

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.

Terrapin terminology

L1T



Body

Backshell

Crimp ferrule

L1K



Coupling ring

Integral backshell

01K



Integral backshell for
direct screen termination

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 performance information

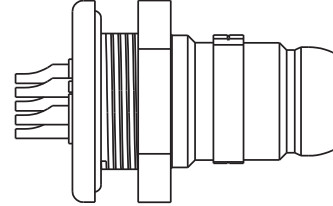
Test/parameter	Description
Electrical	
Current Rating	23 AWG contacts: 3A d.c. 20 AWG contacts: 7.5A d.c.
Shell to Shell Continuity	10mΩ max (screened) 200mΩ max (unscreened)
Contact Resistance	Size 20 and 23 contacts: 5mΩ initial 10mΩ maximum
Insulation Resistance	5000MΩ minimum
Working Voltage	AC (RMS) 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

Plugs – table of styles

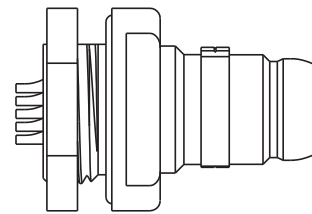
SCE2-X-76A

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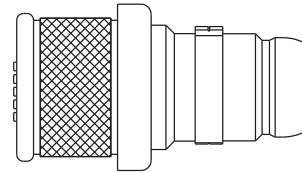
SCE2-X-67A

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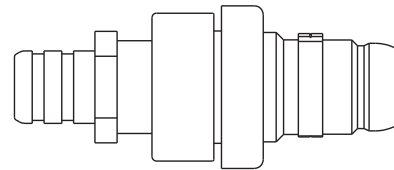
SCE2-X-06K

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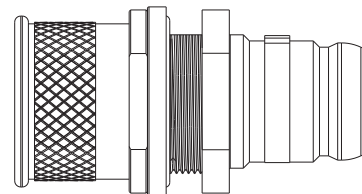
SCE2-X-06T

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SCE2-X-76T

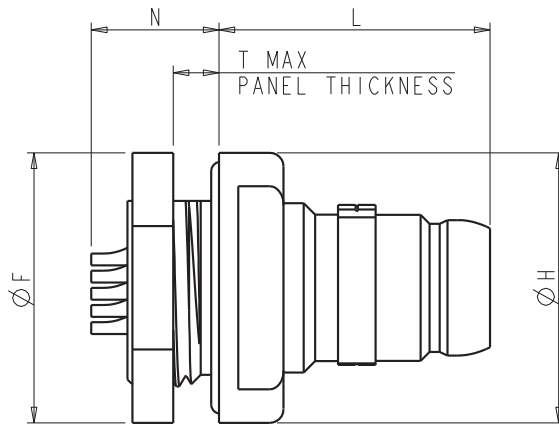
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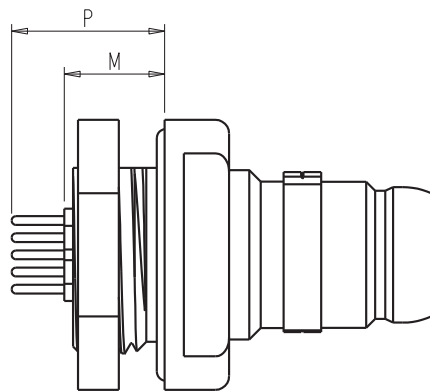
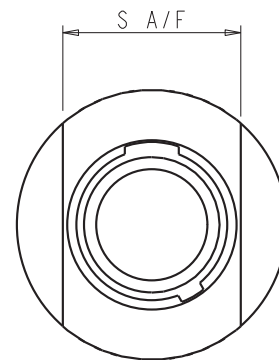
Plug

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

■ Front Mount Jam Nut Plug



SOLDER BUCKET TYPE (-002)



PC TAIL TYPE (-001)

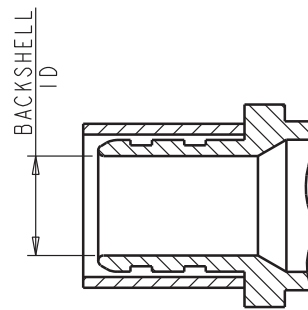
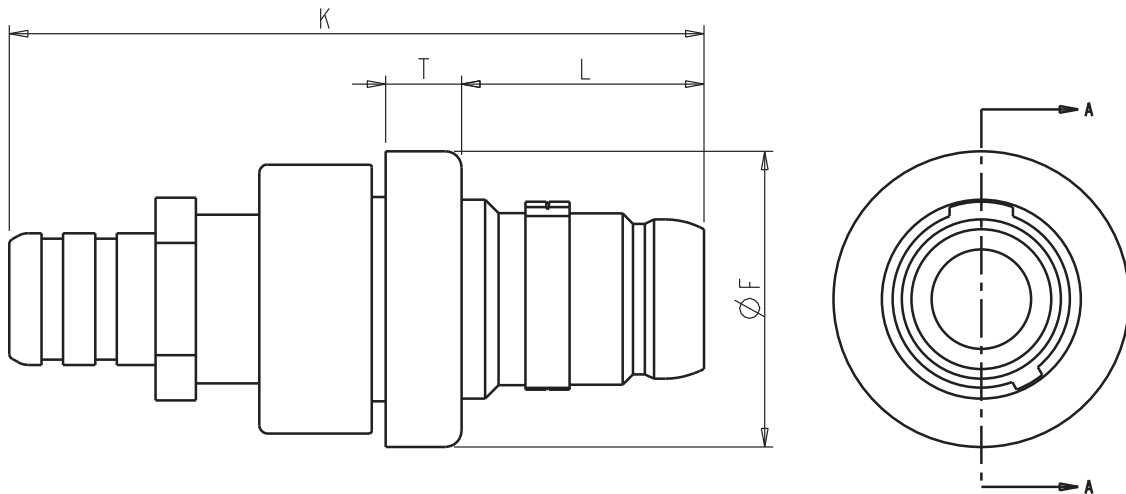
Shell Size	ØF	ØH	L	M	N	P	S A/F	T Max
Size 06	.590 (14.99)	.590 (14.99)	.592 (13.04)	.324 (8.23)	.279 (7.09)	.424 (10.78)	.525 (13.34)	.100 (2.54)
Size 07	.620 (15.75)	.620 (15.75)	.592 (13.04)	.324 (8.23)	.279 (7.09)	.424 (10.78)	.685 (17.40)	.100 (2.54)
Size 08	.760 (19.30)	.760 (19.30)	.592 (13.04)	.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-06TXX-XXSX-003

■ Inline Plug Threaded Backshell



SECTION A-A
-003 ACCESSORY

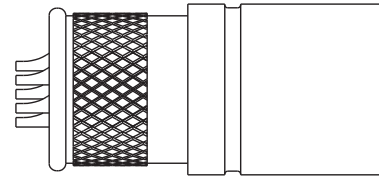
Shell Size	ØF	K	L	T	Backshell ID
					-003
Size 06	.550 (13.97)	1.292 (32.82)	.451 (11.46)	.141 (3.58)	.185 (4.70)
Size 07	.630 (16.00)	1.292 (32.82)	.451 (11.46)	.141 (3.58)	.265 (6.73)
Size 08	.705 (17.91)	1.292 (32.82)	.451 (11.46)	.141 (3.58)	.345 (8.76)
Size 09	.780 (19.81)	1.362 (34.60)	.521 (13.23)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

Receptacles – table of styles

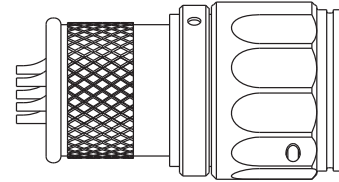
SCE2-X-01K

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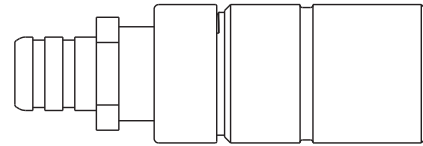
SCE2-X-L1K

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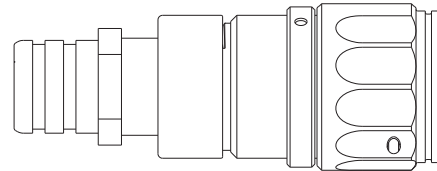
SCE2-X-01T

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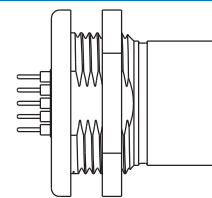
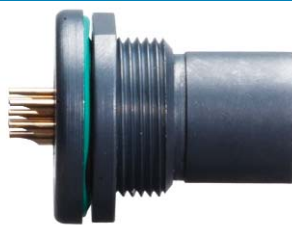
SCE2-X-L1T

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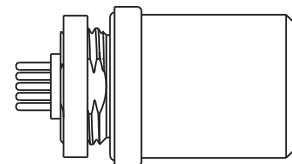
SCE2-X-07A

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SCE2-X-71A

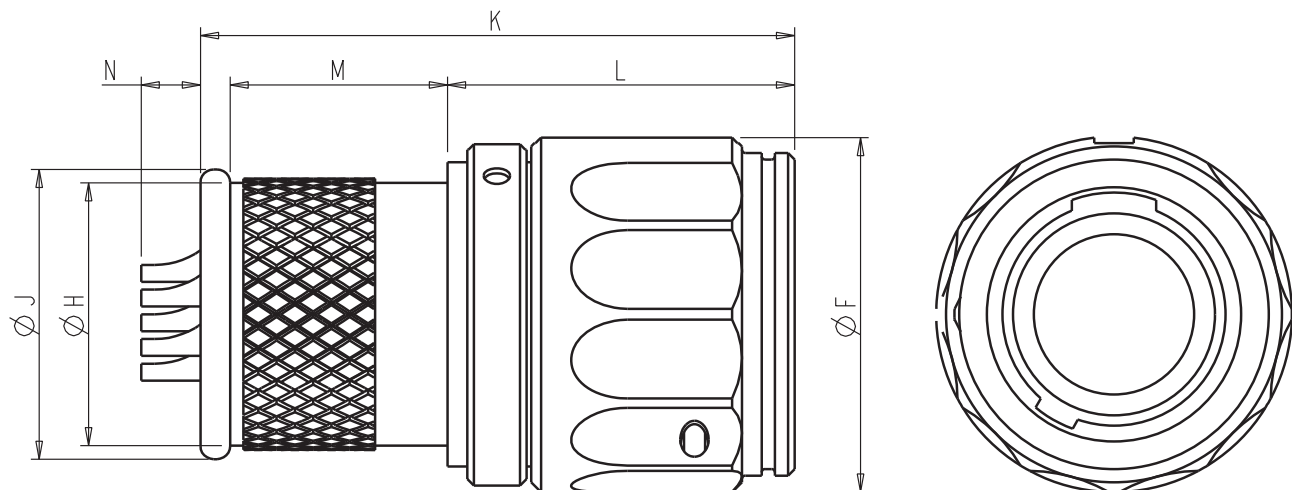
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Receptacle

SCE2-X-L1KXX-XXPX

- Inline Latching Receptacle, Integral Backshell



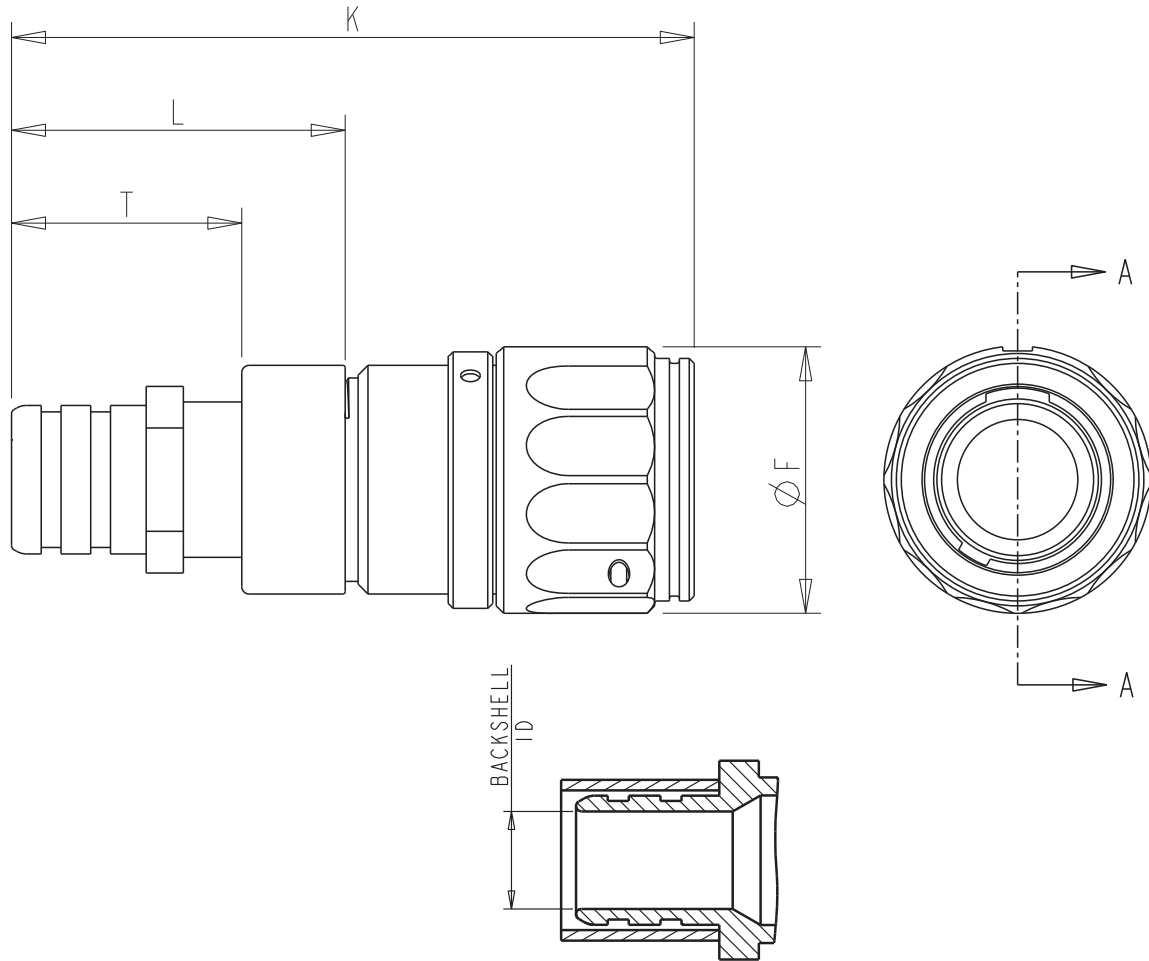
Shell Size	ØF	ØH	ØJ	K	L	M	N
Size 06	.540 (13.75)	.399 (10.14)	.440 (11.18)	.902 (22.91)	.527 (13.39)	.330 (8.38)	.090 (2.29)
Size 07	.610 (15.50)	.447 (11.35)	.505 (12.83)	.902 (22.91)	.527 (13.39)	.330 (8.38)	.090 (2.29)
Size 08	.699 (17.75)	.581 (14.75)	.620 (15.75)	.902 (22.91)	.527 (13.39)	.330 (8.38)	.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-L1TXX-XXPX-003

■ Inline Latching Receptacle, Threaded Backshell



SECTION A-A
-003 ACCESSORY

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.

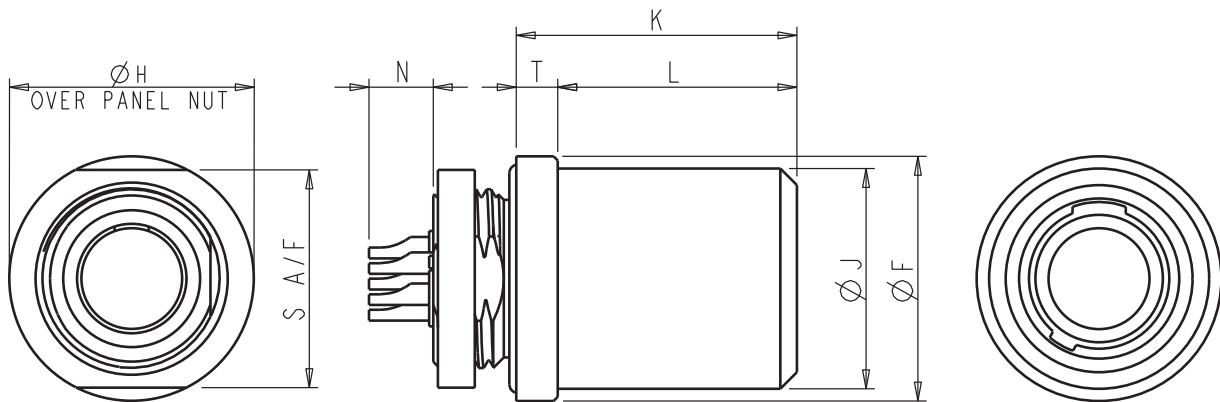
Receptacle

SCE2-X-71AXX-XXPX-XXX

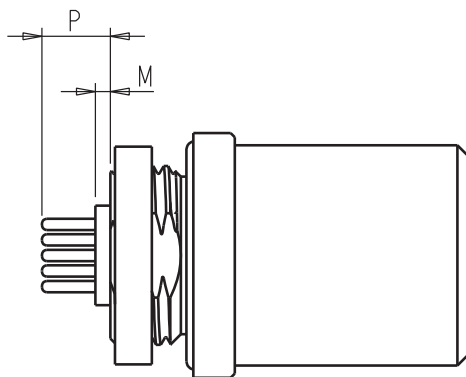
■ Front Mount Receptacle, Threaded



Receptacle



SOLDER BUCKET TYPE (-002)



PC TAIL TYPE (-001)

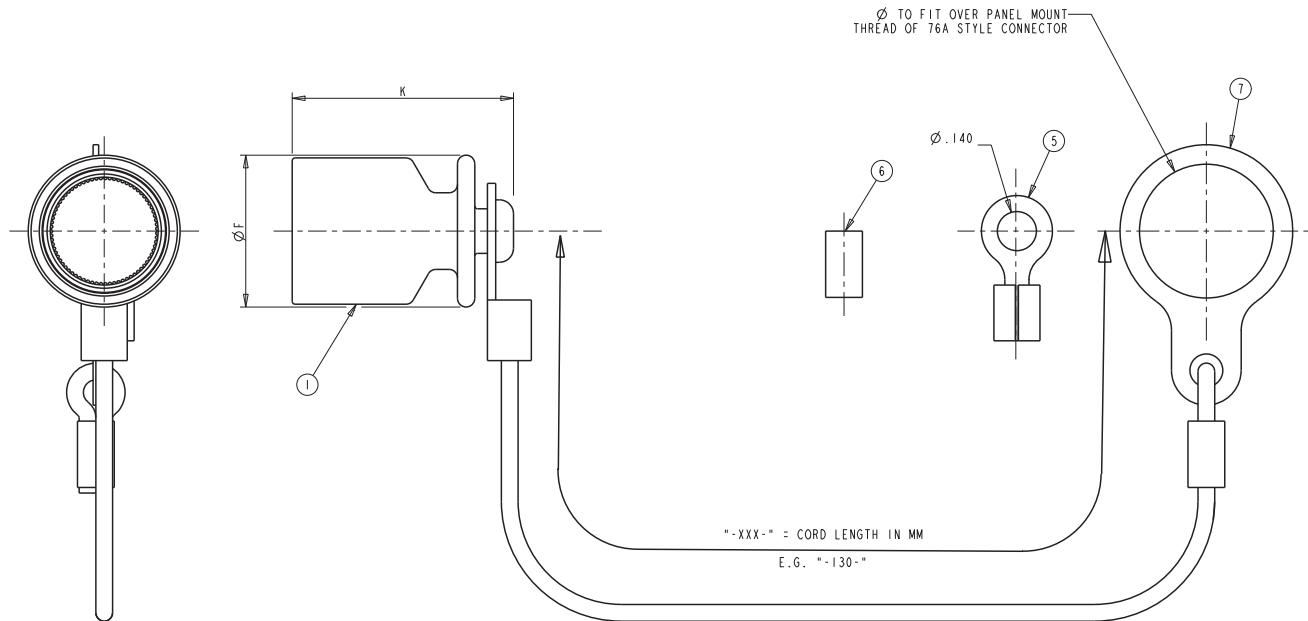
Shell Size	ØF	ØJ	ØH	K	L	M	N	P	S A/F	T
Size 06	.590 (14.99)	.462 (11.73)	.590 (14.99)	.877 (22.28)	.677 (17.20)	.015 (0.38)	.113 (2.87)	.130 (3.30)	.525 (13.34)	.100 (2.54)
Size 07	.620 (15.75)	.575 (14.61)	.620 (15.75)	.877 (22.28)	.677 (17.20)	.015 (0.38)	.113 (2.87)	.130 (3.30)	.685 (17.40)	.100 (2.54)
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

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)

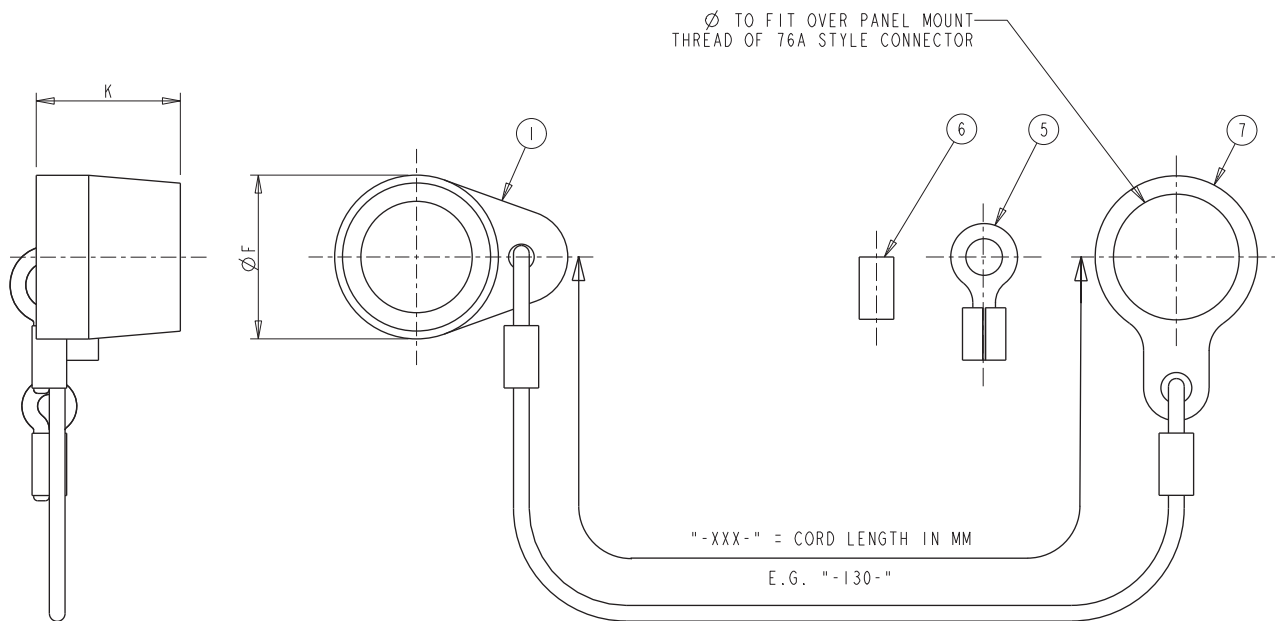
Supplied with			
Part number	Item 5 Eyelet	Item 6 Crimp ferrule	Item 7 Large eyelet
390-5057-XX-XXX-01	–	–	–
390-5057-XX-XXX-02	–	1	–
390-5057-XX-XXX-03	1	–	–
390-5057-XX-XXX-04	1	1	–
390-5057-XX-XXX-05	–	–	1

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

Accessories

390-5064-XX-XXX-XX

- Rubber Dust Cap Assembly for Plugs



Shell size	Part number	Item 1 Cap	
		$\varnothing F$	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)

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

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

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

- 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

Typical applications

- Chemical detection units
- Comms units
- Display modules
- GPS
- Headsets
- Hubs
- LAN Switches
- Radios
- Routers
- Ruggedized laptops
- Sensor units
- Surveillance and rangefinders
- Weapons systems

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