



Positronic Industries  
connectpositronic.com

## MicroTCA POWER INPUT CONNECTORS

Combo-D  
D-Sub

Size 20  
Signal Contacts

Size 8  
Power Contacts

Compliant to MTCA.0 R1.0 for  
48 volt and 24 volt systems and  
MTCA.1 R1.0 for 12 volt systems



Positronic Industries is known throughout the PCI Industrial Computer Manufacturers Group (PICMG) community as a value supplier of AdvancedTCA Zone 1 and Compact PCI power connectors, as well as a wide variety of other power distribution interconnects.

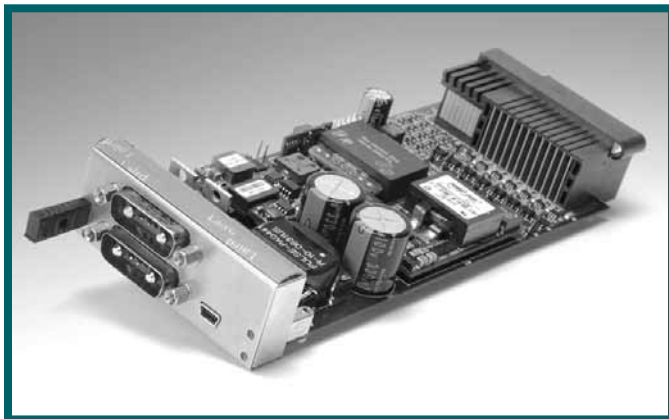
Positronic has been privileged to participate in PICMG specification work, including MicroTCA. Positronic is a proud supplier of power input connectors for use in MicroTCA power modules.

QB series offers board mount connectors for power modules, and cable connectors for bringing power to modules. QB series meet requirements of the MicroTCA Specification for 48V, 24V **and 12V** systems.

To learn more about PICMG or to get specifications, visit [www.picmg.org](http://www.picmg.org).

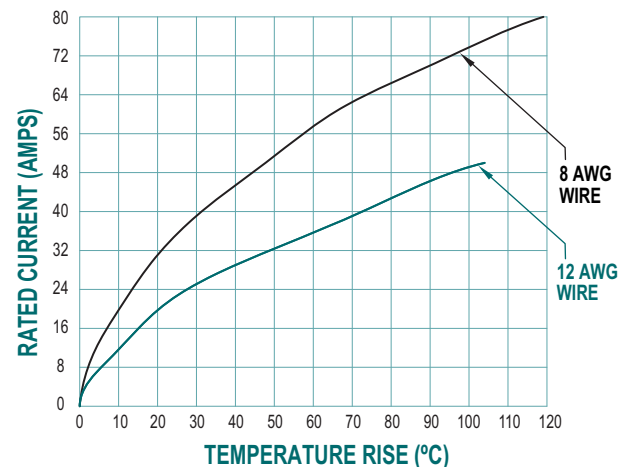


For RoHS options  
see page 55-56.



MTCA power module shown above is compliments of  
Actel Corp. ([www.actel.com](http://www.actel.com)) and Signal Stream  
Technologies, LLC. ([www.signalstreamtechnologies.com](http://www.signalstreamtechnologies.com)).

### TEMPERATURE RISE CURVE 7W2 VARIANT



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

**8 AWG:** Curve developed using QB7W2MR7T2/7W2MR7T20 and QB7W2S00000 connectors with FC4008D-1817.0 contacts terminated to 8 AWG wire.

**12 AWG:** Curve developed using QB7W2MR7T2/7W2MR7T20 and QB7W2S00000 connectors with FC4012D-1817.0 contacts terminated to 12 AWG wire.

## TECHNICAL CHARACTERISTICS

### MATERIALS AND FINISHES:

<b>Insulator:</b>	Glass filled polyester per MIL-M-24519 UL 94V-0, blue color.
<b>Contacts:</b>	Precision machined copper alloy.
<b>Contact Plating:</b>	
<b>Signal:</b>	Gold flash over nickel plate and 0.000050 [1.27μ] gold over nickel plate. Other finishes available upon request.
<b>Power:</b>	Gold flash over nickel. Other finishes available upon request.
<b>Shells:</b>	Steel or brass with tin plate; zinc plate with chromate seal; stainless steel pas- sivated. Other materials and finishes available upon request.
<b>Brackets:</b>	Copper alloy or steel with zinc plate and chromate seal or tin plate; phos- phor bronze with tin plate; stainless steel, passivated.
<b>Push-On Fasteners:</b>	Beryllium copper with tin plate.
<b>Jackscrew Systems:</b>	Brass or steel with zinc plate and chromate seal or clear zinc plate or tin plate; stainless steel, passivated.
<b>Hoods:</b>	Glass filled polyester, UL 94V-0, blue color.

### MECHANICAL CHARACTERISTICS:

<b>Signal Contacts, Fixed:</b>	Size 20 contacts, male - 0.040 inch [1.02mm] mating diameter. Female contacts are PosiBand closed entry design.
<b>Power Contacts, Fixed:</b>	Size 8 contacts, male - 0.142 inch [3.61mm] mating diameter. Female contacts are closed entry "Large Surface Area" design.
<b>Contact Retention in Insulator:</b>	Signal: 9 lbs [40N]. Power: 22 lbs [98N].
<b>Locking Systems:</b>	Jackscrews.
<b>Mechanical Operations:</b>	200 operations, minimum.

### ELECTRICAL CHARACTERISTICS:

#### SIZE 20 CONTACTS

<b>Contact Current Rating:</b>	7.5 amperes nominal.
<b>Initial Contact Resistance:</b>	0.008 ohms maximum.
<b>Proof Voltage:</b>	1000 V r.m.s.

#### SIZE 8 CONTACTS

##### POWER CONTACTS

**Contact Current Rating - Tested per U.L. 1977:**

<b>QB7W2 MTCA.0 48V:</b>	70 amperes nominal.
<i>See Temperature Rise Curve on page 49 for details.</i>	

<b>QBH9W4 MTCA.0 24V:</b>	85 amperes nominal.
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*Table 7-32 of MTCA.0 R1.0 - MicroTCA specification, requires each power contact in the 24V input connector to carry 49 amps minimum at a 30°C temperature rise prior to derating. The Positronic QB9W4 connector meets this requirement.*

<b>QBH5W5 / QBH15W4 MTCA.1 12V:</b>	75 amperes nominal.
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*MTCA.1 R1.0 specification requires each power contact in the 12V input connector to carry 50 amps minimum at a 30°C temperature rise prior to derating. The QBH5W5 and QBH15W4 connectors meet this requirement.*

<b>Initial Contact Resistance:</b>	0.0005 ohms max. per IEC 512-2, Test 2b.
------------------------------------	---------------------------------------------

<b>Proof Voltage:</b>	1000 V r.m.s.
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#### CONNECTOR

<b>Insulator Resistance:</b>	5 G ohms.
<b>Working Voltage:</b>	300 V r.m.s.

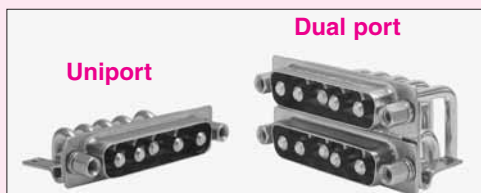
#### CLEARANCE AND CREEPAGE DISTANCE:

<b>Between Power Contacts:</b>	0.06 inch [1.5 mm], minimum
<b>Between Signal Contacts:</b>	0.02 inch [0.4 mm], minimum
<b>Between Power and Signal Contacts:</b>	0.06 inch [1.5 mm], minimum
<b>Between Power Contacts and Shelf GND:</b>	0.06 inch [1.5 mm], minimum
<b>Between Signal Contacts and Shelf GND:</b>	0.06 inch [1.5 mm], minimum

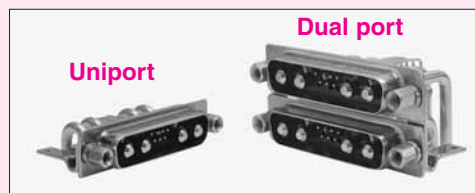
**NEW!**

## AIR COOLED RUGGEDIZED MicroTCA® SYSTEMS

12 VOLT INPUT POWER CONNECTORS PER MTCA.1, R1.0



**5W5**  
Five (5) Size 8 Contacts



**15W4**  
Four (4) Size 8 Contacts and  
Eleven (11) Size 22 Contacts

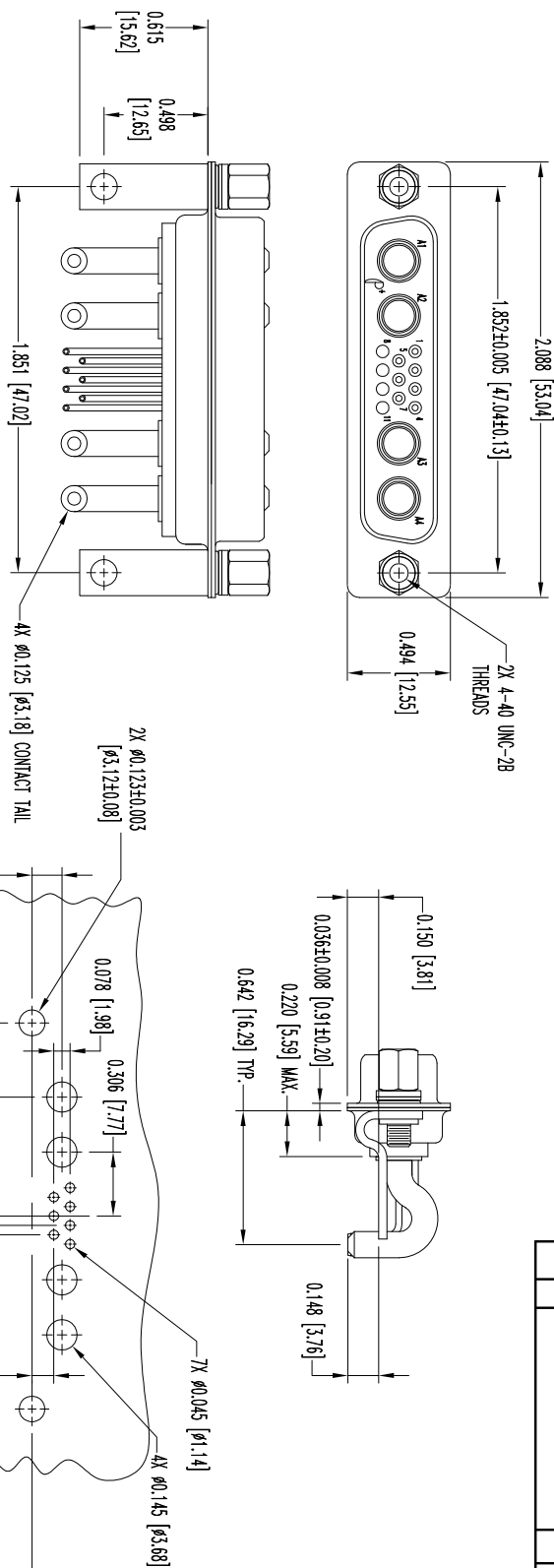
**REVIEW THE FOLLOWING FIVE PAGES!**

Contact Technical Sales for additional information.

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SK10923

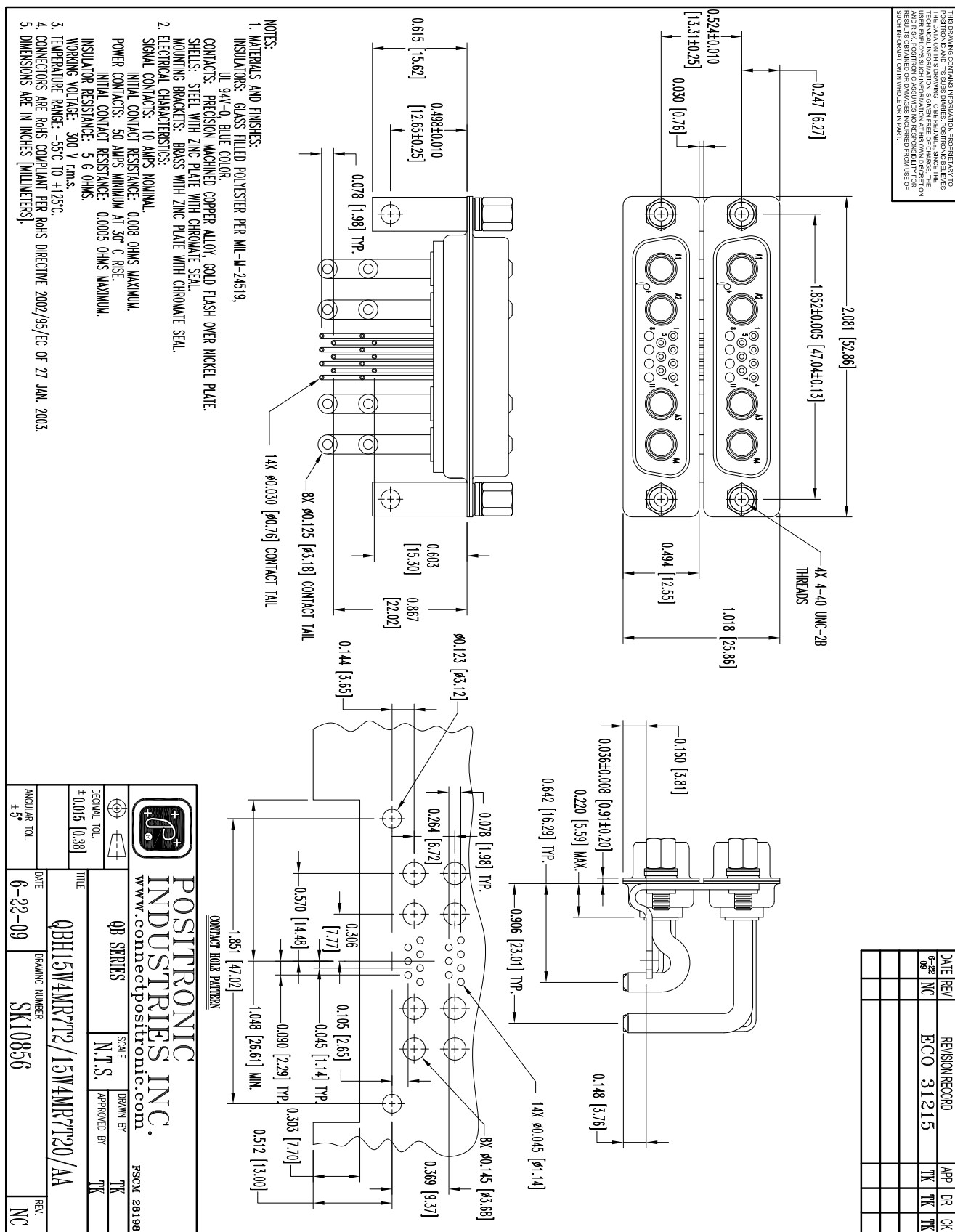
DATE/REV	REVISION RECORD	APP	DR	CK
7/09	NC	ECO	31320	RCW BS COLB



CONTACT HOLE PATTERN

- NOTES:
- MATERIALS AND FINISHES:**  
 INSULATOR: GLASS FILLED POLYESTER PER MIL-M-24519, UL 94V-0, COLOR: BLUE.  
 CONTACTS: COPPER ALLOY, GOLD FLASH OVER NICKEL PLATE.  
 SHELLS: STEEL, ZINC PLATE WITH CHROMATE SEAL.  
 MOUNTING BRACKETS: BRASS, ZINC PLATE WITH CHROMATE SEAL.  
 JACKSCREWS: STEEL, ZINC PLATE WITH CHROMATE SEAL.
  - ELECTRICAL CHARACTERISTICS:**  
 SIGNAL CONTACTS:  
 CONTACT CURRENT RATING: 10 AMPS NOMINAL.  
 INITIAL CONTACT RESISTANCE: 0.008 OHMS MAX.  
 POWER CONTACTS:  
 CONTACT CURRENT RATING: 50 AMPS MIN. AT 30°C RISE.  
 INITIAL CONTACT RESISTANCE: 0.0005 OHMS MAX.  
 INSULATOR RESISTANCE: 5 G OHMS.  
 WORKING VOLTAGE: 300 V r.m.s.  
 TEMPERATURE RANGE: -55°C TO +125°C
  - TEMPERATURE RANGE:** -55°C TO +125°C
  - CONNECTOR IS ROHS COMPLIANT PER ROHS DIRECTIVE 2002/95/EC OF 27 JAN 2003.**
  - DIMENSIONS ARE IN INCHES [MILLIMETERS]**

POSITRONIC INDUSTRIES INC.			
www.connectpositronic.com			
QD SERIES	SCALE	DRAWN BY	APPROVED BY
±0.015 [0.38]	N.T.S.	B. SHREVEY	R. WILLIAMS
DECIMAL TOL.			
ANGULAR TOL.			
DATE	DRAWING NUMBER	REV.	
7-16-09	SK10923	NC	

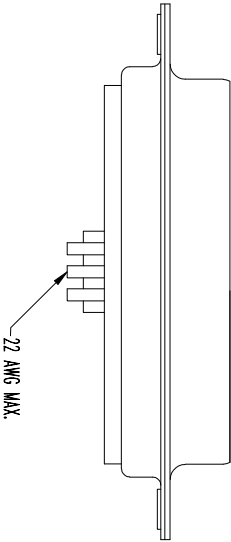
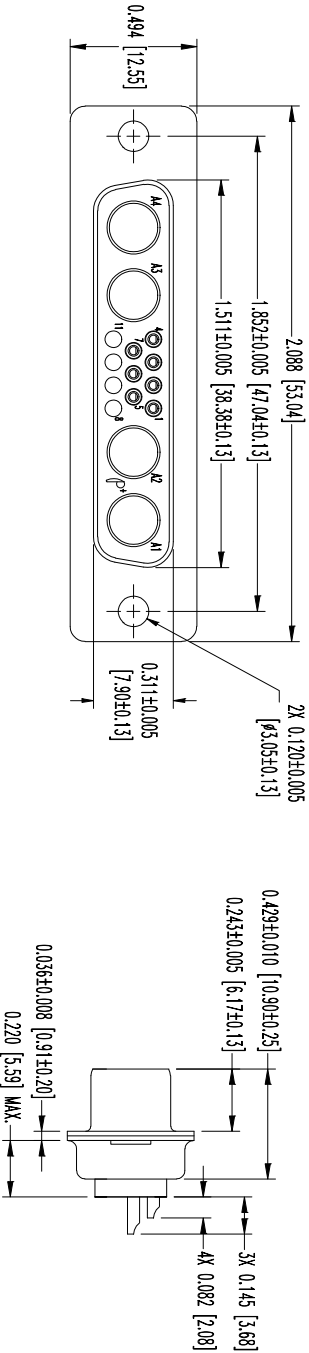




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DATE	REV	REVISION	RECORD	APP	DR	CHK
6-23-09	NC	ECO	31215	TK	TK	TK
6-23-09	A	ECO	31397	RCM	TK	TK

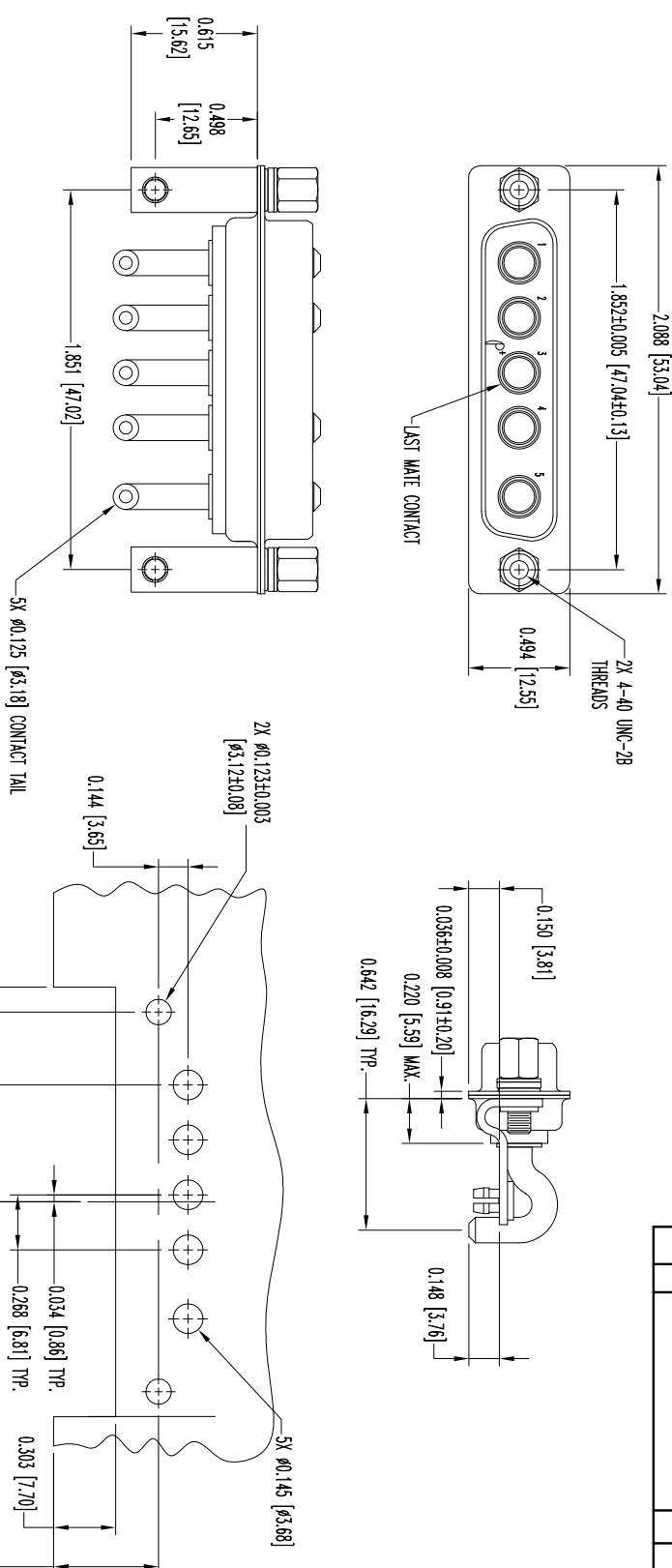
SK10857



- NOTES:
1. MATERIALS AND FINISHES:  
INSULATOR: GLASS FILLED POLYESTER PER MIL-W-24519, BLUE.  
CONTACTS: BRASS, GOLD FLASH OVER NICKEL PLATE.  
SHELS: STEEL, ZINC PLATED WITH DICHROMATE SEAL.
  2. ELECTRICAL CHARACTERISTICS:  
SIGNAL CONTACTS: CONTACT CURRENT RATING: 10 AMPERES NOMINAL.  
INITIAL CONTACT RESISTANCE: 0.008 OHMS MAXIMUM.
  3. CONNECTORS ARE RoHS COMPLIANT PER ROHS DIRECTIVE 2002/95/EC OF 27 JAN. 2003.
  4. DIMENSIONS ARE IN INCHES [MILLIMETERS].

		POSITRONIC INDUSTRIES INC.	
SPRINGFIELD, MISSOURI 65801			
DEQUAL TOL.	± 0.015 [0.38]	QB SERIES	N.T.S.
ANGULAR TOL.	± 3°	DATE	6-23-09
TITLE		DRAWING NUMBER	SK10857
QB15W4S210000/AA		REV.	NC








NOTES:

1. MATERIALS AND FINISHES:  
INSULATORS: GLASS FILLED POLYESTER PER MIL-W-24519, UL 94V-0, COLOR: BLUE.  
POWER CONTACTS: HIGH CONDUCTIVITY COPPER ALLOY, GOLD FLASH OVER NICKEL PLATING.  
SHELLS: STEEL, ZINC PLATE WITH CHROMATE SEAL.  
MOUNTING BRACKETS: BRASS, ZINC PLATE WITH CHROMATE SEAL.  
JACKSCREWS: STEEL, ZINC PLATE WITH CHROMATE SEAL.  
WASHERS: BRASS, ZINC PLATE WITH CHROMATE SEAL.  
RIVETS: BRASS, ZINC PLATE WITH CHROMATE SEAL.  
PUSH-FASTENERS: BERYLLIUM COPPER WITH TIN PLATE.
2. ELECTRICAL CHARACTERISTICS:  
POWER CONTACTS: 50 AMPS MIN AT 30°C RISE.  
INITIAL CONTACT RESISTANCE: 0.0005 OHMS MAX.  
INSULATOR RESISTANCE: 5 G OHMS.  
WORKING VOLTAGE: 300 V r.m.s.  
3. TEMPERATURE RANGE: -55°C TO +125°C  
4. CONNECTORS ARE ROHS COMPLIANT PER ROHS DIRECTIVE 2002/95/EC OF 27 JAN 2003.  
5. DIMENSIONS ARE IN INCHES [MILLIMETERS]

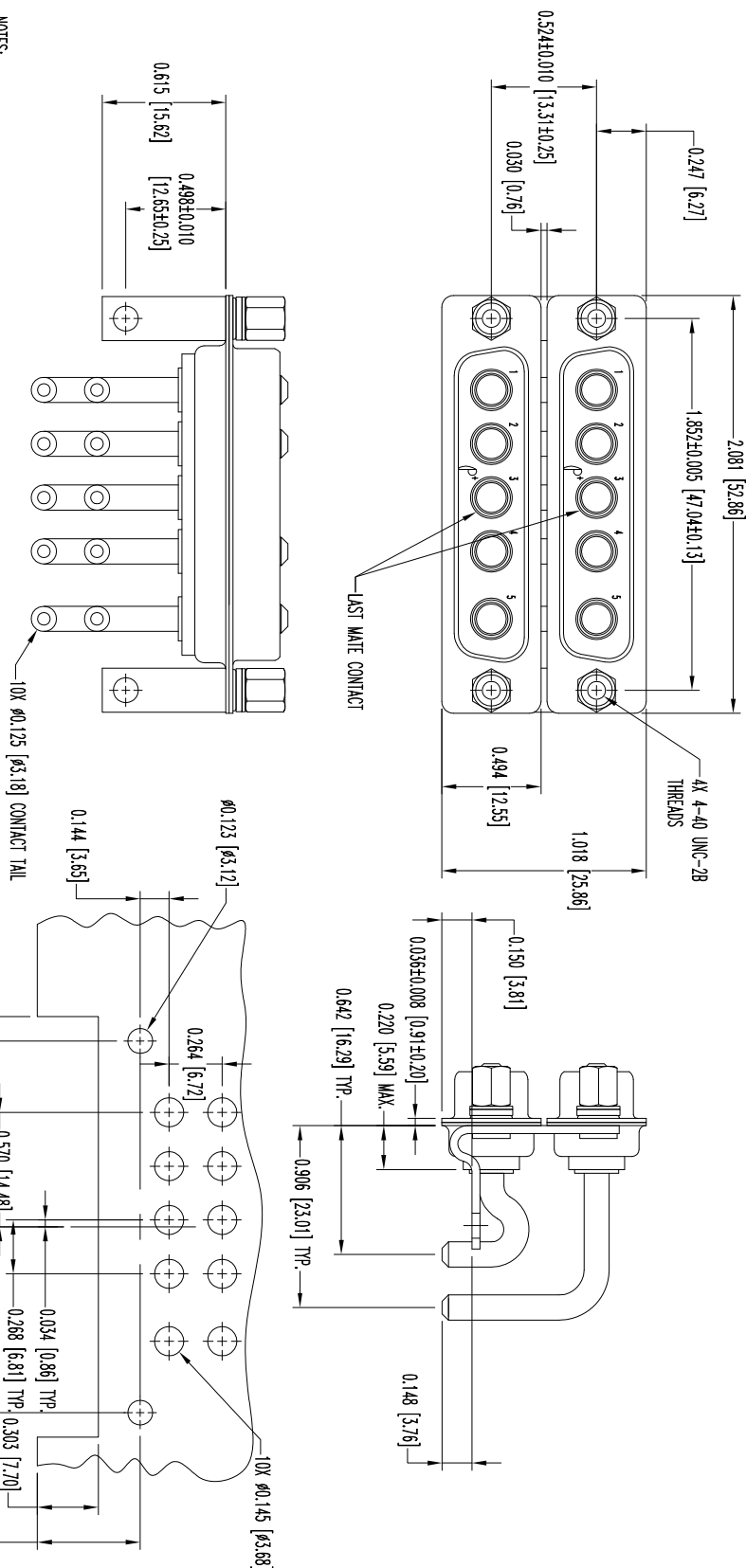
DATE	REV	REVISION RECORD	APP	DR	CK
4-9-09	NC	ECO 30914	RM	TK	TK
7-22-09	A	ECO 31338	TK	BS	TK

		<b>POSITRONIC</b> <b>INDUSTRIES INC.</b> <a href="http://www.connectpositronic.com">www.connectpositronic.com</a> PSC# 28198	
		<b>QB SERIES</b>	
DECIMAL TOL. $\pm 0.015$ [0.38]	SCALE N.T.S.		DRAWN BY T. NEELY
TITLE QBH5M5M67R7NT20/AA		APPROVED BY RCM	
ANGULAR TOL. $\pm 5^\circ$	DATE 4-9-09	DRAWING NUMBER SK10627	REL. A



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SK10526

DATE	REV	REVISION RECORD	APP	DR	CK
4-9-09	NC	ECO 30914	RCW	TK	TK
7-22-09	A	ECO 31338	TK	BS	TK



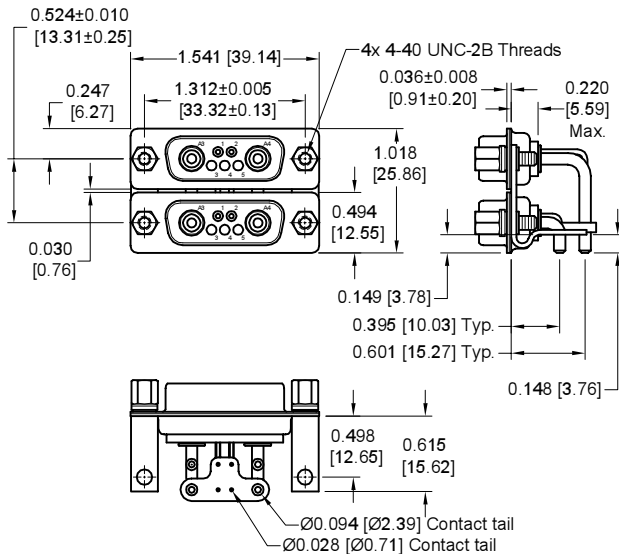
- NOTES:
1. MATERIALS AND FINISHES:  
INSULATORS: GLASS FILLED POLYESTER PER MIL-W-24719, UL 94V-0, COLOR: BLUE.  
CONTACTS: PRECISION MACHINED COPPER ALLOY, GOLD FLASH OVER NICKEL PLATE.  
SHELLS: STEEL, ZINC PLATE WITH CHROMATE SEAL.  
MOUNTING BRACKETS: BRASS, ZINC PLATE WITH CHROMATE SEAL.
  2. ELECTRICAL CHARACTERISTICS:  
POWER CONTACTS: 50 AMPS MIN AT 30°C RISE.  
INITIAL CONTACT RESISTANCE: 0.0005 OHMS MAX.  
INSULATOR RESISTANCE: 5 G OHMS.  
WORKING VOLTAGE: 300 V r.m.s.  
TEMPERATURE RANGE: -55°C TO +125°C.  
CONNECTORS ARE ROHS COMPLIANT PER ROHS DIRECTIVE 2002/95/EC OF 27 JAN 2003.  
DIMENSIONS ARE IN INCHES [MILLIMETERS].

		<b>POSITRONIC INDUSTRIES INC.</b> www.connectpositronic.com		PSC# 26108	
		<b>Q# SERIES</b>		<b>SCALE</b>	
DECIMAL TOL. $\pm$ 0.015 [0.38]		<b>T.T.S.</b>		<b>DRAWN BY</b>	
		<b>APPROVED BY</b>		<b>T. KAPLEY</b>	
		<b>RCM</b>			
<b>TITLE</b> QBH5M5MR7T2 / 5W5MR7T20 / AA					
<b>DATE</b>		<b>DRAWING NUMBER</b>			
4-9-09		SK10526			
<b>ASSEMBL. TOL.</b> $\pm$ .5		<b>REV.</b> A			



### RIGHT ANGLE (90°) PRINTED BOARD MOUNT CONNECTOR - 48 VOLT

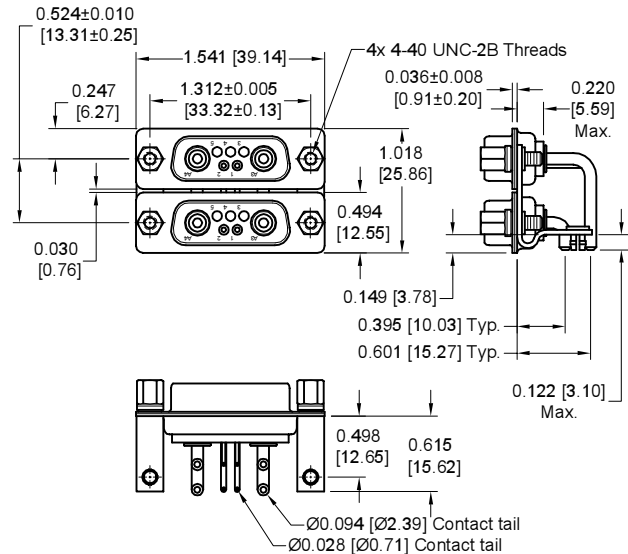
CONTACT POSITIONS A1 AND A2 ARE FIRST TO MATE. CONTACT POSITIONS 1 AND 2 ARE LAST TO MATE.



#### DUAL PORT

Typical part number:

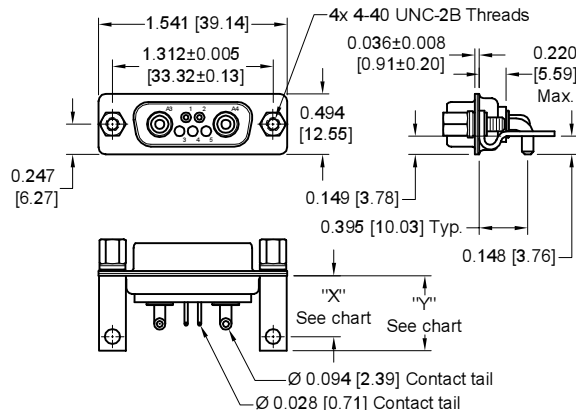
**QB7W2MR7T2/7W2MR7T20/AA**



#### INVERTED DUAL PORT

Typical part number:

**QB7W2MN7T2/7W2MN7T20/AA-1845.0**



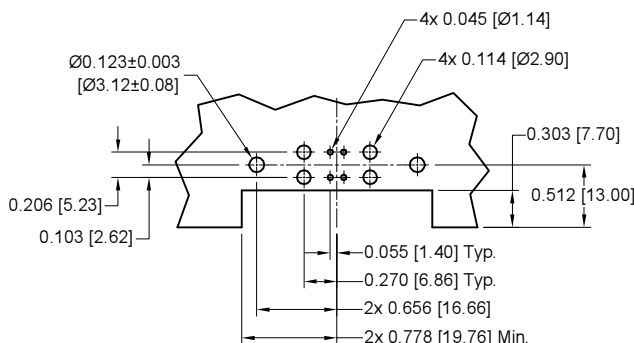
#### UNI PORT

The Dual Port and Uni Port connectors can also be supplied with standard D-subminiature mounting brackets, see page 53.

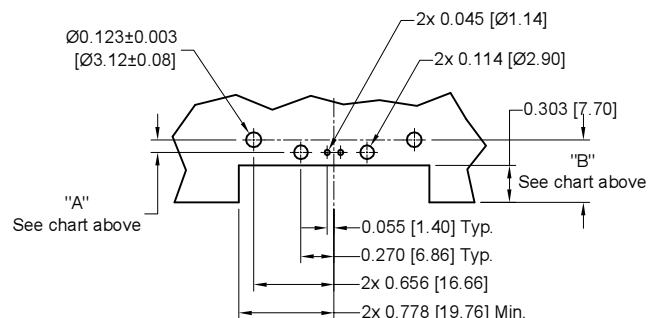
#### UNI PORT TYPICAL PART NUMBERS CODE 56

TYPICAL PART NUMBER	X	Y	A	B
QB7W2M56R70T20	0.498 [12.65]	0.615 [15.62]	0.103 [2.62]	0.512 [13.00]
QB7W2M56R70T20-1865.0	0.395 [10.03]	0.512 [13.00]	0.000 [0.00]	0.409 [10.39]

### RIGHT ANGLE (90°) PRINTED BOARD MOUNT CONTACT HOLE PATTERN - 48 VOLT



#### DUAL PORT



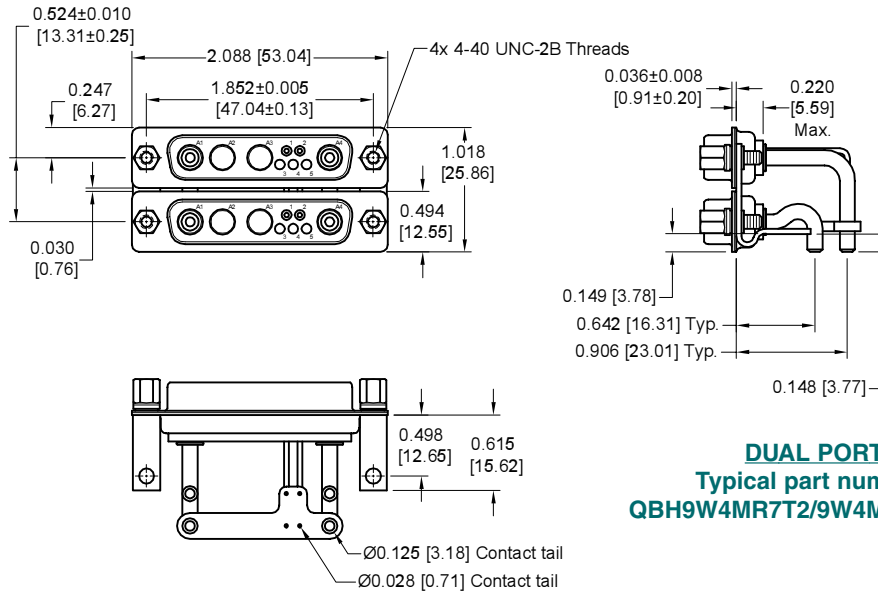
#### UNI PORT

DIMENSIONS ARE IN INCHES [MILLIMETERS].  
ALL DIMENSIONS ARE SUBJECT TO CHANGE.



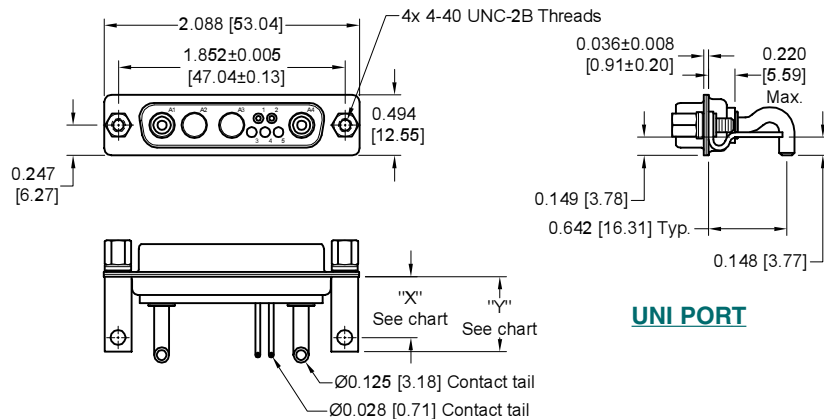
## RIGHT ANGLE (90°) PRINTED BOARD MOUNT CONNECTOR - 24 VOLT

CONTACT POSITIONS A1 AND A4 ARE FIRST TO MATE. CONTACT POSITIONS 1 AND 2 ARE LAST TO MATE.



### DUAL PORT

Typical part number:  
QBH9W4MR7T2/9W4MR7T20/AA



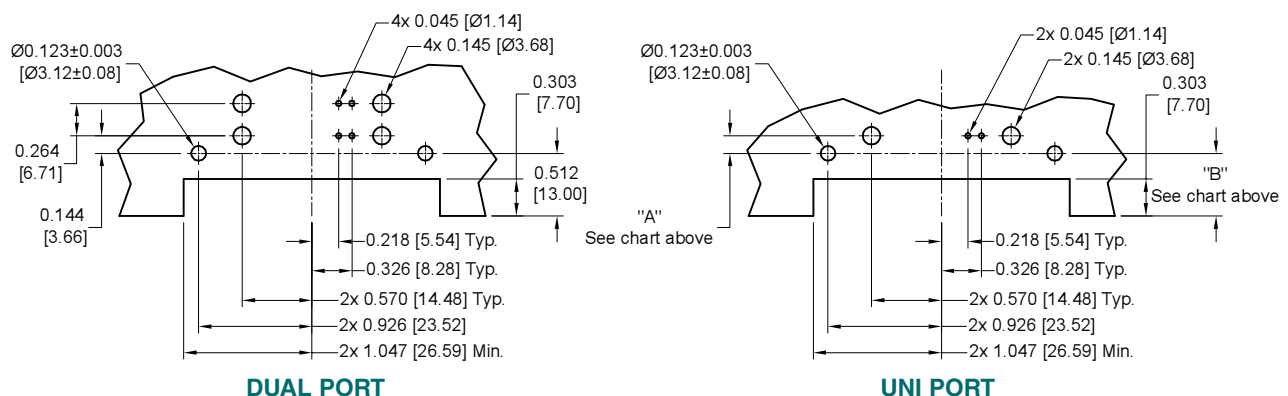
### UNI PORT

The Dual Port and Uni Port connectors can also be supplied with standard D-subminiature mounting brackets, see page 53.

### UNI PORT TYPICAL PART NUMBERS CODE 57

TYPICAL PART NUMBER	X	Y	A	B
QBH9W4M57R70T20/AA	0.498 [12.65]	0.615 [15.62]	0.144 [3.66]	0.512 [13.00]
QBH9W4M57R70T20/AA-1865.0	0.395 [10.03]	0.512 [13.00]	0.247 [6.27]	0.409 [10.39]

## RIGHT ANGLE (90°) PRINTED BOARD MOUNT CONTACT HOLE PATTERN - 24 VOLT



### DUAL PORT

### UNI PORT

DIMENSIONS ARE IN INCHES [MILLIMETERS].  
ALL DIMENSIONS ARE SUBJECT TO CHANGE.



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## MicroTCA POWER INPUT CONNECTORS

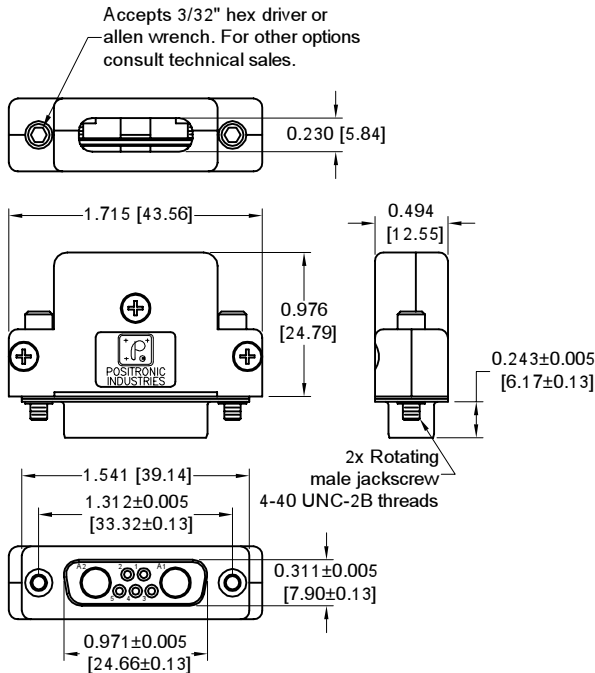
Combo-D  
D-Sub

### CABLE CONNECTOR

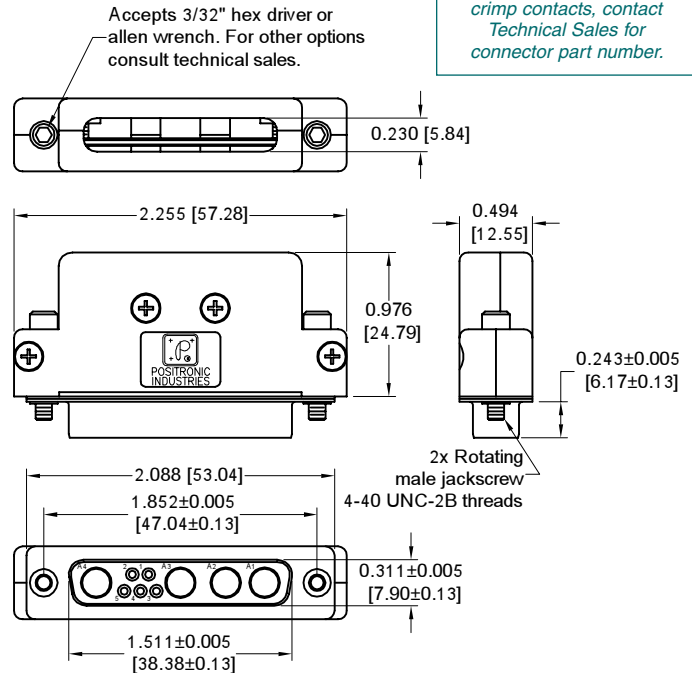
\*1 CONTACTS ARE NOT SUPPLIED IN CONNECTOR AND NEED TO BE ORDERED SEPARATELY  
SEE PAGES 54 FOR CONTACT PART NUMBERS

FEMALE CONTACTS ARE "TOUCH-SAFE" PER IEC 60950-1, FIGURE 2A.

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



Typical part number: QB7W2S00QH0/AA

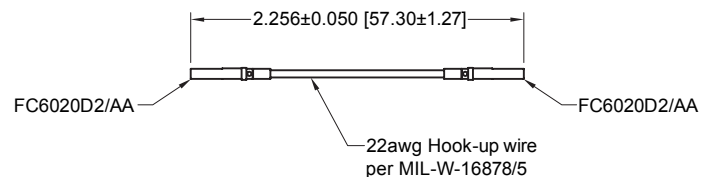


Typical part number: QB9W4S00QH0/AA

### ELECTRICAL BRIDGE

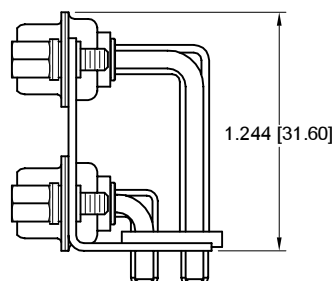
MicroTCA applications may require contact positions 1 and 2 be electrically bridged.

Order part number CC2805/AA-V01

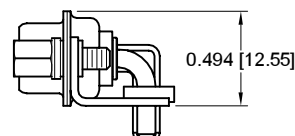


### STANDARD D-SUBMINIATURE MOUNTING BRACKET

OPTIONAL MOUNTING BRACKET FOR DUAL PORT AND UNI PORT CONNECTORS



For more information on Dual Port connectors, see CBDP series on page 43.



For more information on Uni Port connectors, see CBD series on page 3.

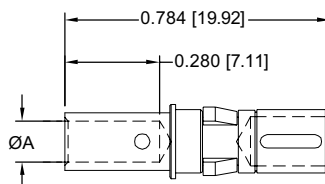
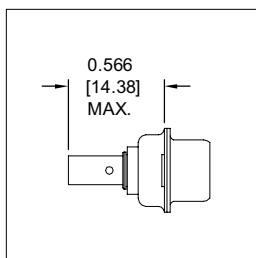
## REMOVABLE CRIMP POWER CONTACTS

### CODE 11 AND 12

\*1 CONTACTS ARE NOT SUPPLIED IN CONNECTOR AND NEED TO BE ORDERED SEPARATELY

#### \*1 FEMALE CONTACT

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



PART NUMBER	WIRE SIZE [AWG] mm <sup>2</sup>	ØA
FC4012D/AA-1817.0	12 [4.0]	0.101 [2.57]
FC4008D/AA-1817.0	8 [10.0]	0.181 [4.60]

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

**MATERIAL:** Copper alloy.

**PLATING:** (choose contact plating based on individual application requirements)

**STANDARD FINISH:** Gold flash over nickel plate.

**OPTIONAL FINISHES:** 0.000030 [0.76 µ] gold over nickel by adding "-14" suffix onto part number. Example: FC4012D/AA-14-1817.0.  
0.000050 inch [1.27µ] gold over nickel by adding "-15" suffix onto part number. Example: FC4008D/AA-15-1817.0

\*1 **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.

For crimping information and crimp tools, see Application Tools section, page 81-89.

## REMOVABLE CRIMP SIGNAL CONTACTS

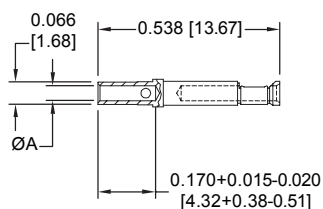
### CODE 0, 11 AND 12

\*1 CONTACTS ARE NOT SUPPLIED IN CONNECTOR AND NEED TO BE ORDERED SEPARATELY

#### CLOSED CRIMP BARREL

#### FEMALE CONTACT

"CLOSED ENTRY" DESIGN



PART NUMBER	WIRE SIZE AWG/[mm <sup>2</sup> ]	AØ
FC6020D2/AA	20 / 22 / 24 [0.5/0.3/0.25]	0.045 [1.14]

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

**MATERIAL:** Copper alloy.

**PLATING:** (choose contact plating based on individual application requirements)

**STANDARD FINISH:** Gold flash over nickel plate.

**OPTIONAL FINISHES:** 0.000030 [0.76 µ] gold over nickel by adding "-14" suffix onto part number. Example: FC6020D/AA-14.  
0.000050 inch [1.27µ] gold over nickel by adding "-15" suffix onto part number. Example: Example: FC6020D/AA-15.

For crimping information and crimp tools, see Application Tools section, page 81-89.



Positronic Industries  
connectpositronic.com

## MicroTCA POWER INPUT CONNECTORS

Combo-D  
D-Sub

### MALE ORDERING INFORMATION - CODE NUMBERING SYSTEMS

SPECIFY COMPLETE CONNECTOR BY SELECTING AN OPTION FROM STEP 1 THROUGH 9

### DUAL PORT CONNECTORS

STEP	1	2	3	4	5	6	7	8	9	10	
EXAMPLE	QB	7W2	M	R7T2	7W2	M	R7T2	0	/AA	-14	
<b>UPPER CONNECTOR</b>											
<b>STEP 1 - BASIC SERIES</b> QB Series (7W2 variant) QBH Series (5W5, 9W4 and 15W4 variant)											
<b>STEP 2 - CONNECTOR VARIANTS</b> 5W5, 7W2, 9W4, 15W4											
<b>STEP 3 - CONNECTOR GENDER</b> M - Male											
<b>STEP 4 - LOCKING, POLARIZING, MOUNTING AND PUSH-ON FASTENER SYSTEMS</b> 0 - None R6 - Bracket, Mounting, right angle (90°) Metal, Swaged to connector with 0.120 [3.05] Ø mounting hole with cross bar R7 - Bracket, Mounting, right angle (90°) Metal, Swaged to connector with 4-40 threads with cross bar R8 - Bracket, Mounting, right angle (90°) Metal, Swaged to connector with 4-40 locknut with cross bar N6 - Bracket, Mounting, right angle (90°) Metal, Swaged to connector with 0.120 [3.05] Ø mounting hole with cross bar and push-on fastener N7 - Bracket, Mounting, right angle (90°) Metal, Swaged to connector with 4-40 threads with cross bar and push-on fastener N8 - Bracket, Mounting, right angle (90°) Metal, Swaged to connector with 4-40 locknut with cross bar and push-on fastener T2 - Fixed Female Jackscrews											
					<b>LOWER CONNECTOR</b> OPTIONS ARE THE SAME AS FOR UPPER CONNECTOR STEPS 2, 3, AND 4						
<b>STEP 8 - SHELL OPTIONS</b> 0 - Zinc Plated, with Chromate Seal. *S - Stainless Steel, passivated. X - Tin Plated. Z - Tin Plated and Dimpled (male connectors only).											
<b>STEP 9 - ENVIRONMENTAL COMPLIANCE OPTIONS</b> /AA - Compliant per EU Directive 2002/95/EC (RoHS)											
<b>STEP 10 - SPECIAL OPTIONS</b> FOR SPECIAL OPTIONS, SEE SPECIAL OPTIONS APPENDIX ON PAGE 89.											

**NOTE:** \*1 For stainless steel dimpled male versions, contact Technical Sales.

For crimping information and crimp tools, see Application Tools section, pages 81-89.

### MALE ORDERING INFORMATION - CODE NUMBERING SYSTEMS

SPECIFY COMPLETE CONNECTOR BY SELECTING AN OPTION FROM STEP 1 THROUGH 9

### UNI PORT CONNECTORS

STEP	1	2	3	4	5	6	7	8	9	10
EXAMPLE	QB	7W2	M	56	R7	0	T2	0	/AA	-14
<b>STEP 1 - BASIC SERIES</b> QB Series (7W2 variant) QBH Series (5W5, 9W4 and 15W4 variant)										
<b>STEP 2 - CONNECTOR VARIANTS</b> 5W5, 7W2, 9W4, 15W4										
<b>STEP 3 - CONNECTOR GENDER</b> M - Male										
<b>STEP 4 - CONTACT TERMINATION</b> 56 - Solder, Right Angle (90°) Printed Board Mount with Signal and 0.094 [2.39] Ø Power Contacts, 0.395 [10.03] Signal Contact Extension. Available for 7W2 variant. 57 - Solder, Right Angle (90°) Printed Board Mount with Signal and 0.125 [3.18] Ø Power Contacts, 0.642 [16.29] Signal Contact Extension. Available for 5W5, 9W4 and 15W4 variants.										
<b>STEP 5 - MOUNTING STYLE</b> R6 - Bracket, Mounting, right angle (90°) Metal, Swaged to connector with 0.120 [3.05] Ø mounting hole with cross bar R7 - Bracket, Mounting, right angle (90°) Metal, Swaged to connector with 4-40 threads with cross bar R8 - Bracket, Mounting, right angle (90°) Metal, Swaged to connector with 4-40 locknut with cross bar										
<b>STEP 6 - HOODS AND PUSH-ON FASTENERS</b> 0 - None N - Push-on Fastener, for Right Angle (90°) Mounting Brackets										
<b>STEP 7 - LOCKING AND POLARIZING SYSTEMS</b> T2 - Fixed Female Jackscrews.										
<b>STEP 8 - SHELL OPTIONS</b> 0 - Zinc Plated, with Chromate Seal. *S - Stainless Steel, passivated. X - Tin Plated. Z - Tin Plated and Dimpled (male connectors only).										
<b>STEP 9 - ENVIRONMENTAL COMPLIANCE OPTIONS</b> /AA - Compliant per EU Directive 2002/95/EC (RoHS)										
<b>STEP 10 - SPECIAL OPTIONS</b> FOR SPECIAL OPTIONS, SEE SPECIAL OPTIONS APPENDIX ON PAGE 89.										

**NOTE:** \*1 For stainless steel dimpled male versions, contact Technical Sales.

## FEMALE ORDERING INFORMATION - CODE NUMBERING SYSTEM

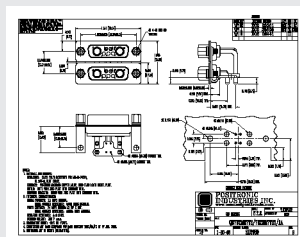
Specify Complete Connector By Selecting An Option From Step 1 Through 9

### CABLE CONNECTORS

STEP	1	2	3	4	5	6	7	8	9	10
EXAMPLE	QB	7W2	S	0	0	Q	H	0	/AA	-14
<b>STEP 1 - BASIC SERIES</b> QB Series										
<b>STEP 2 - CONNECTOR VARIANTS</b> 7W2 9W4										
<b>STEP 3 - CONNECTOR GENDER</b> S - Female PosiBand Closed Entry Signal Contacts <i>Open Entry Signal Contacts are available and can be ordered separately, see page 73.</i>										
<b>STEP 4 - CONTACT TERMINATION</b> 0 - Connector ordered without contacts. Order signal and power contacts separately. See page 54 for contact part numbers. 1 - Signal contacts, 20 AWG-24 AWG [0.5mm <sup>2</sup> -0.25mm <sup>2</sup> ]. 11 - Signal contacts, 20 AWG-24 AWG [0.5mm <sup>2</sup> -0.25mm <sup>2</sup> ] with FC4012D-1817.0 power contacts. 12 - Signal contacts, 20 AWG-24 AWG [0.5mm <sup>2</sup> -0.25mm <sup>2</sup> ] with FC4008D-1817.0 power contacts.										
<b>STEP 5 - MOUNTING STYLE</b> 0 - None										
<b>STEP 6 - HOODS</b> Q - Hood, Top Opening, Plastic										
<b>STEP 7 - LOCKING AND POLARIZING SYSTEMS</b> H - Rotating male jackscrew with internal hex for 3/32 hex drives.										
<b>STEP 8 - SHELL OPTIONS</b> 0 - Zinc Plated, with Chromate Seal. S - Stainless Steel, passivated. X - Tin Plated.										
<b>STEP 9 - ENVIRONMENTAL COMPLIANCE OPTIONS</b> /AA - Compliant per EU Directive 2002/95/EC (RoHS)   <b>Note: This step should be included to create a standard part number. Example: QB7W2S00QH0/AA</b>										
<b>STEP 10 - SPECIAL OPTIONS</b>  <i>FOR SPECIAL OPTIONS, SEE SPECIAL OPTIONS APPENDIX ON PAGE 89.</i>										

For crimping information and crimp tools, see Application Tools section, pages 81-89.

**NOTE:** Once you have made a connector selection, contact Technical Sales if you would like to receive a drawing in DXF, PDF format or a 3-dimensional IGES, STEP, or SOLIDWORKS file.



SK Drawing



3-dimensional model

**Contact Technical Sales for ordering information for cable versions of the 5W5 and 15W4 variants.**



## 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

For more information, visit [www.connectpositronic.com](http://www.connectpositronic.com) or call your nearest Positronic sales office as given on the back of this catalog.

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GLOBAL *Connector* SOLUTIONS

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