

Amphenol®

# TERRAPIN

Miniature Rugged Connector Series



## TERRAPIN

### Miniature Rugged Connector Series

**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-lustre and corrosion resistant. Featuring an optional locking mechanism, multiple shell sizes with up to 37 contacts and suitability for overmoulding, 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 Snatch, 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 snatch or latch receptacles. Both styles of product are waterproof to IP68 in both their mated and unmated conditions.

Amphenol offer a full range of cable harness solutions with standard or customised overmoulding. 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 customised 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 snatch and latch receptacles



**Snatch Inline Receptacle SCE2-B-01K**



**Latch Inline Receptacle SCE2-B-L1K**



## Terrapin performance information

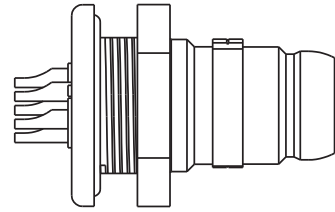
| Test/parameter                        | Description  |
|---------------------------------------|--|
| <b>Electrical</b>                     |  |
| Current Rating                        | 23 AWG contacts: 3A d.c.<br>20 AWG contacts: 7.5A d.c. |
| Shell to Shell Continuity             | 10mΩ max (screened)<br>200mΩ max (unscreened)          |
| Contact Resistance                    | Size 20 and 23 contacts: 5mΩ initial<br>10mΩ maximum   |
| Insulation Resistance                 | 5000MΩ minimum   |
| Working Voltage                       | AC (RMS) 400V  |
| Dielectric Withstanding Voltage       | 2mA maximum leakage                                    |
| <b>Technical</b>                      |  |
| Mating Durability                     | 2000+ cycles   |
| Backshell Overtorque                  | 25 lb.f.in.  |
| Panel Nut Overtorque                  | 30 lb.f.in.  |
| Non-magnetic                          | Yes  |
| <b>Environmental</b>                  |  |
| 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

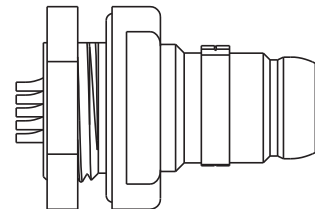
### SCE2-X-76A

Page 9



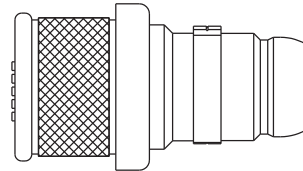
### SCE2-X-67A

Page 10



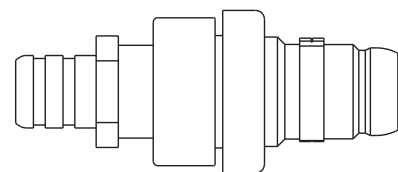
### SCE2-X-06K

Page 11



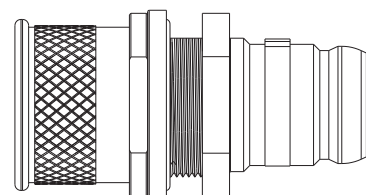
### SCE2-X-06T

Page 12



### SCE2-X-76T

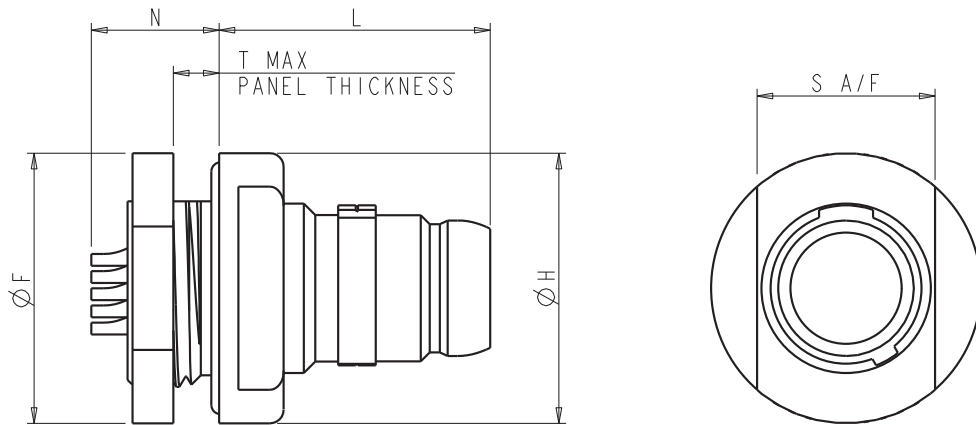
Page 13



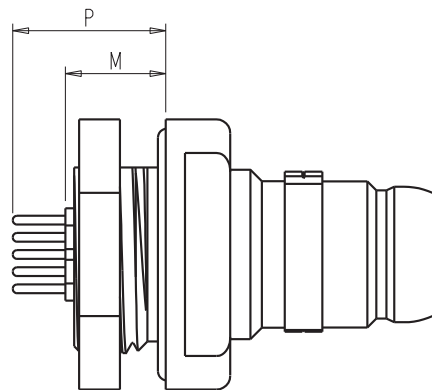
## Plug

### SCE2-X-67AXX-XXSX-XXX

- Front Mount Jam Nut Plug



SOLDER BUCKET TYPE (-002)



PC TAIL TYPE (-001)

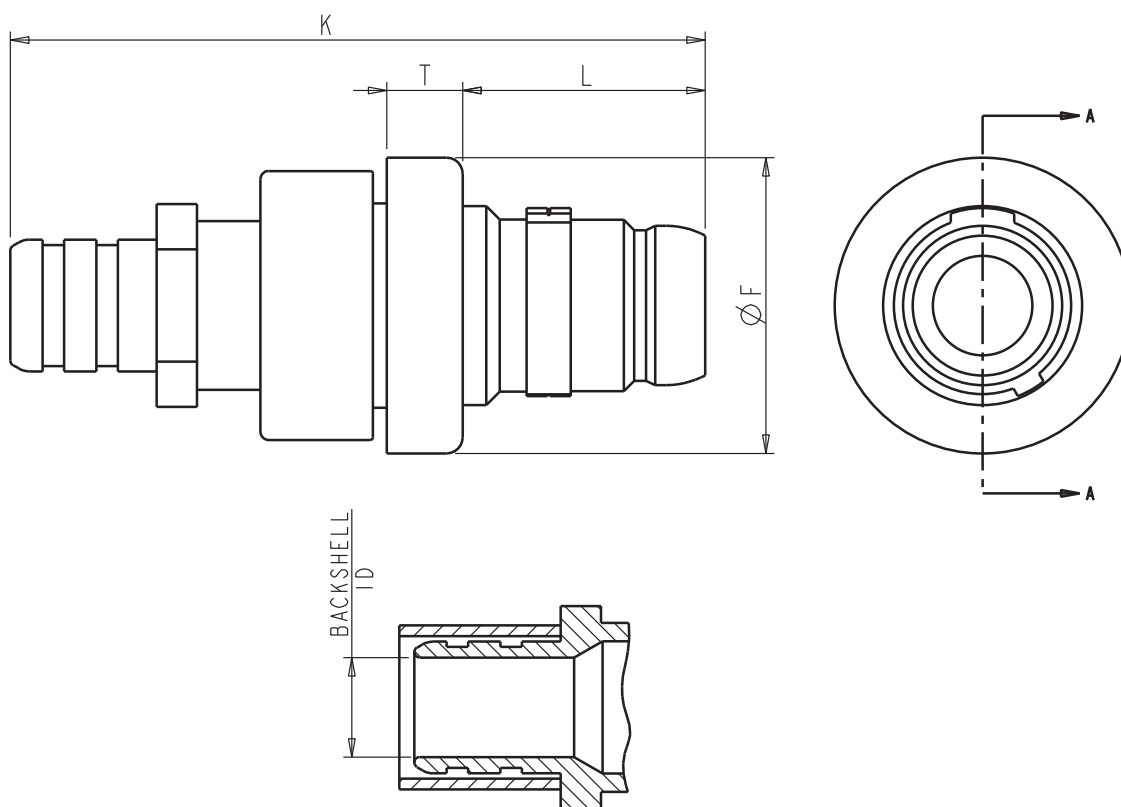
| Shell Size | ØF           | ØH           | L            | M           | N           | P            | S A/F        | T Max       |
|------------|--------------|--------------|--------------|-------------|-------------|--------------|--------------|-------------|
| Size 06    | .590 (14.99) | .590 (14.99) | .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

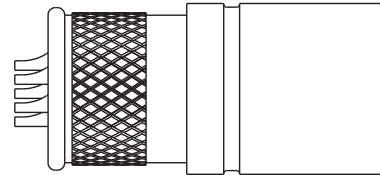
| Shell Size | ØF           | K             | L            | T           | Backshell ID |
|------------|--------------|---------------|--------------|-------------|--------------|
|            |              |               |              |             | -003         |
| Size 06    | .550 (13.97) | 1.292 (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

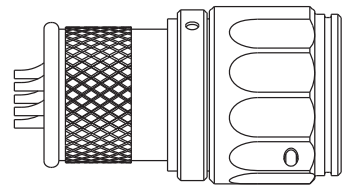
### SCE2-X-01K

Page 15



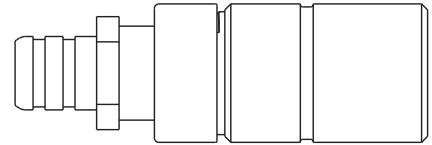
### SCE2-X-L1K

Page 16



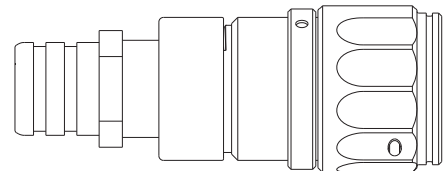
### SCE2-X-01T

Page 17



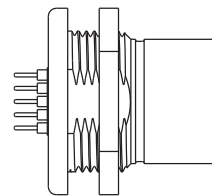
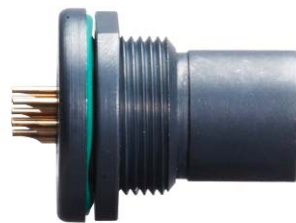
### SCE2-X-L1T

Page 18



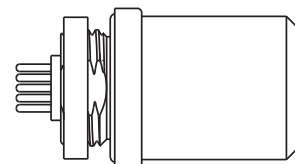
### SCE2-X-07A

Page 19



### SCE2-X-71A

Page 20

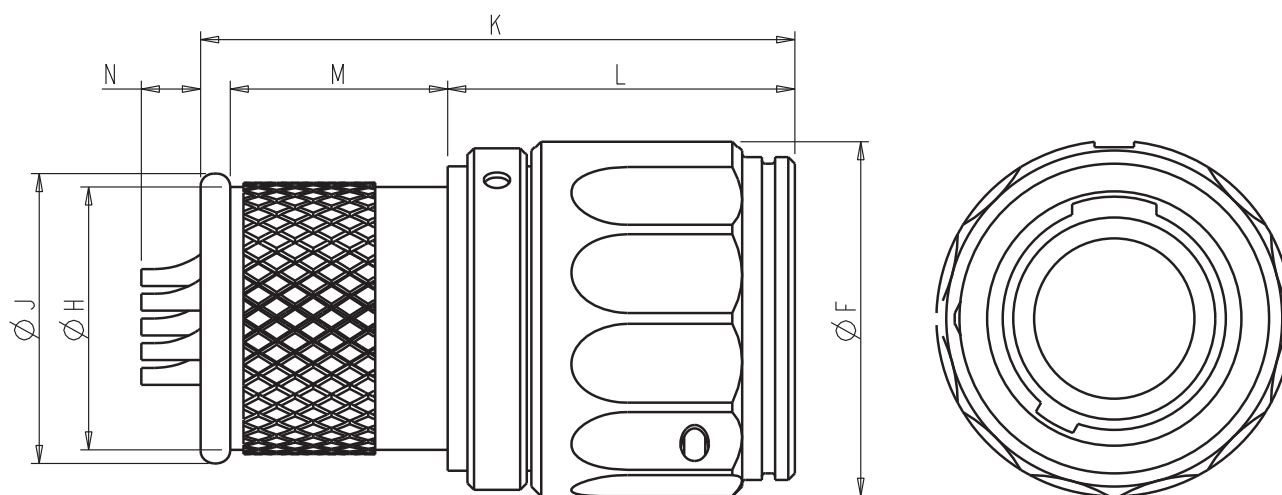




## Receptacle

### SCE2-X-L1KXX-XXPX

- Inline Latching Receptacle, Integral Backshell



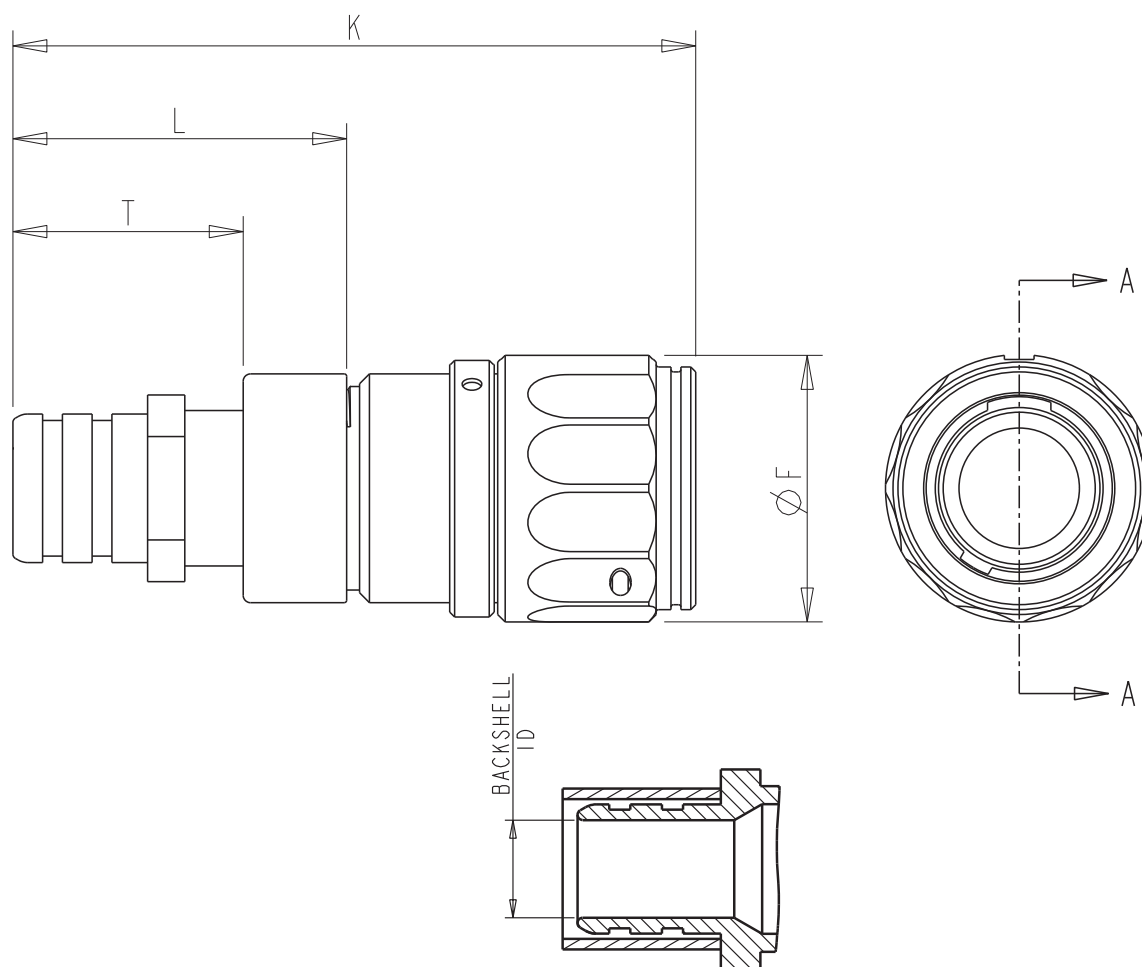
| Shell Size | ØF           | ØH           | ØJ           | K            | L            | M            | N           |
|------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Size 06    | .540 (13.75) | .399 (10.14) | .440 (11.18) | .902 (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

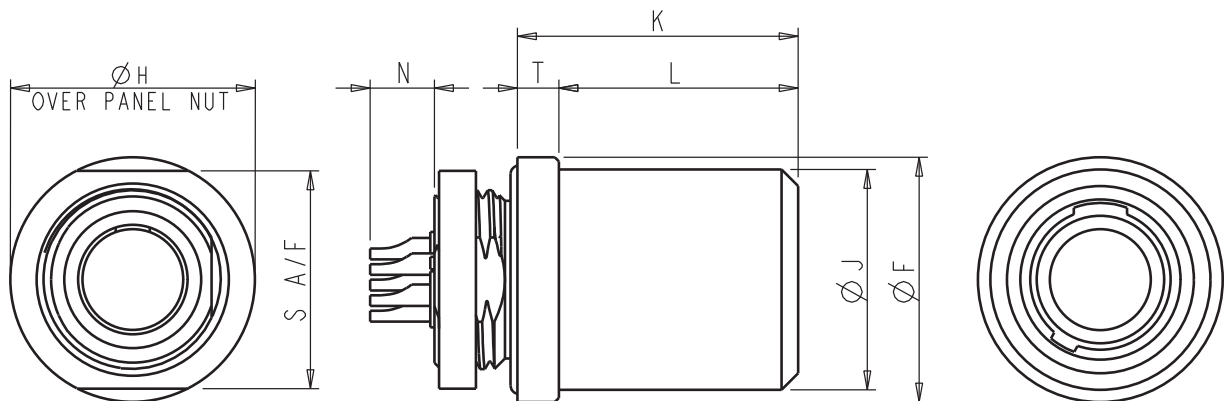
| Shell Size | ØF           | K             | L            | T            | Backshell ID |
|------------|--------------|---------------|--------------|--------------|--------------|
|            |              |               |              |              | -003         |
| Size 06    | .538 (13.67) | 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.

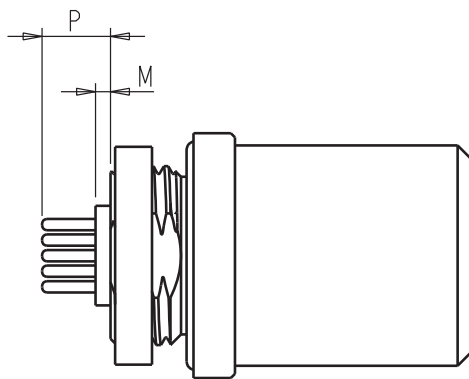
## Receptacle

### SCE2-X-71AXX-XXPX-XXX

- Front Mount Receptacle, Threaded



SOLDER BUCKET TYPE [-002]



PC TAIL TYPE [-001]

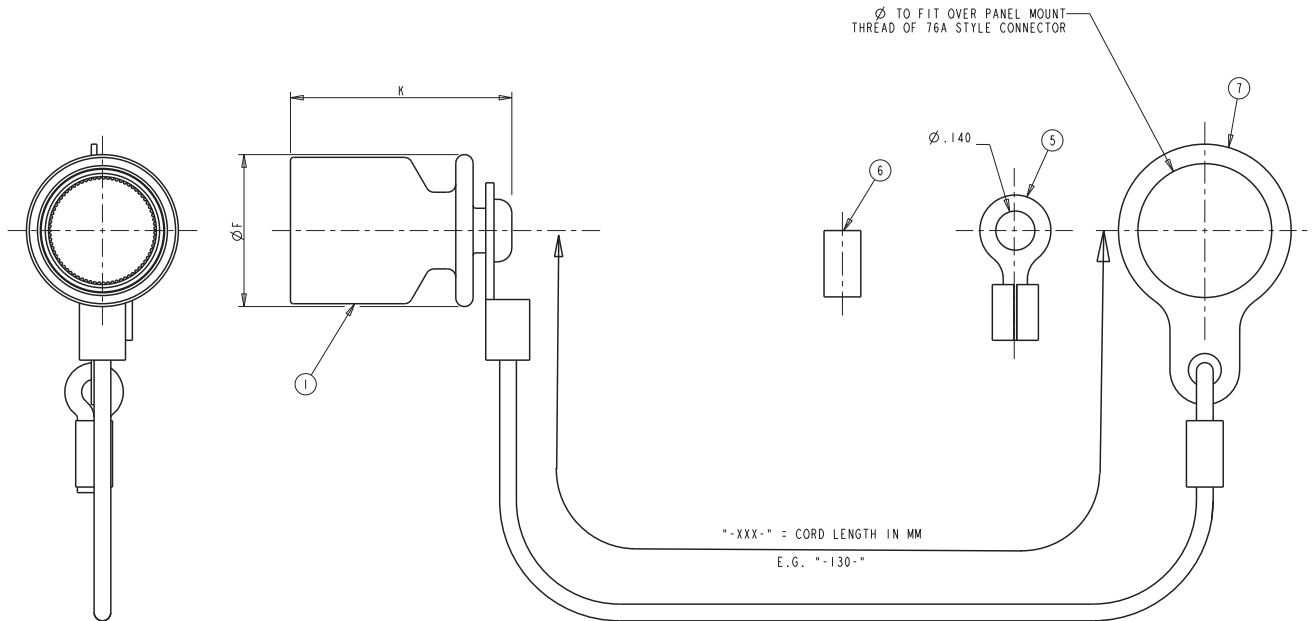
| Shell Size | $\varnothing F$ | $\varnothing J$ | $\varnothing H$ | K            | L            | M           | N           | P           | S A/F        | T           |
|------------|-----------------|-----------------|-----------------|--------------|--------------|-------------|-------------|-------------|--------------|-------------|
| 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<br>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) |

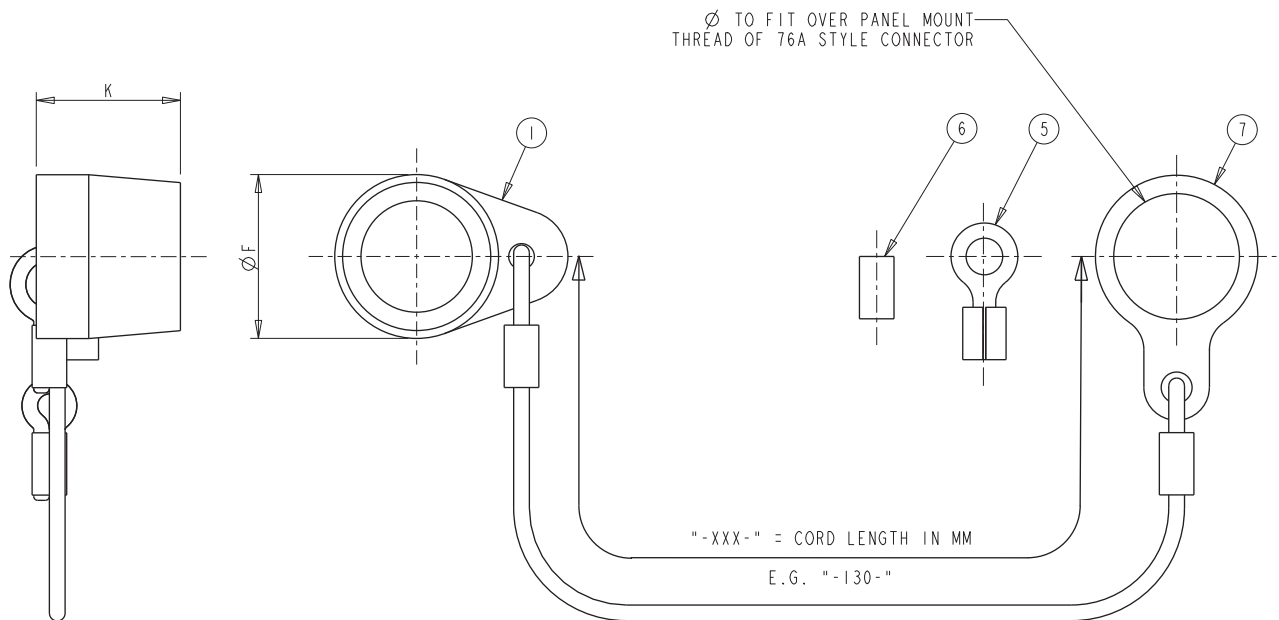
| Supplied with      |                  |                         |                        |
|--------------------|------------------|-------------------------|------------------------|
| Part number        | Item 5<br>Eyelet | Item 6<br>Crimp ferrule | Item 7<br>Large eyelet |
| 390-5057-XX-XXX-01 | —                | —                       | —                      |
| 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<br>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) |

| Supplied with      |                  |                         |                        |
|--------------------|------------------|-------------------------|------------------------|
| Part number        | Item 5<br>Eyelet | Item 6<br>Crimp ferrule | Item 7<br>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

### Overmoulded cable harnesses using Terrapin connectors



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

Amphenol Ltd'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.

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

#### Military/harsh environment situations

- Both standard and custom profile mouldings available
- In-house design and prototype facility
- Aesthetically uniform product
- Repeatable high complexity mouldings
- Low cost and repair by replacement
- Robust and tamper-proof
- Straight and angled mouldings
- Low profile mouldings
- Finger grips, logos and tactile indicators optional
- Mould 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
- Ruggedised laptops
- Sensor units
- Surveillance and rangefinders
- Weapons systems

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November 2010

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[660-023NF19H6-19](#) [660-024NF11S12-01](#) [660-024NF11S3-01](#) [660-024NF17S4-109](#) [660-050XM17F4-01](#) [660-068NF25R6-30G](#) [660-](#)  
[070M23S8-04](#) [660-073MTCH9-20](#) [M83723/61-18W](#) [M83723/61-218R](#) [M83723/61-224W](#) [667-084-23C](#) [667-084-35C](#) [667-224NF16](#) [687-](#)  
[697NF-1](#) [M85049/94-10-A](#) [M85049/96-7-A](#) [M855282-10A01A](#) [M85528/2-10B](#) [M855282-18A01A](#) [M85528/2-22A01A](#) [M85528/2-22AA](#)  
[710HS460NF2508](#) [780-001-22G12-SK](#) [780-002-19G12-SK](#) [780-002-20G12SK](#)