

Amphenol®

TERRAPIN

Miniature Rugged Connector Series



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Intended for harsh environment applications and used extensively in soldier communications, Amphenol Terrapin is a miniature series of circular push-pull connectors. Within a rugged shell design Terrapin offers superior EMC performance and high environmental sealing to IP68. Resilient in severe battlefield situations the RoHS compliant black-silver plating is both low-luster and corrosion resistant. Featuring an optional locking mechanism, multiple shell sizes with up to 37 contacts and suitability for overmolding, Terrapin is the preferred choice for miniature connectors in military and other harsh environment applications.

Terrapin shells are machined from brass giving an increased number of mating cycles and higher degree of robustness over traditional aluminium connectors. Five different keying options are available to prevent mis-mating; N, A, B, C and D. Standard plating is non-reflective black-silver, alternative plating finishes are available upon request.

Terrapin is available in two different styles of mating; either push-pull, being a break-away connector with no moving parts, or latch, which has an additional coupling ring allowing connections to be locked together. The same plug can be mated to either push-pull or latch receptacles. Both styles of product are waterproof to IP68 in both their mated and unmated conditions.

Amphenol offers a full range of cable harness solutions with standard or customized overmolding. Alternatively, for field

termination, both integral and threaded backshell connectors can be terminated with screen retention straps and heatshrink boots giving full 360° screening.

The customized design specification of Terrapin lends itself to a variety of applications. Originally designed for soldier mounted applications such as Radios, Headsets and GPS units, Terrapin is also suitable for Gigabit Ethernet and USB 2.0 and therefore widely used on Computer Systems, LAN Switches and Routers. The high degree of sealing offered by Terrapin makes it perfect for Unmanned Ground Sensors and Surveillance equipment. Whatever the application, Terrapin offers space savings and improved durability over traditional interconnect products.

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Terrapin terminology



Terrapin part numbering

Example: **SCE2-B-76A06-07SN-002** | (985) for optional grounding spring in L1K and L1T | (981) castellated panel nut

SCE2—	B—	XXX	XX—	XX	—X	X—	XXX
Series identifier	Plating finish B = Black Silver (RoHS)	Style Plugs 76A 67A 06K 06T 76T Receptacles 01K L1K 01T L1T 07A 71A	Shell size and	number of contacts 06–07 07–10A 07–12 07–14 08–19 09–26 10–37 (See page 7)	Contact style P = Pins S = Sockets	Key orientation N = Normal A B C D (See diagrams below)	Variant code 001 PC Tails 002 Solder Buckets 003 Backshell

Terrapin mating options

Chassis Mount Plug SCE2-B-76A

The same chassis mount plug will mate with both push-pull and latch receptacles

Push-pull Inline Receptacle SCE2-B-01K



Latch Inline Receptacle SCE2-B-L1K



Terrapin plug and receptacle keyway orientation

Keyway orientation letter	PLUG keyway orientation	RECEPTACLE keyway orientation	Keyway orientation letter	PLUG keyway orientation	RECEPTACLE keyway orientation
N			C		
A			D		
B					

Terrapin performance information

Test/parameter	Description
Electrical	
Current Rating	23 AWG contacts: 3A d.c. 20 AWG contacts: 7.5A d.c.
Shell to Shell Continuity	10mΩ max (screened) 200mΩ max (unscreened)
Contact Resistance	Size 20 and 23 contacts: 5mΩ initial 10mΩ maximum
Insulation Resistance	5000MΩ minimum
Working Voltage	AC (RMS) 400V
Dielectric Withstanding Voltage	2mA maximum leakage
Technical	
Mating Durability	2000+ cycles
Backshell Overtorque	25 lb.f.in.
Panel Nut Overtorque	30 lb.f.in.
Non-magnetic	Yes
Environmental	
Operating Temperature Range	-55°C to +125°C
Temperature Endurance	250 hours +125°C
Sealing (mated and unmated)	IP68, 1 hour at 2 metres*
Air Leakage	Less than 1cc per hour
Salt Spray	1000 hours
Altitude Immersion	70,000 Feet
RoHS Compliant	Yes
Suitable for RoHS compliant Soldering	Yes

*Contact the factory if greater depth/duration of sealing is required

Terrapin insert availability View shown for reference / View from rear of plug*

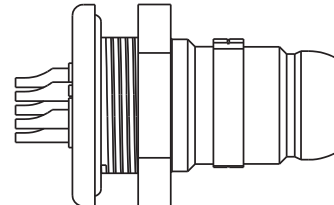
Shell size				
06	07	08	09	10
06-07	07-10A	08-19	09-26	10-37

○ 23AWG contacts

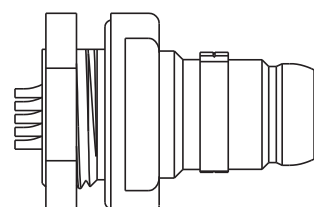
● 20AWG contacts

*View from rear of receptacle is mirror image of above.

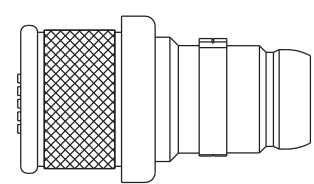
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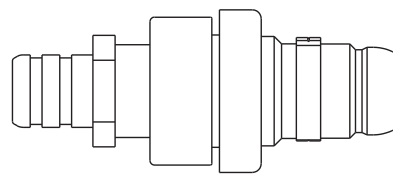
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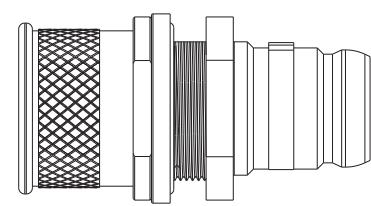
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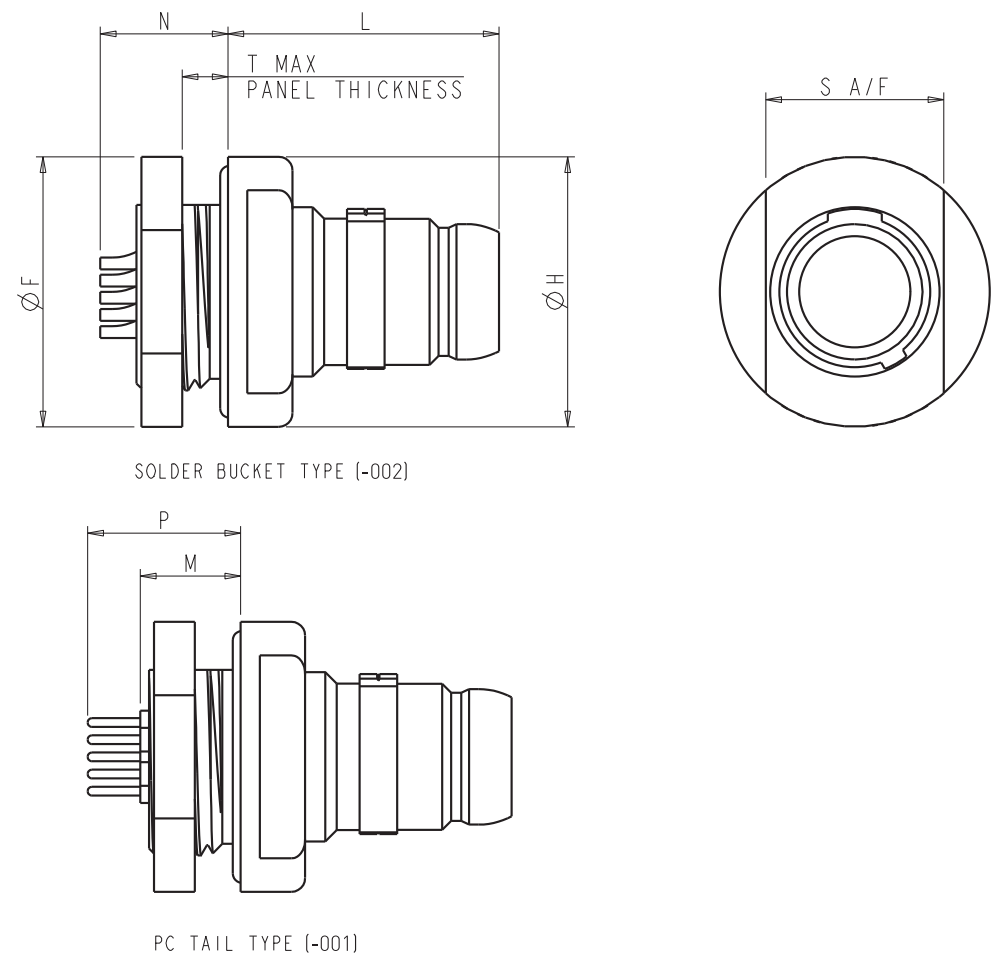
Plug

8 TERRAPIN SERIES

Plug

SCE2-X-**67**AXX-XXSX-XXX

■ Front Mount Jam Nut Plug



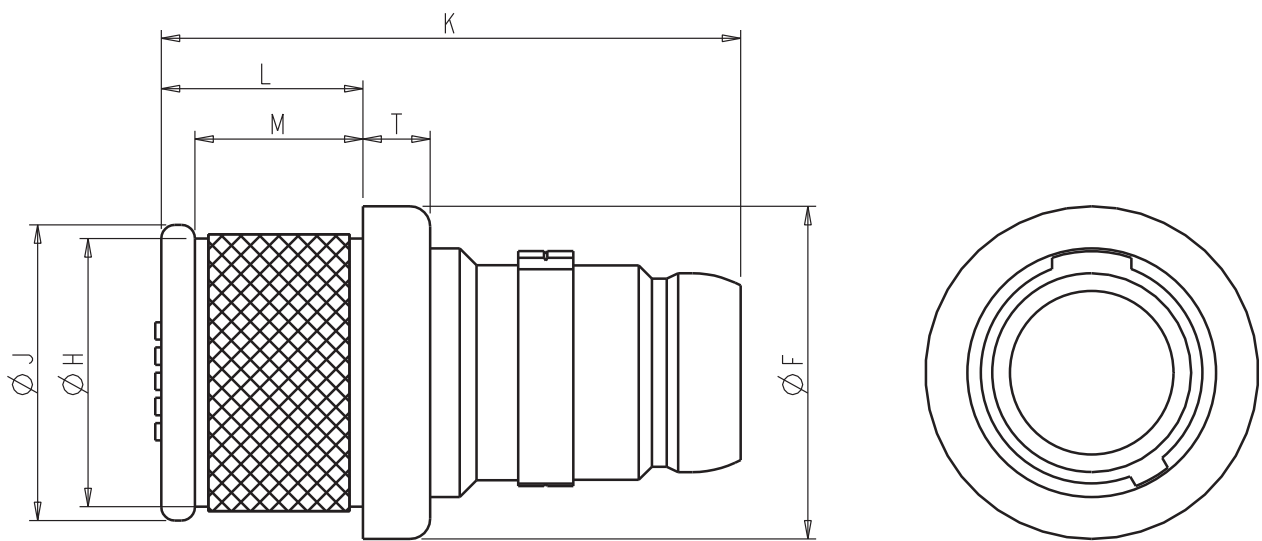
Shell Size	ØF	ØH	L	M	N	P	S A/F	T Max
Size 06	.590 (14.99)	.590 (14.99)	.592 (13.04)	.324 (8.23)	.279 (7.09)	.424 (10.78)	.525 (13.34)	.100 (2.54)
Size 07	.620 (15.75)	.620 (15.75)	.592 (13.04)	.324 (8.23)	.279 (7.09)	.424 (10.78)	.685 (17.40)	.100(2.54)
Size 08	.760 (19.30)	.760 (19.30)	.592 (13.04)	.324 (8.23)	.279 (7.09)	.424 (10.78)	.825 (20.96)	.100 (2.54)
Size 09	.890 (22.61)	.890 (22.61)	.662 (16.82)	.254 (6.45)	.209 (5.31)	.354 (8.99)	.955 (24.26)	.100 (2.54)
Size 10	.930 (23.62)	.930 (23.62)	.662 (16.82)	.254 (6.45)	.209 (5.31)	.354 (8.99)	.995 (25.27)	.100 (2.54)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Plug

SCE2-X-**06**KXX-XXSX

■ Inline Plug Integral Backshell



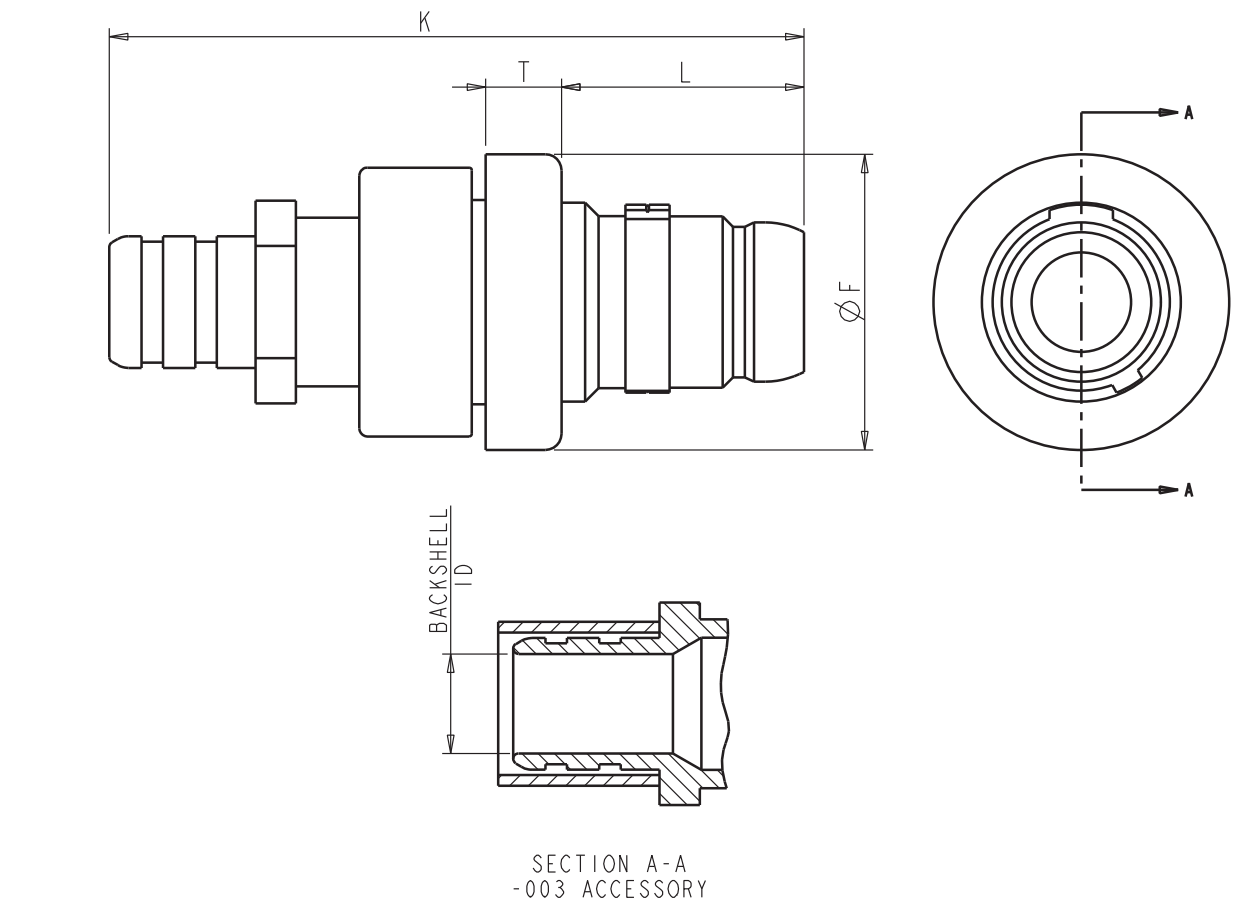
Shell Size	ØF	ØH	ØJ	K	L	M	T
Size 06	.495 (12.57)	.412 (10.46)	.440 (11.18)	.862 (21.89)	.300 (7.62)	.250 (6.35)	.100 (2.54)
Size 07	.575 (14.61)	.460 (11.68)	.505 (12.83)	.862 (21.89)	.300 (7.62)	.250 (6.35)	.100 (2.54)
Size 08	.650 (16.51)	.593 (15.06)	.620 (15.75)	.862 (21.89)	.300 (7.62)	.250 (6.35)	.100 (2.54)
Size 09	.725 (18.42)	.651 (16.54)	.690 (17.53)	.932 (23.67)	.300 (7.62)	.250 (6.35)	.100 (2.54)
Size 10	.800 (20.32)	.721 (18.31)	.760 (19.30)	.932 (23.67)	.300 (7.62)	.250 (6.35)	.100 (2.54)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Plug

SCE2-X-**06**TXX-XXSX-003

■ Inline Plug Threaded Backshell



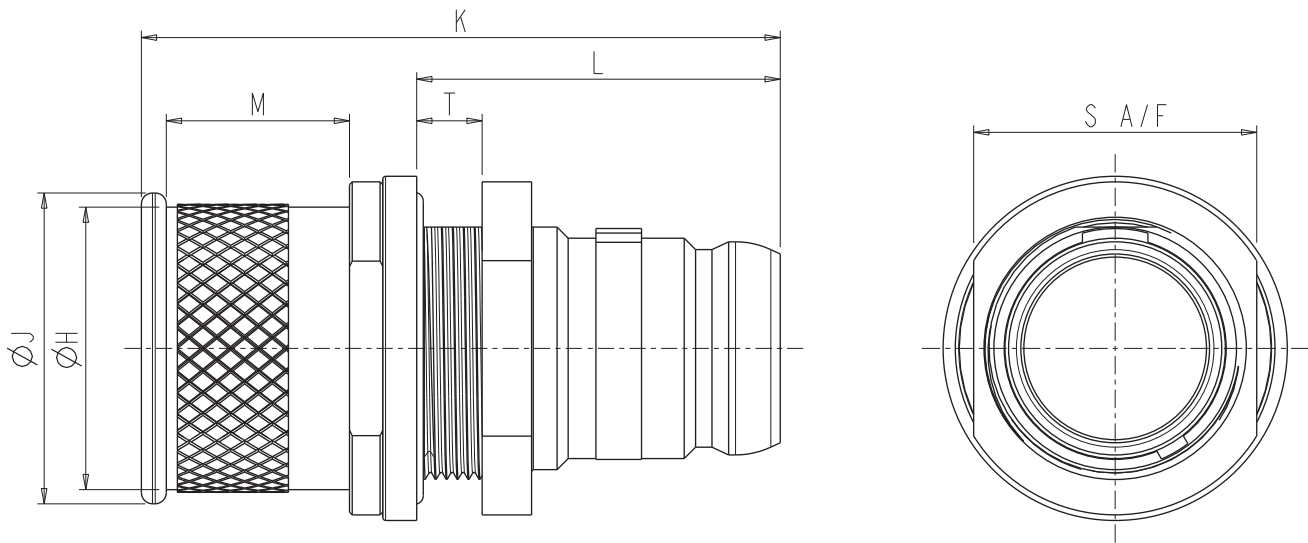
Shell Size	ØF	K	L	T	Backshell ID
					-003
Size 06	.550 (13.97)	1.292 (32.82)	.451 (11.46)	.141 (3.58)	.185 (4.70)
Size 07	.630 (16.00)	1.292 (32.82)	.451 (11.46)	.141 (3.58)	.265 (6.73)
Size 08	.705 (17.91)	1.292 (32.82)	.451 (11.46)	.141 (3.58)	.345 (8.76)
Size 09	.780 (19.81)	1.362 (34.60)	.521 (13.23)	.141 (3.58)	.425 (10.80)
Size 10	.855 (21.72)	1.362 (34.60)	.521 (13.23)	.141 (3.58)	.505 (12.83)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Plug

SCE2-X-**76**TXX-XXSX-XXX

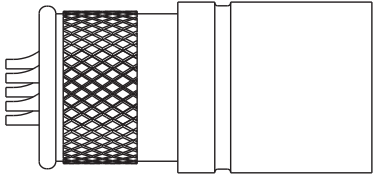
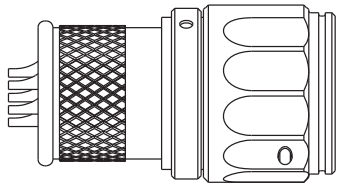
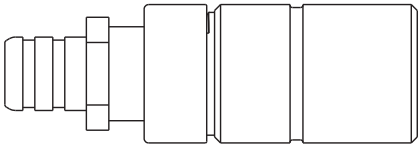
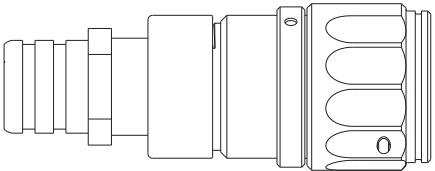
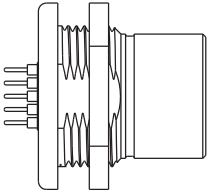
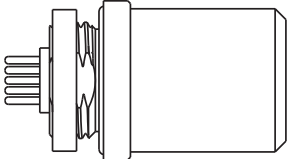
■ Rear Mount Jam Nut Plug (Screw On Backshell)



Shell Size	ØH	ØJ	K	L	M	S A/F	T Max
Size 06	.460 (11.68)	.490 (12.45)	1.150 (29.21)	.655 (16.64)	.330 (8.38)	.470 (11.94)	.125 (3.18)
Size 07	.600 (15.24)	.645 (16.83)	1.150 (29.21)	.655 (16.64)	.330 (8.38)	.510 (12.95)	.125 (3.18)
Size 08	.730 (18.54)	.770 (19.56)	1.150 (29.21)	.655 (16.64)	.330 (8.38)	.706 (17.93)	.125 (3.18)
Size 09	.790 (20.07)	.830 (21.08)	1.220 (30.99)	.725 (18.42)	.330 (8.38)	.745 (18.92)	.125 (3.18)
Size 10	.860 (21.84)	.900 (22.86)	1.220 (30.99)	.725 (18.42)	.330 (8.38)	.808 (20.52)	.125 (3.18)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

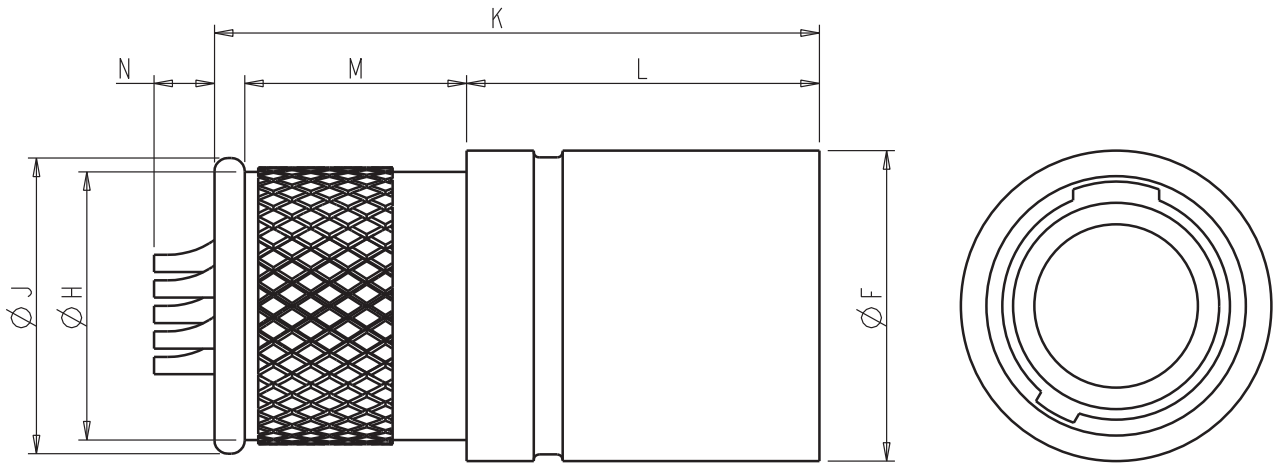
Receptacles – table of styles

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SCE2-X-L1K Page 16		
SCE2-X-01T Page 17		
SCE2-X-L1T Page 18		
SCE2-X-07A Page 19		
SCE2-X-71A Page 20		

Receptacle

SCE2-X-01KXX-XXPX

■ Inline Receptacle, Integral Backshell



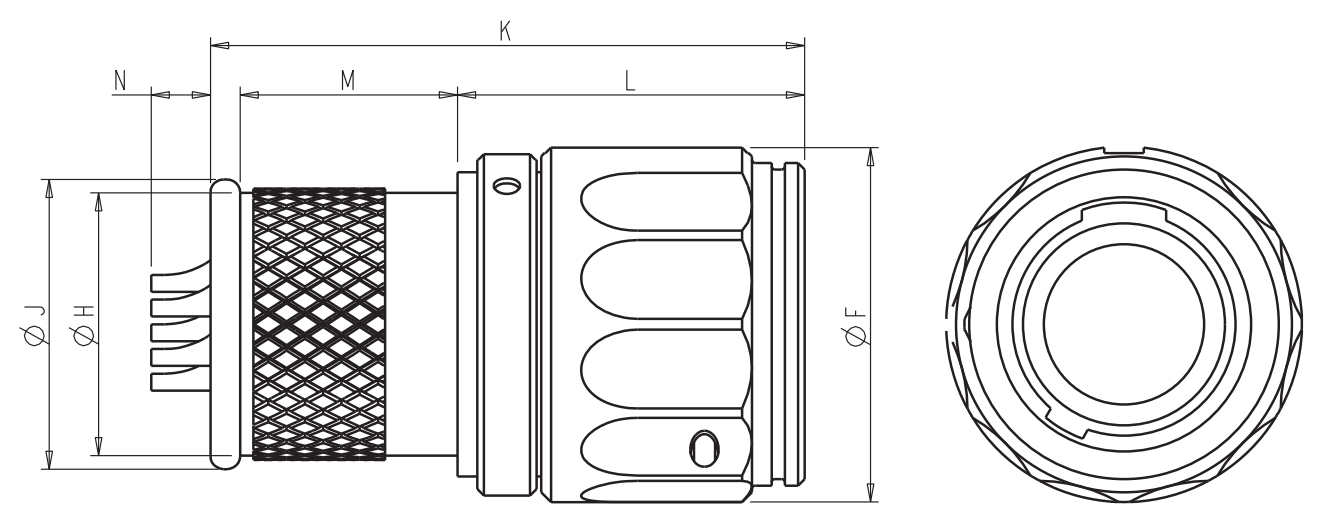
Shell Size	ØF	ØH	ØJ	K	L	M	N
Size 06	.462 (11.73)	.399 (10.13)	.440 (11.18)	.900 (22.86)	.525 (13.34)	.330 (8.38)	.090 (2.29)
Size 07	.575 (14.61)	.460 (11.68)	.505 (12.83)	.900 (22.86)	.525 (13.34)	.330 (8.38)	.090 (2.29)
Size 08	.620 (15.75)	.581 (14.76)	.620 (15.75)	.900 (22.86)	.525 (13.34)	.330 (8.38)	.090 (2.29)
Size 09	.691 (17.55)	.651 (16.54)	.690 (17.53)	.970 (24.64)	.525 (13.34)	.400 (10.16)	.020 (0.51)
Size 10	.761 (19.33)	.721 (18.31)	.760 (19.30)	.970 (24.64)	.525 (13.34)	.400 (10.16)	.020 (0.51)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Receptacle

SCE2-X-**L1**KXX-XXPX

■ Inline Latching Receptacle, Integral Backshell



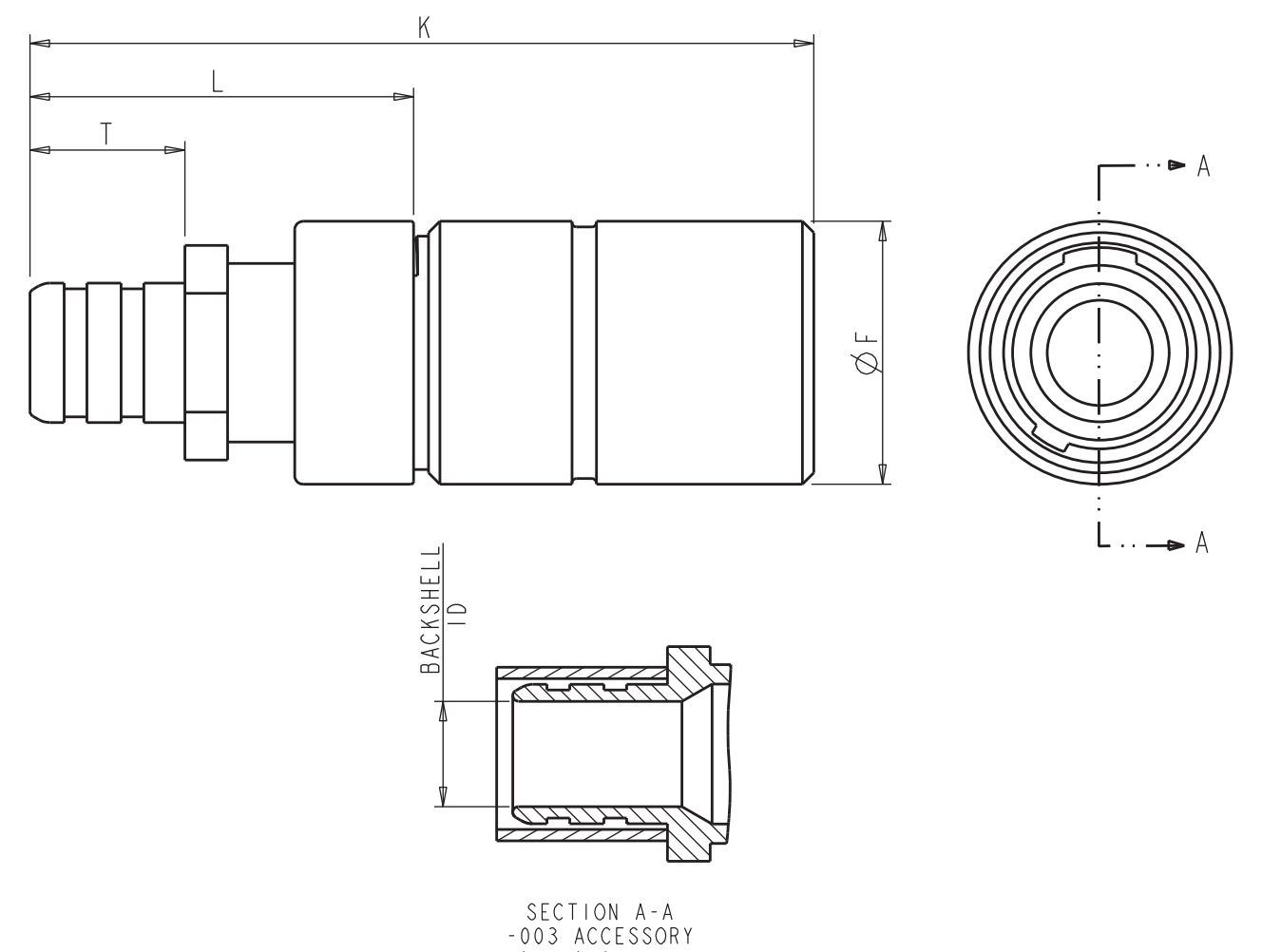
Shell Size	ØF	ØH	ØJ	K	L	M	N
Size 06	.540 (13.75)	.399 (10.14)	.440 (11.18)	.902 (22.91)	.527 (13.39)	.330 (8.38)	.090 (2.29)
Size 07	.610 (15.50)	.447 (11.35)	.505 (12.83)	.902 (22.91)	.527 (13.39)	.330 (8.38)	.090 (2.29)
Size 08	.699 (17.75)	.581 (14.75)	.620 (15.75)	.902 (22.91)	.527 (13.39)	.330 (8.38)	.090 (2.29)
Size 09	.770 (19.56)	.651 (16.54)	.690 (17.53)	.972 (24.69)	.527 (13.39)	.400 (10.16)	.090 (2.29)
Size 10	.840 (21.34)	.721 (18.31)	.760 (19.30)	.972 (24.69)	.527 (13.39)	.400 (10.16)	.090 (2.29)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Receptacle

SCE2-X-**01**TXX-XXPX-003

■ Inline Receptacle, Threaded Backshell



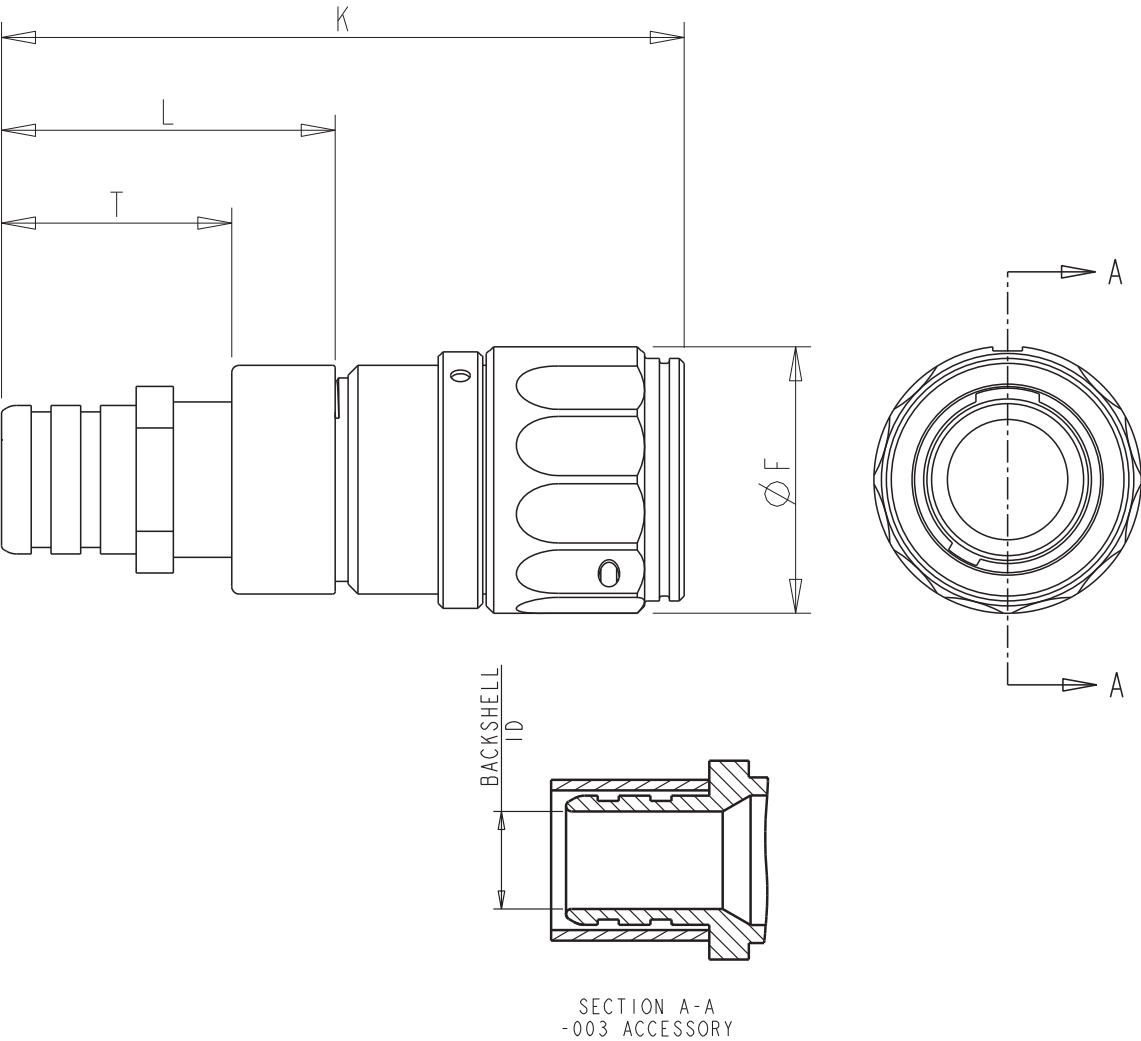
Shell Size	ØF	K	L	T	Backshell ID
					-003
Size 06	.462 (11.73)	1.377 (34.98)	.674 (17.12)	.272 (6.91)	.185 (4.70)
Size 07	.575 (14.61)	1.377 (34.98)	.674 (17.12)	.272 (6.91)	.265 (6.73)
Size 08	.620 (15.75)	1.377 (34.98)	.674 (17.12)	.272 (6.91)	.345 (8.76)
Size 09	.690 (17.53)	1.447 (36.75)	.674 (17.12)	.272 (6.91)	.425 (10.80)
Size 10	.760 (19.30)	1.447 (36.75)	.674 (17.12)	.272 (6.91)	.505 (12.83)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Receptacle

SCE2-X-**L1T**XX-XXPX-003

■ Inline Latching Receptacle, Threaded Backshell



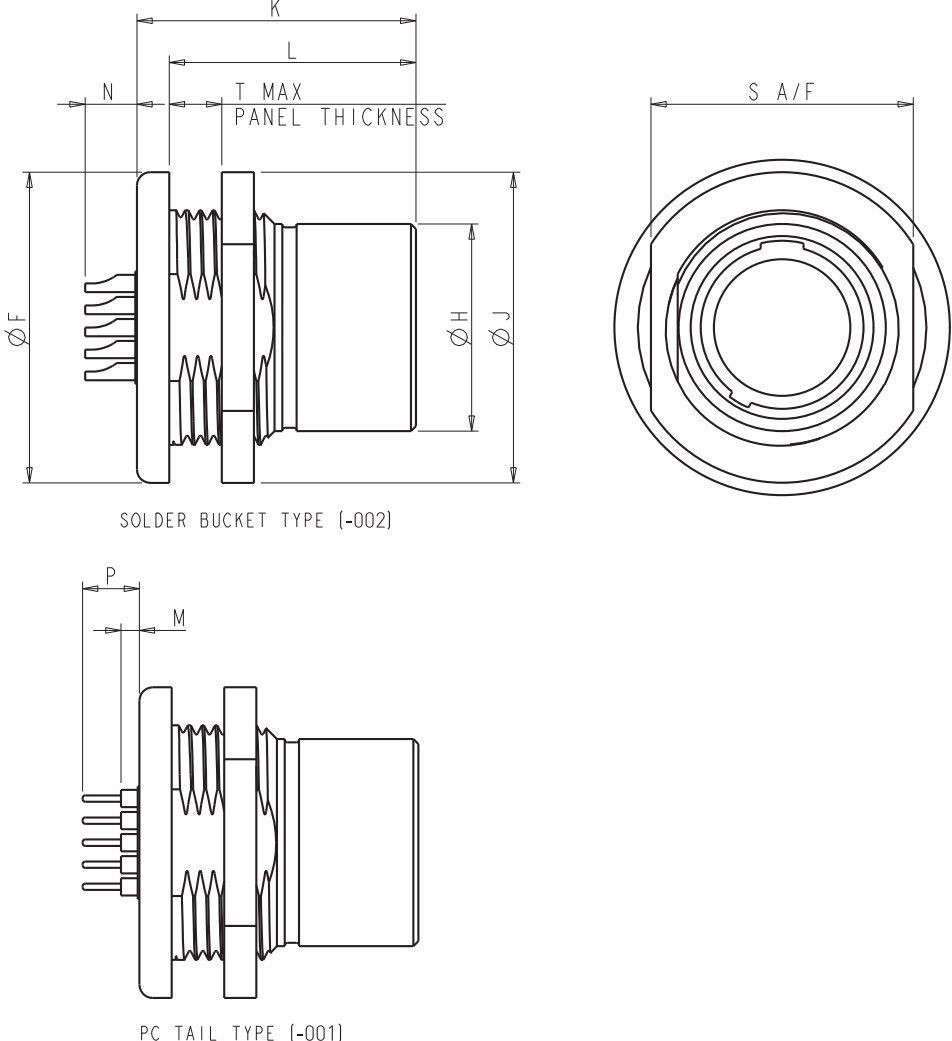
Shell Size	ØF	K	L	T	Backshell ID
					-003
Size 06	.538 (13.67)	1.379 (35.03)	.674 (17.12)	.465 (11.81)	.185 (4.70)
Size 07	.610 (15.50)	1.379 (35.03)	.674 (17.12)	.465 (11.81)	.265 (6.73)
Size 08	.699 (17.75)	1.379 (35.03)	.674 (17.12)	.465 (11.81)	.345 (8.76)
Size 09	.770 (19.56)	1.449 (36.80)	.674 (17.12)	.465 (11.81)	.425 (10.80)
Size 10	.840 (21.34)	1.449 (36.80)	.674 (17.12)	.465 (11.81)	.505 (12.83)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Receptacle

SCE2-X-**07A**XX-XXPX-XXX

■ Rear Mount Jam Nut Receptacle



Shell Size	ØF	ØH	ØJ	K	L	M	N	P	S A/F	T Max
Size 06	.750 (19.05)	.462 (11.73)	.750 (19.05)	.835 (21.21)	.738 (18.75)	.055 (1.40)	.155 (3.94)	.170 (4.42)	.672 (17.07)	.157 (4.45)
Size 07	.895 (22.73)	.575 (14.61)	.895 (22.73)	.835 (21.21)	.738 (18.75)	.055 (1.40)	.155 (3.94)	.170 (4.42)	.750 (19.05)	.157 (4.45)
Size 08	.930 (23.62)	.620 (15.75)	.930 (23.62)	.835 (21.21)	.738 (18.75)	.055 (1.40)	.155 (3.94)	.170 (4.42)	.825 (20.96)	.157 (4.45)
Size 09	1.005 (25.53)	.690 (17.53)	1.005 (25.53)	.905 (22.99)	.808 (20.52)	N/A	.080 (2.03)	.170 (4.42)	.900 (22.86)	.157 (4.45)
Size 10	1.080 (27.43)	.760 (19.30)	1.080 (27.43)	.905 (22.99)	.808 (20.52)	N/A	.080 (2.03)	.170 (4.42)	.975 (24.77)	.157 (4.45)

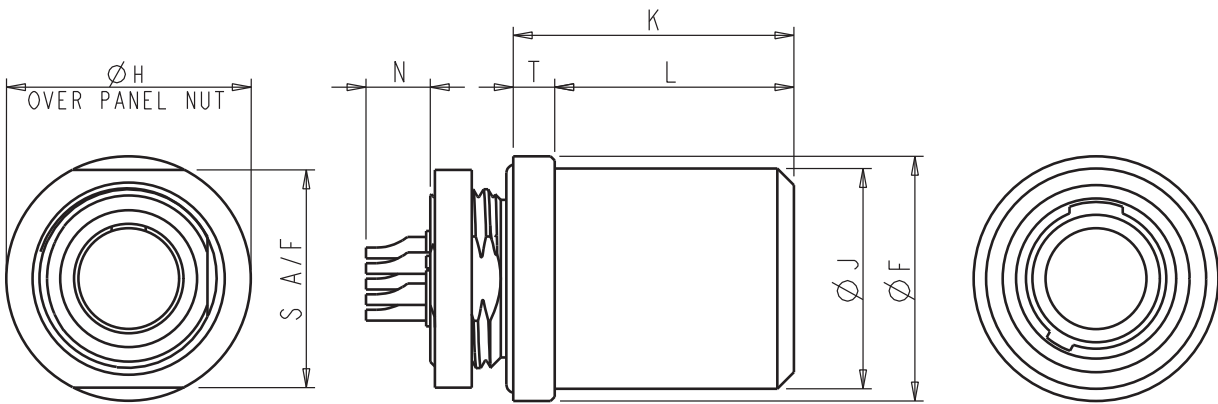
All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Receptacle

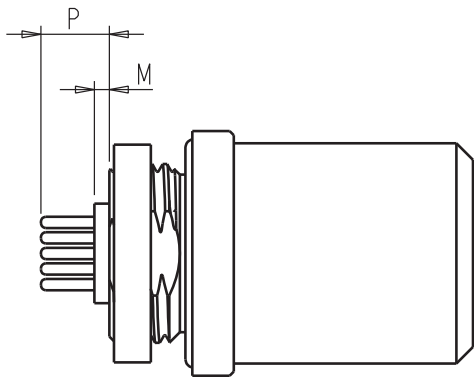
SCE2-X-71AXX-XXPX-XXX

■ Front Mount Receptacle, Threaded





SOLDER BUCKET TYPE (-002)



PC TAIL TYPE (-001)

Shell Size	ØF	ØJ	ØH	K	L	M	N	P	S A/F	T
Size 06	.590 (14.99)	.462 (11.73)	.590 (14.99)	.877 (22.28)	.677 (17.20)	.015 (0.38)	.113 (2.87)	.130 (3.30)	.525 (13.34)	.100 (2.54)
Size 07	.620 (15.75)	.575 (14.61)	.620 (15.75)	.877 (22.28)	.677 (17.20)	.015 (0.38)	.113 (2.87)	.130 (3.30)	.685 (17.40)	.100 (2.54)
Size 08	.760 (19.30)	.620 (15.75)	.760 (19.30)	.877 (22.28)	.677 (17.20)	.015 (0.38)	.113 (2.87)	.130 (3.30)	.825 (20.96)	.100 (2.54)
Size 09	.890 (22.61)	.690 (17.53)	.890 (22.61)	.947 (24.05)	.747 (18.97)	N/A	.113 (2.87)	.060 (1.52)	.955 (24.26)	.100 (2.54)
Size 10	.930 (20.62)	.760 (19.30)	.930 (20.62)	.947 (24.05)	.747 (18.97)	N/A	.113 (2.87)	.060 (1.52)	.995 (25.27)	.100 (2.54)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Accessories

Cap assembly part numbering

Example: 390-5056-06-130-02 | See Pages 22-25 for drawings

390—	XXXX—	XX—	XXX—	XX
Series identifier	Cap style	Shell size	Cord length in mm	Accessories
	5056 Metal for receptacle	06 07 08 09 10	060 130 180	01 02 03 04 05
	5057 Metal for plug			
	5063 Rubber for receptacle			See table on pages 22-25
	5064 Rubber for plug			

Heatshrink Boots

- Part number: 123GB-0798-XX-X-0
XX = shell size, for example: 06, 07, 08, 09, or 10
X = S for straight or R for right angled



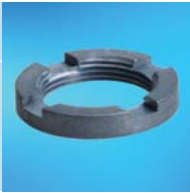
Braid Retention Strap

- Part number: 123GB-0799-0
Tooling available on request



Castellated Panel Nut

- Add deviation (981)
Tooling available on request

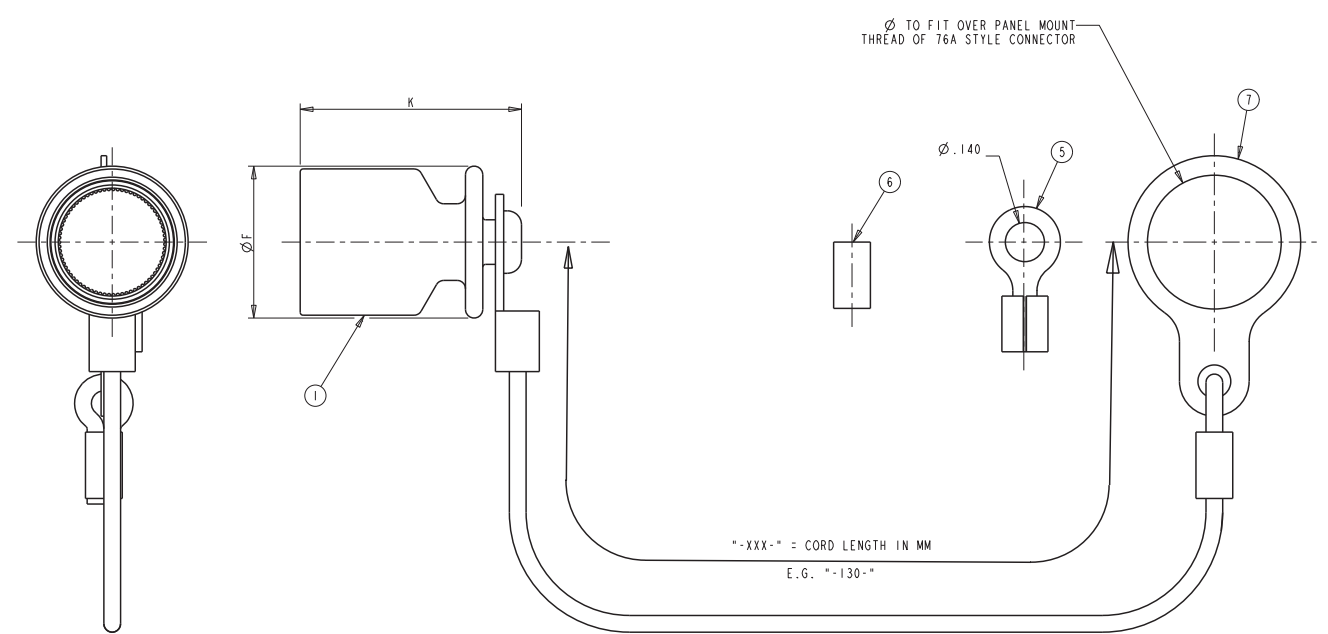


Accessories

390-5057-XX-XXX-XX

■ Metal Dust Cap Assembly for Plugs





Shell size	Part number	Item 1 Cap	
		ØF	K
06	390-5057-06-XXX-XX	.464 (11.79)	.794 (20.17)
07	390-5057-07-XXX-XX	.545 (13.84)	.794 (20.17)
08	390-5057-08-XXX-XX	.620 (15.75)	.794 (20.17)
09	390-5057-09-XXX-XX	.695 (17.65)	.794 (20.17)
10	390-5057-10-XXX-XX	.770 (19.56)	.794 (20.17)

Supplied with			
Part number	Item 5 Eyelet	Item 6 Crimp ferrule	Item 7 Large eyelet
390-5057-XX-XXX-01	—	—	—
390-5057-XX-XXX-02	—	1	—
390-5057-XX-XXX-03	1	—	—
390-5057-XX-XXX-04	1	1	—
390-5057-XX-XXX-05	—	—	1

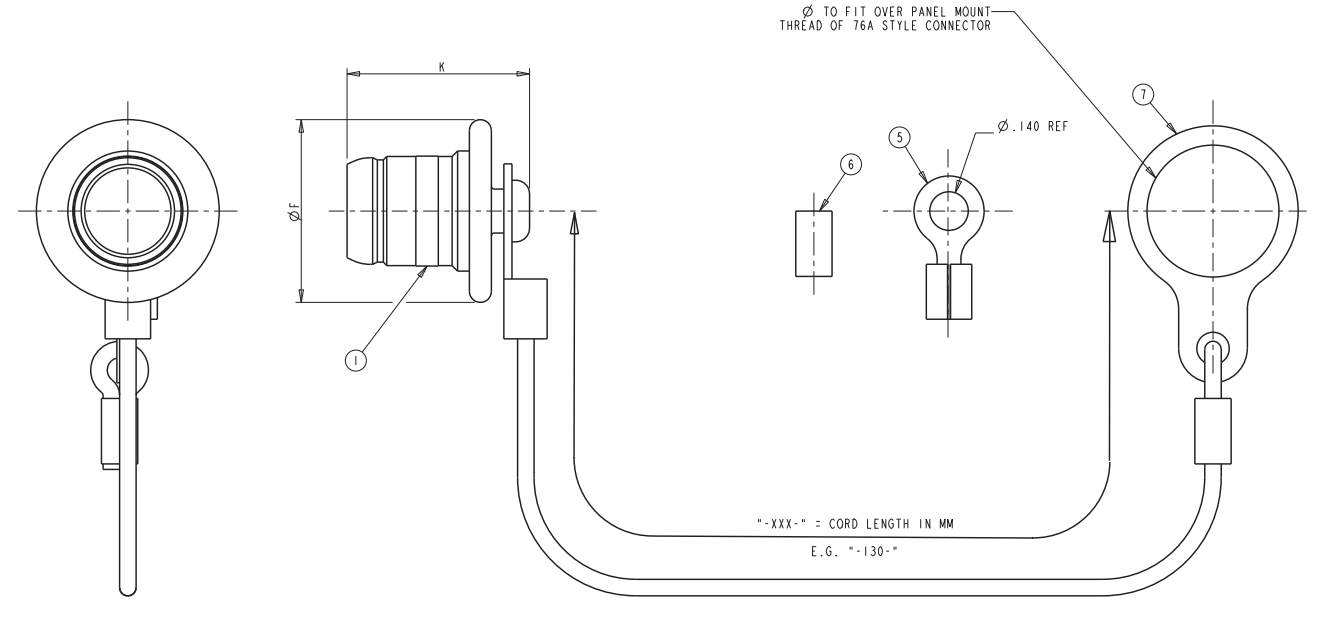
All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Accessories

390-5056-XX-XXX-XX

■ Metal Dust Cap Assembly for Receptacles





Shell size	Part number	Item 1 Cap	
		ØF	K
06	390-5056-06-XXX-XX	.575 (14.61)	.664 (16.87)
07	390-5056-07-XXX-XX	.575 (14.61)	.664 (16.87)
08	390-5056-08-XXX-XX	.750 (19.05)	.664 (16.87)
09	390-5056-09-XXX-XX	.825 (20.95)	.664 (16.87)
10	390-5056-10-XXX-XX	.900 (22.86)	.664 (16.87)

Supplied with			
Part number	Item 5 Eyelet	Item 6 Crimp ferrule	Item 7 Large eyelet
390-5056-XX-XXX-01	—	—	—
390-5056-XX-XXX-02	—	1	—
390-5056-XX-XXX-03	1	—	—
390-5056-XX-XXX-04	1	1	—
390-5056-XX-XXX-05	—	—	1

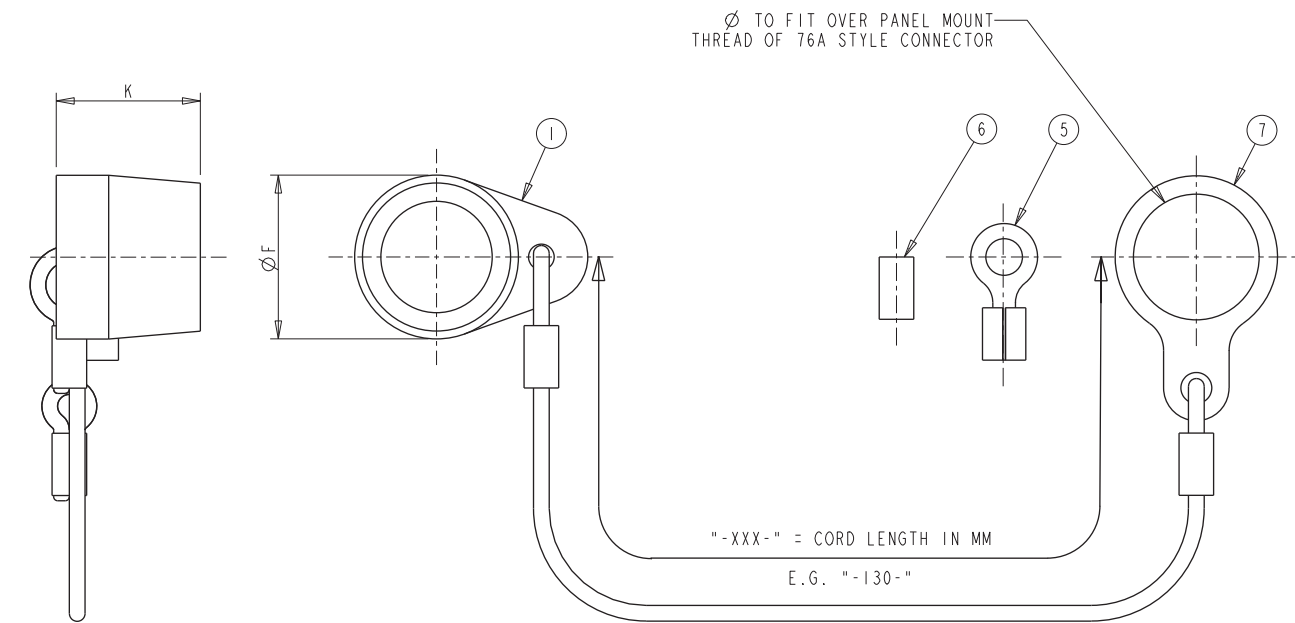
All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Accessories

390-5064-XX-XXX-XX

■ Rubber Dust Cap Assembly for Plugs





Shell size	Part number	Item 1 Cap	
		ØF	K
06	390-5064-06-XXX-XX	.450 (11.43)	.550 (13.97)
07	390-5064-07-XXX-XX	.525 (13.34)	.550 (13.97)
08	390-5064-08-XXX-XX	.595 (15.11)	.550 (13.97)
09	390-5064-09-XXX-XX	.665 (16.89)	.550 (13.97)
10	390-5064-10-XXX-XX	.735 (18.67)	.550 (13.97)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

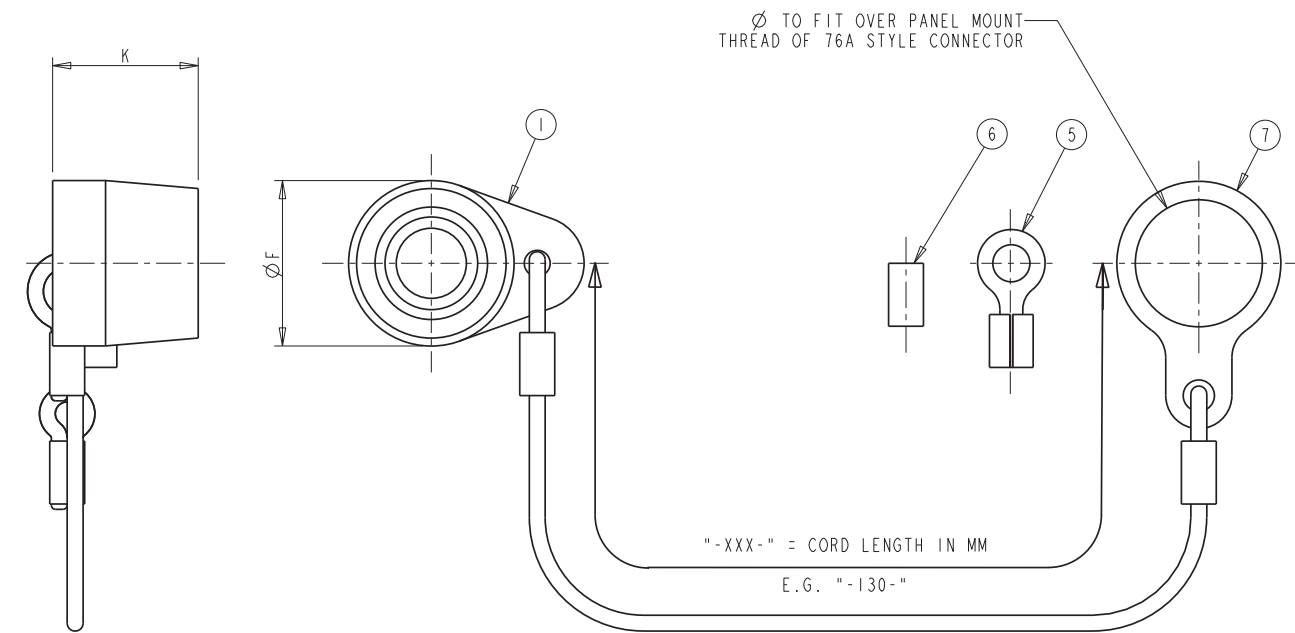
Supplied with			
Part number	Item 5 Eyelet	Item 6 Crimp ferrule	Item 7 Large eyelet
390-5064-XX-XXX-01	—	—	—
390-5064-XX-XXX-02	—	1	—
390-5064-XX-XXX-03	1	—	—
390-5064-XX-XXX-04	1	1	—
390-5064-XX-XXX-05	—	—	1

Accessories

390-5063-XX-XXX-XX

■ Rubber Dust Cap Assembly for Receptacles





Shell size	Part number	Item 1 Cap	
		ØF	K
06	390-5063-06-XXX-XX	.450 (11.43)	.550 (13.97)
07	390-5063-07-XXX-XX	.525 (13.34)	.550 (13.97)
08	390-5063-08-XXX-XX	.595 (15.11)	.550 (13.97)
09	390-5063-09-XXX-XX	.665 (16.89)	.550 (13.97)
10	390-5063-10-XXX-XX	.735 (18.67)	.550 (13.97)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Supplied with			
Part number	Item 5 Eyelet	Item 6 Crimp ferrule	Item 7 Large eyelet
390-5063-XX-XXX-01	—	—	—
390-5063-XX-XXX-02	—	1	—
390-5063-XX-XXX-03	1	—	—
390-5063-XX-XXX-04	1	1	—
390-5063-XX-XXX-05	—	—	1

Accessories

Overmolded cable harnesses using Terrapin connectors



Amphenol design, prototype and manufacture a wide range of both standard and customized cable harness assemblies utilizing overmold technology. The Terrapin connector range has been designed specifically to lend itself to this method of termination.

Amphenol’s capability in manufacturing is matched by our engineering expertise; we are able to offer a full design and development service from drawing conception to production delivery.

Overmolding has fast become widely recognized for the benefits it brings to equipments used in both military and harsh environment situations.

Military/harsh environment situations	Typical applications
• Both standard and custom profile moldings available • In-house design and prototype facility • Aesthetically uniform product • Repeatable high complexity moldings • Low cost and repair by replacement • Robust and tamper-proof • Straight and angled moldings • Low profile moldings • Finger grips, logos and tactile indicators optional • Mold material suitable for NBC washdown • High degree of sealing – IP68	• Chemical detection units • Comms units • Display modules • GPS • Headsets • Hubs • LAN Switches • Radios • Routers • Ruggedized laptops • Sensor units • Surveillance and rangefinders • Weapons systems

Notes

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