



Positronic Industries  
connectpositronic.com



UNIQUE FEATURES

Combo-D  
D-Sub

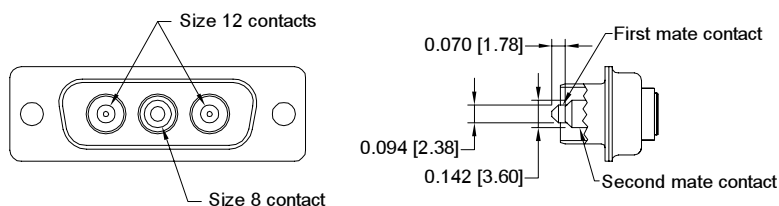


Positronic Industries is **known** around the world **for offering** our customers **flexibility** when choosing connectors.

In addition to allowing **customers** to **create** part numbers for **particular applications**, Positronic offers a **wide variety** of features and accessories within our products.

Positronic is also **eager** to modify existing products **to meet unique customer requirements**. If you do not find what you need with this catalog, please contact us, we will be **happy to assist** you.

## SEQUENTIAL MATING CONTACTS



**Note:** A third level can be accomplished with signal contacts where applicable.

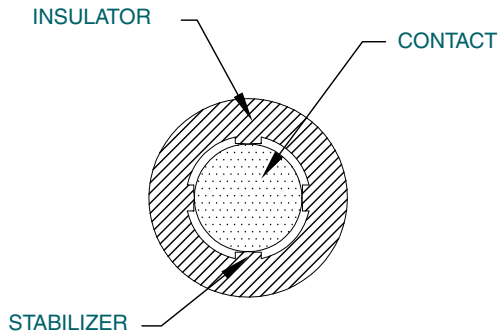
### Three levels of sequential mating are possible:

- First mate accomplished by a size 12 power contact. Male contact diameter is 0.094 inch.
- Second mate accomplished by a size 8 power contact. Male contact diameter is 0.142 inch.
- Third mate accomplished by size 20 signal contacts, as applicable.

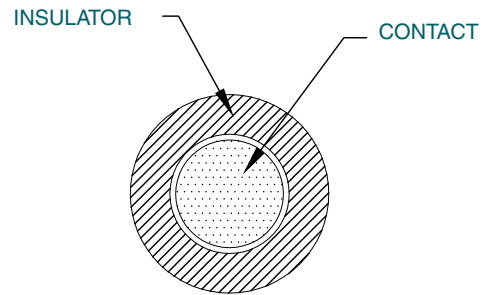
**CONTACT TECHNICAL SALES FOR MORE INFORMATION!**



**SIZE 8 CONTACT STABILIZATION FEATURE**  
MINIMIZES FLOAT IN SIZE 8 CONTACT POSITIONS



**WITH STABILIZER**

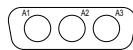


**WITHOUT STABILIZER**

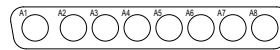
CBD size 8 male contacts are removed toward the rear after utilizing front release tooling. Space must be provided between the contact and the connector molding so the tooling can slide over the mating portion of the contact. This fact allows the contact to float.

In some applications this float creates problems in alignment during mating. Many male contact CBD variants offer an integral stabilizing feature to minimize problems created by float in size 8 contacts. An alternate tool is used to remove the contact if necessary. Tool number is 4311-0-1-0.

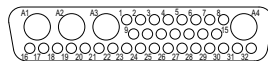
**The stabilization feature is currently available for the following male contact variants:**



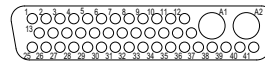
**CBD/CBM3W3M**



**CBD/CBM8W8M**



**CBC36W4M**



**CBC43W2M**

Add MOS -1570.4 to end of part number. Example: CBD3W3M00000-1570.4



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## UNIQUE FEATURES

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### COMBO-D CONNECTORS WITH \*1 100 AMP HIGH CURRENT REMOVABLE CRIMP POWER CONTACT



HIGH CONDUCTIVITY SIZE 8 CONTACTS WHICH CAN BE TERMINATED TO 6 AWG WIRE ALLOW VERY HIGH CURRENTS TO BE CARRIED THROUGH COMBO-D TYPE CONNECTORS.

## TECHNICAL CHARACTERISTICS

### MATERIALS AND FINISHES:

**Contacts:** High conductivity copper alloy.  
**Plating:**  
**STANDARD FINISH:** Gold flash over nickel plate.  
**OPTIONAL FINISHES:** 0.000030 [0.76  $\mu$ ] gold over nickel by adding "-14" suffix onto part number. Example: FC4006D-14  
0.000050 inch [1.27 $\mu$ ] gold over nickel by adding "-15" suffix onto part number. Example: MC4006D-14

### CLIMATIC CHARACTERISTICS:

**Temperature Range:** -55°C to +125°C.

\*1 per UL 1977 Testing

### ELECTRICAL CHARACTERISTICS:

#### POWER CONTACTS

**Contact Current Rating:** See Temperature Rise Curve on page 64.  
**Initial Contact Resistance:** 0.0003 ohms max. per IEC 512-2, Test 2b.  
**Proof Voltage:** 1900 V r.m.s.  
**Working Voltage:** 450 V r.m.s.

### MECHANICAL CHARACTERISTICS:

**Size 8 Removable Contacts:** Rear insertion, front release.  
**Durability:** 500 cycles minimum.  
**Vibration:** 20g from 10 Hz to 500 Hz.  
**Shock:** 30g-11ms.

## 100 AMP HIGH CURRENT REMOVABLE CRIMP POWER CONTACT

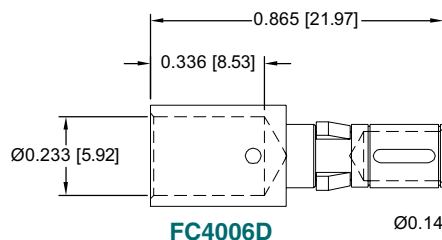
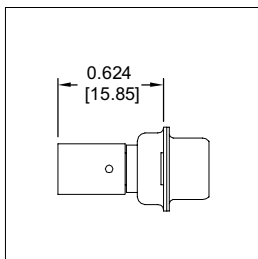
CONTACTS USED WITH 6 AWG WIRE  
6 AWG [16.0mm<sup>2</sup>] max.

\*1 CONTACTS ORDERED SEPARATELY  
SIZE 8

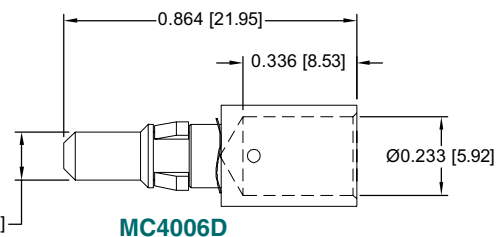
\*1 Note: Connectors can be kitted with all applicable crimp on contacts, contact Technical Sales for connector part number.

### \*2 FEMALE CONTACT

"CLOSED ENTRY" DESIGN, L.S.A.



### MALE CONTACT



\*2 NOTE: Female contacts feature Large Surface Area (L.S.A.) closed entry contact design which provides maximum mating surfaces between male and female contact and reduced contact resistance during operation.

**MATERIAL:** High conductivity copper alloy.

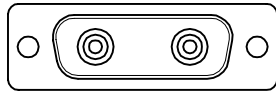
### PLATING:

**STANDARD FINISH:** Gold flash over nickel plate.  
**OPTIONAL FINISHES:** 0.000030 [0.76  $\mu$ ] gold over nickel by adding "-14" suffix onto part number. Example: FC4006D-14  
0.000050 inch [1.27 $\mu$ ] gold over nickel by adding "-15" suffix onto part number. Example: MC4006D-15.

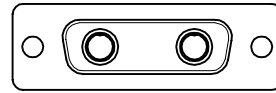


**SELECTIVELY LOADED COMBO-D CONNECTORS FOR USE WITH 100 AMP\* HIGH CURRENT REMOVABLE CRIMP POWER CONTACT**

**COMBO-D CONNECTORS WITH TWO CONTACT POSITIONS**

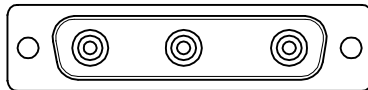


**CBD3W3M00000-1841.0**

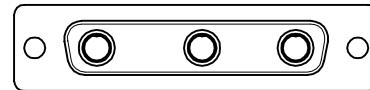


**CBD3W3F00000-1841.0**

**COMBO-D CONNECTORS WITH THREE CONTACT POSITIONS**

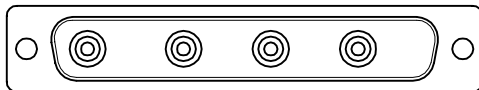


**CBD5W5M00000-1841.1**

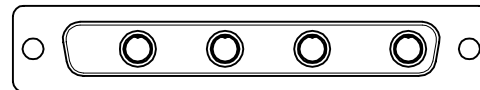


**CBD5W5F00000-1841.1**

**COMBO-D CONNECTORS WITH FOUR CONTACT POSITIONS**

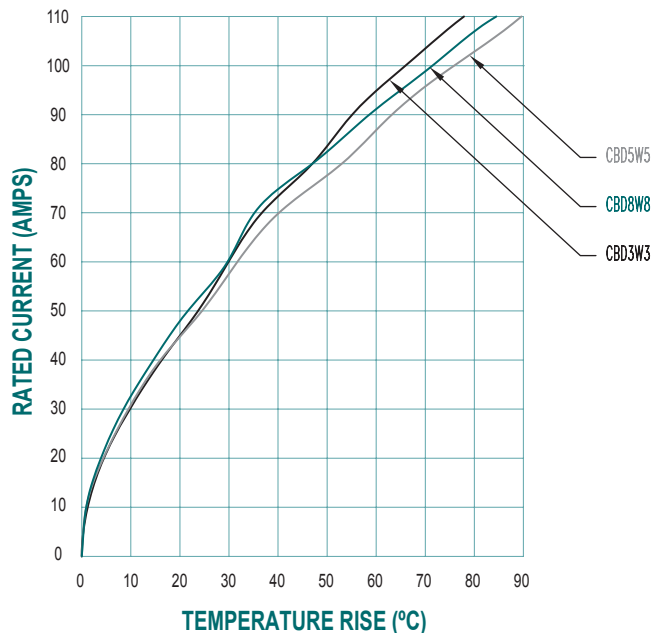


**CBD8W8M00000-1841.2**



**CBD8W8F00000-1841.2**

**TEMPERATURE RISE CURVE**



**Test conducted in accordance with UL1977.  
All power contacts under load.**

Curves were developed using CBD3W3, 5W5, and 8W8 connectors with MC/FC4006D contacts terminated with 6 AWG wire.



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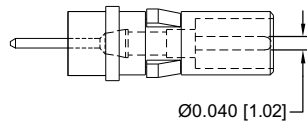
UNIQUE FEATURES

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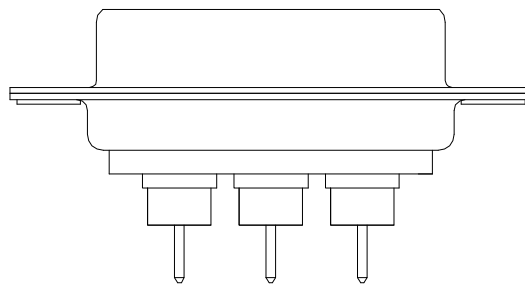
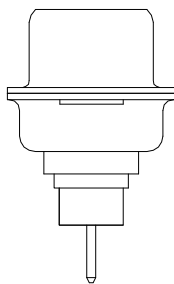
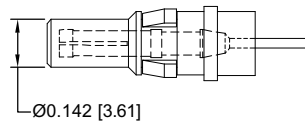
## STRAIGHT PRINTED BOARD MOUNT HIGH VOLTAGE CONTACT SIZE 8

**\*\*NOTE:** Female contacts feature Large Surface Area (L.S.A.) closed entry contact design which provides maximum mating surfaces between male and female contact and reduced contact resistance during operation.

**\*\* FEMALE CONTACT**  
"CLOSED ENTRY" DESIGN, L.S.A.



**MALE CONTACT**

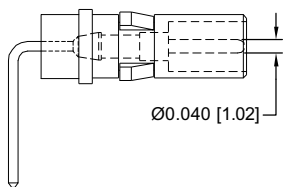


**CONTACT TECHNICAL SALES FOR MORE INFORMATION!**

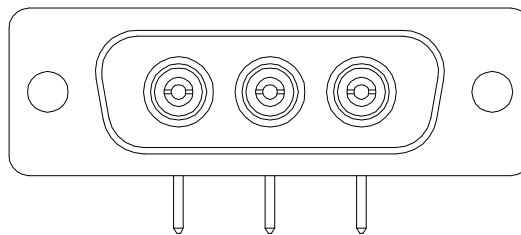
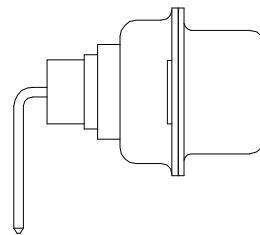
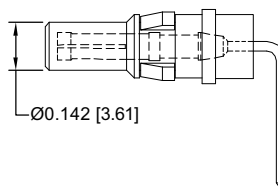
## RIGHT ANGLE (90°) PRINTED BOARD MOUNT HIGH VOLTAGE CONTACT SIZE 8

**\*\*NOTE:** Female contacts feature Large Surface Area (L.S.A.) closed entry contact design which provides maximum mating surfaces between male and female contact and reduced contact resistance during operation.

**\*\* FEMALE CONTACT**  
"CLOSED ENTRY" DESIGN, L.S.A.



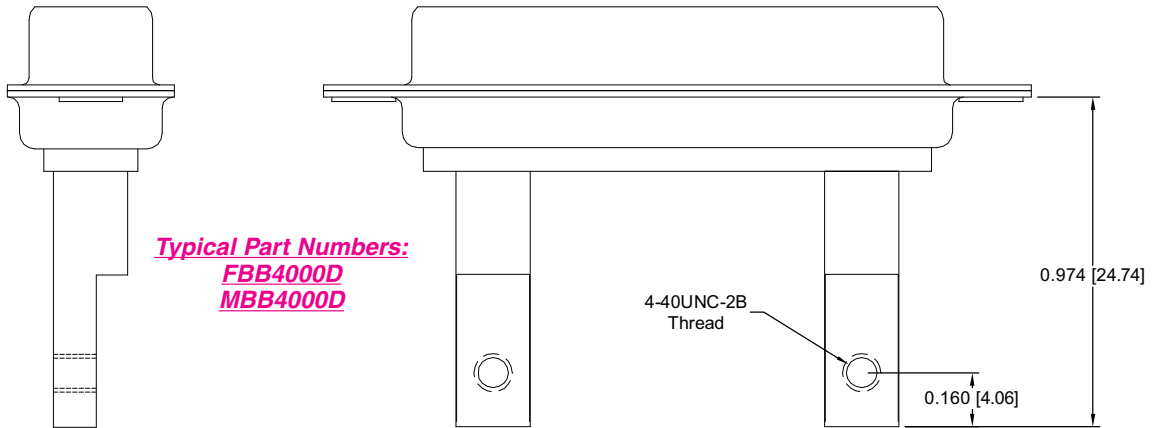
**MALE CONTACT**



**CONTACT TECHNICAL SALES FOR MORE INFORMATION!**



### BUS BAR CONTACT SIZE 8 POWER CONTACT

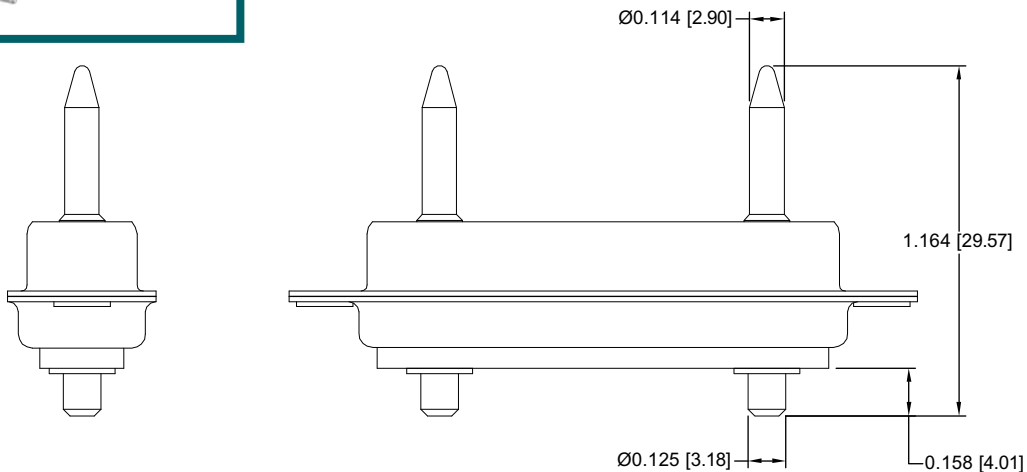


Power contacts can be offered with terminations suitable for use with bus bars.

**CONTACT TECHNICAL SALES FOR MORE INFORMATION!**



### INTEGRAL BLIND MATE GUIDE SIZE 8



**CONTACT TECHNICAL SALES FOR MORE INFORMATION!**



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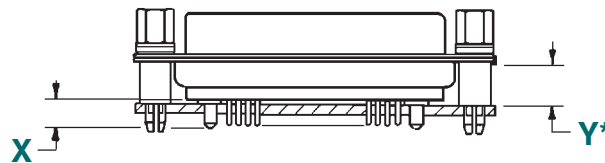
UNIQUE FEATURES

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## CUSTOMER SPECIFIED CONTACT TERMINATION LENGTH

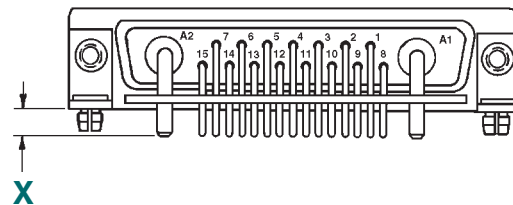
Positronic can supply CB series connectors with customer specified termination lengths. We have a wide variety of options available.

### STRAIGHT PRINTED BOARD MOUNT



\*Note: PCB spacer height can be adjusted according to contact termination length

### RIGHT ANGLE (90°) PRINTED BOARD MOUNT



X and Y contact termination lengths can be custom designed to fit your application requirements.

CONTACT TECHNICAL SALES FOR MORE INFORMATION!

# Connectors Designed To Customer Specifications

*Positronic Combo-D connectors can be modified to customers specifications.*

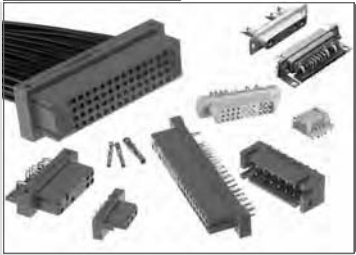
**Examples:** select loading of contacts for cost savings or to gain creepage and clearance distances; longer PCB terminations; customer specified hardware; sealing for water resistance.

***Contact Technical Sales with your particular requirements.***

## POSITRONIC PRODUCTS

Power

**Contact Sizes:** 0, 8, 12, 16, 20 and 22  
**Current Ratings:** To 100 amperes  
**Terminations:** Crimp, wire solder, straight solder, right angle (90°) solder, straight press-fit and right angle (90°) press-fit  
**Configurations:** Multiple variants in a variety of package sizes  
**Compliance:** PICMG 2.11, PICMG 3.0, VITA 41



**FEATURES:** Hot swap capability • AC/DC operation in a single connector • Signal contacts for hardware management • Blind mating • Sequential mating • Large surface area contact mating system • Wide variety of accessories • Customer specified contact arrangements

D-subminiature

**Contact Sizes:** 8, 16, 20 and 22  
**Current Ratings:** To 40 amperes nominal  
**Terminations:** Crimp, wire solder, straight solder, right angle (90°) solder and straight press-fit  
**Configurations:** Multiple variants in both standard and high densities  
**Qualifications:** MIL-DTL-24308, Goddard Space Flight S-311-P, SAE AS 39029, IP65, IP67



**FEATURES:** Four performance levels available: professional, industrial, military and space-flight quality for best cost/performance ratio • Options include thermocouple contacts, air coupling, environmentally sealed and dual port package including mixed density • Broad selection of accessories

Rectangular

**Contact Sizes:** 16, 20 and 22  
**Current Ratings:** To 13 amperes  
**Terminations:** Crimp, wire solder, straight solder and right angle (90°) solder  
**Configurations:** Multiple variants in both standard and high densities  
**Qualifications:** MIL-DTL-28748, SAE AS 39029, CCITT V.35



**FEATURES:** Two performance levels available: industrial quality and military quality provide two performance to cost choices • Large surface area contact mating system • A wide variety of accessories • Broad selection of contact variants and package sizes

Circular

**Contact Sizes:** 12, 16, 20 and 22  
**Current Ratings:** To 25 amperes nominal  
**Terminations:** Crimp, wire solder, straight solder and right angle (90°) solder  
**Configurations:** Multiple variants  
**Qualifications:** Environmental protection to IP67



**FEATURES:** Non-corrodible / lightweight composite construction • EMI/RFI shielded versions • Thermocouple contacts • Environmentally sealed versions • Rear insertion/front release of removable contacts • Two level sequential mating • Overmolding available on full assemblies

Cable

All Positronic connector products can be supplied as part of cable assemblies whose technical characteristics would reflect those of the connectors being used within the assembly.



**FEATURES:** Shorten the supply chain and reduce additional costs and delays by "cablizing" • Overmolding available • Shielded and environmentally sealed versions available • Power cables and access boxes which meet the SAE J2496 specification

Hermetic

**Contact Sizes:** 8, 12, 16, 20 and 22  
**Current Ratings:** To 40 amperes nominal  
**Terminations:** Feedthrough is standard; flying leads and board mount available upon request  
**Configurations:** See D-subminiature and circular configurations above  
**Qualifications:** Space-D32



**FEATURES:** Intended for use as an electrical feedthrough in high vacuum applications • Leakage rate:  $5 \times 10^{-9}$  mbar.l/s @ vacuum  $1.5 \times 10^{-5}$  atm • Signal, power, coax and high voltage versions available • Connectors can be mounted on flange assembly per customer specification

## **NORTH AMERICAN LOCATIONS**

### **UNITED STATES, Springfield, Missouri, Corporate Headquarters**

Factory Sales and Engineering Offices (800) 641-4054

### **PUERTO RICO, Ponce Factory**

Factory Sales and Engineering Offices (800) 641-4054

### **MEXICO**

Factory Sales and Engineering Offices (800) 872-7674

### **CANADA**

Factory Sales and Engineering Offices (800) 327-8272

## **ASIA/PACIFIC LOCATIONS**

### **SINGAPORE, Asia/Pacific Headquarters**

Factory Sales and Engineering Offices (65) 6842 1419 [singapore@connectpositronic.com](mailto:singapore@connectpositronic.com)

### **ASIA, Direct Sales Offices**

China -Shenzhen Sales Office (86) 755 2643 7578 [shenzhen@connectpositronic.com](mailto:shenzhen@connectpositronic.com)

China -Shanghai Sales Office (86) 158 2907 9779 [shanghai@connectpositronic.com](mailto:shanghai@connectpositronic.com)

China -Xian/Beijing Sales Office (86) 29 8839 5306 [xian@connectpositronic.com](mailto:xian@connectpositronic.com)

Korea Sales Office (82) 31 909 8047 or 8 [korea@connectpositronic.com](mailto:korea@connectpositronic.com)

Taiwan Sales Office (88) 62 2937 8775 [taiwan@connectpositronic.com](mailto:taiwan@connectpositronic.com)

### **JAPAN, Direct Sales Offices**

Sales and Engineering Offices (81) 3 5812 7720 [japan@connectpositronic.com](mailto:japan@connectpositronic.com)

### **INDIA, Direct Sales Offices**

Factory Sales and Engineering Offices (91) 20 2439 4810 [india@connectpositronic.com](mailto:india@connectpositronic.com)

Bangalore Sales Office [bangalore@connectpositronic.com](mailto:bangalore@connectpositronic.com)

New Delhi Sales Office [delhi@connectpositronic.com](mailto:delhi@connectpositronic.com)

### **ASIA/PACIFIC, Technical Agents**

Technical Agents in Malaysia, Australia, New Zealand, Philippines, Hong Kong, Vietnam, Thailand

## **EUROPEAN LOCATIONS**

### **FRANCE, Auch Factory, European Headquarters**

Factory Sales and Engineering Offices 33 5 62 63 44 91 [contact@connectpositronic.com](mailto:contact@connectpositronic.com)

### **EUROPE, Direct Sales Offices**

Northern France Sales Office 33 1 45 88 13 88 [jchalaux@connectpositronic.com](mailto:jchalaux@connectpositronic.com)

Southern France Sales Office 33 5 62 63 44 91 [plafon@connectpositronic.com](mailto:plafon@connectpositronic.com)

Italy Sales Office 39 02 54 1161 06 [rmagni@connectpositronic.com](mailto:rmagni@connectpositronic.com)

Germany Sales Office 49 2351 63 47 39 [cbouche@connectpositronic.com](mailto:cbouche@connectpositronic.com)

UK Sales Office 44 1993 831 939 [lbridwell@connectpositronic.com](mailto:lbridwell@connectpositronic.com)

### **EUROPE, Technical Agents**

Technical Agents in Austria, Benelux, Eastern Europe Countries, Greece, Ireland, Scandinavia, Spain, Switzerland and the United Kingdom

### **MIDEAST, Technical Agents**

Technical Agents in Israel and Turkey



# **POSITRONIC™**

GLOBAL *Connector* SOLUTIONS

### **POSITRONIC INDUSTRIES, INC.**

423 N Campbell Avenue • PO Box 8247 • Springfield, MO 65801  
Tel (417) 866-2322 • Fax (417) 866-4115 • Toll Free (800) 641-4054  
[info@connectpositronic.com](mailto:info@connectpositronic.com)

### **POSITRONIC INDUSTRIES, S.A.S.**

Zone Industrielle d'Engachies • 46 Route d'Engachies  
France 32020 Auch Cedex 9  
Telephone 33 5 62 63 44 91 • Fax 33 5 62 63 51 17  
[contact@connectpositronic.com](mailto:contact@connectpositronic.com)

### **POSITRONIC ASIA PTE LTD.**

3014A Ubi Road 1 #07-01 • Singapore 408703  
Telephone (65) 6842 1419 • Fax (65) 6842 1421  
[singapore@connectpositronic.com](mailto:singapore@connectpositronic.com)

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