

# BATTERY CONTACTS

Designers' Choice

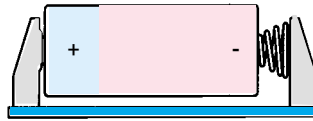


## "A" • "AA" • "AAA" • "N" SIZE PC BUTTON & SPRING CONTACTS



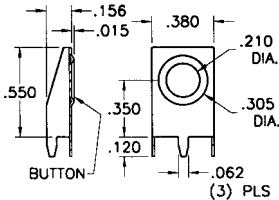
MATERIAL: Frame: .015 Steel, Tin Plate

- Ideal contacts for "A" • "AA" • "AAA" • "N" size batteries.
- Space saving design installs directly onto the PC board
- Ideal for self-contained battery compartments
- Contacts available for .062 and .093 thick PC boards
- Reliable spring and/or button assures low contact resistance

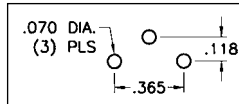


MATERIAL: Frame: .015 Steel, Tin Plate  
Uses Cat. No. 211 Spring Contact

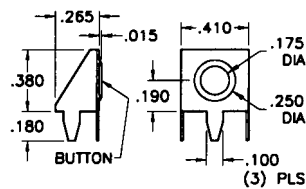
### (+) Positive Button



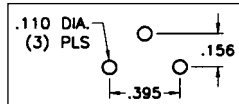
Mounting Detail



CAT. NO. 595 - For "A"

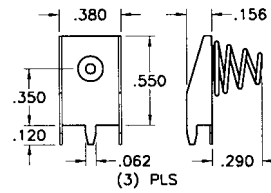


Mounting Detail

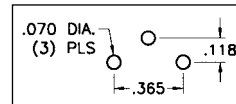


CAT. NO. 637 - For "AA" • "AAA" • "N"

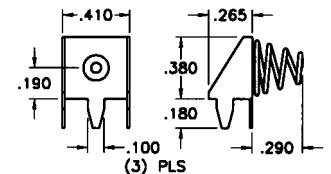
### (-) Negative Spring



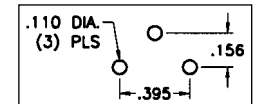
Mounting Detail



CAT. NO. 628 - For "A"



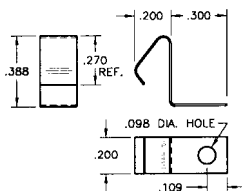
Mounting Detail



CAT. NO. 629 - For "AA" • "AAA" • "N"

## SURFACE MOUNT BATTERY CONTACTS

### For "AAA" • "AAAA"

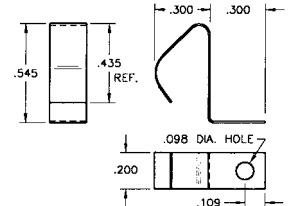


CAT. NO. 5230  
CAT. NO. 5230TR



Tape and Reel Spec's: 24mm wide; 12mm pitch;  
13 inch reel (400 pieces per reel)

### For "A" • "AA" • "9V"



Tape and Reel Spec's: 32mm wide; 12mm pitch;  
13 inch reel (400 pieces per reel)

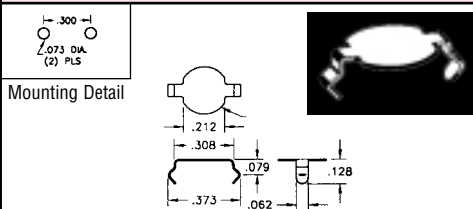


CAT. NO. 5231  
CAT. NO. 5231TR

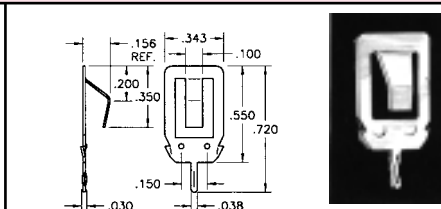
• ECONOMICAL • SPACE SAVING

## PC BATTERY CONTACTS

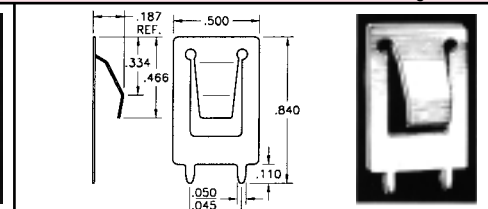
• Ideal for self-contained battery compartments  
• Contact us for modifications and custom design



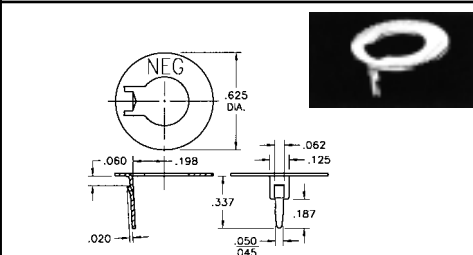
CAT. NO. 2990 .008 Thick, Phosphor Bronze, Nickel Plate



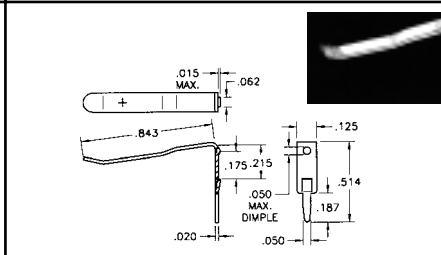
CAT. NO. 108-2 .012 Thick, Spring Steel, Nickel Plate



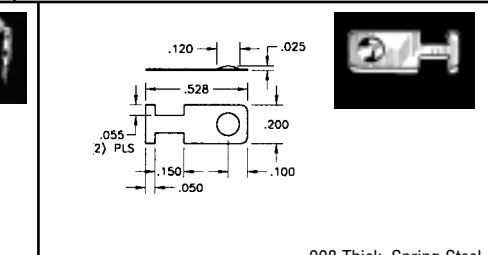
CAT. NO. 109-2 .012 Thick, Spring Steel, Nickel Plate



CAT. NO. 105-3 .020 Thick, Spring Steel, Nickel Plate



CAT. NO. 105-2 .020 Thick, Spring Steel, Nickel Plate



CAT. NO. 230-1 .008 Thick, Spring Steel, Nickel Plate



Designers' Choice

# BATTERY CONTACTS

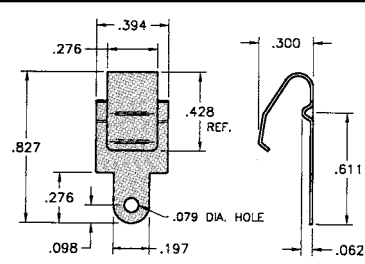
## BATTERY SPRING & BUTTON CONTACTS

- Economical and reliable contacts are ideal for molded cases with self contained battery compartments
- Single and dual contact designs available for "A", "AA", "AAA", "AAAA" & "N" size batteries
- "Solder tab" design for either wire lead or PC mounting
- Unique spring contacts adjust to variations in battery lengths
- Reliable spring contacts assure low contact resistance and a dependable connection
- Space saving, economical, excellent mechanical construction

## SPRING CONTACT FOR "A" • "AA" • "9V" SIZES

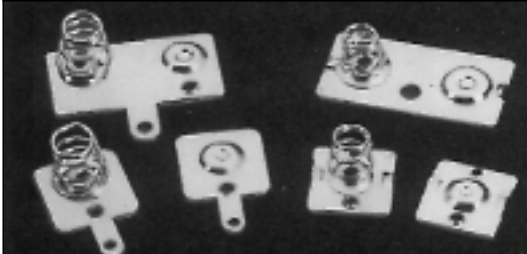


MATERIAL: .012 Phosphor Bronze, Nickel Plate



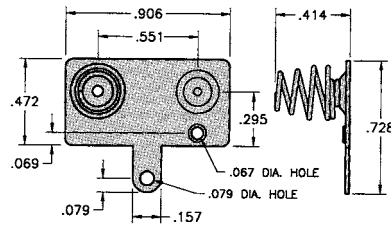
CAT. NO. 5209

## BATTERY CONTACTS FOR "A" • "AA" SIZES



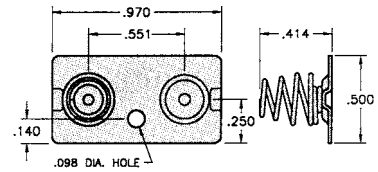
MATERIAL:  
Plate: .020 Steel, Nickel Plate  
Spring: Spring Steel, Nickel Plate

Dual Contact w/Tabs



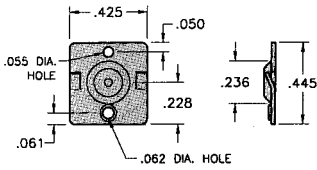
CAT. NO. 5211

Dual Contact



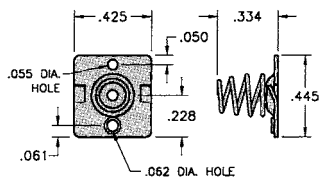
CAT. NO. 5212

(+) Positive Button



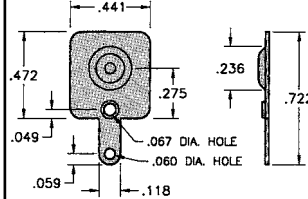
CAT. NO. 5224

(-) Negative Spring



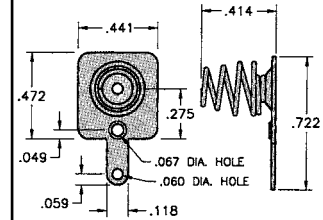
CAT. NO. 5202

(+) Positive Button w/Tabs



CAT. NO. 5223

(-) Negative Spring w/Tabs



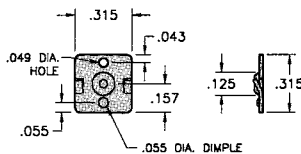
CAT. NO. 5201

## BATTERY CONTACTS FOR "AAA" • "AAAA" • "N" SIZES



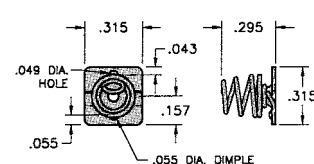
MATERIAL:  
Plate: .020 Steel, Nickel Plate  
Spring: Spring Steel, Nickel Plate

(+) Positive Button



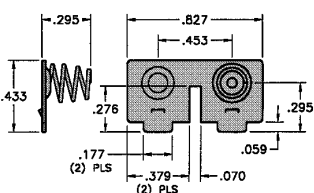
CAT. NO. 5225

(-) Negative Spring

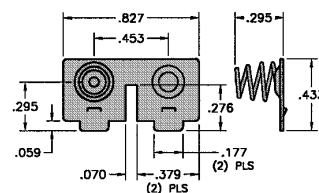


CAT. NO. 5203

Dual Contact

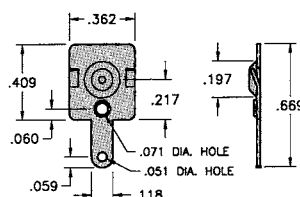


CAT. NO. 5214 (Left Side)



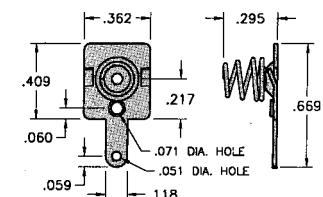
CAT. NO. 5213 (Right Side)

(+) Positive Button w/Tabs



CAT. NO. 5226

(-) Negative Spring w/Tabs



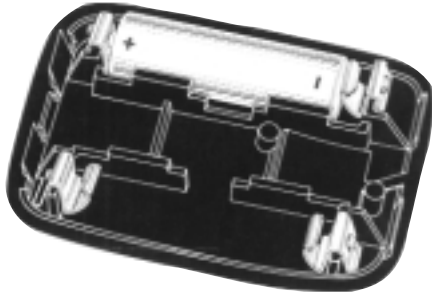
CAT. NO. 5204

# BATTERY CONTACTS

Designers' Choice

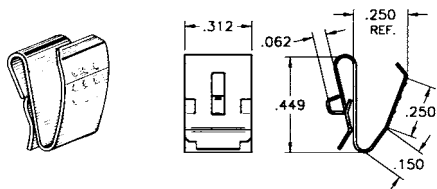


## SNAP-ON CONTACTS FOR "A" • "AA" • "AAA" • "AAAA" • "N" SIZES



- Economical and reliable contacts are ideal for molded cases with self contained battery compartments
- Single & dual contact designs available for "A" • "AA" • "AAA" • "AAAA" • "N" size batteries
- Solder "ear" to facilitate soldering of wire lead
- Unique spring tension contact adjusts to variations in battery length
- Reliable spring tension contacts assure low contact resistance
- Clips easily onto .060 to .070 thick panel edges
- Sharp barbs securely anchor contact in place

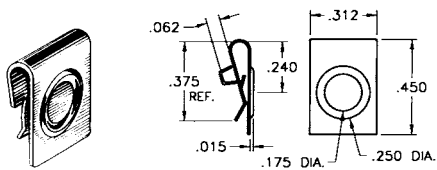
### For "A" • "AA"



CAT. NO. 209

MATERIAL  
.012 Spring Steel,  
Nickel Plate

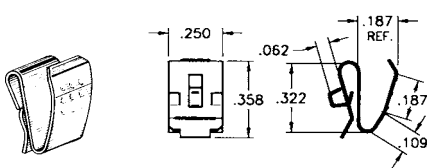
### For "A" • "AA"



CAT. NO. 228

MATERIAL  
.010 Spring Steel,  
Nickel Plate

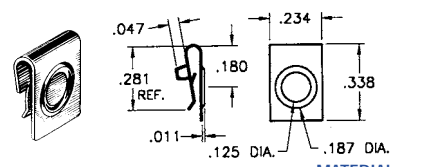
### For "AAA" • "AAAA" • "N"



CAT. NO. 204

MATERIAL  
.010 Spring Steel,  
Nickel Plate

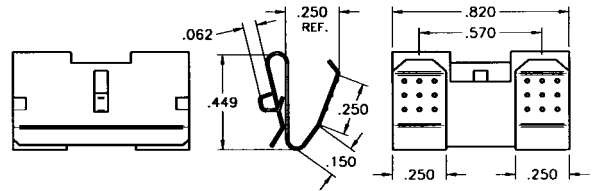
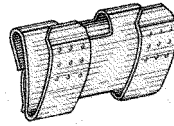
### For "AAA" • "AAAA" • "N"



CAT. NO. 238

MATERIAL  
.010 Spring Steel,  
Nickel Plate

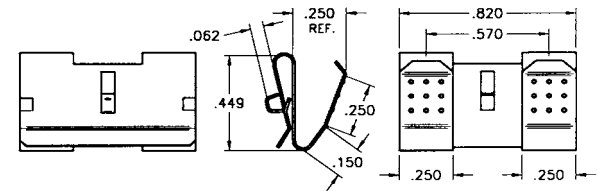
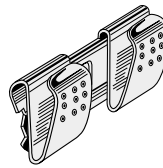
### For "A" • "AA"



CAT. NO. 210

MATERIAL: .012 Spring Steel, Nickel Plate

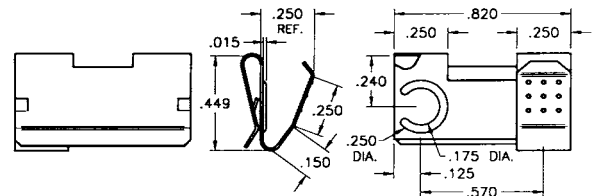
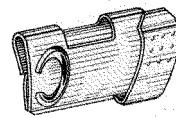
### For "A" • "AA"



CAT. NO. 288

MATERIAL: .012 Spring Steel, Nickel Plate

### For "A" • "AA"

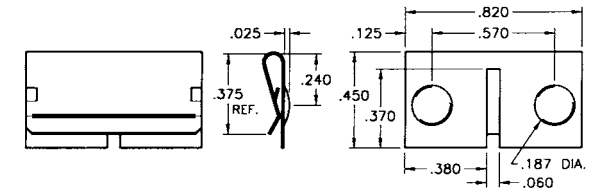


CAT. NO. 290 - Left (shown)

CAT. NO. 291 - Right

MATERIAL: .012 Spring Steel, Nickel Plate

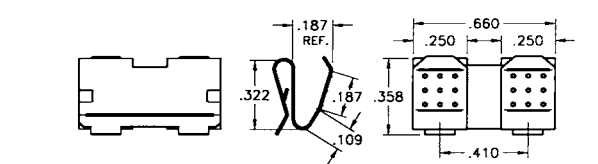
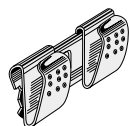
### For "A" • "AA"



CAT. NO. 292

MATERIAL: .010 Spring Steel, Nickel Plate

### For "AAA" • "AAAA" • "N"



CAT. NO. 202

MATERIAL: .010 Spring Steel, Nickel Plate

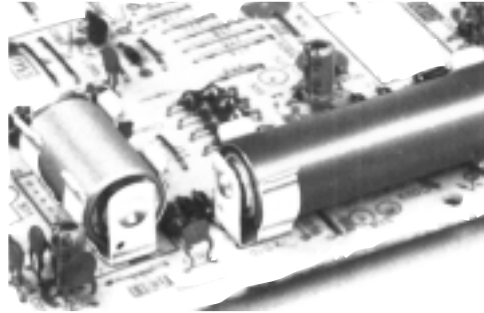


Designers' Choice

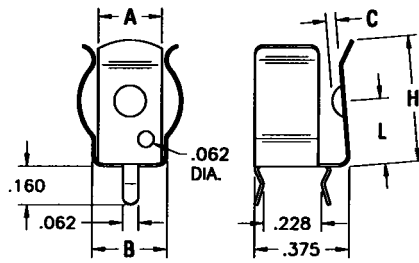
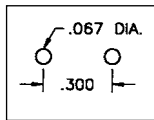
# BATTERY CLIPS & CONTACTS

## SNAP-IN PC BATTERY CLIPS FOR "A" • "AA" • "AAA" • "AAAA" • "N" SIZES

- Available for "A" • "AA" • "AAA" • "AAAA" • "N" size batteries
- Mounts securely to the PC board with advanced "Snap-In" design for thru hole mounting
- "Snap-In" clip holds firmly for wave soldering
- Reliable spring tension assures low contact resistance
- Low profile, economical design
- Retains battery securely to withstand shock and vibration



Mounting Detail



MATERIAL: Spring Steel, Nickel Plate



No Ears

CAT. NO.	BATTERY SIZE	BATTERY DIA.	A	B	C	H	L	MAT'L THICK
52	"A" • "AA"	No Ears	.250	—	.040	.500	.260	.010
92	"A" • "AA"	.531-.665	.312	.375	.060	.593	.359	.012
2915	"A" • "AA"	.531-.665	.312	.375	.060	.593	.359	.015
82	"AAA" • "N"	.375-.460	.250	.300	.040	.500	.260	.010
51	"AAAA"	.300-.350	See drawing below					.010

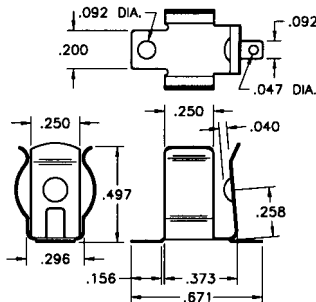
New

## SURFACE MOUNT BATTERY CLIP

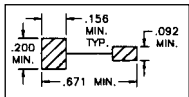
For "AAA" • "N"



- Low profile for densely packed PCBs
- "Flow-Hole" SMT solder tail design for increased joint strength
- Retains cell securely, withstands shock and vibration
- All conductive polystyrene carrier tape meets ANSI/EIA -481 standard



Pad Layout



MATERIAL: .010 Spring Steel, Tin Plate  
Tape & Reel Specs: 32mm wide; 16mm pitch; 13 inch reel, (300 pieces per reel)

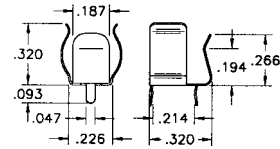
CAT. NO. 55 (Bulk)

CAT. NO. 55TR (Tape and Reel)

"AAAA"

MATERIAL: .010 Spring Steel, Nickel Plate

CAT. NO. 51



Mounting Detail



## ECONOMY CLIPS FOR "AA" • "C" • "D" SIZES

Designed for mounting in self-contained, non-metallic battery compartments. Reliable spring tension assures low contact resistance. Recessed contact holds battery in place. All clips have anti-rotation tab.

MATERIAL: .016 Spring Steel, Nickel Plate

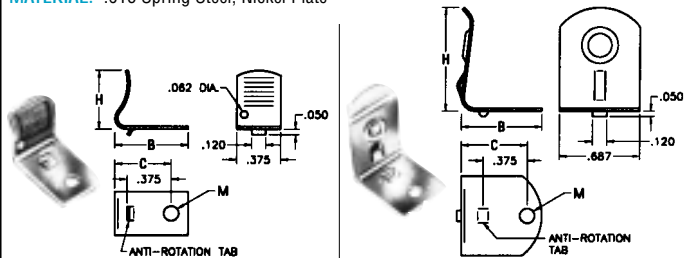
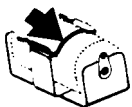


FIG. 1

FIG. 2

CAT. NO.	FIG. NO.	B	C	H	M MTHG HOLE	CELL SIZE
206	1	.625	.480	.500	.128	AA
207	2	.687	.547	.875	.128	C
208	2	.750	.562	1.260	.128	D

## BATTERY RETAINER CLIPS



- Prevents battery from loosening in battery holder
- Retainer clip slips on the ears of the battery holder clip
- Manufactured from Spring Steel, Nickel plate

CAT. NO. 61

Retainer for "AA" or cells with diameters of .532" to .562". Used with Keystone Battery Clips Cat. No. 91, 92, 92-015, 95, 99 and 100.

CAT. NO. 62

Retainer for "C" cells or similar size batteries to 1.032" diameter. Used with Keystone Battery Clips Cat. No. 86, 87, 93 and 222.

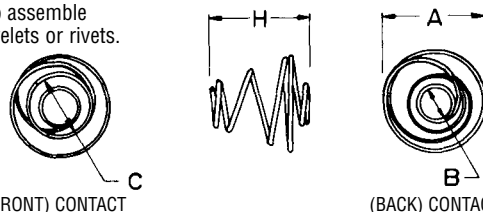
CAT. NO. 63

Retainer for "D" cells or similar size batteries to 1.343" diameter. Used with Keystone Battery Clips Cat. No. 88, 89 and 94.

## BATTERY SPRING CONTACTS

For "A" • "AA" • "C" • "D" Sizes

Easy to assemble with eyelets or rivets.



(FRONT) CONTACT

(BACK) CONTACT

CAT. NO.	H	A	B	C	MATERIAL
211 ("A" • "AA")	.290	.335	.100	.140	.025 Dia. Spring Steel, Nickel Plate
211-D ("C" • "D")	.850	.650	.162	.300	.040 Dia. Spring Steel, Nickel Plate

# BATTERY & COMPONENT CLIPS

Designers' Choice



## STEEL SPACE SAVER BATTERY CLIPS

FOR "AA" • "C" • "D" SIZES

IDEAL FOR • CARBON ZINC • NiCd • NiMH • LITHIUM • ALKALINE BATTERIES



Available with insulated or non-insulated contact.  
Positive contact grips battery securely.

**SPECIFICATIONS**

Clips: Spring Steel, Nickel Plate  
Contact Eyelets: Brass, Nickel Plate  
Insulating Washers: Moisture Proof, Resin Impregnated Fibre  
Terminal Lugs: Brass, Tin Plate

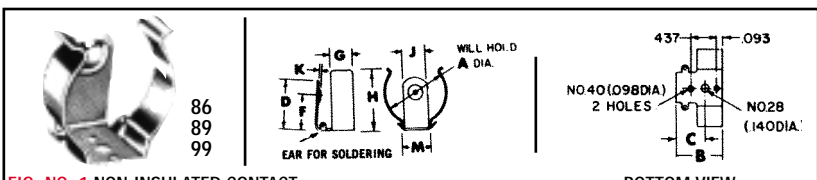


FIG. NO. 1 NON-INSULATED CONTACT

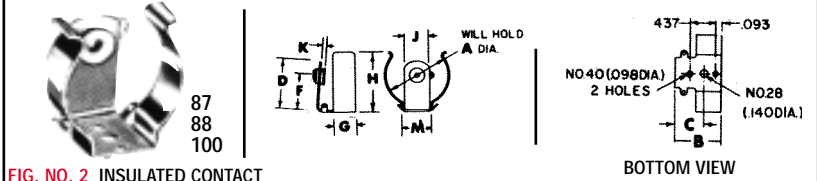


FIG. NO. 2 INSULATED CONTACT

CAT. NO.	FIG. NO.	CONTACT	A DIA. MIN. - MAX.	FOR CELLS	± .015		± .010		± .005		± .020		STEEL THICKNESS	
					B	C	D	F	G	H	J	K		M
86	1	NON-INSULATED	.875 to 1.125	C	.703	.391	.812	.593	.375	.937	.500	.050	.605	.020
87	2	INSULATED	.875 to 1.125	C	.703	.391	.812	.593	.375	.937	.500	.070	.605	.020
88	2	INSULATED	1.187 to 1.350	D	.775	.463	1.075	.750	.437	1.187	.500	.070	.609	.020
89	1	NON-INSULATED	1.187 to 1.350	D	.775	.463	1.075	.750	.437	1.187	.500	.050	.609	.020
99	1	NON-INSULATED	.531 to .650	AA	.703	.391	.609	.375	.375	.609	.312	.050	.353	.015
100	2	INSULATED	.531 to .650	AA	.703	.391	.609	.375	.375	.609	.312	.070	.353	.015

## ALUMINUM & STEEL COMPONENT CLIPS

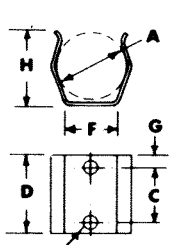
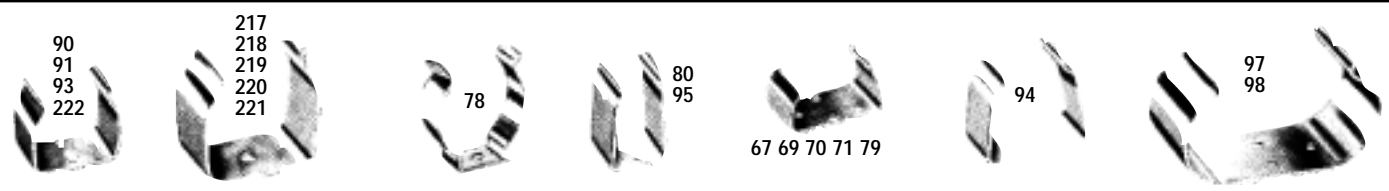


FIG. 1

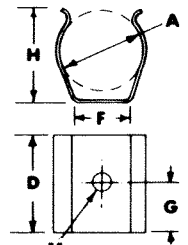


FIG. 2

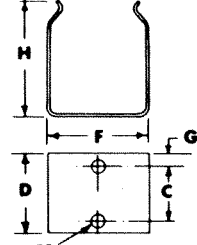


FIG. 3

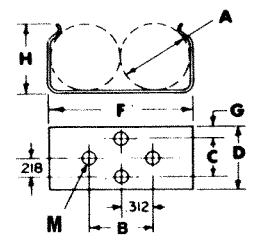


FIG. 4

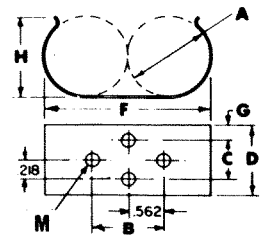


FIG. 5

Precision made spring clips are available in a wide range of sizes. These clips will hold round, square and rectangular batteries or components with similar dimensions. Clips are manufactured from Aluminum or Spring Steel.

**MATERIAL**

Steel Clips: Spring Steel, Nickel Plate  
Aluminum Clips: 2024-T3

\*These clips will hold batteries or components of similar dimensions.

CAT. NO.	FIG. NO.	A MIN MAX DIA. OR SIZE	*FOR CELLS	± .005		± .005		± .010		± .015	± .003 M MTG HOLES.	MATERIAL
				B	C	D	F	G	H			
67	3	.375 x .125	CRYSTAL	—	.187	.375	.410	.093	.210	2#51(.067)	.016 Steel	
69	4	.562 (2)	(2) AA	.625	.437	.625	1.125	.093	.562	4#40(.098)	.015 Steel	
70	4	.656 (2)	(2) RM12	.625	.437	.625	1.343	.093	.740	4#40(.098)	.025 Alum.	
71	3	.593 x 1.031	"9" VOLT	—	.437	.625	1.031	.093	.687	2#40(.098)	.015 Steel	
78	2	1.187 to 1.350	D	—	—	.500	.562	.250	1.218	1#29(.136)	.020 Steel	
79	4	.650 x 1.280	TR146X	.625	.437	.625	1.050	.093	.765	4#40(.098)	.015 Steel	
80	3	.650 x 1.280	"9" VOLT	—	.437	.625	.675	.093	1.187	2#40(.098)	.015 Steel	
90	1	.375 to .468	AAA	—	.437	.625	.312	.093	.453	2#40(.098)	.020 Alum.	
91	1	.531 to .656	AA	—	.437	.625	.406	.093	.562	2#40(.098)	.020 Alum.	
93	1	.875 to 1.125	C	—	.437	.625	.937	.093	.921	2#40(.098)	.020 Alum.	
94	3	1.187 to 1.375	D	—	.437	.625	1.250	.093	1.218	2#40(.098)	.032 Alum.	
95	3	.625 x 1.000	"9" VOLT	—	.437	.625	.656	.093	1.125	2#40(.098)	.020 Alum.	
97	5	1.031 (2)	(2) C	—	.437	.625	2.062	.093	1.125	2#40(.098)	.020 Alum.	
98	5	1.312 (2)	(2) D	1.125	.437	1.000	2.656	.281	1.437	4#40(.098)	.032 Alum.	
217	2	1.375 to 1.500	NiCd	—	—	.812	1.218	.406	1.430	1#22(.157)	.025 Steel	
218	2	1.437 to 1.687	NiCd	—	—	.812	1.375	.406	1.531	1#22(.157)	.025 Steel	
219	2	2.000 to 2.500	NiCd	—	—	.812	1.687	.406	2.156	1#22(.157)	.025 Steel	
220	2	.187 to .203	5mm	—	—	.315	.158	.157	.280	1#42(.093)	.010 Steel	
221	2	.859 to .890	.875	—	—	.468	.828	.234	.906	1#22(.157)	.020 Steel	
222	1	.875 to 1.125	C	—	.437	.625	.937	.093	.921	2#40(.098)	.020 Steel	

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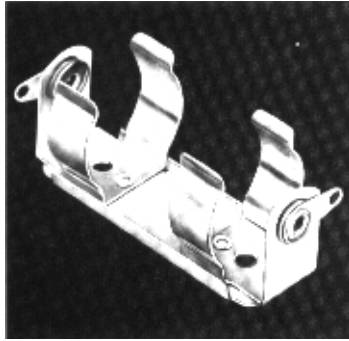


Designers' Choice

# STEEL BATTERY HOLDERS

## RUGGED STEEL BATTERY HOLDERS

An established design that has gained wide acceptance for commercial and military applications. Batteries are held under constant spring tension assuring low contact resistance. Retainer clips are available to lock batteries in place and prevent shifting or loosening of the batteries. Recommended for use where shock or severe vibration is encountered. Special fabrication for more than four batteries or variations from standard stock parts can be assembled to meet your requirements.



- Ideal for NiCd, Alkaline, NiMH, Carbon, Zinc and Lithium Cells
- Corrosion Resistant, Nickel Plate
- Brass Contacts, Nickel Plate
- Moisture Proof Resin Impregnated, Fibre Insulating Washers

### 1100 SERIES

(GROUNDED ONE SIDE)



DIMPLE CONTACT

INSULATED CONTACT

### 2100 SERIES

(FULLY INSULATED)



INSULATED CONTACTS

### INSULATOR TUBES SUPPLIED FOR 2-3-4 CELLS END TO END

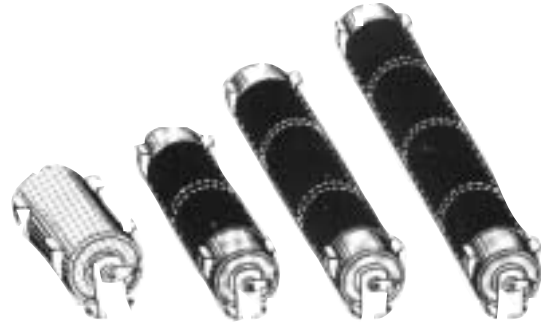


FIG. 19

FIG. 20

FIG. 21

FIG. 22

PHENOLIC BASE



FIG. 23

FIG. 24

PHENOLIC BASE



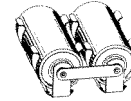
FIG. 25

### MODIFICATIONS AVAILABLE

Use our engineering services for your custom battery holders or modifications to our standard products.

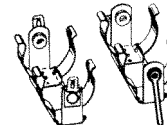
#### JUMPERS

Jumpers permit cost saving and eliminates wiring.



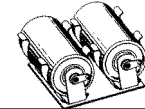
#### SPECIAL LUGS

Printed Circuit, Solderless or Quick-Fit Lugs available for your special connection requirements.



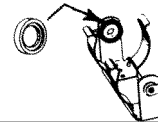
#### MULTIPLE UNITS

Jumpers, special lugs and polarized contacts available for custom applications.



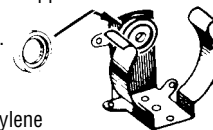
#### POLARIZED CONTACTS

Assure proper battery insertion and correct polarity.



## INSULATED POLARIZING WASHERS

Prevents improper connection of battery which may cause damage to electronic equipment. Washers hold securely when snapped over eyelets. Used on our standardized battery holders. For AA, C & D cells.



**MATERIAL:** Molded Polyethylene

**CAT. NO. 59 (RED) CAT. NO. 60 (BLACK)**

1100 SERIES		2100 SERIES		BATTERY CROSS REFERENCE			
ONE CONTACT INSULATED	ALL CONTACTS INSULATED	FIG. NO.	HOLDS NO. OF CELLS	All Batteries listed within boxes are in the same size group			
CAT. NO.	CAT. NO.	NO.	CELLS	EVEREADY	DURACELL	RAY-O-VAC	NEDA
<b>"AA" CELL HOLDERS</b>				(BATTERY SIZE $\frac{.531}{.565}$ O.D. $\times$ $\frac{1.906}{1.988}$ H)			
1139	2139	19	1	E9, EV15, EN91, CH15, E133, E133N, E177, 505, 523, 1015, 1215	ZM9, RM12R, NC15AA, M15F, M15AA, TR133R, TR177, M505, MN1500, PC1500	5AA, 615, 815, 7AA	15, 15A, 15C, 15D, 15F, 15M, 15NC, 221, 1101M, 1113M, 1306AP, 1306M, 1314M, 1606M
—	2140*	23	2				
—	2171*	24	3				
—	2182*	25	4				
1189	2189	20	2				
1191	2191	21	3				
1194	2194	22	4				
<b>"C" CELL HOLDERS</b>				(BATTERY SIZE $\frac{.875}{1.125}$ O.D. $\times$ $\frac{1.875}{1.969}$ H)			
1173	2173	19	1	CH35, E93, 935, 1235, EV35, EN93	M14F, M14HD, NC14C, TR286, MN1400, PC1400	1C, 614, 814	14A, 14C, 14D, 14F, 14NC, 1600M
—	2174*	23	2				
—	2187*	24	3				
—	2188*	25	4				
1185	2185	20	2				
1195	2195	21	3				
1198	2198	22	4				
<b>"D" CELL HOLDERS</b>				(BATTERY SIZE $\frac{1.187}{1.375}$ O.D. $\times$ $\frac{2.312}{2.412}$ H)			
1175	2175	19	1	CH50, E95, 950, 1250, EV50, EN95	M13F, NC13D, S42, M13HD, TR289, MN1300, PC1300	2D, 6D, 613, 813	13A, 13C, 13D, 13F, 13NC, 1115M, 1810M
—	2176*	23	2				
—	2190*	24	3				
—	2192*	25	4				
1186	2186	20	2				
1199	2199	21	3				
1162	2162	22	4				

\*Clips mounted on Phenolic 1/16" thick

# STEEL BATTERY HOLDERS

Designers' Choice

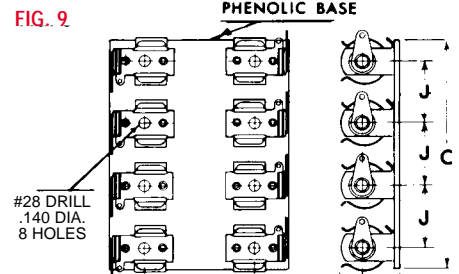
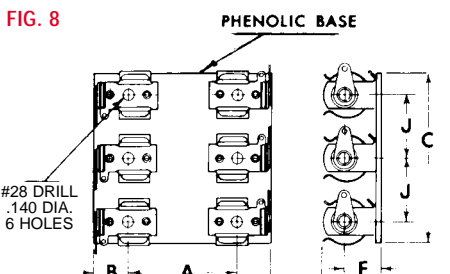
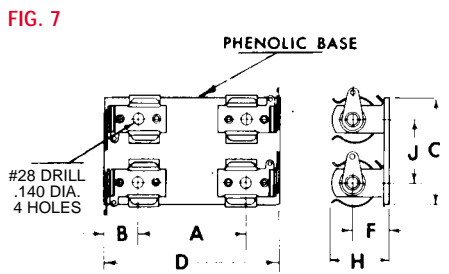
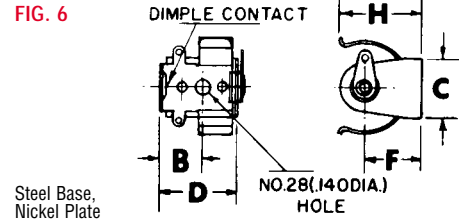
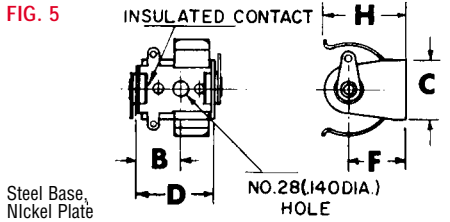
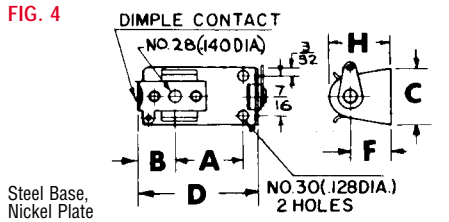
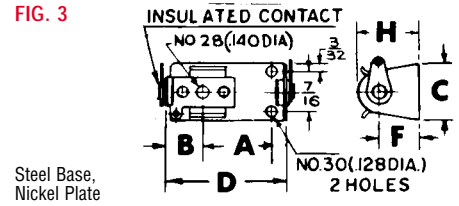
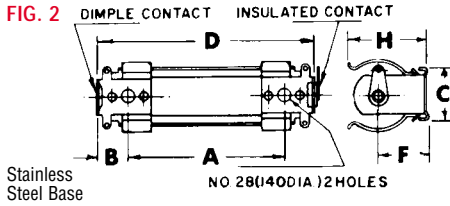
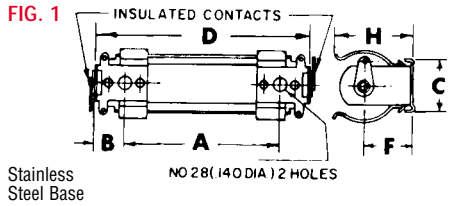


## MATERIAL SPECIFICATIONS

Clips: Spring Steel, Nickel Plate  
 Contact Eyelets: Brass, Nickel Plate  
 Insulating Washers: Moisture Proof, Resin Impregnated Fibre

Terminal Lugs: Brass, Tin Plate  
 Phenolic Base: Type PBE, Per MIL-P-3115C  
 Base: Ribbed Stainless Steel, For Added Support

## DIMENSIONAL DRAWINGS FOR STEEL BATTERY HOLDERS



CAT. NO.	FIG.	±.005 A	±.015 B	±.010 C	±.015 D	±.010 F	±.020 H	CAT. NO.	FIG.	±.005 A	±.015 B	±.010 C	±.015 D	±.010 F	±.020 H	±.005 J
*1101	4	.281	.391	.625	.812	.437	.656	*2116	3	.718	.391	.625	1.281	.437	.656	—
*1104	6	—	.468	.625	.890	.750	1.281	*2125	1	3.906	.391	.687	4.687	.437	.656	—
*1109	2	1.156	.391	.687	1.937	.437	.656	*2132	3	.937	.391	.625	1.484	.437	.656	—
*1110	2	1.562	.391	.687	2.343	.437	.656	*2134	1	2.000	.391	.687	2.781	.437	.656	—
*1113	4	.484	.391	.625	1.031	.437	.656	*2135	1	2.625	.391	.687	3.406	.437	.656	—
*1114	4	.671	.391	.625	1.218	.437	.656	2139	1	1.343	.391	.687	2.125	.437	.656	—
*1116	4	.734	.391	.625	1.281	.437	.656	2140	7	1.343	.406	1.250	2.125	.437	.656	.750
*1125	2	3.906	.391	.687	4.687	.437	.656	*2142	1	1.265	.391	.687	2.047	.437	.656	—
*1132	4	.937	.391	.625	1.484	.437	.656	*2144	1	2.000	.391	.687	2.781	.625	1.000	—
*1134	2	2.000	.391	.687	2.781	.437	.656	*2145	3	.828	.391	.625	1.312	.437	.656	—
*1135	2	2.625	.391	.687	3.406	.437	.656	2162	1	8.687	.468	.687	9.625	.796	1.281	—
1139	2	1.343	.391	.687	2.125	.437	.656	2171	8	1.343	.406	2.000	2.125	.437	.656	.750
*1142	2	1.265	.391	.687	2.047	.437	.656	2173	1	1.343	.391	.687	2.125	.625	1.000	—
*1144	2	2.000	.391	.687	2.781	.625	1.000	2174	7	1.343	.356	1.750	2.062	.625	1.000	1.187
*1145	4	.828	.391	.625	1.312	.437	.656	2175	1	1.625	.468	.687	2.562	.796	1.281	—
1162	2	8.687	.468	.687	9.625	.796	1.281	2176	7	1.625	.468	2.125	2.562	.796	1.281	1.562
1173	2	1.343	.391	.687	2.125	.625	1.000	2182	9	1.343	.406	2.750	2.125	.437	.656	.750
1175	2	1.625	.468	.687	2.562	.796	1.281	2185	1	3.312	.391	.687	4.093	.625	1.000	—
1185	2	3.312	.391	.687	4.093	.625	1.032	2186	1	4.000	.468	.687	4.937	.796	1.281	—
1186	2	4.000	.468	.687	4.937	.796	1.281	2187	8	1.343	.356	2.937	2.062	.625	1.000	1.187
1189	2	3.312	.391	.687	4.093	.437	.656	*2188	9	1.343	.356	4.125	2.062	.625	1.000	1.187
1191	2	5.218	.391	.687	6.000	.437	.656	2189	1	3.312	.391	.687	4.093	.437	.656	—
1194	2	7.205	.391	.687	7.985	.437	.656	2190	8	1.625	.468	3.687	2.562	.796	1.281	1.562
1195	2	5.156	.391	.687	5.937	.625	1.000	2191	1	5.250	.391	.687	6.030	.437	.656	—
1198	2	7.125	.391	.687	7.906	.625	1.000	2192	9	1.625	.468	5.250	2.562	.796	1.281	1.562
1199	2	6.343	.468	.687	7.281	.796	1.281	2194	1	7.230	.391	.687	8.010	.437	.656	—
*2101	3	.281	.391	.625	.812	.437	.656	2195	1	5.156	.391	.687	5.937	.625	1.000	—
*2104	5	—	.468	.625	.890	.750	1.281	2198	1	7.125	.391	.687	7.906	.625	1.000	—
*2109	1	1.156	.391	.687	1.937	.437	.656	2199	1	6.343	.468	.687	7.281	.796	1.281	—
*2110	1	1.562	.391	.687	2.343	.437	.656	*Special order only. Dimensions B, D, F, H should be used for reference								
*2113	3	.484	.391	.625	1.031	.437	.656									
*2114	3	.671	.391	.625	1.218	.437	.656									

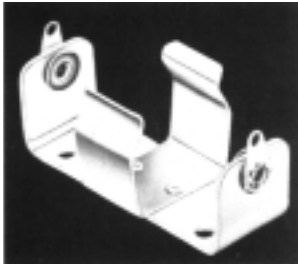


Designers' Choice

# ALUMINUM BATTERY HOLDERS

A standard line of battery holders available for immediate shipment from stock. Low cost, lightweight and sturdily constructed of quality materials. Good electrical contact, low leakage current and snap-fit clips are the outstanding features.

**MODIFICATIONS:** We welcome the opportunity to quote on variations of standard items. Use our engineering service for your special custom-built holders. Holders with PC and Quick-Fit terminals available on special order.



- Brass Eyelets, Nickel Plate
- Brass Lugs, Nickel Plate
- Moisture Proof, Resin Impregnated, Fibre Insulating Washers
- Aluminum 2024-T3, Frame & Clip

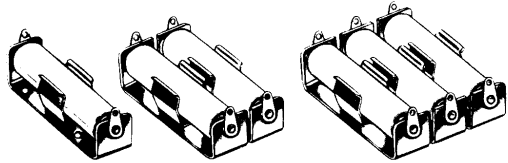


FIG. 1

FIG. 2

FIG. 3

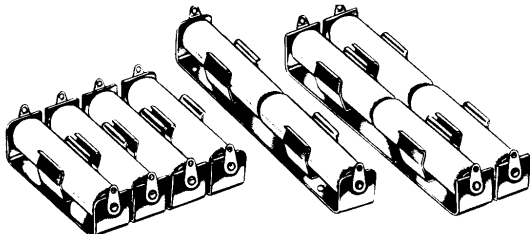


FIG. 4

FIG. 5

FIG. 7

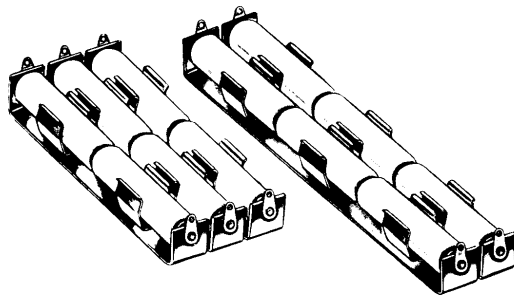


FIG. 8

FIG. 12

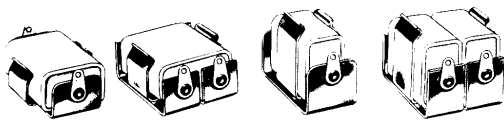


FIG. 9

FIG. 10

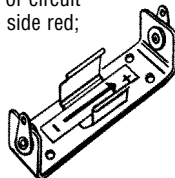
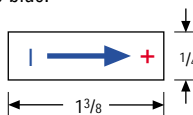
FIG. 11

FIG. 14

## POLARITY INDICATING LABEL

- No Gluing or Wetting Needed
- Pressure Sensitive Adhesive Back
- Economical
- Adheres To All Surfaces

Recommended where proper polarity of battery insertion or circuit polarity is to be shown. Labels are two color, (+) positive side red; arrow, (-) negative side blue.



CAT. NO. 58

Ideal for Alkaline, Carbon, Zinc, NiMH NiCd and Lithium Cells.

DIMENSIONAL DRAWINGS ON THE FOLLOWING PAGE

CAT. NO.	HOLDS NO. OF CELLS	FIG. NO.	BATTERY CROSS REFERENCE			
			EVEREADY	DURACELL	RAY-O-VAC	NEDA
<b>"AAA" CELL HOLDER</b>			(BATTERY SIZE $\frac{.375}{.468}$ O.D. $\times$ $\frac{1.673}{1.752}$ H)			
137	1	1				
138	2	2	E92, 912, CH12	M24F, MN2400	824	24A, 24F, 24P
169	3	3				
170	4	4				
<b>"AA" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.531}{.565}$ O.D. $\times$ $\frac{1.906}{1.988}$ H)			
139	1	1				
140	2	2	E9, EV15, EN91, CH15, E91, E133, E133N, E177, 505, 523, 1015, 1215	ZM9, RM12R, NC15AA, M15F, M15AA, TR133R, TR177, M505, MN1500, PC 1500	5AA, 615, 815, 7AA	15, 15A, 15C, 15D, 15F, 15M, 15NC, 221, 1101M, 1113M, 1306AP, 1306M, 1314M, 1606M
171	3	3				
182	4	4				
189	2	5				
192	4	7				
193	6	8				
<b>"C" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.875}{1.125}$ O.D. $\times$ $\frac{1.875}{1.969}$ H)			
173	1	1				
174	2	2*	CH35, E93, 935, 1235, EV35, EN93	M14F, M14HD, NC14C, TR286, MN1400, PC1400	1C, 614, 814	14A, 14C, 14D, 14F, 14NC, 1600M
187	3	3				
185	2	5				
196	4	7*				
197	6	8				
<b>"D" CELL HOLDERS</b>			(BATTERY SIZE $\frac{1.187}{1.375}$ O.D. $\times$ $\frac{2.312}{2.412}$ H)			
175	1	1				
176	2	2*	CH50, E95, 950, 1250, EV50, EN95	M13F, NC13D, S42, M13HD, TR289, MN1300, PC1300	2D, 6D, 613, 813	13A, 13C, 13D, 13F, 13NC, 1115M, 1810M
190	3	3				
186	2	5				
200	4	7*				
201	6	8				
205	6	12*				
<b>"N" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.375}{.468}$ O.D. $\times$ $\frac{1.110}{1.189}$ H)			
154	1	1	E90, E340E, E401E, EP401E	MP401H	R401, RP401, 810	910A, 910F, 910M, 1117M, 1118M, MN9100
155	2	2				
156	3	3				
<b>"9 VOLT" BATTERY HOLDERS</b>						
139B	1	1	206	M1611	—	1611
173P	1	1	226	—	—	1600
203P	1	10	CH22, EN22, E146X, 216, 522, 1222, E303396	TR146X, M1604, M1604HD, MN1604, PC146X, PC1604	A1604, D1604, 1604	1604, 1604A, 1604C, 1604D, 1604M, 1604NC, 1619M
1290	REF. PAGE 21					
1291	REF. PAGE 21					
<b>"15 VOLT" BATTERY HOLDERS</b>						
163	1	9	—	—	—	224
161	1	9	—	—	—	224
166	1	11	411	—	—	208
167	2	14	—	—	—	208
225	1	1	504	—	—	220
226	2	2	—	—	—	220
<b>"22 1/2 VOLT" BATTERY HOLDERS</b>						
139	1	1	505	—	—	221
168	1	9	420	—	—	225
177	1	11	412	M215	—	215
178	2	14	—	—	—	215
<b>"30 VOLT" BATTERY HOLDERS</b>						
183	1	11	413	—	—	210
184	2	14	—	—	—	210

\*"C" Cell Holders-Dual Cat. No. 97 clips used

"D" Cell Holders-Dual Cat. No. 98 clips used



# ALUMINUM BATTERY HOLDERS

Designers' Choice



## MATERIAL SPECIFICATIONS

Insulating Washers: Moisture proof, resin impregnated fibre  
Terminal Lugs: Brass, Tin Plate

Frame and Clips: Aluminum 2024-T3  
Contact Eyelet: Brass, Nickel Plate

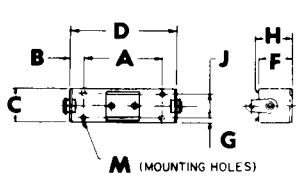


FIG. 1

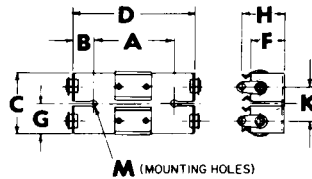


FIG. 2

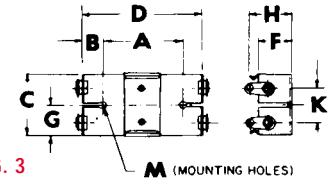


FIG. 3

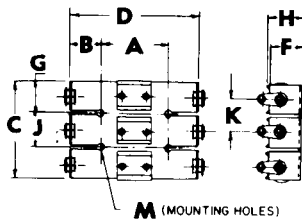


FIG. 4

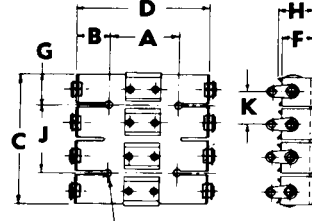


FIG. 5

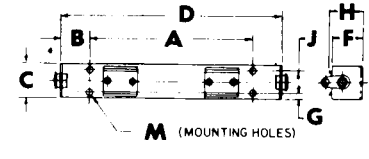


FIG. 6

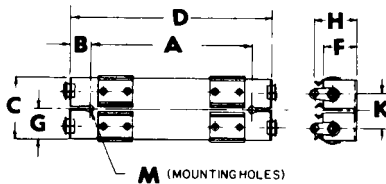


FIG. 7

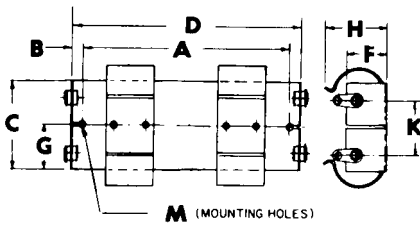


FIG. 8

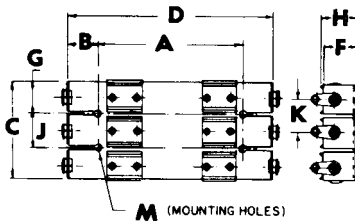


FIG. 9

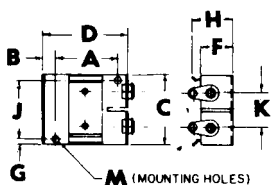


FIG. 10

CAT. NO.	FIG. NO.	±.010 A	±.015 B	±.010 C	±.015 D	±.010 F	±.010 G	±.015 H	±.005 J	±.010 K	MTG HOLES M ±.003
*109	1	1.500	.218	.625	1.937	.609	.109	.625	.406	—	4#30(.128 Dia)
*110	1	1.500	.437	.625	2.374	.625	.109	.625	.406	—	4#30(.128 Dia)
132	1	1.125	.171	.625	1.468	.640	.093	.625	.437	—	4#34(.111 Dia)
*134	1	1.812	.484	.625	2.781	.609	.093	.625	.437	—	4#34(.111 Dia)
*135	6	2.500	.464	.625	3.430	.610	.093	.625	.437	—	4#30(.128 Dia)
137	1	1.500	.218	.437	1.915	.468	.093	.484	.250	—	2#34(.111 Dia)
138	2	.875	.531	.812	1.915	.468	.406	.484	—	.437	2#28(.140 Dia)
139	1	1.500	.312	.625	2.140	.625	.109	.580	.406	—	4#34(.111 Dia)
140	2	1.218	.461	1.125	2.140	.625	.562	.625	—	.625	2#28(.140 Dia)
154	1	.906	.242	.437	1.343	.468	.093	.531	.250	—	2#34(.111 Dia)
155	2	.875	.245	.937	1.343	.468	.468	.531	—	.500	2#30(.128 Dia)
156	4	.875	.257	1.500	1.343	.475	.468	.531	.562	.531	4#34(.111 Dia)
*157	10	1.125	.218	1.250	1.562	.578	.109	.718	1.032	.593	2#34(.111 Dia)
*160	1	3.500	.406	1.000	4.312	.960	.141	1.218	.718	—	2#28(.140 Dia)
*163	1	1.125	.312	1.000	1.750	.687	.141	1.218	.718	—	2#28(.140 Dia)
*164	1	1.625	.402	1.000	2.430	.687	.125	1.218	.750	—	2#28(.140 Dia)
*165	1	2.187	.390	1.000	2.968	.687	.141	1.218	.718	—	2#28(.140 Dia)
166	1	1.000	.312	.750	1.625	.768	.093	1.156	.562	—	4#28(.140 Dia)
167	3	1.000	.312	1.125	1.593	.750	.562	1.264	—	.593	2#28(.140 Dia)
*168	1	1.500	.377	.750	2.275	.718	.125	.937	.500	—	4#28(.140 Dia)
170	5	.875	.531	1.687	1.915	.468	.406	.484	.875	.437	4#28(.140 Dia)
171	4	1.218	.461	1.750	2.140	.625	.562	.625	.625	.625	4#28(.140 Dia)
173	1	1.500	.296	.750	2.093	.781	.156	.953	.437	—	4#28(.140 Dia)
174	3	1.750	.172	1.625	2.093	.781	.812	1.105	—	1.000	2#28(.140 Dia)
175	1	1.750	.406	1.000	2.562	.937	.125	1.218	.750	—	4#30(.128 Dia)
176	3	2.093	.248	2.062	2.578	.937	1.030	1.437	—	1.312	2#28(.140 Dia)
177	1	1.500	.312	.750	2.125	.781	.156	1.156	.437	—	4#28(.140 Dia)
178	3	1.218	.453	1.125	2.215	.781	.562	1.218	—	.625	2#28(.140 Dia)
*179	1	.937	.250	1.000	1.425	.930	.125	1.218	.750	—	4#30(.128 Dia)
182	5	1.218	.461	2.656	2.140	.625	.609	.625	1.437	.718	4#28(.140 Dia)
183	1	1.750	.445	.750	2.687	.812	.093	1.156	.562	—	4#34(.111 Dia)
184	3	1.812	.414	1.125	2.640	.812	.562	1.218	—	.625	2#28(.140 Dia)
185	6	3.187	.419	.750	4.025	.812	.125	.953	.500	—	4#28(.140 Dia)
186	6	4.125	.370	1.000	4.865	.968	.156	1.218	.687	—	4#30(.128 Dia)
187	4	1.250	.435	2.840	2.093	.781	.812	.953	1.125	1.125	4#28(.140 Dia)
189	6	3.000	.538	.625	4.075	.625	.093	.625	.437	—	4#30(.128 Dia)
190	4	1.937	.321	3.375	2.578	.968	1.125	1.218	1.125	1.343	4#28(.140 Dia)
192	7	3.093	.542	1.125	4.093	.625	.593	.625	—	.625	2#28(.140 Dia)
193	9	3.125	.484	1.750	4.075	.625	.562	.625	.625	.625	4#28(.140 Dia)
196	8	3.187	.419	1.625	4.025	.781	.812	1.125	—	1.000	2#28(.140 Dia)
197	9	3.187	.419	2.875	4.025	.812	.937	.968	1.000	1.171	4#28(.140 Dia)
200	8	4.375	.245	2.062	4.865	.968	1.032	1.468	—	1.312	2#28(.140 Dia)
201	9	4.275	.245	3.375	4.865	.968	1.125	1.218	1.125	1.343	4#28(.140 Dia)
203P	10	1.375	.312	1.125	2.000	.547	.125	.793	.875	.500	4#30(.128 Dia)
205	8	6.812	.250	2.062	7.230	.937	1.030	1.437	—	1.312	4#28(.140 Dia)
*225	1	1.125	.226	.625	1.578	.609	.093	.625	.437	—	4#34(.111 Dia)
*226	2	.875	.351	1.125	1.578	.609	.562	.625	—	.625	2#28(.140 Dia)
1290	10	1.375	.218	1.185	1.890	.562	.125	.718	.875	.500	4#30(.128 Dia)
1291	10	1.375	.218	1.185	1.890	.562	.125	.718	.875	.500	4#30(.128 Dia)

\*Special order only

Dimensions are for reference only



Designers' Choice

# INTERCONNECT BATTERY HOLDERS

## ALUMINUM HOLDERS CONNECTED IN SERIES

### ELIMINATES WIRING • LABOR SAVING

Features pre-connected jumper strap insulated from the Aluminum base. Batteries held in series circuit without need of additional wiring.

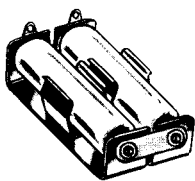


FIG. 2

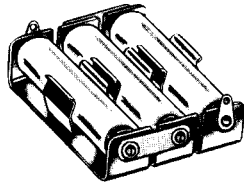


FIG. 3

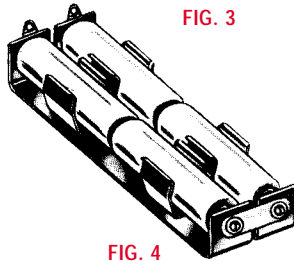


FIG. 4

CAT. NO.	HOLDS NO. OF CELLS	FIG. NO.	BATTERY CROSS REFERENCE			
			EVEREADY	DURACELL	RAY-O-VAC	NEDA
			All Batteries listed within boxes are in the same size group			
<b>"AA" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.531}{.565}$ O.D. $\times$ $\frac{1.906}{1.988}$ H)			
146	2	2	E9, EV15, EN91, CH15, E133, E133N, E177, 505, 523, 1015, 1215	ZM9, RM12R, NC15AA, M15F, M15AA, TR133R, TR177, M505, MN1500, PC1500	5AA, 615, 815, 7AA	15, 15A, 15C, 15D, 15F, 15M, 15NC, 221, 1101M, 1113M, 1306AP, 1306M, 1314M, 1606M
147	3	3				
148	4	4				
<b>"C" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.875}{1.125}$ O.D. $\times$ $\frac{1.875}{1.969}$ H)			
149	2	2	CH35, E93, 935, 1235, EV35, EN93	M14F, M14HD, NC14C, TR286, MN1400, PC1400	1C, 614, 814	14A, 14C, 14D, 14F, 14NC, 1600M
150	3	3				
151	4	4				
<b>"D" CELL HOLDERS</b>			(BATTERY SIZE $\frac{1.187}{1.375}$ O.D. $\times$ $\frac{2.312}{2.412}$ H)			
152	2	2	CH50, E95, 950, 1250, EV50, EN95	M13F, NC13D, S42, M13HD, TR289, MN1300, PC1300	2D, 6D, 613, 813	13A, 13C, 13D, 13F, 13NC, 1115M, 1810M
153	3	3				
158	4	4				

## ALUMINUM HOLDERS WITH PC LUGS

### ELIMINATES WIRING • LABOR SAVING

For printed circuitry we have standardized our most popular holders with PC Lugs. Choice of single or multiple holders "AA" and "C" assembled with Cat. No. 4002 lug. "D" assembled with Cat. No. 4003 lug.

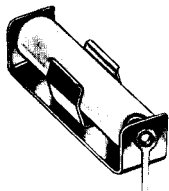


FIG. 1

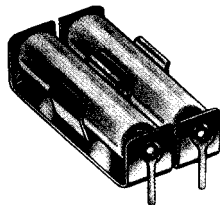


FIG. 2

CAT. NO.	HOLDS NO. OF CELLS	FIG. NO.	BATTERY CROSS REFERENCE			
			EVEREADY	DURACELL	RAY-O-VAC	NEDA
			All Batteries listed within boxes are in the same size group			
<b>"AA" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.531}{.565}$ O.D. $\times$ $\frac{1.906}{1.988}$ H)			
2222	1	1	E9, EV15, EN91, CH15, E133, E133N, E177, 505, 523, 1015, 1215	ZM9, RM12R, NC15AA, M15F, M15AA, TR133R, TR177, M505, MN1500, PC1500	5AA, 615, 815, 7AA	15, 15A, 15C, 15D, 15F, 15M, 15NC, 221, 1101M, 1113M, 1306AP, 1306M, 1314M, 1606M
2223	2	2				
<b>"C" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.875}{1.125}$ O.D. $\times$ $\frac{1.875}{1.969}$ H)			
2224	1	1	CH35, E93, 935, 1235, EV35, EN93	M14F, M14HD, NC14C, TR286, MN1400, PC1400	1C, 614, 814	14A, 14C, 14D, 14F, 14NC, 1600M
2225	2	2				
<b>"D" CELL HOLDERS</b>			(BATTERY SIZE $\frac{1.187}{1.375}$ O.D. $\times$ $\frac{2.312}{2.412}$ H)			
2226	1	1	CH50, E95, 950, 1250, EV50, EN95	M13F, NC13D, S42, M13HD, TR289, MN1300, PC1300	2D, 6D, 613, 813	13A, 13C, 13D, 13F, 13NC, 1115M, 1810M
2227	2	2				

## STEEL HOLDERS WITH PC LUGS

### ELIMINATES WIRING • LABOR SAVING

For printed circuitry we have standardized our most popular holders with PC Lugs. Choice of single or multiple holders "AA" and "C" assembled with Cat. No. 4002 lug. "D" assembled with Cat. No. 4003 lug.



FIG. 3

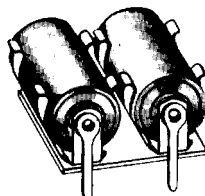


FIG. 4

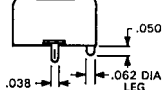
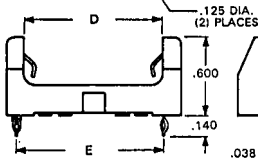
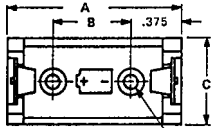
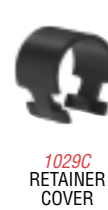
CAT. NO.	HOLDS NO. OF CELLS	FIG. NO.	BATTERY CROSS REFERENCE			
			EVEREADY	DURACELL	RAY-O-VAC	NEDA
			All Batteries listed within boxes are in the same size group			
<b>"AA" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.531}{.565}$ O.D. $\times$ $\frac{1.906}{1.988}$ H)			
2228	1	3	E9, EV15, EN91, CH15, E133, E133N, E177, 505, 523, 1015, 1215	ZM9, RM12R, NC15AA, M15F, M15AA, TR133R, TR177, M505, MN1500, PC1500	5AA, 615, 815, 7AA	15, 15A, 15C, 15D, 15F, 15M, 15NC, 221, 1101M, 1113M, 1306AP, 1306M, 1314M, 1606M
2229	2	4				
<b>"C" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.875}{1.125}$ O.D. $\times$ $\frac{1.875}{1.969}$ H)			
2230	1	3	CH35, E93, 935, 1235, EV35, EN93	M14F, M14HD, NC14C, TR286, MN1400, PC1400	1C, 614, 814	14A, 14C, 14D, 14F, 14NC, 1600M
2231	2	4				
<b>"D" CELL HOLDERS</b>			(BATTERY SIZE $\frac{1.187}{1.375}$ O.D. $\times$ $\frac{2.312}{2.412}$ H)			
2232	1	3	CH50, E95, 950, 1250, EV50, EN95	M13F, NC13D, S42, M13HD, TR289, MN1300, PC1300	2D, 6D, 613, 813	13A, 13C, 13D, 13F, 13NC, 1115M, 1810M
2233	2	4				

# LITHIUM BATTERY HOLDERS

Designers' Choice



## PLASTIC PC BATTERY HOLDERS FOR "1/2 AA" • "AA" • "2/3 A" SIZES



### SPECIFICATIONS

- Base: Glass Filled Nylon, UL Rated 94V-0
- Retainer Cover: PBT, UL Rated 94V-0
- Contacts: .012 Spring Steel
- Plating: Bright Tin over Nickel over Copper

### FEATURES

- Snap-In PC contact holds in position for wave solderability
- Tin over Nickel Plated contacts for excellent soldering
- Polarity clearly marked for orientation
- Low Profile, space-saving
- Snap-on retainer cover (optional) retains battery securely to withstand shock and vibration. Helps protect against shorting. Tamper-proof.

### APPLICATIONS

- Computer memory, power transfer and back-up systems
- Video and telecommunications power back-up requirements
- Preprogrammed video and electronic games
- Microprocessor, microcomputers, minicomputers, notebook, laptop and handheld computer memory hold applications
- Emergency power systems
- Residential, industrial and commercial security and fire alarm systems

HOLDER CAT. NO.	COVER CAT. NO.	SIZE & TYPE	DIMENSIONS					MTG. HOLES		BATTERY CROSS REFERENCE
			A (MAX)	B	C	D	E	L	W	
108	108C	1/2 AA	1.360	.610	.640	1.030	1.160	1.160	.279	Eveready 544, Duracell PX28L, Kodak K28A & KS28, Panasonic CR14250, Saft LCP3, Electrochem 3B955, Maxell 4LR44, Sanyo CR14250SE.
1028	1028C	AA	2.360	1.610	.640	2.030	2.160	2.160	.279	Eveready E9, EV15, E91, E177, 505, 1015, Duracell ZM9, NC15, M15F, TR177, M505, MN1500, PC1500, Panasonic UM-3 & P-45AA, Sanyo N-600AA & N-700AA, Rayovac 5AA, 7AA, 615, 815.
1029	1029C 1029LC	2/3 A	1.700	.950	.720	1.375	1.500	1.500	.320	Duracell DL2/3A, Electrochem 3B793 & 3B950, Panasonic CR123A, Saft 450SC & VR0450, Sanyo CR17335SE, Kodak K123L.

## 6 VOLT LITHIUM BATTERY HOLDERS

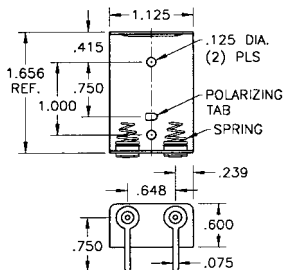
FOR DURACELL DL223A OR EQUIVALENT BATTERIES



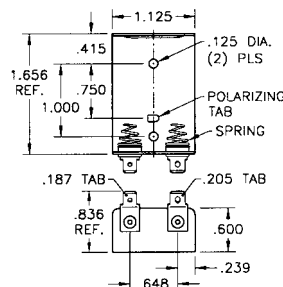
- Quick Fit/Solder Lug Terminals
- PC Board Terminals
- Lightweight, ideal for rugged applications

### SPECIFICATIONS

Frame: Aluminum 2024-T3  
Spring Contacts: .025 Dia. Spring Steel, Nickel Plate  
Terminals: Brass, Tin Plate



CAT. NO. 224  
PC Terminals



CAT. NO. 222  
Quick-Fit/Solder Lug

## LITHIUM BATTERY HOLDERS

PC PLASTIC HOLDER



FIG. 1

STANDARD LUGS

PC LUGS



FIG. 2 - ALL STEEL HOLDER



FIG. 3 - ALL STEEL HOLDER



FIG. 4 - ALUMINUM HOLDER



FIG. 5 - ALUMINUM HOLDER

CAT. NO	FIG. NO.	CAT. NO.	FIG. NO.	BATTERY SIZE	BATTERY DIA.	DURA-CELL	PANA-SONIC	SANYO G.E.
—	—	108	1	1/2AA	.51 × .99	P×28L	CR14250	CR14250SE
1103	2	2103	3	1/2AA	.51 × .99	P×28L	CR14250	CR14250SE
1105	2	2105	3	1/2A	.611 × .886	—	BR-1/2A	—
—	—	1029	1	2/3A	.661 × 1.315	DL-2/3A	BR-2/3A	CR17335SE
132	4	131	5	2/3A	.661 × 1.315	DL-2/3A	BR-2/3A	CR17335SE



Designers' Choice

# PLASTIC BATTERY HOLDERS

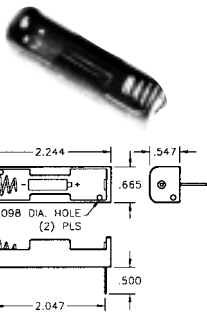
## PLASTIC BATTERY HOLDERS FOR "AA" • "AAA" SIZES

- Economical design, available with PC terminals or wire leads
- Batteries securely held in place to assure a positive connection and maintain a low contact resistance
- Contact springs self-adjust to variations in battery length
- Withstands shock and vibration
- Available with solder lugs or male/female snap fasteners

### SPECIFICATIONS

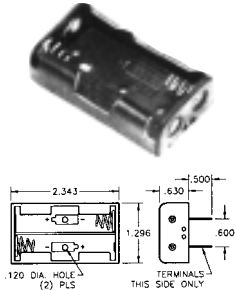
- Holder: Polypropylene
- Springs: Spring Steel, Nickel Plate
- PC Pins: .031 Brass, Nickel Plate
- Wires (Red & Black): #26AWG, Tinned, .187 end strip UL/CSA1007

Holds One (1) "AA" Cell



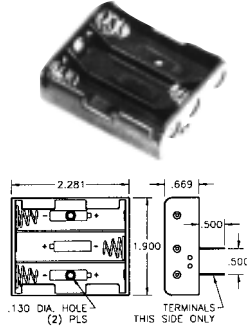
CAT. NO. 2460 – PC Mount  
CAT. NO. 2461 – 6" Wire Leads

Holds Two (2) "AA" Cells in Series



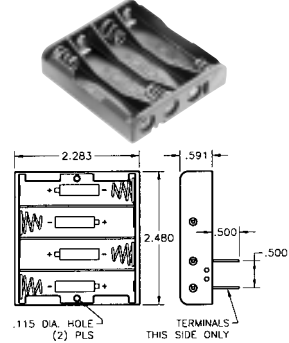
CAT. NO. 2462 – PC Mount  
CAT. NO. 2463 – 6" Wire Leads

Holds Three (3) "AA" Cells in Series



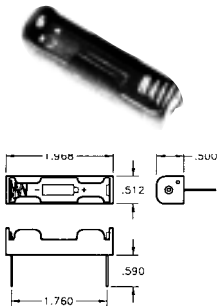
CAT. NO. 2464 – PC Mount  
CAT. NO. 2465 – 6" Wire Leads

Holds Four (4) "AA" Cells in Series



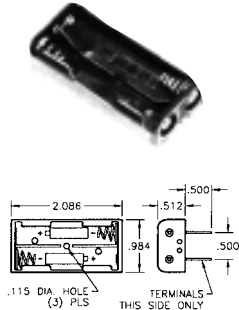
CAT. NO. 2477 – PC Mount  
CAT. NO. 2478 – 6" Wire Leads

Holds One (1) "AAA" Cells



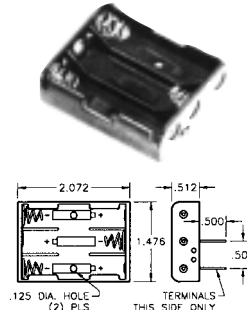
CAT. NO. 2466 – PC Mount  
CAT. NO. 2467 – 6" Wire Leads

Holds Two (2) "AAA" Cells in Series



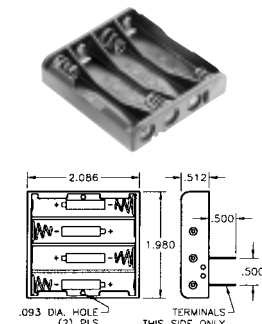
CAT. NO. 2468 – PC Mount  
CAT. NO. 2469 – 6" Wire Leads

Holds Three (3) "AAA" Cells in Series



CAT. NO. 2479 – PC Mount  
CAT. NO. 2480 – 6" Wire Leads

Holds Four (4) "AAA" Cells in Series



CAT. NO. 2481 – PC Mount  
CAT. NO. 2482 – 6" Wire Leads

## "AA" SIZE BATTERY HOLDERS WITH SNAP-ON CONNECTOR

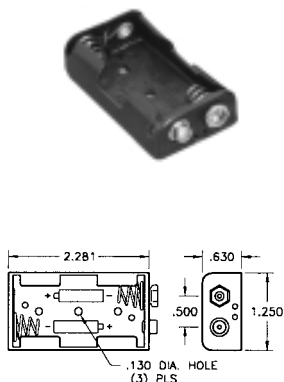
- Features separable "snap-on/snap-off" battery connector (9 Volt type) to assure reliable connections to battery powered equipment, controls and systems
- Economical design, holders available for two, three or four cells. Wired in series to accept connector (9 Volt type)
- Batteries securely held in place to maintain a positive contact and a low contact resistance

- Battery contact springs self adjust to variations in battery length
- Withstands shock and vibration
- Ideally mates with Keystone 9 Volt battery straps and connectors

### SPECIFICATIONS

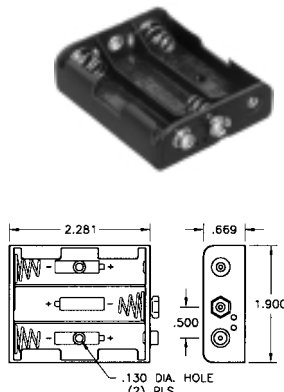
Holder: Polypropylene; Male/Female Contacts: Brass, Nickel Plate  
Battery Springs: Spring Steel, Nickel Plate

Holds Two (2) "AA" Cells in Series



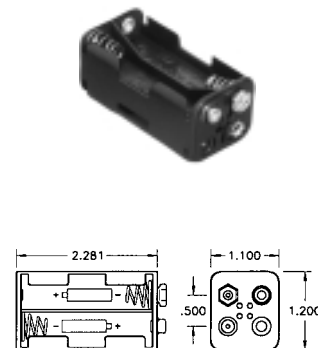
CAT. NO. 2474

Holds Three (3) "AA" Cells in Series



CAT. NO. 2475

Holds Four (4) "AA" Cells in Series



CAT. NO. 2476

# 9 VOLT HOLDERS & CONNECTORS

Designers' Choice



## HORIZONTAL 9 VOLT PC SNAP-ONS

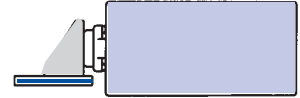
### MOUNTS DIRECTLY TO PRINTED CIRCUIT BOARD

PC Male/Female for any standard 9 Volt Battery. Cut costs by eliminating wiring. Compact Space Saver.

- Space saving design installs directly onto the PC board
- Contacts available for .062 and .093 thick PC boards
- Ideal for self-contained battery compartments



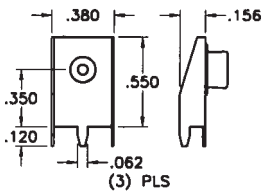
To Mount Battery "On" PC Board  
Use Cat. No. 593 and Cat. No. 594



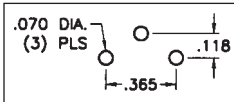
To Mount Battery "Off" PC Board  
Use Cat. No. 635 and Cat. No. 636

**MATERIAL:** Frame: .015 Steel, Tin Plate; Contacts: Steel, Nickel Plate

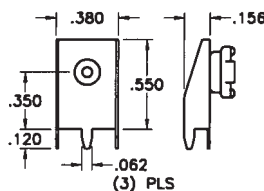
### "On-Board"



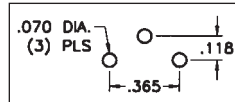
Mounting Detail



CAT. NO. 593 - Male

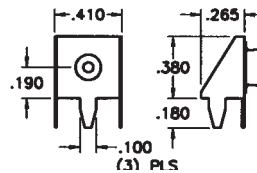


Mounting Detail

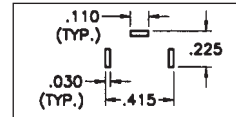


CAT. NO. 594 - Female

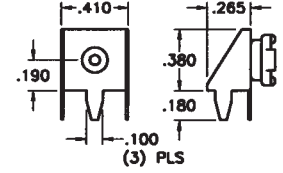
### "Off-Board"



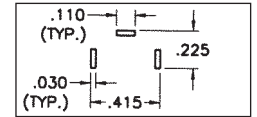
Mounting Detail



CAT. NO. 635 - Male



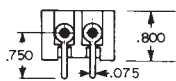
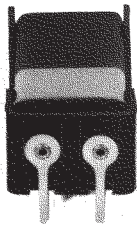
Mounting Detail



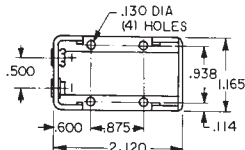
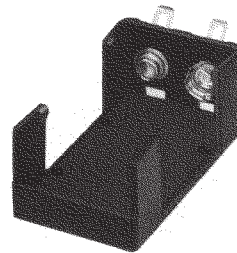
CAT. NO. 636 - Female

## UNIVERSAL 9 VOLT BATTERY HOLDERS

With PC Terminals or Combination Quick-Fit/Solder Lug Terminals.



CAT. NO. 1294  
PC Terminals



CAT. NO. 1295  
Quick-Fit/Solder Lug Terminals

Holds any size, any shape, standard 9 Volt battery.

Eliminates need to specify an exact battery brand, size or shape. Ideal for power source or memory back-up use in minicomputers, telecommunications, data processing, security systems, clocks, radios, toys and appliances.

- Male-female snap-in terminals assure positive contact and proper polarity
- Durable, rugged construction
- Excellent spring retention—holds battery in place
- Withstands severe shock and vibration
- Operating temperature range: -40°F to +266°F (-40°C to +130°C)
- Impervious to most industrial solvents

### SPECIFICATIONS

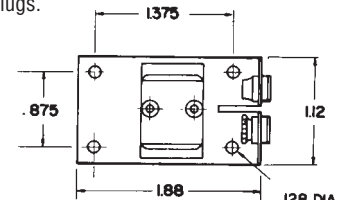
Body: Molded from high impact, Glass Filled Nylon  
Terminals: Brass, Tin Plate  
Contacts: Steel, Nickel Plate

## 9 VOLT SNAP-IN BATTERY HOLDERS

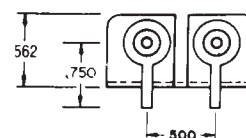
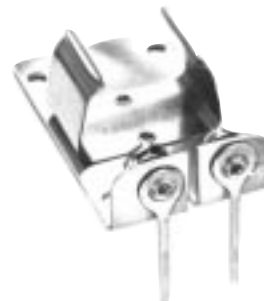
For use with standard 9 Volt battery. Battery snaps in place to insure positive contact. Ideal where severe shock and vibration are encountered. Available with standard solder lugs or printed circuit lugs.

### SPECIFICATIONS

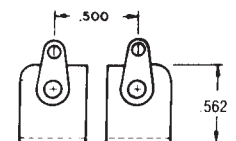
Frame: Aluminum  
Solder Lugs: Brass, Tin Plate  
PC Lugs: Brass, Tin Plate  
Contacts & Clips: Steel, Nickel Plate  
Insulation: Resin Impregnated Fibre



NOTE: For battery thicknesses over .640; specify Cat. No. 1290-79 or 1291-79.



CAT. NO. 1291 PC Lugs



CAT. NO. 1290 Solder Lugs



Designers' Choice

# 9 VOLT STRAPS & CONNECTORS

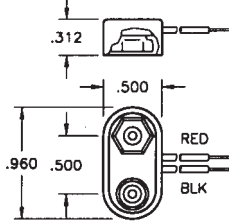
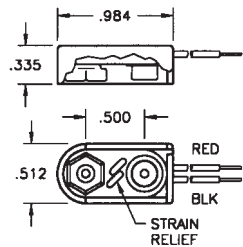
## SHIELDED 9 VOLT BATTERY STRAPS

- Insulates and shields 9 Volt battery snap-on connector contacts
- Assures safe secure use, reduces the potential of short circuits and prevents tampering with battery contacts
- Protects circuits, prevents unwanted electrical discharge due to unintended grounding
- Protects battery contacts from dust, dirt, and physical damage
- Ideal for rugged applications, made of high impact molded plastic with integral wire lead strain relief



### SPECIFICATIONS

Base: Polypropylene  
 Male/Female Contacts: Brass, Nickel Plate  
 Wires (Red & Black): #26AWG, Tinned, .187 end strip, UL/CSA1007



CAT. NO.	*LEAD LENGTH
84-4	4.00
84-6	6.00
84-8	8.00

**I -STYLE**

CAT. NO.	*LEAD LENGTH
81-4	4.00
81-6	6.00
81-8	8.00

**T -STYLE**  
with Strain Relief

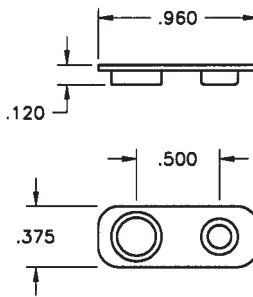
\*Tolerance on lead length +/- .250

\*Tolerance on lead length +/- .250

## PROTECTIVE BATTERY CAP

- Protects 9 Volt batteries and battery packs when they are not in use
- Snap-fits onto battery contacts
- Both male and female contacts are covered, minimizing physical damage which can occur during battery handling, shipping and storage
- Shields the battery contacts and reduces the potential of a short circuit between battery poles
- Protects sensitive electronic equipment, systems and circuits, cap prevents unwanted electrical discharges
- Protects the battery contacts from damage due to dust, dirt and contamination

**MATERIAL:** Impact Resistant Polypropylene, Black

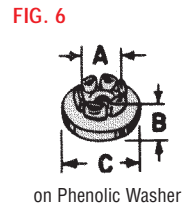
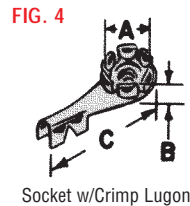
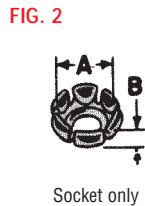
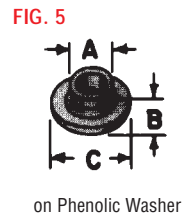
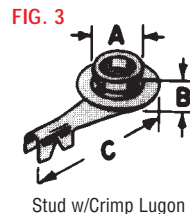
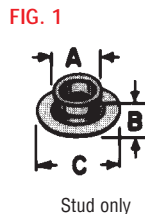


CAT. NO. 96

## BATTERY SNAP-ONS (Miniature and Standard)

For most electronic applications requiring a quick connect and disconnect of circuit. Commonly used with 9 Volt or other batteries designed with snap fasteners. Ideal for temporary or permanent means of connecting without soldering. Can be cascaded together for multiple connections.

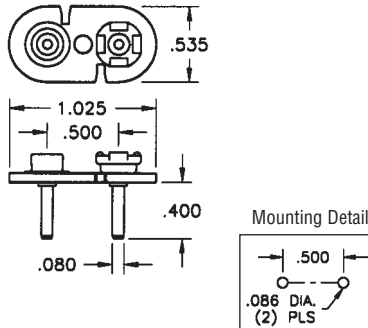
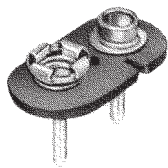
**DIMENSIONS FOR REFERENCE ONLY**



CAT. NO.	FIG. NO.	A	B	C	DESCRIPTION
261	1	.225	.135	.312	Jr. Stud only-.093 hole
262	1	.283	.143	.425	Sr. Stud only-.125 hole
269	2	.205	.156	—	Jr. Socket only-.093 hole
270	2	.265	.156	—	Sr. Socket only-.125 hole
263	3	.225	.170	.790	Jr. Stud w/ Lug
264	3	.283	.185	.840	Sr. Stud w/ Lug
271	4	.205	.200	.790	Jr. Socket w/ Lug
272	4	.265	.185	.835	Sr. Socket w/ Lug
265	5	.225	.205	.500	Jr. Stud on Phenolic Washer
266	6	.205	.205	.500	Jr. Socket on Phenolic Washer
273	5	.283	.200	.500	Sr. Stud on Phenolic Washer
274	6	.265	.225	.500	Sr. Socket on Phenolic

## VERTICAL 9 VOLT PC SNAP-ONS

- Space saving, economical
- Excellent mechanical strength
- Low contact resistance
- Durable fibre base
- Wave solderable
- Anti-Wicking Design

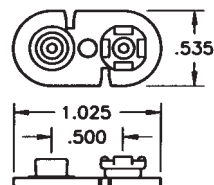


### SPECIFICATIONS

Base: .062 Fibre  
 Contacts: Steel, Nickel Plate  
 Pins: Brass, Tin Plate

CAT. NO. 968 - With PC Pins

- Cost saving design
- Ideal for custom applications
- Attach your own terminals and wire leads



### SPECIFICATIONS

Base: .062 Fibre  
 Contacts: Steel, Nickel Plate

CAT. NO. 68 - Without PC Pins

# 9 VOLT BATTERY STRAPS

Designers' Choice



## PREMIUM 9 VOLT BATTERY STRAPS

Rigidly constructed. Nickel plate, male and female contacts. Female contacts are spring temper. Accepts numerous insertions to meet U.L. approved standards. Provides excellent mechanical strength and low contact resistance. Wire leads (red and black) are soldered for increased reliability. Wires have tinned copper conductors, PVC insulation and the ends are stripped for easy connection.

Wires are rated to 176°F (80° C) and 300V and meet UL/CSA #1061/#1007 requirements.

Modifications available with different lead lengths.

\*Tolerance on lead length +/- .250



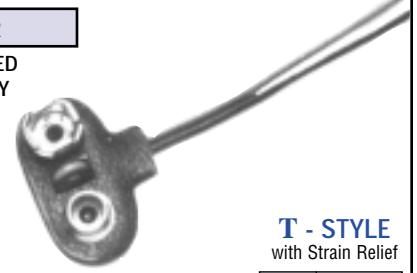
Cover Sizes: 1.125 × .530  
Contacts: Phos. Br., Nickel Plate  
Wire: #26 AWG, 7/34  
End Strip: .250 Long, Tinned

### VINYL COVER

- FULLY INSULATED
- RIGID ASSEMBLY

### I - STYLE

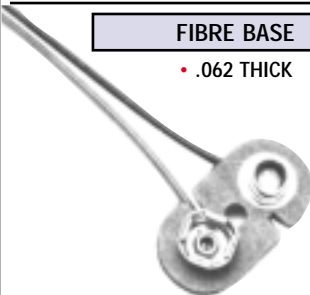
CAT. NO.	*LEAD LENGTH
2238	4.00
2239	6.00
2240	8.00



Cover Sizes: 1.000 × .687  
Contacts: Phos. Br., Nickel Plate  
Wire: #26 AWG, 7/34  
End Strip: .250 Long, Tinned

### T - STYLE with Strain Relief

CAT. NO.	*LEAD LENGTH
2241	4.00
2242	6.00
2243	8.00

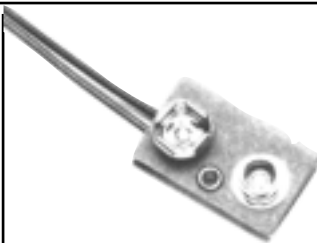


### FIBRE BASE

- .062 THICK

Cover Sizes: 1.030 × .535  
Contacts: Steel, Nickel Plate  
Wire: #22 AWG, 7/30 Prebond  
End Strip: .375 Long, Tinned

CAT. NO.	*LEAD LENGTH
68	None
72-4	4.00
72	7.00
72-8	8.00



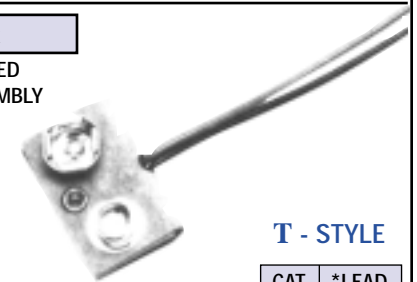
Cover Sizes: .900 × .575  
Contacts: Steel, Nickel Plate  
Wire: #22 AWG, 7/30 Prebond  
End Strip: .375 Long, Tinned

### FIBRE COVER

- FULLY INSULATED
- FLEXIBLE ASSEMBLY

### I - STYLE

CAT. NO.	*LEAD LENGTH
83-4	4.00
83	6.50
83-8	8.00



Cover Sizes: .900 × .575  
Contacts: Steel, Nickel Plate  
Wire: #22 AWG, 7/30 Prebond  
End Strip: .375 Long, Tinned

### T - STYLE

CAT. NO.	*LEAD LENGTH
85-4	4.00
85-6	6.50
85-8	8.00

## ECONOMY 9 VOLT BATTERY STRAPS

When product cost is of the utmost importance these economy battery straps will suit your needs. Brass contacts, nickel plated with vinyl covering. Wires have tinned copper conductors, PVC insulation and the ends are stripped for easy connection. Wires meet UL/CSA #1007 requirements.

Modifications available with different lead lengths.

\*Tolerance on lead length +/- .250



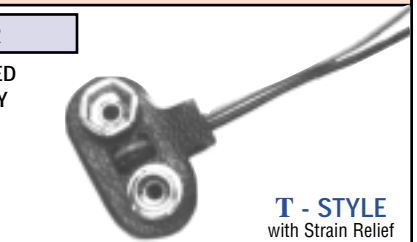
Cover Sizes: 1.125 × .530  
Contacts: Brass, Nickel Plate  
Wire: #26 AWG, 7/34  
End Strip: .250 Long, Tinned

### VINYL COVER

- FULLY INSULATED
- RIGID ASSEMBLY

### I - STYLE

CAT. NO.	*LEAD LENGTH
232	4.00
233	6.00
234	8.00



Cover Sizes: 1.000 × .687  
Contacts: Brass, Nickel Plate  
Wire: #26 AWG, 7/34  
End Strip: .250 Long, Tinned

### T - STYLE with Strain Relief

CAT. NO.	*LEAD LENGTH
235	4.00
236	6.00
237	8.00

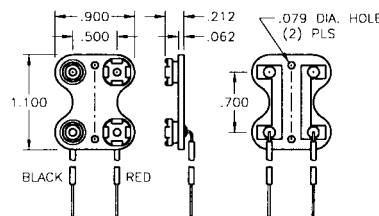
## DUAL 9 VOLT BATTERY STRAPS

These dual battery straps are pre-wired for connecting two 9 Volt batteries. Available for either series or parallel connection. Base made from fibre material with steel, nickel plated contacts. Wires have tinned copper conductors, PVC insulation and the ends are stripped for easy connection. Wires meet UL/CSA #1061 requirements.



\*Tolerance on lead length +/- .250

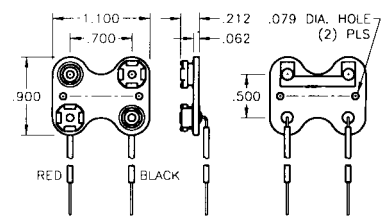
### PARALLEL



Contacts: Steel, Nickel Plate  
Wire: #22 AWG, 7/30 Prebond  
End Strip: .375 Long, Tinned

CAT. NO.	*LEAD LENGTH
227	7.00

### SERIES



Contacts: Steel, Nickel Plate  
Wire: #22 AWG, 7/30 Prebond  
End Strip: .375 Long, Tinned

CAT. NO.	*LEAD LENGTH
229	7.00

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e-mail: [kec@keyelco.com](mailto:kec@keyelco.com) • WebSite: [keyelco.com](http://keyelco.com)

**KEYSTONE**





# PANEL HARDWARE

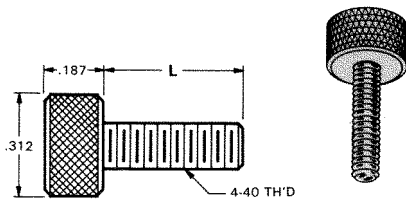
Designers' Choice



MATERIAL: Stainless Steel per ASTM-A581/A582

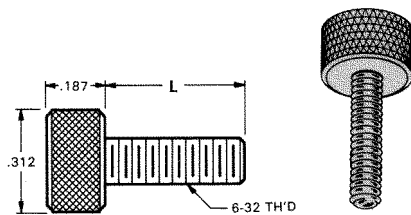
## THUMB SCREWS

4-40



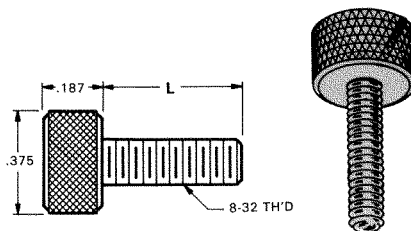
CAT. NO.	LENGTH
2400	.312
2401	.375
2402	.437
2403	.500

6-32



CAT. NO.	LENGTH
2404	.312
2405	.375
2406	.437
2407	.500

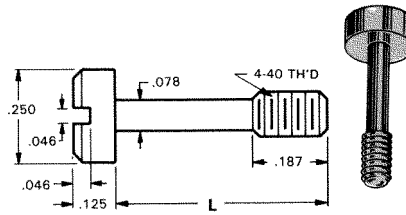
8-32



CAT. NO.	LENGTH
2408	.375
2409	.437
2410	.500
2411	.562
2412	.625

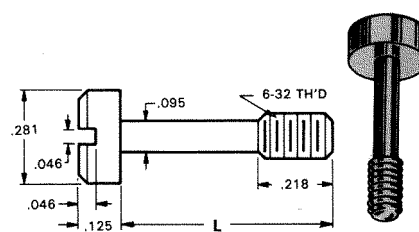
## CAPTIVE SCREWS

4-40



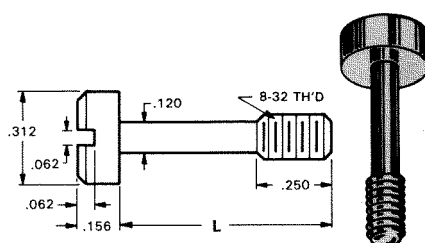
CAT. NO.	LENGTH
2413	.469
2414	.531

6-32



CAT. NO.	LENGTH
2415	.531
2416	.593
2417	.656

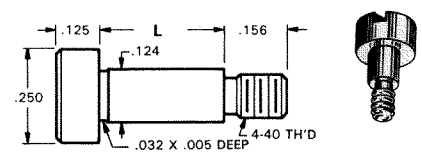
8-32



CAT. NO.	LENGTH
2418	.656
2419	.718
2420	.781

## SHOULDER SCREWS

4-40

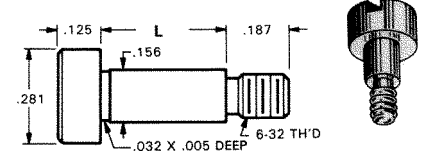


SLOTTED

SOCKET

CAT. NO.	LENGTH	CAT. NO.
2421	.125	2441
2422	.250	2442
2423	.375	2443
2424	.500	2444

6-32

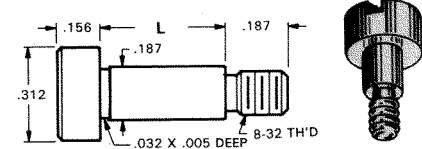


SLOTTED

SOCKET

CAT. NO.	LENGTH	CAT. NO.
2425	.125	2445
2426	.250	2446
2427	.375	2447
2428	.500	2448
2429	.625	2449
2430	.750	2450

8-32



SLOTTED

SOCKET

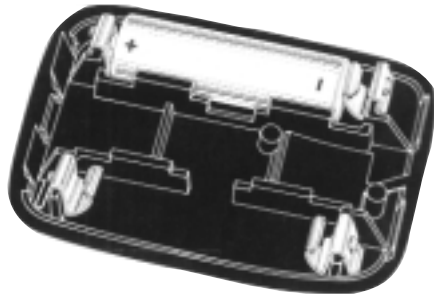
CAT. NO.	LENGTH	CAT. NO.
2431	.125	2451
2432	.250	2452
2433	.375	2453
2434	.500	2454
2435	.625	2455
2436	.750	2456
2437	1.000	2457

# BATTERY CONTACTS

Designers' Choice

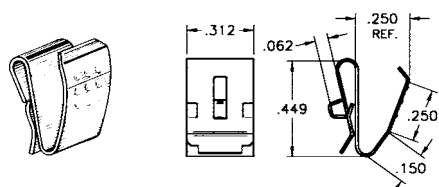


## SNAP-ON CONTACTS FOR "A" • "AA" • "AAA" • "AAAA" • "N" SIZES



- Economical and reliable contacts are ideal for molded cases with self contained battery compartments
- Single & dual contact designs available for "A" • "AA" • "AAA" • "AAAA" • "N" size batteries
- Solder "ear" to facilitate soldering of wire lead
- Unique spring tension contact adjusts to variations in battery length
- Reliable spring tension contacts assure low contact resistance
- Clips easily onto .060 to .070 thick panel edges
- Sharp barbs securely anchor contact in place

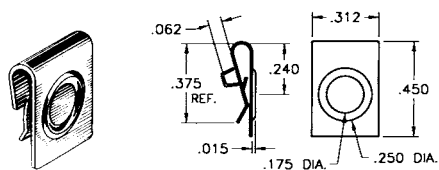
### For "A" • "AA"



CAT. NO. 209

MATERIAL  
.012 Spring Steel,  
Nickel Plate

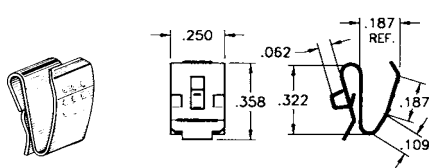
### For "A" • "AA"



CAT. NO. 228

MATERIAL  
.010 Spring Steel,  
Nickel Plate

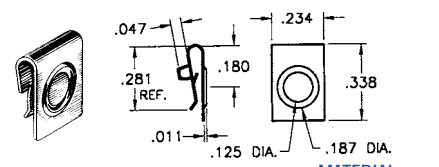
### For "AAA" • "AAAA" • "N"



CAT. NO. 204

MATERIAL  
.010 Spring Steel,  
Nickel Plate

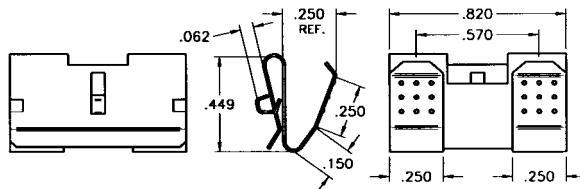
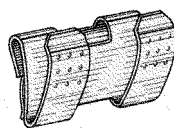
### For "AAA" • "AAAA" • "N"



CAT. NO. 238

MATERIAL  
.010 Spring Steel,  
Nickel Plate

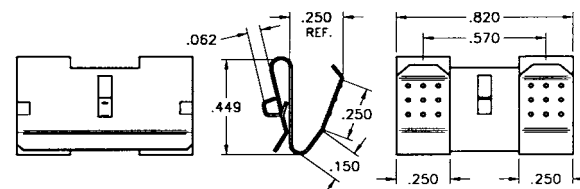
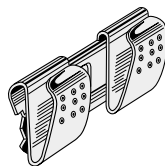
### For "A" • "AA"



CAT. NO. 210

MATERIAL: .012 Spring Steel, Nickel Plate

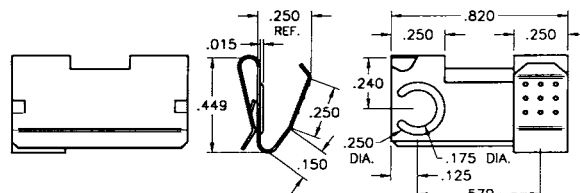
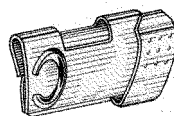
### For "A" • "AA"



CAT. NO. 288

MATERIAL: .012 Spring Steel, Nickel Plate

### For "A" • "AA"

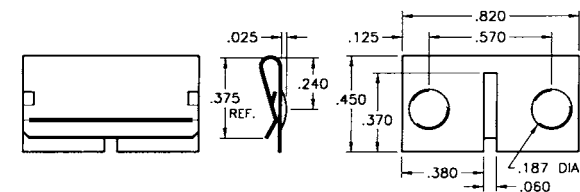
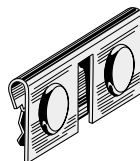


CAT. NO. 290 - Left (shown)

CAT. NO. 291 - Right

MATERIAL: .012 Spring Steel, Nickel Plate

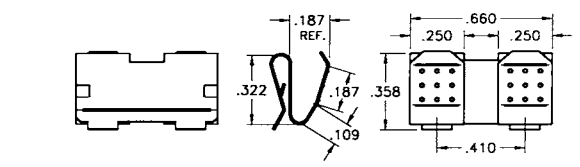
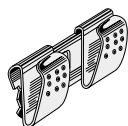
### For "A" • "AA"



CAT. NO. 292

MATERIAL: .010 Spring Steel, Nickel Plate

### For "AAA" • "AAAA" • "N"



CAT. NO. 202

MATERIAL: .010 Spring Steel, Nickel Plate

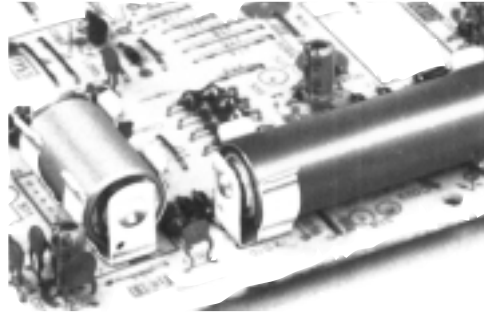


Designers' Choice

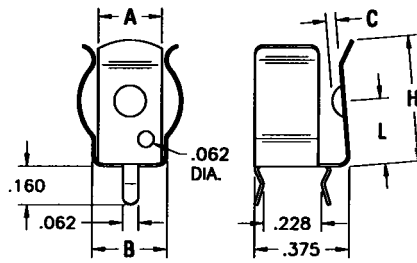
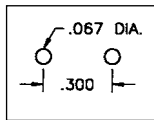
# BATTERY CLIPS & CONTACTS

## SNAP-IN PC BATTERY CLIPS FOR "A" • "AA" • "AAA" • "AAAA" • "N" SIZES

- Available for "A" • "AA" • "AAA" • "AAAA" • "N" size batteries
- Mounts securely to the PC board with advanced "Snap-In" design for thru hole mounting
- "Snap-In" clip holds firmly for wave soldering
- Reliable spring tension assures low contact resistance
- Low profile, economical design
- Retains battery securely to withstand shock and vibration



Mounting Detail



MATERIAL: Spring Steel, Nickel Plate



No Ears

CAT. NO.	BATTERY SIZE	BATTERY DIA.	A	B	C	H	L	MAT'L THICK
52	"A" • "AA"	No Ears	.250	—	.040	.500	.260	.010
92	"A" • "AA"	.531-.665	.312	.375	.060	.593	.359	.012
2915	"A" • "AA"	.531-.665	.312	.375	.060	.593	.359	.015
82	"AAA" • "N"	.375-.460	.250	.300	.040	.500	.260	.010
51	"AAAA"	.300-.350	See drawing below					.010

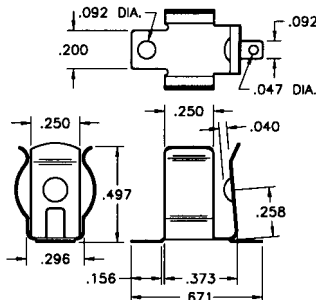
New

## SURFACE MOUNT BATTERY CLIP

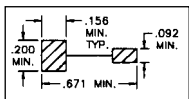
For "AAA" • "N"



- Low profile for densely packed PCBs
- "Flow-Hole" SMT solder tail design for increased joint strength
- Retains cell securely, withstands shock and vibration
- All conductive polystyrene carrier tape meets ANSI/EIA -481 standard



Pad Layout



MATERIAL: .010 Spring Steel, Tin Plate  
Tape & Reel Specs: 32mm wide; 16mm pitch; 13 inch reel, (300 pieces per reel)

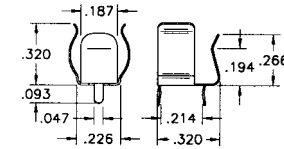
CAT. NO. 55 (Bulk)

CAT. NO. 55TR (Tape and Reel)

"AAAA"

MATERIAL: .010 Spring Steel, Nickel Plate

CAT. NO. 51



Mounting Detail



## ECONOMY CLIPS FOR "AA" • "C" • "D" SIZES

Designed for mounting in self-contained, non-metallic battery compartments. Reliable spring tension assures low contact resistance. Recessed contact holds battery in place. All clips have anti-rotation tab.

MATERIAL: .016 Spring Steel, Nickel Plate

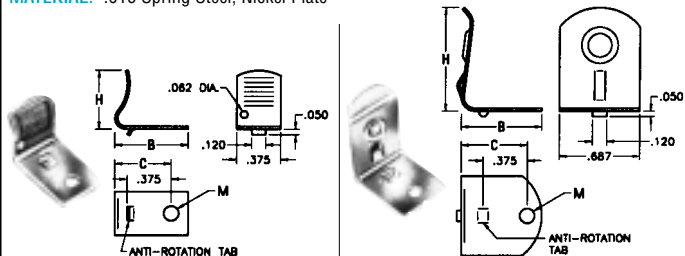
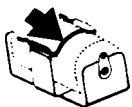


FIG. 1

FIG. 2

CAT. NO.	FIG. NO.	B	C	H	M MTHG. HOLE	CELL SIZE
206	1	.625	.480	.500	.128	AA
207	2	.687	.547	.875	.128	C
208	2	.750	.562	1.260	.128	D

## BATTERY RETAINER CLIPS



- Prevents battery from loosening in battery holder
- Retainer clip slips on the ears of the battery holder clip
- Manufactured from Spring Steel, Nickel plate

CAT. NO. 61

Retainer for "AA" or cells with diameters of .532" to .562". Used with Keystone Battery Clips Cat. No. 91, 92, 92-015, 95, 99 and 100.

CAT. NO. 62

Retainer for "C" cells or similar size batteries to 1.032" diameter. Used with Keystone Battery Clips Cat. No. 86, 87, 93 and 222.

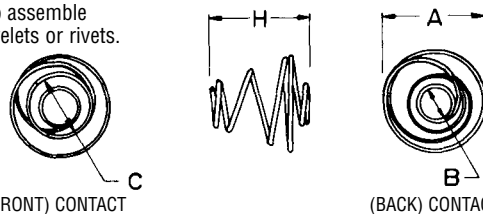
CAT. NO. 63

Retainer for "D" cells or similar size batteries to 1.343" diameter. Used with Keystone Battery Clips Cat. No. 88, 89 and 94.

## BATTERY SPRING CONTACTS

For "A" • "AA" • "C" • "D" Sizes

Easy to assemble with eyelets or rivets.



(FRONT) CONTACT

(BACK) CONTACT

CAT. NO.	H	A	B	C	MATERIAL
211 ("A" • "AA")	.290	.335	.100	.140	.025 Dia. Spring Steel, Nickel Plate
211-D ("C" • "D")	.850	.650	.162	.300	.040 Dia. Spring Steel, Nickel Plate

# BATTERY & COMPONENT CLIPS

Designers' Choice



## STEEL SPACE SAVER BATTERY CLIPS

FOR "AA" • "C" • "D" SIZES

IDEAL FOR • CARBON ZINC • NiCd • NiMH • LITHIUM • ALKALINE BATTERIES



Available with insulated or non-insulated contact.  
Positive contact grips battery securely.

**SPECIFICATIONS**

Clips: Spring Steel, Nickel Plate  
Contact Eyelets: Brass, Nickel Plate  
Insulating Washers: Moisture Proof, Resin Impregnated Fibre  
Terminal Lugs: Brass, Tin Plate

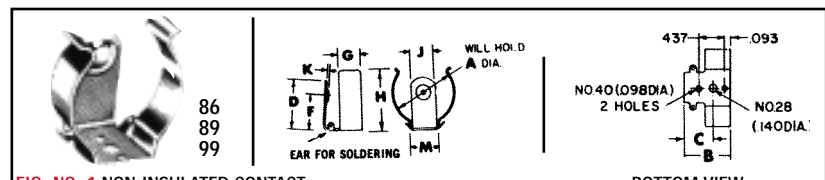


FIG. NO. 1 NON-INSULATED CONTACT

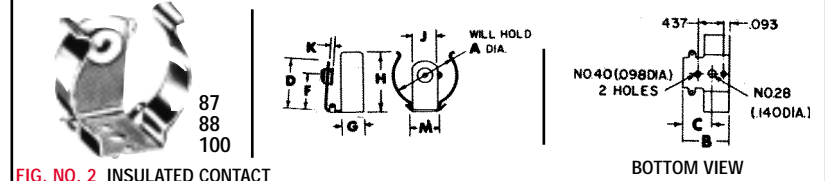


FIG. NO. 2 INSULATED CONTACT

CAT. NO.	FIG. NO.	CONTACT	A DIA. MIN. - MAX.	FOR CELLS	± .015		± .010		± .005		± .020		± .005		STEEL THICKNESS
					B	C	D	F	G	H	J	K	M		
86	1	NON-INSULATED	.875 to 1.125	C	.703	.391	.812	.593	.375	.937	.500	.050	.605	.020	
87	2	INSULATED	.875 to 1.125	C	.703	.391	.812	.593	.375	.937	.500	.070	.605	.020	
88	2	INSULATED	1.187 to 1.350	D	.775	.463	1.075	.750	.437	1.187	.500	.070	.609	.020	
89	1	NON-INSULATED	1.187 to 1.350	D	.775	.463	1.075	.750	.437	1.187	.500	.050	.609	.020	
99	1	NON-INSULATED	.531 to .650	AA	.703	.391	.609	.375	.375	.609	.312	.050	.353	.015	
100	2	INSULATED	.531 to .650	AA	.703	.391	.609	.375	.375	.609	.312	.070	.353	.015	

## ALUMINUM & STEEL COMPONENT CLIPS

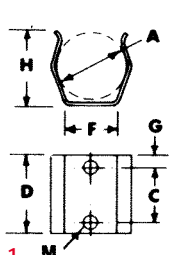
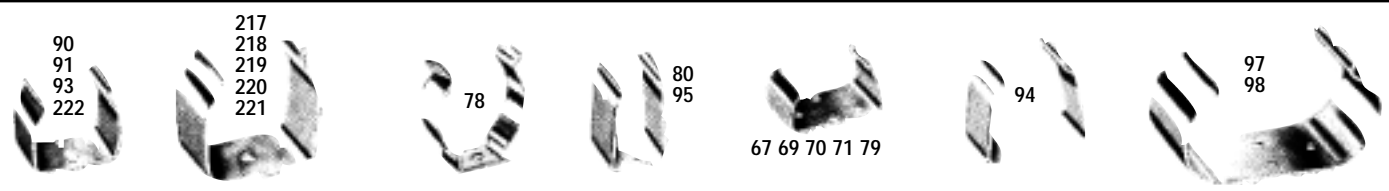


FIG. 1

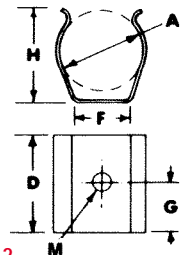


FIG. 2

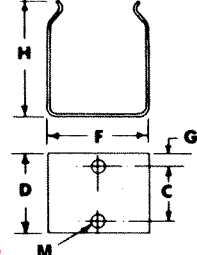


FIG. 3

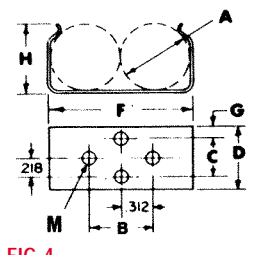


FIG. 4

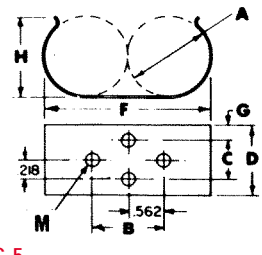


FIG. 5

Precision made spring clips are available in a wide range of sizes. These clips will hold round, square and rectangular batteries or components with similar dimensions. Clips are manufactured from Aluminum or Spring Steel.

**MATERIAL**

Steel Clips: Spring Steel, Nickel Plate  
Aluminum Clips: 2024-T3

\*These clips will hold batteries or components of similar dimensions.

CAT. NO.	FIG. NO.	A MIN MAX DIA. OR SIZE	*FOR CELLS	± .005		± .005		± .010		± .003		MATERIAL
				B	C	D	F	G	H	M MTG HOLES.		
67	3	.375 x .125	CRYSTAL	—	.187	.375	.410	.093	.210	2#51(.067)	.016 Steel	
69	4	.562 (2)	(2) AA	.625	.437	.625	1.125	.093	.562	4#40(.098)	.015 Steel	
70	4	.656 (2)	(2) RM12	.625	.437	.625	1.343	.093	.740	4#40(.098)	.025 Alum.	
71	3	.593 x 1.031	"9" VOLT	—	.437	.625	1.031	.093	.687	2#40(.098)	.015 Steel	
78	2	1.187 to 1.350	D	—	—	.500	.562	.250	1.218	1#29(.136)	.020 Steel	
79	4	.650 x 1.280	TR146X	.625	.437	.625	1.050	.093	.765	4#40(.098)	.015 Steel	
80	3	.650 x 1.280	"9" VOLT	—	.437	.625	.675	.093	1.187	2#40(.098)	.015 Steel	
90	1	.375 to .468	AAA	—	.437	.625	.312	.093	.453	2#40(.098)	.020 Alum.	
91	1	.531 to .656	AA	—	.437	.625	.406	.093	.562	2#40(.098)	.020 Alum.	
93	1	.875 to 1.125	C	—	.437	.625	.937	.093	.921	2#40(.098)	.020 Alum.	
94	3	1.187 to 1.375	D	—	.437	.625	1.250	.093	1.218	2#40(.098)	.032 Alum.	
95	3	.625 x 1.000	"9" VOLT	—	.437	.625	.656	.093	1.125	2#40(.098)	.020 Alum.	
97	5	1.031 (2)	(2) C	—	.437	.625	2.062	.093	1.125	2#40(.098)	.020 Alum.	
98	5	1.312 (2)	(2) D	1.125	.437	1.000	2.656	.281	1.437	4#40(.098)	.032 Alum.	
217	2	1.375 to 1.500	NiCd	—	—	.812	1.218	.406	1.430	1#22(.157)	.025 Steel	
218	2	1.437 to 1.687	NiCd	—	—	.812	1.375	.406	1.531	1#22(.157)	.025 Steel	
219	2	2.000 to 2.500	NiCd	—	—	.812	1.687	.406	2.156	1#22(.157)	.025 Steel	
220	2	.187 to .203	5mm	—	—	.315	.158	.157	.280	1#42(.093)	.010 Steel	
221	2	.859 to .890	.875	—	—	.468	.828	.234	.906	1#22(.157)	.020 Steel	
222	1	.875 to 1.125	C	—	.437	.625	.937	.093	.921	2#40(.098)	.020 Steel	

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e-mail: kec@keyelco.com • WebSite: keyelco.com



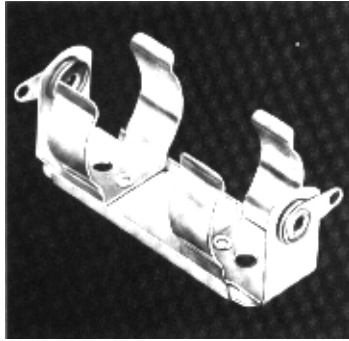


Designers' Choice

# STEEL BATTERY HOLDERS

## RUGGED STEEL BATTERY HOLDERS

An established design that has gained wide acceptance for commercial and military applications. Batteries are held under constant spring tension assuring low contact resistance. Retainer clips are available to lock batteries in place and prevent shifting or loosening of the batteries. Recommended for use where shock or severe vibration is encountered. Special fabrication for more than four batteries or variations from standard stock parts can be assembled to meet your requirements.



- Ideal for NiCd, Alkaline, NiMH, Carbon, Zinc and Lithium Cells
- Corrosion Resistant, Nickel Plate
- Brass Contacts, Nickel Plate
- Moisture Proof Resin Impregnated, Fibre Insulating Washers

### 1100 SERIES

(GROUNDED ONE SIDE)



DIMPLE CONTACT

INSULATED CONTACT

### 2100 SERIES

(FULLY INSULATED)



INSULATED CONTACTS

### INSULATOR TUBES SUPPLIED FOR 2-3-4 CELLS END TO END

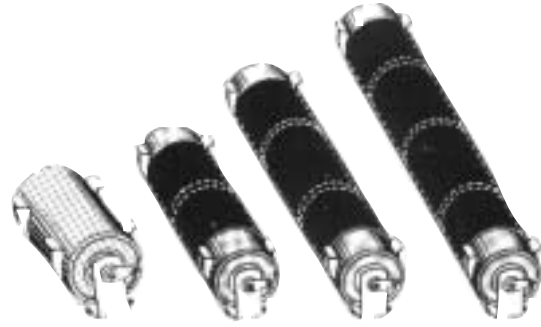


FIG. 19 FIG. 20 FIG. 21 FIG. 22

PHENOLIC BASE



FIG. 23 FIG. 24

PHENOLIC BASE



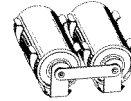
FIG. 25

### MODIFICATIONS AVAILABLE

Use our engineering services for your custom battery holders or modifications to our standard products.

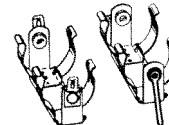
#### JUMPERS

Jumpers permit cost saving and eliminates wiring.



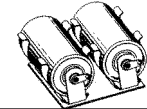
#### SPECIAL LUGS

Printed Circuit, Solderless or Quick-Fit Lugs available for your special connection requirements.



#### MULTIPLE UNITS

Jumpers, special lugs and polarized contacts available for custom applications.



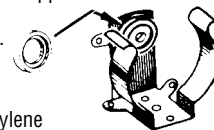
#### POLARIZED CONTACTS

Assure proper battery insertion and correct polarity.



## INSULATED POLARIZING WASHERS

Prevents improper connection of battery which may cause damage to electronic equipment. Washers hold securely when snapped over eyelets. Used on our standardized battery holders. For AA, C & D cells.



**MATERIAL:** Molded Polyethylene

**CAT. NO. 59 (RED) CAT. NO. 60 (BLACK)**

1100 SERIES		2100 SERIES		BATTERY CROSS REFERENCE			
ONE CONTACT INSULATED	ALL CONTACTS INSULATED	FIG. NO.	HOLDS NO. OF CELLS	All Batteries listed within boxes are in the same size group			
CAT. NO.	CAT. NO.			EVEREADY	DURACELL	RAY-O-VAC	NEDA
<b>"AA" CELL HOLDERS</b>				(BATTERY SIZE $\frac{.531}{.565}$ O.D. $\times$ $\frac{1.906}{1.988}$ H)			
1139	2139	19	1	E9, EV15, EN91, CH15, E133, E133N, E177, 505, 523, 1015, 1215	ZM9, RM12R, NC15AA, M15F, M15AA, TR133R, TR177, M505, MN1500, PC1500	5AA, 615, 815, 7AA	15, 15A, 15C, 15D, 15F, 15M, 15NC, 221, 1101M, 1113M, 1306AP, 1306M, 1314M, 1606M
—	2140*	23	2				
—	2171*	24	3				
—	2182*	25	4				
1189	2189	20	2				
1191	2191	21	3				
1194	2194	22	4				
<b>"C" CELL HOLDERS</b>				(BATTERY SIZE $\frac{.875}{1.125}$ O.D. $\times$ $\frac{1.875}{1.969}$ H)			
1173	2173	19	1	CH35, E93, 935, 1235, EV35, EN93	M14F, M14HD, NC14C, TR286, MN1400, PC1400	1C, 614, 814	14A, 14C, 14D, 14F, 14NC, 1600M
—	2174*	23	2				
—	2187*	24	3				
—	2188*	25	4				
1185	2185	20	2				
1195	2195	21	3				
1198	2198	22	4				
<b>"D" CELL HOLDERS</b>				(BATTERY SIZE $\frac{1.187}{1.375}$ O.D. $\times$ $\frac{2.312}{2.412}$ H)			
1175	2175	19	1	CH50, E95, 950, 1250, EV50, EN95	M13F, NC13D, S42, M13HD, TR289, MN1300, PC1300	2D, 6D, 613, 813	13A, 13C, 13D, 13F, 13NC, 1115M, 1810M
—	2176*	23	2				
—	2190*	24	3				
—	2192*	25	4				
1186	2186	20	2				
1199	2199	21	3				
1162	2162	22	4				

\*Clips mounted on Phenolic 1/16" thick

# STEEL BATTERY HOLDERS

Designers' Choice

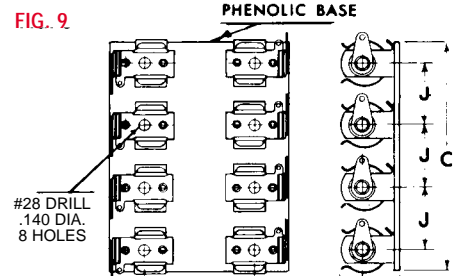
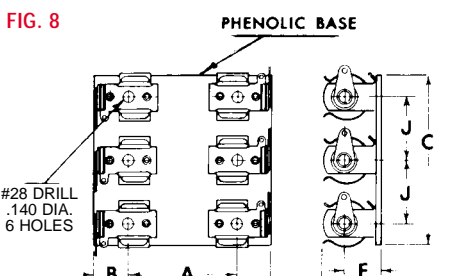
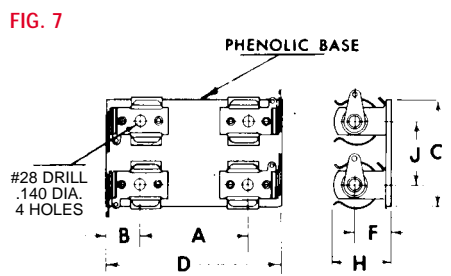
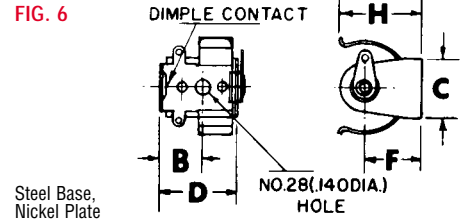
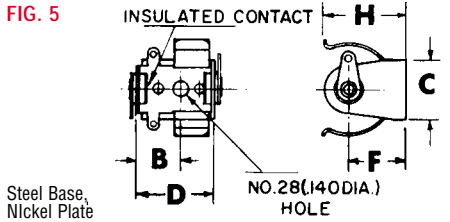
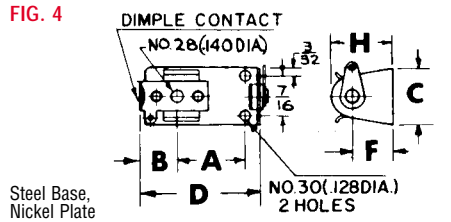
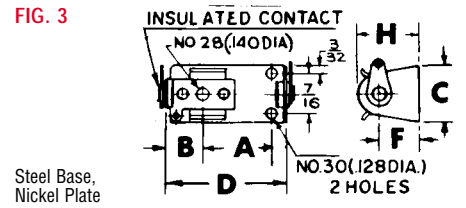
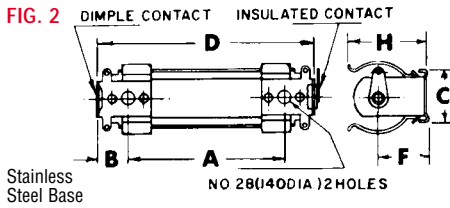
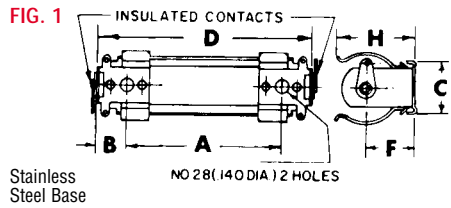


## MATERIAL SPECIFICATIONS

Clips: Spring Steel, Nickel Plate  
 Contact Eyelets: Brass, Nickel Plate  
 Insulating Washers: Moisture Proof, Resin Impregnated Fibre

Terminal Lugs: Brass, Tin Plate  
 Phenolic Base: Type PBE, Per MIL-P-3115C  
 Base: Ribbed Stainless Steel, For Added Support

## DIMENSIONAL DRAWINGS FOR STEEL BATTERY HOLDERS



CAT. NO.	FIG.	±.005 A	±.015 B	±.010 C	±.015 D	±.010 F	±.020 H	CAT. NO.	FIG.	±.005 A	±.015 B	±.010 C	±.015 D	±.010 F	±.020 H	±.005 J
*1101	4	.281	.391	.625	.812	.437	.656	*2116	3	.718	.391	.625	1.281	.437	.656	—
*1104	6	—	.468	.625	.890	.750	1.281	*2125	1	3.906	.391	.687	4.687	.437	.656	—
*1109	2	1.156	.391	.687	1.937	.437	.656	*2132	3	.937	.391	.625	1.484	.437	.656	—
*1110	2	1.562	.391	.687	2.343	.437	.656	*2134	1	2.000	.391	.687	2.781	.437	.656	—
*1113	4	.484	.391	.625	1.031	.437	.656	*2135	1	2.625	.391	.687	3.406	.437	.656	—
*1114	4	.671	.391	.625	1.218	.437	.656	2139	1	1.343	.391	.687	2.125	.437	.656	—
*1116	4	.734	.391	.625	1.281	.437	.656	2140	7	1.343	.406	1.250	2.125	.437	.656	.750
*1125	2	3.906	.391	.687	4.687	.437	.656	*2142	1	1.265	.391	.687	2.047	.437	.656	—
*1132	4	.937	.391	.625	1.484	.437	.656	*2144	1	2.000	.391	.687	2.781	.625	1.000	—
*1134	2	2.000	.391	.687	2.781	.437	.656	*2145	3	.828	.391	.625	1.312	.437	.656	—
*1135	2	2.625	.391	.687	3.406	.437	.656	2162	1	8.687	.468	.687	9.625	.796	1.281	—
1139	2	1.343	.391	.687	2.125	.437	.656	2171	8	1.343	.406	2.000	2.125	.437	.656	.750
*1142	2	1.265	.391	.687	2.047	.437	.656	2173	1	1.343	.391	.687	2.125	.625	1.000	—
*1144	2	2.000	.391	.687	2.781	.625	1.000	2174	7	1.343	.356	1.750	2.062	.625	1.000	1.187
*1145	4	.828	.391	.625	1.312	.437	.656	2175	1	1.625	.468	.687	2.562	.796	1.281	—
1162	2	8.687	.468	.687	9.625	.796	1.281	2176	7	1.625	.468	2.125	2.562	.796	1.281	1.562
1173	2	1.343	.391	.687	2.125	.625	1.000	2182	9	1.343	.406	2.750	2.125	.437	.656	.750
1175	2	1.625	.468	.687	2.562	.796	1.281	2185	1	3.312	.391	.687	4.093	.625	1.000	—
1185	2	3.312	.391	.687	4.093	.625	1.032	2186	1	4.000	.468	.687	4.937	.796	1.281	—
1186	2	4.000	.468	.687	4.937	.796	1.281	2187	8	1.343	.356	2.937	2.062	.625	1.000	1.187
1189	2	3.312	.391	.687	4.093	.437	.656	*2188	9	1.343	.356	4.125	2.062	.625	1.000	1.187
1191	2	5.218	.391	.687	6.000	.437	.656	2189	1	3.312	.391	.687	4.093	.437	.656	—
1194	2	7.205	.391	.687	7.985	.437	.656	2190	8	1.625	.468	3.687	2.562	.796	1.281	1.562
1195	2	5.156	.391	.687	5.937	.625	1.000	2191	1	5.250	.391	.687	6.030	.437	.656	—
1198	2	7.125	.391	.687	7.906	.625	1.000	2192	9	1.625	.468	5.250	2.562	.796	1.281	1.562
1199	2	6.343	.468	.687	7.281	.796	1.281	2194	1	7.230	.391	.687	8.010	.437	.656	—
*2101	3	.281	.391	.625	.812	.437	.656	2195	1	5.156	.391	.687	5.937	.625	1.000	—
*2104	5	—	.468	.625	.890	.750	1.281	2198	1	7.125	.391	.687	7.906	.625	1.000	—
*2109	1	1.156	.391	.687	1.937	.437	.656	2199	1	6.343	.468	.687	7.281	.796	1.281	—
*2110	1	1.562	.391	.687	2.343	.437	.656	*Special order only. Dimensions B, D, F, H should be used for reference								
*2113	3	.484	.391	.625	1.031	.437	.656									
*2114	3	.671	.391	.625	1.218	.437	.656									

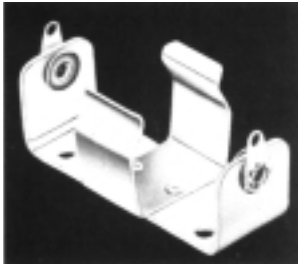


Designers' Choice

# ALUMINUM BATTERY HOLDERS

A standard line of battery holders available for immediate shipment from stock. Low cost, lightweight and sturdily constructed of quality materials. Good electrical contact, low leakage current and snap-fit clips are the outstanding features.

**MODIFICATIONS:** We welcome the opportunity to quote on variations of standard items. Use our engineering service for your special custom-built holders. Holders with PC and Quick-Fit terminals available on special order.



- Brass Eyelets, Nickel Plate
- Brass Lugs, Nickel Plate
- Moisture Proof, Resin Impregnated, Fibre Insulating Washers
- Aluminum 2024-T3, Frame & Clip

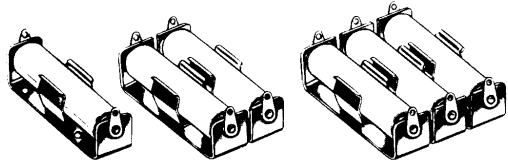


FIG. 1

FIG. 2

FIG. 3

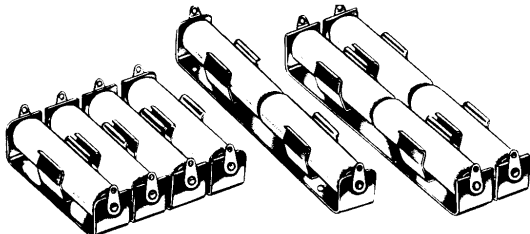


FIG. 4

FIG. 5

FIG. 7

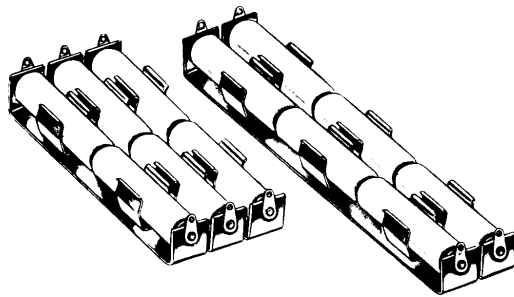


FIG. 8

FIG. 12

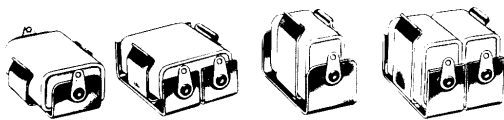


FIG. 9

FIG. 10

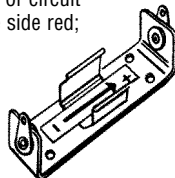
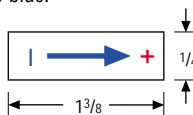
FIG. 11

FIG. 14

## POLARITY INDICATING LABEL

- No Gluing or Wetting Needed
- Pressure Sensitive Adhesive Back
- Economical
- Adheres To All Surfaces

Recommended where proper polarity of battery insertion or circuit polarity is to be shown. Labels are two color, (+) positive side red; arrow, (-) negative side blue.



CAT. NO. 58

Ideal for Alkaline, Carbon, Zinc, NiMH NiCd and Lithium Cells.

DIMENSIONAL DRAWINGS ON THE FOLLOWING PAGE

CAT. NO.	HOLDS NO. OF CELLS	FIG. NO.	BATTERY CROSS REFERENCE			
			EVEREADY	DURACELL	RAY-O-VAC	NEDA
<b>"AAA" CELL HOLDER</b>			(BATTERY SIZE $\frac{.375}{.468}$ O.D. $\times$ $\frac{1.673}{1.752}$ H)			
137	1	1				
138	2	2	E92, 912, CH12	M24F, MN2400	824	24A, 24F, 24P
169	3	3				
170	4	4				
<b>"AA" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.531}{.565}$ O.D. $\times$ $\frac{1.906}{1.988}$ H)			
139	1	1				
140	2	2	E9, EV15, EN91, CH15, E91, E133, E133N, E177, 505, 523, 1015, 1215	ZM9, RM12R, NC15AA, M15F, M15AA, TR133R, TR177, M505, MN1500, PC 1500	5AA, 615, 815, 7AA	15, 15A, 15C, 15D, 15F, 15M, 15NC, 221, 1101M, 1113M, 1306AP, 1306M, 1314M, 1606M
171	3	3				
182	4	4				
189	2	5				
192	4	7				
193	6	8				
<b>"C" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.875}{1.125}$ O.D. $\times$ $\frac{1.875}{1.969}$ H)			
173	1	1				
174	2	2*	CH35, E93, 935, 1235, EV35, EN93	M14F, M14HD, NC14C, TR286, MN1400, PC1400	1C, 614, 814	14A, 14C, 14D, 14F, 14NC, 1600M
187	3	3				
185	2	5				
196	4	7*				
197	6	8				
<b>"D" CELL HOLDERS</b>			(BATTERY SIZE $\frac{1.187}{1.375}$ O.D. $\times$ $\frac{2.312}{2.412}$ H)			
175	1	1				
176	2	2*	CH50, E95, 950, 1250, EV50, EN95	M13F, NC13D, S42, M13HD, TR289, MN1300, PC1300	2D, 6D, 613, 813	13A, 13C, 13D, 13F, 13NC, 1115M, 1810M
190	3	3				
186	2	5				
200	4	7*				
201	6	8				
205	6	12*				
<b>"N" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.375}{.468}$ O.D. $\times$ $\frac{1.110}{1.189}$ H)			
154	1	1	E90, E340E, E401E, EP401E	MP401H	R401, RP401, 810	910A, 910F, 910M, 1117M, 1118M, MN9100
155	2	2				
156	3	3				
<b>"9 VOLT" BATTERY HOLDERS</b>						
139B	1	1	206	M1611	—	1611
173P	1	1	226	—	—	1600
203P	1	10	CH22, EN22, E146X, 216, 522, 1222, E303396	TR146X, M1604, M1604HD, MN1604, PC146X, PC1604	A1604, D1604, 1604	1604, 1604A, 1604C, 1604D, 1604M, 1604NC, 1619M
1290	REF. PAGE 21					
1291	REF. PAGE 21					
<b>"15 VOLT" BATTERY HOLDERS</b>						
163	1	9	—	—	—	224
161	1	9	—	—	—	224
166	1	11	411	—	—	208
167	2	14	—	—	—	208
225	1	1	504	—	—	220
226	2	2	—	—	—	220
<b>"22 1/2 VOLT" BATTERY HOLDERS</b>						
139	1	1	505	—	—	221
168	1	9	420	—	—	225
177	1	11	412	M215	—	215
178	2	14	—	—	—	215
<b>"30 VOLT" BATTERY HOLDERS</b>						
183	1	11	413	—	—	210
184	2	14	—	—	—	210

\*"C" Cell Holders-Dual Cat. No. 97 clips used

"D" Cell Holders-Dual Cat. No. 98 clips used

# ALUMINUM BATTERY HOLDERS

Designers' Choice



## MATERIAL SPECIFICATIONS

Insulating Washers: Moisture proof, resin impregnated fibre  
Terminal Lugs: Brass, Tin Plate

Frame and Clips: Aluminum 2024-T3  
Contact Eyelet: Brass, Nickel Plate

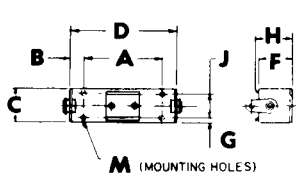


FIG. 1

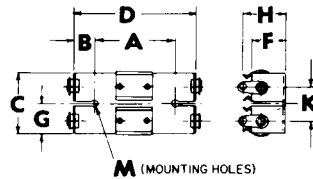


FIG. 2

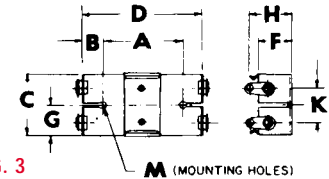


FIG. 3

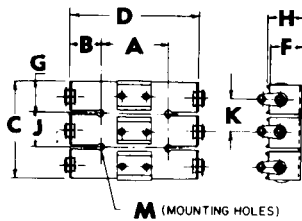


FIG. 4

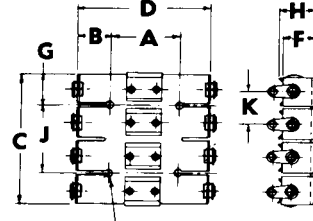


FIG. 5

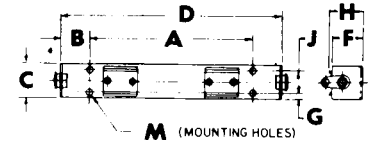


FIG. 6

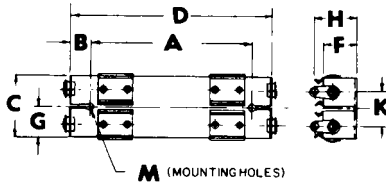


FIG. 7

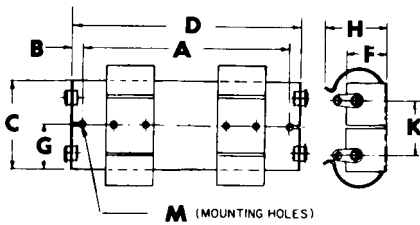


FIG. 8

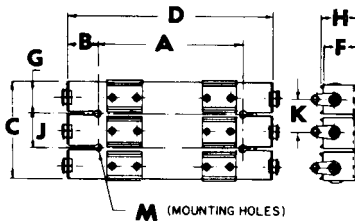


FIG. 9

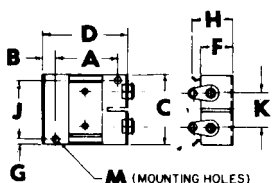


FIG. 10

CAT. NO.	FIG. NO.	±.010 A	±.015 B	±.010 C	±.015 D	±.010 F	±.010 G	±.015 H	±.005 J	±.010 K	MTG HOLES M ±.003
*109	1	1.500	.218	.625	1.937	.609	.109	.625	.406	—	4#30(.128 Dia)
*110	1	1.500	.437	.625	2.374	.625	.109	.625	.406	—	4#30(.128 Dia)
132	1	1.125	.171	.625	1.468	.640	.093	.625	.437	—	4#34(.111 Dia)
*134	1	1.812	.484	.625	2.781	.609	.093	.625	.437	—	4#34(.111 Dia)
*135	6	2.500	.464	.625	3.430	.610	.093	.625	.437	—	4#30(.128 Dia)
137	1	1.500	.218	.437	1.915	.468	.093	.484	.250	—	2#34(.111 Dia)
138	2	.875	.531	.812	1.915	.468	.406	.484	—	.437	2#28(.140 Dia)
139	1	1.500	.312	.625	2.140	.625	.109	.580	.406	—	4#34(.111 Dia)
140	2	1.218	.461	1.125	2.140	.625	.562	.625	—	.625	2#28(.140 Dia)
154	1	.906	.242	.437	1.343	.468	.093	.531	.250	—	2#34(.111 Dia)
155	2	.875	.245	.937	1.343	.468	.468	.531	—	.500	2#30(.128 Dia)
156	4	.875	.257	1.500	1.343	.475	.468	.531	.562	.531	4#34(.111 Dia)
*157	10	1.125	.218	1.250	1.562	.578	.109	.718	1.032	.593	2#34(.111 Dia)
*160	1	3.500	.406	1.000	4.312	.960	.141	1.218	.718	—	2#28(.140 Dia)
*163	1	1.125	.312	1.000	1.750	.687	.141	1.218	.718	—	2#28(.140 Dia)
*164	1	1.625	.402	1.000	2.430	.687	.125	1.218	.750	—	2#28(.140 Dia)
*165	1	2.187	.390	1.000	2.968	.687	.141	1.218	.718	—	2#28(.140 Dia)
166	1	1.000	.312	.750	1.625	.768	.093	1.156	.562	—	4#28(.140 Dia)
167	3	1.000	.312	1.125	1.593	.750	.562	1.264	—	.593	2#28(.140 Dia)
*168	1	1.500	.377	.750	2.275	.718	.125	.937	.500	—	4#28(.140 Dia)
170	5	.875	.531	1.687	1.915	.468	.406	.484	.875	.437	4#28(.140 Dia)
171	4	1.218	.461	1.750	2.140	.625	.562	.625	.625	.625	4#28(.140 Dia)
173	1	1.500	.296	.750	2.093	.781	.156	.953	.437	—	4#28(.140 Dia)
174	3	1.750	.172	1.625	2.093	.781	.812	1.105	—	1.000	2#28(.140 Dia)
175	1	1.750	.406	1.000	2.562	.937	.125	1.218	.750	—	4#30(.128 Dia)
176	3	2.093	.248	2.062	2.578	.937	1.030	1.437	—	1.312	2#28(.140 Dia)
177	1	1.500	.312	.750	2.125	.781	.156	1.156	.437	—	4#28(.140 Dia)
178	3	1.218	.453	1.125	2.215	.781	.562	1.218	—	.625	2#28(.140 Dia)
*179	1	.937	.250	1.000	1.425	.930	.125	1.218	.750	—	4#30(.128 Dia)
182	5	1.218	.461	2.656	2.140	.625	.609	.625	1.437	.718	4#28(.140 Dia)
183	1	1.750	.445	.750	2.687	.812	.093	1.156	.562	—	4#34(.111 Dia)
184	3	1.812	.414	1.125	2.640	.812	.562	1.218	—	.625	2#28(.140 Dia)
185	6	3.187	.419	.750	4.025	.812	.125	.953	.500	—	4#28(.140 Dia)
186	6	4.125	.370	1.000	4.865	.968	.156	1.218	.687	—	4#30(.128 Dia)
187	4	1.250	.435	2.840	2.093	.781	.812	.953	1.125	1.125	4#28(.140 Dia)
189	6	3.000	.538	.625	4.075	.625	.093	.625	.437	—	4#30(.128 Dia)
190	4	1.937	.321	3.375	2.578	.968	1.125	1.218	1.125	1.343	4#28(.140 Dia)
192	7	3.093	.542	1.125	4.093	.625	.593	.625	—	.625	2#28(.140 Dia)
193	9	3.125	.484	1.750	4.075	.625	.562	.625	.625	.625	4#28(.140 Dia)
196	8	3.187	.419	1.625	4.025	.781	.812	1.125	—	1.000	2#28(.140 Dia)
197	9	3.187	.419	2.875	4.025	.812	.937	.968	1.000	1.171	4#28(.140 Dia)
200	8	4.375	.245	2.062	4.865	.968	1.032	1.468	—	1.312	2#28(.140 Dia)
201	9	4.275	.245	3.375	4.865	.968	1.125	1.218	1.125	1.343	4#28(.140 Dia)
203P	10	1.375	.312	1.125	2.000	.547	.125	.793	.875	.500	4#30(.128 Dia)
205	8	6.812	.250	2.062	7.230	.937	1.030	1.437	—	1.312	4#28(.140 Dia)
*225	1	1.125	.226	.625	1.578	.609	.093	.625	.437	—	4#34(.111 Dia)
*226	2	.875	.351	1.125	1.578	.609	.562	.625	—	.625	2#28(.140 Dia)
1290	10	1.375	.218	1.185	1.890	.562	.125	.718	.875	.500	4#30(.128 Dia)
1291	10	1.375	.218	1.185	1.890	.562	.125	.718	.875	.500	4#30(.128 Dia)

\*Special order only

Dimensions are for reference only





Designers' Choice

# INTERCONNECT BATTERY HOLDERS

## ALUMINUM HOLDERS CONNECTED IN SERIES

### ELIMINATES WIRING • LABOR SAVING

Features pre-connected jumper strap insulated from the Aluminum base. Batteries held in series circuit without need of additional wiring.

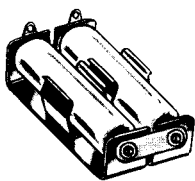


FIG. 2

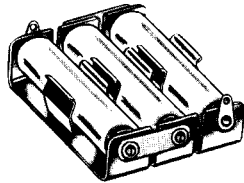


FIG. 3

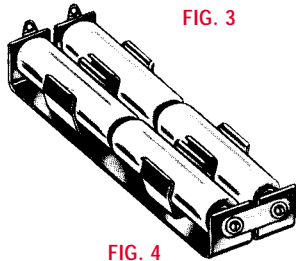


FIG. 4

CAT. NO.	HOLDS NO. OF CELLS	FIG. NO.	BATTERY CROSS REFERENCE			
			EVEREADY	DURACELL	RAY-O-VAC	NEDA
			All Batteries listed within boxes are in the same size group			
<b>"AA" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.531}{.565}$ O.D. $\times$ $\frac{1.906}{1.988}$ H)			
146	2	2	E9, EV15, EN91, CH15, E133, E133N, E177, 505, 523, 1015, 1215	ZM9, RM12R, NC15AA, M15F, M15AA, TR133R, TR177, M505, MN1500, PC1500	5AA, 615, 815, 7AA	15, 15A, 15C, 15D, 15F, 15M, 15NC, 221, 1101M, 1113M, 1306AP, 1306M, 1314M, 1606M
147	3	3				
148	4	4				
<b>"C" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.875}{1.125}$ O.D. $\times$ $\frac{1.875}{1.969}$ H)			
149	2	2	CH35, E93, 935, 1235, EV35, EN93	M14F, M14HD, NC14C, TR286, MN1400, PC1400	1C, 614, 814	14A, 14C, 14D, 14F, 14NC, 1600M
150	3	3				
151	4	4				
<b>"D" CELL HOLDERS</b>			(BATTERY SIZE $\frac{1.187}{1.375}$ O.D. $\times$ $\frac{2.312}{2.412}$ H)			
152	2	2	CH50, E95, 950, 1250, EV50, EN95	M13F, NC13D, S42, M13HD, TR289, MN1300, PC1300	2D, 6D, 613, 813	13A, 13C, 13D, 13F, 13NC, 1115M, 1810M
153	3	3				
158	4	4				

## ALUMINUM HOLDERS WITH PC LUGS

### ELIMINATES WIRING • LABOR SAVING

For printed circuitry we have standardized our most popular holders with PC Lugs. Choice of single or multiple holders "AA" and "C" assembled with Cat. No. 4002 lug. "D" assembled with Cat. No. 4003 lug.

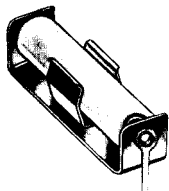


FIG. 1

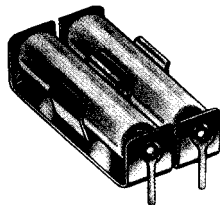


FIG. 2

CAT. NO.	HOLDS NO. OF CELLS	FIG. NO.	BATTERY CROSS REFERENCE			
			EVEREADY	DURACELL	RAY-O-VAC	NEDA
			All Batteries listed within boxes are in the same size group			
<b>"AA" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.531}{.565}$ O.D. $\times$ $\frac{1.906}{1.988}$ H)			
2222	1	1	E9, EV15, EN91, CH15, E133, E133N, E177, 505, 523, 1015, 1215	ZM9, RM12R, NC15AA, M15F, M15AA, TR133R, TR177, M505, MN1500, PC1500	5AA, 615, 815, 7AA	15, 15A, 15C, 15D, 15F, 15M, 15NC, 221, 1101M, 1113M, 1306AP, 1306M, 1314M, 1606M
2223	2	2				
<b>"C" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.875}{1.125}$ O.D. $\times$ $\frac{1.875}{1.969}$ H)			
2224	1	1	CH35, E93, 935, 1235, EV35, EN93	M14F, M14HD, NC14C, TR286, MN1400, PC1400	1C, 614, 814	14A, 14C, 14D, 14F, 14NC, 1600M
2225	2	2				
<b>"D" CELL HOLDERS</b>			(BATTERY SIZE $\frac{1.187}{1.375}$ O.D. $\times$ $\frac{2.312}{2.412}$ H)			
2226	1	1	CH50, E95, 950, 1250, EV50, EN95	M13F, NC13D, S42, M13HD, TR289, MN1300, PC1300	2D, 6D, 613, 813	13A, 13C, 13D, 13F, 13NC, 1115M, 1810M
2227	2	2				

## STEEL HOLDERS WITH PC LUGS

### ELIMINATES WIRING • LABOR SAVING

For printed circuitry we have standardized our most popular holders with PC Lugs. Choice of single or multiple holders "AA" and "C" assembled with Cat. No. 4002 lug. "D" assembled with Cat. No. 4003 lug.



FIG. 3

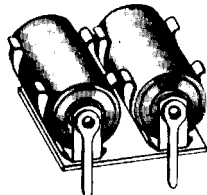


FIG. 4

CAT. NO.	HOLDS NO. OF CELLS	FIG. NO.	BATTERY CROSS REFERENCE			
			EVEREADY	DURACELL	RAY-O-VAC	NEDA
			All Batteries listed within boxes are in the same size group			
<b>"AA" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.531}{.565}$ O.D. $\times$ $\frac{1.906}{1.988}$ H)			
2228	1	3	E9, EV15, EN91, CH15, E133, E133N, E177, 505, 523, 1015, 1215	ZM9, RM12R, NC15AA, M15F, M15AA, TR133R, TR177, M505, MN1500, PC1500	5AA, 615, 815, 7AA	15, 15A, 15C, 15D, 15F, 15M, 15NC, 221, 1101M, 1113M, 1306AP, 1306M, 1314M, 1606M
2229	2	4				
<b>"C" CELL HOLDERS</b>			(BATTERY SIZE $\frac{.875}{1.125}$ O.D. $\times$ $\frac{1.875}{1.969}$ H)			
2230	1	3	CH35, E93, 935, 1235, EV35, EN93	M14F, M14HD, NC14C, TR286, MN1400, PC1400	1C, 614, 814	14A, 14C, 14D, 14F, 14NC, 1600M
2231	2	4				
<b>"D" CELL HOLDERS</b>			(BATTERY SIZE $\frac{1.187}{1.375}$ O.D. $\times$ $\frac{2.312}{2.412}$ H)			
2232	1	3	CH50, E95, 950, 1250, EV50, EN95	M13F, NC13D, S42, M13HD, TR289, MN1300, PC1300	2D, 6D, 613, 813	13A, 13C, 13D, 13F, 13NC, 1115M, 1810M
2233	2	4				

# LITHIUM BATTERY HOLDERS

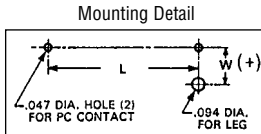
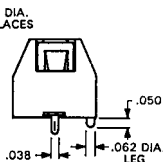
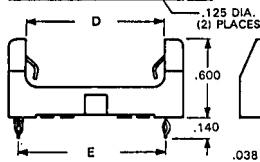
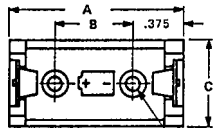
Designers' Choice



## PLASTIC PC BATTERY HOLDERS FOR "1/2 AA" • "AA" • "2/3 A" SIZES



FOR 108C, 1028C or 1029LC RETAINER COVER



### SPECIFICATIONS

- Base: Glass Filled Nylon, UL Rated 94V-0
- Retainer Cover: PBT, UL Rated 94V-0
- Contacts: .012 Spring Steel
- Plating: Bright Tin over Nickel over Copper

### FEATURES

- Snap-In PC contact holds in position for wave solderability
- Tin over Nickel Plated contacts for excellent soldering
- Polarity clearly marked for orientation
- Low Profile, space-saving
- Snap-on retainer cover (optional) retains battery securely to withstand shock and vibration. Helps protect against shorting. Tamper-proof.

### APPLICATIONS

- Computer memory, power transfer and back-up systems
- Video and telecommunications power back-up requirements
- Preprogrammed video and electronic games
- Microprocessor, microcomputers, minicomputers, notebook, laptop and handheld computer memory hold applications
- Emergency power systems
- Residential, industrial and commercial security and fire alarm systems

HOLDER CAT. NO.	COVER CAT. NO.	SIZE & TYPE	DIMENSIONS					MTG. HOLES		BATTERY CROSS REFERENCE
			A (MAX)	B	C	D	E	L	W	
108	108C	1/2 AA	1.360	.610	.640	1.030	1.160	1.160	.279	Eveready 544, Duracell PX28L, Kodak K28A & KS28, Panasonic CR14250, Saft LCP3, Electrochem 3B955, Maxell 4LR44, Sanyo CR14250SE.
1028	1028C	AA	2.360	1.610	.640	2.030	2.160	2.160	.279	Eveready E9, EV15, E91, E177, 505, 1015, Duracell ZM9, NC15, M15F, TR177, M505, MN1500, PC1500, Panasonic UM-3 & P-45AA, Sanyo N-600AA & N-700AA, Rayovac 5AA, 7AA, 615, 815.
1029	1029C 1029LC	2/3 A	1.700	.950	.720	1.375	1.500	1.500	.320	Duracell DL2/3A, Electrochem 3B793 & 3B950, Panasonic CR123A, Saft 450SC & VR0450, Sanyo CR17335SE, Kodak K123L.

## 6 VOLT LITHIUM BATTERY HOLDERS

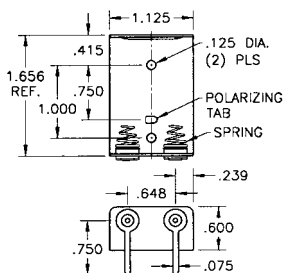
FOR DURACELL DL223A OR EQUIVALENT BATTERIES



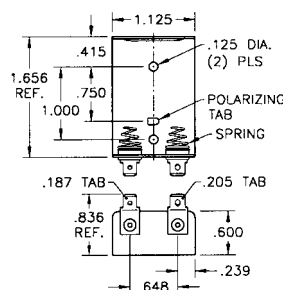
- Quick Fit/Solder Lug Terminals
- PC Board Terminals
- Lightweight, ideal for rugged applications

### SPECIFICATIONS

Frame: Aluminum 2024-T3  
Spring Contacts: .025 Dia. Spring Steel, Nickel Plate  
Terminals: Brass, Tin Plate



CAT. NO. 224  
PC Terminals



CAT. NO. 223  
Quick-Fit/Solder Lug

## LITHIUM BATTERY HOLDERS

PC PLASTIC HOLDER



FIG. 1

STANDARD LUGS

PC LUGS



FIG. 2 - ALL STEEL HOLDER



FIG. 3 - ALL STEEL HOLDER



FIG. 4 - ALUMINUM HOLDER



FIG. 5 - ALUMINUM HOLDER

CAT. NO	FIG. NO.	CAT. NO.	FIG. NO.	BATTERY SIZE	BATTERY DIA.	DURA-CELL	PANA-SONIC	SANYO G.E.
—	—	108	1	1/2AA	.51 × .99	P×28L	CR14250	CR14250SE
1103	2	2103	3	1/2AA	.51 × .99	P×28L	CR14250	CR14250SE
1105	2	2105	3	1/2A	.611 × .886	—	BR-1/25A	—
—	—	1029	1	2/3A	.661 × 1.315	DL-2/3A	BR-2/3A	CR17335SE
132	4	131	5	2/3A	.661 × 1.315	DL-2/3A	BR-2/3A	CR17335SE

# PLASTIC BATTERY HOLDERS

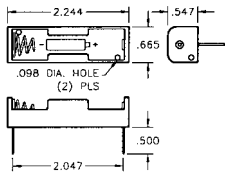
## PLASTIC BATTERY HOLDERS FOR "AA" • "AAA" SIZES

- Economical design, available with PC terminals or wire leads
- Batteries securely held in place to assure a positive connection and maintain a low contact resistance
- Contact springs self-adjust to variations in battery length
- Withstands shock and vibration
- Available with solder lugs or male/female snap fasteners

### SPECIFICATIONS

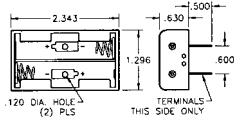
- Holder: Polypropylene
- Springs: Spring Steel, Nickel Plate
- PC Pins: .031 Brass, Nickel Plate
- Wires (Red & Black): #26AWG, Tinned, .187 end strip UL/CSA1007

Holds One (1) "AA" Cell



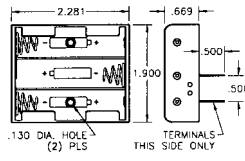
CAT. NO. 2460 – PC Mount  
CAT. NO. 2461 – 6" Wire Leads

Holds Two (2) "AA" Cells in Series



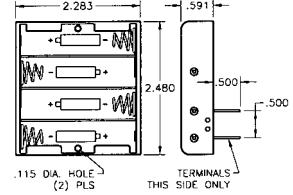
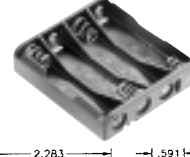
CAT. NO. 2462 – PC Mount  
CAT. NO. 2463 – 6" Wire Leads

Holds Three (3) "AA" Cells in Series



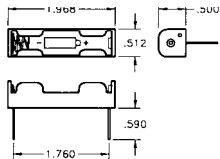
CAT. NO. 2464 – PC Mount  
CAT. NO. 2465 – 6" Wire Leads

Holds Four (4) "AA" Cells in Series



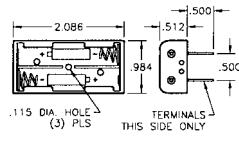
CAT. NO. 2477 – PC Mount  
CAT. NO. 2478 – 6" Wire Leads

Holds One (1) "AAA" Cells



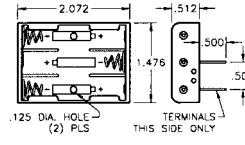
CAT. NO. 2466 – PC Mount  
CAT. NO. 2467 – 6" Wire Leads

Holds Two (2) "AAA" Cells in Series



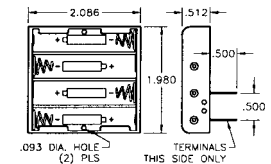
CAT. NO. 2468 – PC Mount  
CAT. NO. 2469 – 6" Wire Leads

Holds Three (3) "AAA" Cells in Series



CAT. NO. 2479 – PC Mount  
CAT. NO. 2480 – 6" Wire Leads

Holds Four (4) "AAA" Cells in Series



CAT. NO. 2481 – PC Mount  
CAT. NO. 2482 – 6" Wire Leads

## "AA" SIZE BATTERY HOLDERS WITH SNAP-ON CONNECTOR

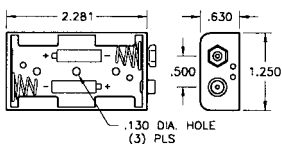
- Features separable "snap-on/snap-off" battery connector (9 Volt type) to assure reliable connections to battery powered equipment, controls and systems
- Economical design, holders available for two, three or four cells. Wired in series to accept connector (9 Volt type)
- Batteries securely held in place to maintain a positive contact and a low contact resistance

- Battery contact springs self adjust to variations in battery length
- Withstands shock and vibration
- Ideally mates with Keystone 9 Volt battery straps and connectors

### SPECIFICATIONS

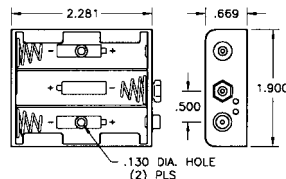
Holder: Polypropylene; Male/Female Contacts: Brass, Nickel Plate  
Battery Springs: Spring Steel, Nickel Plate

Holds Two (2) "AA" Cells in Series



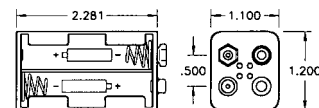
CAT. NO. 2474

Holds Three (3) "AA" Cells in Series



CAT. NO. 2475

Holds Four (4) "AA" Cells in Series



CAT. NO. 2476

# 9 VOLT HOLDERS & CONNECTORS

Designers' Choice



## HORIZONTAL 9 VOLT PC SNAP-ONS

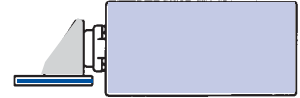
### MOUNTS DIRECTLY TO PRINTED CIRCUIT BOARD

PC Male/Female for any standard 9 Volt Battery. Cut costs by eliminating wiring. Compact Space Saver.

- Space saving design installs directly onto the PC board
- Contacts available for .062 and .093 thick PC boards
- Ideal for self-contained battery compartments



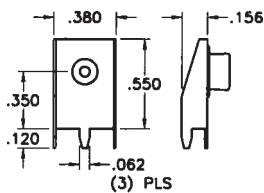
To Mount Battery "On" PC Board  
Use Cat. No. 593 and Cat. No. 594



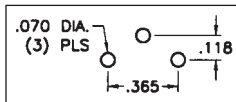
To Mount Battery "Off" PC Board  
Use Cat. No. 635 and Cat. No. 636

**MATERIAL:** Frame: .015 Steel, Tin Plate; Contacts: Steel, Nickel Plate

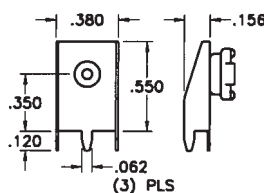
### "On-Board"



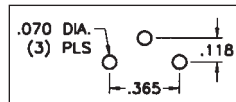
Mounting Detail



CAT. NO. 593 - Male

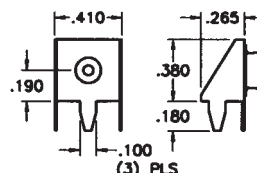


Mounting Detail

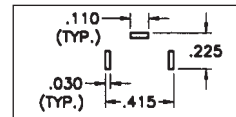


CAT. NO. 594 - Female

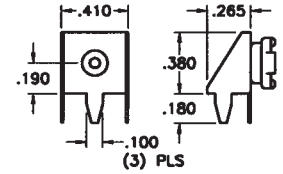
### "Off-Board"



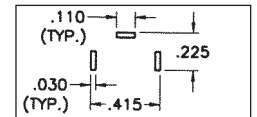
Mounting Detail



CAT. NO. 635 - Male



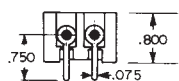
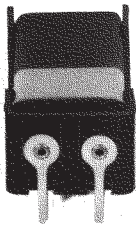
Mounting Detail



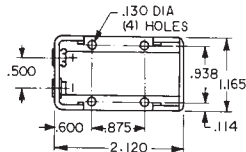
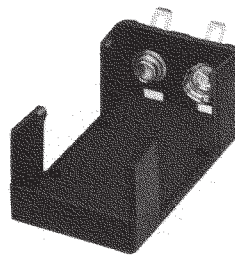
CAT. NO. 636 - Female

## UNIVERSAL 9 VOLT BATTERY HOLDERS

With PC Terminals or Combination Quick-Fit/Solder Lug Terminals.



CAT. NO. 1294  
PC Terminals



CAT. NO. 1295  
Quick-Fit/Solder Lug Terminals

Holds any size, any shape, standard 9 Volt battery.

Eliminates need to specify an exact battery brand, size or shape. Ideal for power source or memory back-up use in minicomputers, telecommunications, data processing, security systems, clocks, radios, toys and appliances.

- Male-female snap-in terminals assure positive contact and proper polarity
- Durable, rugged construction
- Excellent spring retention—holds battery in place
- Withstands severe shock and vibration
- Operating temperature range: -40°F to +266°F (-40°C to +130°C)
- Impervious to most industrial solvents

### SPECIFICATIONS

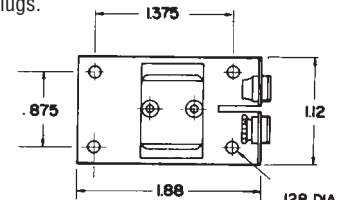
Body: Molded from high impact, Glass Filled Nylon  
Terminals: Brass, Tin Plate  
Contacts: Steel, Nickel Plate

## 9 VOLT SNAP-IN BATTERY HOLDERS

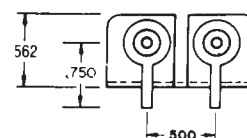
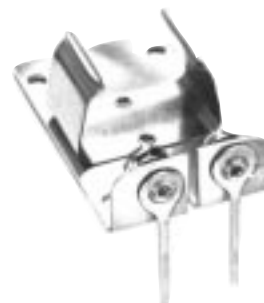
For use with standard 9 Volt battery. Battery snaps in place to insure positive contact. Ideal where severe shock and vibration are encountered. Available with standard solder lugs or printed circuit lugs.

### SPECIFICATIONS

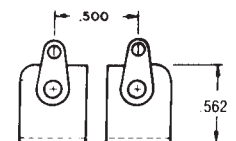
Frame: Aluminum  
Solder Lugs: Brass, Tin Plate  
PC Lugs: Brass, Tin Plate  
Contacts & Clips: Steel, Nickel Plate  
Insulation: Resin Impregnated Fibre



NOTE: For battery thicknesses over .640; specify Cat. No. 1290-79 or 1291-79.



CAT. NO. 1291 PC Lugs



CAT. NO. 1290 Solder Lugs



Designers' Choice

# 9 VOLT STRAPS & CONNECTORS

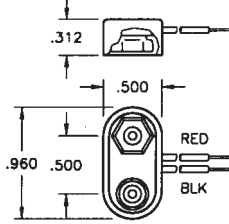
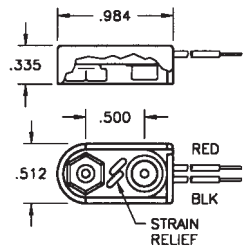
## SHIELDED 9 VOLT BATTERY STRAPS

- Insulates and shields 9 Volt battery snap-on connector contacts
- Assures safe secure use, reduces the potential of short circuits and prevents tampering with battery contacts
- Protects circuits, prevents unwanted electrical discharge due to unintended grounding
- Protects battery contacts from dust, dirt, and physical damage
- Ideal for rugged applications, made of high impact molded plastic with integral wire lead strain relief



### SPECIFICATIONS

Base: Polypropylene  
 Male/Female Contacts: Brass, Nickel Plate  
 Wires (Red & Black): #26AWG, Tinned, .187 end strip, UL/CSA1007



CAT. NO.	*LEAD LENGTH
84-4	4.00
84-6	6.00
84-8	8.00

I-STYLE

CAT. NO.	*LEAD LENGTH
81-4	4.00
81-6	6.00
81-8	8.00

T-STYLE  
with Strain Relief

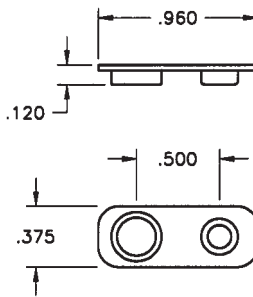
\*Tolerance on lead length +/- .250

\*Tolerance on lead length +/- .250

## PROTECTIVE BATTERY CAP

- Protects 9 Volt batteries and battery packs when they are not in use
- Snap-fits onto battery contacts
- Both male and female contacts are covered, minimizing physical damage which can occur during battery handling, shipping and storage
- Shields the battery contacts and reduces the potential of a short circuit between battery poles
- Protects sensitive electronic equipment, systems and circuits, cap prevents unwanted electrical discharges
- Protects the battery contacts from damage due to dust, dirt and contamination

MATERIAL: Impact Resistant Polypropylene, Black

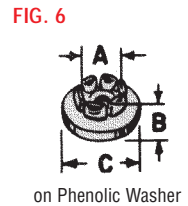
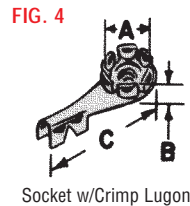
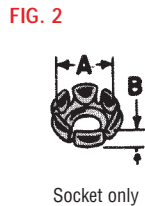
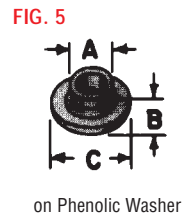
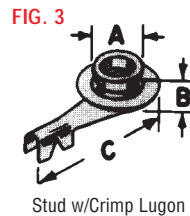
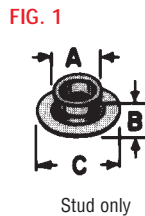


CAT. NO. 96

## BATTERY SNAP-ONS (Miniature and Standard)

For most electronic applications requiring a quick connect and disconnect of circuit. Commonly used with 9 Volt or other batteries designed with snap fasteners. Ideal for temporary or permanent means of connecting without soldering. Can be cascaded together for multiple connections.

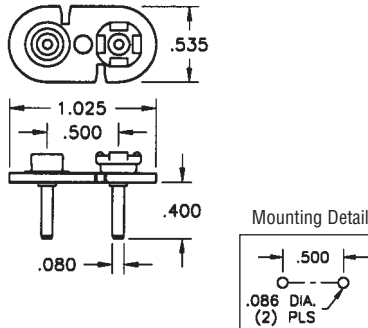
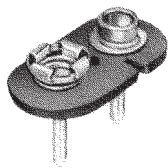
DIMENSIONS FOR REFERENCE ONLY



CAT. NO.	FIG. NO.	A	B	C	DESCRIPTION
261	1	.225	.135	.312	Jr. Stud only-.093 hole
262	1	.283	.143	.425	Sr. Stud only-.125 hole
269	2	.205	.156	—	Jr. Socket only-.093 hole
270	2	.265	.156	—	Sr. Socket only-.125 hole
263	3	.225	.170	.790	Jr. Stud w/ Lug
264	3	.283	.185	.840	Sr. Stud w/ Lug
271	4	.205	.200	.790	Jr. Socket w/ Lug
272	4	.265	.185	.835	Sr. Socket w/ Lug
265	5	.225	.205	.500	Jr. Stud on Phenolic Washer
266	6	.205	.205	.500	Jr. Socket on Phenolic Washer
273	5	.283	.200	.500	Sr. Stud on Phenolic Washer
274	6	.265	.225	.500	Sr. Socket on Phenolic

## VERTICAL 9 VOLT PC SNAP-ONS

- Space saving, economical
- Excellent mechanical strength
- Low contact resistance
- Durable fibre base
- Wave solderable
- Anti-Wicking Design

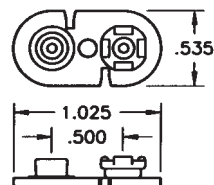


### SPECIFICATIONS

Base: .062 Fibre  
 Contacts: Steel, Nickel Plate  
 Pins: Brass, Tin Plate

CAT. NO. 968 - With PC Pins

- Cost saving design
- Ideal for custom applications
- Attach your own terminals and wire leads



### SPECIFICATIONS

Base: .062 Fibre  
 Contacts: Steel, Nickel Plate

CAT. NO. 68 - Without PC Pins

# 9 VOLT BATTERY STRAPS

Designers' Choice



## PREMIUM 9 VOLT BATTERY STRAPS

Rigidly constructed. Nickel plate, male and female contacts. Female contacts are spring temper. Accepts numerous insertions to meet U.L. approved standards. Provides excellent mechanical strength and low contact resistance. Wire leads (red and black) are soldered for increased reliability. Wires have tinned copper conductors, PVC insulation and the ends are stripped for easy connection.

Wires are rated to 176°F (80° C) and 300V and meet UL/CSA #1061/#1007 requirements.

Modifications available with different lead lengths.

\*Tolerance on lead length +/- .250



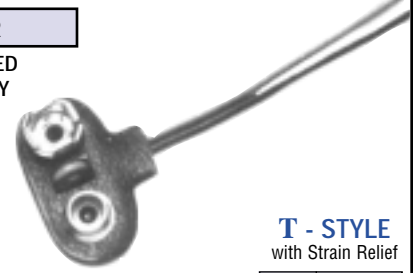
Cover Sizes: 1.125 x .530  
Contacts: Phos. Br., Nickel Plate  
Wire: #26 AWG, 7/34  
End Strip: .250 Long, Tinned

### VINYL COVER

- FULLY INSULATED
- RIGID ASSEMBLY

### I - STYLE

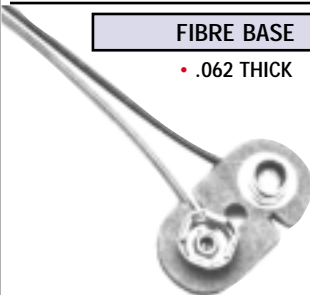
CAT. NO.	*LEAD LENGTH
2238	4.00
2239	6.00
2240	8.00



Cover Sizes: 1.000 x .687  
Contacts: Phos. Br., Nickel Plate  
Wire: #26 AWG, 7/34  
End Strip: .250 Long, Tinned

### T - STYLE with Strain Relief

CAT. NO.	*LEAD LENGTH
2241	4.00
2242	6.00
2243	8.00

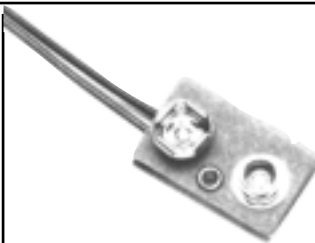


### FIBRE BASE

- .062 THICK

Cover Sizes: 1.030 x .535  
Contacts: Steel, Nickel Plate  
Wire: #22 AWG, 7/30 Prebond  
End Strip: .375 Long, Tinned

CAT. NO.	*LEAD LENGTH
68	None
72-4	4.00
72	7.00
72-8	8.00



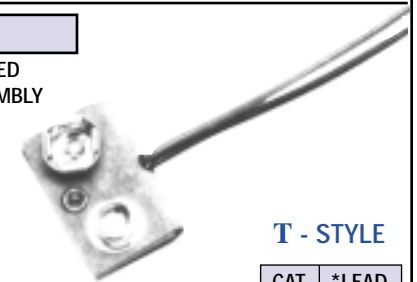
Cover Sizes: .900 x .575  
Contacts: Steel, Nickel Plate  
Wire: #22 AWG, 7/30 Prebond  
End Strip: .375 Long, Tinned

### FIBRE COVER

- FULLY INSULATED
- FLEXIBLE ASSEMBLY

### I - STYLE

CAT. NO.	*LEAD LENGTH
83-4	4.00
83	6.50
83-8	8.00



Cover Sizes: .900 x .575  
Contacts: Steel, Nickel Plate  
Wire: #22 AWG, 7/30 Prebond  
End Strip: .375 Long, Tinned

### T - STYLE

CAT. NO.	*LEAD LENGTH
85-4	4.00
85-6	6.50
85-8	8.00

## ECONOMY 9 VOLT BATTERY STRAPS

When product cost is of the utmost importance these economy battery straps will suit your needs. Brass contacts, nickel plated with vinyl covering. Wires have tinned copper conductors, PVC insulation and the ends are stripped for easy connection. Wires meet UL/CSA #1007 requirements.

Modifications available with different lead lengths.

\*Tolerance on lead length +/- .250



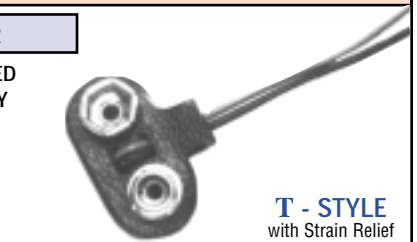
Cover Sizes: 1.125 x .530  
Contacts: Brass, Nickel Plate  
Wire: #26 AWG, 7/34  
End Strip: .250 Long, Tinned

### VINYL COVER

- FULLY INSULATED
- RIGID ASSEMBLY

### I - STYLE

CAT. NO.	*LEAD LENGTH
232	4.00
233	6.00
234	8.00



Cover Sizes: 1.000 x .687  
Contacts: Brass, Nickel Plate  
Wire: #26 AWG, 7/34  
End Strip: .250 Long, Tinned

### T - STYLE with Strain Relief

CAT. NO.	*LEAD LENGTH
235	4.00
236	6.00
237	8.00

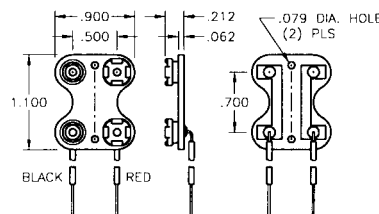
## DUAL 9 VOLT BATTERY STRAPS

These dual battery straps are pre-wired for connecting two 9 Volt batteries. Available for either series or parallel connection. Base made from fibre material with steel, nickel plated contacts. Wires have tinned copper conductors, PVC insulation and the ends are stripped for easy connection. Wires meet UL/CSA #1061 requirements.



\*Tolerance on lead length +/- .250

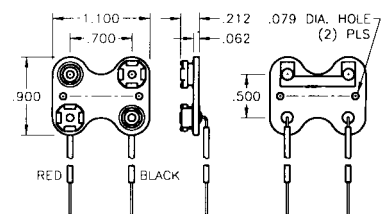
### PARALLEL



Contacts: Steel, Nickel Plate  
Wire: #22 AWG, 7/30 Prebond  
End Strip: .375 Long, Tinned

CAT. NO.	*LEAD LENGTH
227	7.00

### SERIES



Contacts: Steel, Nickel Plate  
Wire: #22 AWG, 7/30 Prebond  
End Strip: .375 Long, Tinned

CAT. NO.	*LEAD LENGTH
229	7.00

31-07 20th Road • Astoria, New York 11105-2017 • (718) 956-8900 • FAX (718) 956-9040

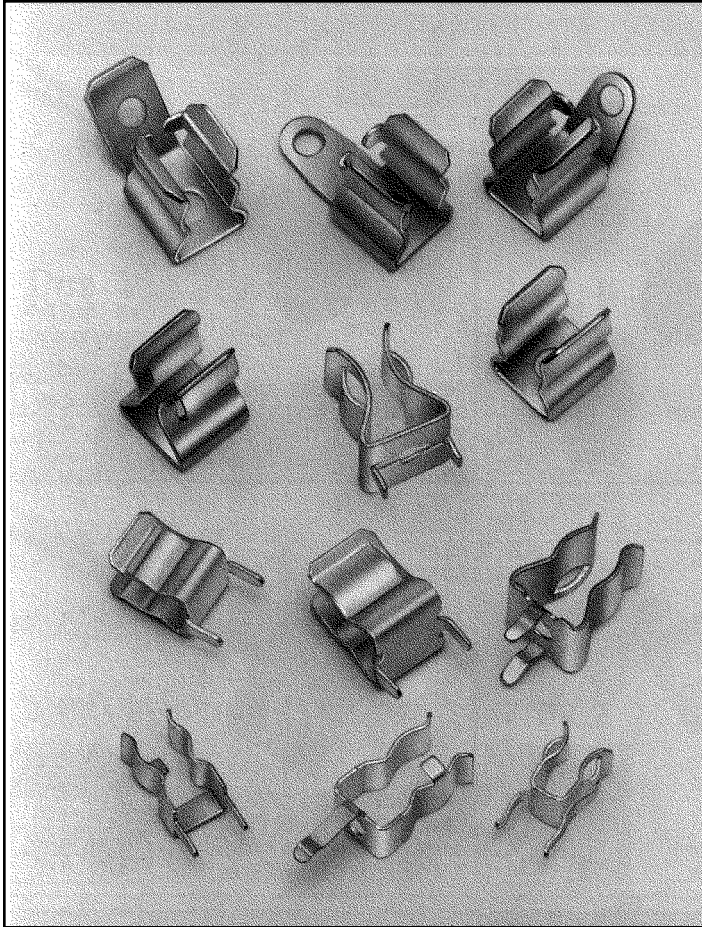
e-mail: [kec@keyelco.com](mailto:kec@keyelco.com) • WebSite: [keyelco.com](http://keyelco.com)

**KEYSTONE**



Designers' Choice

# 2AG & 5mm FUSE CLIPS



- PC thru mount and rivet types for 2AG, 5mm, 3AG, 9/32 & 13/32 fuse sizes
- Low contact resistance
- Withstands shock and vibration
- Rated 6.3 to 30 Amps
- Custom designs and modifications available to your specifications

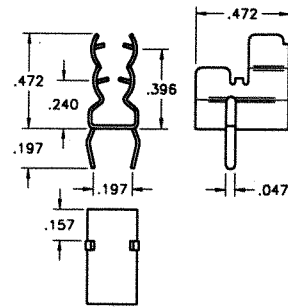
### PC THRU MOUNT TYPES

- Available for 2AG, 5mm, 3AG & 13/32 sizes
- Low profile, space saving
- Snap-fit design enhances assembly and PC retention for wave soldering
- Available with orientation legs to assure proper PC installation
- Available with or without end stops

### RIVET TYPES

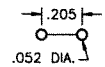
- Available for 3AG & 9/32 sizes
- Available with straight or 45° solder lugs
- Available with .187, .205 or .250 or quick fit tabs
- Low profile, space saving
- Available with or without end stops

## 5mm/3AG PC MULTI-FUSE CLIP



.016 Phosphor Bronze, Tin Plate  
Current Rating: 15 Amps

Mounting Detail



CAT. NO. 3562

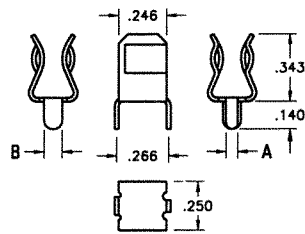
## 5mm PC CLIP



3517 3518P

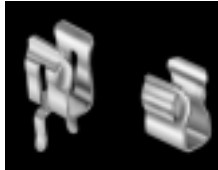
.020 Brass, Tin Plate  
Current Rating: 15 Amps

CAT. NO.	"A"	"B"
3517	.060	.060
3518P	.060	.093



With or Without Orientation Legs

## 2AG/5mm THM/SMT FUSE CLIP

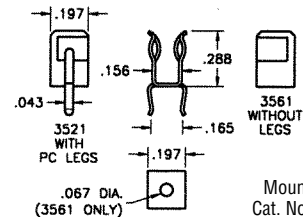


3521 3561

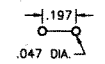
.016 Brass, Tin Plate  
Current Rating: 10 Amps

CAT. NO. 3521 (THM with PC legs)

CAT. NO. 3561 (SMT with Hole)



Mounting Detail  
Cat. No. 3521 Only

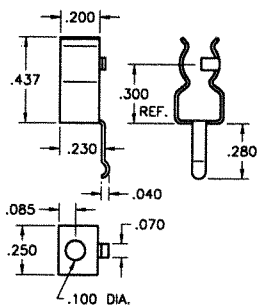


## 5mm PC CLIP

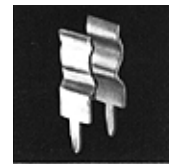


.016 Brass, Tin Plate  
Current Rating: 6.3 Amps

CAT. NO. 3520

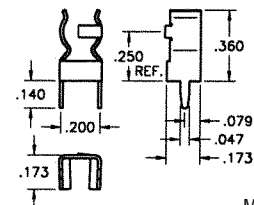


## 5mm PC CLIP

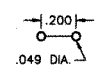


.016 Brass, Tin Plate  
Current Rating: 10 Amps

CAT. NO. 3519



Mounting Detail



# 3AG (.250") FUSE CLIPS

Designers' Choice

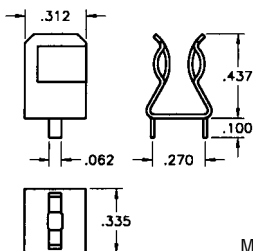


- Snap-In and Press-In design for wave soldering
- Low profile, space saving
- Available with orientation legs
- Available with and without end stops
- Low contact resistance
- Rated 15 Amps
- Economical and easy to assemble

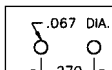
## 3AG PC CLIP



.020 Brass, Tin Plate.  
For 1/4" dia. fuses



Mounting Detail



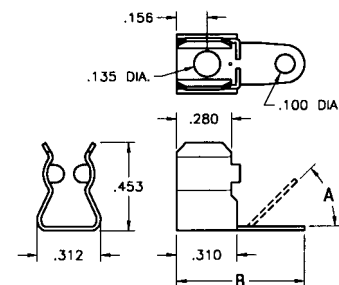
CAT. NO. 3530

## 3AG CLIP WITH SOLDER LUG



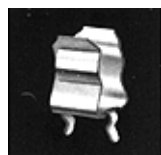
3533 3535

.020 Brass, Nickel Plate.  
For 1/4" dia. fuses

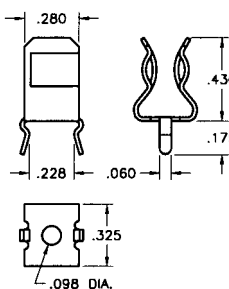


CAT. NO.	A	B
3533	Flat	.656
3535	45°	.562

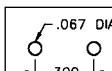
## 3AG SNAP-IN PC CLIP



.020 Brass, Tin Plate.  
For 1/4" dia. fuses.



Mounting Detail

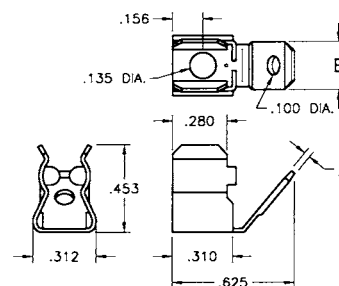


CAT. NO. 3513

## 3AG CLIPS WITH QUICK-FIT TAB



.020 Brass, Nickel Plate  
For 1/4" dia. fuses

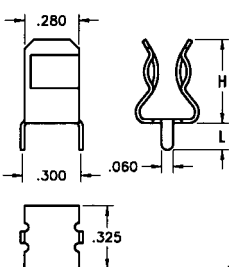


CAT. NO.	A	B
4244	.032	.250
4246	.020	.187
4247	.020	.205

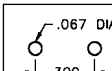
## 3AG PC CLIPS



.020 Brass, Tin Plate. For 1/4" dia. fuses.



Mounting Detail

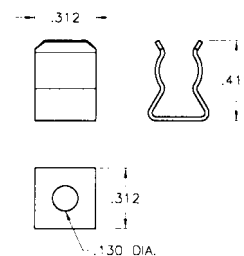


CAT. NO.	H	L	END STOPS
3510	.421	.140	NO
3529	.421	.140	YES
3511	.430	.250	NO
3514	.450	.250	YES

## 3AG FUSE CLIP



.020 Brass, Nickel Plate  
For 1/4" dia. fuses

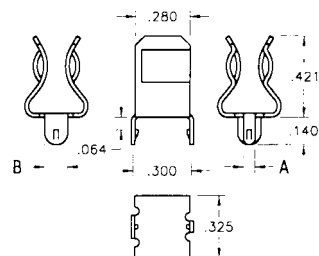


CAT. NO. 3531 – Without End Stops

## 3AG SNAP-IN PC CLIP



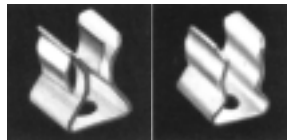
.020 Brass, Tin Plate. For 1/4" dia. fuses.



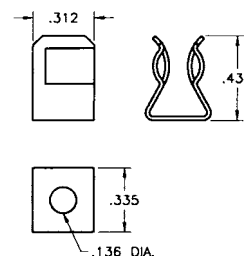
With or Without Orientation Legs

CAT. NO.	A	B
3515	.060	.060
3515P	.060	.093
3516P	.060	.120

## 3AG FUSE CLIP



.020 Brass, Nickel Plate  
For 1/4" dia. fuses



CAT. NO.	END STOPS
3532	YES
3567	NO





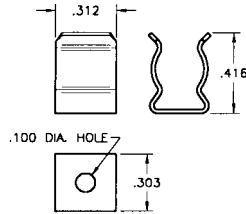
Designers' Choice

# FUSE CLIPS & HOLDERS

## 9/32 FUSE CLIP



.020 Brass, Nickel Plate  
Current Rating: 15 Amps

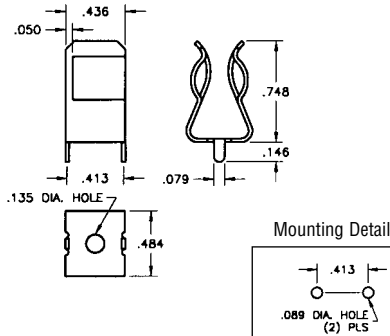


CAT. NO. 3565

## 13/32 PC FUSE CLIP



.028 Brass, Tin Plate  
Current Rating: 30 Amps



CAT. NO. 3566

# CUSTOM FUSE CLIPS & HOLDERS

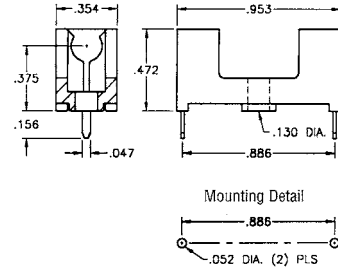
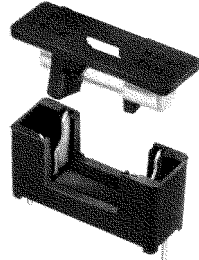
Keystone is fully integrated to meet your total design & production needs.

Manufacturing custom designs & modifications of standard items is our specialty.

Quotations on special fuse clips & holders furnished promptly upon receipt of sample, sketch, print or CAD drawings.

## PC 5mm FUSE HOLDERS

### SLIM LINE & (OPTIONAL) COVER



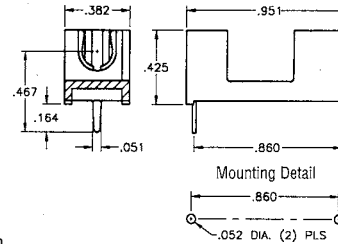
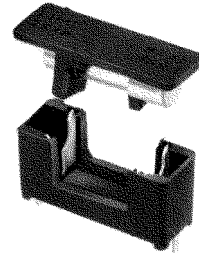
- Optional cover with window protects and insulates fuse

CAT. NO. 4628 – Holder  
CAT. NO. 4628C – Cover only (with window)

### SPECIFICATIONS

Base & Cover: Nylon, UL94V-0  
Contacts: Brass, Tin Plate  
Rated: 5 Amp @ 250V

### LOW PROFILE & (OPTIONAL) COVER



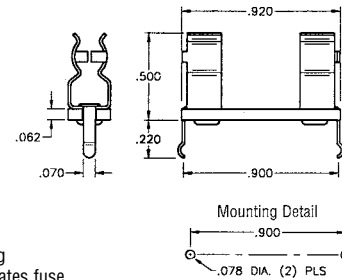
- Low profile, space saving design
- Optional cover protects and insulates fuse

CAT. NO. 4527 – Holder  
CAT. NO. 4527C – Cover only

### SPECIFICATIONS

Base & Cover: Nylon, UL94V-0  
Contacts: Brass, Tin Plate  
Rated: 5 Amp @ 250V

### PC SNAP-IN FUSE HOLDER



- Low profile, space saving design
- Snap-in design for wave soldering
- Optional cover protects and insulates fuse

CAT. NO. 3527 – Holder  
CAT. NO. 3527C – Vinyl cover only

### SPECIFICATIONS

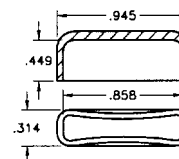
Base: .062 G-10, UL Rated 94V-0  
Clips: Brass, Tin Plate  
Rated: 6.3 Amps @ 250V

## 5mm & 3AG FUSE COVERS



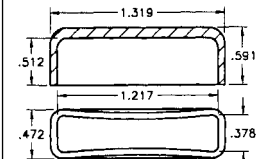
Vinyl

### 5mm



CAT. NO. 3527C

### 3AG



CAT. NO. 4245C

# 3AG (.250") FUSE HOLDERS

Designers' Choice



UL APPROVED MATERIALS • LOW COST • LOW CONTACT RESISTANCE • FLAME RETARDANT

## MOLDED 3AG FUSE HOLDERS

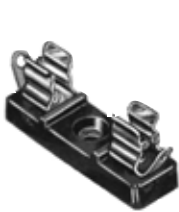
Fuse holder for popular 3AG fuse. Molded with barriers to prevent flashover and withstand test of 1080 VRMS at 60Hz for 1 minute at 3000 VDC for 1 minute.

### SPECIFICATIONS

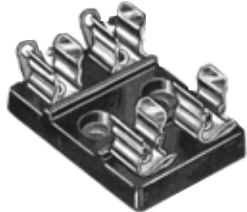
**Molded Base:** Mineral Filled Flame Retardant Alkyd. UL Rated 94V-0. Conforms to the 180 second arc tracking test specification per ASTM 495-D.  
**Clips:** Brass, Bright Finish

### CONTACT RESISTANCE

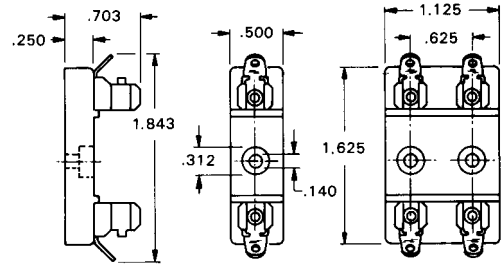
Will not exceed 50mΩ before and after being in atmosphere of 100% R.H. at 150°F (65°C) for 48 hours, then air dried for 1 hour.



CAT. NO. 3523



CAT. NO. 3524

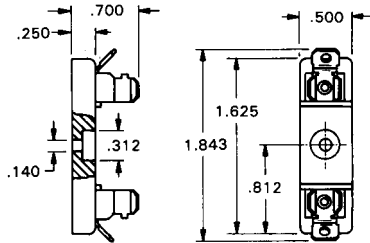


## QUICK-FIT 3AG FUSE HOLDER

One piece construction for 1/4" diameter fuses. Quick-Fit Tab, .250 x .032 size, accepts standard .250 quick-fit female terminals. Eliminates the need for soldering.



CAT. NO. 4243



### SPECIFICATIONS

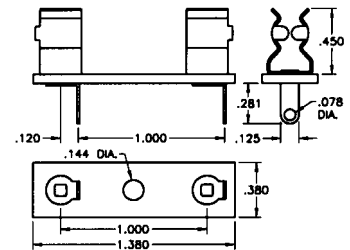
**Base:** Molded Plastic, Flame Retardant, UL Rated 94V-0  
**Clips:** Brass, Nickel Plate

## 3AG PC FUSE HOLDER

Leads are terminated at bottom of base. One piece construction for 1/4" diameter fuses. Ideal where space is a factor. Provides greater mechanical strength than individual clips.

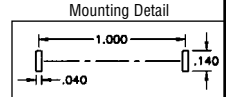


CAT. NO. 3526



### SPECIFICATIONS

**Base:** .062 GPO-3, UL Rated 94V-0  
**Lugs & Clips:** Brass, Tin Plate



## 3AG FUSE HOLDERS

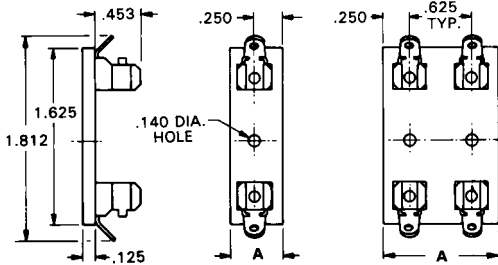


FIG. 1

FIG. 2

### SPECIFICATIONS

**Black Phenolic Base:** .125 thick NEMA Grade XP-FED L-P-509. Max. operating temperature 266°F (130°C) continuous. UL Rated 94-HB.

**Fiberglass Base:** .125 thick NEMA Grade GPO 3. Max. operating temperature 300°F (148°C) continuous. UL Rated 94V-0.

**Clips:** Brass, Nickel Plate

### ASSEMBLED WITH CLIP NO. 3535

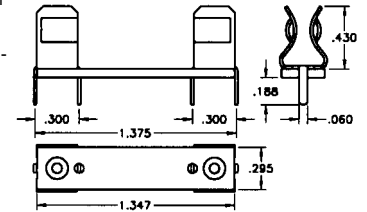
BLACK PHENOLIC CAT. NO.	FIBER-GLASS CAT. NO.	HOLDS NO. OF FUSES	FIG. NO.	A
3536	3540	1	1	.500
3537	3541	2	2	1.125
3538	3542	3	2	1.750
3539	3543	4	2	2.375

## 3AG PC FUSE HOLDER

One piece construction for 1/4" diameter fuses. Ideal where space is a factor. Economical and compact. Provides greater mechanical strength than individual clips. Ideal for wave soldering.

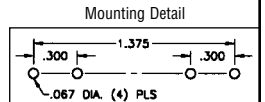


CAT. NO. 4245



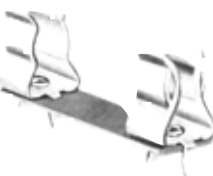
### SPECIFICATIONS

**Base:** .062 GPO-3, UL Rated 94V-0  
**Clips:** Brass, Tin Plate

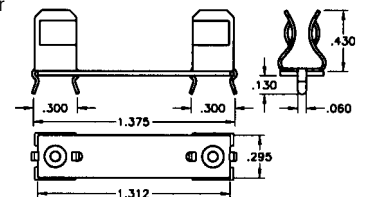


## 3AG SNAP-IN PC FUSE HOLDER

Snap-In design, ideal for wave soldering. One piece construction for 1/4" diameter fuses. Space saving. Economical and compact. Increases production. Excellent mechanical strength.

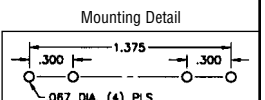


CAT. NO. 4250



### SPECIFICATIONS

**Base:** .032 G-10, UL Rated 94V-0  
**Clips:** Brass, Tin Plate





Designers' Choice

# "AUTO" FUSE CLIPS & HOLDERS

- Available for standard and mini blade fuses
- Thru hole PC mountable, maintains position during wave soldering
- Space saving, low profile designs

- Horizontal and vertical mini blade clip for Littelfuse ATO 297 series and Busmann ATM fuses
- Withstands the rigors of shock and vibration

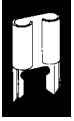
- Horizontal and vertical standard blade clips for Littelfuse ATO 257 series and Busmann ATC fuses
- Holds fuses securely, even after multiple insertions

- Orientation legs assure proper PC installation

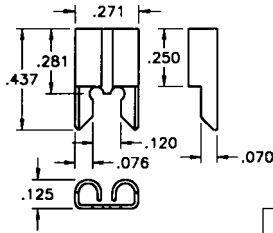
Voltage Rating: 500VAC  
Current Rating: 30 Amps or as noted

## PC AUTOMOTIVE BLADE FUSE CLIPS

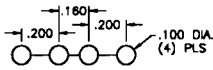
FOR .205 x .025 STANDARD BLADE FUSES



.016 Brass, Nickel Plate

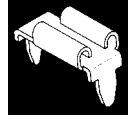


Mounting Detail For Two Clips

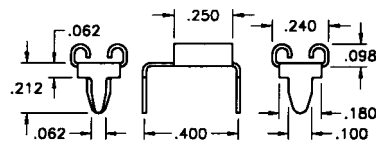


Current Rating: 40 Amps

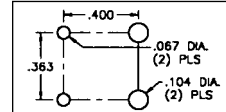
CAT. NO. 3522 - Vertical



.012 Brass, Nickel Plate



Mounting Detail For Two Clips



Current Rating: 40 Amps

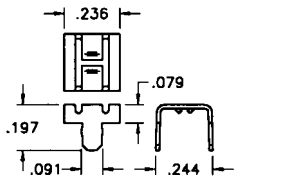
CAT. NO. 3550 - Horizontal

FOR .110 x .032 MINI BLADE FUSES

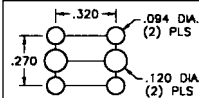


.016 Brass, Nickel Plate

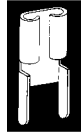
- Low Profile



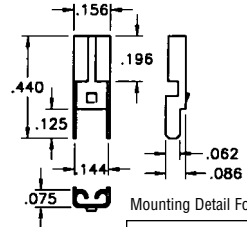
Mounting Detail For Two Clips



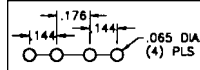
CAT. NO. 3564 - Vertical



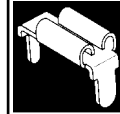
.012 Brass, Nickel Plate



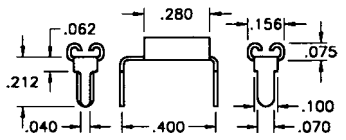
Mounting Detail For Two Clips



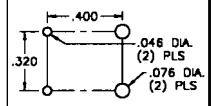
CAT. NO. 3544 - Vertical



.012 Brass, Nickel Plate



Mounting Detail For Two Clips



CAT. NO. 3549 - Horizontal

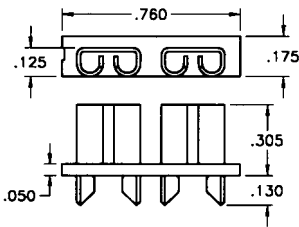
## PC AUTOMOTIVE BLADE FUSE HOLDERS

- Thru hole PC mountable, maintains position during wave soldering
- Holder design prevents solder wicking
- Withstands the rigors of shock and vibration
- Holds fuse securely, even after multiple insertions
- Suitable for 40 Amp applications

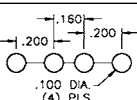
### SPECIFICATIONS

Contacts: Brass, Nickel Plate; Insulator: Glass Filled Nylon, UL Rated 94V-0  
Current Rating: 30 Amps; Voltage Rating: 500VAC  
Temperature Rating: -58°F to +292°F (-50°C to +145°C)

FOR .205 x .025 STANDARD BLADE FUSES

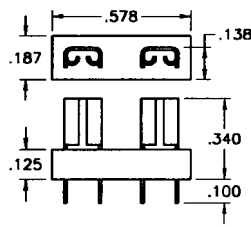


Mounting Detail

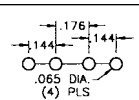


CAT NO. 3522-2

FOR .110 x .032 MINI BLADE FUSES

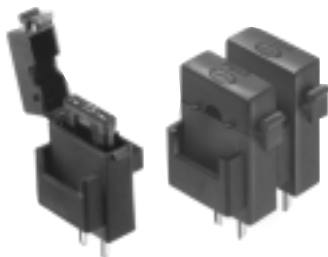


Mounting Detail



CAT NO. 3544-2

## MODULAR PC AUTOMOTIVE BLADE FUSE HOLDER

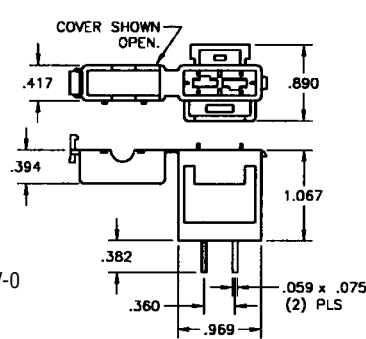


CAT. NO. 3560

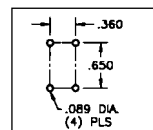
- Designed for standard auto blade fuses
- Fully insulated compact design
- Mounts easily in pre-drilled or punched hole
- Holder has pocket to hold spare fuse
- Safety lever release clip will not open under shock or vibration
- Fuses are installed and removed easily
- May be used individually or easily interlocked for multiple mounting

### SPECIFICATIONS

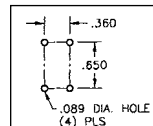
Contacts: Brass, Tin Plate Body: Nylon, UL Rated 94V-0  
Dielectric Strength: (60 seconds) 1500VAC/min.  
Current Rating: 30 Amps



Mounting Detail



Mounting Detail For Two Holders



# QUICK-FIT TERMINALS

Designers' Choice



## .250 "STURDI-MOUNT" PC QUICK-FIT HEADERS

- Ideal for rugged multi-insertion applications
- Pre-assembled header reduces PC assembly costs
- Increases PC board retention strength
- Keeps terminals perpendicular
- Maintains position for wave soldering

AVAILABLE WITH TIN PLATED BRASS OR STEEL TABS

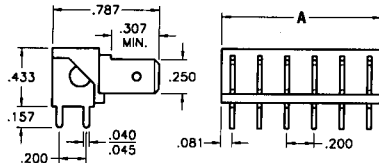


### SPECIFICATIONS

Material: .032, Brass or Steel, Tin Plated  
 Insulator: Thermoplastic, UL Rated 94V-0  
 Voltage Rating: 500VAC Current Rating: 15 Amps  
 Temperature Rating: -58°F to +292°F (-50°C to +145°C)

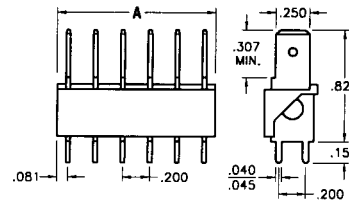
### .250 HORIZONTAL

BRASS TABS CAT. NO.	STEEL TABS CAT. NO.	NO. TABS	A DIM.
7802	7822	2	.362
7803	7823	3	.562
7804	7824	4	.762
7805	7825	5	.962
7806	7826	6	1.162



### .250 VERTICAL

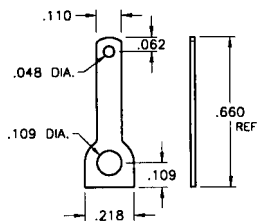
BRASS TABS CAT. NO.	STEEL TABS CAT. NO.	NO. TABS	A DIM.
7812	7832	2	.362
7813	7833	3	.562
7814	7834	4	.762
7815	7835	5	.962
7816	7836	6	1.162



Mtg. Holes: .052 Dia. x .200 Centers

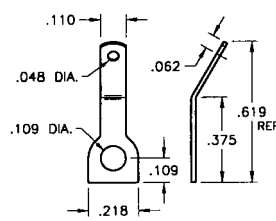
## .110 / .187 / .205 QUICK-FIT RIVET TYPES

### .110 TABS



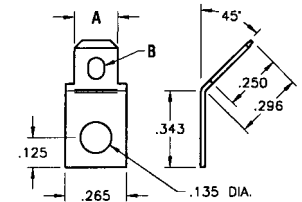
CAT. NO.	MATERIAL
1269	.020 Brass, Tin Plate

### .110 TABS



CAT. NO.	MATERIAL
1270	.020 Brass, Tin Plate

### .187 / .205 TABS



CAT. NO.	MATERIAL	A	B
4005	.020 Brass, Tin Plate	.205	.132 x .070 Slot
4095	.020 Brass, Tin Plate	.187	.078 Dia. Hole



## 45° & 90° QUICK-FIT RIVET TYPES



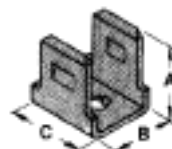
### .110 / .187 / .250 TABS



90 Degree MATERIAL: Bright Brass

CAT. NO.	TAB SIZE	MAT'L THICK	A	B	C	HOLE DIA.
2002	.110	.020	.360	.250	.180	.096
1261	.187	.020	.375	.250	.250	.099
1256	.250	.032	.405	.312	.312	.130

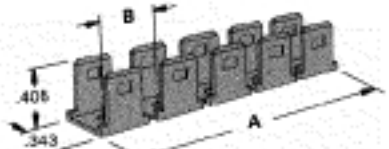
### .110 / .187 / .250 TABS



90 Degree MATERIAL: Bright Brass

CAT. NO.	TAB SIZE	MAT'L THICK	A	B	C	HOLE DIA.
2003	.110	.020	.350	.383	.180	.096
1262	.187	.020	.312	.250	.250	.099
1257	.250	.032	.405	.343	.312	.130

### .250 TAB



MULTIPLE 90° MATERIAL: Bright Brass

CAT. NO.	TAB SIZE	MAT'L THICK	A	B	HOLE DIA.	PAIRS
1005	.250	.032	.703	.375	.130	2
1006	.250	.032	1.075	.375	.130	3
1007	.250	.032	1.422	.375	.130	4
1008	.250	.032	1.837	.375	.130	5



45 Degree MATERIAL: Bright Brass

CAT. NO.	TAB SIZE	MAT'L THICK	A	B	C	HOLE DIA.
2004	.110	.020	.350	.270	.180	.096
1271	.187	.020	.375	.250	.250	.099
1280	.250	.032	.405	.312	.312	.130



45 Degree MATERIAL: Bright Brass

CAT. NO.	TAB SIZE	MAT'L THICK	A	B	C	HOLE DIA.
2005	.110	.020	.350	.383	.180	.096
1263	.187	.020	.312	.375	.265	.135
1258	.250	.032	.405	.343	.312	.130

### CUSTOM QUICK-FIT TERMINALS

Keystone is fully integrated to meet your total design & production needs.

Manufacturing custom designs & modifications of standard items is our specialty.

Quotations on special stampings furnished promptly upon receipt of sample, sketch, print or CAD drawings.



Designers' Choice

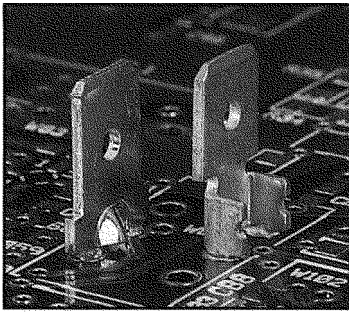
# PC QUICK-FIT TERMINALS



Underwriters Laboratories, Inc.  
Recognized Component Program — UL File Number E201546

UL file number E201546 has been assigned to Keystone Electronics' "Quick-Fit" terminals (see pages 29-31) indicating recognition by Underwriters Laboratories Inc. that they are in compliance with their component program.

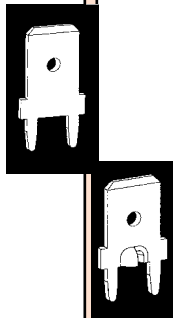
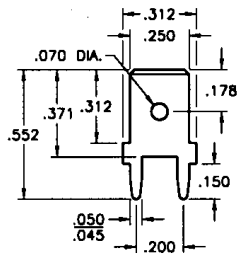
Underwriters Laboratories Inc. component program assures that "Quick-Fit" terminals meet the dimensional and performance requirements of the National Electrical Manufacturers Association specification number NEMA2-1982-(1988) and UL310.



## .250 PC QUICK-FIT MALE TYPES

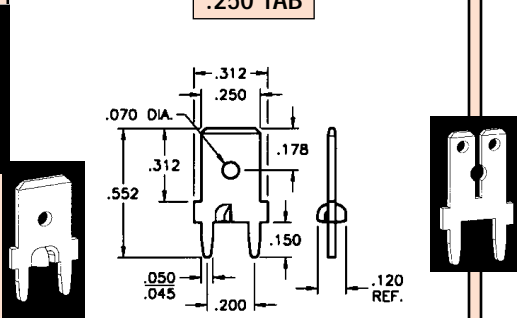
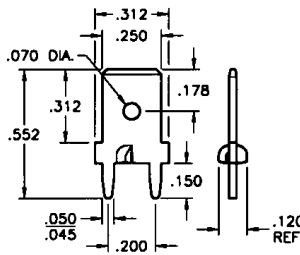


.250 TAB



CAT. NO.	MATERIAL	MTG. HOLES
1287	.032 Brass, Tin Plate	.052 Dia.

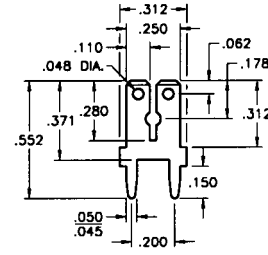
.250 TAB



Sturdi-Mount

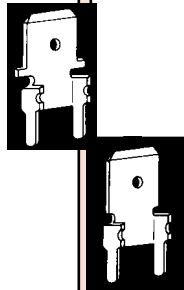
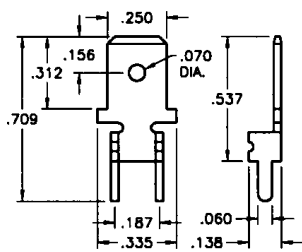
CAT. NO.	MATERIAL	MTG. HOLES
1287-ST	.032 Brass, Tin Plate	.052 Dia.

DUAL .110/.250 TAB



CAT. NO.	MATERIAL	MTG. HOLES
1282	.032 Brass, Tin Plate	.052 Dia.

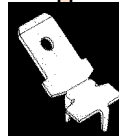
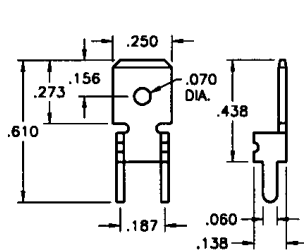
.250 TAB



Sturdi-Mount

CAT. NO.	MATERIAL	MTG. HOLES
4901	.032 Brass, Tin Plate	.067 Dia.

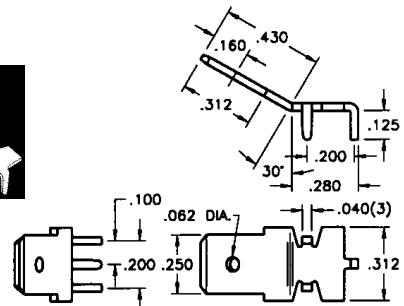
.250 TAB



Sturdi-Mount

CAT. NO.	MATERIAL	MTG. HOLES
4902	.032 Brass, Tin Plate	.067 Dia.

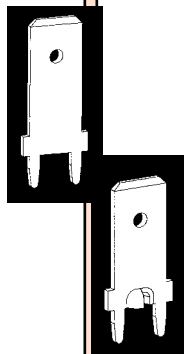
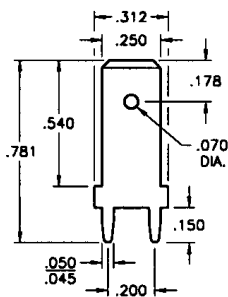
.250 TAB



Sturdi-Mount

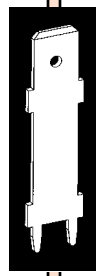
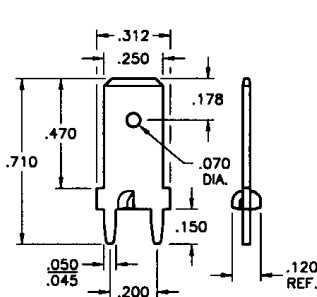
CAT. NO.	MATERIAL	MTG. HOLES
4908	.032 Brass, Tin Plate	.052 Dia.

.250 TAB



CAT. NO.	MATERIAL	MTG. HOLES
1289	.032 Brass, Tin Plate	.052 Dia.

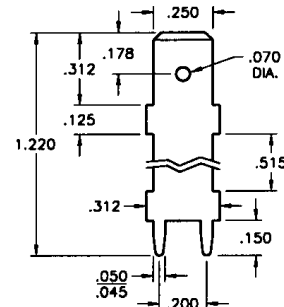
.250 TAB



Sturdi-Mount

CAT. NO.	MATERIAL	MTG. HOLES
1289-ST	.032 Brass, Tin Plate	.052 Dia.

.250 TAB



CAT. NO.	MATERIAL	MTG. HOLES
1281	.032 Brass, Tin Plate	.052 Dia.

NOTE: .250" TAB HAND INSERTION TOOL; CAT. NO. 1288, SEE PAGE 32

# PC QUICK-FIT TERMINALS

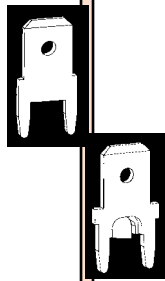
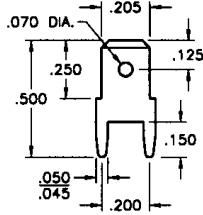
Designers' Choice



## .110/ .187/ .205/ .250 PC QUICK-FIT MALE TYPES

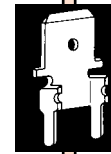
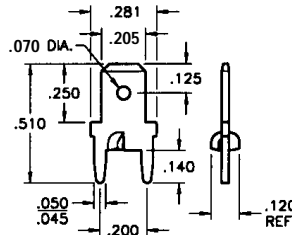


**.205 TAB**



CAT. NO.	MATERIAL	MTG. HOLES
1286	.020 Brass, Tin Plate	.046 Dia.
1213	.032 Brass, Tin Plate	.052 Dia.

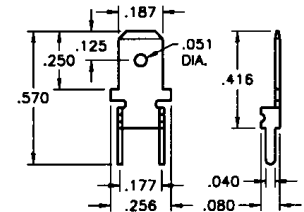
**.205 TAB**



Sturdi-Mount

CAT. NO.	MATERIAL	MTG. HOLES
1286-ST	.020 Brass, Tin Plate	.046 Dia.
1213-ST	.032 Brass, Tin Plate	.052 Dia.

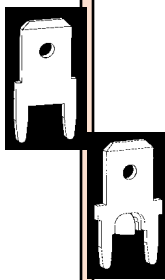
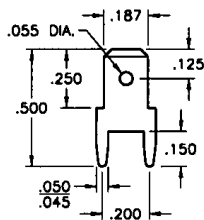
**.187 TAB**



Sturdi-Mount

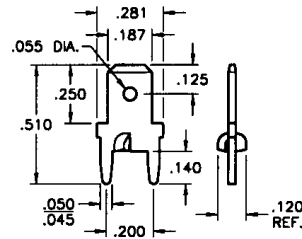
CAT. NO.	MATERIAL	MTG. HOLES
4900	.020 Brass, Tin Plate	.043 Dia.

**.187 TAB**



CAT. NO.	MATERIAL	MTG. HOLES
1285	.020 Brass, Tin Plate	.046 Dia.
1212	.032 Brass, Tin Plate	.052 Dia.

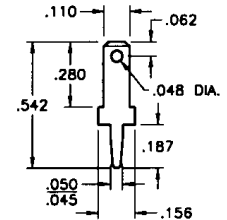
**.187 TAB**



Sturdi-Mount

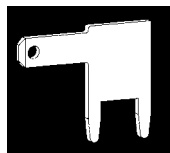
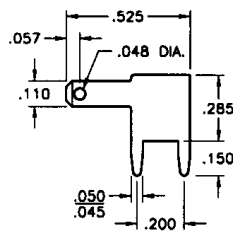
CAT. NO.	MATERIAL	MTG. HOLES
1285-ST	.020 Brass, Tin Plate	.046 Dia.
1212-ST	.032 Brass, Tin Plate	.052 Dia.

**.110 TAB**



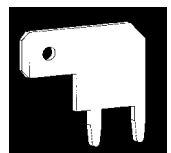
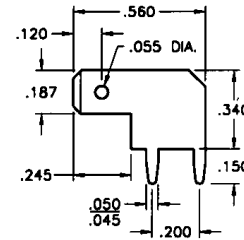
CAT. NO.	MATERIAL	MTG. HOLE
1267	.020 Brass, Tin Plate	.046 Dia.
1211	.032 Brass, Tin Plate	.052 Dia.

**.110 TAB**



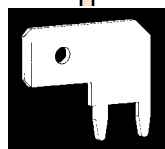
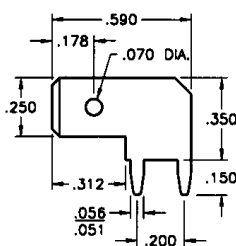
CAT. NO.	MATERIAL	MTG. HOLES
4903	.020 Brass, Tin Plate	.046 Dia.
4906	.032 Brass, Tin Plate	.052 Dia.

**.187 TAB**



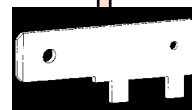
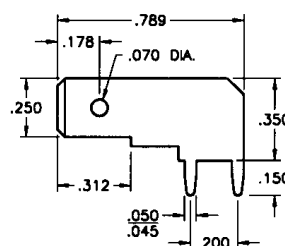
CAT. NO.	MATERIAL	MTG. HOLES
4904	.020 Brass, Tin Plate	.046 Dia.
4907	.032 Brass, Tin Plate	.052 Dia.

**.250 TAB**



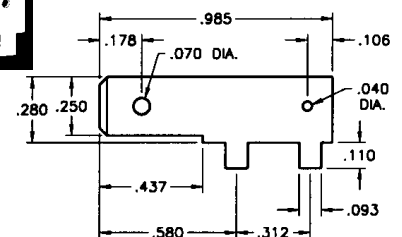
CAT. NO.	MATERIAL	MTG. HOLES
4966	.032 Brass, Tin Plate	.056 Dia.

**.250 TAB**



CAT. NO.	MATERIAL	MTG. HOLES
1266	.032 Brass, Tin Plate	.052 Dia.

**.250 TAB**



CAT. NO.	MATERIAL	MTG. HOLES
1265	.032 Brass, Tin Plate	.106 Dia.

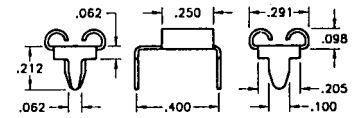
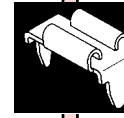
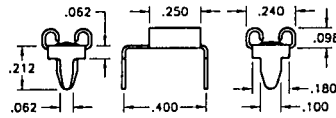
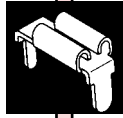
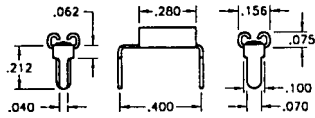


Designers' Choice

# PC QUICK-FIT TERMINALS

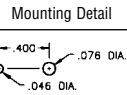
## .110 / .187 / .205 / .250 PC QUICK-FIT FEMALE TYPES

### .110 HORIZONTAL



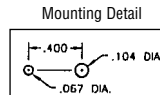
**MATERIAL:**  
.012 Brass, Nickel Plate

CAT. NO.	ACCEPTS TAB
3545	.110 × .020
3549	.110 × .032



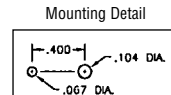
**MATERIAL:**  
.012 Brass, Nickel Plate

CAT. NO.	ACCEPTS TAB
3546	.205 × .020
3550	.205 × .025
	.205 × .032

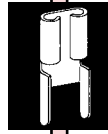
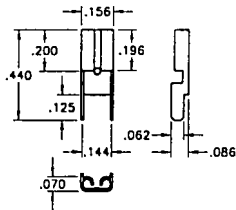


**MATERIAL:**  
.016 Brass, Nickel Plate

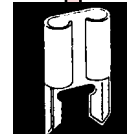
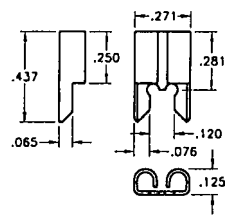
CAT. NO.	ACCEPTS TAB
3547	.250 × .032



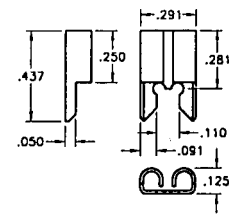
### .110 VERTICAL



### .205 VERTICAL

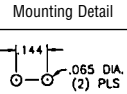


### .250 VERTICAL



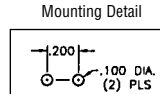
**MATERIAL:**  
.012 Brass, Nickel Plate

CAT. NO.	ACCEPTS TAB
3534	.110 × .020
3544	.110 × .032



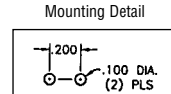
**MATERIAL:** Brass, Nickel Plate

CAT. NO.	ACCEPTS TAB	MAT'L THICK
3525	.205 × .020	.012
3522	.205 × .025	.016
	.205 × .032	.016

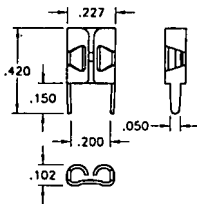


**MATERIAL:**  
.016 Brass, Nickel Plate

CAT. NO.	ACCEPTS TAB
3528	.250 × .032

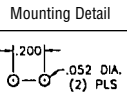


### .187 VERTICAL

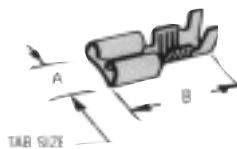


**MATERIAL:**  
.016 Brass, Nickel Plate

CAT. NO.	ACCEPTS TAB
3548	.187 × .020
3551	.187 × .032



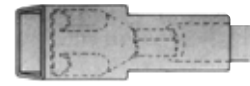
### QUICK-FIT FEMALES



**MATERIAL:** Tinned Brass

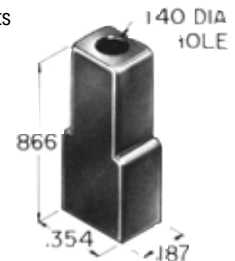
CAT. NO.	A DIM TAB SIZE	B DIM LENGTH	AWG SIZE	MAT'L THICK
1252	.110 × .020	.640	18-22	.010
1264	.187 × .020	.576	16-22	.013
4469	.205 × .020	.640	16-20	.013
4470	.250 × .032	.750	16-20	.016

### .250 QUICK-FIT VINYL BOOT



- Easily slips over terminal
- Insulated and protects

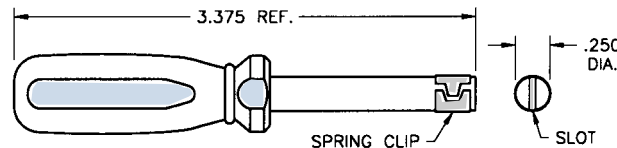
CAT. NO.	BOOT COLOR
4471	CLEAR
4472	RED
4473	BLUE
4474	YELLOW



## MALE "QUICK-FIT" INSERTION TOOL

Designed to install .250 male "Quick-Fit" terminals quickly and easily

- Insert terminal into slot, spring clip will hold terminal securely for positioning
- Align terminal with mounting holes and "press-fit" to secure firmly in place
- Lift tool to release terminal



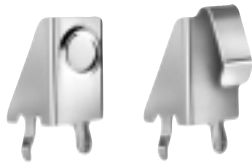
CAT. NO. 1288

# NEW PRODUCTS A

Designers' Choice



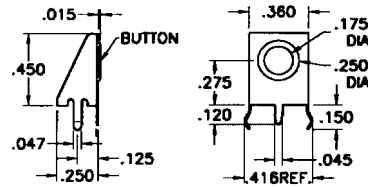
## "AA" • "N" SIZE PC BUTTON & LEAF-SPRING CONTACTS



596

590

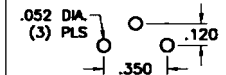
- Ideal for "AA" and "N" size batteries
- Space saving design installs directly onto the PC board
- Suitable for .062 and .093 thick PC boards
- Reliable leaf-spring assures low contact resistance
- Ideal for self-contained battery compartments



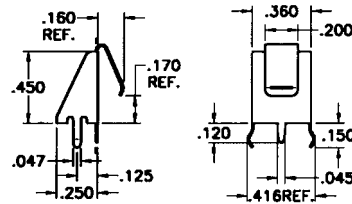
CAT. NO. 596

POSITIVE

Mounting Detail



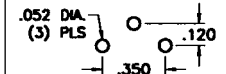
MATERIAL: .012 Thick, Spring Steel, Tin Plate



CAT. NO. 590

NEGATIVE

Mounting Detail



## DENSI-PAK® BATTERY HOLDERS

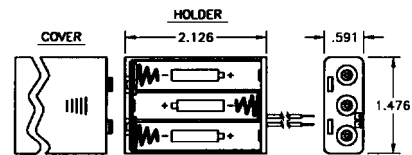


- Supports high density packaging on or off board, positions anywhere for easy access to battery
- Economical design
- Batteries securely held in place to assure a positive connection and maintain a low contact resistance
- Contact springs self-adjust to variations in battery length
- Snap-on cover fully protects battery
- Recessed or fully enclosed contacts
- Withstands shock and vibration

### SPECIFICATIONS

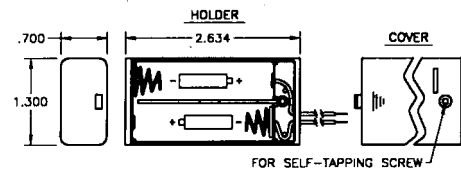
- Holder: A.B.S.
- Springs: Spring Steel, Nickel Plate
- Wires (Red & Black): 6 inches long, #26AWG, Tinned, .187 end strip UL/CSA1007

For "AAA"



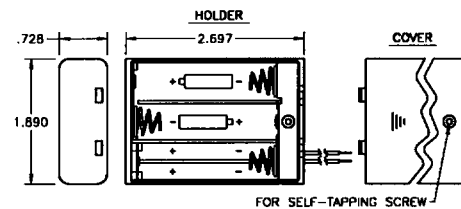
CAT. NO. 2484 For (3) "AAA"

For "AA"



CAT. NO. 2490 For (2) "AA"

For "AA"



CAT. NO. 2487 For (3) "AA"

## 9 VOLT PC LEAF-SPRING CONTACT

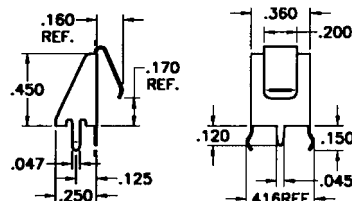


NEW for 6.8mm dia. button cell

Refer to Catalog M1 (Page 8) for New Coin Cell Battery Retainers & Holders

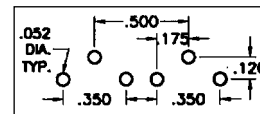


- Ideal "Slide-In" contact for easy installation and removal of 9 Volt batteries
- Space saving design installs directly onto the PC board
- Suitable for .062 and .093 thick PC boards
- Reliable leaf-spring assures low contact resistance
- Ideal for self-contained battery compartments



CAT. NO. 590

9 Volt Mounting Detail For Two Contacts



MATERIAL: .012 Thick, Spring Steel, Tin Plate

