

ACCESSORIES

9V Battery Clip

This accessory is available for all enclosures with a 9V battery compartment. The clip comes with a 150 mm (5.91 in.) long cable.



Type	Cat. No.	Std. Pk.
AC-AB9	94.752	10

Folding Feet

Each set includes four feet. The 2 front feet have fold-out legs for tilting the enclosure. It raises the front portion of the enclosure approximately 28 mm (1.10 in.); the 2 back feet are both non-skid.

Installation

1. Drill 6 holes, each with a 3 mm (.12 in.) diameter (#31 Drill Bit). Drill one hole for each non-skid foot and 2 holes for each folding foot (use the provided template).
2. Install the folding feet with 8.6 mm (.34 in.) long, self-tapping screws before completing the final enclosure assembly.
3. Mount the non-skid feet with 11.6 mm (.46 in.) long screws. All hardware is included.



Type	Cat. No.	Std. Pk.
AC-PF-4	94.755	1

Universal Printed Circuit Board Mounting Studs

They are self adhesive and can be located wherever needed within an enclosure.



Type	Cat. No.	Std. Pk.
AC-DA635	94.754	10

Battery Spacers

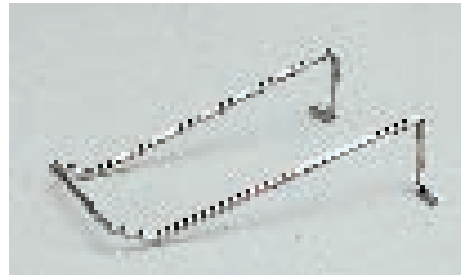
These self-adhesive, soft rubber spacers fill unused space in battery compartments.



Type	Cat. No.	Std. Pk.
AC-Spacer	94.753	10

Stainless Steel Clip

Used to clip an enclosure to either a pocket or a belt, these clips are for Mini Pocket Enclosures MP4 (page 48) and MP6 (page 50).

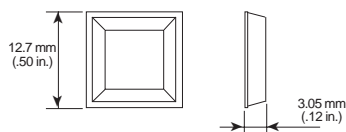


Type	Cat. No.	Std. Pk.
AC-CL1	94.758	5

Self-Adhesive Feet

Each set has four, 12 mm (.47 in.) sq. by 3 mm (.12 in.) high, non-skid feet.

Note: Some enclosures come with feet; please see each ordering page for details.



Type	Cat. No.	Std. Pk.
AC-PA-4	94.754	10

Liquid Tight Strain Reliefs (Cord Grips)

Altech offers a complete line of Liquid Tight Strain Reliefs. A partial selection of our cord grips is shown on pages 85 through 88.

For more detailed information about these and the many other cord grips we make available, please request our Liquid Tight Strain Relief Catalog 360.



Catalog 360

REPLACEMENTS

1.5V Battery Contacts

This is a replacement item for enclosures listed on pages 62 and 63.



Type	Cat. No.	Std. Pk.
AC-AB 1.5	94.750	10

12V Battery Contacts

This is a replacement item for enclosures listed on page 47.



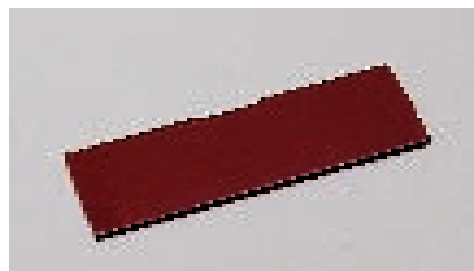
Type	Cat. No.	Std. Pk.
AC-AB12	94.751	10

Front Panel, Red Transparent

The transparent, red plexiglass panel is permeable to infrared light.

Type AC-VTIRC is a replacement item for enclosures on page 62.

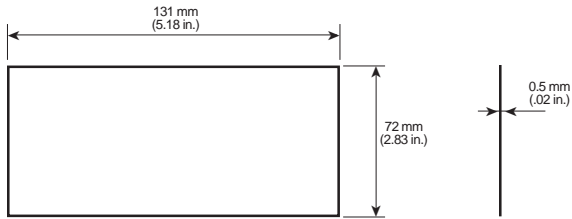
Type AC-VTIR is a replacement item for enclosure on page 63.



Type	Cat. No.	Std. Pk.
AC-VTIRC	94.756	5
AC-VTIR	94.759	5

Aluminum Panel

The Anodized Aluminum (AA) panel is .5 mm (.02 in.) thick. It is delivered with a protective pull-off plastic film on one side.

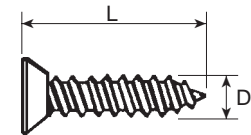


Type	Cat. No.	Std. Pk.
AC-AP	94.814	10

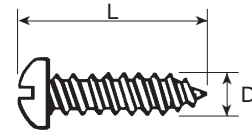
Screws

Altech's electronic enclosures are supplied with screws listed below. For replacement screws, please contact Altech.

Screw Type	Screw Cat. No.	Screw Description	Diameter (D)		Length (L)		Screw Material
			mm	(in.)	mm	(in.)	
SC1	94.761	Phillips, flathead	2.9	(.11)	19.0	(.75)	Steel, Black Finish (SB)
SC2	94.762	Phillips, flathead	2.9	(.11)	25.0	(.98)	Steel, Black Finish (SB)
SC3	94.763	Phillips, flathead	2.9	(.11)	32.0	(1.26)	Steel, Black Finish (SB)
SC4	94.764	Phillips, flathead	2.9	(.11)	38.0	(1.56)	Steel, Black Finish (SB)
SC5	94.765	Phillips, panhead	2.9	(.11)	42.0	(1.65)	Steel, Black Finish (SB)
SC6	94.776	Phillips, flathead	2.9	(.11)	45.0	(1.77)	Steel, Black Finish (SB)
SC7	94.767	Phillips, panhead	3.0	(.12)	16.0	(.63)	Steel, Black Finish (SB)
SC8	94.768	Phillips, panhead	3.0	(.12)	22.0	(.87)	Steel, Black Finish (SB)
SC9	94.770	Phillips, flathead	2.2	(.09)	6.5	(.26)	Steel, Nickel Plated (SP)
SC10	94.771	Phillips, panhead	2.9	(.11)	6.5	(.26)	Steel, Nickel Plated (SP)
SC11	94.772	Phillips, panhead	2.9	(.11)	9.5	(.37)	Steel, Nickel Plated (SP)
SC12	94.773	Phillips, panhead	2.9	(.11)	13.0	(.51)	Steel, Nickel Plated (SP)
SC14	94.776	Phillips, flathead	2.9	(.11)	32.0	(1.26)	Steel, Nickel Plated (SP)
SC16	94.778	Slotted, panhead	4.0	(.16)	60.0	(2.36)	Steel, Galvanized (SG)
SC17	94.779	Slotted, panhead	4.0	(.16)	65.0	(2.56)	Steel, Galvanized (SG)
SC18	94.780	Slotted, panhead	4.0	(.16)	75.0	(2.95)	Steel, Galvanized (SG)
SC19	94.761	Slotted, panhead	4.0	(.16)	85.0	(3.35)	Steel, Galvanized (SG)
SC20	94.782	Slotted, panhead	4.0	(.16)	90.0	(3.54)	Steel, Galvanized (SG)
SC21	94.783	Phillips, flathead	4.0	(.16)	100.0	(3.94)	Steel, Galvanized (SG)
SC22	94.784	Slotted, panhead	4.0	(.16)	110.0	(4.33)	Steel, Galvanized (SG)
SC23	94.902	Phillips, flathead	2.9	(.11)	50.0	(1.97)	Steel, Nickel Plated (SP)
SC24	94.903	Phillips, flathead	2.2	(.09)	16.0	(.63)	Steel, Nickel Plated (SP)



Flathead Screw



Panhead Screw

Liquid Tight Strain Reliefs: General Information

Altech's quality line of Liquid Tight Strain Reliefs helps you address two main purposes. With these cord grips, you can:

1. Seal cable entries and keep contaminants from entering your enclosures.
2. Provide strain relief to reduce stress on components and termination points mounted inside your enclosures.

These cord grips give you moisture-tight seals, reliable strain relief, easy installation and long life.

Plus, they comply with many national and international standards, such as UL, NEC, CSA, IEC, VDA and more.

Available in Standard, High Performance or Economy series, these cord grips can be applied in many functions such as straight-through, increased strain relief, bend protection, multi-conductor, flat cable and EMI/RFI.

To further meet your application needs, our liquid tight strain reliefs come in a wide range of sizes and are suitable for indoor or outdoor applications, including tough

industrial environments, food processing, chemical and petrochemical plants, medical applications, water treatment facilities and much more.

Standard Cord Grips

Offering an excellent price/performance ratio, they are suitable for most applications. They are now widely used.

High Performance Cord Grips

These are excellent for demanding applications, special requirements, and tough environmental conditions.

Economy Cord Grips

These liquid tight strain reliefs are suitable for basic applications.

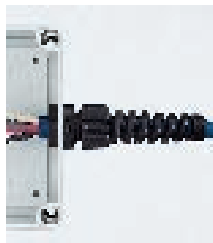
The abbreviated listing of our cord grips in this catalog gives you an overview of our extensive selection. If your applications require a greater range of liquid tight strain reliefs, please ask for our detailed, 64-page catalog.



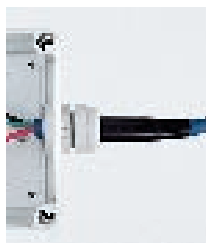
1. Straight-Through



2. Increased Strain



3. Bend Protection



4. Pull / Bend Protection



5. Multi-Conductor



6. Flat Cable



7. EMI/RFI

How to Select Cord Grips

To properly select Altech Cord Grips, the following should be considered.

Protection Rating

Determine the Protection Rating required for your particular uses and applications. Protection Ratings are listed in on each ordering page. Our full catalog includes information on International Protection Ratings and a NEMA/IP Cross Reference Chart.

Material

Select a cord grip that will withstand the expected environmental conditions where the liquid tight strain relief will be used. Our full catalog includes a Chemical Resistance Chart and a Selection Criteria Chart.

Function

The function of the cord grip is another important criteria in your selection process. Our full catalog includes a Possible Combinations of Body and Sealing Materials by Function Chart to help your selection process.

Thread Definitions for Cord Grips

PG

Current European Standard. Large installed base, widely used. Use with PG Locknuts.

NPT

National Pipe Thread (US). Use with NPT Locknuts.

Metric

Future European Standard. Will be phased in for PG after 1998. Not commonly used at this time and not always readily available. Not shown in this catalog. Please contact Altech for availability.

Standard Straight-Through

Brass, Nickel Plated (BN)

IP68 (NEMA 1, 2, 3, 3R, 4, 4X, 5, 6, 12, 13)

PG, NPT standard
Metric available

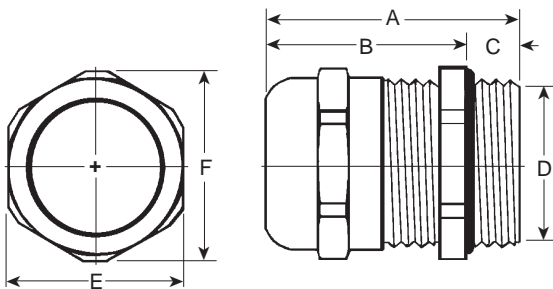
Pre-installed Perbunan (PR) Seal Rings (All sizes)



Temperature Ranges

Body	Sealing Sleeve
Brass, Nickel Plated (BN)	Neoprene (NE)
-40 to 300°C	-40 to 100°C
(-40 to 212°F)	(-40 to 572°F)

Liquid Tight Strain Reliefs (Cord Grips)									Locknuts Brass, Nickel Plated (BN)			
Type			Cat. No.	Std. Pk.	Cable Dia. mm	Cable Dia. (in.)	Mtg. Hole Dia. mm	Mtg. Hole Dia. (in.)	Nearest Drill Size	Cat. No.	Std. Pk.	
PG7-SSBN -	-	-	NE 05	80.100	100	2.0 - 5.0	(.08 - .20)	13.0	(.51)	33/64	86.500	100
PG7-SSBN -	-	-	NE 06	80.101	100	3.0 - 6.5	(.12 - .26)	13.0	(.51)	33/64	86.500	100
PG9-SSBN -	-	-	NE 06	80.102	100	2.0 - 6.0	(.08 - .24)	15.5	(.61)	39/64	86.501	100
PG9-SSBN -	-	-	NE 08	80.103	100	4.0 - 8.0	(.16 - .31)	15.5	(.61)	39/64	86.501	100
PG11-SSBN -	-	-	NE 07	80.104	50	3.0 - 7.0	(.12 - .28)	19.0	(.75)	3/4	86.502	50
PG11-SSBN -	-	-	NE 10	80.105	50	5.0 - 10.0	(.20 - .39)	19.0	(.75)	3/4	86.502	50
PG13.5-SSBN -	-	-	NE 09	80.106	50	5.0 - 9.0	(.20 - .35)	21.0	(.83)	53/64	86.503	50
PG13.5-SSBN -	-	-	NE 12	80.107	50	6.0 - 12.0	(.24 - .47)	21.0	(.83)	53/64	86.503	50
PG16-SSBN -	-	-	NE 12	80.108	50	7.0 - 12.0	(.28 - .47)	23.0	(.91)	29/32	86.504	50
PG16-SSBN -	-	-	NE 14	80.109	50	10.0 - 14.0	(.39 - .55)	23.0	(.91)	29/32	86.504	50
PG21-SSBN -	-	-	NE 16	80.110	50	9.0 - 16.0	(.35 - .63)	29.0	(1.14)	1-9/64	86.505	50
PG21-SSBN -	-	-	NE 18	80.111	50	13.0 - 18.0	(.51 - .71)	29.0	(1.14)	1-9/64	86.505	50
PG29-SSBN -	-	-	NE 20	80.112	25	12.0 - 20.0	(.47 - .79)	37.5	(1.48)	1-31/64	86.506	25
PG29-SSBN -	-	-	NE 25	80.113	25	18.0 - 25.0	(.71 - .98)	37.5	(1.48)	1-31/64	86.506	25
PG36-SSBN -	-	-	NE 26	80.114	10	20.0 - 26.0	(.79 - 1.02)	47.5	(1.87)	1-7/8	86.507	10
PG36-SSBN -	-	-	NE 32	80.115	10	22.0 - 32.0	(.87 - 1.26)	47.5	(1.87)	1-7/8	86.507	10
PG42-SSBN -	-	-	NE 38	80.117	5	30.0 - 38.0	(1.18 - 1.50)	54.5	(2.15)	2-5/32	86.508	5
PG48-SSBN -	-	-	NE 44	80.119	5	34.0 - 44.0	(1.34 - 1.73)	60.0	(2.36)	2-3/8	86.509	5
NPT3/8-SSBN -	-	-	NE 06	80.120	50	2.0 - 6.0	(.08 - .24)	17.5	(.69)	11/16	86.541	50
NPT3/8-SSBN -	-	-	NE 08	80.121	50	4.0 - 8.0	(.16 - .31)	17.5	(.69)	11/16	86.541	50
NPT1/2-SSBN -	-	-	NE 09	80.122	50	5.0 - 9.0	(.20 - .35)	21.5	(.85)	27/32	86.542	50
NPT1/2-SSBN -	-	-	NE 12	80.123	50	6.0 - 12.0	(.24 - .47)	21.5	(.85)	27/32	86.542	50
NPT3/4-SSBN -	-	-	NE 16	80.124	25	9.0 - 16.0	(.35 - .63)	27.0	(1.06)	1-1/16	86.543	25
NPT3/4-SSBN -	-	-	NE 18	80.125	25	13.0 - 18.0	(.51 - .71)	27.0	(1.06)	1-1/16	86.543	25



Size	Dimensions mm (in.)					
	A	B	C	D	E	F
PG7	24.0 (.94)	19.3 (.76)	5.0 (.20)	12.5 (.49)	14.0	15.5 (.61)
PG9	28.8 (1.13)	22.0 (.87)	6.0 (.24)	15.2 (.60)	17.0	18.9 (.74)
PG11	29.2 (1.15)	22.5 (.89)	6.0 (.24)	18.6 (.73)	20.0	22.2 (.87)
PG13.5	29.5 (1.16)	23.0 (.91)	6.5 (.26)	20.4 (.80)	22.0	24.5 (.96)
PG16	31.0 (1.22)	24.5 (.96)	6.5 (.26)	22.5 (.89)	24.0	26.7 (1.05)
PG21	34.3 (1.35)	27.7 (1.09)	7.0 (.28)	28.3 (1.11)	30.0	33.5 (1.32)
PG29	41.0 (1.61)	32.0 (1.26)	8.0 (.31)	37.0 (1.46)	40.0	43.5 (1.71)
PG36	46.2 (1.82)	38.0 (1.50)	9.0 (.35)	47.0 (1.85)	50.0	54.0 (2.13)
PG42	48.3 (1.90)	39.3 (1.55)	10.0 (.39)	54.0 (2.13)	57.0	61.0 (2.40)
PG48	50.4 (1.98)	41.3 (1.63)	10.0 (.39)	59.3 (2.33)	64.0	69.0 (2.72)
NPT3/8"	37.0 (1.46)	16.9 (.67)	15.0 (.59)	17.1 (.67)	17.0	19.0 (.75)
NPT1/2"	37.5 (1.48)	24.5 (.96)	13.0 (.51)	21.3 (.84)	24.0	26.7 (1.05)
NPT3/4"	40.7 (1.60)	27.7 (1.09)	13.0 (.51)	26.7 (1.05)	30.0	33.5 (1.32)



Installation
To install, we recommend the use of Metric, Open-end or Adjustable Wrenches. Please refer to column E in the Dimensions Table for sizes.

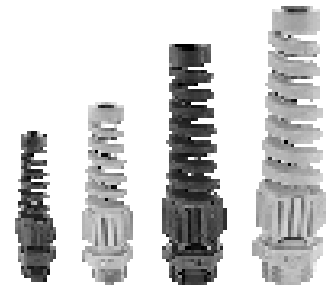
Standard Bend Protection

Polyamide (PA)

IP68 (NEMA1, 2, 3, 3R, 4, 4X, 5, 6, 12, 13)
 PG, NPT standard
 Metric available
 Integral Sealing Ridges (Only PG7 to PG21 and NPT3/8 to NPT3/4)

Temperature Ranges

Body	Sealing Sleeve
Polyamide (PA)	Neoprene (NE)
-20 to 100°C	-40 to 100°C
(-4 to 212°F)	(-40 to 212°F)

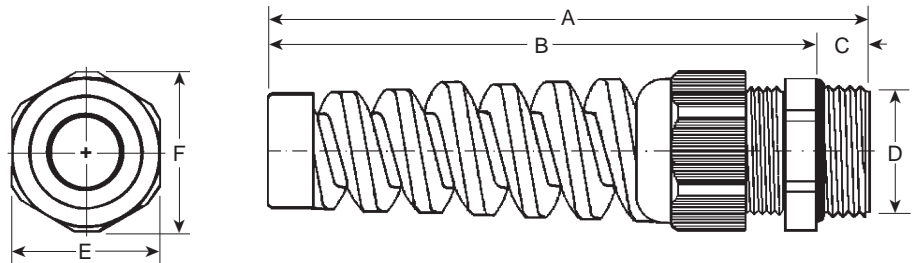


Standard Color

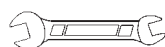
Light Gray, black

Liquid Tight Strain Reliefs (Cord Grips)											Seal Rings Polyethylene (PE)		Locknuts Polyamide (PA)		
Type	Cat. No.		Std. Pk.	Cable Dia.		Mtg. Hole Dia.	Nearest Drill Size	Cat. No. Opaque	Std. Pk.	Cat. No.		Std. Pk.			
	Lt. Gray	Black		mm	(in.)					Lt. Gray	Black				
PG7-SBPA - <input type="checkbox"/>	NE 06	80.300 80.310	50	3.5 - 6.5	(.14 - .26)	13.0 (.51)	33/64	86.600	100	86.000 86.021	100				
PG9-SBPA - <input type="checkbox"/>	NE 08	80.301 80.311	50	4.0 - 8.0	(.16 - .31)	15.5 (.61)	39/64	86.601	100	86.001 86.022	100				
PG11-SBPA - <input type="checkbox"/>	NE 10	80.302 80.312	50	5.0 - 10.0	(.20 - .39)	19.0 (.74)	3/4	86.602	100	86.002 86.023	100				
PG13.5-SBPA - <input type="checkbox"/>	NE 12	80.303 80.313	50	6.0 - 12.0	(.24 - .47)	21.0 (.82)	53/64	86.603	100	86.003 86.024	100				
PG16-SBPA - <input type="checkbox"/>	NE 14	80.304 80.314	25	10.0 - 14.0	(.39 - .55)	23.0 (.90)	29/32	86.604	50	86.004 86.025	50				
PG21-SBPA - <input type="checkbox"/>	NE 18	80.305 80.315	25	13.0 - 18.0	(.51 - .71)	29.0 (1.14)	1-9/64	86.605	50	86.005 86.026	50				
NPT3/8-SBPA - <input type="checkbox"/>	NE 10	80.306 80.316	50	5.0 - 10.0	(.20 - .39)	17.5 (.69)	11/16	80.602	50	86.061 86.081	50				
NPT1/2-SBPA - <input type="checkbox"/>	NE 14	80.307 80.317	50	10.0 - 14.0	(.39 - .55)	21.5 (.85)	27/32	80.603	50	86.062 86.082	50				
NPT3/4-SBPA - <input type="checkbox"/>	NE 18	80.308 80.318	25	13.0 - 18.0	(.51 - .71)	27.0 (1.06)	1-1/16	80.605	25	86.063 86.083	25				

Body Color, Example: Light Gray or Black



Dimensions mm (in.)							
Size	A	B	C	D	E	F	
PG7	68.0 (2.67)	60.0 (2.36)	8.0 (.31)	12.5 (.49)	15.0	16.5 (.65)	
PG9	80.0 (3.14)	72.0 (2.83)	8.0 (.31)	15.2 (.59)	19.0	21.0 (.82)	
PG11	92.0 (3.62)	84.0 (3.30)	8.0 (.31)	18.6 (.73)	22.0	24.4 (.96)	
PG13.5	104.5 (4.11)	95.5 (3.75)	9.0 (.35)	20.4 (.80)	24.0	26.6 (1.05)	
PG16	119.0 (4.68)	109.0 (4.29)	10.0 (.39)	22.5 (.88)	27.0	30.0 (1.18)	
PG21	138.0 (5.43)	128.0 (5.03)	11.0 (.43)	28.3 (1.11)	33.0	36.6 (1.44)	
NPT3/8"	92.0 (3.62)	84.0 (3.30)	15.0 (.59)	17.2 (.68)	22.0	24.3 (.96)	
NPT1/2"	119.0 (4.68)	109.0 (4.29)	15.0 (.59)	21.3 (.84)	27.0	29.6 (1.17)	
NPT3/4"	138.0 (5.43)	128.0 (5.03)	15.0 (.59)	26.7 (1.05)	33.0	36.1 (1.42)	



Installation

To install, we recommend the use of Metric, Open-end or Adjustable Wrenches. Please refer to column E in the Dimensions Table for sizes.