

Amphenol® 97 Series Connectors with solder contacts



DESIGN CHARACTERISTICS

- Medium to heavy weight cylindrical
- Durable, field-proven design
- Environmental resistant
- Single key/keyway polarization
- Threaded coupling, hard dielectric inserts
- Operating temperatures from -55°C to $+125^{\circ}\text{C}$
- Cost effective
- Intermateable and intermountable with existing 97 Series and MIL-C-5015 connectors
- Underwriters Laboratories approved recognition File E115497
- Canadian Standards Association Certification File LR69183

CUSTOMER OPTIONS

- Solid or split shell construction
- Six shell styles
- 128 contact arrangements, from 1 to 52 circuits
- Alternate insert positioning
- High temperature and potting constructions
- Special plating finishes including black and green zinc alloy
- Optional gold plating on MS contacts
- Thermocouple arrangements available
- 97E available for jacketed cable and individual wire seal applications

Connector components are fabricated from high grade aluminum alloy, with a conductive cadmium plate finish and an olive drab chromate after-treatment. Some cable clamps are a zinc alloy with an olive drab/green chromate finish. See how to order page 21 for other finish variations.

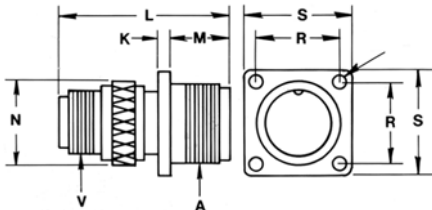
Contacts are silver plated with pre-tinned solder cups. Optional gold over silver plating is also available. Inserts for solder style contacts are diallyl-phthalate.

Users should be aware that classes "A" and "B" of MIL-C-5015 have been cancelled, and these products are no longer qualified.

97 series solder type receptacles

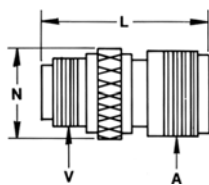
MS3100A wall mount receptacle

Solid shell construction is strong and conserves space. Includes integral polarizing key in front. Back shell is threaded for standard MS/AN fittings.



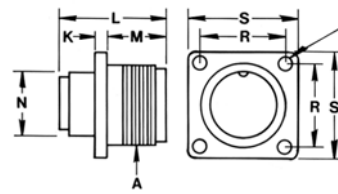
MS3101A cable receptacle

Solid shell construction is strong and conserves space. Includes integral polarizing key in front shell. Machined back shell is threaded for standard MS/AN fittings. Can be unscrewed for inspection or soldering.



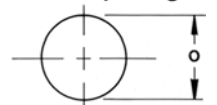
MS3102A box receptacle

Solid shell designed for open wiring. Mounts directly on chassis, equipment or panel. Includes internal polarized key in front shell.



Mounting Holes
 .173 (4.394) DIA.
 FOR SIZES 32 AND 36
 .147 (3.734) DIA.
 FOR SIZES 24 AND 28
 .120 (3.048) DIA.
 FOR ALL OTHER SIZES

Panel Opening



MS3100A and MS3101A

Connector Size	A Coupling Thread	K Ref.		L Max.		M Ref.		N Ref.		O Ref.		R Ref.		S Ref.		V Fitting Threads
		Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	
8S	1/2-28	5/64	1.98	1-1/4	31.75	9/16	14.27	17/32	13.49	.562	14.27	19/32	15.06	7/8	22.23	1/2-28
10S	5/8-24	5/64	1.98	1-5/16	33.32	9/16	14.27	5/8	15.88	.688	17.48	23/32	18.24	1	25.40	1/2-28
10SL	5/8-24	5/64	1.98	1-9/32	32.53	9/16	14.27	3/4	19.05	.812	20.62	23/32	18.24	1	25.40	5/8-24
12S	3/4-20	5/64	1.98	1-15/32	37.29	9/16	14.27	25/32	19.84	.812	20.62	13/16	20.62	1-3/32	27.76	5/8-24
12	3/4-20	5/64	1.98	1-27/32	46.81	3/4	19.05	25/32	19.84	.812	20.62	13/16	20.62	1-3/32	27.76	5/8-24
14S	7/8-20	5/64	1.98	1-15/32	37.39	9/16	14.27	7/8	22.23	.938	23.83	29/32	23.01	1-3/16	30.15	3/4-20
14	7/8-20	5/64	1.98	1-55/64	47.04	3/4	19.05	7/8	22.23	.938	23.83	29/32	23.01	1-3/16	30.15	3/4-20
16S	1 -20	5/64	1.98	1-15/32	37.39	9/16	14.27	1	25.40	1.062	26.97	31/32	24.59	1-9/32	32.54	7/8-20
16	1 -20	1/8	3.18	1-57/64	47.85	3/4	19.05	1	25.40	1.062	26.97	31/32	24.59	1-9/32	32.54	7/8-20
18	1-1/8-18	1/8	3.18	1-63/64	50.24	3/4	19.05	1-1/8	28.58	1.188	30.18	1-1/16	26.97	1-3/8	34.93	1 -20
20	1-1/4-18	1/8	3.18	1-57/64	47.85	3/4	19.05	1-1/4	31.75	1.312	33.32	1-5/32	29.36	1-1/2	38.10	1-3/16-18
22	1-3/8-18	1/8	3.18	1-63/64	50.24	3/4	19.05	1-3/8	34.93	1.438	36.53	1-1/4	31.75	1-5/8	39.67	1-3/16-18
24	1-1/2-18	1/8	3.18	2-1/4	57.15	13/16	20.62	1-1/2	38.10	1.562	36.67	1-3/8	34.43	1-3/4	44.45	1-7/16-18
28	1-3/4-18	1/8	3.18	2-1/4	57.15	13/16	20.62	1-3/4	44.45	1.812	46.02	1-9/16	39.67	2	50.80	1-7/16-18
32	2 -18	1/8	3.18	2-3/8	60.33	7/8	22.23	2-1/32	51.59	2.062	52.37	1-3/4	44.45	2-1/4	57.15	1-3/4-18
36	2-1/4-16	1/8	3.18	2-3/8	60.33	7/8	22.23	2-1/4	57.15	2.312	58.72	1-15/16	49.20	2-1/2	63.50	2 -18

MS3102A

Connect or Size	A Coupling Thread	K Ref.		L Max.		M Ref.		N Ref.		O Ref.		R Ref.		S Ref.	
		Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
8S	1/2-28	5/64	1.98	55/64	21.82	9/16	14.27	7/16	11.10	.562	14.27	19/32	15.06	7/8	22.23
10S	5/8-24	5/64	1.98	55/64	21.82	9/16	14.27	1/2	12.70	.688	17.48	23/32	18.24	1	25.40
10SL	5/8-24	5/64	1.98	61/64	24.21	35/64	13.87	11/16	17.48	.812	20.62	23/32	18.24	1	25.40
12S	3/4-20	5/64	1.98	31/32	24.61	9/16	14.27	11/16	17.45	.812	20.62	13/16	20.62	1-3/32	27.76
12	3/4-20	5/64	1.98	1-21/64	33.73	3/4	19.05	11/16	17.45	.812	20.62	13/16	20.62	1-3/32	27.76
12SL	3/4-20	5/64	1.98	27/32	21.44	35/64	13.87	11/16	17.45	.938	23.83	13/16	20.62	1-3/32	27.76
14S	7/8-20	5/64	1.98	61/64	24.21	9/16	14.27	3/4	19.05	.938	23.83	29/32	23.01	1-3/16	30.15
14	7/8-20	5/64	1.98	1-11/32	34.14	3/4	19.05	3/4	19.05	.938	23.83	29/32	23.01	1-3/16	30.15
16S	1 -20	5/64	1.98	61/64	24.21	9/16	14.27	7/8	22.23	1.062	26.97	31/32	24.59	1-9/32	32.54
16	1 -20	1/8	3.18	1-3/8	34.92	3/4	19.05	7/8	22.23	1.062	26.97	31/32	24.59	1-9/32	32.54
18	1-1/8-18	1/8	3.18	1-3/8	34.92	3/4	19.05	1	25.40	1.188	30.18	1-1/16	26.97	1-3/8	34.93
20	1-1/4-18	1/8	3.18	1-3/8	34.92	3/4	19.05	1-1/8	28.58	1.312	33.32	1-5/32	29.36	1-1/2	38.10
22	1-3/8-18	1/8	3.18	1-3/8	34.92	3/4	19.05	1-1/4	31.75	1.438	36.53	1-1/4	31.75	1-5/8	41.28
24	1-1/2-18	1/8	3.18	1-3/8	34.92	13/16	20.62	1-3/8	34.93	1.562	39.67	1-3/8	34.93	1-3/4	44.45
28	1-3/4-18	1/8	3.18	1-3/8	34.92	13/16	20.62	1-5/8	41.28	1.812	46.02	1-9/16	39.67	2	50.80
32	2 -18	1/8	3.18	1-15/32	37.31	7/8	22.23	1-29/32	48.41	2.062	52.37	1-3/4	44.45	2-1/4	57.15
36	2-1/4-18	1/8	3.18	1-15/32	37.31	7/8	22.23	2-1/8	53.98	2.312	58.72	1-15/16	49.20	2-1/2	63.50

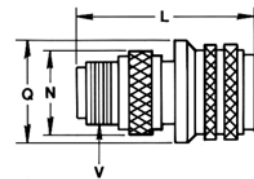
97 series solder type plugs with solid shells

MS3106A

Connector Size	L Max.		N Ref.		Q Max.		V Fitting Threads
	Inch	mm	Inch	mm	Inch	mm	
8S	1-1/4	31.75	17/32	13.49	3/4	19.05	1/2-28
10S	1-5/16	33.32	5/8	15.88	7/8	22.23	1/2-28
10SL	1-3/8	34.93	3/4	19.05	7/8	22.23	5/8-24
12S	1-7/16	36.50	25/32	19.84	1	25.40	5/8-24
12	1-7/8	47.63	25/32	19.84	1	25.40	5/8-24
12SL	1-31/64	37.69	7/8	22.23	1	25.40	3/4-20
14S	1-15/32	37.13	7/8	22.23	1-1/8	28.58	3/4-20
14	1-7/8	47.47	7/8	22.23	1-1/8	28.58	3/4-20
16S	1-15/32	37.13	1	25.40	1-1/4	31.75	7/8-20
16	1-7/8	47.47	1	25.40	1-1/4	31.75	7/8-20
18	1-31/32	49.88	1-1/8	28.57	1-11/32	34.11	1 -20
20	1-7/8	47.50	1-1/4	31.75	1-15/32	37.29	1-3/16-18
22	1-31/32	49.88	1-3/8	34.93	1-19/32	40.46	1-3/16-18
24	2-1/4	57.15	1-1/2	38.10	1-23/32	43.64	1-7/16-18
28	2-1/4	57.15	1-3/4	44.45	1-31/32	49.99	1-7/16-18
32	2-3/8	60.33	2-1/32	51.59	2-7/32	56.34	1-3/4-18
36	2-3/8	60.33	2-1/4	57.15	2-15/32	62.69	2 -18

MS3106A straight plug

Sturdy, simple to assemble. Coupling ring machined from solid aluminum bar stock for high tensile strength. Mates with all types of MS receptacles. Front shell includes polarizing keyway. Back shell is threaded for standard MS/AN fittings.

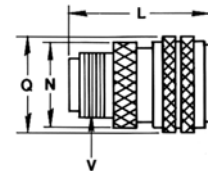


MS3107A

Connector Size	L Max.		N Ref.		Q Max.		V Fitting Threads
	Inch	mm	Inch	mm	Inch	mm	
10S	1-5/16	33.32	5/8	15.88	7/8	22.23	1/2-28
10SL	1-3/8	34.92	3/4	19.05	7/8	22.23	5/8-24
12S	1-7/16	36.50	25/32	19.84	1	25.40	5/8-24
12	1-7/8	47.63	25/32	19.84	1	25.40	5/8-24
14S	1-15/32	37.13	7/8	22.23	1-1/8	38.58	3/4-20
14	1-7/8	47.47	7/8	22.23	1-1/8	28.58	3/4-20
16S	1-15/32	37.13	1	25.40	1-1/4	31.75	7/8-20
16	1-7/8	47.47	1	25.40	1-1/4	31.75	7/8-20
18	1-31/32	49.88	1-1/8	28.58	1-11/32	34.11	1 -20
20	1-7/8	47.50	1-1/4	31.75	1-15/32	37.29	1-3/16-18
22	1-31/32	49.88	1-3/8	34.93	1-19/32	40.46	1-3/16-18
24	2-1/4	57.15	1-1/2	38.10	1-23/32	43.64	1-7/16-18
28	2-1/4	57.15	1-3/4	44.45	1-31/32	49.99	1-7/16-18

MS3107A quick-disconnect plug

For fast connect/disconnect applications. Front shell has polarizing keyway. Mates with all types of MS receptacles. Back shell is threaded for standard MS/AN fittings.

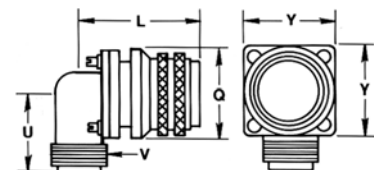


MS3108A

Connector Size	L Ref.		Q Max.		U Ref.		V Fitting Threads	Y Ref.	
	Inch	mm	Inch	mm	Inch	mm		Inch	mm
10S	1-1/4	31.75	7/8	22.23	7/8	22.23	1/2-28	25/32	19.84
10SL	1-5/16	33.32	7/8	22.23	1	25.40	5/8-24	1-1/16	26.97
12S	1-3/8	34.93	1	25.40	1	25.40	5/8-24	1-1/16	26.97
12SL	1-3/8	34.93	1	25.40	1	25.40	3/4-20	1-1/16	26.97
12	1-13/64	30.56	1	25.40	1	25.40	5/8-24	1-1/16	26.97
14S	1-3/8	34.93	1-1/8	28.58	1	25.40	3/4-20	1-1/16	26.97
14	1-13/16	46.02	1-1/8	28.58	1	25.40	3/4-20	1-1/16	26.97
16S	1-1/2	38.10	1-1/4	31.75	1-1/8	28.58	7/8-20	1-5/16	33.32
16	1-15/16	49.20	1-1/4	31.75	1-1/8	28.58	7/8-20	1-5/16	33.32
18	1-15/16	49.20	1-11/32	34.11	1-1/8	28.58	1 -20	1-5/16	33.32
20	2-1/16	52.37	1-15/32	37.29	1-5/16	33.32	1-3/16-18	1-5/8	42.28
22	2-1/16	52.37	1-19/32	40.46	1-5/16	33.32	1-3/16-18	1-5/8	42.28
24	2-15/32	62.69	1-23/32	43.64	1-1/2	38.10	1-7/16-18	2	50.80
28	2-15/32	62.69	1-31/32	49.99	1-1/2	38.10	1-7/16-18	2	50.80

MS3108A angle plug

For use where space in front of panel or wall is at a premium. Swivel ring and plate combination allow cable take off at any angle relative to front shell polarizing key. Back shell is threaded for standard MS/AN fittings.



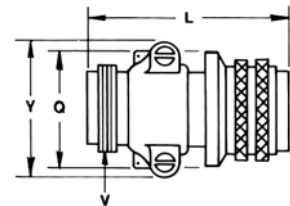
97 series solder type plugs with split shells

MS3106B

Connector Size	L Max.		Q Max.		V Fitting Threads	Y Ref.	
	Inch	mm	Inch	mm		Inch	mm
14S	1-11/16	42.85	1-1/8	28.58	3/4-20	1-5/32	29.36
16S	1-11/16	42.85	1-1/4	31.75	7/8-20	1-1/4	31.75
18	2-1/16	52.37	1-11/32	34.11	1 -20	1-41/64	41.66
20	2-1/8	53.98	1-15/32	37.29	1-3/16-18	1-13/16	46.02
22	2-1/8	53.98	1-19/32	40.46	1-3/16-18	1-15/16	49.20
24	2-9/32	57.94	1-23/32	43.64	1-7/16-18	2-1/16	52.37
28	2-9/32	57.94	1-31/32	49.99	1-7/16-18	2-5/16	58.72
32	2-5/16	58.72	2-7/32	56.34	1-3/4-18	2-19/32	65.86
36	2-11/32	59.51	2-15/32	62.69	2 -18	2-27/32	72.21

MS3106B straight plug

Used for unusual conduit applications where soldering and inspection is the prime requirement. Back shell is threaded for all standard MS/AN fittings.

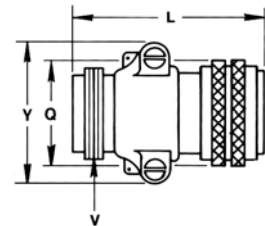


MS3107B

Connector Size	L Max.		Q Max.		V Fitting Threads	Y Ref.	
	Inch	mm	Inch	mm		Inch	mm
14S	1-11/16	42.85	1-1/8	28.58	3/4-20	1-5/32	29.36
16S	1-11/16	42.85	1-1/4	31.75	7/8-20	1-1/4	31.75
18	2-1/16	52.37	1-11/32	34.11	1 -20	1-41/64	41.66
20	2-1/8	53.99	1-15/32	37.29	1-3/16-18	1-13/16	46.02
22	2-1/8	53.99	1-19/32	40.46	1-3/16-18	1-15/16	49.20
24	2-9/32	57.94	1-23/32	43.64	1-7/16-18	2-1/16	52.37
28	2-9/32	57.94	1-31/32	49.99	1-7/16-18	2-5/16	58.72

MS3107B quick-disconnect plug

For fast connect/disconnect applications. Front shell has polarizing keyway. Mates with all types of MS receptacles. Back shell is threaded for standard MS/AN fittings.



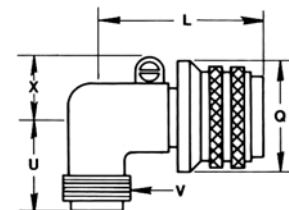
MS3108B

Connector Size	L Ref.		Q Max.		U Ref.		V Fitting Threads	X Ref.	
	Inch	mm	Inch	mm	Inch	mm		Inch	mm
10S	1-3/8	34.93	7/8	22.23	7/8	22.23	1/2-28		
10SL	1-1/2	38.10	7/8	22.23	1	25.40	5/8-24		
12S	1-9/16	39.67	1	25.40	1	25.40	5/8-24	1/2	12.70
12	1-7/8	47.63	1	25.40	1	25.40	5/8-24	1/2	12.70
14S	1-23/32	43.64	1-1/8	28.58	1-1/16	26.97	3/4-20	21/32	16.66
14	1-15/16	49.20	1-1/8	28.58	1-1/16	26.97	3/4-20	21/32	16.66
16S	1-3/4	44.45	1-1/4	31.75	1-1/8	28.58	7/8-20	1-1/2	38.10
16	2-1/8	53.98	1-1/4	31.75	1-1/8	28.58	7/8-20	1-1/2	38.10
18	2-5/32	54.75	1-11/32	34.11	1-3/16	30.15	1 -20	1-41/64	41.66
20	2-3/8	60.33	1-15/32	37.29	1-5/16	33.32	1-3/16-18	1-13/16	46.02
22	2-13/32	61.11	1-19/32	40.46	1-5/16	33.32	1-3/16-18	1-15/16	49.20
24	2-5/8	66.68	1-23/32	43.64	1-7/16	36.50	1-7/16-18	2-1/16	52.37
28	2-5/8	66.68	1-31/32	49.99	1-7/16	36.50	1-7/16-18	2-5/16	58.72
32	2-13/16	71.42	2-7/32	56.34	1-3/4	44.45	1-3/4-18	2-19/32	65.86
36	2-27/32	72.21	2-15/32	62.69	1-15/16	49.20	2 -18	2-27/32	72.21

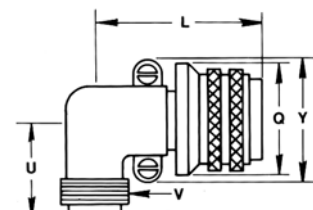
MS3108B angle plug

Lightweight, roomy cavity, split longitudinally for convenient solder or inspection. Front shell is keyed to allow the 90° angle housing to be rotated and locked at any 45° increment.

Sizes 10S thru 14



Sizes 16S thru 40



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