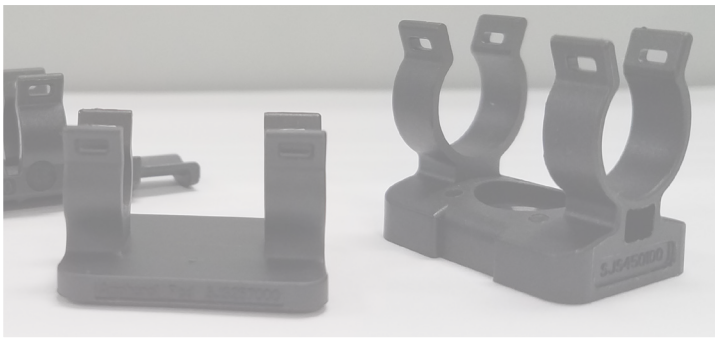
Amphenol Pcd

# LUMINUS
GUIDE 2018



# LUMINUS

**Description:**

Luminus are lightweight, cost-effective connectors that are highly reliable and simple to use. With multiple configurations and arrangements available, a solution can be tailored to suit your application's exact requirements. Proven solutions can be found in single engine general aviation, multiple-engine business and passenger jets, and high performance rotary aircraft. Ideal where space is limited, these innovative, "scoop-proof" connectors feature a locking mechanism that ensures stability, are suitable for blind-mating, and are RoHS compliant.

**Features and Benefits:**

1/4 turn bayonet style connection; push and snap connection - Makes wire installation and maintenance easy and efficient; positive "click" when locked

Interfacial and Triple-Barrier Seal - Enables environmental sealing (IP 67 rating)

Multiple Keying Positions - Ensures proper connectivity

Multiple Configurations and Accessories - Tailored solutions to meet application needs

Contacts - AS39029 MIL Spec contacts for broad application compatibility. Stamped & Formed available as lower cost option

Visual markings - Visual aid for easy assembly

Rugged Polyamide Housings; 500 mating cycles - Durability

Blind-Mate Connection - Enables simple, blind mating; easy assembly

D160, M81714, FAR25 Compliance-Meets demanding military-aerospace environmental conditions

**Typical Applications:**

- Aerospace Lighting
- Power & Signal Distribution
- Cabin Service Systems
- Actuation & Sensors

# LUMINUS

## Shell Size

### 05 (max dia: 0.318)

2, size 22, Twist & Lock

3, size 22, Twist & Lock

### 06 (max dia: 0.390)

1, size 16 & 20, Push & Pull

### 07 (max dia: 0.448

6, size 22, Twist & Lock

8, size 22, Twist & Lock

1, size 12, Push & Pull

### 08 (max dia: 0.528)

4, size 16 , Twist & Lock

5, size 22, Twist & Lock

9: 1, size 16; 8 size 22 Twist & Lock

9, size 22Twist & Lock

3, size 16 Twist & Lock

3, size 20 Push & Pull

### 10 (max dia: 0.630)

9: 4, size 16; 5 size 22Twist & Lock

10: 4, size 16; 6 size 22 Twist & Lock

### 11 (max dia: 0.700)

3, size 12, Twist & Lock

3, size 16, Push & Pull

### 14 (max dia: 0.875)

25, size 22, Twist & Lock

# LUMINUS

## Materials and Specifications

| | Push & Pull | Twist & Lock | |
|---|---|---|---|
| Materials | Insulator Body: Polyamide 6/6 (Nylon) | Insulator Body: Polyamide 6/6 (Nylon) | |
| | Grommet: Silicone Rubber | Grommet & Face Seal: Silicone Rubber | |
| | Contact Retainer: Stainless Steel | Contact Retainer: Stainless Steel | |
| | Contacts: Copper Alloy Gold Plated | | |
| Temperature Range | -65˚C to 125˚C | -65˚C to 125˚C | |
| Temperature Life | 150 hours @ 95˚C | 500 hours @ 85˚C | |
| Insulation Resistance | 1500VAC, 60hz @ Sea Level | 5000 MΩ Min. @ 500 VDC | |
| Dielectric Withstanding | 1500 VAC, 60 Hz @ Sea Level, 1ma | 1500 VAC, 60 Hz @ Sea Level, 1ma | |
| | 300 VAC, 60 Hz @ 70,000 ft, 2ma | 300 VAC, 60 Hz @ 70,000 ft, 2ma | |
| Durability | 50 mating cycles | 500 mating cycles | |
| Altitude Immersion | 5% salt solution, 55k ft, DWV 1500VA | 5% salt solution, 75k feet | |
| | | 5000Mohms @ 1500 VAC, sea level | |
| | | 5000Mohms @ 300 VAC, 70k ft | |
| | | 5000Mohms @ 300 VAC, 100k ft | |
| Temperature Cycling | 5(1) Hour Cycles: 0 C to 95 C | 5(1) Hour Cycles: -65˚C to 125˚C | |
| Thermal Shock | 5(1) Hour Cycles: 0 C to 95 C | -65˚C to 200˚C | |
| Vibration | Contact Factory | 30G Sinusoidal; 43.96G Random | |
| Shock | | 300G, 3msec, Half-Sine | |
| Salt Spray | | 5% Salt Spray @ 95˚C for 48 Hours | |
| Humidity | 10 Days @ 25˚C to 65˚C,<br>90% - 95% RH | 10 Days @ 25˚C to 65˚C,<br>90% - 95% RH | |
| Fluid Immersion | | Lubricating Oil per Mil-Prf-7808 | |
| | | Cleaning Compound per Mil-Prf-87937, Alkaline Base | |
| | | Isopropyl Alcohol & Mineral Spirit Solution | |
| | Skydrol Hydraulic Fluid | Skydrol Hydraulic Fluid | |
| | Hydraulic Fluids per MIL-PRF-83282<br>MIL-PRF-87257 | Hydraulic Fluids per MIL-PRF-83282<br>MIL-PRF-87257 | |
| | Ethylene Glycol | Ethylene Glycol | |
| | Propylene Glycol | Propylene Glycol | |
| | Aviation Jet A | Aviation Jet A | |
| Seal Rating | IP67 | IP67 | |
| Flammability | UL94, V0. | UL94, V0. | |
| | | DOTG section 26.6.2 & 26.6.3 | |
| | | FAR Part 25 App F Part I | |
| RoHS & REACH Compliance | Yes | Yes | |
| Contact Insertion & Removal Force (not to exceed) | - | size 22 | 10 lbs |
| | | size 20 | 10 lbs |
| | | size 16 | 13 lbs |
| | | size 12 | 15 lbs |
| Contact Retention (minimum) | - | size 22 | 10 lbs |
| | | size 20 | 15 lbs |
| | | size 16 | 25 lbs |
| | | size 12 | 30 lbs |

# LUMINUS

## Part Numbering (Twist & Lock)

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| # of Positions | Contact Size | Shell Size | Key | Color | Plug P/N | Inline Receptacle P/N | Circular Receptacle P/N | Square Receptacle PN | Jamnut PCB Mount | Oval Receptacle PN | Jam Nut Rear Mount Receptacle PN |
| 1 | Quadrax | 8 | - | - | SJS801110 | SJS801120 | - | SJS801130* | SJS801160* | SJS801170* | SJS801190* |
| 2 | 22D | 5 | - | black | SJS830250 | SJS830270 | - | - | - | SJS502170 | SJS502190 |
| 3 | 12 | 11 | - | black | SJS103110* | SJS103120* | - | - | - | - | - |
| 3 | 22D | 5 | - | black | SJS830210 | SJS830230 | - | - | - | SJS503170 | SJ503190 |
| 3 | 20 | 7 | - | white | SJS862300 | SJS862400 | - | SJS862450 | - | - | - |
| 3 | 16 | 8 | A | white | SJS840310 | SJS840300 | SJS840320 | SJS803730 | - | - | - |
| 3 | 16 | 8 | B | black | SJS840340 | SJS840350 | SJS840330 | SJS803130 | - | - | - |
| 3 | 12 | 10 | - | - | SJS003110 | SJS003120 | - | - | - | - | - |
| 3 | 12 | 11 | - | black | SJS103110 | SJS103120 | - | - | - | - | - |
| 4 | 16 | 8 | A | white | SJS840410 | SJS840400 | SJS840420 | SJS804730 | SJS840760 | - | SJS840790 |
| 4 | 16 | 8 | B | white | SJS840440 | SJS840450 | SJS840430 | - | - | - | - |
| 4 | 20 | 7 | - | black | SJS704110 | SJS704120 | - | - | - | - | - |
| 5 | 22D | 8 | - | white | SJS860510 | SJS860500 | SJS860520 | SJS805730 | - | - | - |
| 5 | 22D | 8 | - | white | SJS870510 | - | SJS870520 | - | - | - | - |
| 6 | 22D | 7 | - | black | SJS861700 | SJS861800 | - | - | SJS706160 | - | - |
| 8 | 22D | 7 | A | black | SJS830100 | SJS830200 | - | SJS830220 | SJS708160 | SJS708170 | SJS708190 |
| 8 | 22D | 7 | B | green | SJS830101 | SJS830201 | - | SJS830221 | - | - | - |
| 8 | 22D | 7 | C | yellow | SJS830102 | SJS830202 | - | SJS830222 | - | - | - |
| 9 | 22D | 8 | - | black | SJS862100 | SJS862200 | - | SJS809130 | - | - | - |
| 12 | 22D | 8 | - | white | SJS861300 | SJS861400 | - | SJS812730 | SJS812760* | - | - |
| 12 | 22D | 11 | A | black | SJS112110 | SJS112120 | - | - | SJS112160 | - | - |
| 12 | 22D | 11 | B | - | SJS112210 | SJS112220 | - | - | SJS112260 | - | - |
| 12 | 22D | 11 | C | - | SJS112310 | SJS112320 | - | - | SJS112360 | - | - |
| 12 | 22D | 11 | D | - | SJS112410 | SJS112420 | - | - | SJS112460 | - | - |
| 25 | 22D | 14 | A | black | SJS425110 | SJS425120 | - | - | SJS425160 | - | - |
| 25 | 22D | 14 | B | - | SJS425210 | SJS425220 | - | - | SJS425260 | - | - |
| 25 | 22D | 14 | C | - | SJS425310 | SJS425320 | - | - | SJS425360 | - | - |
| 25 | 22D | 14 | D | - | SJS425410 | SJS425420 | - | - | SJS425460 | - | - |
| 12 | 20 | 14 | - | - | SJS412110 | SJS412120 | - | - | - | - | - |
| 5 | 12 (3) | 11 | - | black | SJS1AE110* | SJ1AE120* | - | - | - | - | - |
| | 22 (2) | | | | | | - | - | - | - | - |
| 9 | 16 | 8 | - | white | SJS860100 | SJS860200 | - | - | - | - | - |
| | 22D | | | | | | | - | - | - | - |
| 9 | 16 | 10 | - | white | SJS860910 | SJS860900 | - | SJS0AA730 | - | - | - |
| | 22D | | | | | | | - | - | - | - |
| 10 | 16 | 10 | - | white | SJS861100 | SJS861200 | - | SJS0A8730* | SJS0BB770* | - | - |
| | 22D | | | | | | | SJS0AB730 | SJS0AB770 | - | - |

Note: Above part numbers come without contacts; inquire within for "with contacts" part numbers
* SJS870510 uses pin contacts; SJS870520 uses socket contacts

*Available at extended lead timed.

# LUMINUS

## Part Numbering (Push & Pull)

| | | | | | | |
|---|---|---|---|---|---|---|
| Contact Size | Contact Qty | Shell Size | Key | Color | Plug P/N | Receptacle |
| 12 | 1 | 7 | n/a | blue | SJS512100 | SJS512200 |
| 12 | 1 | 7 | n/a | red | SJS512110 | SJS512210 |
| 16 | 1 | 6 | n/a | blue | SJS716100 | SJS716200 |
| 16 | 1 | 6 | n/a | red | SJS716110 | SJS716210 |
| 20 | 1 | 6 | n/a | green | SJS720100 | SJS720200 |
| 20 | 1 | 6 | n/a | yellow | SJS720110 | SJS720210 |
| 16 | 3 | 11 | A | red | SJS816100 | SJS816200 |
| 16 | 3 | 11 | B | white | SJS816110 | SJS816210 |
| 16 | 3 | 11 | C | blue | SJS816120 | SJS816220 |
| 20 | 3 | 8 | A | red | SJS820100 | SJS820200 |
| 20 | 3 | 8 | B | white | SJS820110 | SJS820210 |
| 20 | 3 | 8 | C | blue | SJS820120 | SJS820220 |

## Part Numbering (Accessories)

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Shell Size | Strain Relief Single | Strain Relief Single 90° | Strain Relief Single 45° | Double Strain Relief | Double Side Tape Mount Cradle | Screw Mount Cradle | Tube Mount Cradle | Single Side Tape Tube Mount Cradle | Double Side Tape Tube Mount Cradle | Dummy Flanges | Hard Protective Caps |
| 5 | SJSA55000 | SJSAA5100 | SJSAA5200 | SJSA56000 | SJS257000 | SJS257100 | SJSA5V000 | SJS5AV010 | SJS5AV020 | - | SJSA5B000 |
| 7 | SJS450350 | SJSA75100 | SJSA75200 | SJSA76000 | SJS883000 | SJS450250 | SJSA7V000 | SJSA7V010 | SJSA7V020 | SJS830220D | SJSA7B000 |
| 8 | SJSA85000 | SJSA85100 | SJSA85200 | SJSA86000 | SJS445000 | SJS450100 | SJSA8V000 | SJSA8V010 | SJSA8V020 | - | SJSA8B000 |
| 10 | SJSA05000 | SJSA05100 | SJSA05200 | SJSA06000 | SJS991000 | - | SJSA0V000 | SJSA0V010 | SJSA0V020 | SJS0AA730D | SJSA0B000 |

# LUMINUS

## Contact Information: Machined and Stamped & Formed

Now with Quadrax & Fiber Optic (M29504) capability

| | |
|---|---|
| Shipping Format | Loose (Tape & reel not included) |
| Mating Cycles | 500 |
| Materials | Contact<br>Body: Copper Alloy |
| | Hood<br>Stainless Steel |
| | Sleeve<br>Stainless Steel |

| | |
|---|---|
| Dimensions | AS39029 Compatible |
| Plating Options | Machined<br>Gold plate 50 micro-inches min over |
| | Stamped & Formed<br>Selective gold plate over engagement area 3-5 micro-inches thick over nickel under plate |

## Contact Matrix

| Contact Size | Contact Style | Available | | Contact P/N | | QPL Part No. (Machined Only) | Contact Retention | Crimp Tensile Strength |
|---|---|---|---|---|---|---|---|---|
| | | Push-Pull | Twist-Lock | Machined | Stamped & Formed | | | |
| 12 | Pin | Yes | Yes | CNP058365 | SCP058365 | M39029/58-365 | .012" [0,30mm] @ 30lbf [133N] | 100lbf [445N] |
| | Socket | No | Yes | CNS057359 | SCS057359 | M39029/57-359 | | |
| | Socket-L | Yes | No | CNS056353 | n/a | M39029/56-353 | | |
| 16 | Pin | Yes | Yes | CNP058364 | SCP058364 | M39029/58-364 | .012" [0,30mm] @ 25lbf [111N] | 40lbf [180N] |
| | Socket | No | Yes | CNS057358 | SCS057358 | M39029/57-358 | | |
| | Socket-L | Yes | No | CNS056352 | n/a | M39029/56-352 | | |
| 20 | Pin | Yes | Yes | CNP058363 | SCP058363 | M39029/58-363 | .012" [0,30mm] @ 20lbf [90N] | 20lbf [90N] |
| | Socket | No | Yes | CNS057357 | SCS057357 | M39029/57-357 | | |
| | Socket-L | Yes | No | CNS056351 | n/a | M39029/56-351 | | |
| 22D | Pin | No | Yes | CNP058360 | n/a | M39029/58-360 | .012" [0,30mm] @ 10lbf [44N] | 10 lbf [45N] |
| | Socket | No | Yes | CNS057354 | n/a | M39029/57-354 | | |

| Contact Size | Wire Accommodations | | | | Tool Information | | |
|---|---|---|---|---|---|---|---|
| | Size (AWG) | Max Current Rating (A) | ØD Range | Strip Length | Basic Tool | Positioner | Insertion/Removal Tool |
| 12 | 12 | 23 | .097 - .142" [2,46 - 3,61mm] | .209 - .240" [5,31 - 6,10mm] | M22520/1-01 | M22520/1-04 (Yellow) | M81969/14-04 |
| | 14 | 17 | | | | | |
| 16 | 16 | 13 | .065 - .109" [1,65 - 2,77mm] | .209 - .240" [5,31 - 6,10mm] | M22520/1-01<br>M22520/7-01 | M22520/1-04 (Blue)<br>M22520/7-04 | M81969/14-03 |
| | 18 | 10 | | | | | |
| | 20 | 7.5 | | | | | |
| 20 | 20 | 7.5 | .040 - .083" [1,02 - 2,11mm] | .209 - .240" [5,31 - 6,10mm] | M22520/1-01<br>M22520/2-01<br>M22520/7-01 | M22520/1-04 (Red)<br>M22520/2-10<br>M22520/7-08 | M81969/14-11 |
| | 22 | 5 | | | | | |
| | 24 | 3 | | | | | |
| 22D | 22 | 5 | .030 - .054" [0,76 - 1,37mm] | .141 - .172" [3,58 - 4,37mm] | M22520/2-01<br>M22520/7-01 | M22520/2-06<br>M22520/7-06 | M81969/14-01 |
| | 24 | 3 | | | | | |
| | 26 | 2 | | | | | |
| | 28 | 1.5 | | | | | |

# AMPHENOL PCD PRODUCTS

BACKSHELLS

CABLE SOLUTIONS

CIRCULAR

GROUND BLOCKS

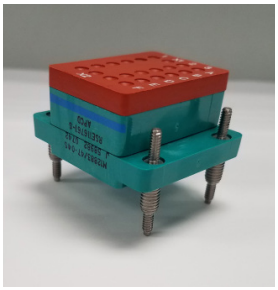
JUNCTION MODULES

LUMINUS

MILITARY AUDIO/POWER

PEGASUS SERIES

RECTANGULAR



RELAY SOCKETS

RUGGED SOLUTIONS

SIM

SOLARIS

SYSTEM ATTACHMENTS

**Amphenol Pcd**

www.amphenolpcd.com