yes	No	No
	—	508	516	Side	Yes	No	No
	—	509	517	Top	No	Yes	Yes
	—	510	518	Side	No	Yes	Yes
	—	511	519	Top	No	Yes	No
	—	512	520	Side	No	Yes	No
Female (Recessed Contacts)	601	—	—	No	No	Yes	Yes
	602	—	—	No	No	Yes	No
	603	—	—	No	Yes	No	Yes
	604	—	—	No	Yes	No	No
	—	605	613	Top	No	Yes	Yes
	—	606	614	Side	No	Yes	Yes
	—	607	615	Top	No	Yes	No
	—	608	616	Side	No	Yes	No
	—	609	617	Top	Yes	No	Yes
	—	610	618	Side	Yes	No	Yes
	—	611	619	Top	Yes	No	No
	—	612	620	Side	Yes	No	No

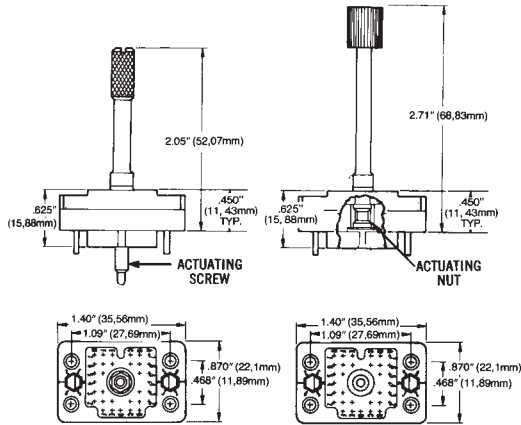
Series 8026 – 0.100" Rectangular Connector

33 CONTACTS

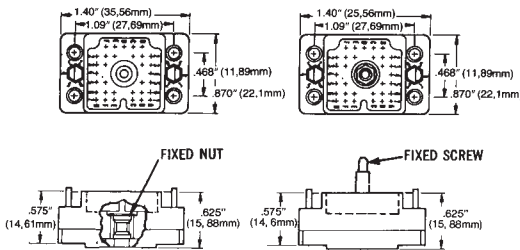
Female Plug (Recessed Contacts)
For variation code number

See Table 1
Page 27

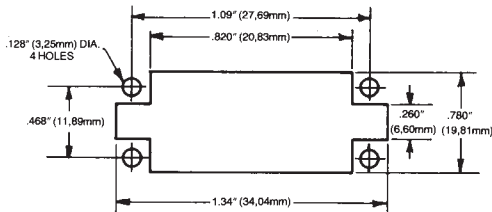
See Table 2
Page 27



MALE RECEPTACLE (Exposed Contacts)



RECOMMENDED CHASSIS LAYOUT

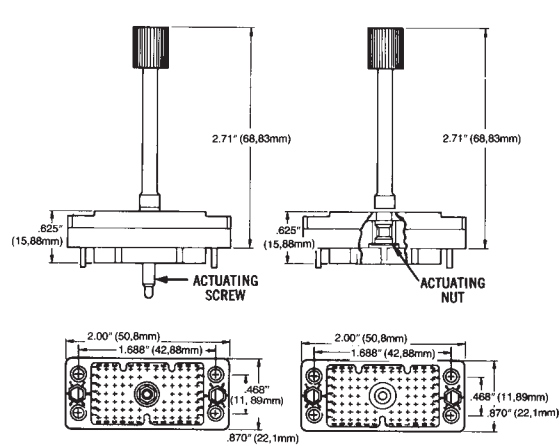


75 CONTACTS

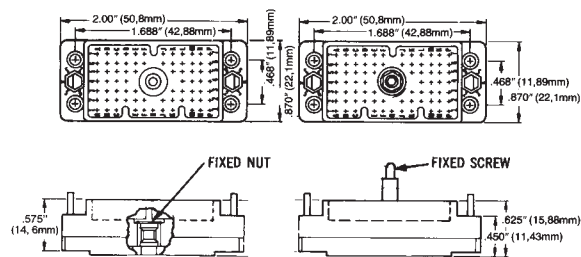
Female Plug (Recessed Contacts)
For variation code number

See Table 3
Page 27

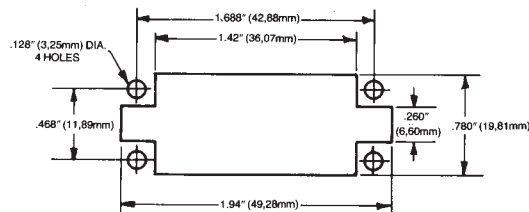
See Table 4
Page 27



MALE RECEPTACLE (Exposed Contacts)



RECOMMENDED CHASSIS LAYOUT



COVER CROSS REFERENCE, FOR DETAILS SEE 8016 CONNECTOR

Cover Number	Cable Entrance	Clamp	
		Description	8026/.100" (2.54mm) sq.
30-8016-9821	Side	Small	75 Pin
30-8016-9822	Top	Small	75 Pin
30-8016-9823	Side	Small	117 Pin
30-8016-9824	Top	Small	117 Pin
30-8016-9825	Side	Large	75 Pin
30-8016-9826	Top	Large	75 Pin
30-8016-9827	Side	Large	117 Pin
30-8016-9828	Top	Large	117 Pin
30-8016-9832	Side	Large	165 Pin

Cover Number	Cable Entrance	Clamp	
		Description	8026/.100" (2.54mm) sq.
30-8016-9833	Top	Large	165 Pin
30-8016-9838	Side	Ex-Large	75 Pin
30-8016-9839	Top	Ex-Large	75 Pin
30-8016-9840	Side	Ex-Large	117 Pin
30-8016-9842	Top	Ex-Large	117 Pin
30-8016-9843	Side	Ex-Large	165 Pin
30-8016-9844	Top	Ex-Large	165 Pin
30-8016-9845	Side	Ex-Large	—
30-8016-9846	Top	Ex-Large	—

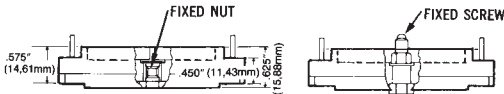
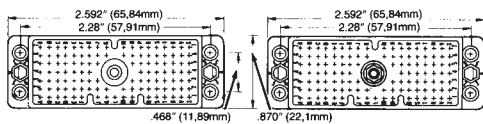
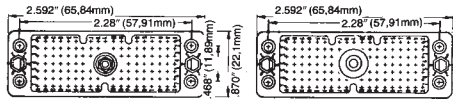
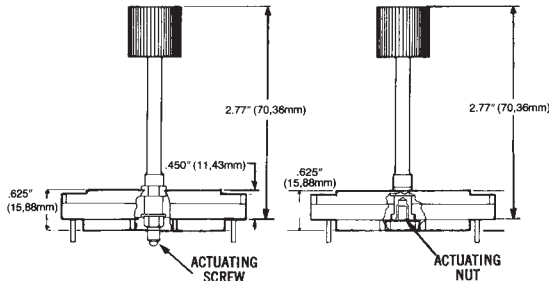
Series 8026 – 0.100" Rectangular Connector

117 CONTACTS Female Plug (Recessed Contacts)

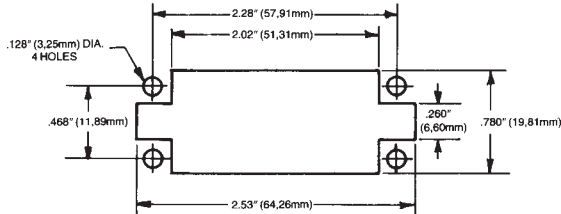
For variation code number

See Table 3
Page 27

See Table 4
Page 27



RECOMMENDED CHASSIS LAYOUT

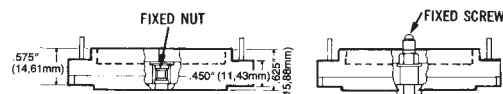
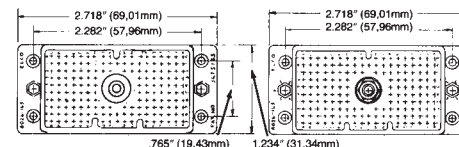
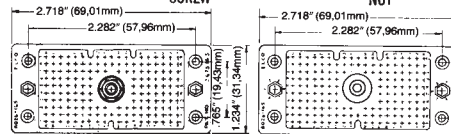
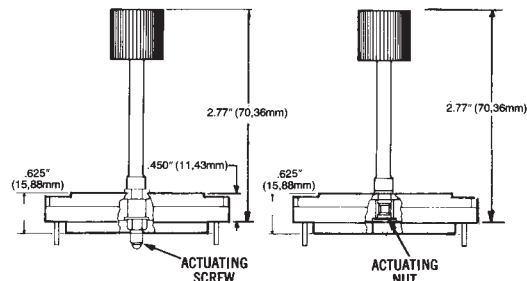


165 CONTACTS Female Plug (Recessed Contacts)

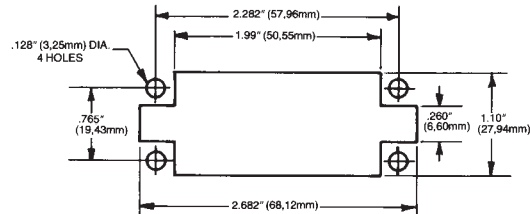
For variation code number

See Table 3
Page 27

See Table 4
Page 27



RECOMMENDED CHASSIS LAYOUT



POLARIZATION CODE

Polarizing pins, when desired, are factory set in position #1. Customer can reset as shown below, use tool No. 06 1989 02. To order factory settings other than position #1, fill out

the "Polarization Code" below and submit it along with the completed connector ordering code.

P

Insulator Body Type
P = Male, R = Female

LS

Left Side Pin

5

Left Side Pin Position
1 through 6

RS

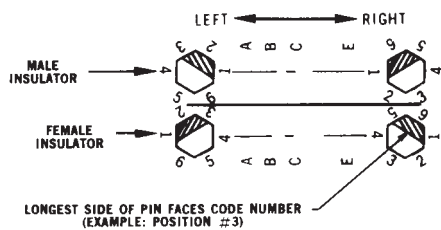
Right Side Pin

3

Right Side Pin Position
1 through 6

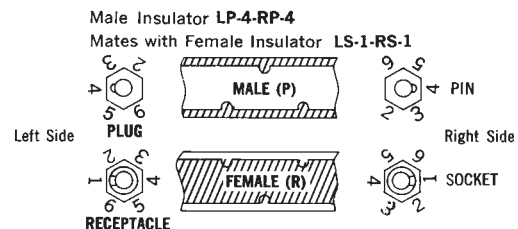
POLARIZATION / KEYING

EXAMPLE: P-LS-5-RS-3 Mates with R-LS-5-RS-3 as shown below



ALTERNATIVE KEYING

EXAMPLE (PIN & SOCKET)



NOTE: Same size of pin and socket keying hardware are used on all existing 8026 connectors (33, 75, 117, 165) – both sides

Series 8223 – 0.100" Dual Row Square Grid

FEATURES

- Wide range of contact terminations including wire wrapping, P.C. solder tail, wire hole, wire crimp
- For 1/16", 3/32" P.C. card
- Polarity and keying are built into the connector body to prevent mismatching
- Perpendicular or parallel connector mounting
- Proven Varicon® contact reliability
- Protected male; recessed female contacts



TECHNICAL SPECIFICATIONS

CONTACTS

Current Rating:
5 amperes with 22 AWG wire

Contact Resistance:
6 milliohms, maximum

Contact Material and Plating:
Phosphor Bronze
Nickel plate, 50 to 100 micro-inches, followed by gold plate.
10 microinches minimum

INSULATORS

Material:
Diallyl Phthalate, glass-filled, flame resistant, per MIL-M-14-F, Type SDGF
Insulation Resistance:
5,000 megohms, minimum

Dielectric Withstanding Voltage:
Sea Level: 1,000 Volts rms
Insertion/Withdrawal Force:
2 to 8 ounces per contact

ORDERING CODE

00

8223

024

000

001

Number of Contacts
024, 048, 072 & 096

Contact Code

Variation Code

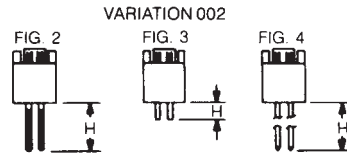
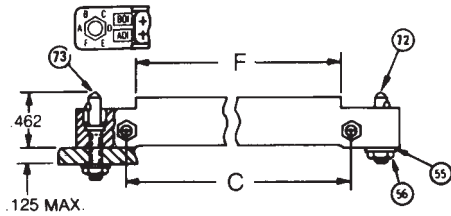
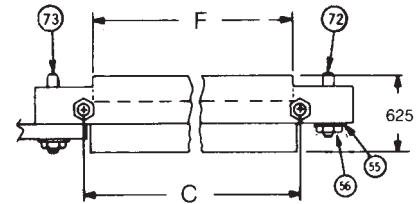
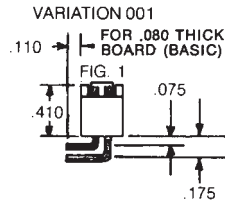
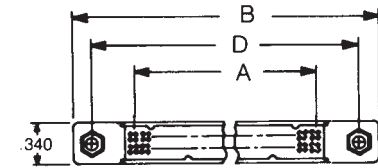
Use three digit code number when contacts are to be factory installed. If contacts are to be supplied loose, or contact tails to be formed, use three zeros (000) in contact code section. Note that the wire crimp tail contacts can only be ordered as separate items by part numbers.

Code	Profile	Description	Part No.	H Dim.	Board Thk.	Fig.
000		Coined Tail Formed 90° after installing (Max. 0236 Diag.)	60 8223 0223 60 8223 0213		.080 .062	1
000		Coined Tail Formed 90° after installing (Max. 0236 Diag.)	60 8223 0243 60 8223 0253		.093	1
473		P.C. Tail Coined (Max. 0236 Diag.)	60 8223 0233	.400		2
519		P.C. Tail Coined (Max. 0236 Diag.)	60 8223 0213	.279		2
520		P.C. Tail Coined (Max. 0236 Diag.)	60 8223 0223	.479		2
558		P.C. Tail Coined (Max. 0236 Diag.)	60 8223 0243	.309		2
559		P.C. Tail Coined (Max. 0236 Diag.)	60 8223 0253	.509		2
722		Wire Hole Tail (.032 x .050)	60 8200 1613	.162		3
721		P.C. Tail .020 Sq.	60 8200 1623	.228		4
736		P.C. Tail .020 Sq.	60 8200 1633	.259		4
737		P.C. Tail .020 Sq.	60 8200 1643	.541		4
753		P.C. Tail .020 Sq.	60 8200 1653	.103		4
771		P.C. Tail .020 Sq.	60 8200 1663	.462		4
000		Crimp Contact (Reel 3000) 22-30 AWG	60 8216 0323			5
000		Crimp Contact (Loose) 22-30 AWG	60 8216 0313			5
491		Wrappable/Removable Contact (.025 Sq.)	60 8216 0413	.560		6

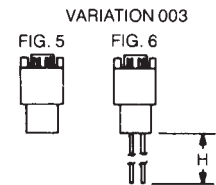
Insulator Type	Variation	Contact Style	Accessories					Refer To Figure	Board Thickness
			Cover	Bracket	Guide Pins Sockets (R)				
					Keying	Threaded Locking	Lkg. Kyg.		
Male (Exposed Contacts)	001	Formed Contact Terminal			X			1	.080 2.03 .062 1.57
	002	PC Terminal			X			2	
		Wire Hole Terminal			X			3	
		PC Straight Terminal			X			4	
	003	Crimp Contact			X			5	
Wrappable Removable				X			6		
Female (Exposed Contacts)	004	Formed Contact Terminal			X			1	.093 2.36 .080 2.03 .062 1.57
	901	Formed Contact Terminal			X			1	.080 2.03 .062 1.57
		PC Terminal			X			2	
		Wire Hole Terminal			X			3	
	902	PC Straight Terminal			X			4	
		Crimp Contact			X			5	
		Wrappable Removable			X			6	
	903	Formed Contact Terminal			X			1	.093 2.36
	904	Formed Contact Terminal			X			1	.093 2.36

Series 8223 – 0.100" Dual Row Square Grid

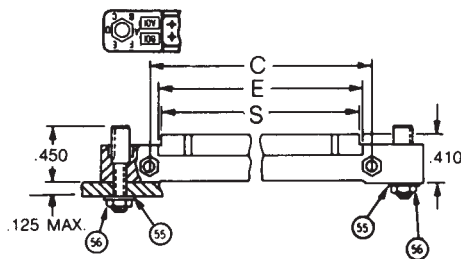
MALE INSULATORS



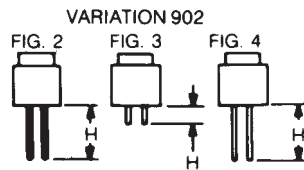
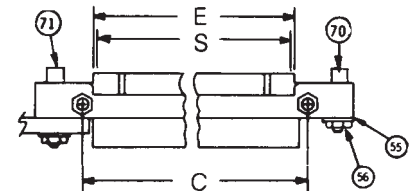
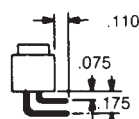
CRIMP TYPE



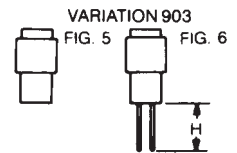
FEMALE INSULATORS



VARIATION 901 FIG. 1.

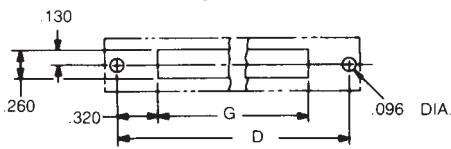


CRIMP TYPE

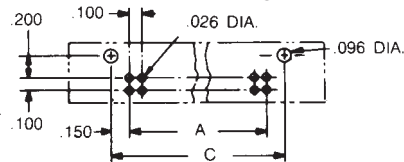


MOUNTING LAYOUT

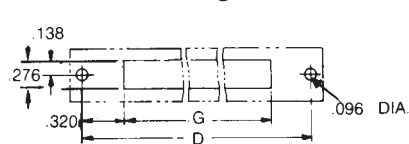
Panel for Figures 2, 3, & 4



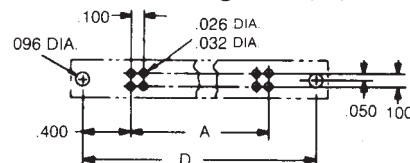
P.C. Board for Figure 1



Panel for Figures 5 & 6

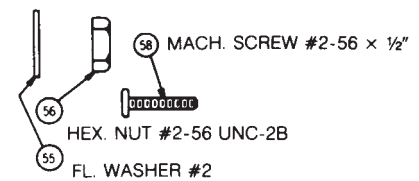


P.C. Board for Figures 2, 3, & 4



MOUNTING HARDWARE

(See drawings for correct assembly of hardware. Hardware shown is supplied with each board mounted connector.)



KEY TO DIAGRAMS

No. of Contacts	A	B	C	D	E	F	G	H	S
24	1.1	2.2	1.4	1.9	1.27	1.252	1.26	Pg. 26	1.236
48	2.3	3.4	2.6	3.1	2.47	2.452	2.46	Pg. 26	2.436
72	3.5	4.6	3.8	4.3	3.67	3.652	3.66	Pg. 26	3.636
96	4.7	5.8	5.0	5.5	4.87	4.852	4.86	Pg. 26	4.836

Item	Size	Part # Unified Thread
55	#2	90-0502-0031-11-053
56	#2-5	90-0602-0121-11-053
58	#2-5	90-0902-0136-11-053

Item	Size	Part #
70	#2-5	60-8223-4562-11-062
71	#2-5	60-8223-4522-11-062
72	#2-5	60-8223-4662-11-062
73	#2-5	60-8223-4662-11-062

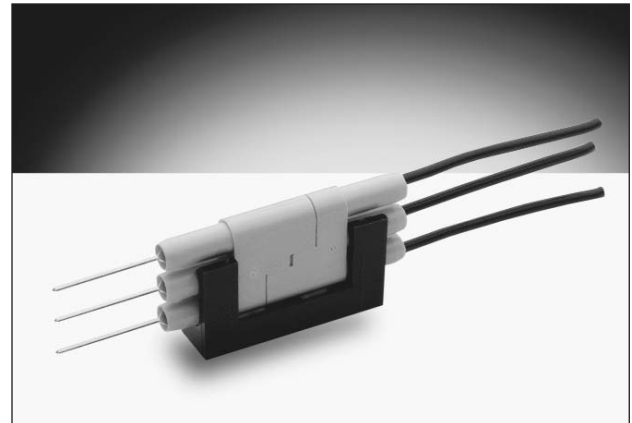
Series 8020 – Cable Connector

APPLICATION

In line connection of 2 or 3 wire of 18-26 AWG, insulation ϕ 1.03 mm to 1.88 mm.

FEATURES AND BENEFITS

- 2 and 3 position in single row
- Uses identical molding for plug and socket
- Uses identical contact for plug and socket
- Uses standard Varicon 8016 contacts
- Uses standard Varicon Crimping Tools, Contact Extraction Tools and Insertion Tools
- Has combined nylon mounting and locking clip common to both sizes
- Contacts for both solder and crimp termination



TECHNICAL SPECIFICATIONS

Contact:

Single row of 2 or 3 Varilok contacts

Contact Rating:

8.5 amperes

Insulation Resistance:

5,000 megohms (min)

Configuration:

On a 0.200 inch pitch, 5.08 mm

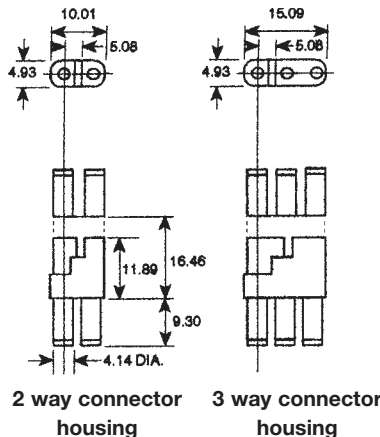
Contact Resistance:

6 milliohms (max)

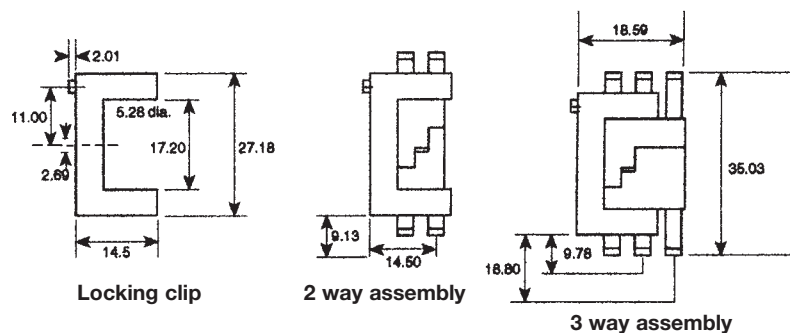
Voltage Proof:

2,500 volts R.M.S. Sea Level

CONNECTOR DIMENSIONS (mm)



LOCKING CLIP DIMENSIONS (mm)



ORDERING CODE

FOR COMPLETE CONNECTORS WITH NON-CRIMP CONTACTS FITTED

00	8020	002	217	001
Prefix	Series Number	Number of Contacts	*Contact Termination	Variation Code
		002 = Two way 003 = Three way	217 = Solder Tag 218 = Wire Wrap (0.61 x 1.27 x 14.4mm) 296 = Mini Wire Wrap (0.61 x 0.66 x 4.73mm) 504 = Solder Tail (0.61 x 0.66 x 4.32mm)	

*Contact terminations should be insulated because they may protrude from the insulator.

NB: See page 23 for details of contacts.

ORDERING CODE FOR HOUSINGS AND CRIMP CONTACTS

Description	Part Number	Description	Part Number
2 way connector: Housing only	60-8020-3117-00-000	0.25 μ M Gold reeled crimp contacts (gold all over)	60-8017-0323-99-339
3 way connector: Housing only	60-8020-3317-00-000	0.25 μ M Gold reeled crimp contacts (selective)	60-8017-0323-99-042
0.25 μ M Gold loose crimp contacts (gold all over)	60-8017-0313-00-339	NB: See page 23 for details of crimp contacts	
0.25 μ M Gold loose crimp contacts (selective)	60-8017-0313-00-042	Locking clip	60-8020-3210-00-000

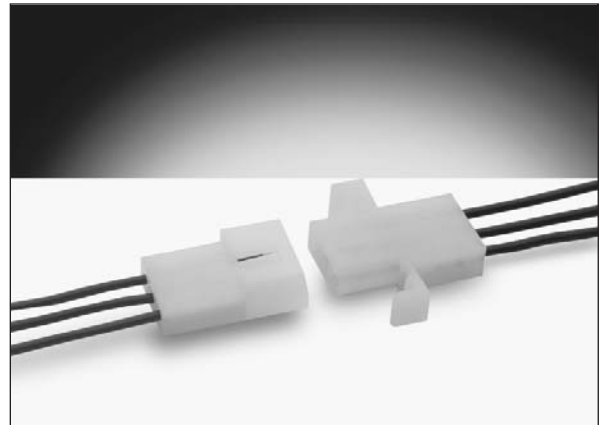
Series 8022 – Cable Connector

APPLICATION

In line connection of 3 wires of 18-26 AWG, insulation \varnothing 1.03 mm to 1.88 mm.

FEATURES

- 3 position in single row
- Male insulator incorporates two positive locking arms for up to 1.6 mm thick panel mount
- Uses identical contact for plug and socket
- Uses standard Varicon 8016 contacts (8017 Series)
- Uses standard Varicon Crimping Tools, Contact Extraction Tools and Insertion Tools
- Has mounting and locking clip mechanism
- Contacts for both solder and crimp termination



TECHNICAL SPECIFICATIONS

Contact Spacing:
5.08 mm

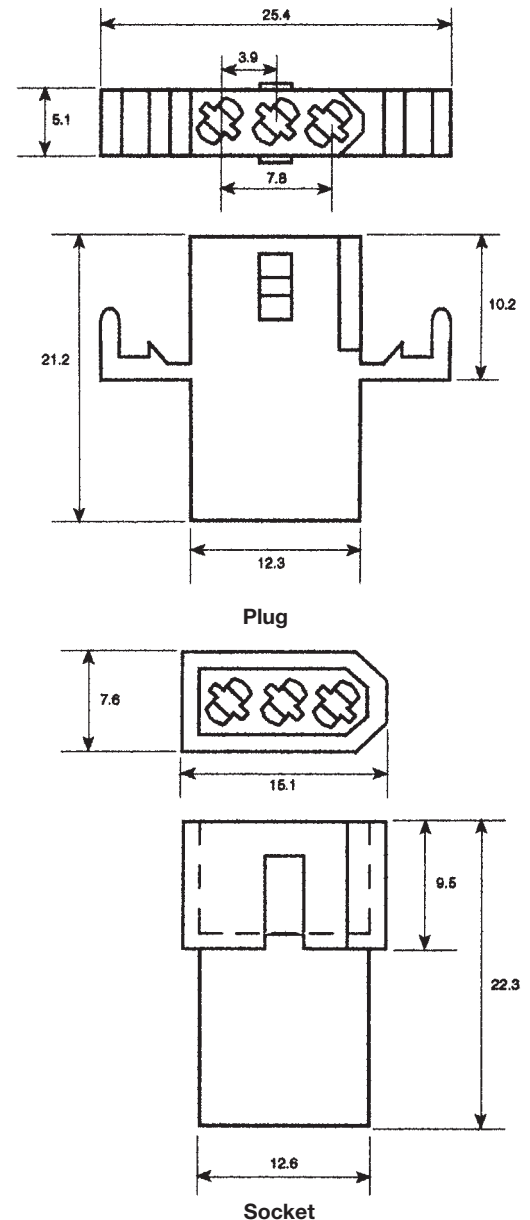
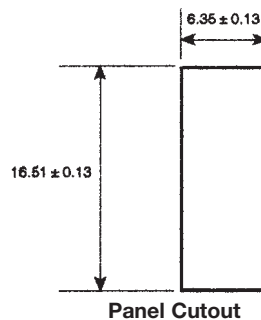
Contact Rating:
8.5 amperes

Contact Resistance:
6 milliohms (max)

Insulation Resistance:
5K megohms

Voltage Proof:
2.5K volts R.M.S. Sea Level

Operating Temperature:
-55°C to 125°C



PART NUMBERS

Plug Molding:	60 8022 3218 00 000	} See page 23 for details of crimp contacts
Socket Molding:	60 8022 3318 00 000	
Crimp Contacts (loose):	60 8017 0313 00 339	
Crimp Contacts (reel):	60 8017 0323 00 339	

Series 8218 – 0.050" Staggered Dual Row

FEATURES

- High contact density
- For parallel or perpendicular p.c. card mounting
- High mounting density (.050" centers, minimum)
- Nylon end sections for mounting and card guidance
- Mounting hardware supplied with connector
- Mates with 8219 Series



TECHNICAL SPECIFICATIONS

Current Rating:

5 amperes, maximum

Contact Resistance:

0.005 ohm, maximum

Contact Material and Plating:

Phosphor Bronze
nickel plate, 30 to 50 microinches followed by
gold plate, 10 to 20 microinches

Insulator Material:

Diallyl phthalate, glass-filled, flame resistant,
end guides: nylon

Insulation Resistance:

5,000 megohms, minimum

Dielectric Withstanding Voltage:

Sea Level: 1000 Volts rms
3.4" Hg: 500 Volts rms

Insertion/Withdrawal Force:

2 to 16 ounces per contact

ORDERING CODE

00

8218

100

000

004

Number of Contacts

002 to 076 for connectors
without center guide

Contact Code

Variation Code

001 = Receptacle
002 = Plug-Card
005 = Plug-Board


with keying pins

011 = Receptacle
012 = Plug-Card/pin
inserted in
odd position
013 = Plug-Card/pin
inserted in even
position
017 = Plug-Board

with keying holes

021 = Receptacle
022 = Plug-Card/pin
inserted in
odd position
023 = Plug-Card/pin
inserted in even
position
027 = Plug-Board


Variant 002 right angled contacts


000 = 60 8200 16 33 
P.C. Tail

000 = 60 8200 16 63 
P.C. Tail

Variants 001 and 005

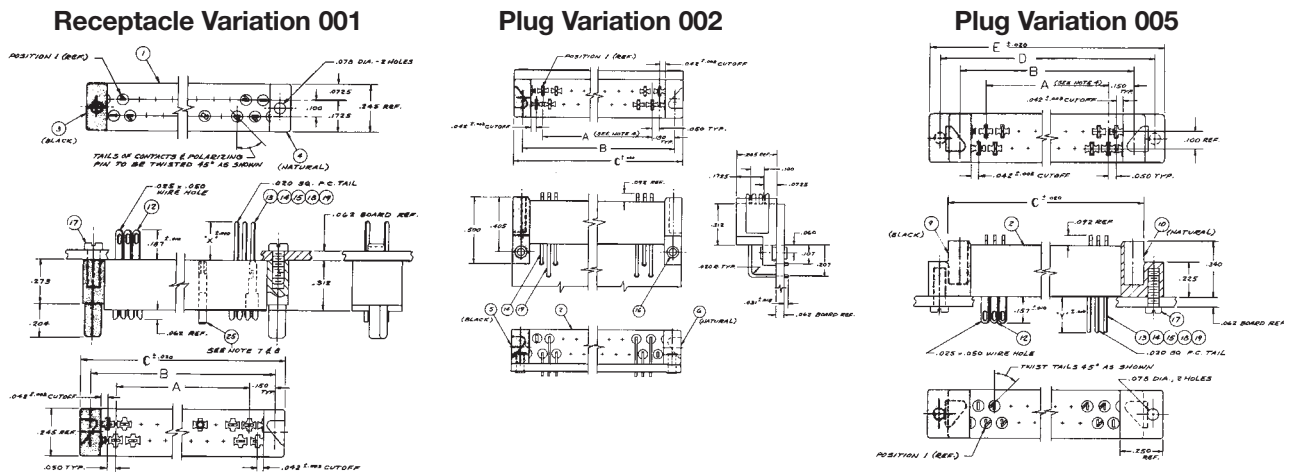
722 = 60 8200 16 13 
Wire Hole Tail

736 = 60 8200 16 33 
P.C. Tail (X = 9/32", Y = 1/4")

753 = 60 8200 16 53 
P.C. Tail (X = 1/8", Y = 3/32")

771 = 60 8200 16 63 
P.C. Tail (X = 31/64", Y = 29/64")

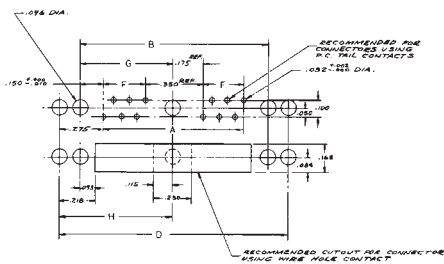
Series 8218 – 0.050" Staggered Dual Row



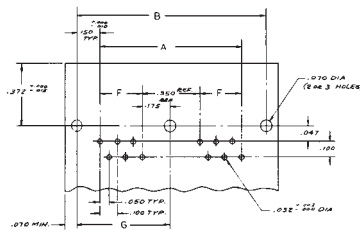
RECEPTACLE 001 – MATES WITH PLUGS 002 AND 005

MOUNTING LAYOUT

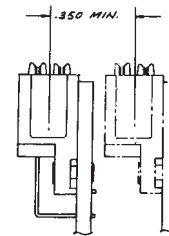
Variation 001 and 005



Variation 002



Minimum Center to Center Spacing for Adjustment Plugs



DIMENSIONS

(inches)

A	B	C	D	E
(No. of contacts x 0.050") - 0.050"	"A" dimension + 0.300"	"A" dimension + 0.440"	"A" dimension + 0.550"	"A" dimension + 0.690"

POLARIZATION

Keying Ordering No.
60-8218-4715-00-148

PLUG OR RECEPTACLE



Determine polarization pin location from views.

P = Specify location by contact # where polarizing pin must be inserted.

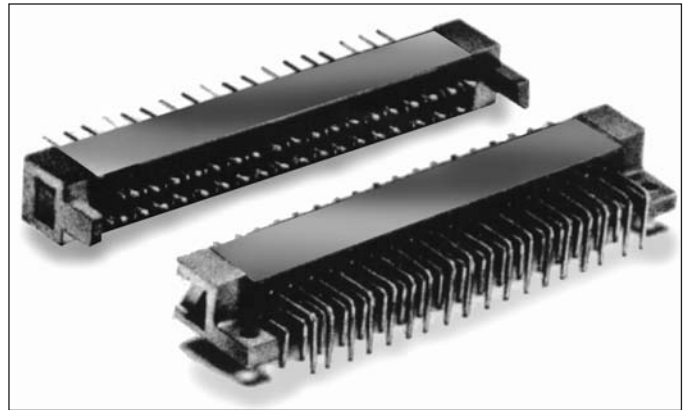
H = Specify location by contact # where contact must be omitted for mating.

Typical Example: 00-8218-024-721-001-P-17 (polarizing pin mtd. in position 17)
00-8218-024-721-005-H-17 (polarizing hole is in position 17)

Series 8219 – 0.050" Staggered Dual Row

FEATURES

- For p.c. card-to-card applications
- High contact density
- Low withdrawal force contacts
- Rugged, color coded end guides
- Parallel or perpendicular p.c. board mounting
- Mates with Series 8218



TECHNICAL SPECIFICATIONS

Current Rating:

5 amperes, maximum

Contact Resistance:

6 milliohms, maximum

Contact Material and Plating:

Phosphor Bronze

Gold, 10 microinches minimum,
over nickel, 50 to 100 microinches

Insulator Material:

Diallyl phthalate, glass-filled, flame resistant per MIL-M-14F, Type SDGF.

Guidance Hardware:

Left hand guides: Metal, gold color
Right hand guides: Metal, silver color

Insulation Resistance:

5,000 megohms, minimum

Dielectric Withstanding Voltage:

Sea Level: 1000 Volts rms
3.4" Hg: 500 Volts rms

Insertion/Withdrawal Force:

2 to 8 ounces per contact

ORDERING CODE

00

8219

042

722

001

Number of Contacts
018, 030, 036, 042, 054, 072

Contact Code
(see below)

Variation Code

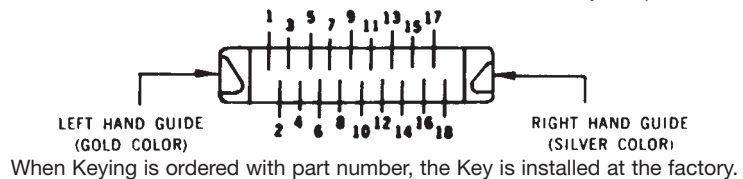
For Variation = 001			For Variation = 002																						
Code No.	Contact Type	"X" Dim.	Code No.	Contact Type																					
722	Wire hole tail	.187	000	P. C. solder tails formed																					
721	P. C. solder tail	.250	722	Wire hole tail unformed																					
736	P. C. solder tail	.281	For Variation = 005 <table border="1"> <thead> <tr> <th>Code No.</th> <th>Contact Type</th> <th>"Y" Dim.</th> </tr> </thead> <tbody> <tr> <td>722</td> <td>Wire hole tail</td> <td>.157</td> </tr> <tr> <td>721</td> <td>P. C. solder tail</td> <td>.219</td> </tr> <tr> <td>736</td> <td>P. C. solder tail</td> <td>.250</td> </tr> <tr> <td>737</td> <td>P. C. solder tail</td> <td>.531</td> </tr> <tr> <td>753</td> <td>P. C. solder tail</td> <td>.093</td> </tr> <tr> <td>771</td> <td>P. C. solder tail</td> <td>.453</td> </tr> </tbody> </table>		Code No.	Contact Type	"Y" Dim.	722	Wire hole tail	.157	721	P. C. solder tail	.219	736	P. C. solder tail	.250	737	P. C. solder tail	.531	753	P. C. solder tail	.093	771	P. C. solder tail	.453
Code No.	Contact Type	"Y" Dim.																							
722	Wire hole tail	.157																							
721	P. C. solder tail	.219																							
736	P. C. solder tail	.250																							
737	P. C. solder tail	.531																							
753	P. C. solder tail	.093																							
771	P. C. solder tail	.453																							
737	P. C. solder tail	.562																							
753	P. C. solder tail	.125																							
771	P. C. solder tail	.484																							

Without Keying	
001	Receptacle
002	Plug, parallel board mounting
005	Plug, perpendicular board mounting

NOTE: Connector is supplied with mounting screws or eyelets, as applicable (see drawings).

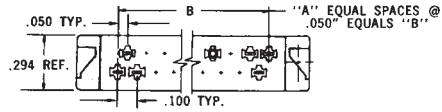
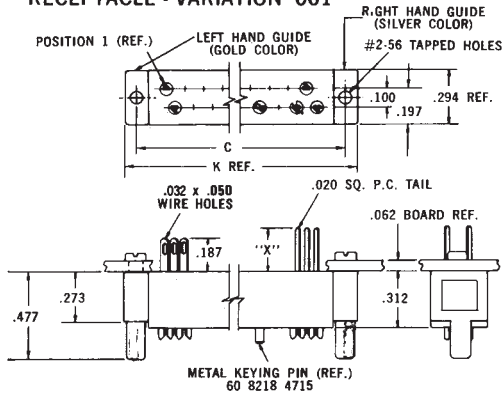
Contact Factory for Special Variations.

POLARIZING SYSTEM



Series 8219 – 0.050" Staggered Dual Row

RECEPTACLE - VARIATION 001



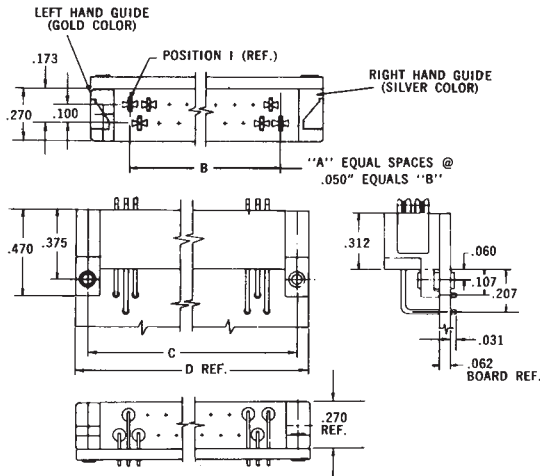
DIMENSIONS:

millimeters (inches)

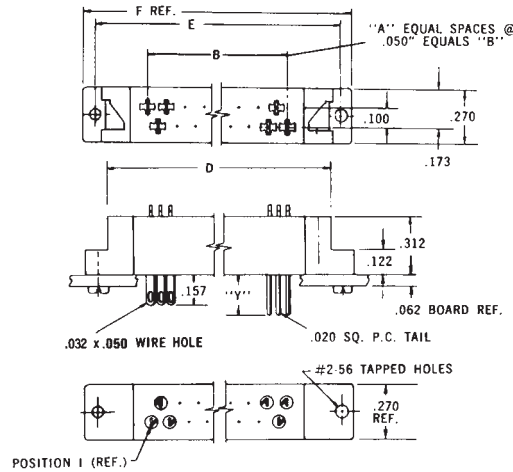
Number of Contacts	A	B	C	Ref. D	E	F	G	Ref. K
18	17	.850 (0.033)	1.150 (0.045)	1.290 (0.051)	1.400 (0.055)	1.540 (0.061)	.964 (0.038)	1.300 (0.051)
30	29	1.450 (0.057)	1.750 (0.069)	1.890 (0.075)	2.000 (0.079)	2.140 (0.084)	1.564 (0.061)	1.900 (0.075)
36	35	1.750 (0.069)	2.050 (0.080)	2.190 (0.086)	2.300 (0.091)	2.440 (0.096)	1.864 (0.073)	2.220 (0.087)
42	41	2.050 (0.080)	2.350 (0.093)	2.490 (0.098)	2.600 (0.102)	2.740 (0.108)	2.164 (0.085)	2.500 (0.098)
54	53	2.650 (0.104)	2.950 (0.116)	3.090 (0.122)	3.200 (0.126)	3.340 (0.131)	2.764 (0.109)	3.100 (0.122)
72	71	3.550 (0.140)	3.850 (0.152)	3.990 (0.157)	4.100 (0.161)	4.240 (0.167)	3.664 (0.144)	4.000 (0.157)

RECEPTACLE 001 MATES WITH PLUGS 002 AND 005

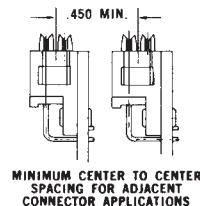
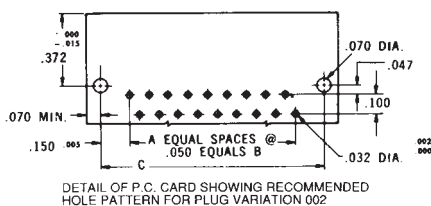
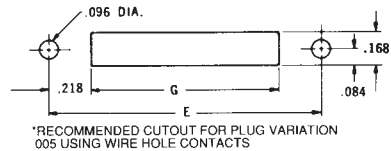
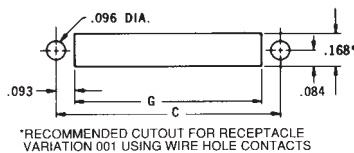
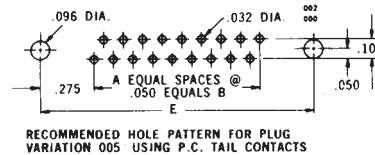
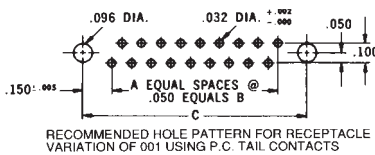
PLUG - VARIATION 002



PLUG - VARIATION 005



MOUNTING LAYOUTS

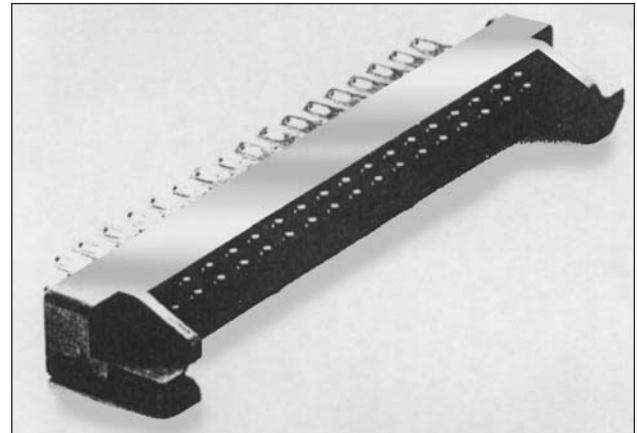


*When used in metal panel with Code Contact 722 cut out diam. Is .210".

Series 7008 – 0.100" Staggered Dual Row

FEATURES

- Available with or without card guides
- Many sizes
- Wide range of contact terminations
- For 1/16" thick PCB
- Polarization insert
- Mates with Series 7000 and 7022 Plugs



TECHNICAL SPECIFICATIONS

Current Rating:
10 amperes

Contact Resistance:
6 milliohms, maximum

Contact Material and Plating:
Phosphor Bronze per QQ-B-750,
Composition A.

Gold, 10 microinches minimum,
over nickel, 30 to 100 microinches

Insulator Material:
Diallyl phthalate, glass-filled,
flame resistant, per MIL-M-14F,
Type SDGF.

Insulation Resistance:
25,000 megohms, minimum

Dielectric Withstanding Voltage:
Sea Level: 2000 Volts rms
3.4" Hg: 675 Volts rms

Insertion/Withdrawal Force:
2 to 16 ounces per contact

ORDERING CODE

00

7008

017

146

001

Number of Contacts
017, 023, 029, 035, 041

Contact Code
See table.

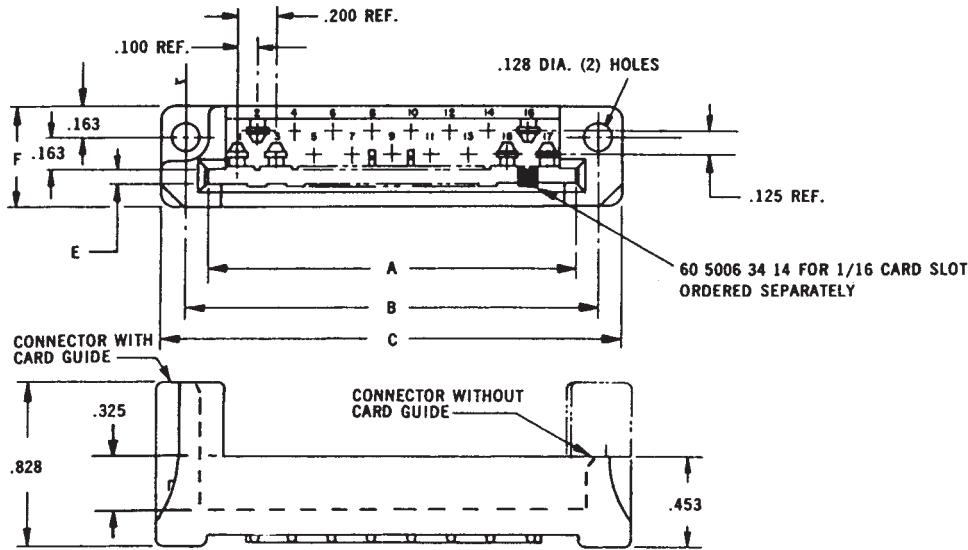
Variation Code

141 = 60 7001 06 33 P.C. Termination for 1/8" Card	
146 = 60 7001 13 13 .078" Base Taper Tab	
156 = 60 7001 18 13 Wire wrapping (.026 x .062 x .600")	
163 = 60 7001 19 13 .098" Base Taper Tab w/Wire Hole	
165 = 60 7001 20 13 Forked Tail Solder Termination for Bus Line Connection (.056 x .125" Slot)	
166 = 60 7001 20 23 Dual Solder Termination for 2 Wires or Bus Line (.056 x .125" Slot)	
189 = 60 7004 02 13 Conventional Solder Termination for 3 Wires	

Card Slot	Card Guides	Code
1/16"	Yes	001
	No	002

Connector Description	Availability				
	17	23	29	35	41
With Guides – for 1/16" Card	X	X	X	X	X
Without Guides – for 1/16" Card	X	X	X	X	X

Series 7008 – 0.100" Staggered Dual Row



DIMENSIONS:

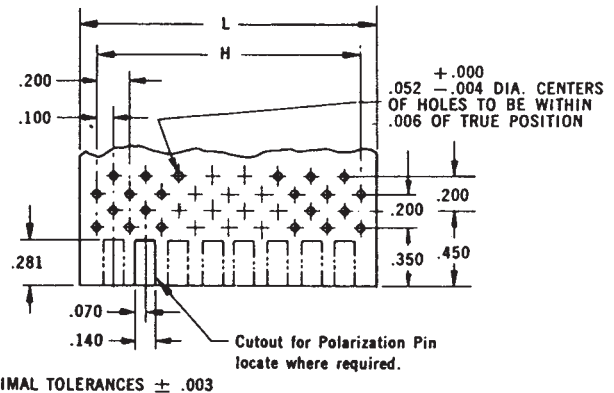
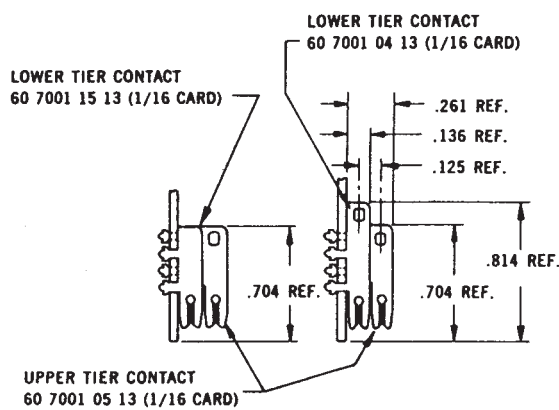
millimeters (inches)

Number of Contacts	A Bottom	B	C	D	E 1/16" Card	F	G*		H ±.003	L +.010 -.000	N*	
							Con.	N-Con.			Con.	N-Con.
17	1.920 (0.076)	2.134 (0.084)	2.40 (0.094)	1.835 (0.072)	.074 (0.003)	.531 (0.021)	.468 (0.018)	.343 (0.014)	1.600 (0.063)	1.900 (0.075)	.210 (0.008)	.148 (0.006)
23	2.520 (0.099)	2.734 (0.108)	3.00 (0.118)	2.435 (0.096)	.074 (0.003)	.531 (0.021)	.468 (0.018)	.343 (0.014)	2.200 (0.087)	2.500 (0.098)	.210 (0.008)	.148 (0.006)
29	3.120 (0.123)	3.334 (0.131)	3.60 (0.142)	3.035 (0.119)	.074 (0.003)	.531 (0.021)	.468 (0.018)	.343 (0.014)	2.800 (0.110)	3.100 (0.122)	.210 (0.008)	.148 (0.006)
35	3.270 (0.129)	3.934 (0.134)	4.20 (0.165)	3.635 (0.143)	.074 (0.003)	.531 (0.021)	.468 (0.018)	.343 (0.014)	3.400 (0.134)	3.700 (0.146)	.210 (0.008)	.148 (0.006)
41	4.320 (0.170)	4.534 (0.179)	4.80 (0.190)	4.235 (0.167)	.074 (0.003)	.531 (0.021)	.468 (0.018)	.343 (0.014)	4.000 (0.157)	4.300 (0.169)	.210 (0.008)	.148 (0.006)

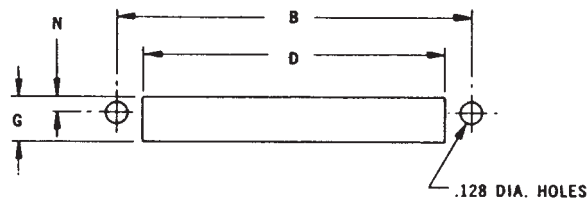
*N-CON = Non-Conductive Chassis
(1/16" Clearance Around Contacts)

CON = Conductive Chassis
(1/8" Clearance Around Contacts)

P.C. CARD LAYOUT



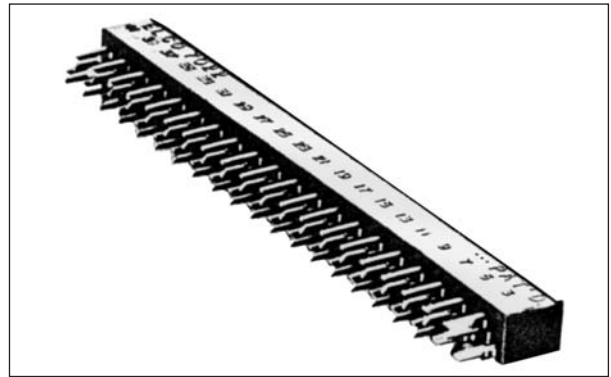
CHASSIS MOUNTING



Series 7022 – 0.100" Staggered Dual Row

FEATURES

- Insulator rigidity reduces p.c. card warp
- Insulator maintains exact spacing between contacts
- Reduces cost of card punching operation (fewer holes)
- Reduces cost of contact staking operation (one operation instead of two)
- Reduces assembly time (no plastic strip to remove)
- For 1/16" or 3/32" p.c. card
- Mates with Series 7000 Receptacles with or without card guides



TECHNICAL SPECIFICATIONS

Current Rating:

10 amperes

Contact Resistance:

6 milliohms, maximum

Contact Material and Plating:

Phosphor Bronze per QQ-B-750, Composition A.

Gold, 10 microinches minimum, over nickel, 30 to 100 microinches

Insulator Material:

Diallyl phthalate, glass-filled, per MIL-M-14F, Type SDGF.

Variation 001/002

Thermoplastic Polycarbonate

Variation 003

Insulation Resistance:

25,000 megohms, minimum

Dielectric Withstanding Voltage:

Sea Level: 2000 Volts rms

3.4" Hg: 675 Volts rms

Insertion/Withdrawal Force:

2 to 16 ounces per contact

ORDERING CODE

00

7022

023

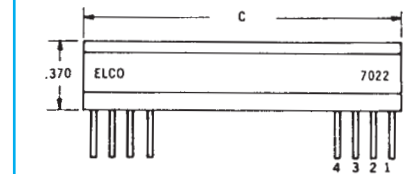
Number of Contacts
017, 023, 029, 035, 041
For Series 7008 receptacle

000

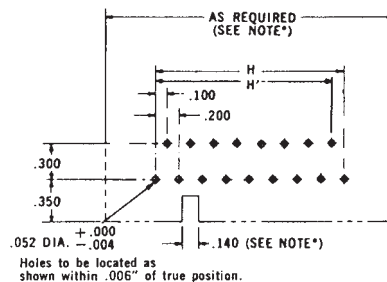
001

Variation Code

001 = 1/16" Module Card Thickness
002 = 3/32" Module Card Thickness
003 = 1/16" Module Card Thickness



MOUNTING LAYOUT

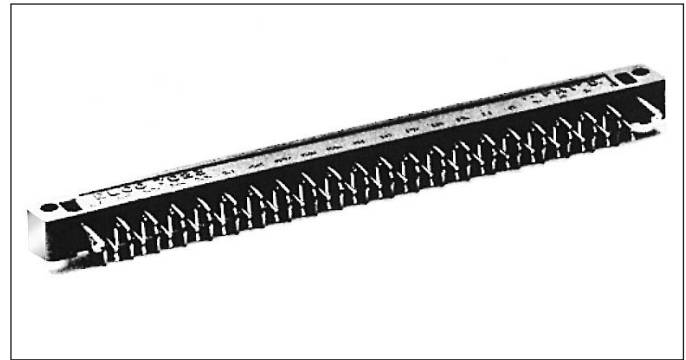


60 7001 2913 for 1/16" Card | 60 7001 2813 for 1/16" Card
60 7001 2923 for 3/32" Card | 60 7001 2823 for 3/32" Card

Series 7023 – 0.100" Staggered Dual Row

FEATURES

- Guide pins facilitate mating, ensure correct alignment
- Insulator rigidity reduces p.c. card warp
- Insulator maintains exact spacing between contacts
- Reduces cost of card punching operation (fewer holes)
- Reduces cost of contact staking operation (one operation instead of two)
- Reduces assembly time (no plastic strip to remove)
- For 1/16" or 3/32" p.c. card
- Mates with Series 7024 and 7038 Receptacles



TECHNICAL SPECIFICATIONS

Current Rating:

10 amperes

Contact Resistance:

6 milliohms, maximum

Contact Material and Plating:

Phosphor Bronze per QQ-B-750, Composition A.

Gold, 10 microinches minimum, over nickel, 30 to 100 microinches

Insulator Material:

Diallyl phthalate, glass-filled, flame resistant per MIL-M-14F, Type SDGF.

Variation 001/002/110/111

Thermoplastic Polycarbonate

Variation 003

Insulation Resistance:

25,000 megohms, minimum

Dielectric Withstanding Voltage:

Sea Level: 1800 Volts rms

3.4" Hg: 675 Volts rms

Insertion/Withdrawal Force:

2 to 16 ounces per contact

ORDERING CODE

00

7023

023

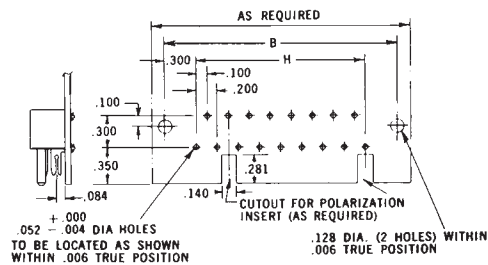
000

001

Number of Contacts

017, 023, 029, 035, 041, 047

MOUNTING LAYOUT



Diallyl Phthalate Glass Filled

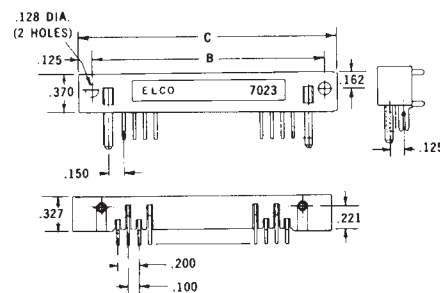
1/16" Card	3/32" Card	1/16" Card
001	002	003
110	111	

Contacts used in this connector:

Card	Upper Card Contacts	Lower Card Contacts
1/16"	60 7001 29 13	60 7001 28 13
3/32"	60 7001 29 23	60 7001 28 23

DIMENSIONS: millimeters (inches)

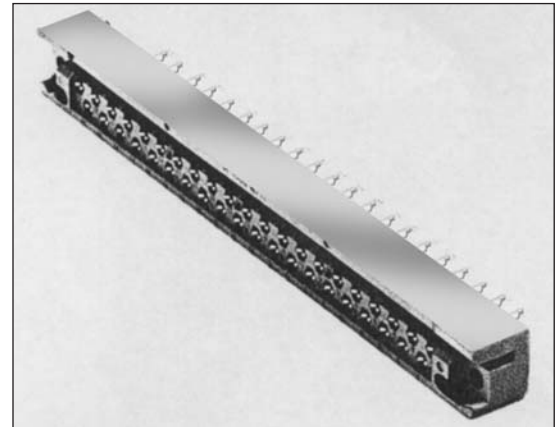
Number of Contacts	B	C Max.	H
17	2.200 (0.087)	2.470 (0.097)	1.600 (0.063)
23	2.800 (0.110)	3.070 (0.121)	2.200 (0.087)
29	3.400 (0.134)	3.670 (0.144)	2.800 (0.110)
35	4.000 (0.157)	4.270 (0.168)	3.400 (0.134)
41	4.600 (0.181)	4.870 (0.192)	4.000 (0.157)
47	5.200 (0.205)	5.470 (0.215)	4.600 (0.181)



Series 7024 – 0.100" Staggered Dual Row

FEATURES

- Guide sockets facilitate mating, ensure correct alignment
- Open-ended card slot; use with p.c. card of any width
- Wide range of contact terminations
- Many sizes available
- For 1/16" or 3/32" p.c. card
- Mates with Series 7023 Plug



TECHNICAL SPECIFICATIONS

Current Rating:
10 amperes

Contact Resistance:
6 milliohms, maximum

Contact Material and Plating:
Phosphor Bronze per QQ-B-750, Composition A.

Gold, 10 microinches minimum, over nickel, 30 to 100 microinches

Insulator Material:
Diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, Type SDGF.

Insulation Resistance:
25,000 megohms, minimum

Dielectric Withstanding Voltage:
Sea Level: 1800 Volts rms
3.4" Hg: 675 Volts rms

Insertion/Withdrawal Force:
2 to 16 ounces per contact

ORDERING CODE

00

7024

023

Number of Contacts
017, 023, 029, 035, 041

163

Contact Code
See table.

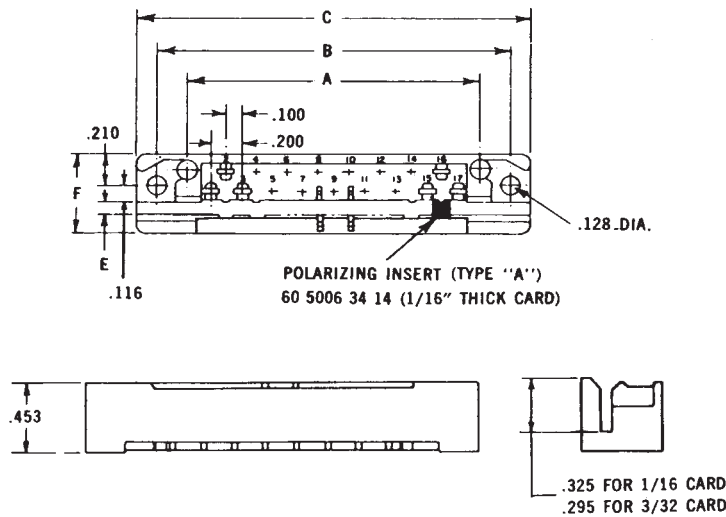
001

Variation Code
001 = 1/16" Thick Card
002 = 3/32" Thick Card
110 = 1/16" Thick Card
111 = 3/32" Thick Card

141 = 60 7001 06 33 P.C. Termination for 1/8" Card	
146 = 60 7001 13 13 .078" Base Taper Tab	
156 = 60 7001 18 13 Wire wrapping (.026 x .062 x .600")	
163 = 60 7001 19 13 .098" Base Taper Tab w/Wire Hole	
165 = 60 7001 20 13 Forked Tail Solder Termination for Bus Line Connection (.056 x .125" Slot)	
166 = 60 7001 20 23 Dual Solder Termination for 2 Wires or Bus Line (.056 x .125" Slot)	
189 = 60 7004 02 13 Conventional Solder Termination for 3 Wires	

Connector Description	Availability				
	No. of Contacts				
	17	23	29	35	41
For 1/16" Card	X	X	X	X	X
For 3/32" Card	X	X	X	X	X

Series 7024 – 0.100" Staggered Dual Row



DIMENSIONS:

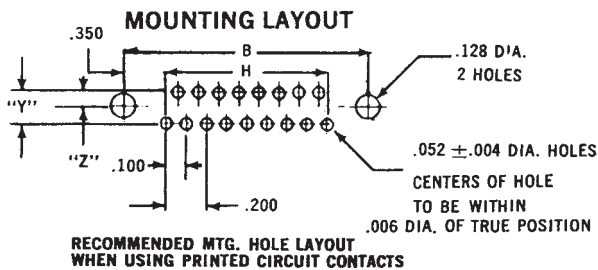
millimeters (inches)

Number of Contacts	A	B	C Max.	D	E $\pm .003$ $\pm .002$		F	G††		H	N††	
					1/16" Card	3/32" Card		Con.	N-Con.		Con.	N-Con.
17	1.900 (0.075)	2.300 (0.091)	2.570 (0.101)	1.185 (0.072)	.074 (0.003)	.105 (0.004)	17/32"	.468 (0.018)	.343 (0.014)	1.600 (0.063)	.208 (0.008)	.146 (0.006)
23	2.500 (0.098)	2.900 (0.114)	3.170 (0.125)	2.435 (0.096)	.074 (0.003)	.105 (0.004)	17/32"	.468 (0.018)	.343 (0.014)	2.200 (0.087)	.208 (0.008)	.146 (0.006)
29	3.100 (0.122)	3.500 (0.138)	3.770 (0.148)	3.035 (0.119)	.074 (0.003)	.105 (0.004)	17/32"	.468 (0.018)	.343 (0.014)	2.800 (0.110)	.208 (0.008)	.146 (0.006)
35	3.700 (0.146)	4.100 (0.161)	4.370 (0.172)	3.635 (0.143)	.074 (0.003)	.105 (0.004)	17/32"	.468 (0.018)	.343 (0.014)	3.400 (0.134)	.208 (0.008)	.146 (0.006)
41	4.300 (0.169)	4.700 (0.185)	4.970 (0.196)	4.235 (0.167)	.074 (0.003)	.105 (0.004)	17/32"	.468 (0.018)	.343 (0.014)	4.000 (0.157)	.208 (0.008)	.146 (0.006)

†† N-CON = Non-Conductive Chassis
(1/16" Clearance Around Contacts)

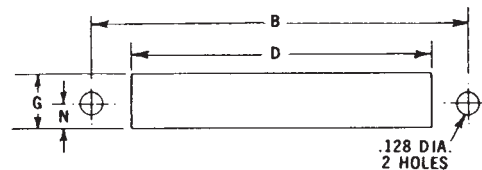
CON = Conductive Chassis
(1/8" Clearance Around Contacts)

MOUNTING LAYOUT



STANDARD CENTERS WHEN "Y" = .125; "Z" = .088

SPECIAL CENTERS WHEN "Y" = .150; "Z" = .100



Varicon®

Series 7038 – 0.100"

Staggered Dual Row, Crimp Contacts



FEATURES

- Varilok® contacts are insertable and removable by user
- Crimp, solderless wrap, tapered tab, and wire hole terminations available
- All crimping, insertion, and extraction equipment available
- Guide sockets facilitate mating, ensure correct alignment
- Open-ended card slot; no p.c. card notching necessary
- Mates with Series 7023 Plug



TECHNICAL SPECIFICATIONS

Current Rating:

8 amperes

Contact Resistance:

6 milliohms, maximum

Contact Material and Plating:

Phosphor Bronze

Gold, 10 microinches minimum, over nickel, 50 to 100 microinches

Insulator Material:

Diallyl phthalate, glass-filled, flame resistant, per MIL-M-14F, Type SDGF.

Insulation Resistance:

5,000 megohms, minimum

Dielectric Withstanding Voltage:

Sea Level: 1800 Volts rms

3.4" Hg: 675 Volts rms

Insertion/Withdrawal Force:

2 to 16 ounces per contact

ORDERING CODE

00

7038

023

000

001

Number of Contacts

017, 023, 029,
035, 041, 047

Contact Code

See table.

Variation Code

001 = 1/16" Thick Card
002 = 3/32" Thick Card
110 = 1/16" Thick Card
111 = 3/32" Thick Card

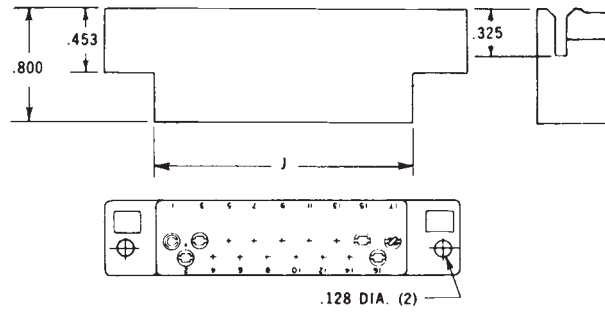
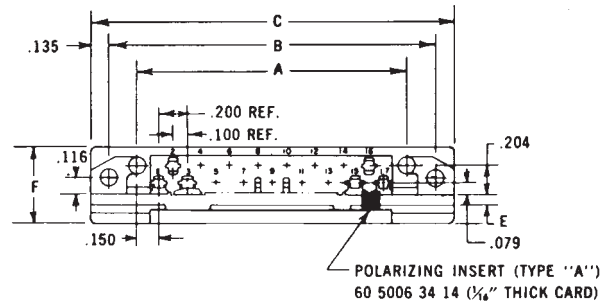
217 = 60 8017 05 13	
Wire Hole	
218 = 60 8017 06 13	
Solderless Wrap Tail – .025" x .050" x .567"	
750 = 60 8017 06 23	
Solderless Wrap Tail – .025" x .050" x .760"	
296 = 60 8017 06 33	
Solderless Wrap Tail – .025" x .025" x .580"	
504 = 60 8017 06 63	
Solderless Wrap Tail – .025" x .025" x .170"	
*000 = 60 8017 03 13	
Wire Crimp Tail (Contacts Loose) 18-26 AWG	
*000 = 60 8017 03 23	
Wire Crimp Tail (Contacts on a Reel) 18-26 AWG	

*Order separately by part number, refer to page 23

Varicon®

Series 7038 – 0.100"

Staggered Dual Row, Crimp Contacts

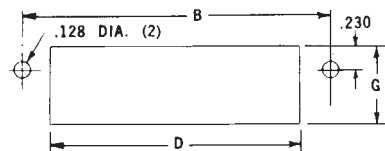


DIMENSIONS:

millimeters (inches)

Number of Contacts	A	B	C Max.	D	E		F	G	J
					1/16" Card	3/32" Card			
17	1.900 (0.075)	2.300 (0.091)	2.570 (0.101)	1.890 (0.075)	.074 (0.003)	.105 (0.004)	17/32"	.571 (0.022)	1.850 (0.073)
23	2.500 (0.099)	2.900 (0.114)	3.170 (0.125)	2.490 (0.098)	.074 (0.003)	.105 (0.004)	17/32"	.571 (0.022)	2.450 (0.096)
29	3.100 (0.122)	3.500 (0.138)	3.770 (0.148)	3.090 (0.121)	.074 (0.003)	.105 (0.004)	17/32"	.571 (0.022)	3.050 (0.120)
35	3.700 (0.146)	4.100 (0.161)	4.370 (0.172)	3.690 (0.145)	.074 (0.003)	.105 (0.004)	17/32"	.571 (0.022)	3.650 (0.144)
41	4.300 (0.169)	4.700 (0.185)	4.970 (0.196)	4.290 (0.169)	.074 (0.003)	.105 (0.004)	17/32"	.571 (0.022)	4.250 (0.167)
47	4.900 (0.193)	5.300 (0.209)	5.570 (0.219)	4.890 (0.193)	.074 (0.003)	.105 (0.004)	17/32"	.634 (0.025)	4.850 (0.191)

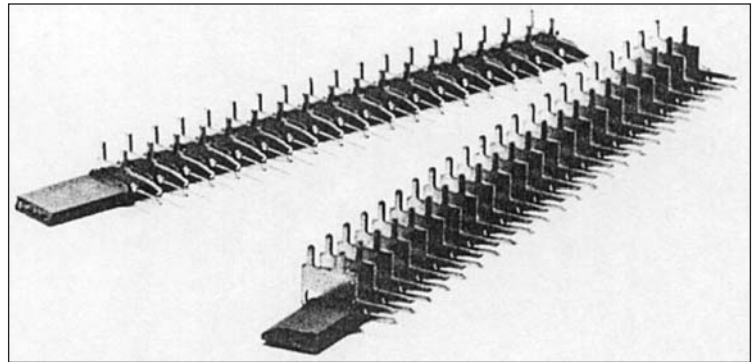
MOUNTING LAYOUT



Series 7000 – Contact Strip

FEATURES

- Plug consists only of contacts staked and soldered to p.c. card; no other insulator needed
- For 1/16" thick p.c. cards
- Contacts supplied imbedded in vinyl strips, correctly spaced and ready for insertion and staking into p.c. card
- Mates with Series 7000 Receptacles



TECHNICAL SPECIFICATIONS

Current Rating:
10 amperes

Contact Resistance:
6 milliohms, maximum

†ELCO Standard Plating shown. Other plating may be supplied on request.

Contact Material and Plating:
Phosphor Bronze per QQ-B-750, Composition A.
†Gold, 10 microinches minimum, over nickel, 30 to 100 microinches

Insertion/Withdrawal Force:
2 to 16 ounces per contact

ORDERING CODE



Upper Tier and Lower Tier Contacts on Separate Strips

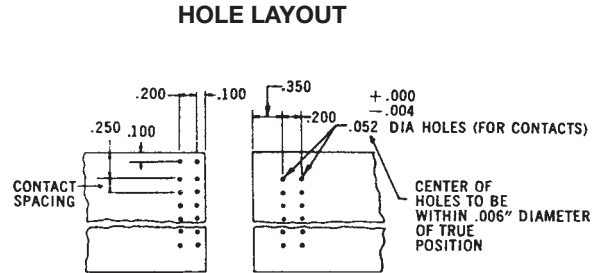
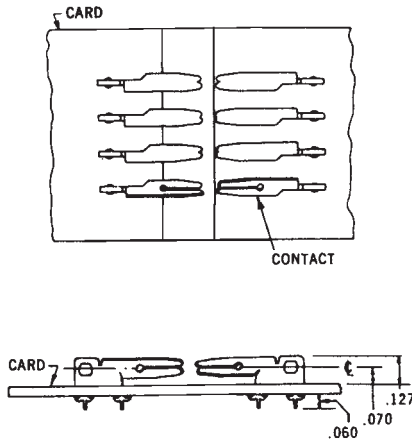
Contact	Contact Code	Contact Part No.	Silhouette
1/16" Thick Card			
Lower Tier	147	60 7001 15 13	
Lower Tier with Wire Hole	135	60 7001 04 13	
Upper Tier with Wire Hole	137	60 7001 05 13	
Lower Tier with Wire Hole	144	60 7001 11 13	

For loose contacts, order by individual part numbers tabulated on page 53.

Varicon®

Series 5101 – Contact Strip

Tandem Cards – Pad Spacings .125"/.150"/.200"



TECHNICAL SPECIFICATIONS

Contacts:

Contacts on .125", .150" or .200" Centers
Contacts supplied on disposable plastic
carrier strips.

Current Rating:

8 amperes

Contact Resistance:

0.006 Ohm, maximum

Contact Material and Plating:

Phosphor Bronze

Gold, 10 microinches minimum,
over nickel, 50 to 100 microinches

Insertion/Withdrawal Force:

2 to 16 ounces per contact

CONTACTS

Contacts are available on three spacings; each spacing has a corresponding maximum number of contacts. Fewer contacts can be ordered.

.200" spacing with a max. of 60 contacts.

.150" spacing with a max. of 80 contacts.

.125" spacing with a max. of 90 contacts.

ORDERING CODE

02

000

000

5

000

000

Number of Contacts
on Strip

001 to 090
according to spacing

Contact Style

046



Contact
Pattern

Contact
Spacing
125, 150 or 200

For loose contacts, order by individual part numbers tabulated on page 53.

Varicon®

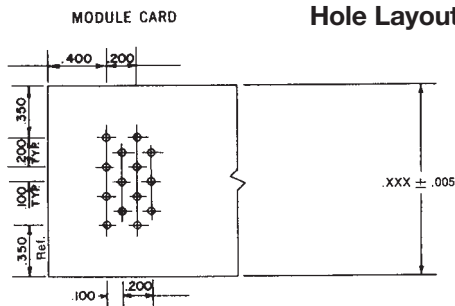
Series 5203 – Contact Strip

Perpendicular Cards – Pad Spacing .100"

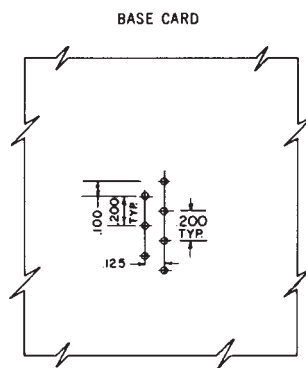


FEATURES

- For 1/16" and 3/32" thick p.c. cards
- Contacts supplied imbedded in vinyl strips, correctly spaced and ready for insertion and staking into p.c. card
- Complete set of plug contacts supplied on two disposable plastic strips, one for upper-tier contacts, the other for lower-tier contacts
- Efficient and economical installation equipment includes staking and strip removal tools for all applications

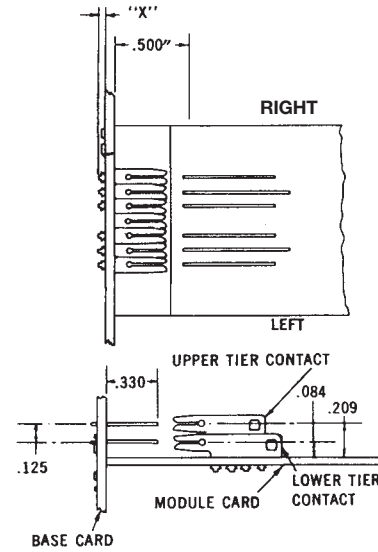


Hole Layout



BASE CARD

All hole diameters are .052 $\begin{matrix} +.000 \\ -.004 \end{matrix}$
 Hole locations to be within
 .006" diameter of true location



Contact	"X"
113	.060
114	.060
121	.281
122	.250

TECHNICAL SPECIFICATIONS

Current Rating:
8 amperes

Contact Resistance:
0.006 Ohm, maximum

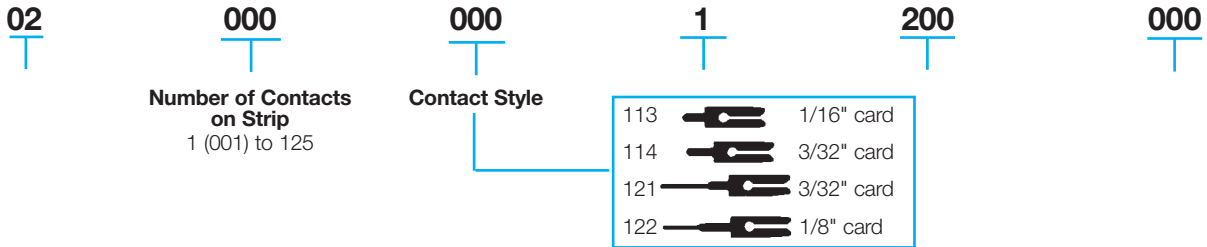
†ELCO Standard Plating shown. Other plating may be supplied on request.

Contact Material and Plating:
Phosphor Bronze

†Gold, 10 microinches minimum,
over nickel, 50 to 100 microinches

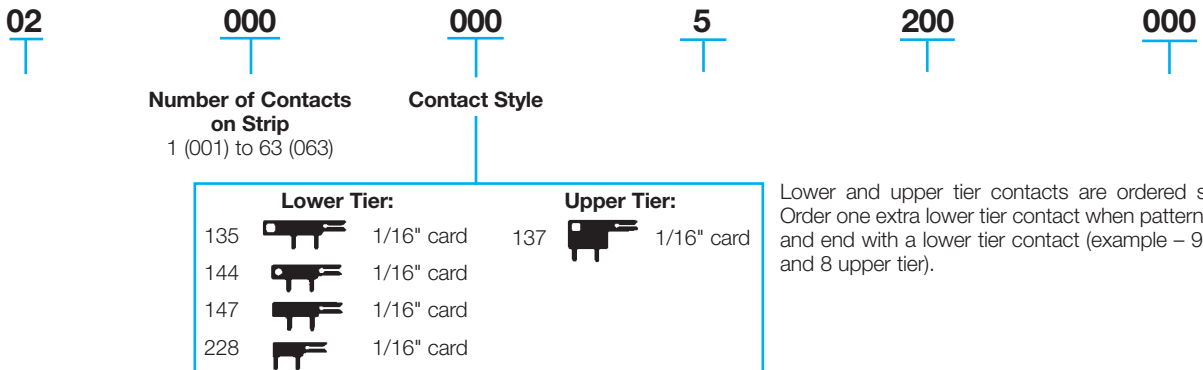
Insertion/Withdrawal Force:
2 to 16 ounces per contact

ORDERING CODE – BASE CARD CONTACTS



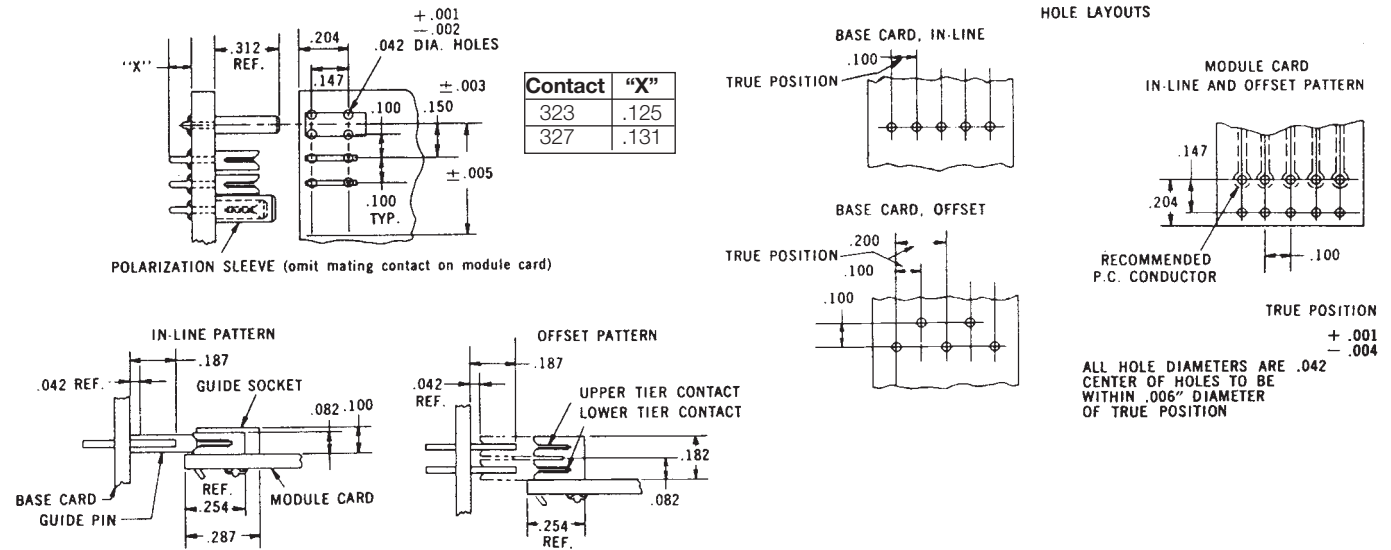
ORDERING CODE – MODULE CARD CONTACTS

Upper-tier and Lower-Tier Contacts on Separate Strips



Lower and upper tier contacts are ordered separately. Order one extra lower tier contact when pattern is to start and end with a lower tier contact (example – 9 lower tier and 8 upper tier).

For loose contacts, order by individual part numbers tabulated on page 53.



TECHNICAL SPECIFICATIONS

Contacts:

Supplied on disposable plastic carrier strips

Current Rating:

5 amperes

Contact Resistance:

0.006 Ohm, maximum

Contact Material and Plating:

Phosphor Bronze

†Gold, 10 microinches minimum, over nickel, 50 to 100 microinches

Insertion/Withdrawal Force:

2 to 16 ounces per contact

†ELCO Standard Plating shown. Other plating may be supplied on request.

ORDERING CODE – BASE CARD CONTACTS

- Guide Pin – 62 5204 41 12 00 062
- Guide Socket – 62 5204 40 12 00 062
- Contacts

02

000

000

3

000

000

Number of Contacts on Strip
1 to 123

Contact Style

323		1/16" card
327		3/32" card

Pattern
3 – for In-Line Pattern
9 – for Offset Pattern

Spacing Code
100 – for In-Line Pattern
200 – for Offset Pattern

Variation
000 – for In-Line Pattern
009 – for Offset Pattern
010 – for Offset Pattern

For loose contacts, order by individual part numbers tabulated on page 53.

ORDERING CODE – MODULE CARD CONTACTS

Upper-tier and Lower-Tier Contacts on Separate Strips

02

000

000

5

000

000

Number of Contacts on Strip
1 – 120 for In-Line Pattern
1 – 60 for Offset Pattern

Contact Style

In-Line:		
332		1/16" card
Offset:		
332		1/16" card, Lower Tier
372		1/16" card Upper Tier

For loose contacts, order by individual part numbers tabulated on page 53.

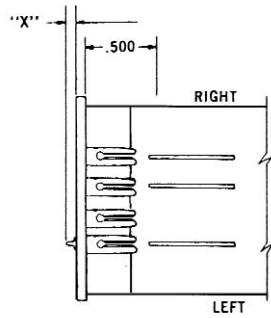
Spacing Code
100 – for In-Line Pattern
200 – for Offset Pattern

Lower and upper tier contacts of the offset pattern assembly are ordered separately. Order one extra lower tier contact when pattern is to start and end with a lower tier contact (example – 9 lower tier and 8 upper tier).

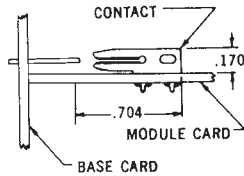
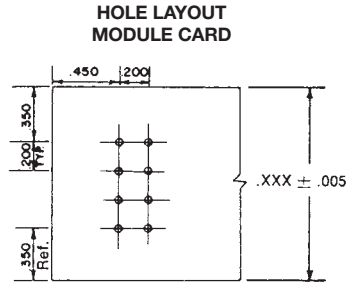
Varicon®

Series 5208 – Contact Strip

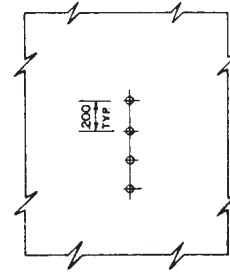
Perpendicular Cards – Pad Spacing .200"



Contact	"X"
113	.060
114	.060
115	.060
121	.281
122	.250



HOLE LAYOUT
BASE CARD



All hole diameters are $+.000$
 $-.004$
Hole locations to be within
.006" diameter of true location

TECHNICAL SPECIFICATIONS

Contacts:

Supplied on disposable plastic carrier strips.

Current Rating:

8 amperes

Contact Resistance:

0.006 Ohm, maximum

Contact Material and Plating:

Phosphor Bronze

Gold, 10 microinches minimum,
over nickel, 50 to 100 microinches

Insertion/Withdrawal Force:

2 to 16 ounces per contact

ORDERING CODE – BASE CARD CONTACTS

- Card Guides: See top drawing for appropriate part number
- Contacts

02

000

000

3

200

000

Number of Contacts
on Strip
1 to 63

Contact Style

113		1/16" card
114		3/32" card
121		3/32" card
122		1/8" card

ORDERING CODE – MODULE CARD CONTACTS

02

000

000

5

200

000

Number of Contacts
on Strip
1 to 63

Contact Style

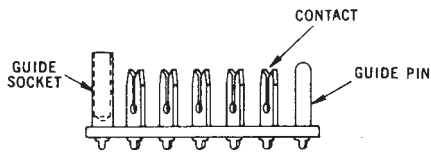
In-Line:		
013		1/16" card
014		3/32" card

For loose contacts, order by individual
part numbers tabulated on page 53.

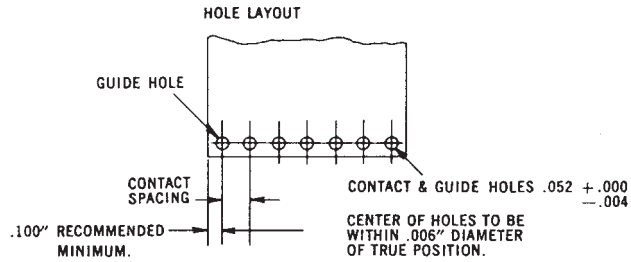
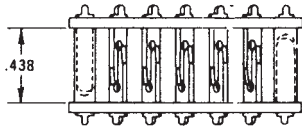
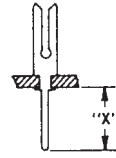
Varicon®

Series 5301 – Contact Strip

Parallel Cards – .438" Between Cards



Contact	"X"
113	.060
114	.060
121	.281
122	.250



TECHNICAL SPECIFICATIONS

Contacts:

Supplied on disposable plastic carrier strips

Current Rating:

8 amperes

Contact Resistance:

0.006 Ohm, maximum

Contact Material and Plating:

Phosphor Bronze

Gold, 10 microinches minimum, over nickel, 50 to 100 microinches

Insertion/Withdrawal Force:

2 to 16 ounces per contact

ORDERING CODE

- Guide Pin – 62 5301 41 12 00 062 (1/16" card)
62 5301 41 22 00 062 (3/32" card)
- Guide Socket – 62 5301 40 12 00 062 (1/16" card)
62 5301 40 22 00 062 (3/32" card)

- Contacts – Contacts are available on four spacings; each spacing has a corresponding maximum number of contacts. Fewer contacts can be ordered.
.200" spacing with a max. of 60 contacts per strip
.150" spacing with a max. of 80 contacts per strip
.125" spacing with a max. of 90 contacts per strip

02

000

000

6

000

000

Number of Contacts on Strip
001 to 090
according to spacing

Contact Style

113		1/16" card
114		3/32" card
121		3/32" card
122		1/8" card

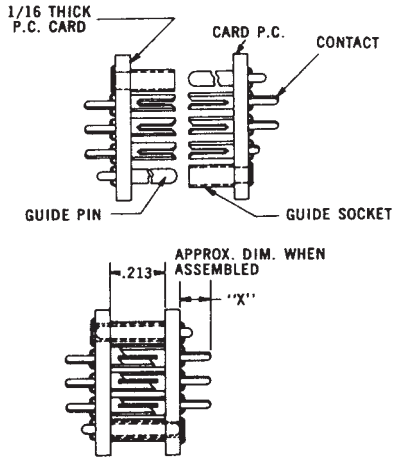
Contact Spacing
125, 150 or 200

For loose contacts, order by individual part numbers tabulated on page 53.

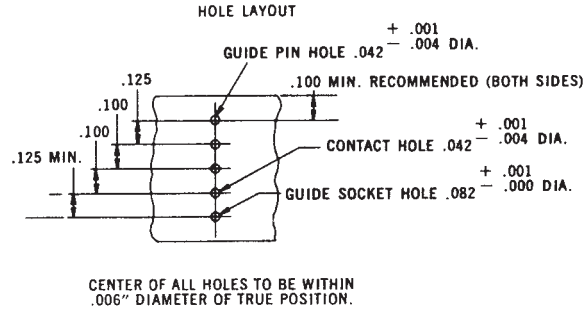
Varicon®

Series 5304 – Contact Strip

Parallel Cards – .213" Between Cards



Contact	"X"
323	.125
327	.131



TECHNICAL SPECIFICATIONS

Contacts:

Contacts on .100 Centers
Supplied on disposable plastic carrier strips

Current Rating:

5 amperes

Contact Resistance:

0.006 Ohm, maximum

Contact Material and Plating:

Phosphor Bronze

Gold, 10 microinches minimum,
over nickel, 50 to 100 microinches

Insertion/Withdrawal Force:

2 to 16 ounces per contact

ORDERING CODE

- Guide Pin – 62 8202 40 12 00 062 (1/16" card)
- Guide Socket – 62 5304 40 12 00 062 (1/16" card)
62 5301 40 12 00 062 (3/32" card)

02

000

Number of Contacts
on Strip
001 to 120

000

Contact Style

323		1/16" card
327		3/32" card

6

100

000

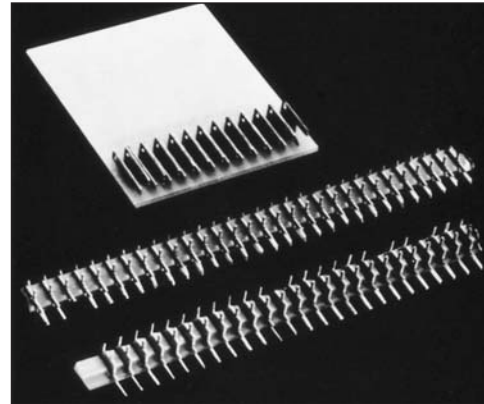
For loose contacts, order by individual part numbers tabulated on page 53.

Installation Equipment

Contacts can be fastened to the p.c. card by staking or soldering and by the combination of staking and soldering. Contact retention tests indicate that it requires 25 lbs. of force to pull out a soldered contact, 45 lbs. for a staked contact and 65 lbs. for a staked and soldered contact.

Staking is accomplished with a knife-like tool which shaves a portion of the contact leg against the p.c. card. Elco can furnish the necessary staking equipment for both high quantity production and laboratory experimentation.

Once the contacts are fastened to the board it is generally necessary to remove the plastic carrier strip. The plastic should be softened prior to removal to avoid the possibility of inadvertently bending the contacts.



Contacts supplied embedded in disposable plastic strips, correctly spaced and ready for insertion and staking into p.c. card.

HAND STAKER MODEL NO. 06 1856 01

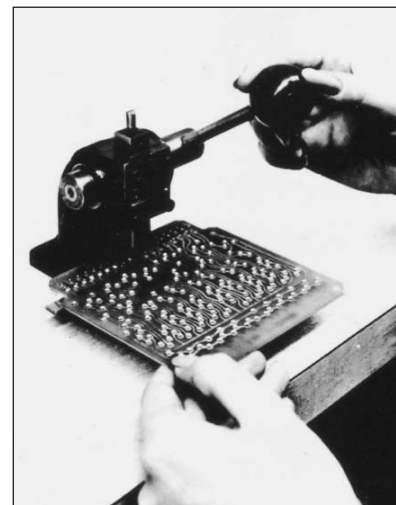
Hand staker 06 1856 01 is designed for use as a multi-purpose laboratory tool. This versatile tool enables you to stake most contacts presently available. The hand staker and replacement staking punches are available.

SPECIFICATIONS

- Rating – 1/4 ton capacity
- Ram Dimensions – 1/2" x 1/2" x 2 1/2"
- Ram Stroke – 1/8"
- Height of Opening – under punch 1"
- Throat depth from center of ram – 1"
- Working Surface – 2" x 2 7/8"
- Weight – 3 lbs.
- Size – 4" wide x 5" deep x 4" high

ORDERING CODE FOR LOOSE CONTACTS

Contact Code Number	Loose Contact Part Number	Staking Punch Part Number
013	60 5001 19 13 00 339	66 1280 02
014	60 5001 19 23 00 339	66 1280 02
046	62 5101 06 43 00 339	66 1280 02
113	62 5201 02 13 00 339	66 1280 02
114	62 5201 02 23 00 339	66 1280 02
121	62 5201 05 23 00 339	66 1280 19
122	62 5201 05 33 00 339	66 1280 19
135	60 7001 04 13 00 339	66 1280 02
137	60 7001 05 13 00 339	66 1280 02
144	60 7001 11 13 00 339	66 1280 02
147	60 7001 15 13 00 339	66 1280 02
228	60 7001 15 93 00 339	66 1280 02
332	60 8240 03 13 00 339	66 1280 17
371	60 8240 26 13 00 339	66 1280 17
372	60 8240 26 23 00 339	66 1280 17
323	60 8240 02 13 00 339	66 1280 17
327	60 8240 02 43 00 339	66 1280 17



Laboratory Tool for Contact Staking Model 06 1856 01 (Staking Punch Not Included)

ORDERING CODE FOR CARD GUIDE STAKING EQUIPMENT

Card Guide Number
62 5204 41 12 00 062
62 5204 40 12 00 062
62 8202 40 12 00 062
62 8202 40 02 00 062
62 5304 40 12 00 062
62 5304 40 02 00 062
62 5301 41 12 00 062
62 5301 41 22 00 062
62 5301 41 32 00 062
62 5301 40 12 00 062
62 5301 40 22 00 062
62 5301 40 32 00 062

QPL Cross Reference

FUNCTIONAL EQUIVALENT TO:

Military Part No.	ELCO
M21097/2 -01	00-5007-012-163-110
-04	00-5007-012-235-110
M21097/3 -01	02-012-013-5200-110
-02	02-012-014-5200-110
-03	02-015-013-5200-110
-04	02-015-014-5200-110
-05	02-018-013-5200-110
-06	02-018-014-5200-110
-07	02-022-013-5200-110
-08	02-022-014-5200-110
-09	02-026-013-5200-110
-10	02-026-014-5200-110
M21097/4 -01	00-7024-017-163-110
-02	00-7024-017-163-111
-04	00-7024-017-235-110
-07	00-7024-017-235-111
-09	00-7024-023-163-110
-10	00-7024-023-163-111
-12	00-7024-023-235-110
-15	00-7024-023-235-111
-17	00-7024-029-163-110
-18	00-7024-029-163-111
-20	00-7024-029-235-110
-23	00-7024-029-235-111
-25	00-7024-035-163-110
-26	00-7024-035-163-111
-28	00-7024-035-235-110
-31	00-7024-035-235-111
-33	00-7024-041-163-110
-34	00-7024-041-163-111
-36	00-7024-041-235-110
-39	00-7024-041-235-111
M21097/5 -01	00-7023-017-000-110
-02	00-7023-017-000-111
-03	00-7023-023-000-110
-04	00-7023-023-000-111
-05	00-7023-029-000-110
-06	00-7023-029-000-111
-07	00-7023-035-000-110
-08	00-7023-035-000-111
-09	00-7023-041-000-110
-10	00-7023-041-000-111
M28731/9 -0109	53-8016-020-199-109
-0110	53-8016-020-199-110
-0111	53-8016-020-199-111
-0112	53-8016-020-217-112
-0114	53-8016-020-217-114
-0115	53-8016-020-296-115
-0116	53-8016-020-296-116
M28731/9 -C	53-8016-020-000-122
-F	53-8016-020-000-158
M28731/10 -0109	53-8016-020-199-112
-0110	53-8016-020-199-113
-0111	53-8016-020-199-114
-0112	53-8016-020-217-115
-0113	53-8016-020-217-116
-0114	53-8016-020-217-117
-0115	53-8016-020-296-117
M28731/10 -C	53-8016-020-000-193
-F	53-8016-020-000-229
-H	53-8016-020-000-265
M28731/11 -0073	53-8016-038-199-103
-0074	53-8016-038-199-104
-0075	53-8016-038-217-108
-0076	53-8016-038-217-109
-0077	53-8016-038-296-107
-0078	53-8016-038-199-466
-0079	53-8016-038-217-466
-0080	53-8016-038-296-466

Military Part No.	ELCO
M28731/11 -C	53-8016-038-000-221
-E	53-8016-038-000-466
-F	53-8016-038-000-257
M28731/12 -0073	53-8016-038-199-105
-0074	53-8016-038-199-106
-0075	53-8016-038-217-110
-0076	53-8016-038-217-111
-0077	53-8016-038-296-108
-0078	53-8016-038-199-465
-0079	53-8016-038-217-465
M28731/12 -C	53-8016-038-000-293
-F	53-8016-038-000-329
-H	53-8016-038-000-465
M28731/13 -0073	53-8016-056-199-100
-0074	53-8016-056-199-101
-0075	53-8016-056-217-104
-0076	53-8016-056-217-105
-0077	53-8016-056-296-106
-0078	53-8016-056-199-465
-0079	53-8016-056-217-465
-0080	53-8016-056-296-465
M28731/13 -C	53-8016-056-000-201
-E	53-8016-056-000-465
-F	53-8016-056-000-237
M28731/14 -0073	53-8016-056-199-102
-0074	53-8016-056-199-103
-0075	53-8016-056-217-106
-0076	53-8016-056-217-107
-0077	53-8016-056-296-108
-0078	53-8016-056-199-466
-0079	53-8016-056-217-466
M28731/14 -C	53-8016-056-000-273
-F	53-8016-056-000-309
-H	53-8016-056-000-465
M28731/15 -0073	53-8016-090-199-100
-0074	53-8016-090-199-101
-0075	53-8016-090-217-105
-0076	53-8016-090-217-106
-0077	53-8016-090-296-107
-0078	53-8016-090-199-275
-0079	53-8016-090-217-275
-0080	53-8016-090-296-275
M28731/15 -E	53-8016-090-000-275
-F	53-8016-090-000-157
-G	53-8016-090-000-121
M28731/16 -0073	53-8016-090-199-102
-0074	53-8016-090-199-103
-0075	53-8016-090-217-107
-0076	53-8016-090-217-108
-0077	53-8016-090-296-109
-0078	53-8016-090-199-276
-0079	53-8016-090-217-276
M28731/16 -F	53-8016-090-000-229
-G	53-8016-090-000-193
-H	53-8016-090-000-276
M28731/17 -0109	53-8016-120-199-100
-0110	53-8016-120-199-101
-0111	53-8016-120-199-102
-0112	53-8016-120-217-121
-0113	53-8016-120-217-122
-0114	53-8016-120-217-123
-0115	53-8016-120-296-107
-0116	53-8016-120-296-108
M28731/17 -E	53-8016-120-000-266
-F	53-8016-120-000-157
-G	53-8016-120-000-121

Military Part No.	ELCO
M28731/18 -0109	53-8016-120-199-103
-0110	53-8016-120-199-104
-0111	53-8016-120-199-105
-0112	53-8016-120-217-124
-0113	53-8016-120-217-125
-0114	53-8016-120-217-126
-0115	53-8016-120-296-109
M28731/18 -F	53-8016-120-000-229
-G	53-8016-120-000-193
-H	53-8016-120-000-265
M28731/19 -0001	30-8016-98-29-03-000
-0002	30-8016-98-31-03-000
-0003	30-8016-98-21-03-000
-0004	30-8016-98-22-03-000
-0005	30-8016-98-25-03-000
-0006	30-8016-98-26-03-000
-0007	30-8016-98-23-03-000
-0008	30-8016-98-24-03-000
-0009	30-8016-98-27-03-000
-0010	30-8016-98-28-03-000
-0011	30-8016-98-32-03-000
-0012	30-8016-98-33-03-000
-0013	30-8016-98-34-03-000
-0014	30-8016-98-35-03-000
-0015	30-8016-98-38-03-000
-0016	30-8016-98-39-03-000
-0017	30-8016-98-40-03-000
-0018	30-8016-98-42-03-000
-0019	30-8016-98-43-03-000
-0020	30-8016-98-44-03-000
-0021	30-8016-98-45-03-000
-0022	30-8016-98-46-03-000
M28731/20 -0001	60-8017-0313-00-343
-0002	60-8017-0323-00-343
M28731/23 -0001	30-7015-9610-00-000
M28731/25 -0001	60-8017-0513-00-343
M28731/26 -0001	60-8017-0633-00-343
-0002	60-8017-0663-00-343
M28731/27 -0001	00-8026-033-580-101
-0002	00-8026-033-580-102
-0003	00-8026-033-580-103
-0004	00-8026-033-580-104
-0005	00-8026-033-491-105
-0006	00-8026-033-491-106
M28731/27 -C	00-8026-033-000-106
-D	00-8026-033-000-107
-E	00-8026-033-000-109
-F	00-8026-033-000-108
M28731/28 -0001	00-8026-033-580-107
-0002	00-8026-033-580-108
-0003	00-8026-033-580-109
-0004	00-8026-033-580-110
-0005	00-8026-033-491-111
-0006	00-8026-033-491-112
M28731/28 -C	00-8026-033-000-151
-D	00-8026-033-000-152
-E	00-8026-033-000-154
-F	00-8026-033-000-153
M28731/29 -0001	00-8026-075-580-101
-0002	00-8026-075-580-102
-0003	00-8026-075-580-103
-0004	00-8026-075-580-104
-0005	00-8026-075-491-105
-0006	00-8026-075-491-106
M28731/29 -D	00-8026-075-000-190
-E	00-8026-075-000-192
-F	00-8026-075-000-191
-G	00-8026-075-000-189

QPL Cross Reference

FUNCTIONAL EQUIVALENT TO:

Military Part No.	ELCO
M28731/30 -0001	00-8026-075-580-107
-0002	00-8026-075-580-108
-0003	00-8026-075-580-109
-0004	00-8026-075-580-110
-0005	00-8026-075-491-111
-0006	00-8026-075-491-112
M28731/30 -D	00-8026-075-000-194
-E	00-8026-075-000-196
-F	00-8026-075-000-195
-G	00-8026-075-000-193
M28731/31 -0001	00-8026-117-580-101
-0002	00-8026-117-580-102
-0003	00-8026-117-580-103
-0004	00-8026-117-580-104
-0005	00-8026-117-491-105
-0006	00-8026-117-491-106
M28731/31 -D	00-8026-117-000-106
-E	00-8026-117-000-108
-F	00-8026-117-000-107
-G	00-8026-117-000-105
M28731/32 -0001	00-8026-117-580-107
-0002	00-8026-117-580-108
-0003	00-8026-117-580-109
-0004	00-8026-117-580-110
-0005	00-8026-117-491-111
-0006	00-8026-117-491-112
-0007	00-8026-117-580-265*
M28731/32 -D	00-8026-117-000-158
-E	00-8026-117-000-160
-F	00-8026-117-000-159
-G	00-8026-117-000-157
-H	00-8026-117-000-265*
M28731/33 -0001	00-8026-165-580-101
-0002	00-8026-165-580-102
-0003	00-8026-165-580-103
-0004	00-8026-165-580-104
-0005	00-8026-165-491-105
-0006	00-8026-165-491-106
M28731/33 -D	00-8026-165-000-104
-E	00-8026-165-000-106
-F	00-8026-165-000-105
-G	00-8026-165-000-103
M28731/34 -0001	00-8026-165-580-107
-0002	00-8026-165-580-108
-0003	00-8026-165-580-109
-0004	00-8026-165-580-110
-0005	00-8026-165-491-111
-0006	00-8026-165-491-112
-0007	00-8026-165-580-265
M28731/34 -D	00-8026-165-000-108
-E	00-8026-165-000-110
-F	00-8026-165-000-109
-G	00-8026-165-000-107
-H	00-8026-165-000-265
M55302/52 -01	00-8219-018-722-111
-02	00-8219-018-721-111
-03	00-8219-018-736-111
-04	00-8219-018-737-111
-05	00-8219-018-753-111
-06	00-8219-018-771-111
-07	00-8219-030-722-111
-08	00-8219-030-721-111
-09	00-8219-030-736-111
-10	00-8219-030-737-111
-11	00-8219-030-753-111
-12	00-8219-030-771-111
-13	00-8219-036-722-111
-14	00-8219-035-721-111
-15	00-8219-036-736-111

Military Part No.	ELCO
M55302/52 -16	00-8219-036-737-111
-17	00-8219-036-753-111
-18	00-8219-036-771-111
-19	00-8219-042-722-111
-20	00-8219-042-721-111
-21	00-8219-042-736-111
-22	00-8219-042-737-111
-23	00-8219-042-753-111
-24	00-8219-042-771-111
M55302/52 -25	00-8219-054-722-111
-26	00-8219-054-721-111
-27	00-8219-054-736-111
-28	00-8219-054-737-111
-29	00-8219-054-753-111
-30	00-8219-054-771-111
-31	00-8219-072-722-111
-32	00-8219-072-721-111
-33	00-8219-072-736-111
-34	00-8219-072-737-111
-35	00-8219-072-753-111
-36	00-8219-072-771-111
M55302/53 -01	00-8219-018-722-112
-02	00-8219-018-000-112
-03	00-8219-030-722-112
-04	00-8219-030-000-112
-05	00-8219-036-722-112
-06	00-8219-036-000-112
-07	00-8219-042-722-112
-08	00-8219-042-000-112
-09	00-8219-054-722-112
-10	00-8219-054-000-112
-11	00-8219-072-722-112
-12	00-8219-072-000-112
M55302/54 -01	00-8219-018-722-115
-02	00-8219-018-721-115
-03	00-8219-018-736-115
-04	00-8219-018-737-115
-05	00-8219-018-753-115
-06	00-8219-018-771-115
-07	00-8219-030-722-115
-08	00-8219-030-721-115
-09	00-8219-030-736-115
-10	00-8219-030-737-115
-11	00-8219-030-753-115
-12	00-8219-030-771-115
-13	00-8219-036-722-115
-14	00-8219-036-721-115
-15	00-8219-036-736-115
-16	00-8219-036-737-115
-17	00-8219-036-753-115
-18	00-8219-036-771-115
-19	00-8219-042-722-115
-20	00-8219-042-721-115
-21	00-8219-042-736-115
-22	00-8219-042-737-115
-23	00-8219-042-753-115
-24	00-8219-042-771-115
-25	00-8219-054-722-115
-26	00-8219-054-721-115
-27	00-8219-054-736-115
-28	00-8219-054-737-115
-29	00-8219-054-753-115
-30	00-8219-054-771-115
-31	00-8219-072-722-115
-32	00-8219-072-721-115
-33	00-8219-072-736-115
-34	00-8219-072-737-115
-35	00-8219-072-753-115
-36	00-8219-072-771-115

Military Part No.	ELCO
M55302/89 -01	00-8223-024-000-100
-02	00-8223-048-000-100
-03	00-8223-072-000-100
-04	00-8223-096-000-100
-05	00-8223-024-000-110
-06	00-8223-048-000-113
-07	00-8223-072-000-119
-08	00-8223-096-000-117
M55302/90 -01	00-8223-024-000-101
-02	00-8223-048-000-101
-03	00-8223-072-000-101
-04	00-8223-096-000-101
-05	00-8223-024-000-108
-06	00-8223-048-000-111
-07	00-8223-072-700-117
-08	00-8223-096-000-115
	00-8223-024-000-109
M55302/91 -01	00-8223-024-473-100
-02	00-8223-024-722-100
-03	00-8223-024-753-100
-04	00-8223-024-721-100
-05	00-8223-024-736-100
-06	00-8223-024-771-100
-07	00-8223-024-737-100
-08	00-8223-048-473-100
-09	00-8223-048-722-100
-10	00-8223-048-753-100
-11	00-8223-048-721-100
-12	00-8223-048-736-100
-13	00-8223-048-771-100
-14	00-8223-048-737-100
-15	00-8223-072-473-100
-16	00-8223-072-722-100
-17	00-8223-072-753-100
-18	00-8223-072-721-100
-19	00-8223-072-736-100

Need Additional Information on AVX Products

Internet –

For more information visit us on the worldwide web at <http://www.avxcorp.com>

FAX Back Service –

Just dial 1-800-879-1613 and request the index for additional catalog information faxed to your FAX number.

CD ROM –

Or get in touch with your AVX representative for a CD Rom or copies of the catalogs and technical papers.

Software –

Comprehensive capacitor application software library which includes:

- SpiCap (for MLC chip capacitors)
- SpiTan (for tantalum capacitors)
- SpiCalci (for power supply capacitors)
- SpiMic (for RF-Microwave capacitors)

AVX Products

PASSIVES

Capacitors

- Multilayer Ceramic
- Tantalum
- Microwave
- Glass
- Film
- Power Film
- Power Ceramic
- Ceramic Disc
- Trimmers

Resistors

- Chip
- Networks/Arrays
- Potentiometers

Timing Devices

- Resonators
- Oscillators
- Crystal

Filters

- EMI
- Bulk
- Saw
- Dielectric

Thin Film

- Inductors
- Fuses
- Capacitors

Integrated Passive Components

- Low Inductance Chip Arrays
- “Z” Chips
- Capacitor Arrays
- Dual Resonance Chips

Voltage Suppressor, Varistors and Thermistors

Acoustical Piezos

Ferrites

CONNECTORS

- Automotive Connectors
- Board to Board Connectors – SMT and Through-Hole
- Card Edge
- Custom Designed Connectors
- Customized Backpanel, Racking and Harnessing Services
- DIN 41612 Connectors
- Insulation Displacement Connectors
- I/O Connectors
- Memory Card Headers and Sockets
- MOBO™, I/O, Board to Board and Battery Connectors
- Press-fit Connectors
- Torsion, 1.27mm (.050") Board to Board Connectors
- Wire to Board, Crimp or IDC

NOTICE: Specifications are subject to change without notice. Contact your nearest AVX Sales Office for the latest specifications. All statements, information and data given herein are believed to be accurate and reliable, but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied. Statements or suggestions concerning possible use of our products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that all safety measures are indicated or that other measures may not be required. Specifications are typical and may not apply to all applications.

Elco - World Class Connections

USA

**AVX Myrtle Beach, SC
Corporate Offices**

Tel: 843-448-9411
FAX: 843-626-5292

AVX Northwest, WA

Tel: 360-699-8746
FAX: 360-699-8751

AVX North Central, IN

Tel: 317-848-7153
FAX: 317-844-9314

AVX Mid/Pacific, MN

Tel: 952-974-9155
FAX: 952-974-9179

AVX Southwest, AZ

Tel: 480-539-1496
FAX: 480-539-1501

AVX South Central, TX

Tel: 972-669-1223
FAX: 972-669-2090

AVX Southeast, NC

Tel: 919-878-6223
FAX: 919-878-6462

AVX Canada

Tel: 905-564-8959
FAX: 905-564-9728

EUROPE

**AVX Limited, England
European Headquarters**

Tel: ++44 (0) 1252 770000
FAX: ++44 (0) 1252 770001

AVX S.A., France

Tel: ++33 (1) 69.18.46.00
FAX: ++33 (1) 69.28.73.87

AVX GmbH, Germany - AVX

Tel: ++49 (0) 8131 9004-0
FAX: ++49 (0) 8131 9004-44

AVX GmbH, Germany - Elco

Tel: ++49 (0) 2741 2990
FAX: ++49 (0) 2741 299133

AVX srl, Italy

Tel: ++390 (0)2 614571
FAX: ++390 (0)2 614 2576

AVX Czech Republic, s.r.o.

Tel: ++420 (0)467 558340
FAX: ++420 (0)467 558345

ASIA-PACIFIC

**AVX/Kyocera, Singapore
Asia-Pacific Headquarters**

Tel: (65) 258-2833
FAX: (65) 350-4880

AVX/Kyocera, Hong Kong

Tel: (852) 2-363-3303
FAX: (852) 2-765-8185

AVX/Kyocera, Korea

Tel: (82) 2-785-6504
FAX: (82) 2-784-5411

AVX/Kyocera, Taiwan

Tel: (886) 2-2696-4636
FAX: (886) 2-2696-4237

AVX/Kyocera, China

Tel: (86) 21-6249-0314-16
FAX: (86) 21-6249-0313

AVX/Kyocera, Malaysia

Tel: (60) 4-228-1190
FAX: (60) 4-228-1196

Elco, Japan

Tel: 045-943-2906/7
FAX: 045-943-2910

Kyocera, Japan - AVX

Tel: (81) 75-604-3426
FAX: (81) 75-604-3425

Kyocera, Japan - KDP

Tel: (81) 75-604-3424
FAX: (81) 75-604-3425

Contact:

