Amphenol®

# SurLok Plus™ Series

# Company Profile

*Endicott, NY*

## Amphenol Industrial Operations

Amphenol Industrial Operations, headquartered in a 30,000 square foot facility in Endicott, N.Y., provides a full range of high reliability power/signal connectors and interconnection systems specifically for the industrial markets including rail/mass transit, process control, automotive manufacturing, heavy equipment, wireless base stations and petrochemical/power generation.

Products include ruggedized-for-industry cylindrical, rectangular, fiber optic, signal and power, RADSOK power and power-to-board solutions, cable and harness assemblies, as well as industrialized versions of Amphenol's MIL-DTL-5015 cylindrical, MIL-DTL-26482 miniature cylindrical and GT reverse bayonet cylindrical connectors. Amphenol Industrial Operations employs more than 1,400 people globally and is ISO9001, TS96949 and MIL-STD-790 certified.

## Amphenol Technology (Zhuhai) Co., Ltd

Established in 2007, Amphenol Technology (Zhuhai) Co., Ltd. is a manufacturing facility for Amphenol Industrial Operations, which serves a number of industrial markets. Included but not limited to Factory Automation, Transportation, Heavy Equipment, Alternative Energy, Energy Storage. Server/Data Comm and Power Distribution.

Amphenol Technology (Zhuhai) Co., Ltd. covers an area of 276,000 ft² and is equipped with CNC, plating, injection molding and assembly workshops. This plant specializes in the design and manufacturing of industrial connectors featuring high power, high density, medium to high voltage electrical properties, and harsh environment applications.

With industry leading engineering, design and manufacturing expertise, Amphenol Technology(Zhuhai) Co., Ltd. has earned more than 60 utility patents on its innovative interconnects. Many of the products produced have been certified by independent standards including UL, IEC/TUV, ATEX, IECEx and MA. The facility is also certified to ISO 9001, ISO 14001 and IATF 16949.

# Overview

## Table of Contents

What is SurLok Plus™ ? ..... 4

Markets ..... 4

Features and Benefits ..... 5

Technical Information ..... 5

1000V Product Dimensions – Receptacle ..... 6

1000V Ordering information – Receptacle ..... 6

1000V Product Dimensions – Plug ..... 7

1000V Ordering Information – Plug ..... 7

1000V EMI Product Dimensions ..... 8

1000V EMI Ordering Information ..... 8

1500V EMI Product Dimensions ..... 9

1500V EMI Ordering Information ..... 9

1500V Product Dimensions ..... 10

1500V Ordering Information ..... 10

Layout Dimensions ..... 11

Optional Accessories ..... 11

Keyway Reference ..... 14

Tools ..... 16

Patents ..... 17

Customized Cable Assemblies ..... 17

# What is SurLok Plus™?

## The SurLok Plus™ compression lug is a field installable, highly reliable alternative to common compression lugs

Using industry standard crimp, screw, and busbar termination options, thus eliminating the need to purchase special torque tools.

SurLok Plus™ is an environmentally sealed version of our original SurLok® but available in smaller sizes, and features a quick lock and press-to-release design. Incorporating the latest R4 RADSOK® Technology. SurLok Plus™ is a compact, quick mating, and robust product line.

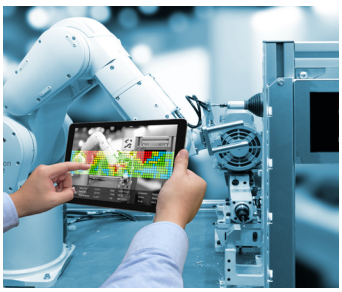
The RADSOK® high amperage contact technology utilizes high tensile strength properties of a stamped and formed, high conductivity alloy grid to produce low insertion forces while maintaining a large conductive surface area. The R4 version of the RADSOK® represents the culmination of three years of research and development in laser welding copper based alloys.

# Markets

The markets and applications for the SurLok Plus™ Series include but are not limited to the following:

Energy Storage

EV/HEV*



Process Control/Automation

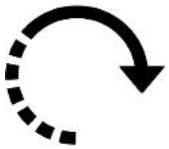
Heavy Equipment

*Note: 1500V SurLok Plus™ option only

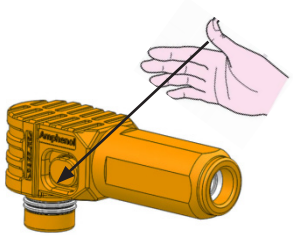
# Features and Benefits

| | |
|---|---|
| **Keyway** | Multiple keyways |
| **Lock** | Quick lock and press-to-release design |
| **Plug** | 360°rotating plug optional |
| **Receptacle** | Various termination options ( Threaded, Crimp, Busbar) |
| **Voltage** | 1000V / 1500V optional |
| **Protection** | Touch Proof |
| **Design** | Compact robust design |

- The connector's design incorporates an integral latching system that ensures a definitive electrical and mechanical connection.
- Connector housings are manufactured with a thermoplastic material that is not only durable, but also with excellent dielectric, mechanical properties and meet environmentally RoHS compliant.
- Contacts are derived from quality copper alloy to ensure an electrically-reliable connection.
- UL1977/4128 and TUV 2PfG2740 certified

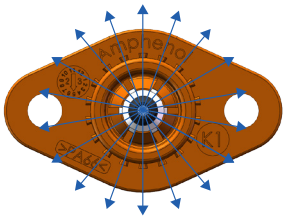


Rotation



Quick lock and press-to-release design

1000/1500 VDC

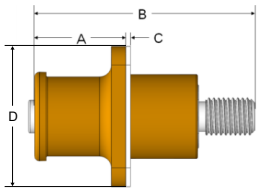
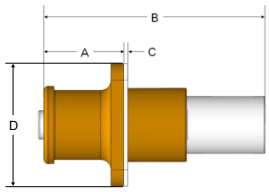
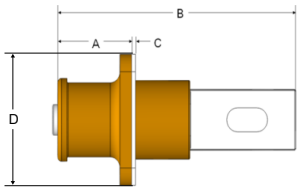
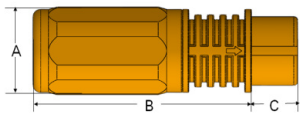


Multi-Directional Mating Positions

# Technical Information

| Description | RADSOK® Size | | | | | | |
|---|---|---|---|---|---|---|---|
| | 3.6mm | 5.7mm | 8.0mm | 8.0mm EMI | 10.3mm | 12.0mm | 14mm EMI |
| **Current Rating** | 50A~70A | 100A~120A | 120A~250A | 150A~250A | 250A~300A | 300A~360A | 300A~500A |
| **Operating Temperature** | -40°C~125°C (1500V DC) | -40°C~105°C (1000V DC) | -40°C~105°C (1000V DC) | -40°C~125°C (1000V DC) | -40°C~105°C (1000V DC) | -40°C~125°C (1500V DC) | -40°C~140°C (1500V DC) |
| | | -40°C~125°C (1500V DC) | -40°C~125°C (1500V DC) | | -40°C~125°C (1500V DC) | | |
| **IP Sealing(Mated)** | IP67/ IP6K9K (1500V DC) | IP67 (1000V DC) | IP67 (1000V DC) | IP67 | IP67 (1000V DC) | IP67/IP6K9K | IP67/IP6K9K |
| | | IP67/IP6K9K (1500V DC) | IP67/IP6K9K (1500V DC) | | IP67/IP6K9K (1500V DC) | | |
| **Flammability** | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 | UL 94 V-0 |
| **Locking** | Spring Locking | Spring Locking | Spring Locking | Secondary Lock | Spring Locking | Spring Locking | CPA |
| **RoHS Compliant** | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| **EMI Shielding** | No | No | No | Yes | No | No | Optional |
| **HVIL Function** | No | No | No | Yes | No | No | Optional |
| **Durability** | ≥100 cycles | ≥100 cycles | ≥100 cycles | ≥100 cycles | ≥100 cycles | ≥100 cycles | ≥100 cycles |
| **IPXXB** | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

# 1000V DC Product Dimensions - Receptacle

| Item | Screw Termination | | | | Crimp Termination | | | | Busbar Termination | | | | Inline Crimp Termination | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size |  | | | |  | | | |  | | | |  | | |
| | A | B | C | D | A | B | C | D | A | B | C | D | A | B | C |
| 5.7mm | 16.5 | 36.7 | 1.0 | 27 | 16.5 | 40.7 | 1.0 | 27 | 16.5 | 46.7 | 1.0 | 27 | 20 | 53.7 | 8.8 |
| 8.0mm | 19.0 | 46.2 | 1.0 | 30 | 19.0 | 52.7 | 1.0 | 30 | 19.0 | 61.2 | 1.0 | 30 | 24.3 | 56.7 | 12 |
| 10.3mm | 25.8 | 55.5 | 0.3 | 35 | 25.8 | 50mm²: 65.8<br>70mm²: 68.8<br>85mm²: 71.8<br>95mm²: 71.8 | 0.3 | 35 | 25.8 | 68.8 | 0.3 | 35 | / | / | / |

Note: All dimensions for reference only

# Ordering Information - 1000V DC Receptacle

| Product Series | Type | | RADSOK® Size | | Termination Style | | Panel Mount | | Sealing | | Color | | Keyway**** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SLP | R | Receptacle W/O Keyway | A | 5.7mm 120A | B | Busbar | P | W/ Flange | S | IP67 | O | Orange | | NO KEYWAY |
| | | | | | T | Threaded | | | | | | | 0 | 90° |
| | | | | | 16C | 16mm² Crimp (100A max.) | | | | | | | | |
| | | | | | 25C | 25mm² Crimp (120A max.) | | | | | | | | |
| | | | B | 8.0mm 200A | B | Busbar | | | | | | | | |
| | | | | | T | Threaded | | | | | | | | |
| | | | | | 25C | 25mm² Crimp (120A max.) | | | | | | | | |
| | | | | | 35C | 35mm² Crimp (150A max.) | | | | | | | | |
| | IR | Receptacle W/ Keyway | | | 50C | 50mm² Crimp (200A max.) | N | W/O Flange** | | | B | Black | 1 | 180° |
| | | | C | 10.3mm 300A | B | Busbar | | | | | | | | |
| | | | | | T | Threaded | | | | | | | 2 | 60° |
| | | | | | 50C | 50mm² Crimp (200A max.) | | | | | | | | |
| | | | | | 70C | 70mm² Crimp (250A max.) | | | | | | | | |
| | | | | | 85C | 85mm² & 95mm² (300A max.) | | | | | | | | |
| | CR | *Inline Receptacle | A | 5.7mm 120A | 16 | 16mm² (100A max.) | B | W/ Back shells*** | N | Non-Sealed | R | Red | 3 | 120° |
| | | | | | 25 | 25mm² (120A max.) | | | | | | | | |
| | | | B | 8.0mm 200A | 25 | 25mm² (120A max.) | | | | | | | 4 | 150° |
| | | | | | 35 | 35mm² (150A max.) | | | | | | | | |
| | | | | | 50 | 50mm² (200A max.) | | | | | | | | |

*Inline receptacle, 90° and 120° keyways only ** Not available for 10.3mm ***Only available for inline type **** 10.3mm requires Keyway selection

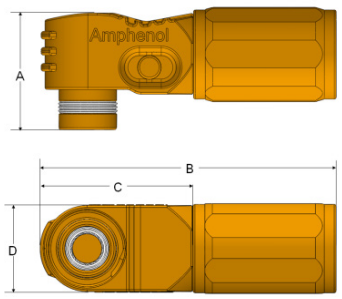
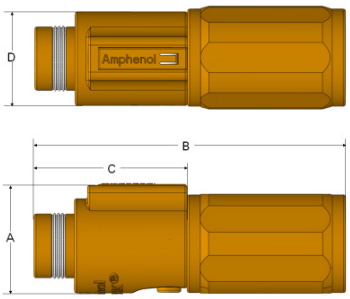
## Example:

| 1 Product Series | 2 Type | 3 RADSOK® Size | 4 Cable Size | 5 Back shells | 6 Sealing | 7 Color | 8 Keyway |
|---|---|---|---|---|---|---|---|
| SLP | IR | A | 25 | B | S | O | 3 |
| SLP | CR | B | 50 | B | N | B | 0 |

**SLPIRA25BSO3:** 5.7mm SurLok Plus™ Receptacle without shielding and no HVIL, orange, 25mm² cable crimp, waterproof: sealed, keyway: 120°

**SLPCRB50BNB0:** 8.0mm SurLok Plus™ Inline receptacle without shielding and no HVIL, black, 50mm² cable crimp, waterproof: non-sealed, keyway: 90°

# 1000V DC Product Dimensions - Plug

| Item | Right Angle Plug | | | | Straight Plug | | | |
|---|---|---|---|---|---|---|---|---|
| Size |  | | | |  | | | |
| | A | B | C | D | A | B | C | D |
| 5.7mm | 22.6 | 55.1 | 30 | 18 | 22.5 | 63 | 30.5 | 20 |
| 8.0mm | 29 | 74.5 | 38.4 | 21.6 | 24.45 | 72.4 | 34.8 | 21.4 |
| 10.3mm | 41.2 | 83.5 | 42.5 | 28 | / | / | / | / |

Note: All dimensions for reference only

# Ordering Information - 1000V DC Plug

| Product Series | Type | | RADSOK® Size | | Cable Size | | Back Shells | | Sealing | | Color | | Keyway**** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SLP | P | Right Angle 90° | A | 5.7mm 120A | 16 | 16mm² (100A max.) | B | W/ Back Shells | S | Sealed | O | Orange | | NO KEYWAY |
| | | | | | 25 | 25mm² (120A max.) | | | | | | | 0 | 90° |
| | | | B | 8.0mm 200A | 25 | 25mm² (120A max.) | | | | | | | | |
| | | | | | 35 | 35mm² (150A max.) | | | | | | | | |
| | | | | | 50 | 50mm² (200A max.) | | | | | | | | |
| | | | C | 10.3mm 300A | 50 | 50mm² (200A max.) | | | | | B | Black | 1 | 180° |
| | | | | | 70 | 70mm² (250A max.) | | | | | | | | |
| | | | | | 85 | 85mm² & 95mm² (300A max.) | | | | | | | 2 | 60° |
| | IP | Straight Type | A | 5.7mm 120A | 16 | 16mm² (100A max.) | N | W/O Back Shells | N | Non-Sealed | R | Red | 3 | 120° |
| | | | | | 25 | 25mm² (120A max.) | | | | | | | | |
| | | | B | 8.0mm 200A | 25 | 25mm² (120A max.) | | | | | | | 4 | 150° |
| | | | | | 35 | 35mm² (150A max.) | | | | | | | | |
| | | | | | 50 | 50mm² (200A max.) | | | | | | | | |

*Inline receptacle, 90° and 120° keyways only ** Not available for 10.3mm ***Only available for inline type **** 10.3mm requires Keyway selection

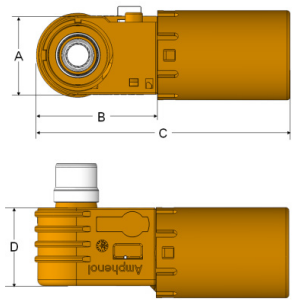
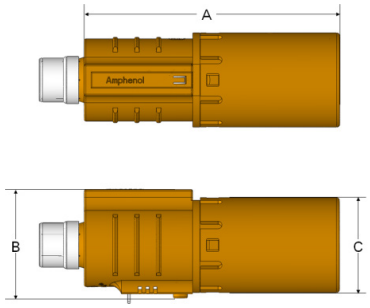
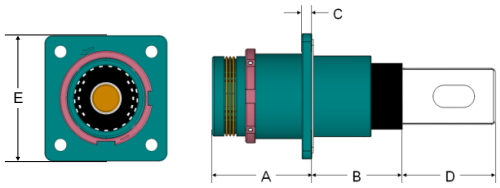
## Example:

| 1 Product Series | 2 Type | 3 RADSOK® Size | 4 Cable Size | 5 Back shells | 6 Sealing | 7 Color | 8 Keyway |
|---|---|---|---|---|---|---|---|
| SLP | P | A | 25 | B | S | O | |
| SLP | IP | A | 25 | B | S | O | 3 |

**SLPPA25BSO:** 5.7mm SurLok Plus™ Right Angle Plug without shielding and no HVIL, orange, 25mm² cable, waterproof: sealed, keyway: NO KEYWAY

**SLPIPA25BSO3:** 5.7mm SurLok Plus™ Straight Plug without shielding and no HVIL, orange, 25mm² cable crimp, waterproof: sealed, keyway: 120°

# 1000V DC EMI Product Dimensions

| Item | Right Angle Plug | | | | Straight Plug | | | Receptacle | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size |  | | | |  | | |  | | | | |
| | A | B | C | D | A | B | C | A | B | C | D | E |
| 8.0mm | 26.2 | 41.2 | 86.2 | 25.8 | 82.5 | 34.3 | 30 | 25.15 | 22.85 | 2.5 | 23.5 | 31 |

Note: All dimensions for reference only

# 1000V DC EMI Ordering Information

| Product Series | Type | | RADSOK® Size | | Cable Size | | Back Shells | | Sealing | | Color | | Keyway | | EMI | | HVIL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SLP | P | Right Angle 90° | B | 8.0mm 250A | 35 | 35mm² (150A max.) | B | W/ Back shells | S | Sealed | O | Orange | 0 | 90° | E | EMI | | NON HVIL |
| | | | | | | | | | | | | | 1 | 270° | | | | |
| | IP | Straight Type | | | 50 | 50mm² (200A max.) | | | | | B | Black | 2 | 60° | | | | |
| | | | | | | | | | N | Non-Sealed | | | 3 | 120° | | | H | HVIL |
| | | | | | 70 | 70mm² (250A max.) | | | | | R | Red | 4 | 150° | | | | |

| Product Series | Type | | RADSOK® Size | | Termination Style | | Panel Mount | | Sealing | | Color | | Keyway | | EMI | | HVIL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SLP | IR | Receptacle Keyway can rotate 360° | B | 8.0mm 250A | B | Busbar | P | Panel Mount W/ Flange | S | Sealed | O | Orange | 0 | 90° | E | EMI | | NON HVIL |
| | | | | | | | | | | | | | 1 | 270° | | | | |
| | | | | | | | | | | | B | Black | 2 | 60° | | | | |
| | | | | | | | | | N | Non-Sealed | | | 3 | 120° | | | H | HVIL |
| | | | | | | | | | | | R | Red | 4 | 150° | | | | |

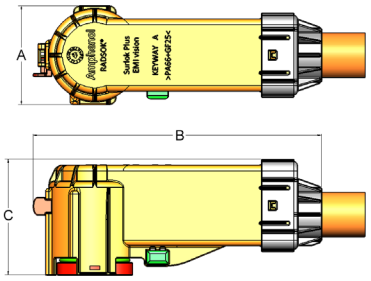
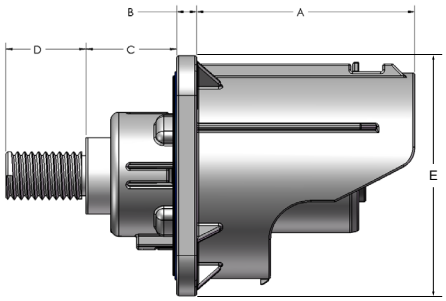
## Example:

| 1 Product Series | 2 Type | 3 RADSOK® Size | 4 Cable Size | 5 Back shells | 6 Sealing | 7 Color | 8 Keyway | 9 EMI | 10 HVIL |
|---|---|---|---|---|---|---|---|---|---|
| SLP | P | B | 50 | B | S | O | 3 | E | |
| Product Series | Type | RADSOK® Size | Termination Style | Panel Mount | Sealing | Color | Keyway | EMI | HVIL |
| SLP | IR | B | B | P | S | O | 1 | E | H |

**SLPPB50BSO3E:** 8.0mm SurLok Plus™ Right Angle Plug with shielding and no HVIL, orange, 50mm² cable, waterproof: sealed, keyway: 120°

**SLPIRBBPSO1EH:** 8.0mm SurLok Plus™ Receptacle with EMI and HVIL, orange, busbar panel, keyway: 270°, waterproof: sealed

# 1500V DC (EMI) Product Dimensions

| Item | Right Angle Plug | | | Receptacle | | | | |
|---|---|---|---|---|---|---|---|---|
| Size |  | | |  | | | | |
| | A | B | C | A | B | C | D | E |
| 14mm | 70 | 176 | 71 | 59.5 | 5 | 22.7 | 20 | 60 |

Note: All dimensions for reference only

# 1500V DC (EMI) Ordering Information

| Product Series | Type | | RADSOK® Size | | Cable Size | | Back Shells | | Sealing | | Color | | Keyway | | EMI | | HVIL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SLP | HP | Right Angle 90° | E | 14mm 450A | S095 | 95mm² (Shielded) (300A max.) | B | W/ Back shells | S | Sealed | O | Orange | A | Keyway A | E | EMI | N | NON HVIL |
| | | | | | S120 | 120mm² (Shielded) (300A max.) | | | | | B | Black | B | Keyway B | | | | |
| | | | | | S150 | 150mm² (Shielded) (450A max.) | | | | | | | C | Keyway C | | | H | HVIL |
| | | | | | U095 | 95mm² (Unshielded) (300A max.) | | | N | Non-Sealed | R | Red | D | Keyway D | | | | |
| | | | | | U120 | 120mm² (Unshielded) (300A max.) | | | | | | | E | Keyway E | | | | |
| | | | | | U150 | 150mm² (Unshielded) (450A max.) | | | | | | | | | | | | |

| Product Series | Type | | RADSOK® Size | | Termination Style | | Panel Mount | | Sealing | | Color | | Keyway | | EMI | | HVIL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SLP | HR | Recept. | E | 14mm 450A | B | Busbar | P | Panel Mount W/ Flange | S | IP6K9K | G | Gray | A | Keyway A | E | EMI | N | NON HVIL |
| | | | | | T | Threaded | | | N | Non-Sealed | | | B | Keyway B | | | | |
| | | | | | | | | | | | | | C | Keyway C | | | H | HVIL |
| | | | | | | | | | | | | | D | Keyway D | | | | |
| | | | | | | | | | | | | | E | Keyway E | | | | |

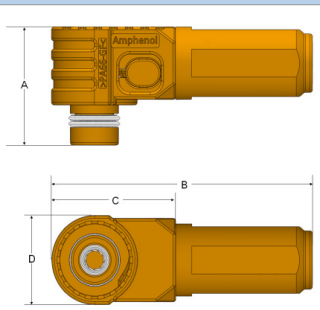
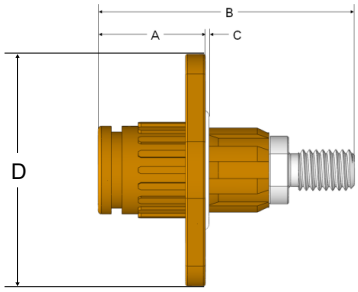
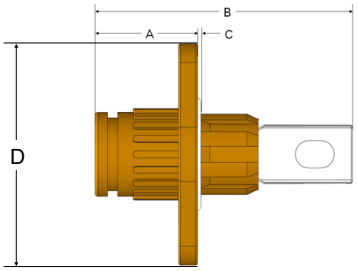
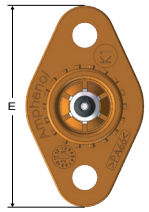
## Example:

| 1 Product Series | 2 Type | 3 RADSOK® Size | 4 Cable Size | 5 Back shells | 6 Sealing | 7 Color | 8 Keyway | 9 EMI | 10 HVIL |
|---|---|---|---|---|---|---|---|---|---|
| SLP | HP | E | S150 | B | S | O | C | E | N |
| Product Series | Type | RADSOK® Size | Termination Style | Panel Mount | Sealing | Color | Keyway | EMI | HVIL |
| SLP | HR | E | B | P | S | G | B | E | H |

**SLPHPES150BSOCEN:** 14.0mm SurLok Plus™ Right Angle Plug with shielding and no HVIL, orange,150mm² shielding cable, waterproof: sealed, keyway: C

**SLPHREBPSGBEH:** 14.0mm SurLok Plus™ Receptacle with EMI and HVIL, Gray, busbar panel, keyway: B, waterproof: sealed

# 1500V DC Product Dimensions

| Item | Right Angle Plug | | | | Screw Termination | | | | Busbar Termination | | | | 3.6mm Receptacle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size |  | | | |  | | | |  | | | |  |
| | A | B | C | D | A | B | C | D | A | B | C | D | E |
| 3.6mm | 21.2 | 48.6 | 23.1 | 16 | 16.3 | 39 | 0.5 | 20 | 16.3 | 41 | 0.5 | 20 | 34 |
| 5.7mm | 27.5 | 66.2 | 30.5 | 20 | 19.3 | 47.3 | 0.25 | 27 | 19.3 | 48.3 | 0.25 | 27 | - |
| 8.0mm | 34 | 82.2 | 38.4 | 24.3 | 22 | 57.1 | 0.35 | 30 | 22 | 60 | 0.35 | 30 | - |
| 10.3mm | 43 | 97.5 | 40.5 | 30 | 27 | 70 | 0.25 | 38 | 27 | 69 | 0.25 | 38 | - |
| 12.0mm | 43.5 | 109.5 | 45.5 | 35 | 30.5 | 77.5 | 0.3 | 44 | 30.5 | 79.5 | 0.3 | 44 | - |

Note: All dimensions for reference only

# Ordering Information - 1500V DC

| Product Series | Type | | RADSOK® Size | | Cable Size | | Back Shells | | Sealing | | Color | | Keyway | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SLP | HP | RA Type | M | 3.6mm 70A | 06 | 6 mm² (50A max.) | B | W/ Backshells | S | Sealed | O | Orange | 1 | 20° |
| | | | | | 10 | 10mm² (70A max.) | | | | | | | | |
| | | | A | 5.7mm 120A | 16 | 16mm² (100A max.) | | | | | B | Black | 2 | 30° |
| | | | | | 25 | 25mm² (120A max.) | | | | | | | | |
| | | | B | 8.0mm 200A | 35 | 35mm² (150A max.) | | | N | Non-Sealed | | | | |
| | | | | | 50 | 50mm² (200A max.) | | | | | R | Red | | |
| | | | C | 10.3mm 300A | 70 | 70mm² (250A max.) | | | | | | | | |
| | | | | | 95 | 95mm² (300A max.) | | | | | | | | |
| | | | D | 12.0mm 360A | 120 | 120mm² (360A max.) | | | | | | | | |

| Product Series | Type | | RADSOK® Size | | Termination | | Panel Mount | | Sealing | | Color | | Keyway | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SLP | HIR | Receptacle W/ Keyway | M | 3.6mm 70A | B | Busbar | P | Panel Mount W/ Flange | S | Sealed | O | Orange | 1 | 20° |
| | | | A | 5.7mm 120A | | | | | | | | | | |
| | | | B | 8.0mm 200A | T | Threaded | | | N | Non-Sealed | B | Black | 2 | 30° |
| | | | C | 10.3mm 300A | | | | | | | R | Red | | |
| | | | D | 12.0mm 360A | | | | | | | | | | |

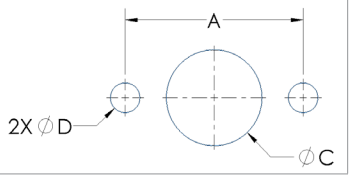
## Example:

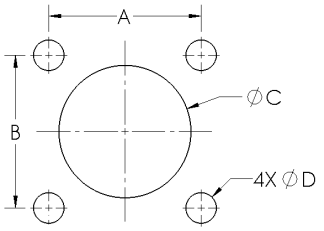
| 1 Product Series | 2 Type | 3 RADSOK® Size | 4 Cable Size | 5 Back shells | 6 Sealing | 7 Color | 8 Keyway |
|---|---|---|---|---|---|---|---|
| SLP | HP | M | 10 | B | S | B | 1 |
| Product Series | Type | RADSOK® Size | Termination Style | Panel Mount | Sealing | Color | Keyway |
| SLP | HIR | M | B | P | S | R | 2 |

**SLPHPM10BSO1:** 3.6mm SurLok Plus™ 1500V Right Angle Plug , without shielding and no HVIL, black, 10mm² cable crimp, waterproof: sealed, keyway: 20°

**SLPHIRMBPSR2:** 3.6mm SurLok Plus™ 1500V Receptacle without shielding and no HVIL, red, busbar, waterproof: sealed, keyway: 30°

# Layout Dimensions

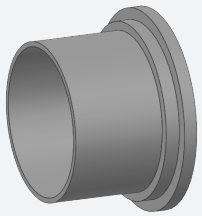
| RADSOK® Size | A | ØC | D | Layout Torque | Receptacle Contact Torque | | Figure |
|---|---|---|---|---|---|---|---|
| | | | | | Busbar Torque | Screw Torque | |
| 3.6mm | 24 ± 0.1 | 12.9 ± 0.1 | M4 Screw | M5 Bolts: 0.4 ~ 0.7 N.m | M4 Bolts: 1.2 ~ 1.5 N.m | M6 Nut: 1.5 ~ 2.0 N.m |   |

| RADSOK® Size | A | B | ØC | D | Layout Torque | Busbar Torque | Screw Torque | Figure |
|---|---|---|---|---|---|---|---|---|
| 5.7mm | 18 ± 0.1 | 18 ± 0.1 | 14.3 ± 0.1 | M4 Screw | M4 Bolts: 0.8 ± 0.1 N.m | M5 Bolts: 3 ± 0.1 N.m | M6 Nut: 3 ± 0.1 N.m |   |
| 8.0mm | 21 ± 0.1 | 21 ± 0.1 | 18.2 ± 0.1 | M4 Screw | M4 Bolts: 0.8 ± 0.1 N.m | M6 Bolts: 6.5 ± 0.1 N.m | M8 Nut: 7 ~ 8 N.m for 1000V<br>8.5 ± 0.1 N.m for 1500V | |
| 8.0mm EMI | 23 ± 0.1 | 23 ± 0.1 | 23.3 ± 0.1 | M3 Screw | M3 Bolts: 0.8 ± 10% N.m | M6 Bolts: 4.8 ± 10% N.m | N/A | |
| 10.3mm | 24.5 ± 0.1 | 24.5 ± 0.1 | 22.6 ± 0.1 | M4 Screw | M4 Bolts: 0.8 ~ 1.0 N.m | M6 Bolts: 8 ± 0.1 N.m. | M10 Nut: 7.0 ~ 8.0 N.m for 1000V<br>13.5 ± 0.5 N.m for 1500V | |
| 12.0mm | 30 ± 0.1 | 30 ± 0.1 | 28.3 ± 0.1 | M5 Screw | M5 Bolts: 1.4 ~ 1.6 N.m | M8 Bolts: 8 ~ 9 N.m | M10 Nut: 13 ~ 14 N.m | |
| 14mm EMI | 45 ± 0.1 | 45 ± 0.1 | 42 ± 0.1 | M6 Screw | M6 Bolts: 10 ± 1.0 N.m | M12 Bolts: 15 ± 1.5 N.m | M10 Nut: 10 ± 1.0 N.m<br>M12 Nut: 15 ± 1.5 N.m | |

Note: All torques for reference only, details refer to WI.

# Optional Accessories

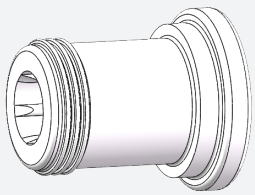
## Dust Cap

| Voltage | Description | P/N | Figure |
|---|---|---|---|
| 1000V DC | SL+ 5.7mm Receptacle Dust CAP | C10-070500-010 |  |
| | SL+ 8.0mm Receptacle Dust CAP | C10-070500-012 | |
| | SL+ 8.0mm EMI Plug Dust CAP | C10-070506-10S | |
| | SL+ 8.0mm EMI Receptacle Dust CAP | C10-686511-016 | |
| | SL+ 10.3mm Receptacle Dust CAP | C10-070500-016 | |
| 1500V DC | SL+ 3.6mm Receptacle Dust CAP | C10-070500-009 | |
| | SL+ 5.7mm Receptacle Dust CAP | C10-792372-000 | |
| | SL+ 8.0mm Receptacle Dust CAP | C10-070506-014 | |
| | SL+ 10.3mm Receptacle Dust CAP | C10-070506-016 | |
| | SL+ 12.0mm Receptacle Dust CAP | C10-792372-001 | |

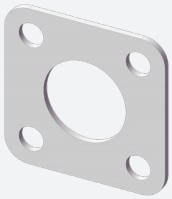
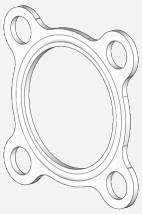
Note: Generic cap image, actual shape and color may vary.

# Optional Accessories

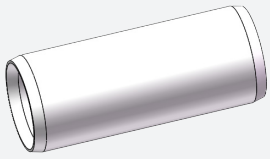
## Sealing Cap

| Voltage Rating | Sealing Cap | P/N | Figure |
|---|---|---|---|
| 1000V DC | SL+ 5.7mm Receptacle Sealing CAP | C10-752804-000 |  |
| | SL+ 8.0mm Receptacle Sealing CAP | C10-737307-000 | |
| | SL+ 10.3mm Receptacle Sealing CAP | C10-781989-000 | |
| 1500V DC | SL+ 3.6mm Receptacle Sealing CAP | C10-766844-000 | |
| | SL+ 5.7mm Receptacle Sealing CAP | C10-752804-000 | |
| | SL+ 8.0mm Receptacle Sealing CAP | C10-795133-000 | |
| | SL+ 10.3mm Receptacle Sealing CAP | C10-781989-000 | |

## Gasket

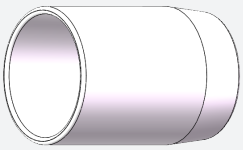
| Voltage Rating | Gasket | P/N | Figure |
|---|---|---|---|
| 1000V DC | SL+ 5.7mm Gasket | C10-730656-000 |  |
| | SL+ 8.0mm Gasket | C10-731812-000 | |
| | SL+ 10.3mm Gasket | C10-731012-000 | |
| | SL+ 8.0mm EMI Gasket | C10-738625-000 | |
| 1500V DC | SL+ 3.6mm Gasket | C10-753284-000 |  |
| | SL+ 5.7mm Gasket | C10-766105-000 | |
| | SL+ 8.0mm Gasket | C10-765562-000 | |
| | SL+ 10.3mm Gasket | C10-765504-000 | |
| | SL+ 12.0mm Gasket | C10-779229-000 | |
| | SL+ 14.0mm Gasket | C10-765569-000 | |

## Crimp Sleeve Reducer

| Voltage Rating | Sleeve Reducer | P/N | Figure |
|---|---|---|---|
| 1000V DC | SL+ 5.7mm Crimp Sleeve Reducer | C10-737238-003 (16mm²) |  |
| | SL+ 8.0mm Crimp Sleeve Reducer | C10-737127-253 (25mm²) | |
| | | C10-737127-003 (35mm²) | |
| | SL+ 8.0mm EMI Crimp Sleeve Reducer | C10-738626-002 (35mm²) | |
| | | C10-738626-001 (50mm²) | |
| | SL+ 10.3mm Crimp Sleeve Reducer | C10-737887-053 (50mm²) | |
| | | C10-737887-073 (70mm²) | |
| 1500V DC | SL+ 3.6mm Crimp Sleeve Reducer | C10-754843-063 (6mm²) | |

# Optional Accessories

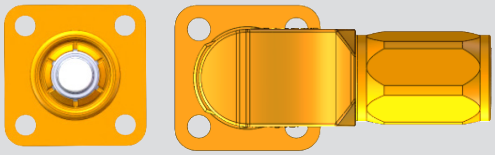
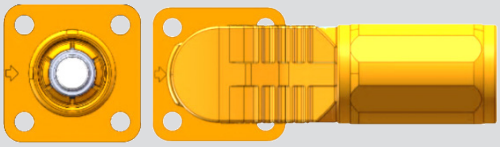
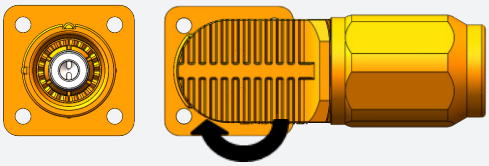
## Cable Grommet

| Voltage Rating | Gasket | P/N (Cable Size) | Recommended Cable OD (mm) | Figure |
|---|---|---|---|---|
| 1000V DC | SL+ 5.7mm Cable Grommet | C10-730653-030 (16 mm²) | Ø8.10 ± 0.2 | Cable Grommet |
| | | C10-730653-040(25 mm²) | Ø10.2 ± 0.2 | |
| | SL+ 8.0mm Cable Grommet | C10-731821-020 (25 mm²) | Ø10.2 ± 0.2 | |
| | | C10-731821-030 (35 mm²) | Ø11.5 ± 0.3 | |
| | | C10-731821-050(50 mm²) | Ø13.6 ± 0.3 | |
| | SL+ 8.0mm EMI Cable Grommet | C10-738617-003 (35 mm²) | Ø14.5 ± 0.5 | |
| | | C10-738617-002 (50 mm²) | Ø17.0 ± 0.5 | |
| | | C10-738617-001 (70 mm²) | Ø19.5 ± 0.5 | |
| | SL+ 10.3mm Cable Grommet | C10-762115-050 (50 mm²) | Ø13.6 ± 0.3 | |
| | | C10-762115-070 (70 mm²) | Ø15.5 ± 0.3 | |
| | | C10-762115-080 (85/95 mm²) | Ø18.2 ± 0.3 | |
| | SL+ 5.7mm Inline Receptacle Cable Grommet | C10-766102-100: Support Piece (16 mm² and 25 mm²) | | Support Piece |
| | | C10-766101-016 (16 mm²) | Ø8.10 ± 0.2 | |
| | | C10-766101-025 (25 mm²) | Ø10.2 ± 0.2 | |
| | SL+ 8.0mm Inline Receptacle Cable Grommet | C10-762841-025 (25 mm²) | Ø10.2 ± 0.2 | |
| | | C10-762841-035 (35 mm²) | Ø11.5 ± 0.3 | |
| | | C10-762841-050 (50 mm²) | Ø13.6 ± 0.3 | |
| 1500V DC | SL+ 3.6mm Cable Grommet | C10-754739-006(6 mm²) | Ø4.8 ± 0.2 | |
| | | C10-754739-010(10 mm²) | Ø6.25 ± 0.2 | |
| | SL+ 5.7mm Cable Grommet | C10-766102-100: Support Piece (16 mm² and 25 mm²) | | |
| | | C10-766623-016 (16 mm²) | Ø8.10 ± 0.2 | |
| | | C10-766623-025 (25 mm²) | Ø10.2 ± 0.2 | |
| | SL+ 8.0mm Cable Grommet | C10-766102-100: Support Piece (35 mm² and 50 mm²) | | |
| | | C10-766624-035 (35 mm²) | Ø11.5 ± 0.3 |  Cable Grommet |
| | | C10-766624-050 (50 mm²) | Ø13.6 ± 0.3 | |
| | SL+ 10.3mm Cable Grommet | C10-765499-100: Support Piece (70 mm² and 95mm²) | | |
| | | C10-765498-070 (70 mm²) | Ø15.5 ± 0.3 | |
| | | C10-765498-090 (95 mm²) | Ø18.2 ± 0.3 | |

Note: If customer's cable range is not commensurate with the recommended cable diameter, they should consult tech@amphenol-aio.com

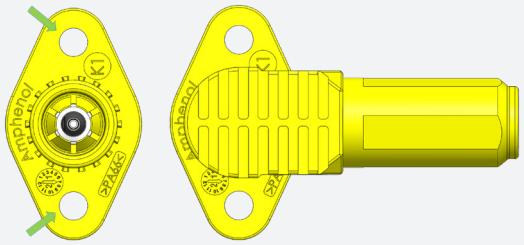
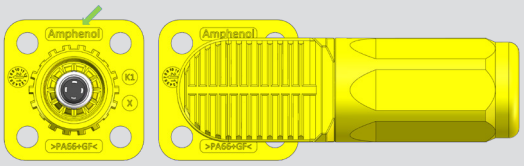
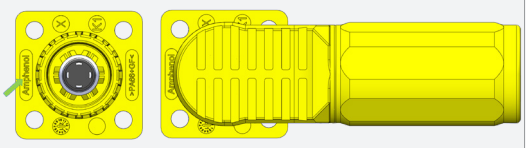
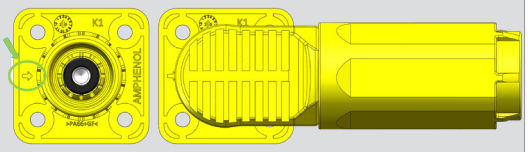
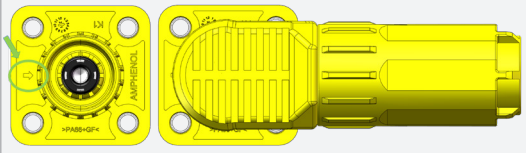
# Keyway Reference

## 1000V DC Connector:

| RADSOK® Size | P/N | | | | Description |
|---|---|---|---|---|---|
| | Type | RA Plug | Straight Plug | Receptacle | |
| 5.7mm W/O Keyway | Coded Number | SLPPA( )B( )( ) | SLPIPA( )B( )( ) | SLPRA( )P( )( ) | 360° Rotation |
| 5.7mm W/ Keyway | Coded Number | SLPPA( )B( )( )( ) | SLPIPA( )B( )( )( ) | SLPIRA( )P( )( )( ) |  Non-Rotatable |
| 8.0mm W/O Keyway | Coded Number | SLPPB( )B( )( ) | SLPIPB( )B( )( ) | SLPRB( )P( )( ) | 360° Rotation |
| 8.0mm W/ Keyway | Coded Number | SLPPB( )B( )( )( ) | SLPIPB( )B( )( )( ) | SLPIRB( )P( )( )( ) |  Non-Rotatable |
| 10.3mm Keyway | Coded Number | SLPPC( )B( )( )( ) | / | SLPIRC( )P( )( )( ) |  360° Rotation |

# Keyway Reference

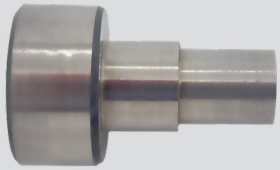
## 1500V DC Connector: Multi-Directional Outgoing

| RADSOK® Size | P/N | | | | Description |
|---|---|---|---|---|---|
| | Type | RA Plug | Straight Plug | Receptacle | |
| 3.6mm Keyway | Coded Number | SLPHPM( )B( )( )( ) | / | SLPHIRM( )P( )( )( ) |  |
| 5.7mm Keyway | Coded Number | SLPHPA( )B( )( )( ) | / | SLPHIRA( )P( )( )( ) |  |
| 8.0mm Keyway | Coded Number | SLPHPB( )B( )( )( ) | / | SLPHIRB( )P( )( )( ) |  |
| 10.3mm Keyway | Coded Number | SLPHPC( )B( )( )( ) | Coming Q2 2024 | SLPHIRC( )P( )( )( ) |  |
| 12.0mm Keyway | Coded Number | SLPHPD( )B( )( )( ) | / | SLPHIRD( )P( )( )( ) |  |

**Master Keyway:** Orientation of the receptacle is highlighted in the connector images above. From this orientation, the cable exit direction will clock at degree intervals indicated by the specific keyway in the table to the right.

| KEYWAY (Y°) | | | |
|---|---|---|---|
| | K1 | 20° | 18 Positions |
| | K2 | 30° | 12 Positions |

# Tools

| Product Series | Part Number | Description | Photo |
|---|---|---|---|
| SurLok™ Plus EMI | FX3-0001-001 | Shielding assembly | |
| SurLok™ Plus EMI | FX3-0006-001 | Assembly HVIL Contact | |
| SurLok™ Plus | FX3-0026-001 | SL+ 5.7MM screw type receptacle wrench | |
| SurLok™ Plus | FX3-0036-001 | 8.0 SL+ REC M6 Wrench | |
| SurLok™ Plus | FX3-0024-001 | 10.3mm SL wrench | |
| SurLok™ Plus | FX3-0042-002 | SurLok™ Plus 3.6mm threading cable tool |  |
| SurLok™ Plus<br>Fixture for Pin Assemblies | FX3-0191-004 | 3.6 SL+ 1500V | |
| | FX3-0190-001 | 5.7 SL+1000V & 1500V | |
| | FX3-0189-001 | 8.0 SL+1000V & 1500V | |
| | FX3-0188-001 | 10.3 SL+1000V & 1500V | |
| | FX3-0187-017 | 12.0 SL+ 1500V | |
| SurLok™ Plus | FX3-0067-001 | 10.3 SL+ 1500V fixture for grommet assemblies | |

## Patents

## Customized Cable Assemblies

**AMPHENOL CORPORATION**
**Amphenol Industrial Operations**
Phone: 888-364-9011
20 Valley Street
Endicott, NY 13760-3600
**www.amphenol-industrial.com**

**Amphenol Technology(Zhuhai) Co., Ltd.**
No.63, Xinghan Road, Sanzao Town,
Jinwan, Zhuhai, 519040
China Tel: +86-756-398 9725
Fax: +86-756-398 9768
www. amphenol-industrial.com
Email: tech@amphenol-aio.com

IC-10-8

**Notice:** Specifications are subject to change without notice. Contact your nearest Amphenol Corporation Sales Office for the latest specifications. All statements, information and data given herein are believed to be accurate and reliable but are presented without guarantee, warranty, or responsibility of any kind expressed or implied. Statements or suggestions concerning possible use of our products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that all safety measures are indicated or that other measures may not be required. Specifications are typical and may not apply to all connectors.