

# Wire-to-Board Connectors





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# **WIRE-TO-BOARD CONNECTORS**

### **Table of Contents**

#### STANDARD 26-28 AWG: 00-9175

General Information	1
2 Position	2
3 Position	3
Accessory Cap - Through Wire	4
Accessory Cap - Wire Stop	5
Hand Insertion Tooling / Clearance Area on PCB for Hand Tooling	6
Insertion Tooling Requires Hand Press with Flat Rock Plates	7

### CAPPED IDC 26-28 AWG: 9175-700

General Information	8
2 Position - Through Wire	9
3 Position - Through Wire	
2 Position - Wire Stop	
3 Position - Wire Stop	
Assembly - Through Wire and Wire Stop	13

#### STANDARD IDC 18-24 AWG: 00-9176

General Information	14
1 Position	16
2 Position	17
3 Position	18
Accessory Cap - Through Wire	19
Accessory Cap - Wire Stop	20
Hand Insertion Tooling for Single 18/24 Gauge Wire	21
Insertion Tooling Requires Hand Press with Flat Rock Plates	22
Hand Insertion Tooling for One Way Cap Insertion /	
Clearance Area on PCB for Hand Tooling	23
Assembled Connector	24

### CAPPED 18-24 AWG: 9176-700

General Information	<mark>25</mark>
1 Position - Through Wire	<mark>26</mark>
2 Position - Through Wire	
3 Position - Through Wire	28
1 Position - Wire Stop	<mark>29</mark>
2 Position - Wire Stop	30
3 Position - Wire Stop	
Assembly - Through Wire and Wire Stop	32

### SINGLE IDC CONTACT 22-28 AWG: 9176-400

General Information	
Contact Details	34
PCB Layout	35
Assembly Tooling	
Cap Details	

### SINGLE IDC CONTACT 18-24 AWG: 9176-500

General Information	
Contact Details	
PBC Layout	
Assembly Tooling	
Cap Details	

### **SINGLE IDC CONTACT 12-18 AWG: 9177-500**

General Information	45
Contact Detail	46



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### SINGLE TINE PTH 18-24 AWG: 9176-600

General Information	50
1 Position - Through Wire	51
1 Position - Wire Stop	52
Assembly - Through Wire and Wire Stop	53

### SINGLE TINE SMT 18-24 AWG: 9176-650

General Information	54
1 Position - Through Wire	
1 Position - Wire Stop	56
Assembly - Through Wire and Wire Stop	57

### LOW PROFILE IDC 22-30 AWG: 9176-800

General Information	58
1 Position	59
2 Position	
3 Position	61
4 Position	62
Conector Details	63

### STANDARD 14-20 AWG: 00-9177

General Information	64
1 Position	66
2 Position	67
3 Position	68
Assessory Cap - Through Wire	69
Assessory Cap - Wire Stop	70
Insertion Tooling	71
Assembled Connector	

### **CAPPED THRU HOLE 12-18 AWG: 00-9177**

General Information	73	
1 Position - Through Wire	.74	
1 Position - Wire Stop	.75	

### SINGLE THRU HOLE IDC CONTACT

### 12-18 AWG: 9177-600

General Information	76
Contact Details	77
Assembly Tooling	
Accessory Cap - Through Wire	79
Accessory Cap - Wire Stop	80

### **POKE-HOME: HORIZONTAL**

18-26 AWG: 00-9276	
General Information	81
Wire Assembly/Wire Extraction	
1 Position	
2 Position	
3 Position	
4 Position	
6 Position	
8 Position	

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# WIRE-TO-BOARD CONNECTORS

### **Table of Contents**

#### **POKE-HOME: SINGLE HORIZONTAL CONTACT** 12-28 AWG: 70-9296

### -11.4

General Information	
1.7mm	
2mm	91
2.5mm	
2.5mm - No Stop	
3mm	
4mm	
Connector Assembly / Contact Opening Tool	

#### **POKE-HOME: VERTICAL TOP ENTRY** 18-26 AWG: 00-9296

### **General Information**

General Information	97
1 Position	98
2 Position	
3 Position	
4 Position	
5 Position	
6 Position	
Connector Assembly / Contact Opening Tool	

### **POKE-HOME: INVERTED THRU BOARD**

#### 18-26 AWG: 00-9296 al Infe

General Information	
1 Position	
2 Position	
3 Position	
4 Position	
5 Position	
6 Position	111
Wire Strip Length	112

### SINGLE VERTICAL TOP ENTRY

### 18 AWG: 58-9296

General Information	1	13
Single Vertical Top Entry	1	14

#### **STANDARD VERTICAL TOP ENTRY 18-22AWG** ~~ ~~~

00-9296	115
00-9296	116

### **POKE-HOME: SINGLE VERTICAL CONTACT**

### 18-24 AWG: 70-9296

General Information	117
Top Side Contact - Bottom Entry Wire (FR4 Board)	118
Through Board Contact - Top Entry Wire (FR4 Board)	119
Top Side Contact - Bottom Entry Wire (Metal Board)	120
Through Board Contact - Top Entry Wire (Metal Board)	<mark>121</mark>
Wire Trim Details	

#### **POKE-HOME: MICRO SINGLE VERTICAL CONTACT** 22-26 AWG: 70-9296

General Information	123
Top Side Contact - Bottom Entry Wire (FR4 Board)	124
Through Board Contact - Top Entry Wire (FR4 Board)	125
Top Side Contact - Bottom Entry Wire (Metal Board)	126
Through Board Contact - Top Entry Wire (Metal Board)	127
Wire Trim Details	128

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#### **POKE HOME: VERTICAL CONTACT THRU-BOARD WIRE INSERTION 14 AWG: 9296-115**

General Information	. 129
9296 Vertical Contact Thru-Board Wire Insertion	. 130
Wire Detail/PCB Layout/Packing Details	. 131

#### **POKE-HOME: LOW PROFILE HORIZONTAL**

#### 20-26 AWG: 9296-200

132
133
134

#### **POKE-HOME: HORIZONTAL CONNECTOR 4MM PITCH 18-**26AWG 9296-400

#### **RF COAXIAL IDC**

00-6791
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### **General Information**





The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. The simplicity of inserting a wire into the connector with a small tool allows a wide range of devices to be connected to the PCB without soldering. In SSL applications specifically, these connectors are used to bring power and signal onto the PCB or are used to daisy chain multiple boards together in a long string. While the IDC contact provides a gas-tight connection to conductor of the wire, the housing has been designed to grab the insulation of the wire to provide a positive strain relief even in the harshest conditions. In case of repair, the wires can be removed and replace up to three times.

The 9175 series accepts 26 AWG to 28 AWG wires with an insulation diameter ranging from 0.7mm to 1.0mm. These single contact connectors support a 1 amp current rating and have a split SMT tail design to provide maximum stability on the PCB. Available in a 2p and 3p configuration, these connectors can be end stackable for higher pin counts.

### **APPLICATIONS**

- Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB's together to create a continuous string of boards
- · Application Notes: refer to 201-01-124

### **FEATURES AND BENEFITS**

- · IDC contact provides a gas-tight connection to the PCB for long term reliability
- Connector housing captures the wire insulation for positive strain relief
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Low and high volume assembly tools to match production volumes
- Reduced total applied cost versus solder or crimp processes
- High temperature insulator capable to 260 degrees C reflow soldering processes

### ELECTRICAL

- Current Rating: 1 Amp / Contact
- Voltage Rating: 150 VAC

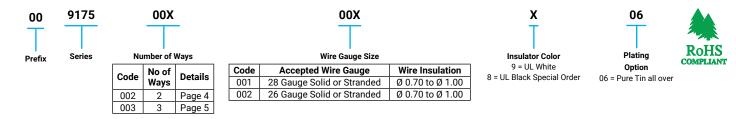
### **ENVIRONMENTAL**

• Operating Temperature: -40°C to +125°C

### **MECHANICAL**

- Insulator Material: Nylon 46: UL94V0
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- Durability: 3 Cycles

### **HOW TO ORDER**



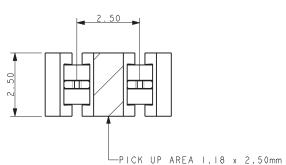
### **CONNECTOR/TOOLING PART NUMBER MATRIX**

SERIES 9175 IDC					HAND INSERTION TOOLING*			ACCESSORY CAPS	
AWG	Wire Insulation	Positions	Color	Part Number	Plastic (medium volume)	Metal (high volume)	Mass Termination	Though Wire	Wire Stop
26	Ø 0.7 - 1.0	2p	White	009175002002906	069175701601000	069175701701000	069175701701002	609175002010100	609175002010199
26	Ø 0.7 - 1.0	2р	Black	009175002002806	069175701601000	069175701701000	069175701701002	609175002010000	609175002010099
26	Ø 0.7 - 1.0	3p	White	009175003002906	069175701601000	069175701701000	069175701701003	609175003010100	609175003010199
26	Ø 0.7 - 1.0	3p	Black	009175003002806	069175701601000	069175701701000	069175701701003	609175003010000	609175003010099
28	Ø 0.7 - 1.0	2p	White	009175002001906	069175701601000	069175701701000	069175701701002	609175002010100	609175002010199
28	Ø 0.7 - 1.0	2р	Black	009175002001806	069175701601000	069175701701000	069175701701002	609175002010000	609175002010099
28	Ø 0.7 - 1.0	3р	White	009175003001906	069175701601000	069175701701000	069175701701003	609175003010100	609175003010199
28	Ø 0.7 - 1.0	3р	Black	009175003001806	069175701601000	069175701701000	069175701701003	609175003010000	609175003010099
				* Hand Insertion Tooli	ng - Universal Hand Tool 06	7000773001000; Consult A	plication Notes 201-01-124	l .	

Certification: UL File #E90723

### 2 Position







0.80 TYP

### NOTES:

- 1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- 2. CONTACT MATERIAL: PHOSPHOR BRONZE. INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46. COLOR REFER TO PAGE 3.
- 3. CONNECTOR DESIGNED TO ACCEPT 26 AND 28 GAUGE SOLID OR STRANDED WIRE.
- 4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
- 5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-100, UL COMPONENTS REFER TO ELCO SPEC 201-01-100UL.
- 6. APPLICATION NOTES 201-01-124.
- 7. FOR UL PRODUCT CODES UL REFERENCE 390723 (US AND CANADA).

-ALL TAILS TO WITHIN 0.10mm COPLINARITY TOLERANCE

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**SMT PCB LAYOUT** PURE TIN PADS

00 NOTE

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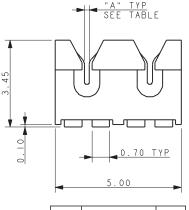
8. CONNECTOR OUTLINE.

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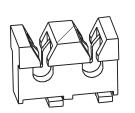
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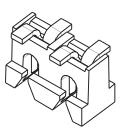
90 NO

9. ALL DIMENSIONS ±0.20 UNLESS TOLERANCE SPECIFIED.



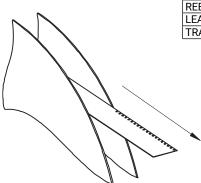
Code	Α	
001	28AWG	0.20
002	26AWG	0.28

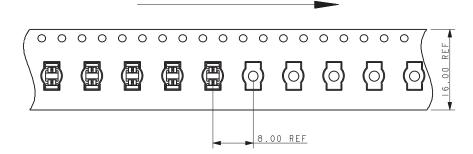




### **PACKING DETAILS**

REEL QTY	2000
EADER	500MM
RAILER	500MM





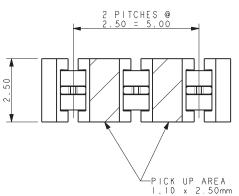
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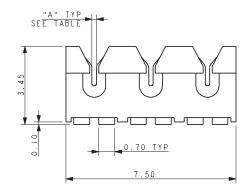
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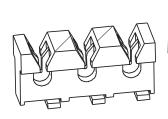
### **3** Position

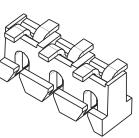






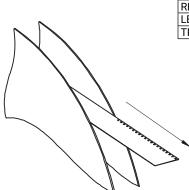
Code	Wire Gauge	Α
001	28AWG	0.20
002	26AWG	0.28

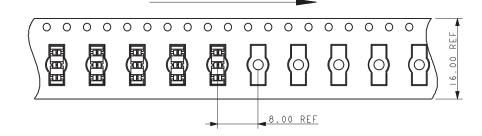




### **PACKING DETAILS**

REEL QTY	2000
EADER	500MM
RAILER	500MM

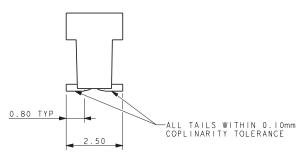




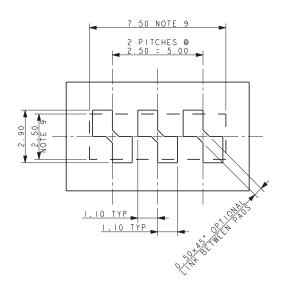
### NOTES:

26-28 AWG 3 WAY IDC CONNECTOR

- 1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- 2. CONTACT MATERIAL: PHOSPHOR BRONZE. INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46. COLOR REFER TO PAGE 3.
- 3. CONNECTOR DESIGNED TO ACCEPT 26 AND 28 GAUGE SOLID OR STRANDED WIRE.
- 4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
- FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-100, UL COMPONENTS REFER TO ELCO SPEC 201-01-100UL.
- 6. APPLICATION NOTES 201-01-124.
- 7. FOR UL PRODUCT CODES UL REFERENCE 390723 (US AND CANADA).
- 8. CONNECTOR OUTLINE.
- 9. ALL DIMENSIONS ±0.20 UNLESS TOLERANCE SPECIFIED.



#### SMT PCB LAYOUT PURE TIN PADS

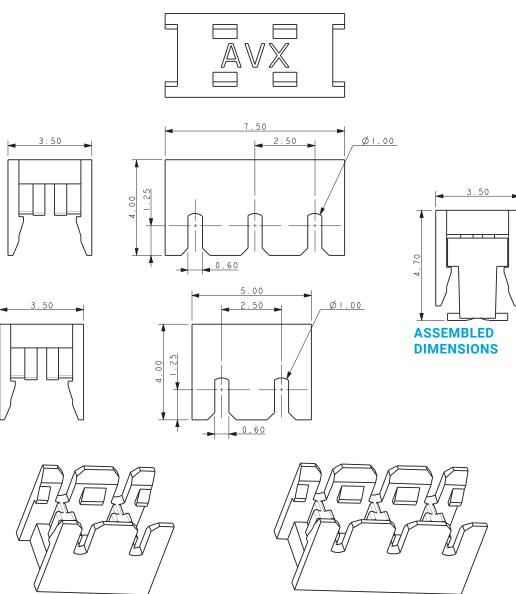


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### **Accessory Cap - Through Wire**

### 60-9175-00X-010-X00 ACCESSORY CAP – THROUGH WIRE



60-9175-002-010-X00

60-9175-003-010-X00

#### NOTES:

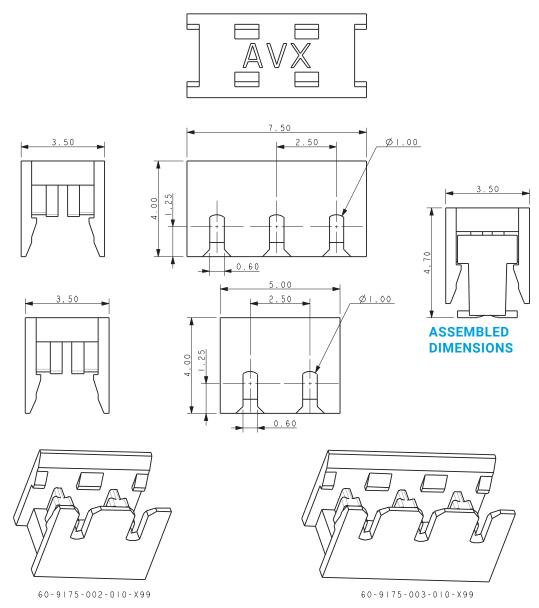
- 1. CAP FOR IDC WIRE TO BOARD CONNECTION, 2 AND 3 WAY, THROUGH WIRE.
- 2. THROUGH WIRE CAP CAN BE USED AT ANY POSTION ALONG A WIRE.
- 3. FOR USE WITH STANDARD 9175 IDC CONNECTORS
- 4. CAP MATERIAL: GLASS FILLED NYLON 46, FOR COLORS SEE PAGE 3.
- 5. CAPS DESIGNED TO ACCOMMODATE WIRES WITH INSULATION UP TO 1.00MM DIAMETERS.
- 6. GENERAL TOLERANCE ±0.20.
- 7. PACKED IN BAGS, 1000 PIECES PER BAG.
- 8. ALL DIMENSIONS ±0.20 UNLESS TOLERANCE SPECIFIED.

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### Accessory Cap - Wire Stop

### 60-9175-00X-0XX-010-X99 ACCESSORY CAP – WIRE STOP



#### NOTES:

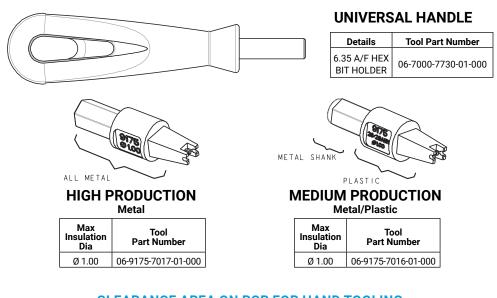
- 1. CAP FOR IDC WIRE TO BOARD CONNECTION, 2 AND 3 WAY, WIRE STOP.
- 2. WIRE STOP CAP FOR USE AT WIRE ENDS, STOP FACE PROTECTS THE WIRE ENDS.
- 3. FOR USE WITH STANDARD 9175 IDC CONNECTORS
- 4. CAP MATERIAL: GLASS FILLED NYLON 46, FOR COLORS SEE PAGE 3.
- 5. CAPS DESIGNED TO ACCOMMODATE WIRES WITH INSULATION UP TO 1.00MM DIAMETERS.
- 6. GENERAL TOLERANCE ±0.20.
- 7. PACKED IN BAGS, 1000 PIECES PER BAG.
- 8. ALL DIMENSIONS ±0.20 UNLESS TOLERANCE SPECIFIED.

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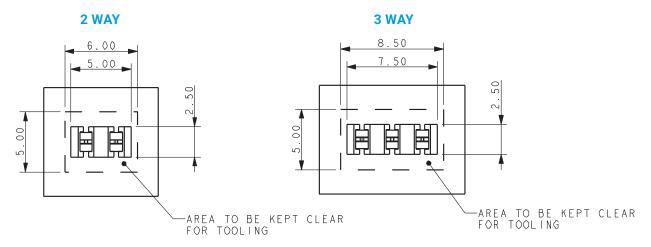


### Hand Insertion Tooling / Clearance Area on PCB for Hand Tooling





### **CLEARANCE AREA ON PCB FOR HAND TOOLING**

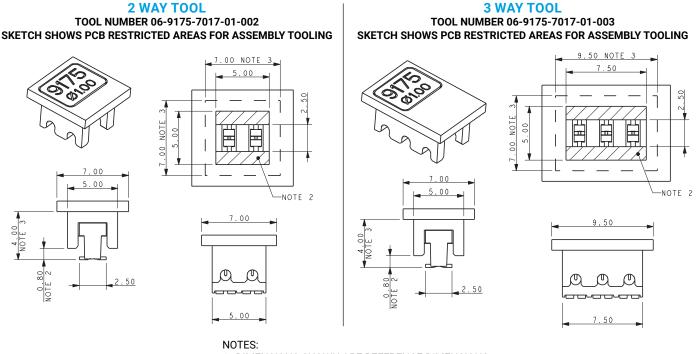


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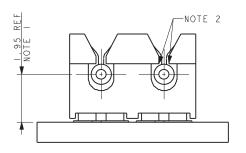
### **Insertion Tooling Requires Hand Press with Flat Rock Plates**

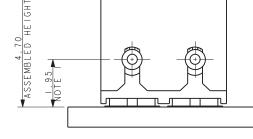
### INSERTION TOOLING REQUIRES HAND PRESS WITH FLAT ROCK PLATES



- 1. DIMENSIONS SHOWN ARE REFERENCE DIMENSIONS.
- 2. MAXIMUM COMPONENT HEIGHT 0.80MM IN THIS AREA.
- MAXIMUM COMPONENT HEIGHT 4.00MM IN THIS AREA.
- 4. THE SAME RESTRICTIONS APPLY TO ALL WIRE INSULATION
- DIAMETERS.

### **ASSEMBLED CONNECTOR**





### STANDARD CONNECTOR

### **CONNECTOR WITH CAP**

NOTES:

- 1. ASSEMBLED HEIGHTS INCLUDE A 0.10MM ALLOWANCE FOR PAD AND SOLDER THICKNESS, NO ALLOWANCE HAS BEEN MADE FOR ANY SOLDER RESIST OR OTHER FEATURES.
- 2. WHEN THE WIRE IS ASSEMBLED THE INSULATION SHOULD BE TRAPPED BY THESE EDGES.

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# CAPPED IDC 26-28 AWG: 9175-700

### **General Information**



6

Plating

Option

RoHS COMPLIANT

6 =

Pure Tin

all over



The market and applications for simple and reliable discrete Wire-to-Board connectors continue to evolve. KYOCERA AVX first introduced the 9175 series of surface mountable Insulation Displacement Connectors (IDC) in 2006. Developed for harsh industrial and automotive applications, these connectors have been used in hundreds of applications from today's "Smart Meter" all the way down to a simple sensor termination to a PCB. Size and performance has been one of the key factors for selecting this connector in terminating 26-28AWG wires to a PCB.

The next generation of IDC connector moves beyond all of the technical and performance attributes to address the "User Friendliness" of the product. By changing the insulator from acting as a connector body and make it more like a contact carrier, the insulator becomes the wire location and insertion aid without any special tools. The wire is just inserted into the cap (no stripping required) and then pressed down to provide a secure "Gas Tight" termination. This configuration simplifies and cost reduces the entire wire termination process for connecting discrete wires to a PCB.

### **APPLICATIONS**

- · Connecting discrete wire components to a PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB's together to create a continuous string
- Reference Product Specification 201-01-140

#### **FEATURES AND BENEFITS**

- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Plastic cap retains the contacts in position prior to automatic placement, then acts as the assembly tool to terminate the wires; no special tooling.
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Identical contact and footprint pattern to the existing 9175 for full backward compatibility and functionality
- The IDC contact reduces the total applied cost versus solder or crimp processes
- Connectors are available in two configurations for maximum flexibility; End and Through Wire

### **ELECTRICAL**

- · Current Rating: 1 Amps / Contact
- Voltage Rating: 150 VAC

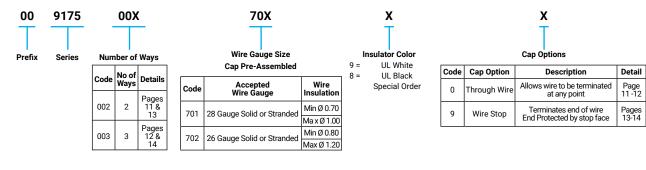
### **ENVIRONMENTAL**

 Operating Temperature: -40°C to +125°C

#### **MECHANICAL**

- Insulator Material: Nylon UL94VO
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel

### HOW TO ORDER

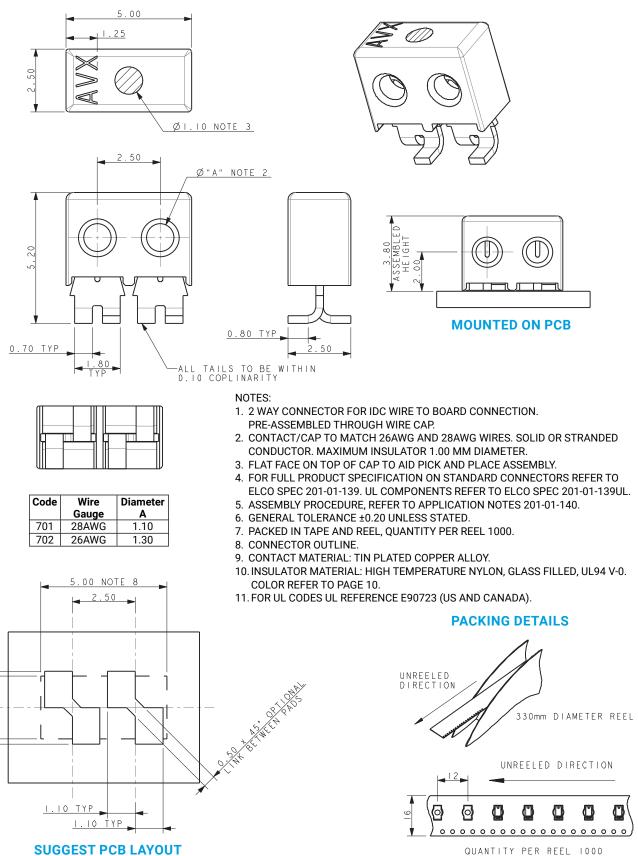


Certification: UL File #E90723

### 2 Position - Through Wire

# KY<u>OCERa</u>

### 26-28 AWG 2 WAY IDC CONNECTOR THROUGH WIRE CAPPED IDC



### SUGGEST PCB LAYOUT

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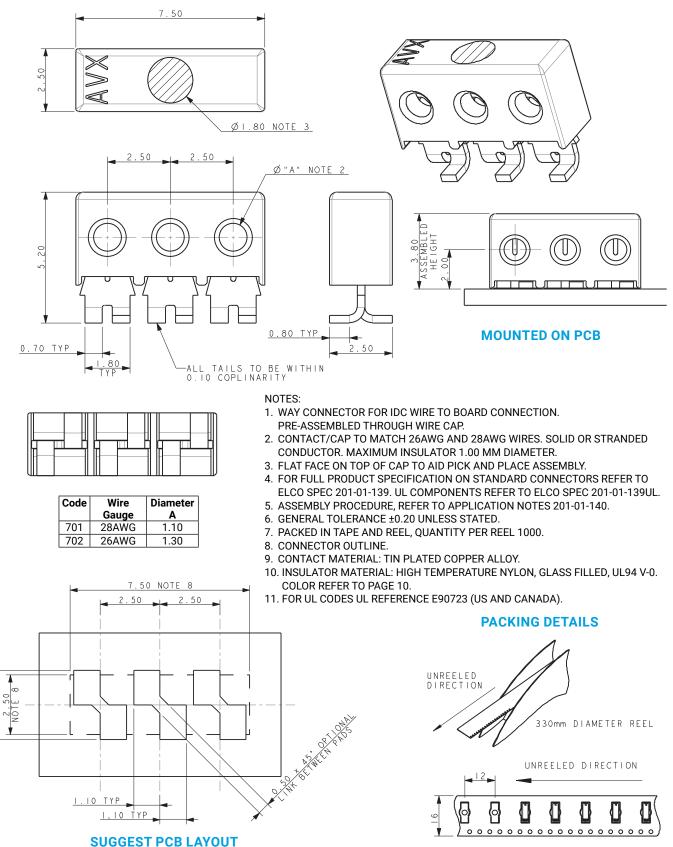
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# CAPPED IDC 26-28 AWG: 9175-700

### **3 Position - Through Wire**

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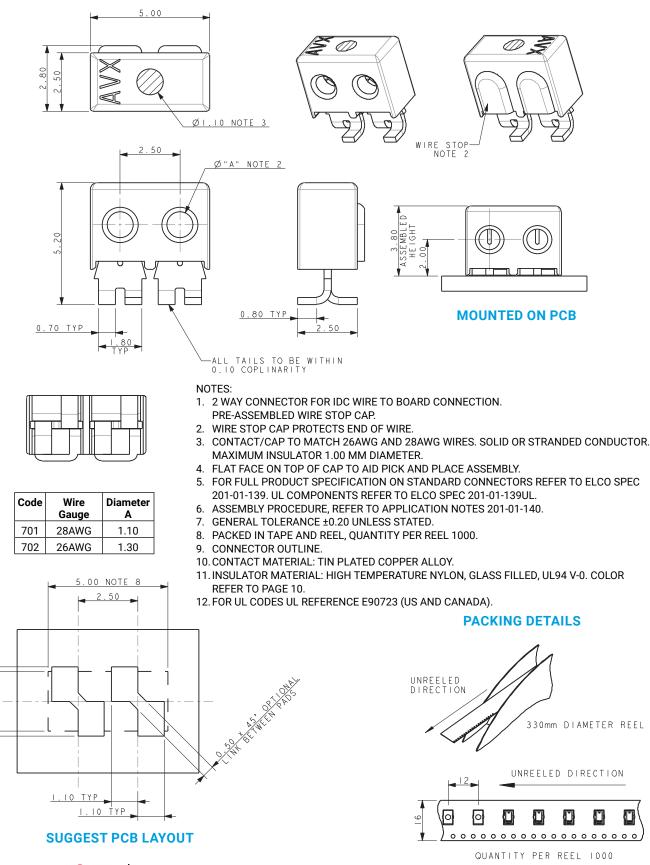
QUANTITY PER REEL 1000

### 2 Position - Wire Stop

2.90 2.50 NOTE 8

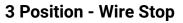


### 26-28 AWG 2 WAY IDC CONNECTOR WIRE STOP CAPPED IDC



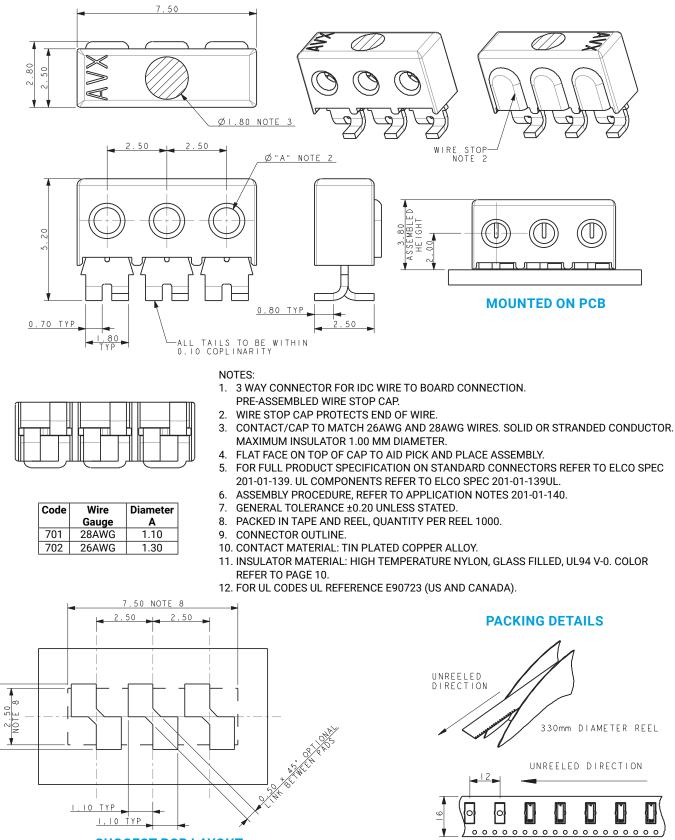
KYDECERE AWXC The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

# CAPPED IDC 26-28 AWG: 9175-700





#### 26-28 AWG 3 WAY IDC CONNECTOR WIRE STOP CAPPED IDC



SUGGEST PCB LAYOUT

QUANTITY PER REEL 1000

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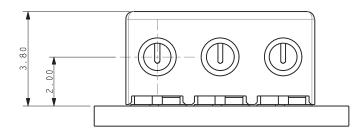
X

# CAPPED IDC 26-28 AWG: 9175-700

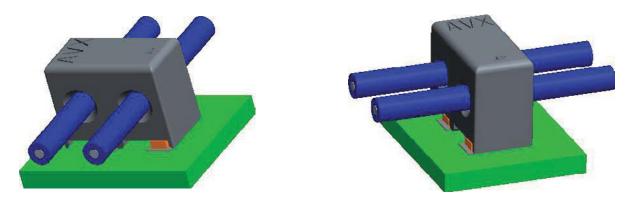


**Assembly - Through Wire and Wire Stop** 

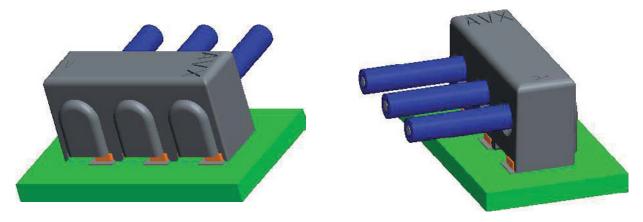
### 26-28 AWG ASSEMBLED CAPPED IDC CONNECTORS



**MOUNTED ON PCB** 



**TYPICAL THROUGH WIRE ASSEMBLY** 



**TYPICAL WIRE STOP ASSEMBLY** 

**CALCERTED** The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

### **General Information**





The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. The simplicity of inserting a wire into the connector with a small tool allows a wide range of devices to be connected to the PCB without soldering. In SSL applications specifically, these connectors are used to bring power and signal onto the PCB or are used to daisy chain multiple boards together in a long string. While the IDC contact provides a gas-tight connection to conductor of the wire, the housing has been designed to grab the insulation of the wire to provide a positive strain relief even in the harshest conditions. In case of repair, the wires can be removed and replace up to three times.

The 9176 series accepts 18 AWG to 24 AWG wires with an insulation diameter ranging from 1.1mm to 2.1mm. These dual contact connectors support a 10 amp current rating with two large SMT solder tails per wire to provide maximum stability on the PCB. Available in 1p-3p configuration, these connectors can be end stackable for higher pin counts. The 9176 series also comes with optional locking strain relief caps that act as the termination tool for severe vibration applications.

#### **APPLICATIONS**

- · Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB Daisy chaining PCB's together to create
- a continuous string of boards
- Application Notes: refer to 201-01-124

### FEATURES AND BENEFITS

- IDC contact provides a gas-tight connection to the PCB for long term reliability
- · Connector housing captures the wire insulation for positive strain relief
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Low and high volume assembly tools to match production volumes
- Reduced total applied cost versus solder or crimp processes
- Optional thru and end caps lock in place to provide maximum strain relief
- High temperature insulator capable to 260°C reflow soldering processes

### **ELECTRICAL**

- Current Rating: 10 Amp / Contact
- Voltage Rating: 300 VAC

### **ENVIRONMENTAL**

 Operating Temperature: -40°C to +125°C

### **MECHANICAL**

Insulator Material: Nylon 46: UL94V0

06

Plating

Option

all over

6 =

- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- **Durability: 3 Cycles**

### **HOW TO ORDER**

00	9176	00X		
Prefix	Series	Number		
		of Ways		

001 = 1

002 = 2

003 = 3

OXX Wire Gauge Size							
Code	Accepted Wire Gauge	Wire Insulation	Cap Code Pages 21-22				
001	18 Gauge Stranded	Ø1.6-2.1	021				
011	20 Gauge Solid or Stranded	Ø1.6-2.1	021				
022	22 Gauge Solid or Stranded	Ø 1.1-1.6	016				
032	24 Gauge Solid or Stranded	Ø1.1-1.6	016				

)	(
	<b>_</b>
sulate	or Color
All S	izes

9 = UL White (Standard) 8 = UL Black (Special Order)

One Way Only (Special Order) 2 = UI Brown 3 = UL Blue 4 = UL Yellow 5 = UL Red 6 = UL Green 7 = UL Orange



Pure Tin

Certification: UL File #E90723



#### **CONNECTOR/TOOLING PART NUMBER MATRIX**

SERIES 9176 IDC			HAND INSERTION TOOLING*			ACCESSORY CAPS			
AWG	Wire Insulation	Positions	Color	Part Number	Plastic (medium volume)	Metal (high volume)	Mass Termination	Though Wire	Wire Stop
18	Ø 1.6 - 2.1	1p	Black	009176001001806	069176701601000	069176701701000	N/A	609176001021000	609176001021099
18	Ø 1.6 - 2.1	1p	White	009176001001906	069176701601000	069176701701000	N/A	609176001021100	609176001021199
18	Ø 1.6 - 2.1	2p	Black	009176002001806	069176701601000	069176701701000	069176701701002	609176002021000	609176002021099
18	Ø 1.6 - 2.1	2p	White	009176002001906	069176701601000	069176701701000	069176701701002	609176002021100	609176002021199
18	Ø 1.6 - 2.1	3p	Black	009176003001806	069176701601000	069176701701000	069176701701003	609176003021000	609176003021099
18	Ø 1.6 - 2.1	3p	White	009176003001906	069176701601000	069176701701000	069176701701003	609176003021100	609176003021199
20	Ø 1.6 - 2.1	1p	Black	009176001011806	069176701601000	069176701701000	N/A	609176001021000	609176001021099
20	Ø 1.6 - 2.1	1p	White	009176001011906	069176701601000	069176701701000	N/A	609176001021100	609176001021199
20	Ø 1.6 - 2.1	2p	Black	009176002011806	069176701601000	069176701701000	069176701701002	609176002021000	609176002021099
20	Ø 1.6 - 2.1	2p	White	009176002011906	069176701601000	069176701701000	069176701701002	609176002021100	609176002021199
20	Ø 1.6 - 2.1	3p	Black	009176003011806	069176701601000	069176701701000	069176701701003	609176003021000	609176003021099
20	Ø 1.6 - 2.1	3p	White	009176003011906	069176701601000	069176701701000	069176701701003	609176003021100	609176003021199
22	Ø 1.1 - 1.6	1p	Black	009176001022806	069176701602000	069176701702000	N/A	609176001016000	609176001016099
22	Ø 1.1 - 1.6	1p	White	009176001022906	069176701602000	069176701702000	N/A	609176001016100	609176001016199
22	Ø 1.1 - 1.6	2p	Black	009176002022806	069176701602000	069176701702000	069176701702002	609176002016000	609176002016099
22	Ø 1.1 - 1.6	2p	White	009176002022906	069176701602000	069176701702000	069176701702002	609176002016100	609176002016199
22	Ø 1.1 - 1.6	3p	Black	009176003022806	069176701602000	069176701702000	069176701702003	609176003016000	609176003016099
22	Ø 1.1 - 1.6	3p	White	009176003022906	069176701602000	069176701702000	069176701702003	609176003016100	609176003016199
24	Ø 1.1 - 1.6	1p	White	009176001032106	069176701602000	069176701702000	N/A	609176001016100	609176001016199
24	Ø 1.1 - 1.6	1p	Black	009176001032806	069176701602000	069176701702000	N/A	609176001016000	609176001016099
24	Ø 1.1 - 1.6	1p	White	009176001032906	069176701602000	069176701702000	N/A	609176001016100	609176001016199
24	Ø 1.1 - 1.6	2p	Black	009176002032806	069176701602000	069176701702000	069176701702002	609176002016000	609176002016099
24	Ø 1.1 - 1.6	2p	White	009176002032906	069176701602000	069176701702000	069176701702002	609176002016100	609176002016199
24	Ø 1.1 - 1.6	Зр	Black	009176003032806	069176701602000	069176701702000	069176701702003	609176003016000	609176003016099
24	Ø 1.1 - 1.6	3р	White	009176003032906	069176701602000	069176701702000	069176701702003	609176003016100	609176003016199

\* Hand Insertion Tooling - Universal Hand Tool 067000773001000; Consult Application Notes 201-01-124

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### **1** Position

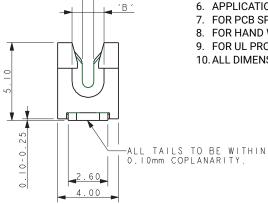


### **18-24 AWG 1 WAY IDC CONNECTOR**

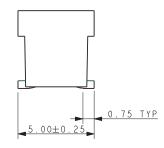
-PICK UP AREA 0.9 x 5.00mm MIN

#### NOTES:

- 1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- 2. CONTACT MATERIAL: PHOSPHOR BRONZE. INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46. COLOR REFER TO PAGE 16.
- 3. CONTACTS DESIGNED TO ACCEPT BETWEEN 20AWG AND 24AWG SOLID AND STRANDED WIRES. 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
- 4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
- 5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-106. UL COMPONENTS REFER TO ELECO SPEC 201-01-106U.
- 6. APPLICATION NOTES 201-01-124.
- 7. FOR PCB SPACE RESTRICTED BY WIRE ASSEMBLY TOOLING REFER TO PAGE 23.
- 8. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 23.
- 9. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA).
- 10. ALL DIMENSIONS ±0.20 TOLERANCE SPECIFIED.

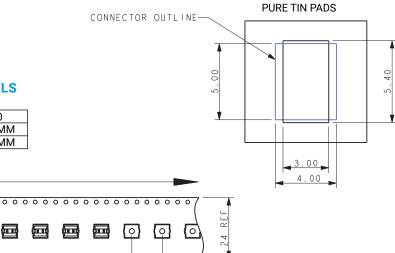


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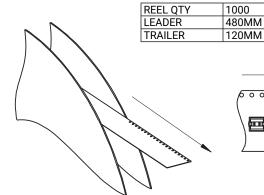


Code	Accepted Wire Gauge	Α	Wire Insulation	В
001	18AWG Stranded	0.72	Ø1.6-2.1	2.1
011	20AWG Solid and Stranded	0.60	Ø1.6-2.1	2.1
022	22AWG Solid and Stranded	0.47	Ø1.1-1.6	1.6
032	24AWG Solid and Stranded	0.37	Ø1.1-1.6	1.6

#### **SMT PCB LAYOUT**



**PACKING DETAILS** 



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## 2 Position

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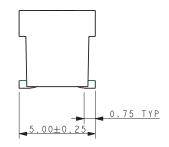
### **18-24 AWG 2 WAY IDC CONNECTOR**

-PICK UP AREA I.9 x 5.00mm MIN

#### NOTES:

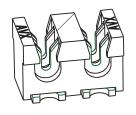
- 1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- 2. CONTACT MATERIAL: PHOSPHOR BRONZE. INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46. COLOR REFER TO PAGE 16.
- 3. CONTACTS DESIGNED TO ACCEPT BETWEEN 20AWG AND 24AWG SOLID AND STRANDED WIRES. 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
- 4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
- 5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-106. UL COMPONENTS REFER TO ELECO SPEC 201-01-106U.
- 6. APPLICATION NOTES 201-01-124.
- 7. FOR PCB SPACE RESTRICTED BY WIRE ASSEMBLY TOOLING REFER TO PAGE 23.
- Αí 8. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 23. 9. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA). 10. ALL DIMENSIONS ±0.20 TOLERANCE SPECIFIED. 0 ſ - T 6 v 25 -ALL TAILS TO BE WITHIN 0.10mm COPLANARITY. 0-01 <u>2.60</u> TYP

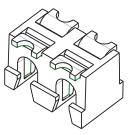
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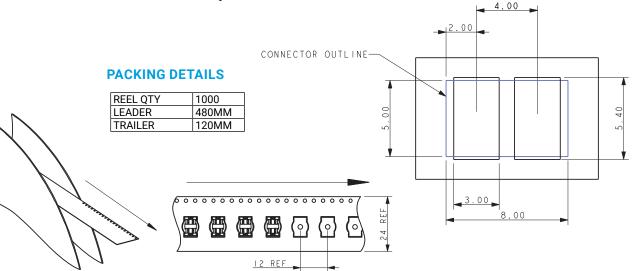


Code	Accepted Wire Gauge	A	Wire Insulation	В
001	18AWG Stranded	0.72	Ø1.6-2.1	2.1
011	20AWG Solid and Stranded	0.60	Ø1.6-2.1	2.1
022	22AWG Solid and Stranded	0.47	Ø1.1-1.6	1.6
032	24AWG Solid and Stranded	0.37	Ø1.1-1.6	1.6

**SMT PCB LAYOUT** PURE TIN PADS





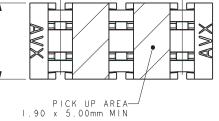


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### **3** Position

### **18-24 AWG 3 WAY IDC CONNECTOR**

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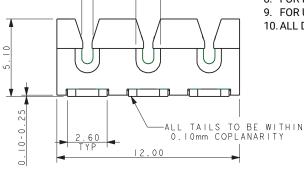
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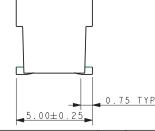
- 1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- 2. CONTACT MATERIAL: PHOSPHOR BRONZE. INSULATION MATERIAL: HIGH TEMPERATURE NYLON 46. COLOR REFER TO PAGE 16.
- 3. CONTACTS DESIGNED TO ACCEPT BETWEEN 20AWG AND 24AWG SOLID AND STRANDED WIRES. 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
- 4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
- 5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-106. UL COMPONENTS REFER TO ELECO SPEC 201-01-106U. 6. APPLICATION NOTES 201-01-124.

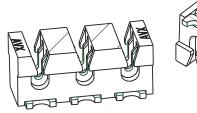
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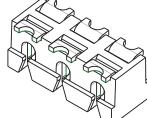
- 7. FOR PCB SPACE RESTRICTED BY WIRE ASSEMBLY TOOLING REFER TO PAGE 23.
- 8. FOR HAND WIRE ASSEMBLY TOOLING REFER TO PAGE 23.
- 9. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA).
- 10. ALL DIMENSIONS ±0.20 TOLERANCE SPECIFIED.



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Code	Accepted Wire Gauge	Α	Wire Insulation	В
001	18AWG Stranded	0.72	Ø1.6-2.1	2.1
011	20AWG Solid and Stranded	0.60	Ø1.6-2.1	2.1
022	22AWG Solid and Stranded	0.47	Ø1.1-1.6	1.6
032	24AWG Solid and Stranded	0.37	Ø1.1-1.6	1.6

#### **SMT PCB LAYOUT** PURE TIN PADS

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2.00

PITCHES @

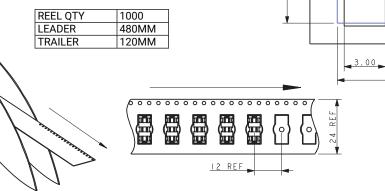
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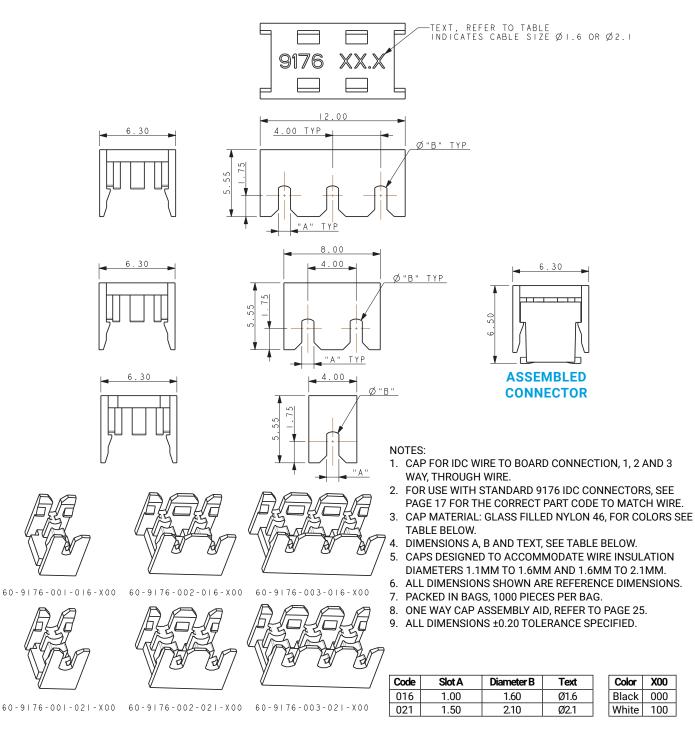
KHOLERA | The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

CONNECTOR OUTLINE-



### Accessory Cap - Through Wire

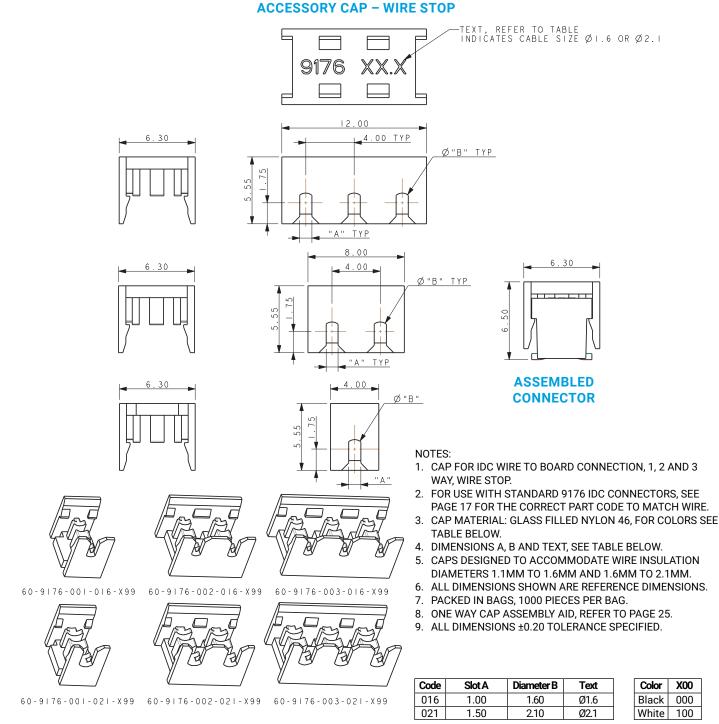
### 60-9176-00X-0XX-X00 ACCESSORY CAP - THROUGH WIRE



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### **Accessory Cap - Wire Stop**



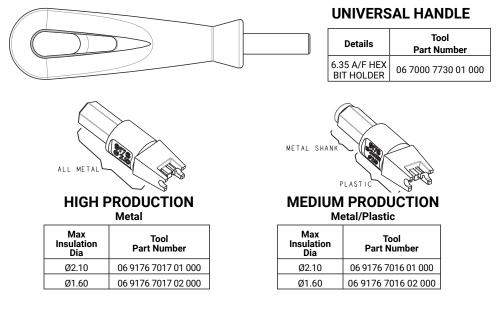
60-9176-00X-0XX-X99



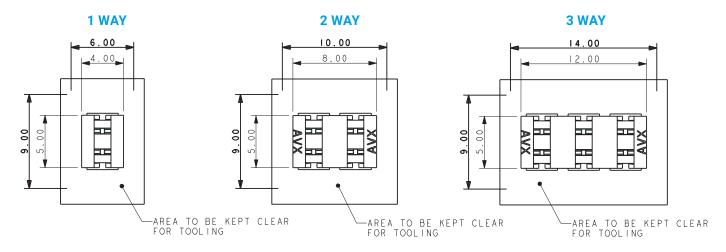
### Hand Insertion Tooling for Single 18/24 Gauge Wire

## HAND INSERTION TOOLING

FOR SINGLE 18/24 GAUGE WIRE



### **CLEARANCE AREA ON PCB FOR HAND TOOLING**



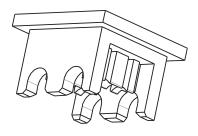
The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

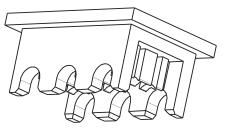


### INSERTION TOOLING REQUIRES HAND PRESS WITH FLAT ROCK PLATES

**2 WAY** 







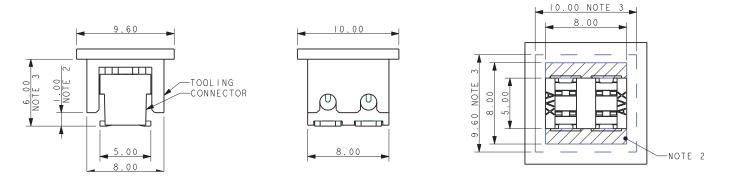
### **HIGH PRODUCTION**

KY<u>OCERa</u>

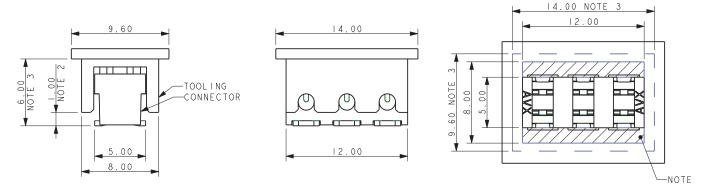
Metal					
No. of Ways	Max Insulation Dia	Tool Part Number			
2	Ø2.10	06 9176 7017 01 002			
2	Ø1.60	06 9176 7017 02 002			
3	Ø2.10	06 9176 7017 01 003			
э	Ø1.60	06 9176 7017 02 003			

### PCB RESTRICTED AREAS FOR PRESS ASSEMBLY TOOLING

### **2 WAY**



3 WAY



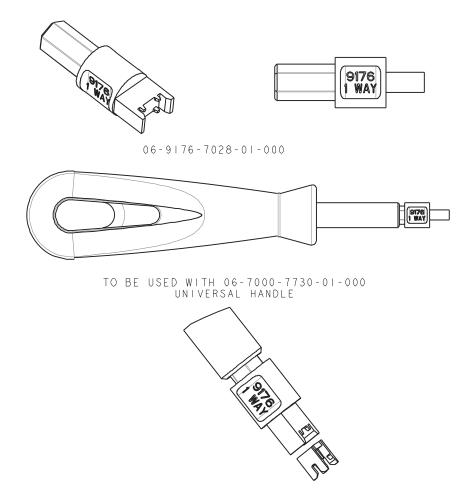
NOTES:

- 1. DIMENSIONS SHOWN ARE REFERENCE DIMENSIONS.
- 2. MAXIMUM COMPONENT HEIGHT 1.00MM IN THIS AREA.
- 3. MAXIMUM COMPONENT HEIGHT 6.00MM IN THIS AREA.
- 4. THE SAME RESTRICTIONS APPLY TO ALL WIRE INSULATION DIAMETERS.
- 5. 2 AND 3 WAY TOOLS ONLY, FOR USE UNDER HAND PRESS WITH FLAT PLATES.
- 6. FOR HAND TOOLING REFER TO PAGE 23.
- 7. ALL DIMENSIONS ±0.20 UNLESS TOLERANCE SPECIFIED.

The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

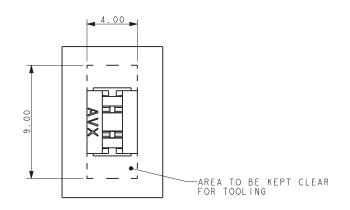
### Hand Insertion Tooling for One Way Cap Insertion / Clearance Area on PCB for Hand Tooling

HAND INSERTION TOOLING FOR ONE WAY CAP INSERTION



FOR ASSEMBLY INSTRUCTION REFER TO 201-01-124 APPLICATION NOTES

### **CLEARANCE AREA ON PCB FOR HAND TOOLING**

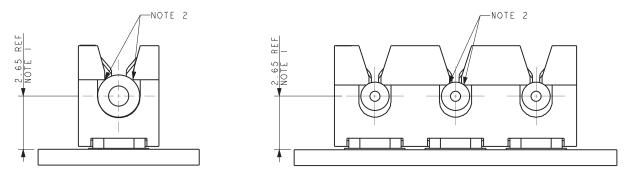


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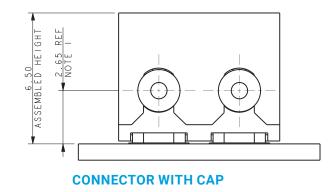


### **Assembled Connector**

ASSEMBLED CONNECTOR



**ASSEMBLED CONNECTOR** 



NOTES:

- 1. ASSEMBLED HEIGHTS INCLUDE 0.10MM ALLOWANCE FOR PAD AND SOLDER THICKNESS.
- NO ALLOWANCE HAS BEEN MADE FOR ANY SOLDER RESIST OR OTHER FEATURES.
- 2. WHEN THE WIRE IS ASSEMBLED THE INSULTATION SHOULD BE TRAPPED BY THESE EDGES.

### **General Information**





The market and applications for simple and reliable discrete Wire-to-Board connectors continue to evolve. KYOCERA AVX first introduced the 9176 series of surface mountable Insulation Displacement Connectors (IDC) in 2007. Developed for harsh industrial and automotive applications, these connectors have been used in hundreds of applications from today's "Smart Meter" all the way down to a simple sensor termination to a PCB. Size and performance has been one of the key factors for selecting this connector in terminating 18-24AWG wires to a PCB

The next generation of IDC connector moves beyond all of the technical and performance attributes to address the "User Friendliness" of the product. By changing the insulator from acting as a connector body and make it more like a contact carrier, the insulator becomes the wire location and insertion aid without any special tools. The wire is just inserted into the cap (no stripping required) and then pressed down to provide a secure "Gas Tight" termination. This configuration simplifies and cost reduces the entire wire termination process for connecting discrete wires to a PCB.

#### APPLICATIONS

- · Connecting discrete wire components to a PCB
- · Bringing power and signals onto a PCB
- · Daisy chaining PCB's together to create a
- continuous string Reference Product Specification 201-01-140

### FEATURES AND BENEFITS

- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Plastic cap retains the contacts in position prior to automatic placement, then acts as the assembly tool to terminate the wires; no special tooling.
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Identical contact and footprint pattern to the existing 9176 for full backward compatibility and functionality
- The IDC contact reduces the total applied cost versus solder or crimp processes
- Connectors are available in two configurations for maximum flexibility; End and Through Wire

### **ELECTRICAL**

- Current Rating: 10 Amps / Contact
- Voltage Rating: 300 VAC

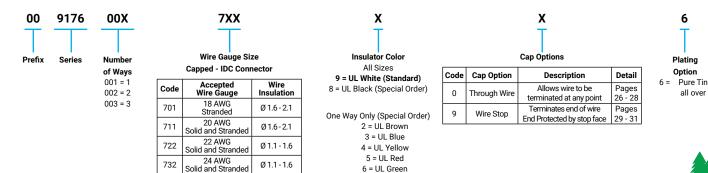
### **ENVIRONMENTAL**

· Operating Temperature: -40°C to +125°C

### **MECHANICAL**

- Insulator Material: Nylon UL94VO
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel

### **HOW TO ORDER**



Ø 1.1 - 1.6



6

Plating

Option

all over

Certification: UL File #E90723

732

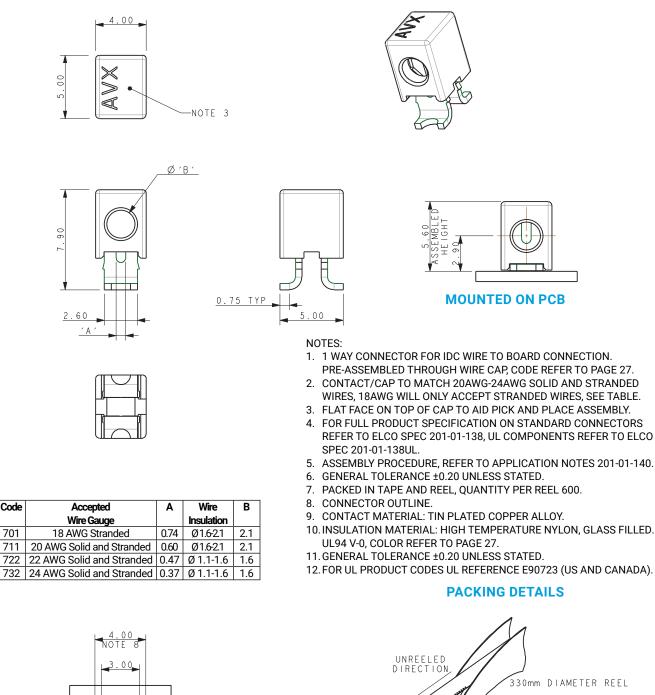
KIDEERE | The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order. ANA C

6 = UL Green 7 = UL Orange

### **1 Position - Through Wire**

# KYOCERa

### **18 - 24 AWG 1 WAY IDC CONNECTOR THROUGH WIRE CAPPED IDC**



UNREELED DIRECTION 12 0) (XAV) Ó

QUANTITY PER REEL 600

KUDEER8 The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

Q

Code

701

711

722

ŝ 40 00

<u>101</u> Ś

SUGGEST PCB LAYOUT

### 2 Position - Through Wire

Code

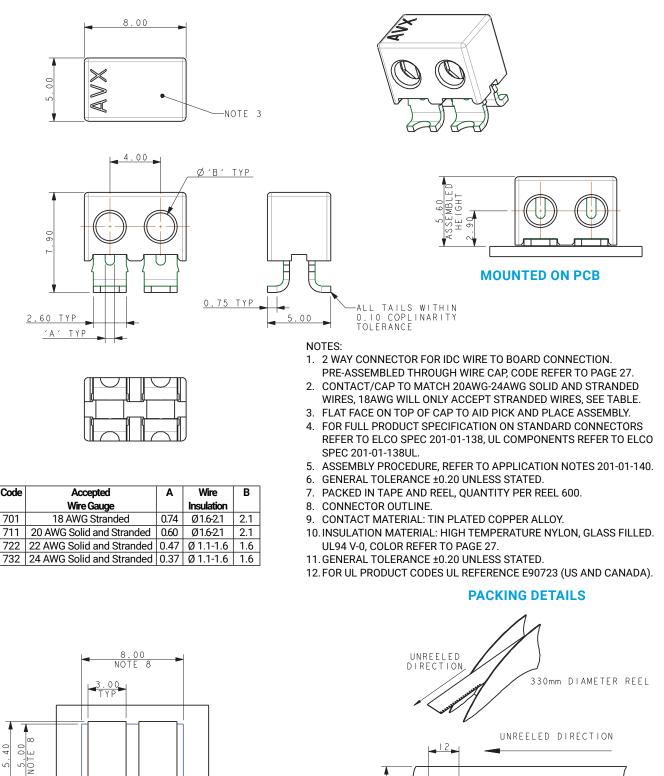
701

711

SUGGEST PCB LAYOUT

# KYOCERa

### **18 - 24 AWG 2 WAY IDC CONNECTOR THROUGH WIRE CAPPED IDC**



QUANTITY PER REEL 600

ò

0 0 0 0

24

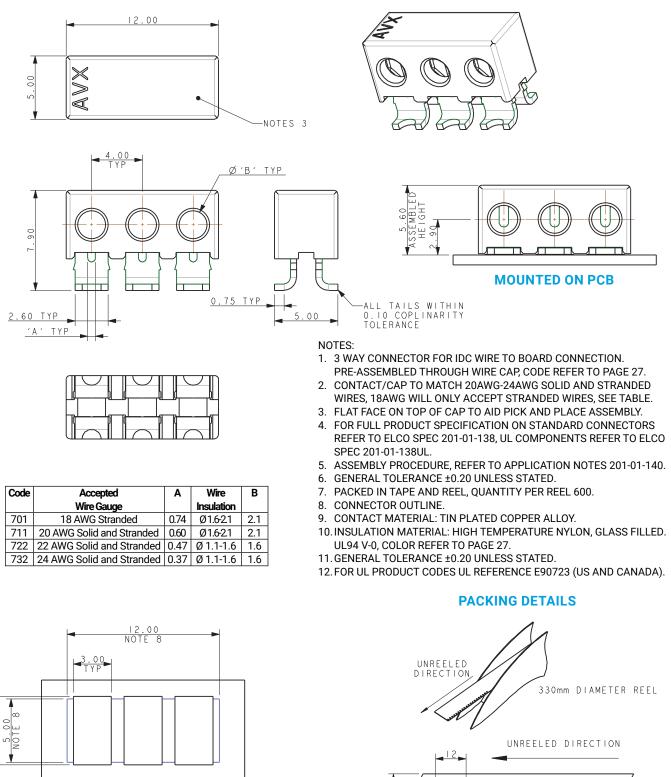
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KIDCERE | The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

### **3 Position - Through Wire**

# 

### **18 - 24 AWG 3 WAY IDC CONNECTOR THROUGH WIRE CAPPED IDC**



#### SUGGEST PCB LAYOUT

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24

0 0 0 0 0 0 0 0 0 0

0 0 0 0 0 0 0

QUANTITY PER REEL 600

00

ŝ

90

Accepted

Wire Gauge

18 AWG Stranded

20 AWG Solid and Stranded

732 24 AWG Solid and Stranded 0.37

22 AWG Solid and Stranded 0.47

### **1 Position - Wire Stop**

Code

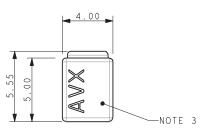
701

711

722

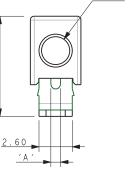
# Kyocera /x///X

### 18 - 24 AWG 1 WAY IDC CONNECTOR WIRE STOP CAPPED IDC









Α

0.74

0.60

Wire

Insulation

Ø1.6-2.1

Ø1.6-2.1

Ø 1.1-1.6

Ø 1.1-1.6 1.6

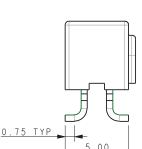
В

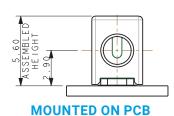
2.1

2.1

1.6

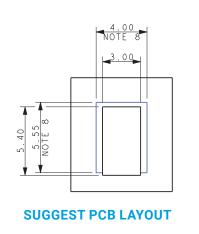
ΈĽ



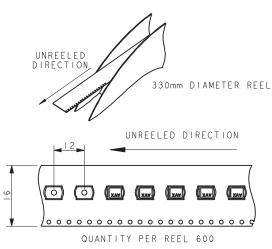


NOTES:

- 1. 1 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION. PRE-ASSEMBLED WIRE STOP CAP, CODE REFER TO PAGE 27.
- 2. CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
- 3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
- 4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-138, UL COMPONENTS REFER TO ELCO SPEC 201-01-138UL.
- 5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
- 6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
- 7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 600.
- 8. CONNECTOR OUTLINE.
- 9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- 10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 27.
- 11. GENERAL TOLERANCE ±0.20 UNLESS STATED.
- 12. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA).



### **PACKING DETAILS**

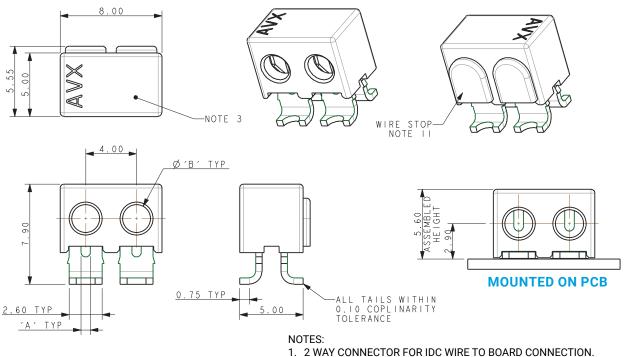


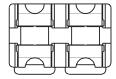
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### 2 Position - Wire Stop



### 18 - 24 AWG 2 WAY IDC CONNECTOR WIRE STOP CAPPED IDC

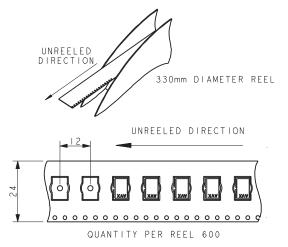




Code	Accepted	Α	Wire	В
	Wire Gauge		Insulation	
701	18 AWG Stranded	0.74	Ø1.6-2.1	2.1
711	20 AWG Solid and Stranded	0.60	Ø1.6-2.1	2.1
722	22 AWG Solid and Stranded	0.47	Ø 1.1-1.6	1.6
732	24 AWG Solid and Stranded	0.37	Ø 1.1-1.6	1.6

- 2 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION. PRE-ASSEMBLED WIRE STOP CAP, CODE REFER TO PAGE 27.
- 2. CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
- 3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
- 4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-138, UL COMPONENTS REFER TO ELCO SPEC 201-01-138UL.
- 5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-140.
- 6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
- 7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 600.
- 8. CONNECTOR OUTLINE.
- 9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- 10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 27.
- 11. GENERAL TOLERANCE ±0.20 UNLESS STATED.
- 12. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA).





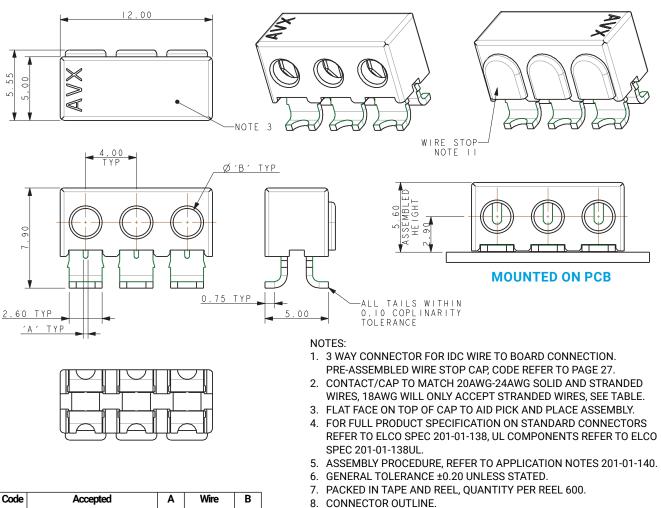
SUGGEST PCB LAYOUT

**CALCERTED** The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

**3 Position - Wire Stop** 

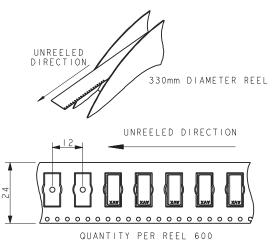
# 

### 18 - 24 AWG 3 WAY IDC CONNECTOR WIRE STOP CAPPED IDC

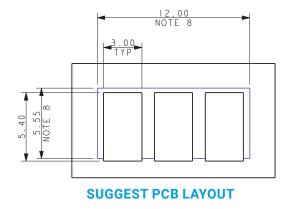


- 9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- 10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 27.
- 11. GENERAL TOLERANCE ±0.20 UNLESS STATED.
- 12. FOR UL PRODUCT CODES UL REFERENCE E90723 (US AND CANADA).

### **PACKING DETAILS**



Code	Accepted	Α	Wire	В		
	Wire Gauge		Insulation			
701	18 AWG Stranded	0.74	Ø1.6-2.1	2.1		
711	20 AWG Solid and Stranded	0.60	Ø1.6-2.1	2.1		
722	22 AWG Solid and Stranded	0.47	Ø 1.1-1.6	1.6		
732	24 AWG Solid and Stranded	0.37	Ø 1.1-1.6	1.6		

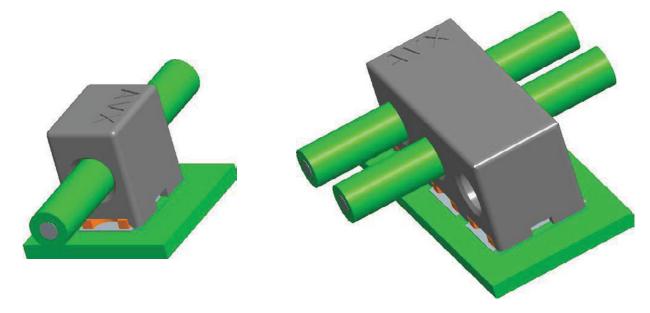


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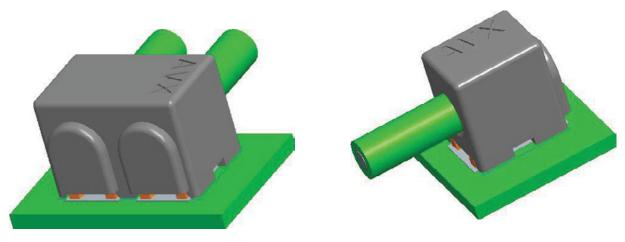
**Assembly - Through Wire and Wire Stop** 



**18-24 AWG ASSEMBLED CAPPED IDC CONNECTORS** 



**TYPICAL THROUGH WIRE ASSEMBLY** 



**TYPICAL WIRE STOP ASSEMBLY** 

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# **General Information**





The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. This new single contact was developed as a standalone component to enhance the application uses with the IDC technology. The simplicity of inserting a wire into an SMT contact with a small tool or optional retention / termination cap allows a wide range of devices to be connected to the PCB without soldering. In SSL applications specifically, these contacts are used to bring power and signal onto the PCB or are used to daisy chain multiple boards together in a long string. While the IDC contact provides a gas-tight connection to conductor of the wire, the optional cap provides a positive strain relief even in the harshest conditions. In case of repair, the wires can be removed and replace up to three times.

The single 9176-400 series contact and cap accepts 22 AWG to 28 AWG wires with an insulation diameter ranging from 1.0mm to 1.5mm. These dual beam contacts support a 6 amp current rating with a large SMT solder base to provide maximum stability on the PCB. The optional locking strain relief cap acts as the termination tool for severe vibration applications.

#### **APPLICATIONS**

- Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB's together to create a continuous string of boards
- · Application notes: refer to 201-01-124

# **ELECTRICAL**

- Current Rating: 6 Amps/Contact
- Voltage Rating: Dependant on component proximity

#### **HOW TO ORDER - CONTACT OPTIONS**

# FEATURES AND BENEFITS

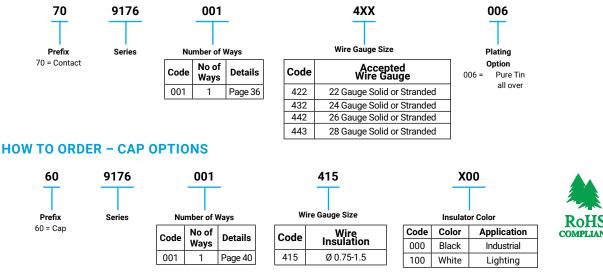
- IDC contact is supplied in T&R pockets for standard SMT placement
- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Optional termination cap provides additional strain relief for severe environments
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Reduced total applied cost versus solder or crimp processes
- · Individual contacts can be located anywhere on the PCB based on specific application

#### **ENVIRONMENTAL**

 Operating Temperature: -40°C to +125°C

#### MECHANICAL

- Insulator Material: Nylon 46: UL94V0
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- Durability: 3 Cycles



#### **CONNECTOR/TOOLING PART NUMBER MATRIX**

SERIES 9176-400 IDC			HAND INSERTION TOOLING*		ACCESSORY CAPS			
Wire Insulation	Positions	Part Number	Plastic (medium volume)	Metal (high volume)	Cap Application Tool	White	Black	
Ø 1.0 - 1.5	1р	709176001422006	069176702201000	069176702101000	069176702301000	609176001415100	609176001415000	
Ø 1.0 - 1.5	1р	709176001432006	069176702201000	069176702101000	069176702301000	609176001415100	609176001415000	
Ø 0.7 - 1.0	1р	709176001442006	069176702201000	069176702101000	069176702301000	609176001415100	609176001415000	
Ø 0.7 - 1.0	1р	709176001443006	069176702201000	069176702101000	069176702301000	609176001415100	609176001415000	
ØØ	Wire           nsulation           Ø 1.0 - 1.5           Ø 1.0 - 1.5           Ø 0.7 - 1.0	Wire nsulation         Positions           Ø 1.0 - 1.5         1p           Ø 1.0 - 1.5         1p           Ø 0.7 - 1.0         1p	Wire sulation         Positions         Part Number           01.0 - 1.5         1p         709176001422006           01.0 - 1.5         1p         709176001432006           00.7 - 1.0         1p         709176001442006	Wire sulation         Positions         Part Number         Plastic (medium volume)           01.0 - 1.5         1p         709176001422006         069176702201000           01.0 - 1.5         1p         709176001432006         069176702201000           00.7 - 1.0         1p         709176001442006         069176702201000	Wire sulation         Positions         Part Number         Plastic (medium volume)         Metal (high volume)           01.0 - 1.5         1p         709176001422006         069176702201000         069176702101000           01.0 - 1.5         1p         709176001432006         069176702201000         069176702101000           00.7 - 1.0         1p         709176001442006         069176702201000         069176702101000	Wire Isulation         Positions         Part Number         Plastic (medium volume)         Metal (high volume)         Cap Application Tool           01.0 - 1.5         1p         709176001422006         069176702201000         069176702101000         069176702301000           01.0 - 1.5         1p         709176001432006         069176702201000         069176702101000         069176702301000           0.0 - 7 - 1.0         1p         709176001442006         069176702201000         069176702101000         069176702301000	Wire Isulation         Positions         Part Number         Plastic (medium volume)         Metal (high volume)         Cap Application Tool         White           01.0 - 1.5         1p         709176001422006         069176702201000         069176702101000         069176702301000         609176702301000         609176702301000         609176702301000         609176702301000         609176702301000         609176702301000         609176702301000         609176702301000         609176702301000         609176702101000         069176702301000         609176702101000         609176702301000         609176702101000         609176702301000         609176702101000         609176702301000         609176702101000         609176702301000         609176702101000         609176702301000         609176702101000         6091767023010	

\* Hand Insertion Tooling and Cap Application - Universal Hand Tool 067000773001000; Consult Application Notes 201-01-124

Certification: UL File #E90723

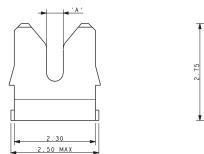
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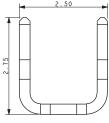
online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

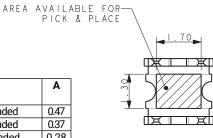
# **Contact Details**

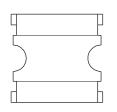


### **CONTACT DETAILS**









Code	de Accepted	
	Wire Gauge	
422	22AWG Solid or Stranded	0.47
432	24AWG Solid or Stranded	0.37
442	26AWG Solid or Stranded	0.28
443	28AWG Solid or Stranded	0.20



- 1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- 2. CONTACT MATERIAL: PHOSPHOR BRONZE.
- 3. CONTACT PLATING: PURE TIN.
- 4. CONNECTOR DESIGNED TO ACCEPT BETWEEN 22AWG AND 28AWG SOLID AND STRANDED WIRE, SEE TABLE.
- 5. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED.
- 6. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-126 AND APPLICATION NOTES 201-01-124.
- 7. SMT PCB LAYOUT, REFER TO PAGE 37.
- 8. PACKING IN TAPE AND REEL, QUANTITY 2000 PER REEL.
- 9. WHEN REQUIRED, MATCHING CAP DETAILS ON DRAWING 60-9176-001-4XX-X06S.
- 10. ASSEMBLY TOOLING ON PAGE 39 FOR WIRE INTO CONTACT AND PAGE 38 FOR CAP.

REEL QTY

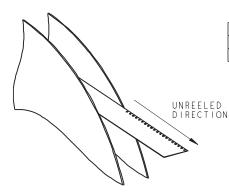
LEADER

TRAILER

11. UL REFERENCE E90723, THIS UL REFERENCE ALSO APPLIES WHEN COMBINED WITH KYOCERA AVX SPECIFIED OPTIONAL CAP.

2 000

480MM



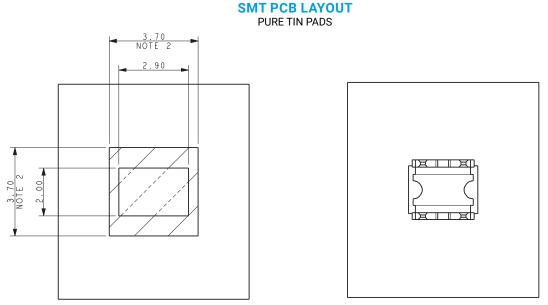
# **PACKING DETAILS**

120MM										-			<b>⊨</b> _{	3		
9	6	0	0	_	0	_	0	_	0	_	0	_	0	0	) ) ]	,



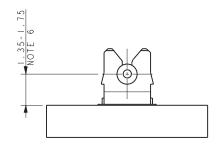


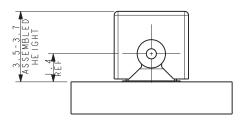
# 22-28 AWG IDC WIRE TO BOARD CONNECTOR SINGLE CONTACT

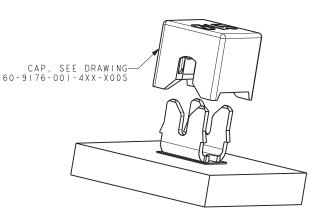


ORIENTATION OF CONTACT ON PAD

# **ASSEMBLED/INSTALLED PRODUCTS**







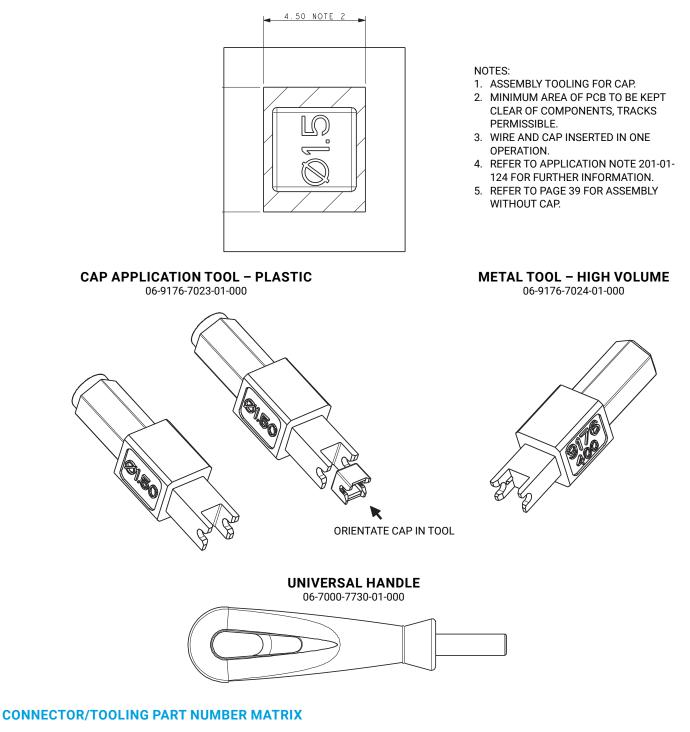
#### NOTES:

- 1. CONNECTOR CAN BE USED WITH CONTACT ONLY OR WITH OPTIONAL CAP.
- 2. OUTLINE OF CAP WHERE USED.
- 3. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-126 AND APPLICATION NOTES 201-01-124.
- 4. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED.
- 5. ASSEMBLY TOOLING ON PAGE 39 FOR WIRE INTO CONTACT AND PAGE 38 FOR CAP.
- 6. WIRE CENTER LINE HEIGHT ABOVE THE PCB. THIS INCLUDES AN ALLOWANCE OF 0.10MM FOR SOLDER AND 0.035MM FOR PAD THICKNESS. NO ALLOWANCE HAS BEEN MADE FOR SOLDER RESIST OR OTHER FEATURES.

# **Assembly Tooling**



# **ASSEMBLY TOOLING - CAP USED**



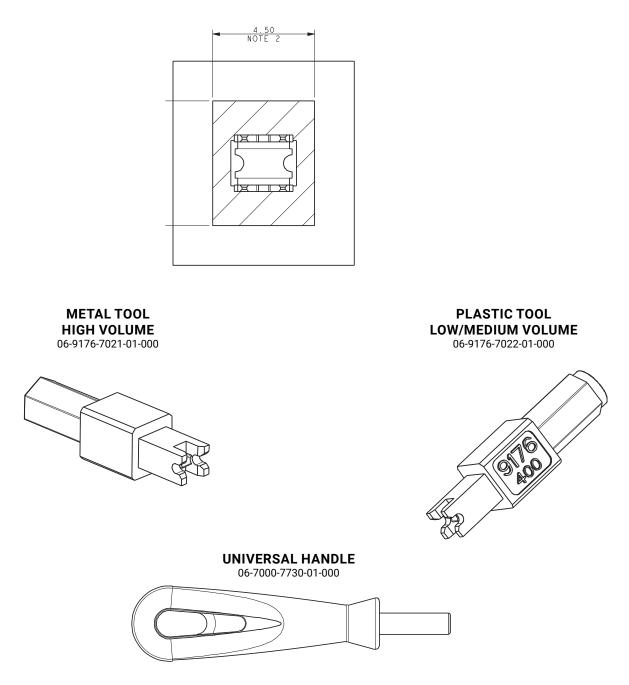
SERIES 9176-400 IDC			DO IDC	HAND INSERT	ION TOOLING*	ACCESSORY CAPS			
AWG	Wire Insulation	Positions	Part Number	Plastic (medium volume)	Metal (high volume)	Cap Application Tool	White	Black	
22	Ø 1.0 - 1.5	1р	709176001422006	069176702201000	069176702101000	069176702301000	609176001415100	609176001415000	
24	Ø 1.0 - 1.5	1р	709176001432006	069176702201000	069176702101000	069176702301000	609176001415100	609176001415000	
26	Ø 0.7 - 1.0	1р	709176001442006	069176702201000	069176702101000	069176702301000	609176001415100	609176001415000	
28	Ø 0.7 - 1.0	1p	709176001443006	069176702201000	069176702101000	069176702301000	609176001415100	609176001415000	
	* Hand Insertion Tooling and Cap Application - Universal Hand Tool 067000773001000; Consult Application Notes 201-01-124								

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# **Assembly Tooling**

# ASSEMBLY TOOLING – CAP NOT USED WIRE ONTO CONTACT



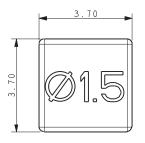
NOTES:

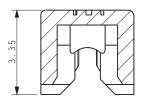
- 1. ASSEMBLY TOOLING FOR CONTACT ONLY. NO CAP USED.
- 2. MINIMUM AREA OF PCB TO BE KEPT CLEAR OF COMPONENTS, TRACKS PERMISSIBLE.
- 3. REFER TO APPLICATION NOTE 201-01-124 FOR FURTHER INFORMATION.
- 4. INSERT CORRECT TOOL INTO HANDLE, MAGNETIC RETENTION.
- 5. REFER TO PAGE 38 FOR ASSEMBLY WITH CAP.

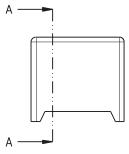
# **Cap Details**

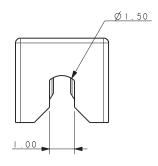


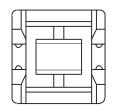
#### **CAP DETAILS**











#### NOTES:

- 1. CAP FOR IDC WIRE TO BOARD CONNECTION.
- 2. CAP MATERIAL: GLASS FILLED NYLON 46, COLOR SEE PAGE 35.
- 3. CAPS DESIGNED TO ACCOMMODATE WIRE INSULATION DIAMETERS 0.75MM TO 1.5MM.
- 4. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED.
- 5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-126, APPLICATION NOTES 201-01-124.
- 6. PACKING IN BAGS, QUANTITY 2000 PER BAG.
- 7. FOR INSTALATION DETAILS REFER TO DRAWING 70-9176-001-4XX-006S.

# **General Information**





The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. This new single contact was developed as a standalone component to enhance the application uses with the IDC technology. The simplicity of inserting a wire into an SMT contact with a small tool or optional retention / termination cap allows a wide range of devices to be connected to the PCB without soldering. In SSL applications specifically, these contacts are used to bring power and signal onto the PCB or are used to daisy chain multiple boards together in a long string. While the IDC contact provides a gas-tight connection to conductor of the wire, the optional cap provides a positive strain relief even in the harshest conditions. In case of repair, the wires can be removed and replace up to three times.

The single 9176 series contact and cap accepts 18 AWG to 24 AWG wires with an insulation diameter ranging from 1.1mm to 2.1mm. These dual beam contacts support a 10 amp current rating with a large SMT solder base to provide maximum stability on the PCB. The optional locking strain relief cap acts as the termination tool for severe vibration applications.

# **APPLICATIONS**

- Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB's together to create a
- continuous string of boards
- Application notes: refer to 201-01-124

#### **ENVIRONMENTAL**

 Operating Temperature: -40°C to +125°C

# FEATURES AND BENEFITS

- IDC contact is supplied in T&R pockets for standard SMT placement
   IDC contact provides a gas-tight connection to the PCB for long term reliability
  - Optional termination cap provides additional strain relief for severe environments
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Tested to automotive levels on shock, vibration and temperature cyc
   Deduced tetal applied cost versus colder or erimp processes
- Reduced total applied cost versus solder or crimp processes
- Individual contacts can be located anywhere on the PCB based on specific application

**MECHANICAL** 

006

Plating

Option

Pure Tin

all over

Plating: Tin over Nickel Durability: 3 Cycles

Insulator Material: Nylon 46: UL94V0

Contact Material: Phosphor Bronze

#### **ELECTRICAL**

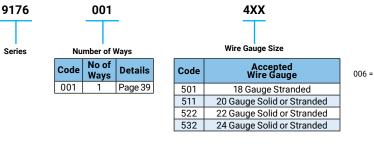
- Current Rating: 10 Amps/Contact
- Voltage Rating: Dependant on component proximity

70

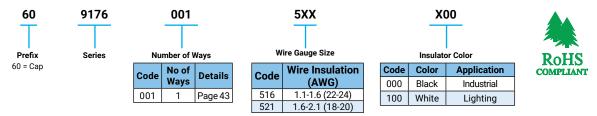
Prefix

70 = Contact

# **HOW TO ORDER - CONTACT OPTIONS**



#### **HOW TO ORDER – CAP OPTIONS**



# **CONNECTOR/TOOLING PART NUMBER MATRIX**

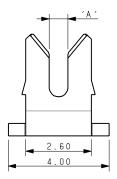
	SERIES 9176-500 IDC			HAND INSERT	ION TOOLING*	ACCESSORY CAPS			
AWG	Wire Insulation	Positions	Part Number	Plastic (medium volume)	Metal (high volume)	Cap Application Tool	White	Black	
18	Ø 1.6 - 2.1	1р	709176001501006	069176702001000	069176701901000	069176701801000	609176001521100	609176001521000	
20	Ø 1.6 - 2.1	1p	709176001511006	069176702001000	069176701901000	069176701801000	609176001521100	609176001521000	
22	Ø 1.1 - 1.6	1p	709176001522006	069176702002000	069176701902000	069176701801000	609176001516100	609176001516000	
24	Ø 1.1 - 1.6	1p	709176001532006	069176702002000	069176701902000	069176701801000	609176001516100	609176001516000	
* Hand	Insertion To	oling and (	Cap Application - Un	iversal Hand Tool 06	7000773001000; Co	onsult Application N	otes 201-01-124		

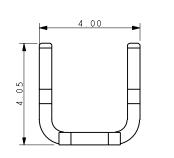
Certification: UL File #E90723

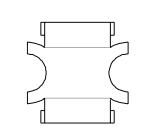
KYOCERA The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

# **Contact Details**

# **CONTACT DETAILS**









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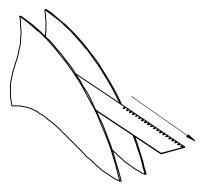
Code	Accepted Wire Gauge	Α
501	18 AWG Stranded	0.74
511	20 AWG Solid and Stranded	0.60
522	22 AWG Solid and Stranded	
532	24 AWG Solid and Stranded	0.37

AREA AVAILABLE FOR PICK & PLACE 2.00mm SQUARE

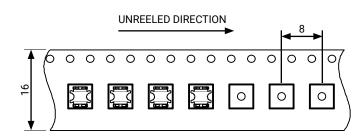
#### NOTES:

- 1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- 2. CONTACT MATERIAL: PHOSPHOR BRONZE.
- 3. CONTACT PLATING: PURE TIN.
- 4. CONNECTOR DESIGNED TO ACCEPT BETWEEN 20AWG AND 24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
- 5. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED
- 6. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-126 AND APPLICATION NOTES 201-01-124.
- 7. SMT PCB LAYOUT, REFER TO SHEET 3.
- 8. PACKING IN TAPE AND REEL, QUANTITY 1000 PER REEL.
- 9. WHEN REQUIRED, MATCHING CAP DETAILS ON
- DRAWING 60-9176-001-5XX-X00S 10. ASSEMBLY TOOLING ON SHEETS 4 (WITH CAP) AND 5 (WITHOUT CAP).

#### **PACKING DETAILS**



REEL QTY	1000
LEADER	480mm
TRAILER	120mm

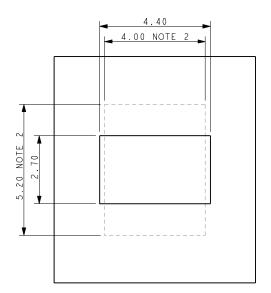


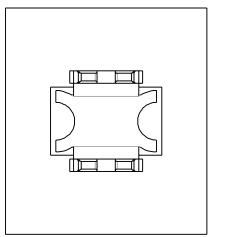


# **PBC Layout**

# **18-24 AWG IDC WIRE TO BOARD CONNECTOR SINGLE CONTACT**

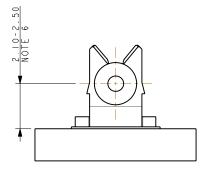
SMT PCB LAYOUT PURE TIN PADS

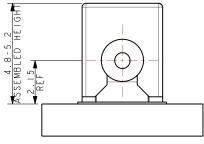


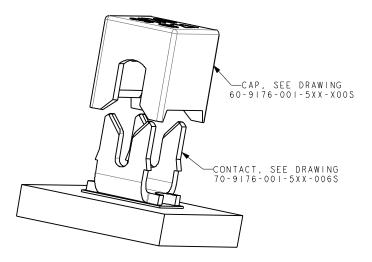


ORIENTATION OF CONTACT ON PAD

# **ASSEMBLED/INSTALLED PRODUCTS**







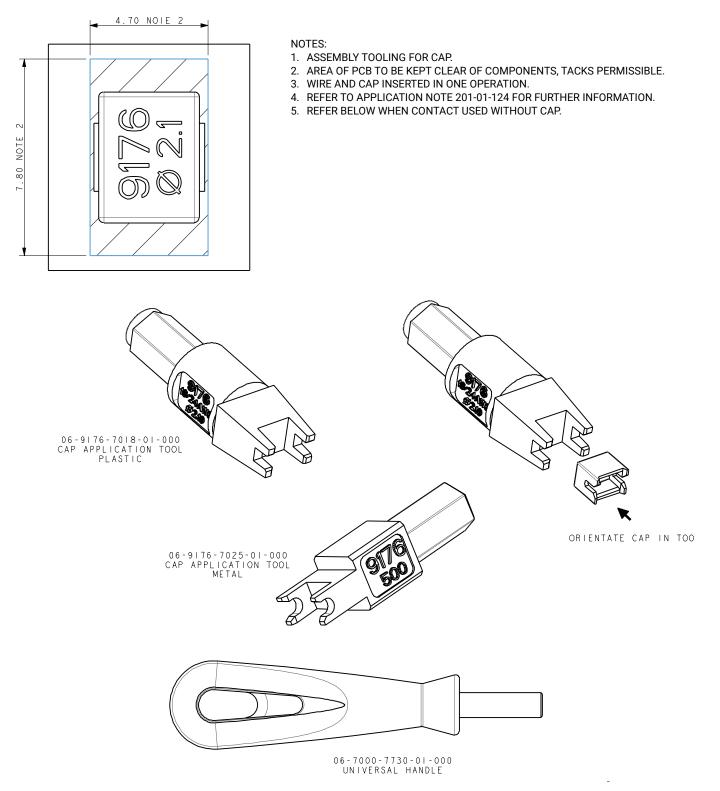
#### NOTES:

- 1. CONNECTOR CAN BE USED WITH CONTACT ONLY OR WITH OPTIONAL CAP.
- 2. OUTLINE OF CAP WHEN USED.
- 3. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-126 AND 201-01-124.
- 4. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED.
- 5. ASSEMBLY TOOLING ON SHEETS 4 (WITH CAP) AND 5 (WITHOUT CAP).
- 6. WIRE CENTRE LINE HEIGHT ABOVE THE PCB, THIS INCLUDES AN ALLOWANCE OF 0.10MM FOR SOLDER AND

# 

# **Assembly Tooling**

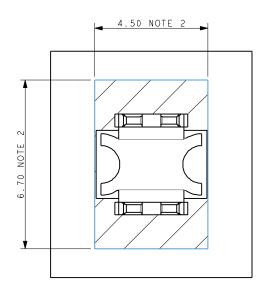
# **ASSEMBLY TOOLING – CAP USED**



# **Assembly Tooling**



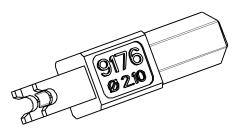
# ASSEMBLY TOOLING - CAP NOT USED WIRE ONTO CONTACT



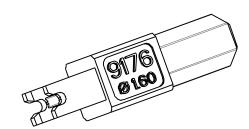
#### NOTES:

- 1. ASSEMBLY TOOLING FOR CONTACT ONLY, NO CAP USED.
- 2. MINIMUM AREA OF PCB TO BE KEPT CLEAR OF COMPONENTS, TRACKS PERMISSIBLE.
- 3. REFER TO TABLE FOR CORRECT TOOL/WIRE COMBINATION.
- 4. REFER TO APPLICATION NOTE 201-01-124 FOR FURTHER INFORMATION

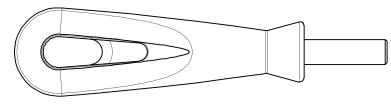
WIRE INSULATION Ø	METAL TOOL HIGH VOLUME	PLASTIC TOOL SMALL TO MEDIUM VOLUME	HANDLE
1.10 to 1.60	06-9176-7019-02-000	06-9176-7020-02-000	06-7000-7730-01-000
1.60 to 2.10	06-9176-7019-01-000	06-9176-7020-01-000	06-7000-7730-01-000



06-9176-7019-01-000 06-9176-7020-01-000 2.1Ø WIRE



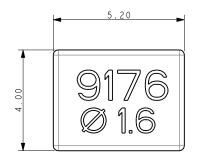
06-9176-7019-02-000 06-9176-7020-02-000 I.6Ø WIRE



06-7000-7730-01-000 UNIVERSAL HANDLE

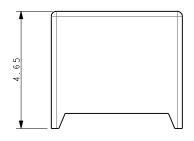
# **Cap Details**

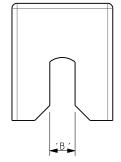
# **CAP DETAILS**





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H—	Н

Code	Insulator Diameter (AWG)	В	Text C
516	1.1 to 1.6 (22-24)	1.00	Ø 1.6
521	1.6 to 2.1 (18-20)	1.50	Ø 2.1

NOTES:

- 1. CAP FOR IDC WIRE TO BOARD CONNECTION.
- 2. CAP MATERIAL: GLASS FILLED NYLON 46, COLOR SEE PAGE 41.
- 3. CAPS DESIGNED TO ACCOMMODATE WIRE INSULATION DIAMETERS 1.1MM TO 2.1MM.
- 4. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
- 5. FOR FULL PRODUCT SPECIFICATION REFER TO ELCO SPEC 201-01-106, APPLICATION NOTES 201-01-124.
- 6. PACKING IN BAGS, QUANTITY 1000 PER BAG.
- 7. FOR INSTALATION DETAILS REFER TO DRAWING 70-9176-001-XX-006S.

# **General Information**



#### **GENERAL DESCRIPTION**

KYOCERA AVX's STRIPT<sup>™</sup>, insulation displacement naked contact technology provides cost effective, insulator-less, wire-toboard connection for discrete wire applications. Designed from the ground up to function just like a traditional

insulated connector, these UL certified contacts have been industry proven for many years. This 9177-500 series has been designed to support the larger wire gauges from a robustness and current rating perspective. The optional cap provides a positive strain relief even in the harshest conditions and acts as the termination tool for severe vibration applications.

#### **APPLICATIONS**

- · Industrial motor controls, drives & pumps
- · Commercial building wiring and electrical systems
- Outdoor/Transportation lighting
- · Solar and alternative energy

#### **ELECTRICAL**

- Current Rating: 15 Amps/Contact
- Voltage Rating: 600 VAC

#### **ENVIRONMENTAL**

• Operating Temperature: -40°C to +125°C

#### **FEATURES AND BENEFITS**

- · Proven "gas tight" cold welded wire termination
- Redundant contact systems provides enhanced wire retention and high current carrying capabilities

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- · Cost effective STRIPT<sup>™</sup> insulator-less contact system
- Optional termination cap provides additional strain relief for severe environments

#### **MECHANICAL**

- Cap Insulator Material: High Temperature Nylon: UL94V-0
- Contact Material: Phosphor Bronze
- Contact Plating: Pure tin over nickel
- Durability: 3 termination cycles

#### **HOW TO ORDER – CONTACT OPTIONS**

70	9177	001	5XX	006
T			$\top$	T
Prefix	Series	No. of Ways	Description	Plating
		001 = 1	591 = 12AWG Stranded and Solid	006 = Pure Tin
			501 = 14AWG Stranded and Solid	all over
			512 = 16AWG Stranded and Solid	
			522 = 18AWG Stranded and Solid	

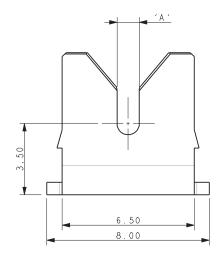
Certification: UL File #E90723

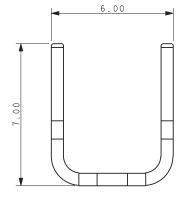
#### **HOW TO ORDER - CAP OPTIONS - SEE PAGE 5**

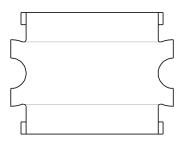
# **Contact Detail**



# **CONTACT DETAIL**



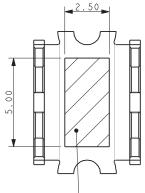




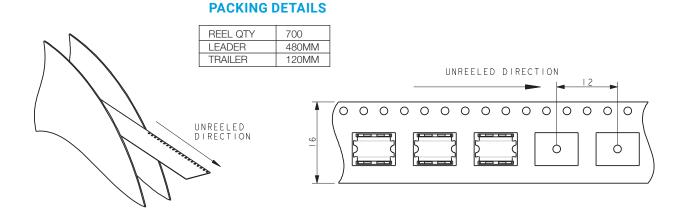
Code	Accepted Wire Gauge	Α
591	12AWG Stranded and Solid	1.50
501	14AWG Stranded and Solid	1.10
512	16AWG Stranded and Solid	0.82
522	18AWG Stranded and Solid	0.72

#### NOTES:

- 1. CONNECTOR FO IDC WIRE TO BOARD CONNECTION.
- 2. CONTACT MATERIAL: PHOSPHORE BRONZE.
- 3. CONTACT PLATING: PURE TIN.
- CONTACTS DESIGNED TO ACCEPT BETWEEN 12 AND 18 GAUGE STANDED WIRE, SEE TABLE.
- 5. ALL DIMENSIONS FOR REFERENCE UNLESS OTHERWISE STATED.
- 6. FOR FULL PRODUCT SPECIFICATIONS REFER TO AVX SPECIFICATION 201-01-208 AND APPLICATION NOTES 201-01-209.
- 7. SMT PCB LAYOUT, REFER TO PAGE 3.
- 8. PACKING IN TAPE AND REEL, QUANTITY PER REEL 700.
- 9. ASSEMBLY TOOLING ON PAGE 4.
- 10. UL REFERENCE E90723 (US AND CANADA).

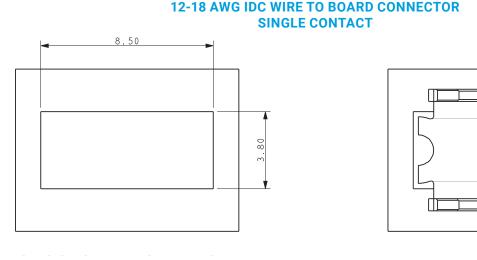


-PICK AND PLACE AREA





# **IDC Wire to Board Connector Single Contact**



SUGGESTED PCB LAYOUT

# **ORIENTATION OF CONTENT ON PAD**

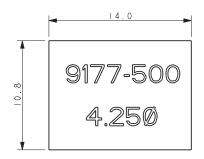
NOTES:

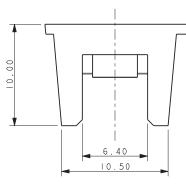
- 1. FOR FULL PRODUCT SPECIFICATION REFER TO AVX SPEC 201-01-208 AND 201-01-209
- 2. DIMENSIONS SHOWN ARE REFERENCE DIMENSIONS.
- 3. ASSEMBLY TOOLING ON PAGE 4.

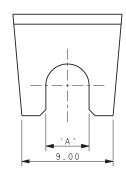
# **Assembly Tooling**



#### **ASSEMBLY TOOLING**







Wire Guage	Max Insulation (Dimensions 'A')	Tool Number Metal Tool for High Volume	Tool Numbere Plastic Tool for Small to Medium Volume
12-18 AWG	ø 4.25	06-9177-7020-01-001	06-9177-7022-01-001
12-18 AWG	ø 3.50	06-9177-7020-02-001	06-9177-7022-02-001
12-18 AWG	ø 2.75	06-9177-7020-03-001	06-9177-7022-03-001

NOTES:

1. ASSEMBLY TOOLING FOR CONTACTS 70-9177-001-5XX-006 ONLY.

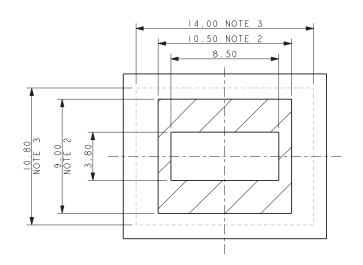
2. MINIMUM AREA OF PCB TO BE KEPT CLEAR OF COMPONENTS. TRACKS PERMISSIBLE.

3. MAXIMUM COMPONENT HEIGHT 9.0MM IN THIS AREA.

4. REFER TO TABLE FOR CORRECT TOOL/WIRE COMBINATION.

5. REFER TO APPLICATION NOTE 201-01-209 FOR FURTHER INFORMATION.

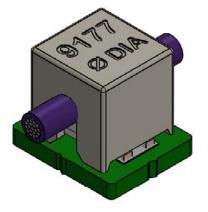
6. DIMENSIONS FOR TOOL ARE REFERENCE DIMENSIONS.



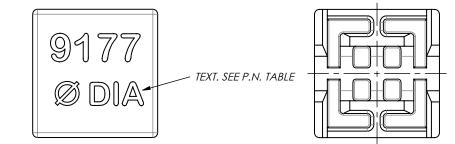
# SINGLE IDC CONTACT 12-18 AWG: 9177-500 Cap Details

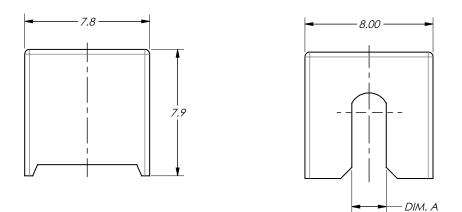


# **CAP DETAILS**



PARTNUMBER	DIM. A	TEXT	WIRE	COLOR
60-9177-001-531-100	2.75	ø 3.1	12 AWG	WHITE (STANDARD)
60-9177-001-531-000	2.75	Ø 3. I	12 AWG	BLACK (SPECIAL ORDER)
60-9177-001-526-100	2.25	<i>a</i> 0.6	14 AWG	WHITE (STANDARD)
60-9177-001-526-000	2.25	ø 2.6	14 AWG	BLACK (SPECIAL ORDER)
60-9177-001-522-100	1.90	ø 2.2	16 AWG	WHITE (STANDARD)
60-9177-001-522-000	1.90	Ø Z.Z	TOAWG	BLACK (SPECIAL ORDER)
60-9177-001-519-100	1.65	ø 1.9	18 SWG	WHITE (STANDARD)
60-9177-001-519-000	1.05	Ø 1.9	10.5WG	BLACK (SPECIAL ORDER)



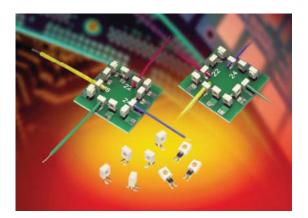


#### NOTES:

- 1. CAP FOR TERMINATING WIRES TO 9177-500 SERIES CONTACTS.
- 2. MATERIAL: HIGH TEMPERATURE NYLON; UL94V-0.
- 3. FOR FULL PRODUCT SPECIFICATION, REFER TO KAVX PRODUCT SPEC 201-01-208 AND APPLICATION NOTES 201-01-124.
- 4. PACKAGING TO BE BULK WITH 700 PARTS PER BAG.
- 5. FOR INSTALLATION DETAILS, SEE DRAWING 70-9177-001-5XX-006S.
- 6. PCB MUST BE CLEAR OF COMPONENTS ALLOWING CAP TO SEAT.

# **General Information**





The market and applications for simple and reliable discrete Wire-to-Board (WTB) connectors continue to evolve. Developed for harsh industrial and automotive applications, Insulation Displacement Connectors (IDC) have been used in hundreds of applications connecting wires to PCB's from transportation wiring to every day LED lighting and smart meter/sensor connections. Size, performance and simplicity have been the key factors for selecting this connector when long term reliability is critical.

This single contact version of the proven 9176 family of connectors is the first in Plated Through Hole (PTH) termination. While supporting all of the features and benefits from the SMT offering, this connector provides a new option for a small, cost effective and high performance WTB solution.

#### **APPLICATIONS**

- Machine Controls: motors, drives, solenoids, sensors, fans and pumps
- Commercial Buildings: controls, security, fire and sensors
- Smart Grid: meters, breakers and panels
- · SSL/LED: bulbs, fixtures, signage and streetlights
- Application notes: reference 201-01-142

#### **FEATURES AND BENEFITS**

- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Plastic cap retains the contact and then acts as the assembly tool to terminate the wires; no special tooling.
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- The IDC contact reduces the total applied cost versus solder or crimp processes
- Connectors are available in two configurations for maximum flexibility: End and Through Wire

#### **ELECTRICAL**

- Current Rating: See matrix below
- Voltage Rating: 600 VAC

### **ENVIRONMENTAL**

 Operating Temperature: -40°C to +125°C

#### **MECHANICAL**

- Contact Material: Phosphor Bronze
- Contact Plating: Tin over Nickel
- Durability: 3 Cycles

#### **HOW TO ORDER**



r Contact Style		Contact Style			
Codo	Decorintion	Accepted Wire Gauge	Wire		
Coue	Description	Accepted wire Gauge	Gauges		
600		18 AWG Stranded	ø1.6-2.1		
601 Capped IDC Connector PTH	20 AWG Solid and Stranded	ø1.6-2.1			
602 PCB Mount	22 AWG Solid and Stranded	ø1.1-1.6			
603	1 OB Mount	24 AWG Solid and Stranded	ø1.1-1.6		

9 or Option			X Cap Options		6 Plating
UL White	Code	Cap Option	Description	Details	<b>Option</b> Tin Plated
	0	Through Wire	Allows wire to be terminated at any point	See page 47	
	9	Wire Stop	Terminates end of wire End protected by stop face	See page 48	

RoHS



	18AWG	20AWG	22AWG	24AWG
9A 0A 0A JA	9A	8A	6A	5A

Certification: UL File #E90723



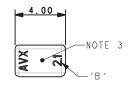


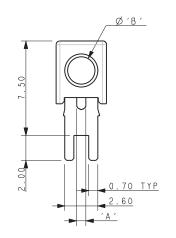
# **1 Position - Through Wire**



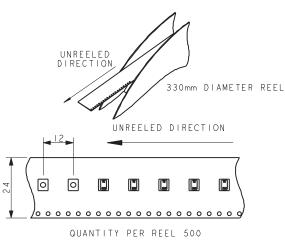
2.50

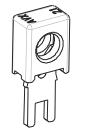
0.50

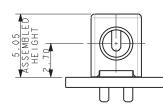




**PACKING DETAILS** 

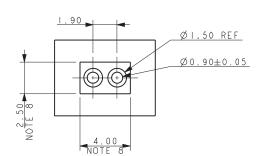






Code	Accepted Wire Gauge	A	Wire Insulation	в
600	18 AWG Stranded	0.74	Ø 1.6-2.1	2.1
601	20 AWG Solid or Stranded	0.60	Ø 1.6-2.1	2.1
602	22 AWG Solid or Stranded	0.47	Ø 1.1-1.6	1.6
603	24 AWG Solid or Stranded	0.37	Ø 1.1-1.6	1.6

# SUGGESTED PCB LAYOUT



#### NOTES:

- 1. 1 WAY CONNECTOR FOR PTH WIRE TO BOARD CONNECTION, PRE-ASSEMBLED THROUGH WIRE CAP, CODE SEE PAGE 46.
- 2. CONTAT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
- 3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY, MAXIMUM DIAMETER 1.8MM.
- FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-163.
- 5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-142.
- 6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
- 7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 500.
- 8. CONNECTOR OUTLINE.
- 9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- 10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-O. COLOR REFER TO PAGE 46.

4.00

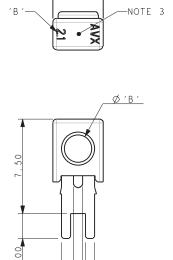
# **1** Position - Wire Stop



В

2.1

# **18-24 AWG 1 WAY PTH CONNECTOR** WIRE STOP CAPPED



. 70 TYP

0

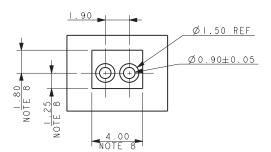
Ά

2.60

WIRE STOP 2.50 3.05 WIRE STOP SEMBLED ЩН Accepted Wire Code Α Wire Gauge Insulation 50 0. 600 18 AWG Stranded 0.74 Ø 1.6-2.1 601 20 AWG Solid or Stranded 0.60 Ø 1.6-2.1 2.1 602 22 AWG Solid or Stranded 0.47 Ø 1.1-1.6 1.6

# SUGGESTED PCB LAYOUT

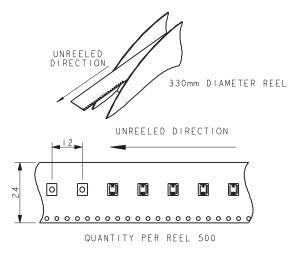
24 AWG Solid or Stranded 0.37 Ø 1.1-1.6 1.6





# **PACKING DETAILS**

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#### NOTES:

- 1. 1 WAY CONNECTOR FOR PTH WIRE TO BOARD CONNECTION, PRE-ASSEMBLED WIRE STOP CAP, CODE SEE PAGE 46.
- 2. CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
- 3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY, MAXIMUM DIAMETER 1.8MM.
- 4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-163.
- 5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-142.
- 6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
- 7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 500.
- 8. CONNECTOR OUTLINE.
- 9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- 10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-O. COLOR REFER TO PAGE 46.
- 11. WIRE STOP CAP PROTECTS END OF WIRE.

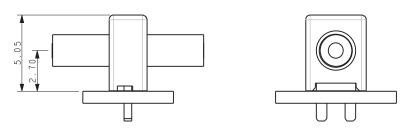
603

KUDEER8 The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.



**Assembly - Through Wire and Wire Stop** 

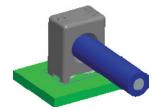
**18-24 AWG ASSEMBLED CAPPED PTH CONNECTORS** 



NOMINAL ASSEMBLED HEIGHTS



**TYPICAL THROUGH WIRE ASSEMBLIES** 

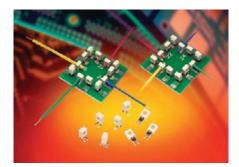




**TYPICAL WIRE STOP ASSEMBLIES** 

# **General Information**





The market and applications for simple and reliable discrete Wire-to-Board (WTB) connectors continue to evolve. Developed for harsh industrial and automotive applications, Insulation Displacement Connectors (IDC) have been used in hundreds of applications connecting wires to PCB's from transportation wiring to every day LED lighting and smart meter/sensor connections. Size, performance and simplicity have been the key factors for selecting this connector when long term reliability is critical.

This single contact version of the proven 9176 family of connectors offers a lower cost solution to the market with only a 10% reduction in current rating. The SMT footprint is backward compatible with the standard dual contact configurations; offers all the same wire gauges and termination benefits of the integrated cap and provides a 10% height reduction.

# **APPLICATIONS**

- Machine Controls: motors, drives, solenoids, sensors, fans and pumps
- Commercial Buildings: controls, security, fire and sensors
- Smart Grid: meters, breakers and panels
- SSL/LED: bulbs, fixtures, signage and streetlights
- Application notes: reference 201-01-142

#### **FEATURES AND BENEFITS**

- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Plastic cap retains the contact in position prior to automatic placement, then acts as the assembly tool to terminate the wires; no special tooling.
- Tested to automotive levels on shock, vibration and temperature cycling for reliability
- Identical contact and footprint pattern to the existing 9176 for full backward compatibility and functionality
- The IDC contact reduces the total applied cost versus solder or crimp processes
- Connectors are available in two configurations for maximum flexibility: End and Through Wire

#### **ELECTRICAL**

- Current Rating: See matrix below
- Voltage Rating: 600 VAC

## ENVIRONMENTAL

 Operating Temperature: -40°C to +125°C

## MECHANICAL

- Contact Material: Phosphor Bronze
- Contact Plating: Tin over Nickel
- Durability: 3 Cycles

#### **HOW TO ORDER**

# 00 9176 001 Prefix Series Number of Ways 001 = 1

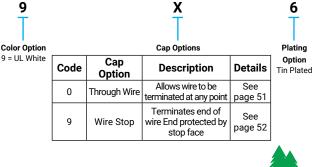
		Contact Style	
Code	Description	Accepted Wire Gauge	Wire Gauges
650	0 1100	18 AWG Stranded	ø1.6-2.1
651	Capped IDC Connector SMT	20 AWG Solid and Stranded	ø1.6-2.1
652	Mount	22 AWG Solid and Stranded	ø1.1-1.6
653		24 AWG Solid and Stranded	ø1.1-1.6

65X

#### **CURRENT RATING**

ſ	18AWG	20AWG	22AWG	24AWG
	9A	8A	6A	5A

Certification: UL File #E90723

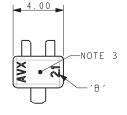


**RoHS** 

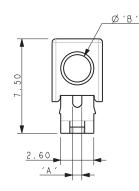


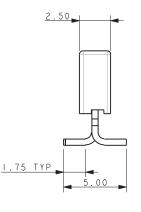
# **1 Position - Through Wire**

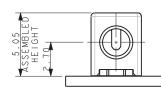






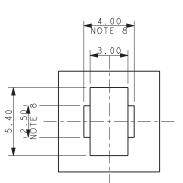






Code	Accepted Wire Gauge	Α	Wire Insulation	В
600	18 AWG Stranded	0.74	Ø 1.6-2.1	2.1
601	20 AWG Solid or Stranded	0.60	Ø 1.6-2.1	2.1
602	22 AWG Solid or Stranded	0.47	Ø 1.1-1.6	1.6
603	24 AWG Solid or Stranded	0.37	Ø 1.1-1.6	1.6

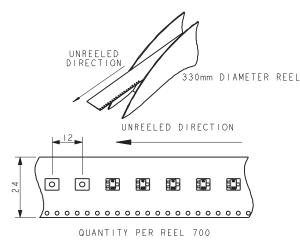
#### SUGGESTED PCB LAYOUT



- NOTES: 1. 1 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION, PRE-ASSEMBLED THROUGH WIRE CAP, CODE SEE PAGE 50.
- CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
- FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY, MAXIMUM DIAMETER 1.8MM.
- 4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-163.
- 5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-142.
- 6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
- 7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 700.
- 8. CONNECTOR OUTLINE.
- 9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- 10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-O. COLOR REFER TO PAGE 50.



**PACKING DETAILS** 

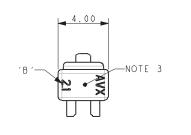


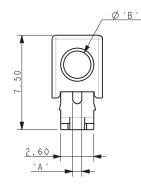
# **1** Position - Wire Stop

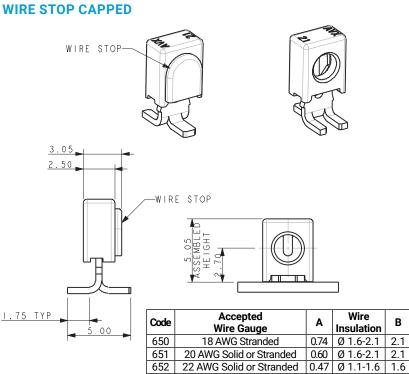


В

2.1



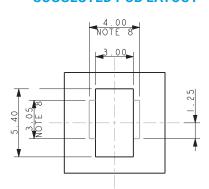




653

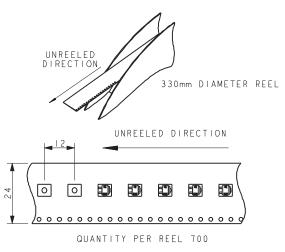
# SUGGESTED PCB LAYOUT

24 AWG Solid or Stranded 0.37 Ø 1.1-1.6 1.6





**PACKING DETAILS** 



#### NOTES:

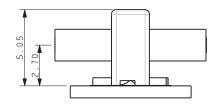
**18-24 AWG 1 WAY IDC CONNECTOR** 

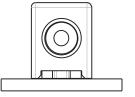
- 1. 1 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTION, PRE-ASSEMBLED WIRE STOP CAP, CODE SEE PAGE 50.
- 2. CONTACT/CAP TO MATCH 20AWG-24AWG SOLID AND STRANDED WIRES, 18AWG WILL ONLY ACCEPT STRANDED WIRES, SEE TABLE.
- 3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY, MAXIMUM DIAMETER 1.8MM.
- 4. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-163.
- ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-142. 5.
- 6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
- 7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 700.
- 8. CONNECTOR OUTLINE.
- 9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- 10. INSULATION MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED, UL94 V-O. COLOR REFER TO PAGE 50.
- 11. WIRE STOP CAP PROTECTS END OF WIRE.



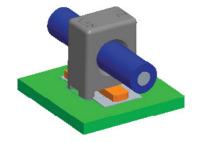
**Assembly - Through Wire and Wire Stop** 

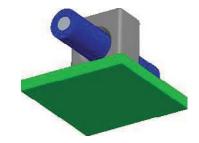
# **18-24 AWG ASSEMBLED CAPPED IDC CONNECTORS**



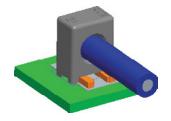


NOMINAL ASSEMBLED HEIGHTS





**TYPICAL THROUGH WIRE ASSEMBLIES** 





**TYPICAL WIRE STOP ASSEMBLIES** 

# **General Information**





#### **GENERAL DESCRIPTION**

KYOCERA AVX industrial/transportation grade insulation displacement connectors (IDC) have been proven in the market for over ten years. Providing a very simple one-step termination process, these connectors proved a robust wire-to-board (WTB) termination in harsh applications.

The 9176-800 series has been developed specifically for 22-26AWG discrete wires in size critical applications. By reducing the "Z" axis height by 1.0mm and the overall volume by up to 50%, this new package size is an ideal choice in space constrained applications over previous IDC connectors. In addition, an expanded size range is available starting from a 1 position up to 4 positions in each wire gauge. The entire range provides new packaging solutions in industrial, medical and transportation applications such as smart metering, LED lighting, industrial controls and portable monitoring and measurement devices.

#### **APPLICATIONS**

- · Connecting discrete wires and components to a PCB
- Bringing power and signals onto a PCB

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004 = 4

- Daisy chaining or interconnecting PCB's together
- Application Notes: Refer to 201-01-216

#### FEATURES AND BENEFITS

- Redundant and fatigue resistant phosphor bronze material provides a gas tight, cold welded connection to the wire
- IDC connectors can be potted or over molded to encapsulate electronic modules and provide environmental protection
- The 1p version is available in industry standard colors to match individual wires for error free wire termination

#### ELECTRICAL

•	Current Rating:	22AWG: 7 amps
		24AWG: 6 amps
		26AWG: 5 amps
		28AWG: 4 amps
		30AWG: 3 amps

- Voltage Rating: 1p: 600V 2p-4p: 100V
- Durability: 1 Cycle

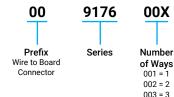
# ENVIRONMENTAL

• Operating Temperature: -40°C to +125°C

#### **MECHANICAL**

- Insulator Material: Glass-Filled Nylon 46; UL94V0
- Contact Material: Phosphor Bronze
- Plating: Lead-Free Tin Over Nickel

#### **HOW TO ORDER**



	T	-		
Wire Gauge Size				
Code	Accepted Wire Guage	Maximum Wire Isulation Diameter	UL Approved	
853	22AWG Solid and Stranded	1.40	Approved	
863	24AWG Solid and Stranded	1.40	Approved	
873	26AWG Solid and Stranded	1.40	Approved	
883	28AWG Solid and Stranded	0.80 to 1.40	Approved	
884	28AWG Solid and Stranded	0.80	Approved	
893	30AWG Solid and Stranded	0.80 to 1.40	Approved	
894	30AWG Solid and Stranded	0.80	Approved	

**8XX** 

Insulator Color 9 = White Standard colid Colors (1p only) 2 = Brown 3 = Blue

4 = Yellow

5 = Red 6 = Green 7 = Orange 8 = Black

Х

Plating Option 06 =Pure Tin All Over Nickel

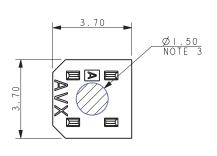
06

Certification: UL File #E90723

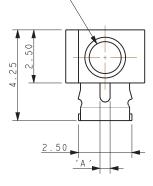
KYDECERE AWXC The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

# **1** Position





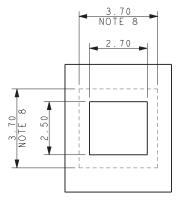
Ø'B' NOMINAL





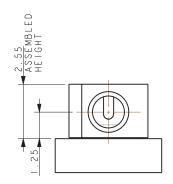
PART NUMBER See page 54	WIRE GAUGE	В	A
00-9176-001-853-X06	22AWG Solid and Stranded	1.50	0.47
00-9176-001-863-X06	24AWG Solid and Stranded	1.50	0.37
00-9176-001-873-X06	26AWG Solid and Stranded	1.50	0.28
00-9176-001-883-X06	28AWG Solid and Stranded	1.50	0.20
00-9176-001-884-X06	28AWG Solid and Stranded	0.90	0.20
00-9176-001-893-X06	30AWG Solid and Stranded	1.50	0.20
00-9176-001-894-X06	30AWG Solid and Stranded	0.90	0.20

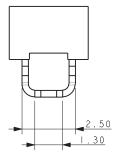




#### 00-9176-001-8XX-X06

1 WAY

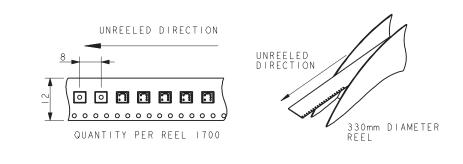




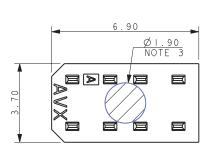
NOTES:

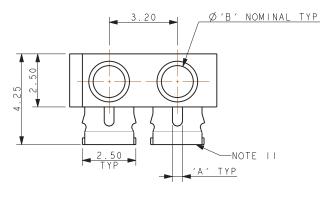
- 1. 1 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTOR.
- 2. CONTACT/CAP TO MATCH 22AWG TO 26AWG STRANDED AND SOLID WIRE, MAXIMUM INSULATOR 1.40 DIAMETER
- 3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
- 4. FOR FULL PRODUCT SPECIFICATION REFER TO KYOCERA AVX SPEC 201-01-215.
- 5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-216.
- 6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
- 7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 1700.
- 8. CONNECTOR OUTLINE.
- 9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- 10. INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 54.
- 11. UL REFERENCE E90723 (US AND CANADA).

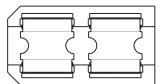
#### **PACKING DETAILS**



# 2 Position

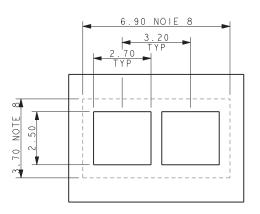


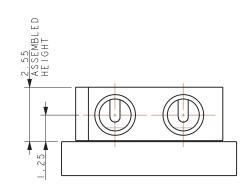




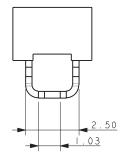
PART NUMBER See page 54	WIRE GAUGE	В	A
00-9176-002-853-X06	22AWG Solid and Stranded	1.50	0.47
00-9176-002-863-X06	24AWG Solid and Stranded	1.50	0.37
00-9176-002-873-X06	26AWG Solid and Stranded	1.50	0.28
00-9176-002-883-X06	28AWG Solid and Stranded	1.50	0.20
00-9176-002-884-X06	28AWG Solid and Stranded	0.90	0.20
00-9176-002-893-X06	30AWG Solid and Stranded	1.50	0.20
00-9176-002-894-X06	30AWG Solid and Stranded	0.90	0.20

# SUGGESTED PCB LAYOUT





KY<u>OCERa</u>

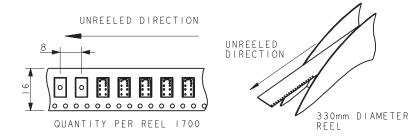


#### NOTES:

00-9176-001-8XX-X06 2 WAY

- 1. 2 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTOR.
- 2. CONTACT/CAP TO MATCH 22AWG TO 26AWG STRANDED AND SOLID WIRE, MAXIMUM INSULATOR 1.40 DIAMETER
- 3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
- FOR FULL PRODUCT SPECIFICATION REFER TO KYOCERA AVX SPEC 201-01-215.
- 5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-216.
- 6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
  - 7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 1700.
  - 8. CONNECTOR OUTLINE.
  - 9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
  - 10. INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 54.
  - 11. UL REFERENCE E90723 (US AND CANADA).

#### **PACKING DETAILS**



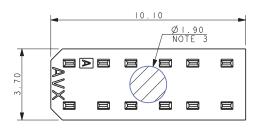
KYDCERA The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

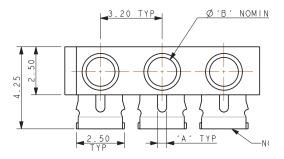
# **3 Position**

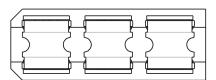


# 00-9176-001-8XX-X06

3 WAY

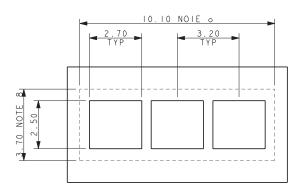


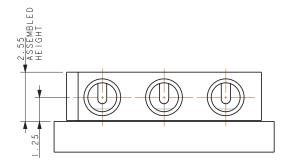


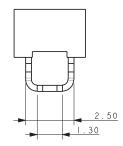


PART NUMBER See page 54	WIRE GAUGE	В	A
00-9176-003-853-X06	22AWG Solid and Stranded	1.50	0.47
00-9176-003-863-X06	24AWG Solid and Stranded	1.50	0.37
00-9176-003-873-X06	26AWG Solid and Stranded	1.50	0.28
00-9176-003-883-X06	28AWG Solid and Stranded	1.50	0.20
00-9176-003-884-X06	28AWG Solid and Stranded	0.90	0.20
00-9176-003-893-X06	30AWG Solid and Stranded	1.50	0.20
00-9176-003-894-X06	30AWG Solid and Stranded	0.90	0.20

# SUGGESTED PCB LAYOUT



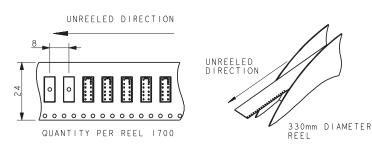




#### NOTES:

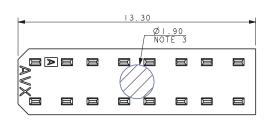
- 1. 3 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTOR.
- 2. CONTACT/CAP TO MATCH 22AWG TO 26AWG STRANDED AND SOLID WIRE, MAXIMUM INSULATOR 1.40 DIAMETER
- 3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
- FOR FULL PRODUCT SPECIFICATION REFER TO KYOCERA AVX SPEC 201-01-215.
- 5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-216.
- 6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
- 7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 1700.
- 8. CONNECTOR OUTLINE.
- 9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- 10. INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 54.
- 11. UL REFERENCE E90723 (US AND CANADA).

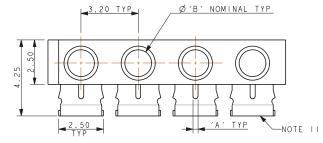
#### **PACKING DETAILS**

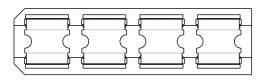


KYDCERA The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

# **4** Position



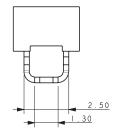




PART NUMBER See page 54	WIRE GAUGE	В	Α
00-9176-004-853-X06	22AWG Solid and Stranded	1.50	0.47
00-9176-004-863-X06	24AWG Solid and Stranded	1.50	0.37
00-9176-004-873-X06	26AWG Solid and Stranded	1.50	0.28
00-9176-004-883-X06	28AWG Solid and Stranded	1.50	0.20
00-9176-004-884-X06	28AWG Solid and Stranded	0.90	0.20
00-9176-004-893-X06	30AWG Solid and Stranded	1.50	0.20
00-9176-004-894-X06	30AWG Solid and Stranded	0.90	0.20

# 

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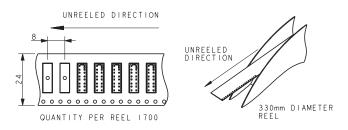


#### NOTES:

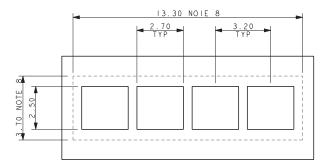
00-9176-001-8X3-X06 4 WAY

- 1. 4 WAY CONNECTOR FOR IDC WIRE TO BOARD CONNECTOR.
- 2. CONTACT/CAP TO MATCH 22AWG TO 26AWG STRANDED AND SOLID WIRE, MAXIMUM INSULATOR 1.40 DIAMETER
- 3. FLAT FACE ON TOP OF CAP TO AID PICK AND PLACE ASSEMBLY.
- FOR FULL PRODUCT SPECIFICATION REFER TO KYOCERA AVX SPEC 201-01-215.
- 5. ASSEMBLY PROCEDURE, REFER TO APPLICATION NOTES 201-01-216.
- 6. GENERAL TOLERANCE ±0.20 UNLESS STATED.
- 7. PACKED IN TAPE AND REEL, QUANTITY PER REEL 1700.
- 8. CONNECTOR OUTLINE.
- 9. CONTACT MATERIAL: TIN PLATED COPPER ALLOY.
- 10. INSULATOR MATERIAL: HIGH TEMPERATURE NYLON, GLASS FILLED. UL94 V-0, COLOR REFER TO PAGE 54.
- 11. UL REFERENCE E90723 (US AND CANADA).

# **PACKING DETAILS**



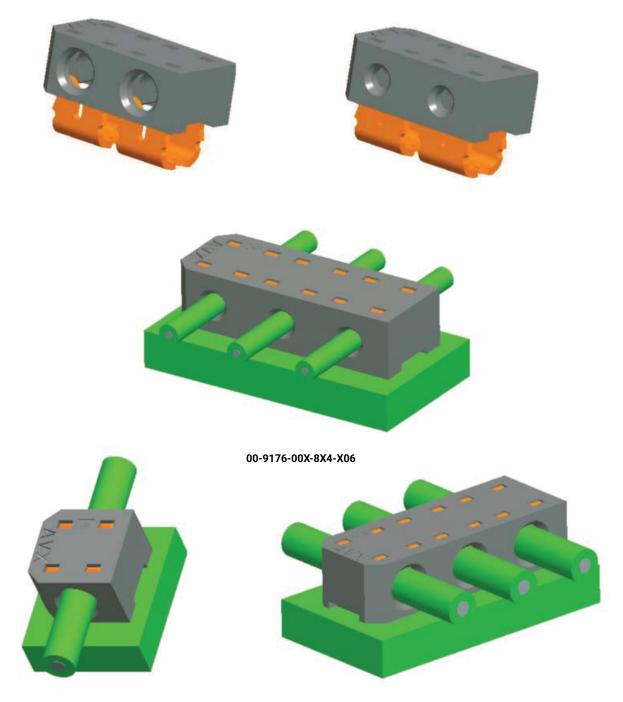
# SUGGESTED PCB LAYOUT







**CONNECTOR DETAILS** 



00-9176-00X-8X3-X06

# **General Information**





The 917X series of surface mount Insulation Displacement Connectors (IDC) were developed to meet the harsh automotive and industrial market applications for connecting individual wires directly to a PCB ranging from 14 AWG to 28 AWG. This industry proven contact system has been tested to automotive levels of shock, vibration, and temperature cycling to prove their reliability and robustness. The simplicity of inserting a wire into the connector with a small tool allows a wide range of devices to be connected to the PCB without soldering. In SSL applications specifically, these connectors are used to bring power and signal onto the PCB or are used to daisy chain multiple boards together in a long string. While the IDC contact provides a gas-tight connection to conductor of the wire, the housing has been designed to grab the insulation of the wire to provide a positive strain relief even in the harshest conditions. In case of repair, the wires can be removed and replace up to three times.

The 9177 series accepts 14 AWG to 20 AWG wires with an insulation diameter ranging from 2.75mm to 4.25mm. These dual contact connectors support a 15 amp current rating with two large SMT solder tails per wire to provide maximum stability on the PCB. Available in 1p-3p configuration, these connectors can be end stackable for higher pin counts.

# APPLICATIONS

- Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB's together to create a continuous string of boards
- · Application Notes: refer to 201-01-124

#### **FEATURES AND BENEFITS**

- IDC contact provides a gas-tight connection to the PCB for long term reliability
- Connector housing captures the wire insulation for positive strain relief
- Tested to automotive levels on shock, vibration and temperature cycling for reliability

**MECHANICAL** 

Plating: Tin over Nickel Durability: 3 Cycles

Insulator Material: Nylon 46: UL94V0 Contact Material: Phosphor Bronze

- Low and high volume assembly tools to match production volumes
- Reduced total applied cost versus solder or crimp processes
- High temperature insulator capable to 260°C reflow soldering processes

#### **ELECTRICAL**

Current Rating: 15 Amp / Contact

Voltage Rating: 600 VAC

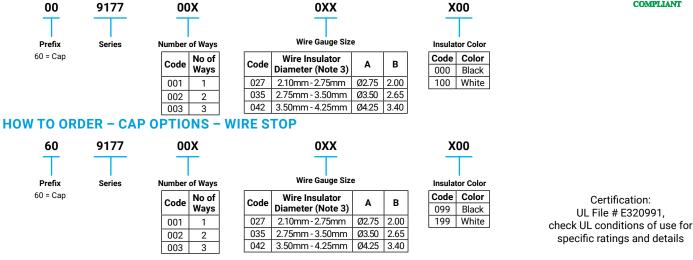
# HOW TO ORDER

00	9177		00X	-	0XX		×			x ⊤		06 	
Prefix	Series	Nu	mber of	Ways		Wire Gauge Size					Color/Approval		Plating
		Code	No of	Details	Code	Accepted	Wire	Co	de	Color	Approval		Option
		Code	Ways	Details	Code	Wire Gauge	Insulation		)	Black	Special Order - NON-UL	06 =	Pure Tin all Over
		001	1	Page 62	001	14 AWG Solid or Stranded	Ø 4.25	-		White	Special Order - NON-UL		
		002	2	Page 63	012	16 AWG Solid or Stranded	Ø 3.50	8	3	Black	Special Order - UL APPROVED		
		003	3	Page 64	022	18 AWG Solid or Stranded	Ø 3.50	9	)	White	Standard - UL APPROVED		
					033	20 AWG Solid or Stranded	Ø 2.75						
HOW	TO ORI	DER -	- CAF	P OPTIC	ONS -	- THROUGH WIRE							RoHS
	00	91	77	0	OX	OX	x			Х	00		COMPLIANT

**ENVIRONMENTAL** 

-40°C to +125°C

· Operating Temperature:





# **General Information**

# **CONNECTOR/TOOLING PART NUMBER MATRIX**

		SERIE	S 9177 IDC	;	HAND INSERT	ION TOOLING*	ACCESSORY CAPS		
AWG	Wire Insulation	Positions	Color	Part Number	Plastic (low volume)	Metal (high volume)	Through Wire	Wire Stop	
14	Ø 4.25	1p	White	009177001001106	069177701601001	069177701701001	609177001042100	609177001042199	
14	Ø 4.25	1p	Black	009177001001006	069177701601001	069177701701001	609177001042000	609177001042099	
14	Ø 4.25	2p	White	009177002001106	069177701601002	069177701701002	609177002042100	609177002042199	
14	Ø 4.25	2p	Black	009177002001006	069177701601002	069177701701002	609177002042000	609177002042099	
14	Ø 4.25	3p	White	009177003001106	069177701601003	069177701701003	609177003042100	609177003042199	
14	Ø 4.25	3p	Black	009177003001006	069177701601003	069177701701003	609177003042000	609177003042099	
16	Ø 3.50	1p	White	009177001012106	069177701602001	069177701702001	609177001035100	609177001035199	
16	Ø 3.50	1p	Black	009177001012006	069177701602001	069177701702001	609177001035000	609177001035099	
16	Ø 3.50	2p	White	009177002012106	069177701602002	069177701702002	609177002035100	609177002035199	
16	Ø 3.50	2p	Black	009177002012006	069177701602002	069177701702002	609177002035000	609177002035099	
16	Ø 3.50	3p	White	009177003012106	069177701602003	069177701702003	609177003035100	609177003035199	
16	Ø 3.50	3p	Black	009177003012006	069177701602003	069177701702003	609177003035000	609177003035099	
18	Ø 3.50	1p	White	009177001022106	069177701602001	069177701702001	609177001035100	609177001035199	
18	Ø 3.50	1p	Black	009177001022006	069177701602001	069177701702001	609177001035000	609177001035099	
18	Ø 3.50	2p	White	009177002022106	069177701602002	069177701702002	609177002035100	609177002035199	
18	Ø 3.50	2p	Black	009177002022006	069177701602002	069177701702002	609177002035000	609177002035099	
18	Ø 3.50	3p	White	009177003022106	069177701602003	069177701702003	609177003035100	609177003035199	
18	Ø 3.50	3p	Black	009177003022006	069177701602003	069177701702003	609177003035000	609177003035099	
20	Ø 2.75	1p	White	009177001033106	069177701603001	069177701703001	609177001027100	609177001027199	
20	Ø 2.75	1p	Black	009177001033006	069177701603001	069177701703001	609177001027000	609177001027099	
20	Ø 2.75	2p	White	009177002033106	069177701603002	069177701703002	609177002027100	609177002027199	
20	Ø 2.75	2p	Black	009177002033006	069177701603002	069177701703002	609177002027000	609177002027099	
20	Ø 2.75	3p	White	009177003033106	069177701603003	069177701703003	609177003027100	609177003027199	
20	Ø 2.75	3p	Black	009177003033006	069177701603003	069177701703003	609177003027000	609177003027099	
		* Ins	ertion Tool	ing - Requires Hand Pr	ess with Flat Rock Pla	tes; Consult Applicatio	n Notes 201-01-124		

# **1** Position

00

6



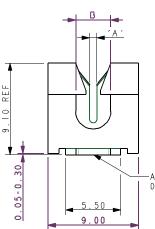
# 14-20 AWG 1 WAY IDC CONNECTOR

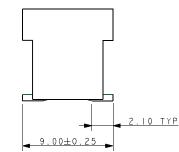
Pick and place area 2.375 x 9.00mm MIN



NOTES:

- 1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- 2. CONTACT MATERIAL: PHOSPHOR BRONZE. INSULATION MATERIAL: HIGH TEMP NYLON 46, COLOUR REFER TO SHEET 1.
- 3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 14AWG AND 20AWG SOLID AND STRANDED WIRE.
- 4. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED
- 5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-109, UL COMPONENTS REFER TO ELCO SPEC 201-01-109UL.
- 6. APPLICATION NOTES 201-01-124
- 7. FOR UL PRODUCT CODES UL REFERENCE E320991.
- 8. FOR PCB SPACE RESTRICTED BY ASSEMBLY TOOLING REFER TO SHEET 6

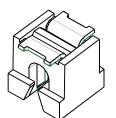




— ALL TAILS TO BE WITHIN D.IOmm COPLANARITY.

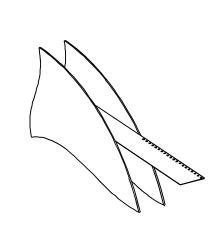
Code	Accepted Wire Gauge	Α	Wire Insulation	В
001	14 AWG Solid or Stranded	1.10	Ø 4.25 max	4.25
012	16 AWG Solid or Stranded	0.82	Ø 3.50 max	3.50
022	18 AWG Solid or Stranded	0.72	Ø 3.50 max	3.50
033	20 AWG Solid or Stranded	0.60	Ø2.75 max	2.75

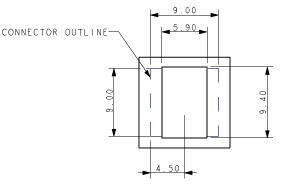
SMT PCB LAYOUT PURE TIN PADS

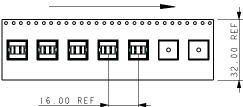


#### **PACKING DETAILS**

REEL QTY	400
LEADER	500MM
TRAILER	400MM
REEL/BOX	4
PACK QTY	1600



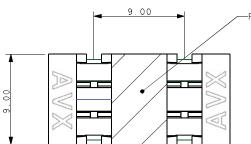




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# 2 Position

# 



Α

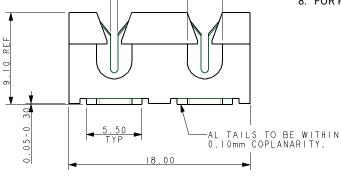
### 14-20 AWG 2 WAY IDC CONNECTOR

PICK UP AREA 4.75 x 9.00mm MIN



#### NOTES:

- 1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- 2. CONTACT MATERIAL: PHOSPHOR BRONZE. INSULATION MATERIAL: HIGH TEMP NYLON 46, COLOUR REFER TO SHEET 1.
- 3. CONNECTOR DESIGN TO ACCEPT BETWEEN 14AWG AND 20AWG SOLID AND STRANDED WIRE.
- 4. ALL DIMENSIONS ±0.20 UNLESS TOLLERANCED.
- 5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-109, UL COMPONENTS REFER TO ELCO SPEC 201-01-109UL.
- 6. APPLICATION NTOES 201-01-124.
- 7. FOR UL PRODUCT CODES UL REFERENCE E320991
- 8. FOR PCB SPACE RESTRICTED BY ASSEMBLY TOOLING REFER TO SHEET 6



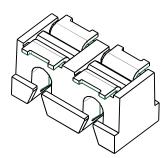
NE

В

9.00±0	.25	2.10	<u>TYP</u>

Code	Accepted Wire Gauge	Α	Wire Insulation	В
001	14 AWG Solid or Stranded	1.10	Ø 4.25 max	4.25
012	16 AWG Solid or Stranded	0.82	Ø 3.50 max	3.50
022	18 AWG Solid or Stranded	0.72	Ø 3.50 max	3.50
033	20 AWG Solid or Stranded	0.60	Ø 2.75 max	2.75

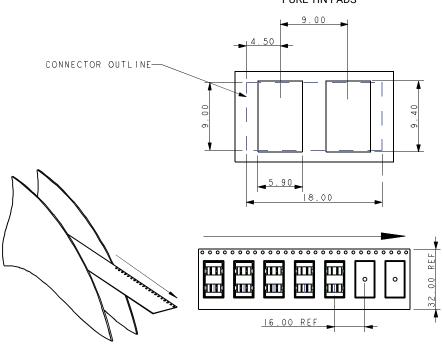
#### SMT PCB LAYOUT PURE TIN PADS



ST B

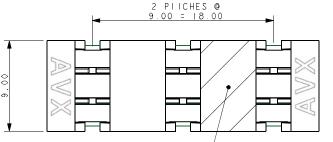
#### **PACKING DETAILS**

REEL QTY	400
LEADER	500mm
TRAILER	400mm
REEL DIAMETER	330mm



# **3** Position

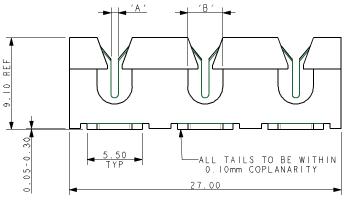
# 14-20 AWG 3 WAY IDC CONNECTOR

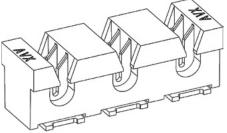


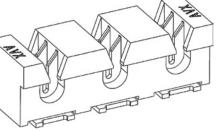
PICK UP AREA 4.75 x 9.00mm MIN-

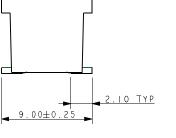


- 1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION.
- 2. CONTACT MATERIAL: PHOSPHOR BRONZE.
- INSULATION MATERIAL: HIGH TEMP NYLON 46, COLOUR REFER TO SHEET 1 3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 14AWG AND 20AWG SOLID AND STRANDED WIRE.
- 4. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED.
- 5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-109, UL COMPONENTS REFER TO ELCO SPEC 201-01-109UL.
- 6. APPLICATION NOTES 201-01-124.
- 7. FOR UL PRODUCT CODES UL REFERENCE E320991.
- 8. FOR PCO SPACE RESTICTED BY ASSEMBLY TOOLING REFER TO SHEET 6



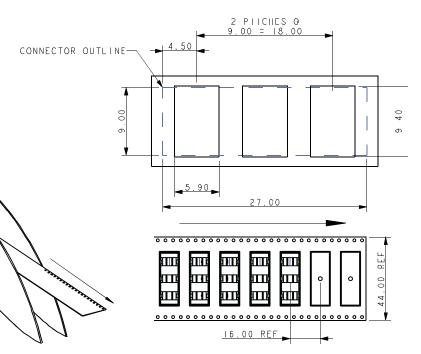






Code	Accepted Wire Gauge	Α	Wire Insulation	В
001	14 AWG Solid or Stranded	1.10	Ø 4.25 max	4.25
012	16 AWG Solid or Stranded	0.82	Ø 3.50 max	3.50
022	18 AWG Solid or Stranded	0.72	Ø 3.50 max	3.50
033	20 AWG Solid or Stranded	0.60	Ø 2.75 max	2.75

#### **SMT PCB LAYOUT** PURE TIN PADS



**PACKING DETAILS** 

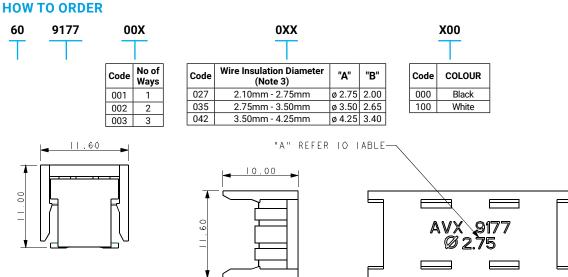
REEL QTY	400
LEADER	500mm
TRAILER	400mm
REEL DIAMETER	330mm



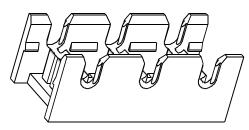


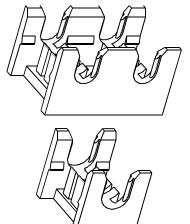
### **Assessory Cap - Through Wire**

### **ACCESSORY CAP – THROUGH WIRE**



### **ASSEMBLED DIMENSIONS**

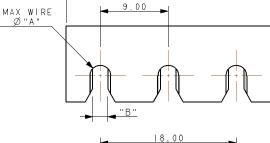




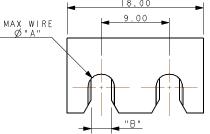
#### NOTES:

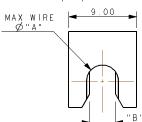
- 1. CAP FOR 9177 IDC WIRE TO BOARD CONNECTOR.
- 2. THROUGH WIRE CAP CAN BE USED AT ANY POSITION ALONG WIRE.
- 3. REFERS TO CAP, FOR WIRE MATCH TO CONNECTOR REFER TO TABLE ON SHEET
- 4. MATERIAL: GLASS FILLED NYLON 46, FOR COLOUR REFER TO TABLE
- 5. CAPS DESIGNED TO ACCOODATE INSULATION DIAMETERS REFER TO TABLE.
- 6. GENERAL TOLERANCE ±0.20mm.
- 7. PACKED IN BAGS, 400 PIECES PER BAG
- 8. APPLICATION NOTES REFER TO ELCO SPECIFICATION 201-01-124

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27.00







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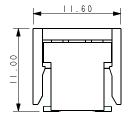


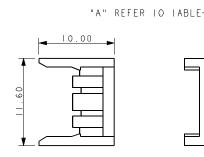


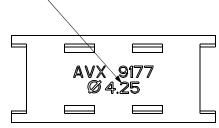


### **Assessory Cap - Wire Stop**

### **ACCESSORY CAP - WIRE STOP**

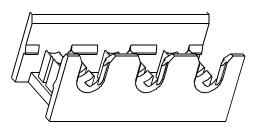


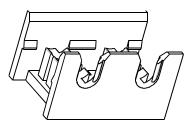


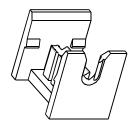


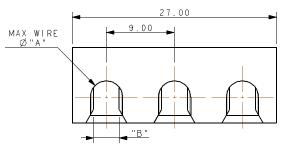


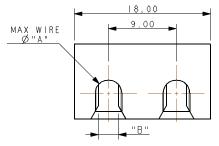
### **ASSEMBLED DIMENSIONS**

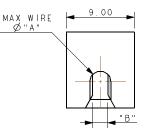












NOTES:

- 1. CAP FOR 9177 IDC WIRE TO BOARD CONNECTOR.
- 2. THROUGH WIRE CAP CAN BE USED AT ANY POSITION ALONG WIRE.
- 3. REFERS TO CAP, FOR WIRE MATCH TO CONNECTOR REFER TO TABLE ON PAGE 60.
- 4. MATERIAL: GLASS FILLED NYLON 46. FOR COLOR REFER TO PAGE 60.
- 5. CAPS DESIGNED TO ACCOMMODATE INSULATION DIAMETERS REFER TO PAGE 60.
- 6. GENERAL TOLERANCE ±0.20MM.
- 7. PACKED IN BAGS, 400 PIECES PER BAG.
- 8. APPLICATION NOTES REFER TO ELCO SPECIFICATION 201-01-124.

### **Insertion Tooling**

# 🔇 KY<u>OCERa</u>

RoHS COMPLIANT

### **INSERTION TOOLING - REQUIRES HAND PRESS WITH FLAT ROCK PLATES**

#### **1 WAY**



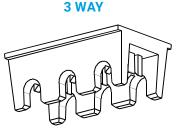
#### **HIGH PRODUCTION** Metal

No. of Ways	Max Insulation Dia (AWG)	Tool Part Number
	ø 4.25	06-9177-7017-01-001
1	ø 3.50	06-9177-7017-02-001
	ø 2.75	06-9177-7017-03-001
	ø 4.25	06-9177-7017-01-002
2	ø 3.50	06-9177-7017-02-002
	ø 2.75	06-9177-7017-03-002
	ø 4.25	06-9177-7017-01-003
3	ø 3.50	06-9177-7017-02-003
	ø 2.75	06-9177-7017-03-003



#### MEDIUM PRODUCTION Plastic

No. of Ways	Max Insulation Dia (AWG)	Tool Part Number
	ø 4.25	06-9177-7016-01-001
1	ø 3.50	06-9177-7016-02-001
	ø 2.75	06-9177-7016-03-001
	ø 4.25	06-9177-7016-01-002
2	ø 3.50	06-9177-7016-02-002
	ø 2.75	06-9177-7016-03-002
	ø 4.25	06-9177-7016-01-003
3	ø 3.50	06-9177-7016-02-003
	ø 2.75	06-9177-7016-03- 003

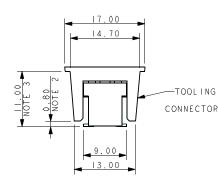


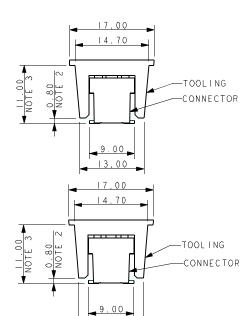
The assembly tooling restricts the available space/component heights on the PCB. For details see below.

### NOTES:

- 1. ALL DIMENSIONS FOR REFERENCE DIMENSIONS.
- 2. MAXIMUM COMPONENT HEIGHT 0.80MM IN THIS AREA.
- 3. MAXIMUM COMPONENT HEIGHT 11.00 MM IN THIS AREA.
- THE SAME RESTRICTIONS APPLY TO ALL WIRE 4. INSULATION DIAMETERS.

### **INSERTION TOOLING – PCB RESTRICTED AREAS FOR ASSEMBLY TOOLING**



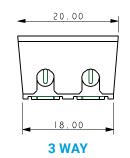


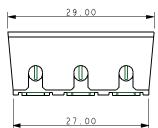
13.00

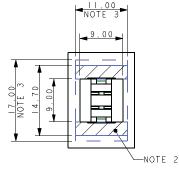
**1 WAY** 

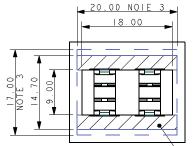


**2 WAY** 

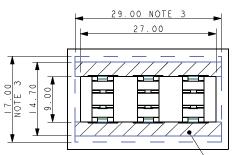








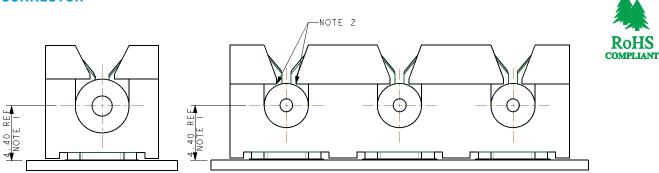
NOTE 2



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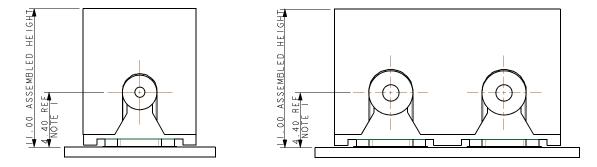
### **Assembled Connector**

### STANDARD CONNECTOR



KYOCERa

### **CONNECTOR WITH CAP**



#### NOTES:

- 1. ASSEMBLED HEIGHTS INCLUDE 0.10mm ALLOWANCE FOR PAD AND SOLDER THICKNESS, NO ALLOWANCE HAS BEEN MADE FOR ANY SOLDER RESIST OR OTHER FEATURES.
- 2. WHEN THE WIRE IS ASSEMBLED THE INSULATION SHOULD BE TRAPPED BY THESE EDGES.

# CAPPED THRU HOLE 12-18 AWG: 00-9177

### **General Information**





KYOCERA AVX developed the initial SMT discrete wire IDC connector 5 years ago for 26- 28AWG wires. Since then, we have seen this Wire-to-Board (WTB) contact technology spread to multiple wire gauges and multiple configurations; standard connectors, capped connectors and single contacts. All of which addresses specific application or cost parameters set forth by our customer in demanding industrial, transportation or commercial applications. The heart of the IDC connector is the true "gas tight" WTB termination that is achieved once the wire is inserted between the dual phosphor bronze contact tines. These opposing tines provide enough spring characteristics to allow the termination to remain stable over extreme levels of temperature, shock and vibration.

The new 9177-600 family of contacts incorporates all of the above mentioned capabilities. From low cost single contacts to fully integrated capped contacts. The unique feature of the 600 series is the fact that it was developed for Plated Through Hole (PTH) termination to the PCB. This addresses the rugged power type boards that have to handle larger wire gauges up to 12AWG and 15 Amps per contact of current. The PTH option provides robust PCB attachment and high current capabilities to replace older technology connectors or in most cases soldering stripped wires directly to the PCB.

#### **APPLICATIONS**

- Industrial pumps, motors and driver boards
- Solar and alternative energy products
- Commercial electrical equipment
- Reference Product Specification & application notes 201-01-141/142

#### FEATURES AND BENEFITS

- IDC contact provides a "gas tight" wire termination to the PCB to meet harsh industrial environments
- Simple, robust design offers a high performance solution to hand soldering large gauge wires to a PCB
- A single contact an handle up to 15A for high current applications with wire replacement up to 3 times
- The versatile family of IDC contact can accept 12-18AWG of stranded wires and can be tested for compliance with solid wires

#### **ELECTRICAL**

- Current Rating: 15A
- Voltage Rating: 600 VAC

#### **ENVIRONMENTAL**

 Operating Temperature: -40°C to +125°C

#### **MECHANICAL**

- Insulator Material: Nylon 46, UL94VO
- Contact Material: Phosphor Bronze

XX

- · Plating: Tin over Nickel
- · Durability: Wires can be replaced up to 3 time

#### **HOW TO ORDER**

00	9177	00X		(
Prefix	Series	Nun	nber of	Ways
		Code	No of Ways	Details
		001	1	Page 69

	Wire Insulation/Gauge Size					
5	Code	Style	Accepted Wire Gauge	Wire Insulation		
9	691	Though Hole Mount	12 AWG Solid or Stranded	Ø 4.25 Max		
	601	Though Hole Mount	14 AWG Solid or Stranded	Ø 4.25 Max		
	612	Though Hole Mount	16 AWG Solid or Stranded	Ø 3.50 Max		
	622	Though Hole Mount	18 AWG Solid or Stranded	Ø 3.50 Max		

0XX

		T		Ť
	c	Color/Approval		Plating
Code	Insulator Color	Cap Type	Description	Option 6 = Pure Tin
00	Black - Special Order	Through Wire	Any Position Along Wire	all Over
09	Black - Special Order	Wire Stop	End of Wire - Includes Stop	unover
10	White - Standard	Through Wire	Any Position Along Wire	
19	White - Standard	Wire Stop	End of Wire - Includes Stop	



6

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# CAPPED THRU HOLE 12-18 AWG: 00-9177

### **1 Position - Through Wire**

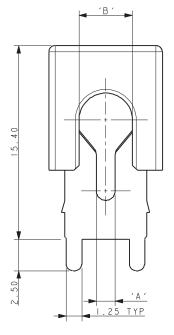


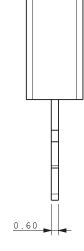
### 12 - 18 AWG 1 WAY IDC CONNECTOR WIRE THROUGH CAP

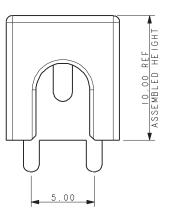


#### NOTES:

- 1. CONNECTOR FOR IDC WIRE TO BOARD CONNECTION, WIRE THROUGH CAP, CAN BE ASSEMBLED AT ANY POSITION ALONG A WIRE.
- CONTACT MATERIAL: PHOSPHOR BRONZE. INSULATION MATERIAL: HIGH TEMP NYLON 46, UL94 V-0. COLOR REFER TO PAGE 68.
- 3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 12 AND 18 AWG STRANDED WIRE.
- 4. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED.
- 5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-141.
- 6. APPLICATION NOTES 201-01-142.
- 7. OUTLINE OF CAP. NO SPACE FOR COMPONENTS.
- 8. TEST TO INDICATE MAXIMUM INSULATION DIAMETER.



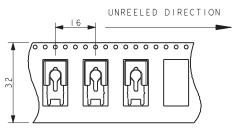




**PACKING DETAILS** 



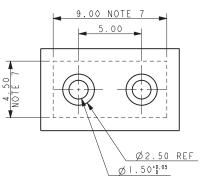
330mm DIAMETER REEL



QUANTITY PER REEL 800

Code	Accepted Wire Gauge	A	Wire Insulation	В
691	12 AWG Solid or Stranded	1.50	Ø 4.25 Max	4.25
601	14 AWG Solid or Stranded	1.10	Ø 4.25 Max	4.25
612	16 AWG Solid or Stranded	0.82	Ø 3.50 Max	3.50
622	18 AWG Solid or Stranded	0.72	Ø 3.50 Max	3.50

#### SMT PCB LAYOUT PURE TIN PADS



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# CAPPED THRU HOLE 12-18 AWG: 00-9177

-NOTE 8

9.00

AVX Ø3.50

-NOTE 9

### **1 Position - Wire Stop**

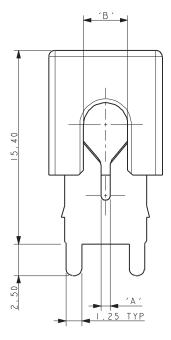
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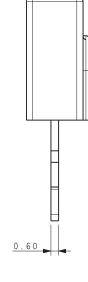


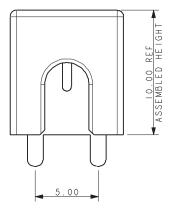
### 12 - 18 AWG 1 WAY IDC CONNECTOR WIRE STOP CAP

#### NOTES:

- 1. CONNECTOR FOR IDC WIRE TO BORAD CONNECTION, WIRE STOP CAP, FOR USE AT WIRE END.
- CONTACT MATERIAL: PHOSPHOR BRONZE. INSULATION MATERIAL: HIGH TEMP NYLON 46, UL94 V-0. COLOR REFER TO PAGE 68.
- 3. CONNECTOR DESIGNED TO ACCEPT BETWEEN 12 AND 18 AWG STRANDED WIRE.
- 4. ALL DIMENSIONS ±0.20 UNLESS TOLERANCED.
- 5. FOR FULL PRODUCT SPECIFICATION ON STANDARD CONNECTORS REFER TO ELCO SPEC 201-01-141.
- 6. APPLICATION NOTES 201-01-142.
- 7. OUTLINE OF CAP. NO SPACE FOR COMPONENTS.
- 8. TEST TO INDICATE MAXIMUM INSULATION DIAMETER.
- 9. SLOT TO CHECK WIRE POSITION BEFORE ASSEMBLY.

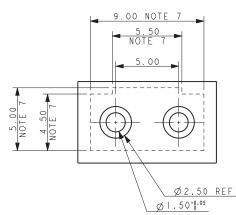






Code	Accepted Wire Gauge	A	Wire Insulation	В
691	12 AWG Solid or Stranded	1.50	Ø 4.25 Max	4.25
601	14 AWG Solid or Stranded	1.10	Ø 4.25 Max	4.25
612	16 AWG Solid or Stranded	0.82	Ø 3.50 Max	3.50
622	18 AWG Solid or Stranded	0.72	Ø 3.50 Max	3.50

#### SMT PCB LAYOUT PURE TIN PADS

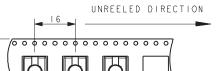


**PACKING DETAILS** 



330mm DIAMETER REEL

32



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### **General Information**





KYOCERA AVX developed the initial SMT discrete wire IDC connector 5 years ago for 26-28AWG wires. Since then, we have seen this Wire-to-Board (WTB) contact technology spread to multiple wire gauges and multiple configurations; standard connectors, capped connectors and single contacts. All of which addresses specific application or cost parameters set forth by our customer in demanding industrial, transportation or commercial applications. The heart of the IDC connector is the true "gas tight" WTB termination that is achieved once the wire is inserted between the dual phosphor bronze contact tines. These opposing tines provide enough spring characteristics to allow the termination to remain stable over extreme levels of temperature, shock and vibration.

The new 9177-600 family of contacts incorporates all of the above mentioned capabilities. From low cost single contacts to fully integrated capped contacts. The unique feature of the 600 series is the fact that it was developed for Plated Through Hole (PTH) termination to the PCB. This addresses the rugged power type boards that have to handle larger wire gauges up to 12AWG and 15 Amps per contact of current. The PTH option provides robust PCB attachment and high current capabilities to replace older technology connectors or in most cases soldering stripped wires directly to the PCB.

### **APPLICATIONS**

- · Industrial pumps, motors and driver boards
- Solar and alternative energy products
- Commercial electrical equipment
- Reference Product Specification & application notes 201-01-141/142

### **FEATURES AND BENEFITS**

- IDC contact provides a "gas tight" wire termination to the PCB to meet harsh industrial environments
- Simple, robust design offers a high performance solution to hand soldering large gauge wires to a PCB
- A single contact an handle up to 15A for high current applications with wire replacement up to 3 times
- The versatile family of IDC contact can accept 12-18AWG of stranded wires and can be tested for compliance with solid wires

### **ELECTRICAL**

### Current Rating: 15A

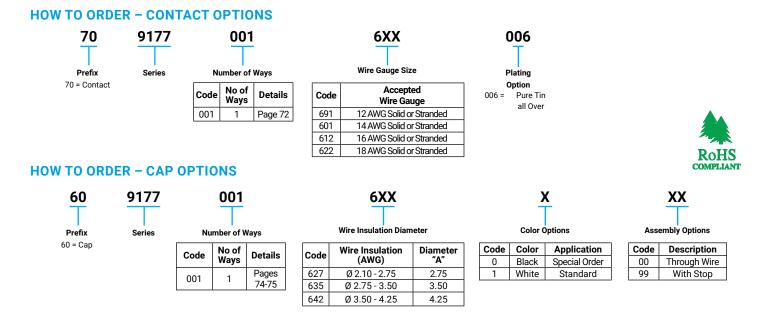
Voltage Rating: 600 VAC

### **ENVIRONMENTAL**

• Operating Temperature: -40°C to +125°C

### MECHANICAL

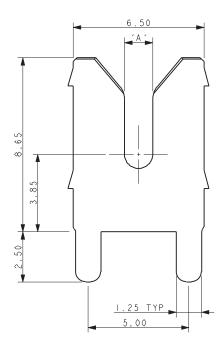
- Insulator Material: Nylon 46, UL94VO
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- Durability: Wires can be replaced up to 3 time



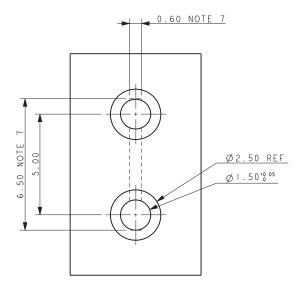




70-9177-001-6XX-006 CONTACT DETAILS



**PCB LAYOUT FOR CONTACT** 



Code	Accepted Wire Gauge	
691	12 AWG Solid or Stranded	1.50
601	14 AWG Solid or Stranded	1.10
612	16 AWG Solid or Stranded	0.82
622	18 AWG Solid or Stranded	0.72

NOTES:

- 1. IDC CONTACT OT ACCEPT WIRES FROM 12 AWG TO 18 AWG.
- 2. MATERIAL: PHOSPHOR BRONZE.
- 3. PLATING PURE TIN OVER NICKEL.
- 4. ALL DIMENSIONS ±0.20 UNLESS SPECIFIED.
- 5. PACKING IN BAGS, 800 PIECES PER BAG.
- 6. PRODUCT SPECIFICATION REFER TO 201-01-141.
- 7. OUTLINE OF CONTACT SEE PAGE 71 FOR ADDITIONAL CLEARANCE REQUIRED FOR WIRE INSERTION TOOL.
- 8. FOR ASSEMBLY DETAILS REFER TO APPLICATION NOTES 201-01-142.

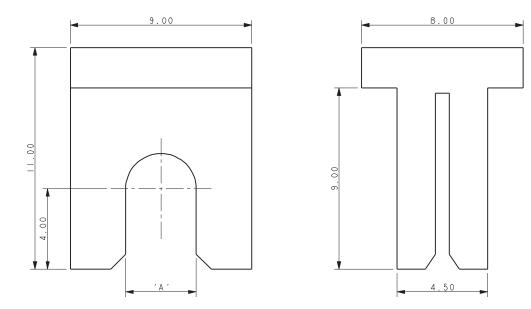
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### **Assembly Tooling**



### **ASSEMBLY TOOLING**

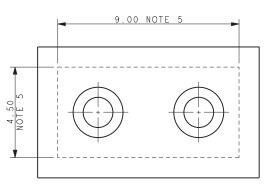
Part Number	Wire Insulation	Α
06-9177-7021-01-000	Ø 3.50 - 4.25	4.25
06-9177-7021-02-000	Ø 3.50 - 4.50	3.50
06-9177-7021-03-000	Ø 3.50 - 2.75	275



#### NOTES:

- 1. WIRE INSERTION TOOL 06-9177-7021-0X-000, FULL PART NUMBER REFER TO TABLE.
- 2. TOOL PART NUMBER DEPENDENT ON WIRE INSULATION DIAMETER NOT WIRE GAUGE OR CONTACT NUMBER.
- 3. ASSEMBLY DETAILS REFER TO APPLICATION NOTES 201-01-142
- 4. MATERIAL: TOOL STEEL.
- 5. APACE REQUIRED ON PCB FOR TOO. NO COMPONENTS IN THIS AREA.

#### **PCB CLEARANCE AREA FOR TOOL**

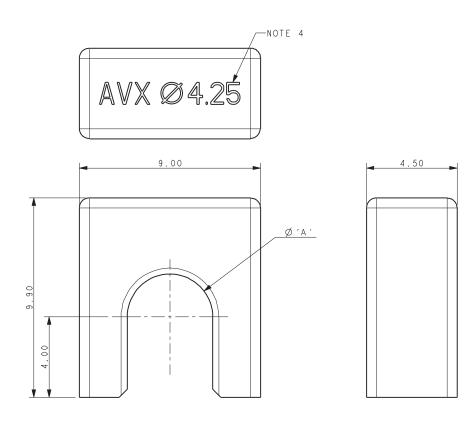


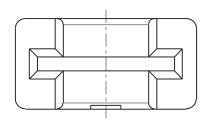
**CALC** The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

Accessory Cap - Through Wire



### 60-9177-001-6XX-X00 1 WAY WIRE THROUGH CAP DETAILS





Code page 71	Diameter A	Text Note 4
627	2.75	1.50
635	3.50	1.10
642	4.25	0.82

NOTES:

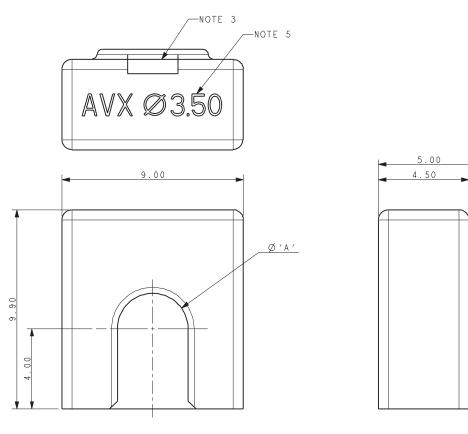
- 1. CAP FOR IDC WIRE TO BOARD CONNECTION, 1 WAY WITH THROUGH WIRE.
- 2. WIRE THROUGH CAP FOR ASSEMBLY AT ANY POSITION ON A WIRE.
- 3. CAP MATERIAL: GLASS FILLED NYLON 46, UL94 V-0. COLOR SEE PAGE 71.
- 4. CAP DESIGNED TO ACCOMMODATE WIRE INSULTATION.
- DIAMETERS 2.10MM TO 2.75MM, 2.75MM TO 3.50MM AND 3.50MM TO 4.25MM. 5. ALL DIMENSIONS ±0.20 UNLESS STATED.
- 6. PACKED IN BAGS, QUANTITY 800 PIECES PER BAG.
- 7. PRODUCT SPECIFICATION REFER TO 201-01-141.
- 8. FOR ASSEMBLY DETAILS REFER TO APPLICATION NOTES 201-01-142.

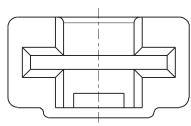


### Accessory Cap - Wire Stop









Code page 71	Diameter A	Text Note 4
627	2.75	2.75
635	3.50	3.50
642	4.25	4.25

NOTES:

- 1. CCAP FOR IDC WIRE TO BOARD CONNECTION, 1 WAY WITH WIRE STOP.
- 2. WIRE STOP FOR USE AT END OF WIRE.
- 3. SLOT TO CHECK WIRE POSITION BEFORE ASSEMBLY.
- 4. CAP MATERIAL: GLASS FILLED NYLON 46, UL94 V-0. COLOR SEE PAGE 71.
- 5. CAP DESIGNED TO ACCOMMODATE WIRE INSULTATION.
- DIAMETERS 2.10MM TO 2.75MM, 2.75MM TO 3.50MM AND 3.50MM TO 4.25MM.
- 6. ALL DIMENSIONS  $\pm 0.20$  UNLESS STATED.
- 7. PACKED IN BAGS, QUANTITY 800 PIECES PER BAG.
- 8. PRODUCT SPECIFICATION REFER TO 201-01-141.
- 9. FOR ASSEMBLY DETAILS REFER TO APPLICATION NOTES 201-01-142.

### **General Information**





The new 9276 series connector provides a quick and reliable wire-to-board termination in a sleek 2.5mm pitch SMT package for a broad range of industrial and commercial markets. With almost every product on the market today having to deal with a small number of discrete wires to connect components to a board, the 9276 series connectors meets this challenge by simply stripping the wire and inserting them into the connector. This makes the connector very termination friendly within the factory as well as in the field by electrical installers. Developed for harsh industrial and Solid State Lighting (SSL) applications, the connector was designed with a high spring force Beryllium Copper upper spring contact to accept a wide range (18-26 AWG solid or stranded) of wire to meet multiple applications with a single connector. By incorporating a dual-contact design we were able to maximize current rating (6 Amps) and minimize PCB space. For example, the 4p connector has a footprint of 90 sq-mm while competing products are 160 sq-mm. The dual-contact design also provides two solder points for each wire eliminating the need for external anchor tabs. KYOCERA AVX provides a small insertion / extraction tool which will allow the wires to easily be replaced up to 5 times.

### **APPLICATIONS**

- · Connecting discrete wire components directly to the PCB
- Bringing power and signals onto a PCB
- Daisy chaining PCB's together to create a continuous string of boards
- Application notes: refer to 201-01-127

### **FEATURES AND BENEFITS**

- Simple strip, insert and removal design
- SMT RoHS termination to the PCB with minimal footprint
- Accepts 18-26 AWG Solid and Stranded wires
- Expanded size offering to maximize application potential; 1, 2, 3, 4, 6 & 8 positions
- High spring force top contact provides a lance type retention to capture and retain the wire
- Available in standard white and optional black color

### **ELECTRICAL**

- Current Rating: 6 Amps / Contact
- Voltage Rating: 300 VAC

### **ENVIRONMENTAL**

 Operating Temperature: -40°C to +125°C

### **MECHANICAL**

• Insulator Material: Glass-Filled Nylon 46; UL94V0

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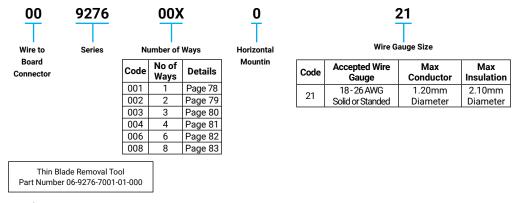
Insulator Color

9 = UL White

8 = UL Black

- Contact Material: Beryllium Copper / Phosphor Bronze
- Plating: Tin over Nickel
- Replaceability: 5 Cycles

### **HOW TO ORDER**



Plating Option 06 = Pure Tin all Over

06



Certification: UL File #E90723

### Wire Assembly/Wire Extraction



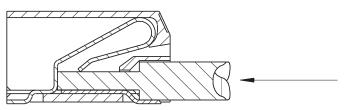
### WIRE ASSEMBLY

### FOR FURTHER DETAILS REFER TO APPLICATION NOTES 201-01-127



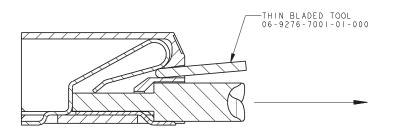
TRIM INSULATION. DO NOT CRUSH CENTER OF WIRE. STRANDED WIRES TWISTED TOGETHER BEFORE INSERTION. CHECK ALL STANDS OF WIRE ARE CORRECTLY ALIGNED AFTER THE INSULATION IS REMOVED.

PUSH WIRE INTO HOLE IN FRONT OF CONNECTOR DO NOT BEND CONNECTOR



CONTINUED TO PUSH WIRE UNTIL STOP IS REACHED.

### WIRE EXTRACTION



PUSH BLADE (NOT SHARP) INTO SLOT ABOVE WIRE. WHEN WIRE IS FREE, PULL TO EXTRACT.

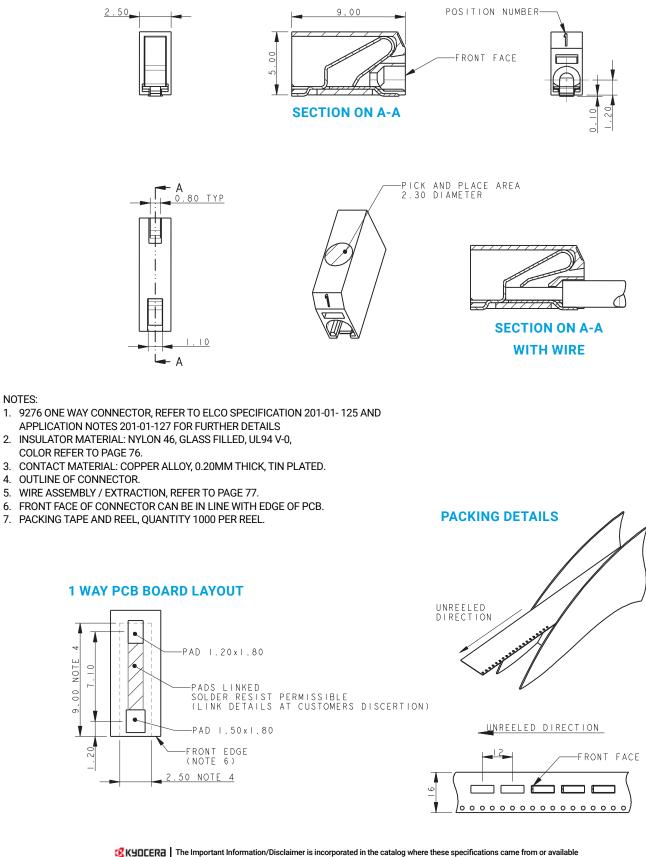
The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

**1** Position

NOTES:



### **1 WAY WIRE TO BOARD CONNECTOR**



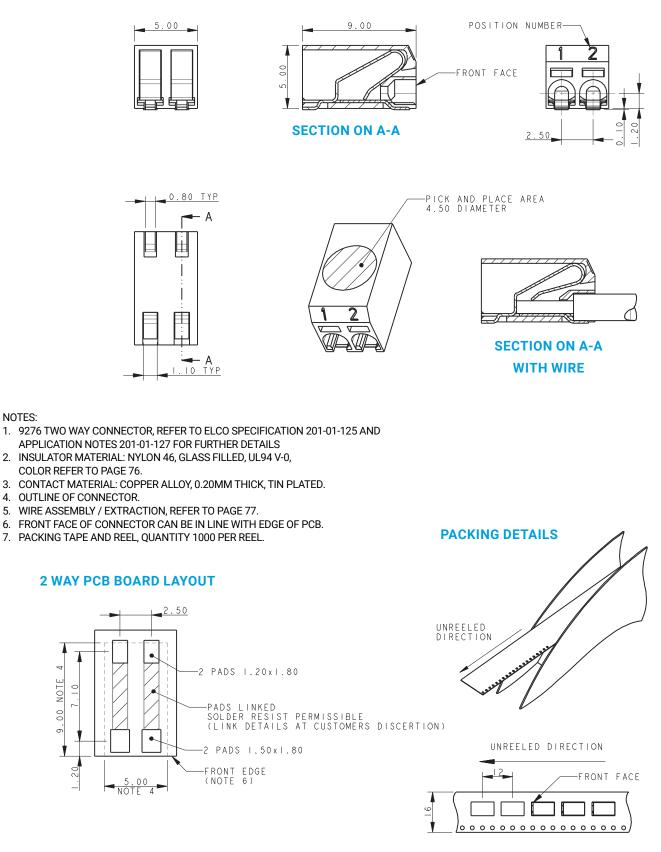
online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

2 Position

NOTES:



### **2 WAY WIRE TO BOARD CONNECTOR**



**3** Position

NOTES:

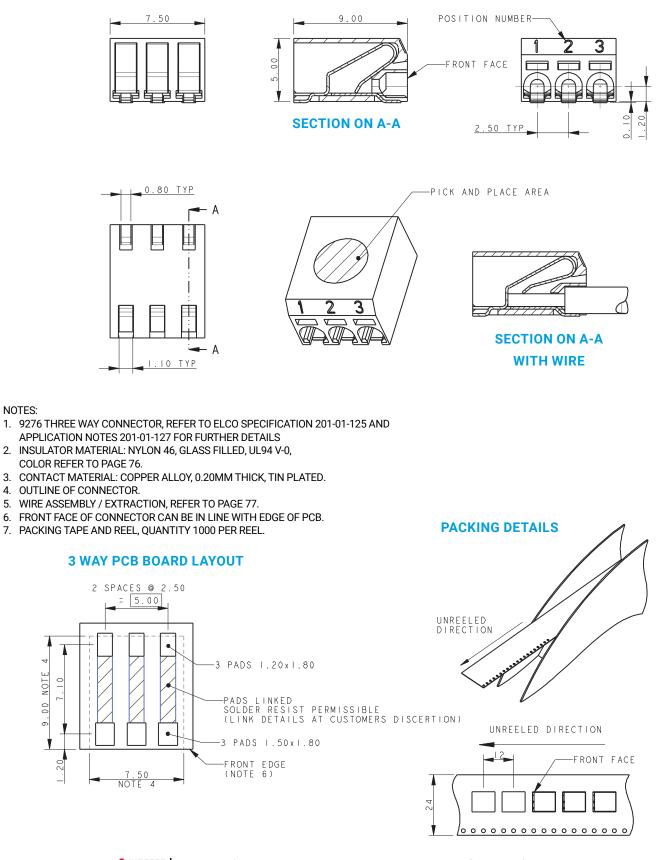
4

NOTE

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### **3 WAY WIRE TO BOARD CONNECTOR**



**4** Position

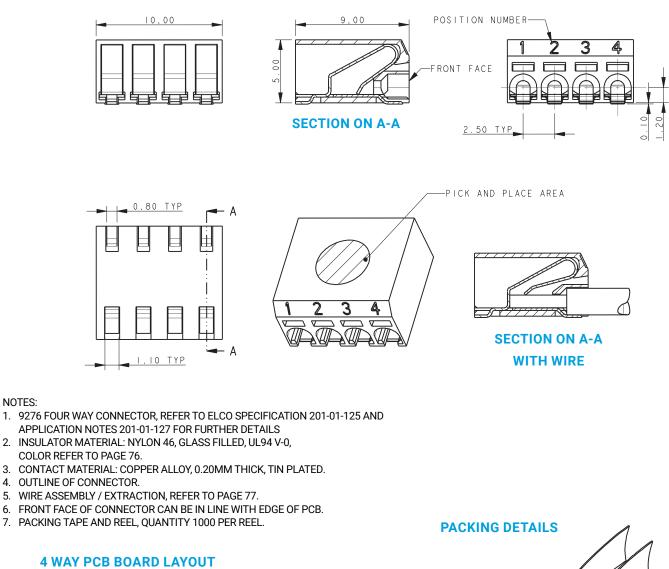
NOTES:

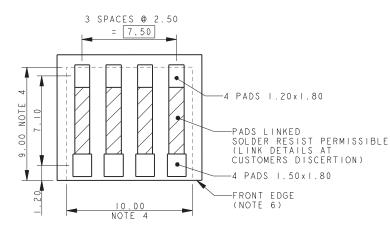
3. 4.

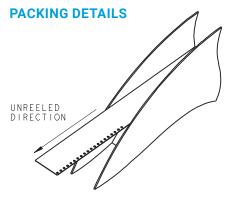
5.

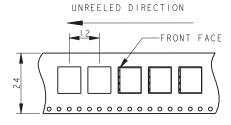
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### **4 WAY WIRE TO BOARD CONNECTOR**





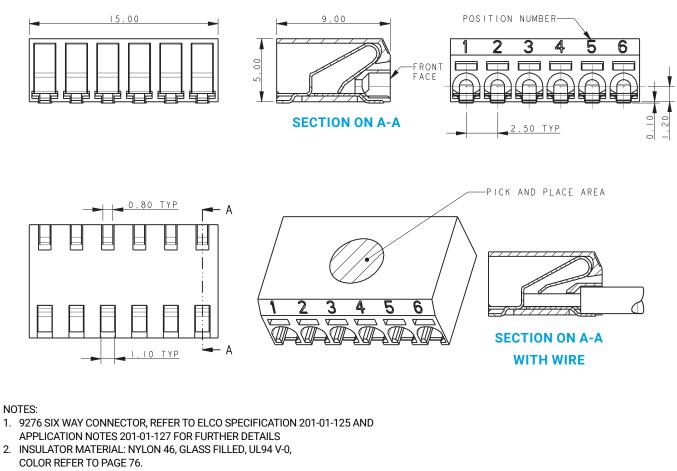




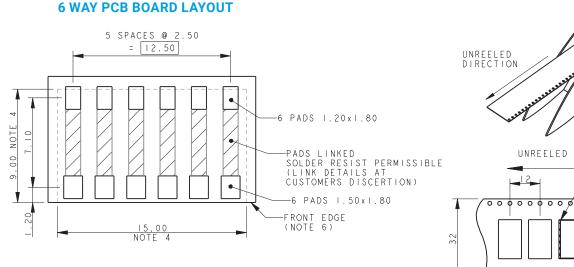
**6** Position

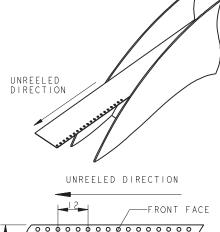


### **6 WAY WIRE TO BOARD CONNECTOR**

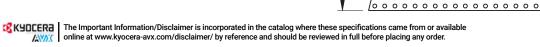


- 3. CONTACT MATERIAL: COPPER ALLOY, 0.20MM THICK, TIN PLATED.
- 4. OUTLINE OF CONNECTOR.
- 5. WIRE ASSEMBLY / EXTRACTION, REFER TO PAGE 77.
- 6. FRONT FACE OF CONNECTOR CAN BE IN LINE WITH EDGE OF PCB.
- 7. PACKING TAPE AND REEL, QUANTITY 1000 PER REEL.





**PACKING DETAILS** 

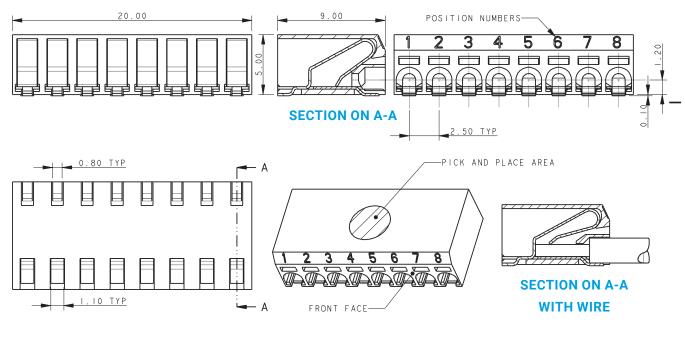


**8** Position



🔇 KY<u>OCERa</u>

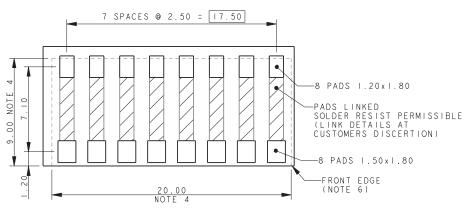
### **8 WAY WIRE TO BOARD CONNECTOR**



#### NOTES:

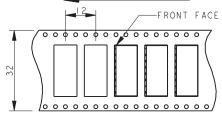
- 1. 9276 EIGHT WAY CONNECTOR, REFER TO ELCO SPECIFICATION 201-01- 125 AND APPLICATION NOTES 201-01-127 FOR FURTHER DETAILS
- INSULATOR MATERIAL: NYLON 46, GLASS FILLED, UL94 V-0, COLOR REFER TO PAGE 76.
- 3. CONTACT MATERIAL: COPPER ALLOY, 0.20MM THICK, TIN PLATED.
- 4. OUTLINE OF CONNECTOR.
- 5. WIRE ASSEMBLY / EXTRACTION, REFER TO PAGE 77.
- 6. FRONT FACE OF CONNECTOR CAN BE IN LINE WITH EDGE OF PCB.
- 7. PACKING TAPE AND REEL, QUANTITY 1000 PER REEL.

#### **8 WAY PCB BOARD LAYOUT**





UNREELED DIRECTION



### **General Information**





The widespread market adaptation of the KYOCERA AVX STRIPT™ contact systems continue to drive new product developments. The 70-9296 series of dual beam, boxed contacts provide a simple, yet reliable wire-to-board alternative to full sized 1pc and 2pc connector solutions. Contacts are SMT onto the PCB, then either solid or stranded wires can be stripped to length and inserted into the contact. Contacts are designed with dual beam high force contacts to maximize wire retention. Integral wire guides and stop assures proper positioning of the wire.

In this round of product expansion, the 2.5mm has been added to offer a new size when trying to maximize AWG and keep the smallest profile contact available is size critical applications. Additionally, this contact has been designed without a wire stop to facilitate solid pin insertion capabilities for board-to-board and module-to-module applications (see BTB Jumper data sheet for 109296001xxx906).

### APPLICATIONS

- Industrial/Ruggedized Wire-to-Board applications
- Replace hard soldering of wire to a PCB
- Reference Product Specification 201-01-143
- Reference Application Notes 201-01-150
- Linear Board-to-Board capabilities with 109296001xxx906 jumpers

### **ELECTRICAL**

- Voltage Rating: 300V Based on placement distance
- Current Rating: See Matrix Below
- **ENVIRONMENTAL**
- · Operating Temperature: -40°C to +125°C

### FEATURES AND BENEFITS

- Dual Beam box contact provides maximum mechanical stability and wire retention
- Tape and reel packaged for automated SMT placement
- Staged current rating based on AWG, maximum is 10A (12AWG)
- 2.5mm w/o wire stop allows for variable PCB mating tolerances in linear **BTB** applications

#### **MECHANICAL**

- Contact Material: Phosphor Bronze
- Contact Plating: Pure Tin
- Durability 5 Cycles

### **HOW TO ORDER**

#### 70 9296 001 Prefix Series 70 = Contact

Number of Ways 001 = 1

Wire Gauge Size				
Code	Contact Size	Wire Gauge	Max Insulation	UL Approved E90723
017	1.7mm Contact	22-26 AWG	1.3mm Ø	Yes
		Solid or Stranded	(See page 85)	
002	2mm Contact	22-28 AWG	1.5mm Ø	Yes
002		Solid or Stranded	(See page 85)	165
005	0.5	18-26 AWG	Max 2mm Ø	No.
025 2.5mm Contact		Solid or Standed	(See page 85)	Yes
003	Juna ma Comto at	18-26 AWG	0 Emm Ø	Yes
003	3mm Contact	Solid or Stranded	2.5mm Ø	res
004	1	12-20 AWG	0. Amaria (A	No.
004	4mm Contact	Solid or Stranded	3.4mm Ø	Yes

**0XX** 

### 0X6

Plating & Other Options					
Code	Wire Stop Variations	Plating			
006	With wire stop	Pure tin all			
016*	Without wire stop	over			

\*2mm, 2.5mm, and 3mm contact only



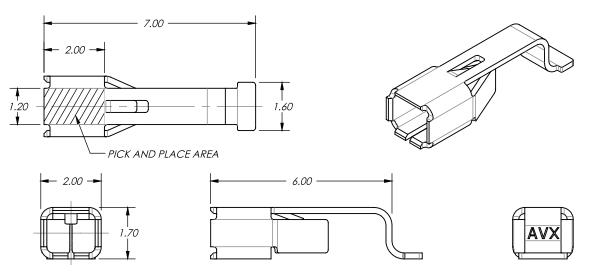
### CURRENT RATING

Size	Part Number	12AWG	14AWG	16AWG	18AWG	20AWG	22AWG	24AWG	26AWG	28AWG
4mm	709296001004006	20A	16A	14A	12A	10A				
3mm	7092960010030x6				15A	14A	10A	9A	7A	
2.5mm	7092960010250x6				14A	12A	11A	9A	7A	
2mm	709296001002006						11A	9A	7A	6A
1.7mm	709296001017006						11A	9A	7A	6A



### 1.7mm

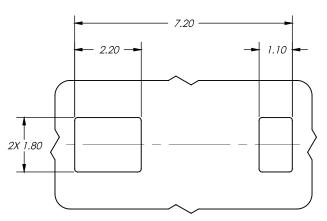
70-9296-001-017-006 1.7MM POKE HOME CONTACT



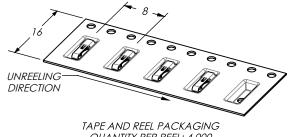
NOTES:

- 1. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-143 AND APPLICATION NOTES 201-01-150.
- 2. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
- 3. PACKING IN TAPE AND REEL, 4000 PIECES PER REEL.
- 4. FOR WIRE TRIM DETAILS REFER TO PAGE 91.
- 5. AREA AVAILABLE FOR PICK AND PLACE.
- 6. UL REFERENCE 90723.
- 7. GENERAL TOLERANCE ±0.10.

### SUGGESTED PCB LAYOUT



### **PACKING DETAILS**



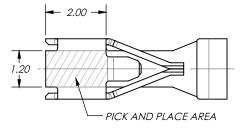
QUANTITY PER REEL: 4,000

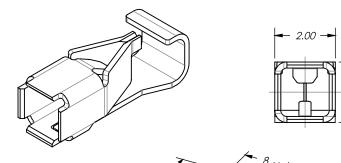


2.00

2mm

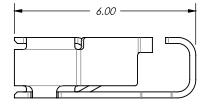
70-9296-001-002-006 2MM POKE HOME CONTACT





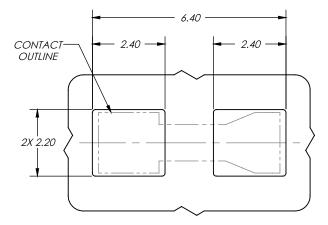
UNREELING

DIRECTION





TAPE AND REEL PACKAGING QUANTITY PER REEL: 3,500

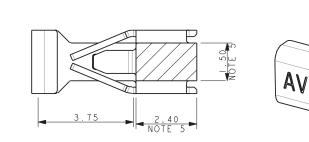


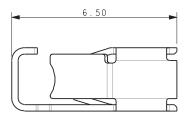
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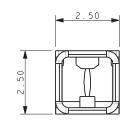


### 2.5mm

70-9296-001-025-006 2.5MM POKE HOME CONTACT



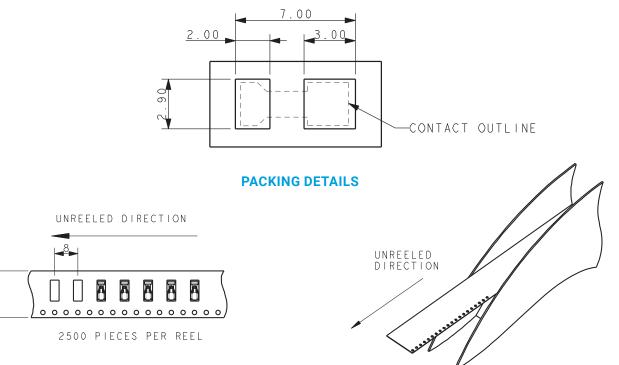




NOTES:

- 1. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-143 AND APPLICATION NOTES 201-01-150.
- 2. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
- 3. PACKING IN TAPE AND REEL, 2500 PIECES PER REEL.
- 4. FOR WIRE TRIM DETAILS REFER TO PAGE 91.
- 5. AREA AVAILABLE FOR PICK AND PLACE.
- 6. UL REFERENCE 90723.
- 7. GENERAL TOLERANCE ±0.10.

### SUGGESTED PCB LAYOUT



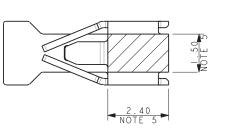
330mm DIAMETER REEL

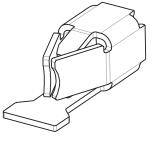
**CALCER** The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

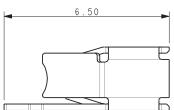


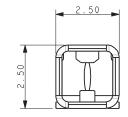
2.5mm – No Stop

70-9296-001-025-016 2.5MM POKE HOME CONTACT - NO STOP





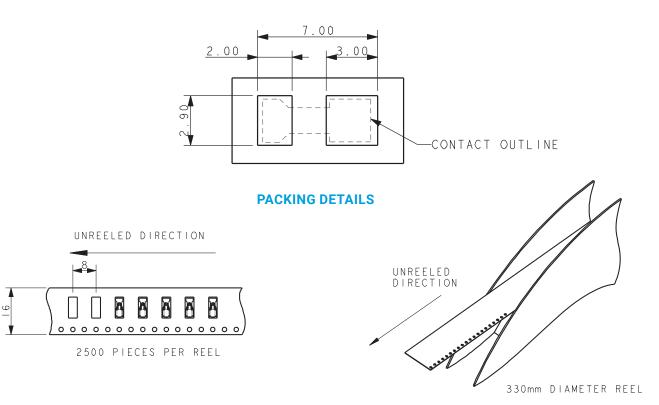




NOTES:

- 1. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-143 AND APPLICATION NOTES 201-01-150.
- 2. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
- 3. PACKING IN TAPE AND REEL, 2500 PIECES PER REEL.
- 4. FOR WIRE TRIM DETAILS REFER TO PAGE 91.
- 5. AREA AVAILABLE FOR PICK AND PLACE.
- 6. UL REFERENCE 90723.
- 7. GENERAL TOLERANCE ±0.10.

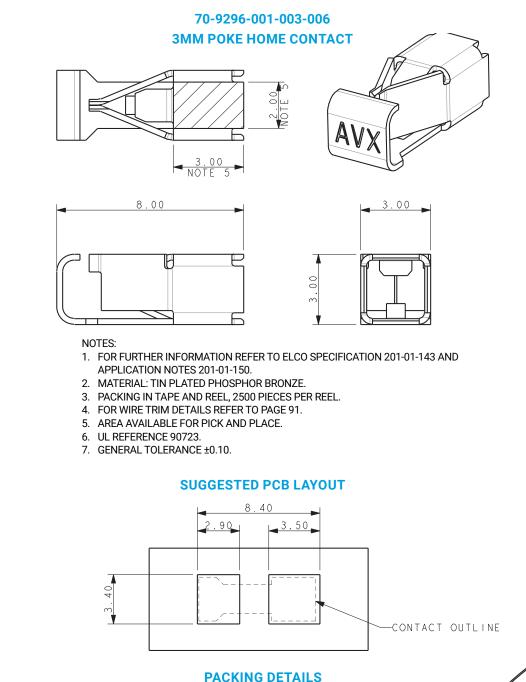
### SUGGESTED PCB LAYOUT



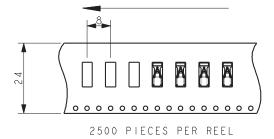
The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.



3mm



UNREELED DIRECTION



UNREELED DIRECTION

330mm DIAMETER REEL



### 4mm

٦.

70-9296-001-004-006 **4MM POKE HOME CONTACT** 4.00 -2.70 NOTE 5 h 4.00 NOTE 5 11.00 4.00 U  $\overline{}$ NOTES: 1. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-143 AND APPLICATION NOTES 201-01-150. 2. MATERIAL: TIN PLATED PHOSPHOR BRONZE. 3. PACKING IN TAPE AND REEL, 2000 PIECES PER REEL. 4. FOR WIRE TRIM DETAILS REFER TO PAGE 91. 5. AREA AVAILABLE FOR PICK AND PLACE. 6. UL REFERENCE 90723. 7. GENERAL TOLERANCE ±0.10. SUGGESTED PCB LAYOUT 40 4.00 4.50 20 -CONTACT OUTLINE **PACKING DETAILS** UNREELED DIRECTION UNREELED DIRECTION 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2000 PIECES PER REEL

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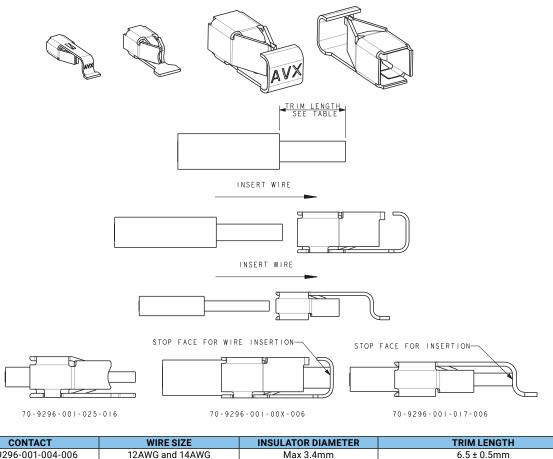
330mm DIAMETER REEL



**Connector Assembly / Contact Opening Tool** 

### CONNECTOR ASSEMBLY

### FOR FULL DETAILS REFER TO APPLICATION NOTES 201-01-150

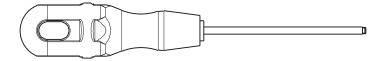


WIRE SIZE	INSULATOR DIAMETER	TRIM LENGTH
12AWG and 14AWG	Max 3.4mm	6.5 ± 0.5mm
16AWG, 18AWG and 20AWG	Max 2.5mm	5.5 ± 0.5mm
18AWG to 26AWG	Max 2.5mm	4.5 ± 0.5mm
20AWG to 26AWG	Max 2.0mm	3.5 ± 0.5mm
20AWG to 26AWG	2.0mm to 2.50mm	6.0 ± 0.5mm*
20AWG to 26AWG	Max 2.0mm	3.0mm Minimum – No Stop on Contact
20AWG to 26AWG	Max 2.0mm	5.5mm Minimum – No Stop on Contact
22AWG to 28AWG	Max 1.5mm	3.5 ± 0.5mm
22AWG to 28AWG	1.5mm to 2.0mm	5.5 ± 0.5mm*
22AWG to 26AWG	Max 1.3mm	4.0 ± 0.5mm
22AWG to 26AWG	1.3mm to 1.7mm	6.0 ± 0.5mm*
	12AWG and 14AWG 16AWG, 18AWG and 20AWG 18AWG to 26AWG 20AWG to 26AWG 20AWG to 26AWG 20AWG to 26AWG 20AWG to 26AWG 22AWG to 28AWG 22AWG to 28AWG 22AWG to 28AWG	12AWG and 14AWGMax 3.4mm16AWG, 18AWG and 20AWGMax 2.5mm18AWG to 26AWGMax 2.5mm20AWG to 26AWGMax 2.0mm20AWG to 26AWG2.0mm to 2.50mm20AWG to 26AWGMax 2.0mm20AWG to 26AWGMax 2.0mm20AWG to 26AWGMax 2.0mm20AWG to 28AWGMax 1.5mm22AWG to 28AWG1.5mm to 2.0mm22AWG to 28AWGMax 1.3mm

\* Wire insulation butts on end of contact

### **CONTACT OPENING TOOL**

#### 06-9296-7001-01-000



TOOL TO OPEN THE CONTACT TO INSERT/WITHDRAW WIRE. REFER TO APPLICATION NOTES 201-01-150.

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### **General Information**





KYOCERA AVX continues to develop innovative connectors for the industrial electronics market that provide significant benefits over existing, outdated connector solutions. Listening to the design engineering community, there are ongoing applications where they cannot find an off-theshelf solution that will satisfy a high percentage of the projects configuration, performance and cost goals.

The newest addition to KYOCERA AVX's broadening line of Wire-to-Board (WTB) connectors offers a cost effective, single Poke-Home connector solution that will meet the cost and performance targets in demanding, yet user friendly applications. At the heart of the connector is the industry proven dual tine, 3mm high spring force box contact that has been on the market as a standalone horizontal contact only solution.

The new SMT vertical top entry connector allows for 18AWG to 26AWG wires to be simply stripped and inserted into the connector body at 180 degree orientation to the top side of the PCB. This single connector will replace existing 2-Piece WTB solutions where a header is soldered onto the PCB and a secondary crimp-to-wire receptacle assembly is plugged in. Available in 1-6 positions, each connector will accept the entire wire gauge range for either solid or stranded wires at varying current ratings supported by each wire size. Once inserted, wires can easily be removed or replaced by twisting/unscrewing or by using a small blade extraction tool.

### **APPLICATIONS**

- Industrial/Ruggedized Wire-to-Board applications
- Replace hard soldering of wire to a PCB
- Replace costly 2-Piece header and receptacle products
- Reference Product Specification 201-01-151
- Reference Application Notes 201-01-152

### FEATURES AND BENEFITS

- Dual Beam box contact provides maximum mechanical stability and wire retention
- Tape and reel packaged for automated SMT placement
- Will accept either solid or stranded wire, 18-26AWG, plated or un-plated wires
- Simple strip and insert for wire loading, with easy twist and pull for wire removal

### **ELECTRICAL**

**HOW TO ORDER** 00

Prefix

Voltage Rating: 600 VAC 1 way; 300 VAC 2 - 6 way

Series

Current Rating: See matrix below

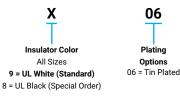
### **ENVIRONMENTAL**

**Operating Temperature:** -40°C to +125°C

### **MECHANICAL**

- Contact Material: Copper Alloy
- Contact Plating: Tin over Nickel
- Durability: 5 Cycles





2 = UL Brown

3 = UL Blue 4 = UL Yellow 5 = UL Red 6 = UL Green 7 = UL Orange



**CURRENT RATING** 

18AWG	20AWG	22AWG	24AWG	26AWG
7A	6A	5A	4A	3A

006 = 6

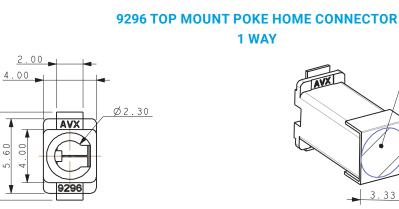
Certification: UL File #E90723

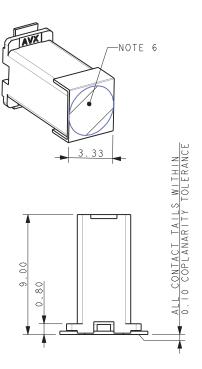
4

60 G G

**1** Position



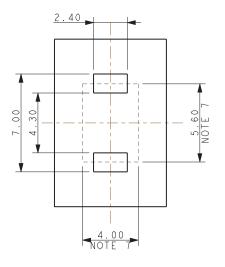




#### NOTES:

- 1. TOP MOUNT 1 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
- 2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
- 3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 92.
- 4. CONTACT: TIN PLATE COPPER ALLOY.
- 5. PACKING IN TAPE AND REEL. QTY PER REEL 400, 330MM REEL.
- 6. CAPTON TAPE TO AID PICK AND PLACE, 4MM DIAMETER MAX AVAILABLE.
- 7. CONNECTOR OUTLINE.
- 8. GENERAL TOLERANCE ±0.20.
- 9. UL REFERENCE E90723.

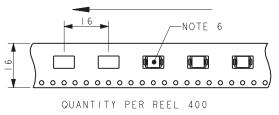
### SUGGESTED PCB LAYOUT



**PACKING DETAILS** 

UNREELED DIRECTION 330mm DIAMETER REE

UNREELED DIRECTION

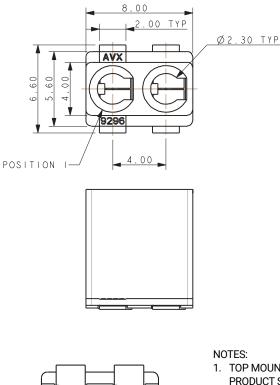


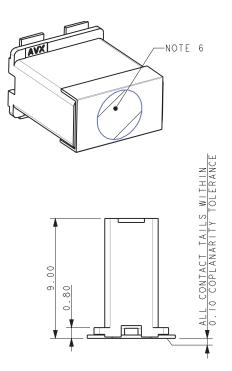
**2** Position

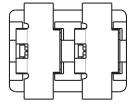








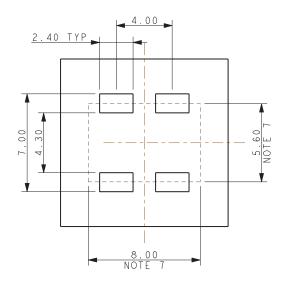


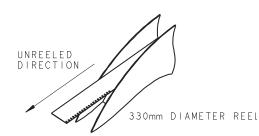


SUGGESTED PCB LAYOUT

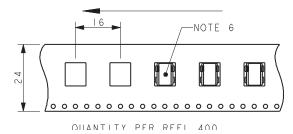
- 1. TOP MOUNT 2 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
- 2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
- 3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 92.
- 4. CONTACT: TIN PLATE COPPER ALLOY.
- 5. PACKING IN TAPE AND REEL. QTY PER REEL 400, 330MM REEL.
- 6. CAPTON TAPE TO AID PICK AND PLACE, 4MM DIAMETER MAX AVAILABLE.
- 7. CONNECTOR OUTLINE.
- 8. GENERAL TOLERANCE ±0.20.
- GENERAL TOLERANCE ±0.20.
   UL REFERENCE E90723.

#### **PACKING DETAILS**





UNREELED DIRECTION



AVX

9296

4

60 00

60 9 5 4

POSITION

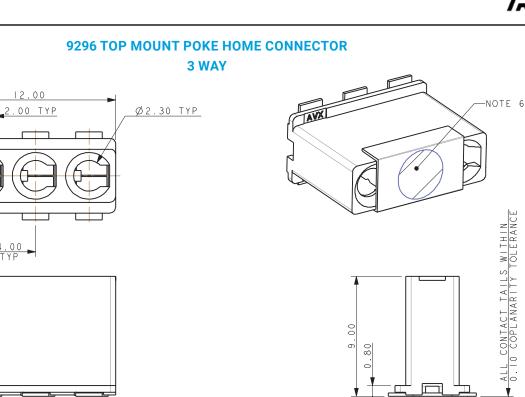
**3** Position

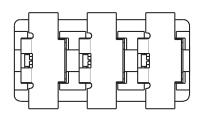


CONTACT TAILS WITHIN COPLANARITY TOLERANCE

0

ALL 0.1

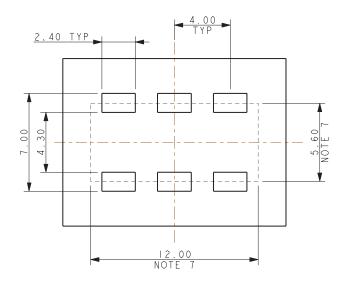




#### NOTES:

- 1. TOP MOUNT 3 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
- 2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
- 3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 92.
- 4. CONTACT: TIN PLATE COPPER ALLOY.
- 5. PACKING IN TAPE AND REEL. QTY PER REEL 400, 330MM REEL.
- 6. CAPTON TAPE TO AID PICK AND PLACE, 4MM DIAMETER MAX AVAILABLE.
- 7. CONNECTOR OUTLINE.
- 8. GENERAL TOLERANCE ±0.20.
- 9. UL REFERENCE E90723.

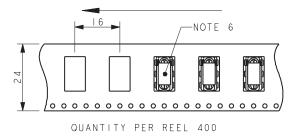
#### **PACKING DETAILS**



SUGGESTED PCB LAYOUT



UNREELED DIRECTION



**4** Position



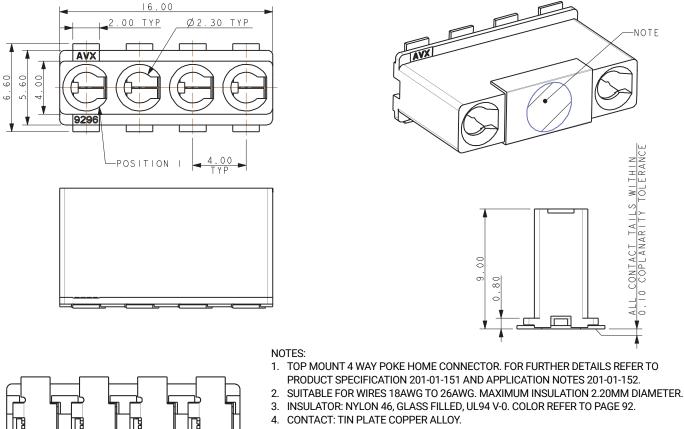
NOTE

CONTACT TAILS WITHIN COPLANARITY TOLERANCE

ALL C 0.10





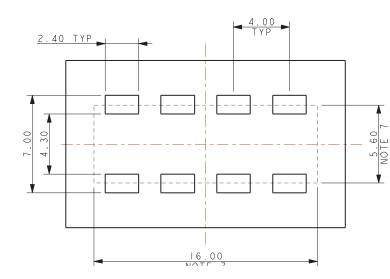


- 5. PACKING IN TAPE AND REEL. QTY PER REEL 400, 330MM REEL.
- CAPTON TAPE TO AID PICK AND PLACE, 4MM DIAMETER MAX AVAILABLE. 6.
- 7. CONNECTOR OUTLINE.
- 8 GENERAL TOLERANCE ±0.20.
- 9. UL REFERENCE E90723.

### **PACKING DETAILS**

80

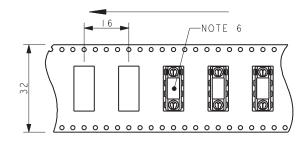
0



SUGGESTED PCB LAYOUT

UNREELED DIRECTION 330mm DIAMETER REEL

UNREELED DIRECTION

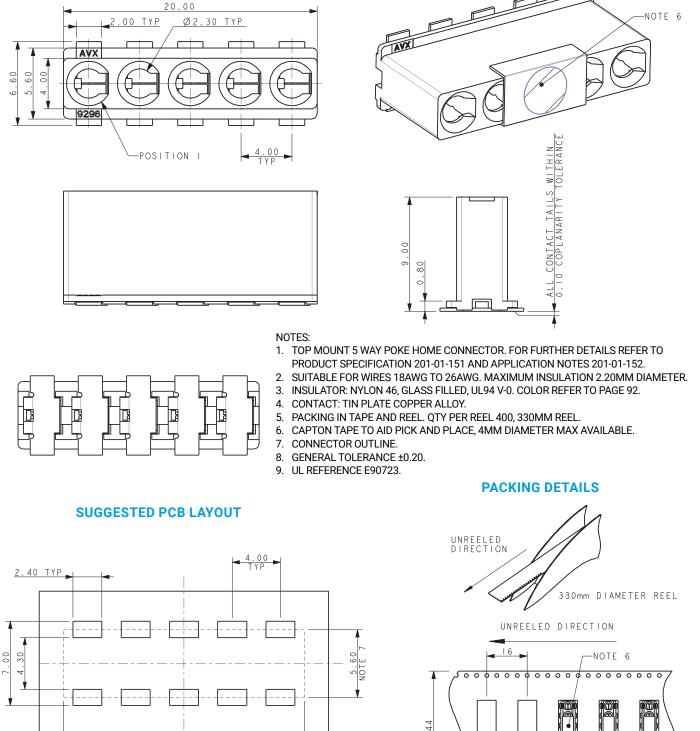


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**5** Position







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20.00 NOTE

ANAC

44

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QUANTITY PER REEL 400

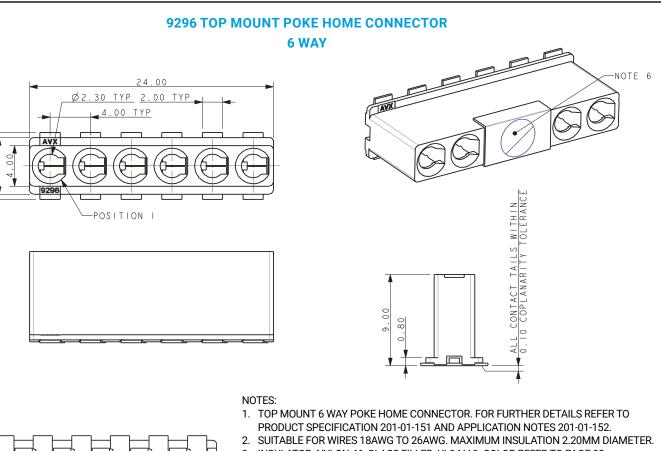
6

**6** Position

60

5.

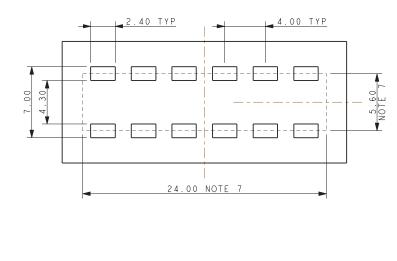




- 3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 92.
- 4. CONTACT: TIN PLATE COPPER ALLOY.
- 5. PACKING IN TAPE AND REEL. QTY PER REEL 400, 330MM REEL.
- 6. CAPTON TAPE TO AID PICK AND PLACE, 4MM DIAMETER MAX AVAILABLE.
- 7. CONNECTOR OUTLINE.
- 8. GENERAL TOLERANCE ±0.20.
- 9. UL REFERENCE E90723.

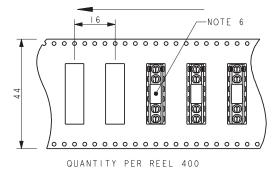
#### **PACKING DETAILS**

### SUGGESTED PCB LAYOUT



UNREELED DIRECTION 330mm DIAMETER REEL

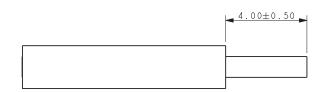
UNREELED DIRECTION



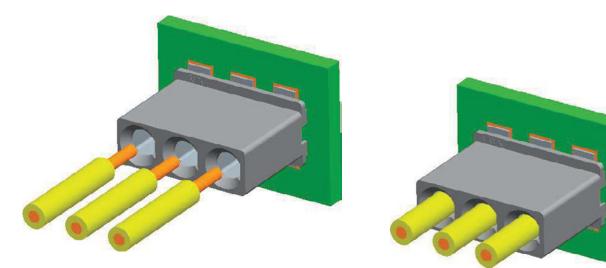


### **Connector Assembly / Contact Opening Tool**

### 9296 TOP MOUNT POKE HOME CONNECTOR ASSEMBLY

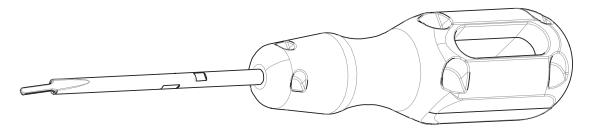


WIRE STRIP LENGTH



Refer to application notes 201-01-152 for full assembly procedure.

### 9296 TOP MOUNT POKE HOME CONNECTOR WIRE EXTRACTION TOOL



06-9296-7003-01-000

Refer to application notes 201-01-152 for full wire extraction procedure.

# **General Information**





KYOCERA AVX continues to develop innovative connectors for the industrial electronics market that provide significant benefits over existing, outdated connector solutions. Listening to the design engineering community, there are ongoing applications where they cannot find an off-theshelf solution that will satisfy a high percentage of the projects configuration, performance and cost goals.

The newest addition to KYOCERA AVX's broadening line of Wire-to-Board (WTB) connectors offers a cost effective, single Poke-Home connector solution that will meet the cost and performance targets in demanding, yet user friendly applications. At the heart of the connector is the industry proven dual tine, 3mm high spring force box contact that has been on the market as a standalone horizontal contact only solution.

The new SMT vertical through board connector allows for 18AWG to 26AWG wires to be simply stripped and inserted into the connector body at 180 degree orientation to the bottom side of the PCB with an above board height of 0.80mm. This single connector will replace existing 2-Piece WTB solutions where a header is soldered onto the PCB and a secondary crimp-to-wire receptacle assembly is plugged in. Available in 1-6 positions, each connector will accept the entire wire gauge range for either solid or stranded wires at varying current ratings supported by each wire size. Once inserted, wires can easily be removed or replaced by twisting/unscrewing or by using a small blade extraction tool.

# **APPLICATIONS**

- Industrial/Ruggedized Wire-to-Board applications
- · Replace hard soldering of wire to a PCB
- · Replace costly 2-Piece header and receptacle products
- Reference Product Specification 201-01-151
- Reference Application Notes 201-01-152

# **FEATURES AND BENEFITS**

- Dual Beam box contact provides maximum mechanical stability and wire retention
- Tape and reel packaged for automated SMT placement
- Will accept either solid or stranded wire, 18-26AWG, plated or un-plated wires
- Simple strip and insert for wire loading, with easy twist and pull for wire removal

# **ELECTRICAL**

- Voltage Rating: 600 VAC 1 way; 300 VAC 2 - 6 way
- Current Rating: See matrix below

# ENVIRONMENTAL

Operating Temperature: -40°C to +125°C

# **MECHANICAL**

Contact Material: Copper Alloy

06

Plating

Options 06 = Tin Plated

- Contact Plating: Tin over Nickel
- Durability: 5 Cycles

# HOW TO ORDER

F

00 Prefix	9296 Series	00X		503 Wire Gaug	-	
		<b>of Ways</b> 001 = 1 002 = 2	Code	Accepted Wire Gauge	Max Insulation	
		003 = 3 004 = 4 005 = 5	503	18 – 26 AWG Solid or Stranded	2.2mm	

Т
Insulator Color
All Sizes
9 = UL White (Standard)
8 = UL Black (Special Order)
All Sizes 9 = UL White (Standard)

One Way Only (Special Order) 2 = UL Brown

> 3 = UL Blue 4 = UL Yellow 5 = UL Red 6 = UL Green 7 = UL Orange

Х



**CURRENT RATING** 

18AWG	20AWG	22AWG	24AWG	26AWG
7A	6A	5A	4A	ЗA

006 = 6

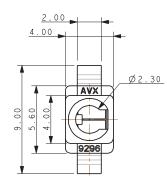
Certification: UL File #E90723

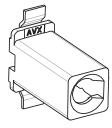
KUDECERA The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

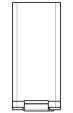


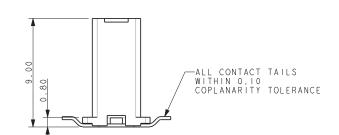


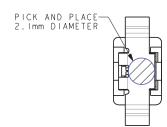
# 9296 THROUGH BOARD MOUNT POKE HOME CONNECTOR 1 WAY







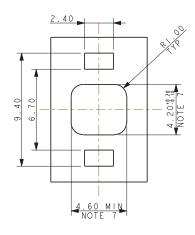




#### NOTES:

- 1. THROUGH BOARD SMT MOUNT 1 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
- 2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
- 3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 100.
- 4. CONTACT: TIN PLATED COPPER ALLOY.
- 5. PACKING IN TAPE AND REEL, QTY. PER REEL 400, 330MM REEL.
- 6. GENERAL TOLERANCE ±0.20.
- 7. CLEARANCE HOLE FOR CONNECTOR.
- 8. UL REFERENCE E90723.

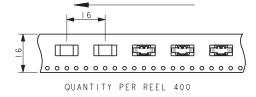
# SUGGESTED PCB LAYOUT



PACKING DETAILS

UNREELED DIRECTION 330mm DIAMETER REEL

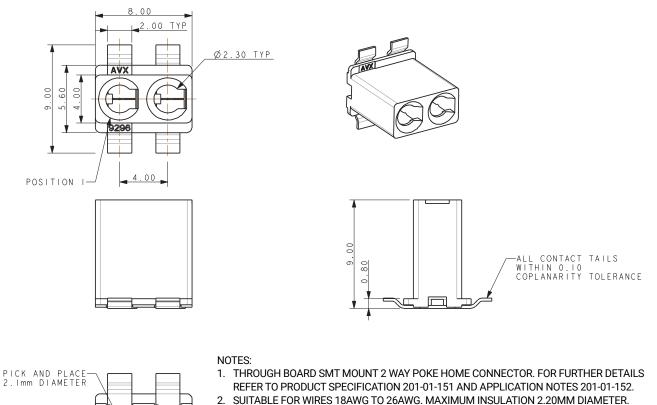
UNREELED DIRECTION

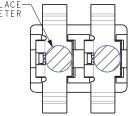




# 2 Position

# 9296 THROUGH BOARD MOUNT POKE HOME CONNECTOR 2 WAY

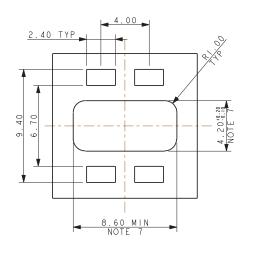


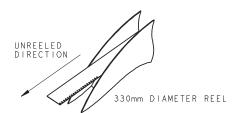


- SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
- 3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 100.
- 4. CONTACT: TIN PLATED COPPER ALLOY.
- 5. PACKING IN TAPE AND REEL, QTY. PER REEL 400, 330MM REEL.
- 6. GENERAL TOLERANCE ±0.20.
- 7. CLEARANCE HOLE FOR CONNECTOR.
- 8. UL REFERENCE E90723.

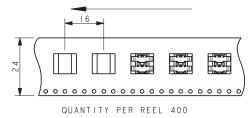
## **PACKING DETAILS**

# SUGGESTED PCB LAYOUT





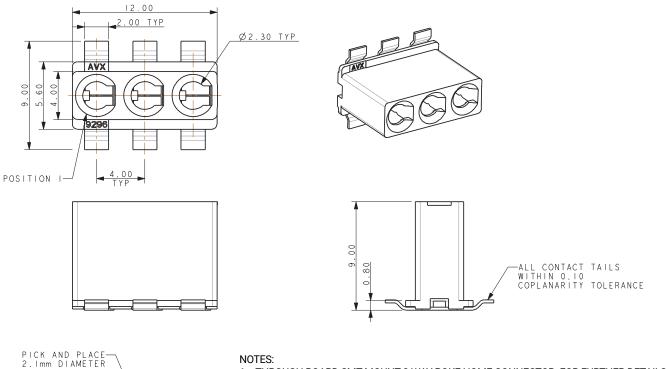
UNREELED DIRECTION

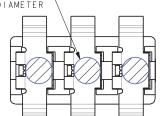




# **3** Position

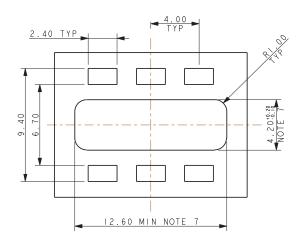
## 9296 THROUGH BOARD MOUNT POKE HOME CONNECTOR 3 WAY





- THROUGH BOARD SMT MOUNT 3 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS 1. REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
- 2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
- 3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 100.
- 4. CONTACT: TIN PLATED COPPER ALLOY.
- 5. PACKING IN TAPE AND REEL, QTY. PER REEL 400, 330MM REEL.
- 6. GENERAL TOLERANCE ±0.20.
- 7. CLEARANCE HOLE FOR CONNECTOR.
- 8. UL REFERENCE E90723.

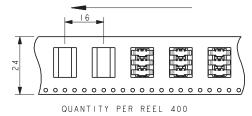
# SUGGESTED PCB LAYOUT



**PACKING DETAILS** 

UNREELED DIRECTION 330mm DIAMETER REEL

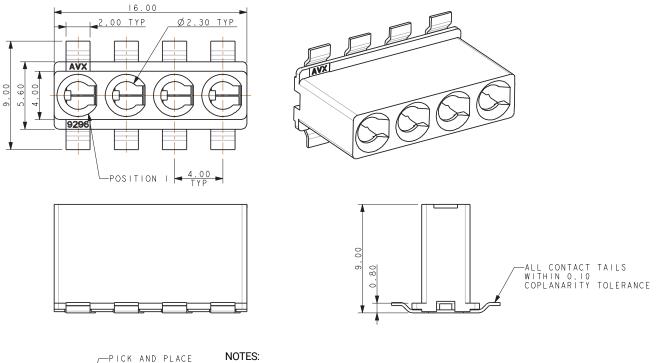
UNREELED DIRECTION

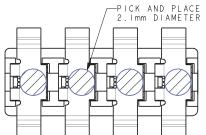




# **4** Position

# 9296 THROUGH BOARD MOUNT POKE HOME CONNECTOR 4 WAY

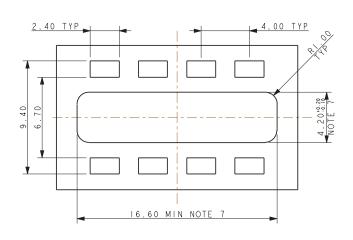




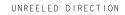
- 1. THROUGH BOARD SMT MOUNT 4 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
- 2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
- 3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 100.
- 4. CONTACT: TIN PLATED COPPER ALLOY.
- 5. PACKING IN TAPE AND REEL, QTY. PER REEL 400, 330MM REEL.
- 6. GENERAL TOLERANCE ±0.20.
- 7. CLEARANCE HOLE FOR CONNECTOR.
- 8. UL REFERENCE E90723.

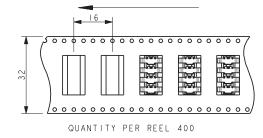
## **PACKING DETAILS**

# SUGGESTED PCB LAYOUT



UNREELED DIRECTION 330mm DIAMETER REEL

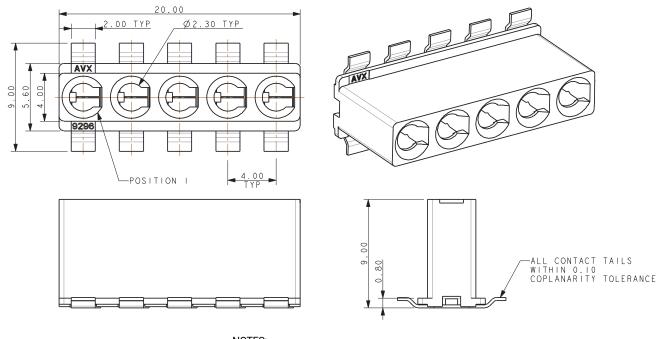


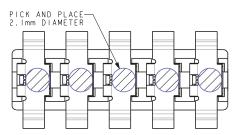






## 9296 THROUGH BOARD MOUNT POKE HOME CONNECTOR 5 WAY



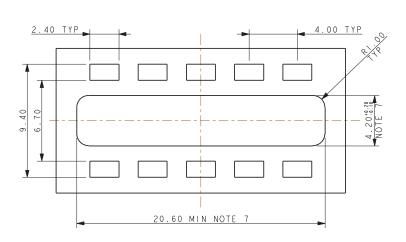


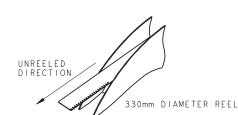
NOTES:

- 1. THROUGH BOARD SMT MOUNT 5 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-151 AND APPLICATION NOTES 201-01-152.
- 2. SUITABLE FOR WIRES 18AWG TO 26AWG. MAXIMUM INSULATION 2.20MM DIAMETER.
- 3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0. COLOR REFER TO PAGE 100.
- 4. CONTACT: TIN PLATED COPPER ALLOY.
- 5. PACKING IN TAPE AND REEL, QTY. PER REEL 400, 330MM REEL.
- 6. GENERAL TOLERANCE ±0.20.
- 7. CLEARANCE HOLE FOR CONNECTOR.
- 8. UL REFERENCE E90723.

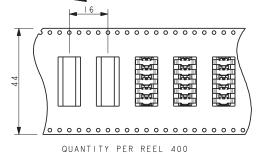
## **PACKING DETAILS**

## SUGGESTED PCB LAYOUT





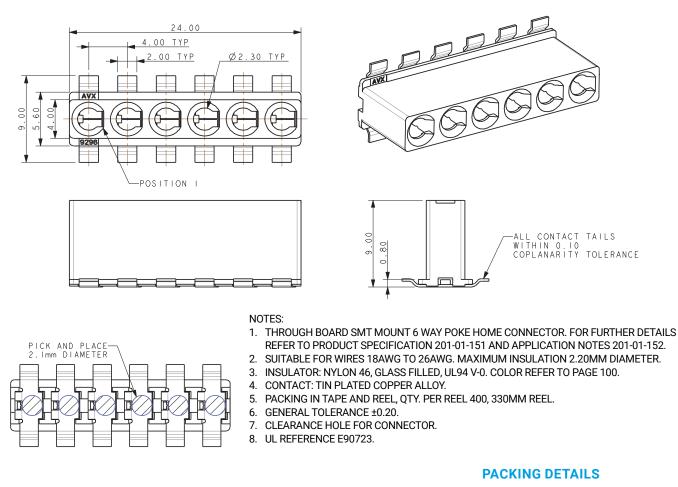
UNREELED DIRECTION



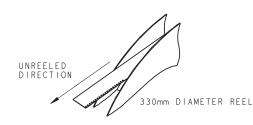




# 9296 THROUGH BOARD MOUNT POKE HOME CONNECTOR 6 WAY



## SUGGESTED PCB LAYOUT



UNREELED DIRECTION 16 0 0 000 φ 15-51 **IC-3** 1641 ाज्य 1757I ΔΔ 10-sti 1641 ाच्च्या 16-st <u>les</u>i 1241 177 QUANTITY PER REEL 400

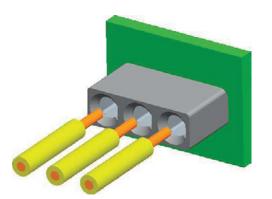
# Wire Strip Length



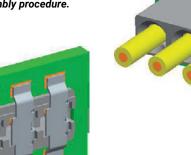
# 9296 THROUGH BOARD MOUNT POKE HOME CONNECTOR ASSEMBLY

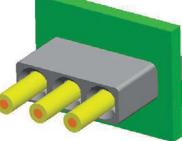


WIRE STRIP LENGTH

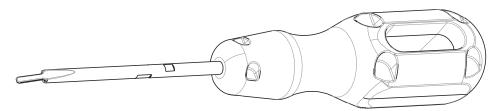


Refer to application notes 201-01-152 for full assembly procedure.





# THROUGH BOARD MOUNT POKE HOME CONNECTOR WIRE EXTRACTION TOOL



## 06-9296-7003-01-000 - PLASTIC TOOL 06-9296-7004-03-000 - METAL TOOL

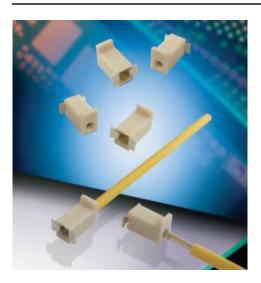
Refer to application notes 201-01-152 for full wire extraction procedure.

The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

# SINGLE VERTICAL TOP ENTRY 18 AWG: 58-9296

# **General Information**





Vertical poke-home connectors were introduced into the market a few years ago to provide a reliable, yet cost effective discrete wire-to-board termination in perpendicular applications. Designed to bridge the gap between inconsistent hand soldering of wires and costly 2-piece connector systems, these connectors are available in a range of positions and configurations while accepting 18 to 26AWG solid or stranded wires.

This latest connector was developed specifically to support the high volume 18AWG wire applications used in power supply, LED driver and industrial control products where PCB space is limited. This new 9296 connector offers a robust single beam contact which securely captures and retains the wire in a 23% smaller package size.

## **APPLICATIONS**

- Replace inconsistent hand soldered perpendicular wire terminations onto PCB's in:
  - Power Supplies
  - LED Drivers
  - Industrial/Motor Controls
- Offer a simple and cost reduced solution to existing 2-Piece connector systems

#### **FEATURES AND BENEFITS**

- Pre-Plated phosphor bronze contact material provides excellent spring
   performance with high fatigue and corrosion resistance
- The single stamped and formed box contact maximizes board attachment and wire capture strength
- Tight tolerance and wire insulation stop helps to prevent potting from flowing into the connector during encapsulation processes
- Integral molded in flange provides a generous vacuum pick-up point for automated SMT placement

#### **ELECTRICAL**

•

## **ENVIRONMENTAL**

- Current Rating: 8 Amps Voltage Rating: 600 VAC
- Operating Temperature: -40°C to +125°C

## MECHANICAL

- Insulator Material: Glass-Filled Nylon 46, UL94V0
- Contact Material: Phosphor Bronze
- Plating: Pure Tin
- Durability: 3 Cycles

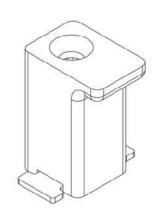
#### **HOW TO ORDER**

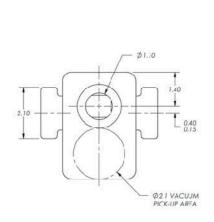


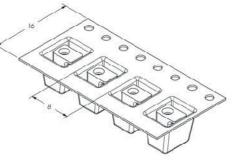
# SINGLE VERTICAL TOP ENTRY 18 AWG: 58-9296

KY<u>OCERa</u> 

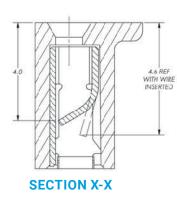


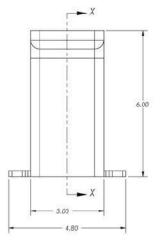


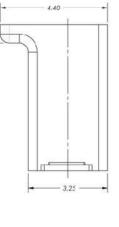




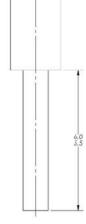
**PARTS IN POCKET TAPE SCALE 2.5:1** 



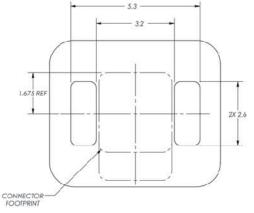




0.75



RECOMMENDED WIRE STRIP DETAIL



## NOTES:

- 1. HOUSING MATERIAL: GLASS-FILLED, HIGH TEMP. THERMOPLASTIC; UL94V-0; COLOR: NATURAL.
- 2. CONTACT MATERIAL: HIGH STRENGTH PHOSPHORB BRONZE ALLOY; PRE-PLATED LEAD-FREE TIN OVER NICKEL PLATING.
- 3. PACKAGING: POCKET TAPE ON REELS; 1,250 PARTS PER REEL.

# **RECOMMENDED PCB LAYOUT**

KUDCER8 | The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

# **STANDARD VERTICAL TOP ENTRY 18-22AWG**

# 00-9296





## **GENERAL DESCRIPTION**

Vertical poke-home connectors were introduced into the market several years ago to provide a reliable, yet cost effective discrete wire-to-board termination in perpendicular applications. These were designed to bridge the gap between inconsistent and challenging hand soldering of wires and costly 2-piece connector systems in low pin count applications. This latest connector was developed specifically to support 18 to 22AWG solid or stranded wire terminations used in power supply, LED driver and industrial control products where PCB space is limited. This new 9296 connector offers a robust single beam contact which securely captures and retains the wire in a 23% smaller package size over previous versions

FEATURES AND BENEFITS

automated SMT placement

· Contact Material: Phosphor Bronze

· Plating: Lead-Free Tin Over Nickel

final product assembly

**MECHANICAL** 

· Durability: 3 Cycles

attachment and wire capture strength

Insulator Material; Glass-Filled Nylon 46: UL94V0

· Pre-Plated phosphor bronze contact material provides excellent spring

Integral molded in flange provides a generous vacuum pick-up point for

UL approved color range to match individual wires for easy and accurate

performance with high fatigue and corrosion resistance

The single stamped and formed box contact maximizes board

## **APPLICATIONS**

- Replace inconsistent hand soldered perpendicular wire terminations onto PCB's in:
  - Power Supplies
  - LED Drivers
  - Industrial/Motor Controls
- Offer a simple and cost reduced solution to existing 2-Piece connector systems

#### **ELECTRICAL**

- Current Rating: See Below
- Voltage Rating: 600 VAC

#### **ENVIRONMENTAL**

• Operating Temperature: -40°C to +130°C

## **HOW TO ORDER**

Prefix Wire to Board Connector	9296 Series	001 No. of Ways	<b>603</b> Description 603 = 18-22AWG Solid or Stranded	<b>Plating</b> 2 = Brown 3 = Blue 4 = Yellow 5 = Red 6 = Green	Plating 006 = Tin Plated	ROHS
				7 = Orange 8 = Black		

9 = White

## **CURRENT RATING**

18AWG	20AWG	22AWG				
8A	7A	6A				
0						

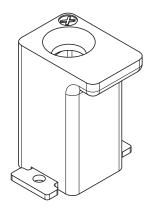
Certification: UL File #E90723

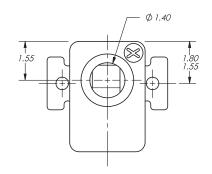
# **STANDARD VERTICAL TOP ENTRY 18-22AWG**

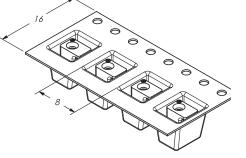
# 00-9296

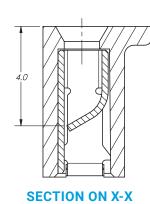


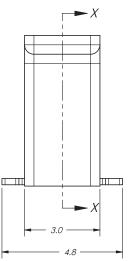
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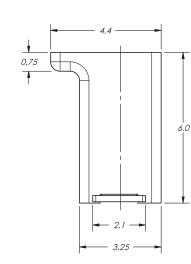


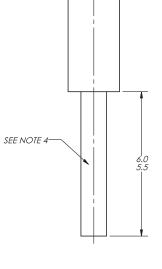






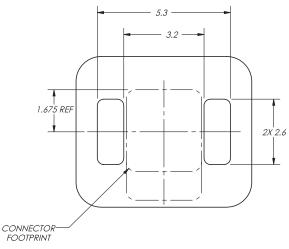






## **RECOMMENDED WIRE STRIP DETAIL**

# **RECOMMENDED PCB LAYOUT**



#### NOTES:

- 1. HOUSING MATERIAL: GLASS-FILLED, HIGH TEMP. THERMOPLASTIC; UL94V-0; COLOR: SEE PAGE 1.
- 2. CONTACT MATERIAL: HIGH STRENGTH PHOSPHOR BRONZE ALLOY; PRE-PLATED LEAD-FREE TIN OVER NICKEL PLATING.
- 3. PACKAGING: POCKET TAPE ON REELS; 1,250 PARTS PER REEL.
- 4. STRANDED WIRE MUST BE SUFFICIENTLY TWISTED OR TIN DIPPED FOR PROPER INSERTION.

KUDEERa The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

# **General Information**





KYOCERA AVX continues to develop innovative connectors for the industrial electronics market that provide significant benefits over existing, outdated connector solutions. The latest release is single vertical Wire-to-Board (WTB) contacts that provide cost effective, yet robust discrete wire termination without the expense of an insulator and assembly costs. This new family of top and bottom entry contacts compliments the existing vertical poke home connectors already on the market, providing a lower cost solution without jeopardizing performance

The new contacts support both solid and stranded wires ranging from 24AWG down to 18AWG and current ratings as high as 12 amps. The set of four contacts provide both top and bottom entry for FR4 and metal core printed circuit boards.

## **APPLICATIONS**

- Machine Controls: motors, drives, solenoids, sensors, fans and pumps
- Commercial Buildings: controls, security, fire and sensors
- Smart Grid: meters, breakers and panels
- SSL/LED; bulbs, fixtures, signage and streetlights

- **FEATURES AND BENEFITS**
- Dual Beam contact provides maximum mechanical stability and wire retention
- Tape and reel packaged for automated SMT placement
- Staged current rating based on AWG, maximum is 12A (18AWG)
- Increased functionality with the single contact placement: multiple contacts and/or specific individual locations

## **ELECTRICAL**

- Voltage Rating: 300V
- Based on placement distance
- Current Rating: See matrix below

# Operating Temperature:

**ENVIRONMENTAL** 

Operating Temperature: -40°C to +125°C

# MECHANICAL

- Contact Material: Phosphor Bronze
- Contact Plating: Pure Tin
- Durability: 5 Cycles

# **HOW TO ORDER**



		Contact Styl	e	
Code	Contact Location	Wire Insertion Direction	Recommended For Board Type	Wire Gauges
103	Top Side	Bottom Entry	FR4	18 – 24 AWG
113	Through Board	Top Entry	FR4	18 – 24 AWG
123	Top Side	Bottom Entry	Metal Clad	18 – 24 AWG
133	Through Board	Top Entry	Metal Clad	18 – 24 AWG

1X3

# 006 Plating Options 006 = Pure Tin All Over



## **CURRENT RATING**

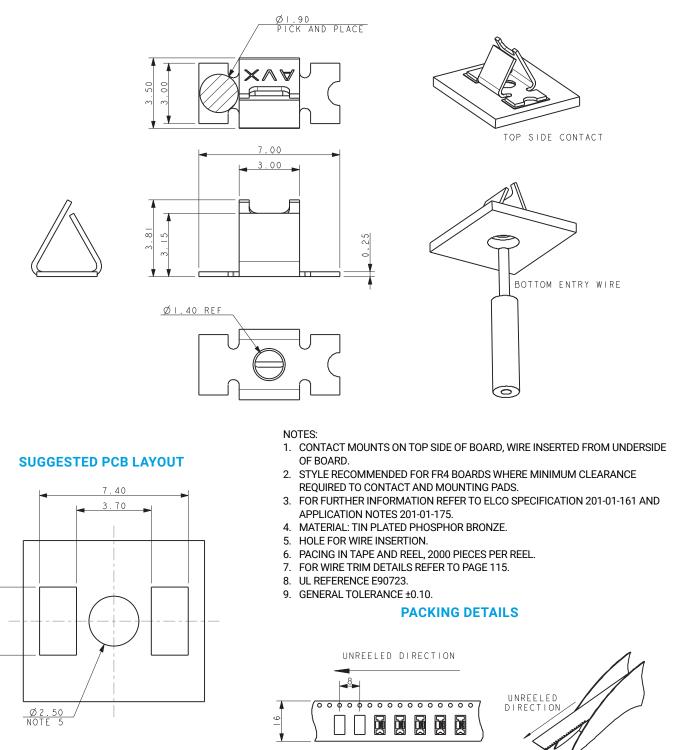
18AWG	20AWG	22AWG	24AWG
15A	14A	10A	9A

Certification: UL File #E90723



Top Side Contact - Bottom Entry Wire (FR4 Board)

# 70-9296-001-103-006 9296 VERTICAL MOUNT SMT CONTACT TOP SIDE CONTACT – BOTTOM ENTRY WIRE (FR4 BOARD)



QHANTITY 2000 PER REEL

330mm DIAMETER REEL

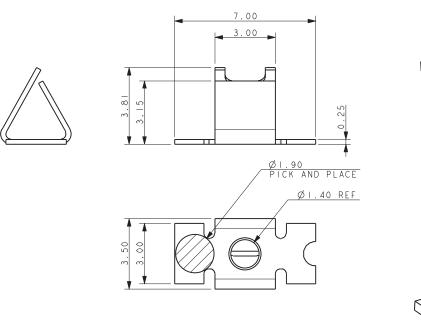
The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

3.40



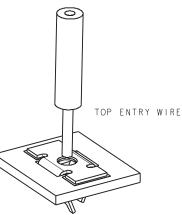
Through Board Contact - Top Entry Wire (FR4 Board)

# 70-9296-001-113-006 9296 VERTICAL MOUNT SMT CONTACT THROUGH BOARD CONTACT – TOP ENTRY WIRE (FR4 BOARD)

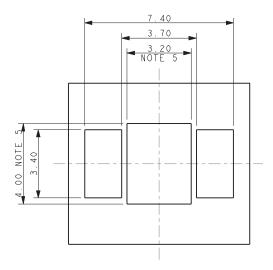




THROUGH BOARD CONTACT



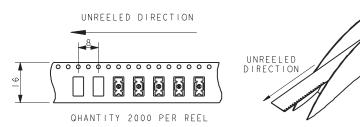
# SUGGESTED PCB LAYOUT



## NOTES:

- 1. CONTACT MOUNTS THROUGH THE BOARD, WIRE INSERTED FROM TOP SIDE
- 2. OF BOARD.
- 3. STYLE RECOMMENDED FOR FR4 BOARDS WHERE MINIMUM CLEARANCE REQUIRED TO CONTACT AND MOUNTING PADS.
- 4. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-175.
- 5. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
- 6. HOLE DIMENSIONS FOR CONTACT.
- 7. PACING IN TAPE AND REEL, 2000 PIECES PER REEL.
- 8. FOR WIRE TRIM DETAILS REFER TO PAGE 115.
- 9. UL REFERENCE E90723.
- 10. GENERAL TOLERANCE ±0.10.

# **PACKING DETAILS**

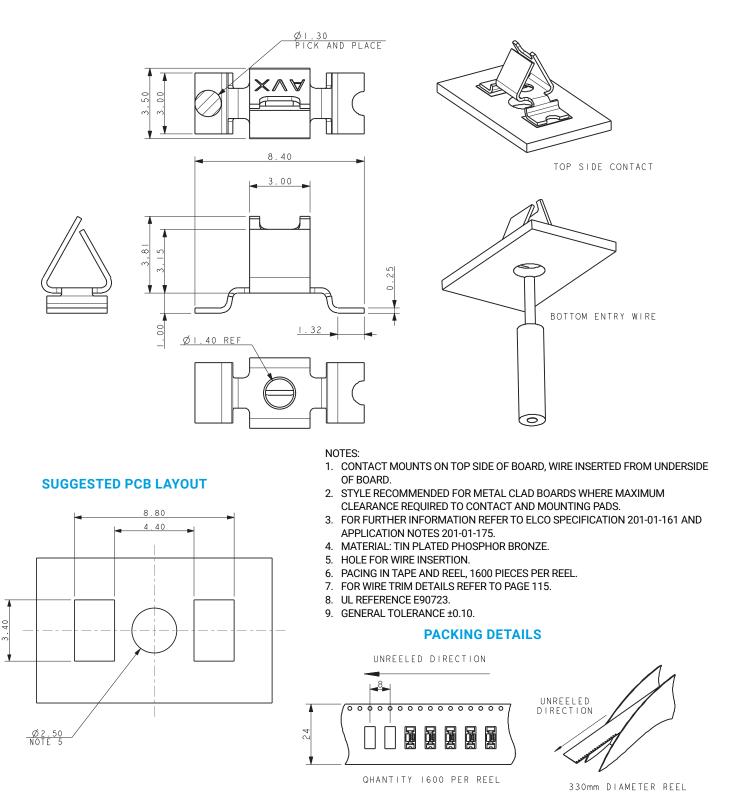


330mm DIAMETER REEL



**Top Side Contact - Bottom Entry Wire (Metal Board)** 

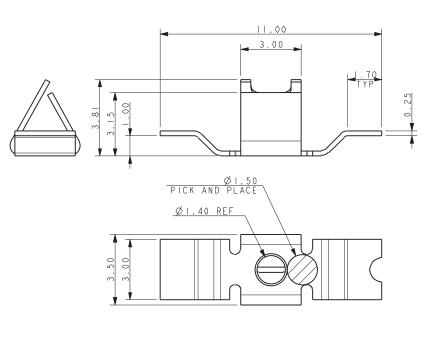
# 70-9296-001-123-006 9296 VERTICAL MOUNT SMT CONTACT TOP SIDE CONTACT – BOTTOM ENTRY WIRE (METAL BOARD)

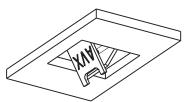




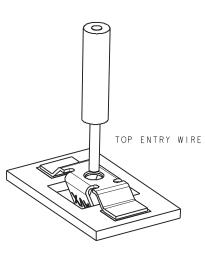
Through Board Contact - Top Entry Wire (Metal Board)

# 70-9296-001-133-006 9296 VERTICAL MOUNT SMT CONTACT THROUGH BOARD CONTACT – TOP ENTRY WIRE (METAL BOARD)

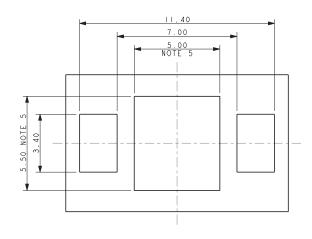




THROUGH BOARD CONTACT



# SUGGESTED PCB LAYOUT

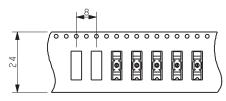


#### NOTES:

- 1. CONTACT MOUNTS THROUGH THE BOARD, WIRE INSERTED FROM TOP SIDE OF BOARD.
- 2. STYLE RECOMMENDED FOR METAL CLAD BOARDS WHERE ADDITIONAL CLEARANCE REQUIRED TO CONTACT AND MOUNTING PADS.
- 3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-175.
- 4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
- 5. HOLE DIMENSIONS FOR CONTACT.
- 6. PACING IN TAPE AND REEL, 2000 PIECES PER REEL.
- 7. FOR WIRE TRIM DETAILS REFER TO PAGE 115.
- 8. UL REFERENCE E90723.
- 9. GENERAL TOLERANCE ±0.10.

# **PACKING DETAILS**

UNREELED DIRECTION





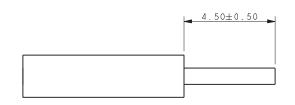
QHANTITY 2000 PER REEL

330mm DIAMETER REEL



**Wire Trim Details** 

# 9296 VERTIAL MOUNT SMT CONTACT WIRE TRIM DETAILS



WIRE STRIP LENGTH, ALL STYLES





70-9296-001-113-006



70-9296-001-123-006



70-9296-001-133-006

#### NOTES:

- 1. FOR FULL ASSEMBLY PROCEDURE REFER TO APPLICATION NOTES 201-01-175.
- 2. THE SAME WIRE STRIP LENGTH APPLIES TO ALL STYLES.
- 3. STRANDED WIRES SHOULD BE TWISTED TO PREVENT SINGLE STRANDS BECOMING DETACHED WHEN INSERTED INTO CONTACT.

# **General Information**





KYOCERA AVX continues to develop innovative connectors for the industrial electronics market that provide significant benefits over existing, outdated connector solutions. The latest release is single vertical Wire-to-Board (WTB) contacts that provide cost effective, yet robust discrete wire termination without the expense of an insulator and assembly costs. This new family of top and bottom entry contacts compliments the existing vertical poke home connectors already on the market, providing a lower cost solution without jeopardizing performance.

The new contacts support both solid and stranded wires ranging from 26AWG down to 22AWG and current ratings as high as 8 amps. Due to the mechanical stiffness of the small contact, 26AWG stranded wires may need to be pre-tinned to facilitate insertion. The set of four contacts provide both top and bottom entry for FR4 and metal core printed circuit boards.

# **APPLICATIONS**

- Machine Controls: motors, drives, solenoids, sensors, fans and pumps
- Commercial Buildings: controls, security, fire and sensors
- Smart Grid: meters, breakers and panels
- SSL/LED; bulbs, fixtures, signage and streetlights
- Application notes: refer to 201-01-175

## **FEATURES AND BENEFITS**

- Dual Beam contact provides maximum mechanical stability and wire retention
- Tape and reel packaged for automated SMT placement
- Staged current rating based on AWG, maximum is 8A (22AWG)
- Increased functionality with the single contact placement: multiple contacts and/or specific individual locations

## **ELECTRICAL**

- Voltage Rating: 300V
- Based on placement distance
- Current Rating: See matrix below

# ENVIRONMENTAL

Operating Temperature: -40°C to +125°C

## MECHANICAL

- Contact Material: Phosphor Bronze
- Contact Plating: Tin over Nickel
- Durability: 5 Cycles

## **HOW TO ORDER**



	<u>1X2</u>						
		Con	tact Style				
Code	Contact Location	Wire Insertion Direction	Recommended For Board Type	Wire Gauges*			
102	Top Side	Bottom Entry	FR4	22 AWG - 26 AWG			
112	Through Board	Top Entry	FR4	22 AWG - 26 AWG			
122	Top Side	Bottom Entry	Metal Based	22 AWG - 26 AWG			
132	Through Board	Top Entry	Metal Based	22 AWG - 26 AWG			

\* 26 AWG stranded wires may require tinning to aid insertion.

# Plating Options 006 = Pure Tin All Over



## **CURRENT RATING**

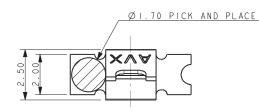
22AWG	24AWG	26AWG
8A	6A	5A

Certification: UL File #E90723

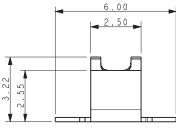


Top Side Contact - Bottom Entry Wire (FR4 Board)

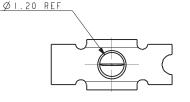
# 70-9296-001-102-006 9296 VERTICAL MOUNT SMT CONTACT TOP SIDE CONTACT – BOTTOM ENTRY WIRE (FR4 BOARD)

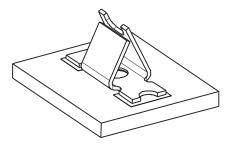




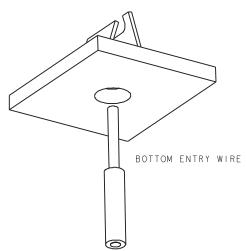




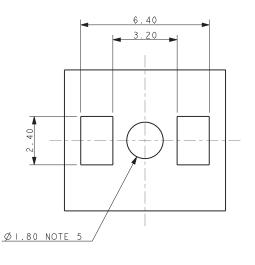




TOP SIDE CONTACT



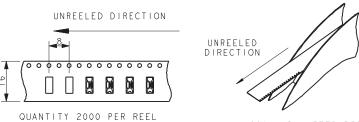
# SUGGESTED PCB LAYOUT



#### NOTES:

- 1. CONTACT MOUNTS ON TOP SIDE OF BOARD, WIRE INSERTED FROM UNDERSIDE OF BOARD.
- 2. STYLE RECOMMENDED FOR FR4 BOARDS WHERE ADDITIONAL CLEARANCE REQUIRED TO CONTACTS AND MOUNTING PADS.
- 3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-175.
- 4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
- 5. HOLE FOR WIRE INSERTION.
- 6. PACKING IN TAPE AND REEL, 2000 PIECES PER REEL.
- 7. FOR WIRE TRIM DETAILS REFER TO PAGE 121.
- 8. WIRE SIZES REFER TO PAGE 116.
- 9. GENERAL TOLERANCE ±0.10.
- 10. UL REFERENCE E90723 (US AND CANADA).

## **PACKING DETAILS**

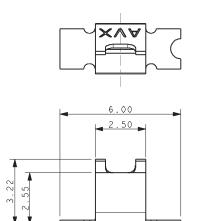


330mm DIAMETER REEL

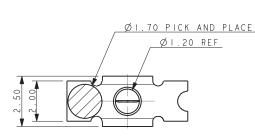


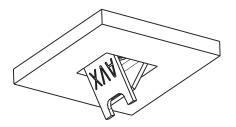
Through Board Contact - Top Entry Wire (FR4 Board)

# 70-9296-001-112-006 9296 VERTICAL MOUNT SMT CONTACT THROUGH BOARD CONTACT – TOP ENTRY WIRE (FR4 BOARD)

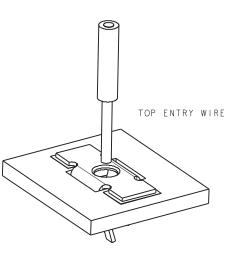




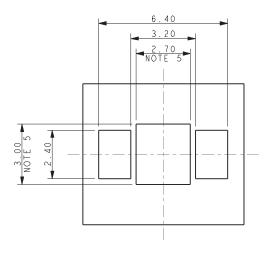




THROUGH BOARD CONTACT



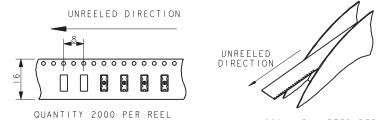
# SUGGESTED PCB LAYOUT



#### NOTES:

- 1. CONTACT MOUNTS THROUGH THE BOARD, WIRE INSERTED FROM TOP SIDE OF BOARD.
- 2. STYLE RECOMMENDED FOR FR4 BOARDS WHERE ADDITIONAL CLEARANCE REQUIRED TO CONTACT AND MOUNTING PADS.
- 3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-175.
- 4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
- 5. HOLE DIMENSIONS FOR CONTACT.
- 6. PACKING IN TAPE AND REEL, 2000 PIECES PER REEL.
- 7. FOR WIRE TRIM DETAILS REFER TO PAGE 121.
- 8. WIRE SIZES REFER TO PAGE 116.
- 9. GENERAL TOLERANCE ±0.10.
- 10. UL REFERENCE E90723 (US AND CANADA).

#### **PACKING DETAILS**

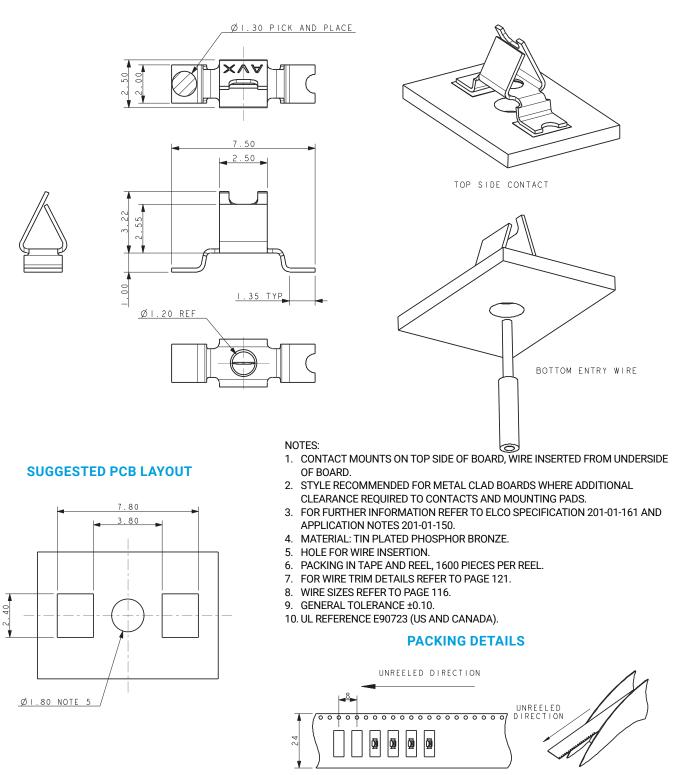


330mm DIAMETER REEL



**Top Side Contact - Bottom Entry Wire (Metal Board)** 

# 70-9296-001-122-006 9296 VERTICAL MOUNT SMT CONTACT TOP SIDE CONTACT – BOTTOM ENTRY WIRE (METAL BOARD)



330mm DIAMETER REEL

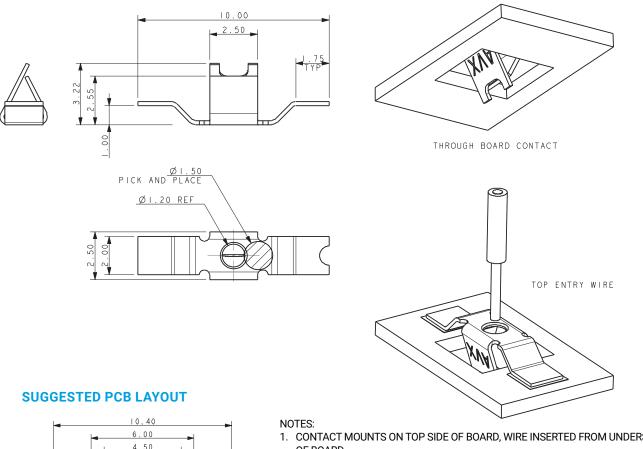
The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

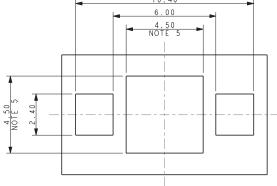
QUANTITY 1600 PER REEL



Through Board Contact - Top Entry Wire (Metal Board)

# 70-9296-001-132-006 9296 VERTICAL MOUNT SMT CONTACT THROUGH BOARD CONTACT - TOP ENTRY WIRE (METAL BOARD)

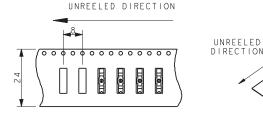




- 1. CONTACT MOUNTS ON TOP SIDE OF BOARD, WIRE INSERTED FROM UNDERSIDE OF BOARD.
- 2. STYLE RECOMMENDED FOR METAL CLAD BOARDS WHERE ADDITIONAL CLEARANCE REQUIRED TO CONTACTS AND MOUNTING PADS.
- 3. FOR FURTHER INFORMATION REFER TO ELCO SPECIFICATION 201-01-161 AND APPLICATION NOTES 201-01-175.
- 4. MATERIAL: TIN PLATED PHOSPHOR BRONZE.
- 5. HOLE FOR WIRE INSERTION.
- 6. PACKING IN TAPE AND REEL, 2000 PIECES PER REEL.
- 7. FOR WIRE TRIM DETAILS REFER TO PAGE 121.
- 8. WIRE SIZES REFER TO PAGE 116.
- 9. GENERAL TOLERANCE ±0.10.
- 10. UL REFERENCE E90723 (US AND CANADA).

QUANTITY 2000 PER REEL

## **PACKING DETAILS**



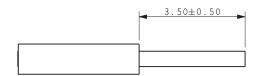


330mm DIAMETER REEL

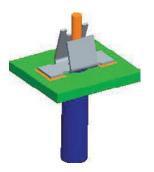


# **Wire Trim Details**

# 9296 VERTIAL MOUNT SMT CONTACT WIRE TRIM DETAILS



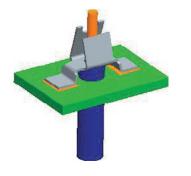
WIRE STRIP LENGTH, ALL STYLES



70-9296-001-103-006



70-9296-001-113-006



70-9296-001-123-006



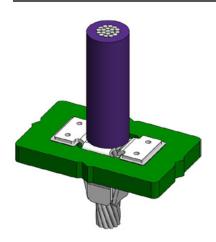
70-9296-001-133-006

#### NOTES:

- 1. FOR FULL ASSEMBLY PROCEDURE REFER TO APPLICATION NOTES 201-01-175.
- 2. THE SAME WIRE STRIP LENGTH APPLIES TO ALL STYLES.
- 3. STRANDED WIRES SHOULD BE TWISTED TO PREVENT SINGLE STRANDS BECOMING DETACHED WHEN INSERTED INTO CONTACT.
- SUITABLE FOR SOLID AND STRANDED WIRES 22AWG, 24AWG AND 26AWG. STRANDED WIRES 26AWG MAY REQUIRE TINNING TO AID INSERTION.

# **POKE HOME: VERTICAL CONTACT THRU-BOARD WIRE** 🔀 КУОСЕRа **INSERTION 14 AWG: 9296-115**

# **General Information**



## GENERAL DESCRIPTION

KYOCERA AVX Interconnect continues to develop unique connectors to fill the gap in the market. The newest addition to AVX's broadening line of wire to board poke-home is the 14 AWG box contact 9296-115, which is extension of popular vertical poke-home contact 70-9296. This new box contact will allow all 14 AWG solid wires and stranded wires. All wire types can be used in both plated and un-plated condition

This small contact is packed with several key features that provide significant functionality in a broad range of applications. The contact is designed for PCB surface mount and termination is accomplished with 14AWG wires pushed directly into the contact.

#### **APPLICATIONS**

Provides a one piece wire to board contact solution in applications :

- Machine Controls: motors, drives, solenoids, sensors, battery packs, fans and pumps
- · Commercial Buildings: controls, security, fire and sensors
- SSL/LED: Fixtures, signage and street lights
- Home appliance: Vacuums and floor cares, washing machines, dryers

# FEATURES AND BENEFITS

- · Maximum 17 Amps current rating meets robust application requirements
- Accepts 14 AWG solid and stranded wires
- Box contact with side walls provides maximum mechanical stability and wire retention
- Tape and reel packaged for automated SMT placement
- UL approved

# **ELECTRICAL**

- Current Rating : Maximum 17 Amps
- Voltage Rating : 300 VAC

# **ENVIRONMENTAL**

· Operating Temperature: -40°C to +125°C

## **MECHANICAL**

- · Contact Material : Phosphor Bronze
- Plating: Pure tin plating
- Durability: 5 Cycles

## **CURRENT RATING**

	14 AWG
UL	17 Amps
cUL	15 Amps

Certification: UL File#E90723

# **HOW TO ORDER**





115

Plating Options 006 = Pure Tin

006

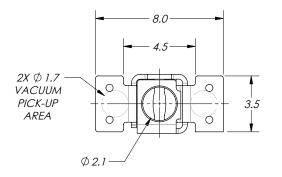


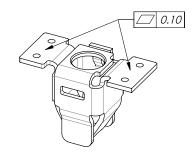
# POKE HOME: VERTICAL CONTACT THRU-BOARD WIRE INSERTION 14 AWG: 9296-115

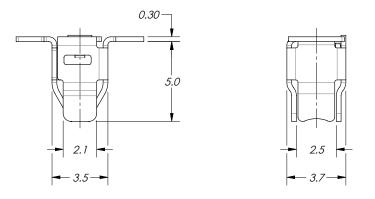


9296 Vertical Contact Thru-Board Wire Insertion

# 9296 VERTICAL CONTACT THRU-BOARD WIRE INSERTION







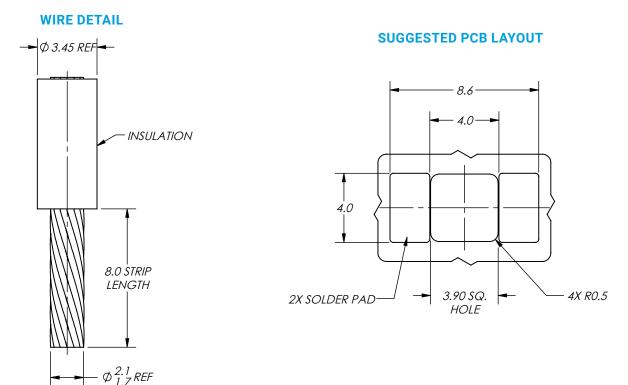
Notes

- 1. PART IS DESIGNED FOR USE WITH 14 AWG SOLID OR STRANDED WIRE.
- 2. MATERIAL: TIN-PLATED PHOSPHOR-BRONZE.
- 3. STRIPPED, STRANDED WIRE MUST BE PROPERLY TWISTED OR TINNED TO FUNCTION CORRECTLY.
- 4. CONTACT IS NOT DESIGNED FOR WIRE TO BE REMOVED AND RE-INSERTED.
- 5. PARTS TO BE PACKAGED IN POCKET TAPE ON REELS, APPROXIMATELY 900 PARTS PER 330 mm REEL.
- 6. UL REFERENCE E90723 (US AND CANADA).

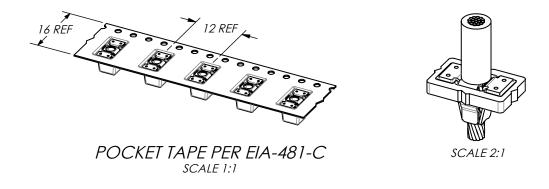
# POKE HOME: VERTICAL CONTACT THRU-BOARD WIRE **INSERTION 14 AWG: 9296-115**



Wire Detail/PCB Layout/Packing Details

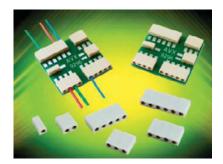


**PACKING DETAILS** 



# **General Information**





The new 9296 series connector provides a quick and reliable wire-to- board termination in a sleek 3.0mm pitch by 2.5mm high SMT package for a broad range of industrial and commercial applications. With almost every product on the market having to deal with a small number of discrete wires connecting components to a PCB, the 9296 connector series meets this challenge by simply stripping the wire and inserting them into a 1 to 6 position connector. This makes the connector very cost effective and termination friendly within the factory as well as in the field by electrical installers.

Developed for harsh industrial applications, the connector integrates the already proven 2mm dual beam poke-home contact into a connector housing. The high spring force Phosphor Bronze contact accepts a wide range (20-26AWG solid or stranded) of wire to accommodate any wire combination within a single connector.

# **APPLICATIONS**

- · Machine Controls: motors, drives, solenoids, sensors, fans and pumps
- Commercial Buildings: controls, security, fire and sensors
- Smart Grid: meters, breakers and panels
- SSL/LED: bulbs, fixtures, signage and streetlights
- Application notes: refer to 201-01-167

## FEATURES AND BENEFITS

- · Simple strip and poke-home wire insertion with easy twist and pull wire extraction
- 2.5mm height achieves the lowest height possible for this AWG range
- Accepts 20-26 AWG solid and stranded wires
- High spring force dual beam box contact provides maximum mechanical stability and wire retention
- UL approved
- Halogen free

#### **ELECTRICAL**

- · Current Rating: See matrix below
- Voltage Rating: 300 VAC

## **HOW TO ORDER**

00	9296	00X	2X	2	×	x	6
Prefix	Series	Number of Ways 001 = 1 002 = 2 003 = 3 004 = 4	Description 20 = Horizontal SMT Mount Poke Home Connector 21 = Horizontal	Wire Gauge Size 20AWG to 26AWG Max ø 1.60mm	Insulator Color All Sizes 9 = UL White (Standard) 8 = UL Black (Special Order)	Halogen Free 0 = No 1 = Yes	Plating Options 6 = Pure Tin ove Nickel
		005 = 5 006 = 6	SMT Mount Poke Home Connector for pass through mating pins		One Way Only (Special Order) 2 = UL Brown 3 = UL Blue 4 = UL Yellow 5 = UL Red 6 = UL Green		

**ENVIRONMENTAL** 

-40°C to +130°C

Operating Temperature:

## **CURRENT RATING**

	20AWG	22AWG	24AWG	26AWG
UL	8A	7A	6A	5A
cUL	6A	5A	3.75A	3.75A

Certification: UL File #E90723

7 = UL Orange

# **MECHANICAL**

- Insulator Material: Glass-Filled Nylon 46; UL94V0
- Contact Material: Phosphor Bronze
- Plating: Tin over Nickel
- · Durability: 3 Cycles

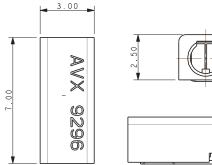


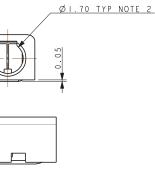




**1** Position

# 9296 HORIZONTAL MOUNT POKE HOME CONNECTOR - 1 WAY

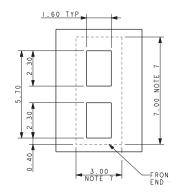




NOTES:

- 1. HORIZONTAL SMT MOUNT 1 WAY POKE HOME CONNECTOR. FOR FURTHER DETAILS REFER TO PRODUCT SPECIFICATION 201-01-166 AND APPLICATION NOTES 201-01-167.
- 2. SUITABLE FOR WIRES 20AWG TO 26AWG, MAXIMUM INSULATION 1.60MM DIAMETER.
- 3. INSULATOR: NYLON 46, GLASS FILLED, UL94 V-0, COLOR SEE PAGE 122.
- 4. CONTACT: TIN PLATED COPPER ALLOY.
- 5. PACKING IN TAPE AND REEL, QTY PER REEL 2000, 330MM REEL.
- 6. GENERAL TOLERANCE ±0.20.
- 7. OUTLINE OF CONNECTOR.
- 8. UL REFERENCE E90723 (US AND CANADA).

# SUGGESTED PCB LAYOUT



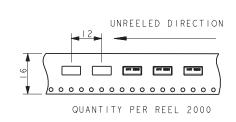


**PACKING DETAILS** 

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330mm DIAMETER REEL

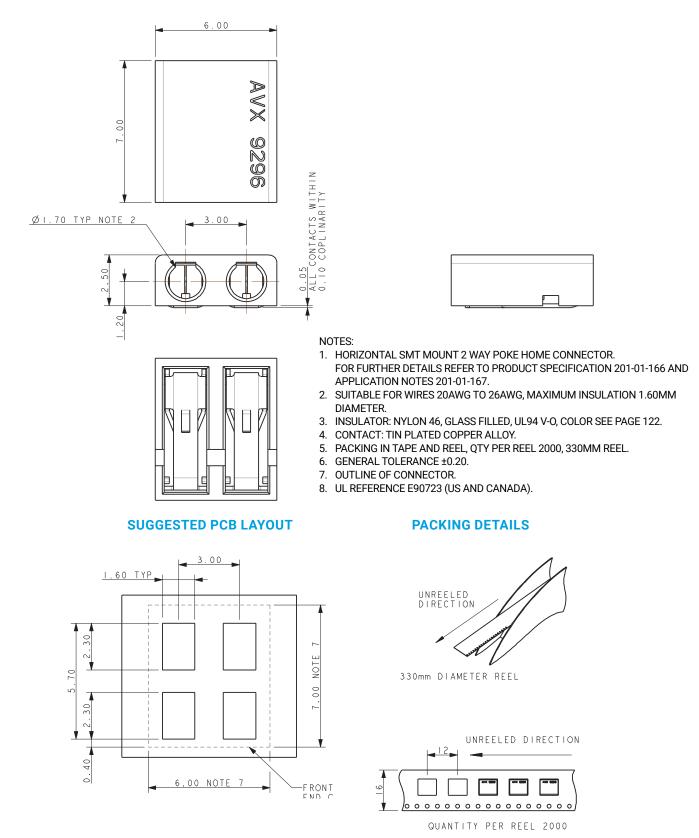


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# **2** Position

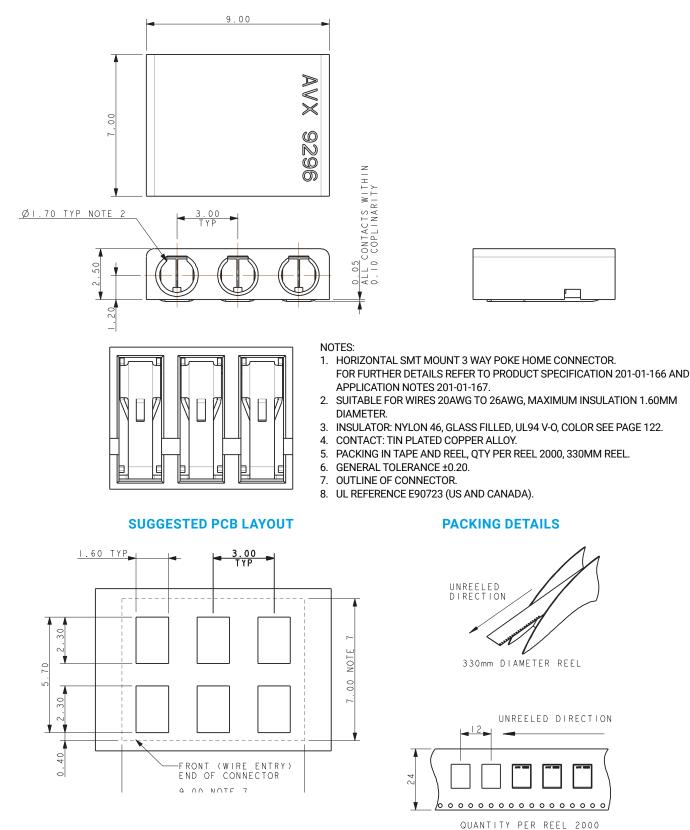
## 9296 HORIZONTAL MOUNT POKE HOME CONNECTOR - 2 WAY





# **3** Position

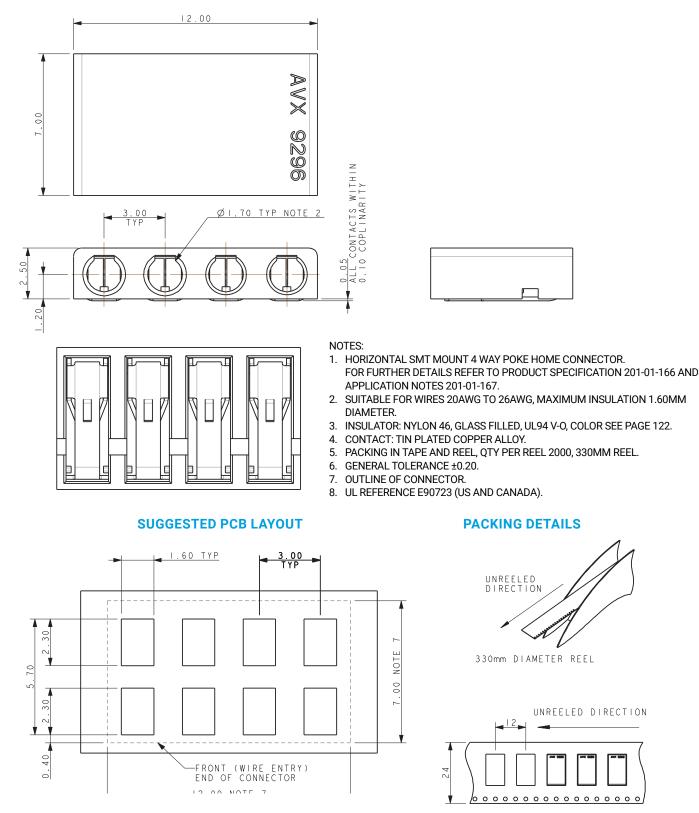






# **4** Position

# 9296 HORIZONTAL MOUNT POKE HOME CONNECTOR - 4 WAY

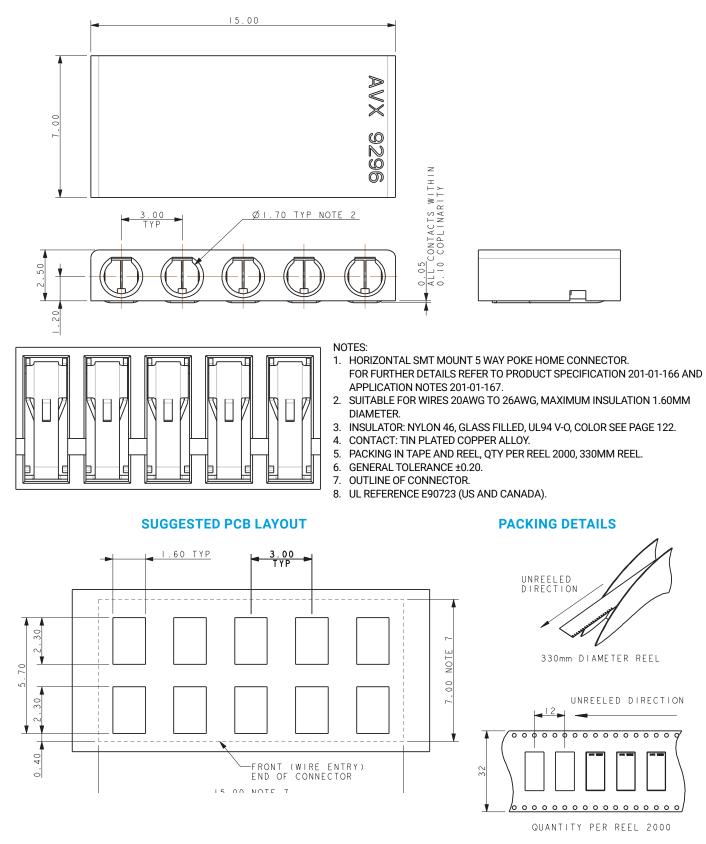


QUANTITY PER REEL 2000



# **5** Position

# 9296 HORIZONTAL MOUNT POKE HOME CONNECTOR - 5 WAY

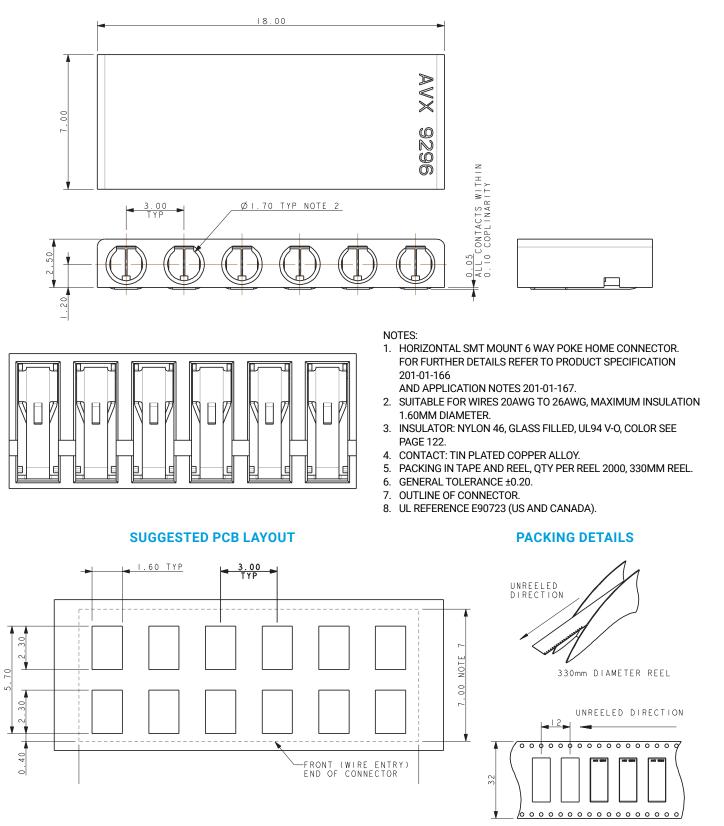




QUANTITY PER REEL 2000

# **6** Position

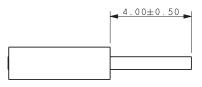
# 9296 HORIZONTAL MOUNT POKE HOME CONNECTOR - 6 WAY



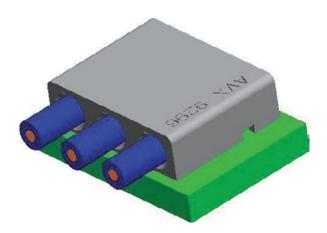


# Assembly

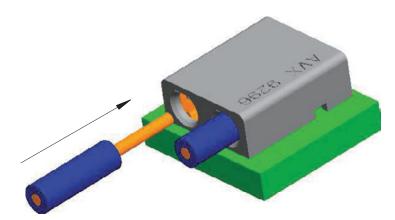
# 9296 HORIZONTAL MOUNT POKE HOME CONNECTOR - ASSEMBLY



WIRE STRIP LENGTH



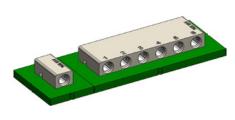
#### REFER TO APPLICATION NOTES 201-01-167 FOR FULL ASSEMBLY PROCEDURE



# POKE-HOME: HORIZONTAL CONNECTOR 4MM PITCH 18-26AWG 9296-400

9296-400





## **GENERAL DESCRIPTION**

KYOCERA AVX Interconnect continues to develop unique connectors to support market needs. Many product designs must accommodate small numbers of discrete wires connecting components to PCBs; the new 9296-400 series meets this challenge by providing quick and reliable wire-to-board terminations. Its compact SMT package: 4mm pitch, 3mm height, 1 to 6 positions; makes it ideal for a broad range of industrial and commercial applications. Wires are easily terminated with a simple strip and insertion step. This cost-effective connector enables easy assembly in factory settings or field termination by electrical installers for non-UL applications.

Developed for various industrial applications, the connector integrates the already proven 2.5mm dual beam poke-home contact into a connector housing. Dual spring Phosphor Bronze contact accepts a wide range (18-26AWG solid or stranded) of wire to accommodate any wire combination within a single connector. Optional version with pass-through holes and no wire stop contacts allow mating with KYOCERA AVX jumper pins. Optional visibility windows allow visual verification of full wire insertion.

## **APPLICATIONS**

- · Machine Controls: motors, drives, solenoids, sensors, fans and pumps
- · Commercial Buildings: controls, security, fire and sensors
- · Smart Grid: meters, breakers and panels
- · SSL/LED: bulbs, fixtures, signage and streetlights

#### **ELECTRICAL**

- · Current Rating: See matrix below
- Voltage Rating: 600 VAC(RMS) or VDC

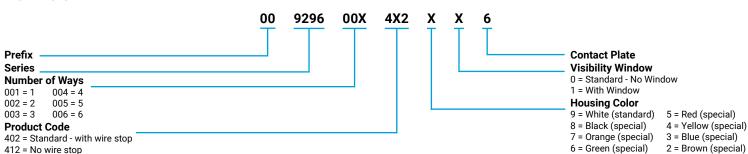
#### **ENVIRONMENTAL**

Operating Temperature: -40℃ to +130℃

#### **MECHANICAL**

- Insulator Material: Glass-Filled Nylon 46; halogen free; UL94V-0 rated
- · Contact Material: Phosphor Bronze
- Plating: Lead-free Tin
- Durability: 5 Cycles

#### **HOW TO ORDER**



## FEATURES AND BENEFITS

- Simple strip and poke-home wire insertion with easy twist and pull
   wire extraction
- · 3mm height achieves the lowest height possible for this AWG range
- Accepts 18-26 AWG solid and stranded wires or jumper pins
- Dual spring beam box contact provides maximum mechanical stability and wire retention
- · Optional visibility windows allow visual verification of full wire insertion.
- UL approved

#### **CURRENT RATING**

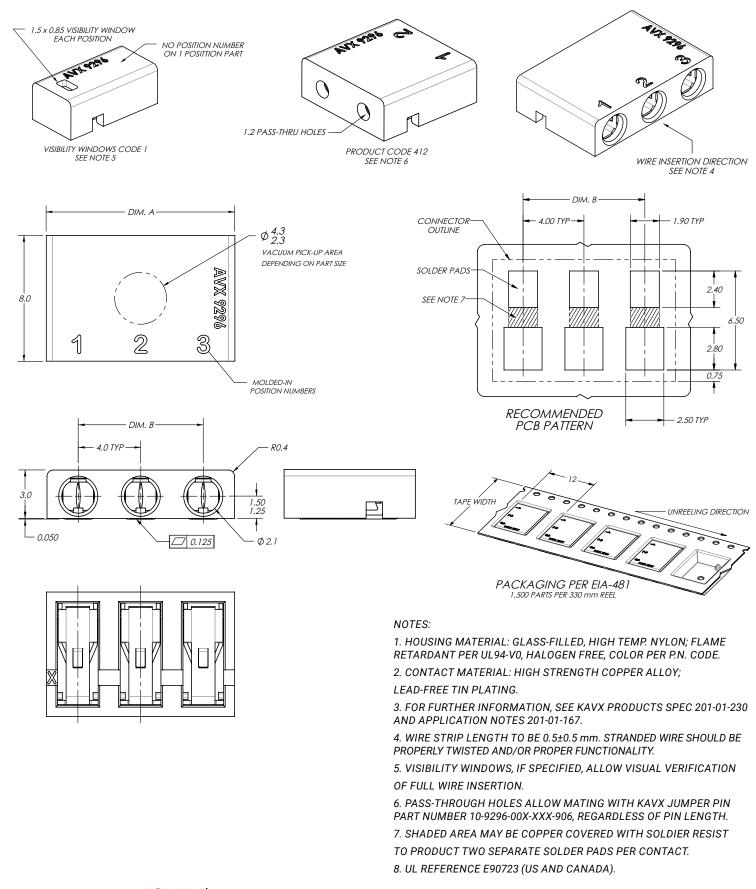
	18AWG	20AWG	22AWG	24AWG	26AWG	Jumper
UL	10A	9A	8A	7	6A	6.5A
cUL	8A	7A	6A	5A	4A	4.5A

Certification: UL File #E90723

# POKE-HOME: HORIZONTAL CONNECTOR 4MM PITCH 18-26AWG 9296-400

# 

9296-400



# **RF COAXIAL IDC**

# 00-6791





## **GENERAL DESCRIPTION**

Designed to simplify the connection process, the new 6791 series wire to board connectors for coaxial cables enable simple termination with one press. Expanded the proven-reliable IDC (Insulation displacement connector) from signal/power transmission to high frequency transmission field up to 6Ghz, the IDC contact pierces the jacket and insulation of the cable and makes direct contact with the strands and conductor of the wire at the same time. Comparing with direct soldering the soldering quality is no more depending on operator's skill which is hard to be unified and controlled. Hand soldering is now not preferred/allows in automotive field. Comparing with costly traditional 2-piece solution which is generally taller than 10mm, the new 6791 Series offers a cost-effective solution and the on board height in less than 5mm after the cap is pressed. Process to prepare coaxial cable with a 2-piece connector is time consuming and costly, with the launch of the new 6791 series the process is nowsimplified and the cost is reduced.

## **APPLICATIONS**

- · The connector comes in multiple types for different coaxial cables.
- Small package size and mechanical strength allows usage in automotive and industrial antenna applications
- Reference Application Notes 201-01-214

#### **ELECTRICAL**

- · Current Rating: 0.5 Amps (Current limit is cable dependent)
- Voltage Rating: 125Vac

#### **ENVIRONMENTAL**

• Operating Temperature: -40°C to +105°C

#### **HOW TO ORDER**

00	6791	001	00X	005
T			$\top$	
Prefix	Series	<b>No. of Ways</b> 001 = 1	Description 001 = 500: Outer Jacket 2.33mm-2.60mm 003 = 500: Outer Jacket 2.70mm-3.10mm See comparison of cable dimensions in below chart	Plating

#### **IDC COAX CABLE SIZE**

	Diameter (mm)					
Component	-001		-003			
	Lower Limit	Upper Limit	Lower Limit	Upper Limit		
Conductor	0.43	0.54	0.46	0.57		
Dielectric	1.44	1.68	1.45	1.70		
Braid Shield	1.84	2.08	1.85	2.10		
Jacket	2.33	2.60	2.70	3.10		

# FEATURES AND BENEFITS

- · Can replace costly traditional RF connector systems
- Good RF performance up to 6GHz
- Mechanically strong with peel off force up to 70N
- · Easy assembly process with ability to automate

#### **MECHANICAL**

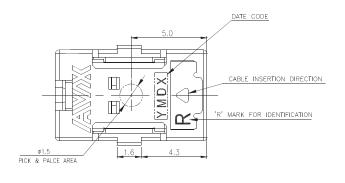
- Insulator Material: Glass-Filled Nylon 46; UL94V-0
- Contact Material: Copper Alloy
- · Plating: Lead-Free Tin Over Nickel

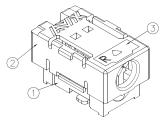


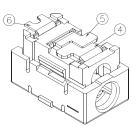
# **RF COAXIAL IDC** 00-6791

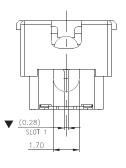


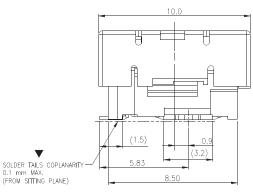
## 00 6791 001 001 005

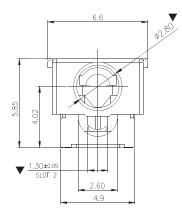


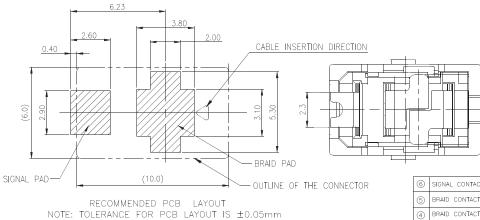








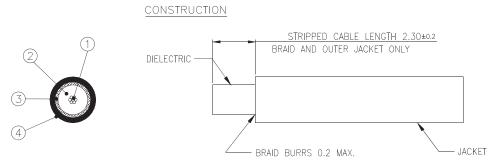




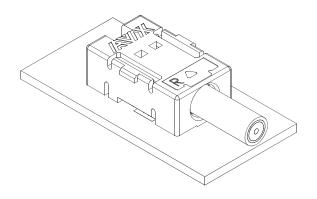
- NOTES: 1. VOLTAGE RATING: 125V. 2. OPERATING TEMPERATURE: -40°C TO +105°C. 3. FOR REFLOW SOLDERING LEAD-FREE PROCESS. 4. SOLDERING HEAT RESISTANCE REFLOW SOLDERING 260°C. 5. RECOMMENDED PRESSING STOP HEIGHT AS 39±0.2mm. 6. ALLOW CABLE INSERT TOLERANCE: 0.3mm MAX. 7. CRITICAL DIMENSION: ♥ 8. GENERAL TOLERANCE ±0.20mm.

9	SIGNAL CONTACT	COPPER ALLOY	Tin OVERALL, NICKEL UNDERPLATED	1	
6	BRAID CONTACT(2)	COPPER ALLOY	Tin OVERALL, NICKEL UNDERPLATED	1	
4	BRAID CONTACT(1)	COPPER ALLOY	Tin OVERALL, NICKEL UNDERPLATED	1	
$(\mathbf{r})$	SUPPORT PLATE	STAINLESS STEEL		1	
2	CAP	PA-46	UL94HB,BLACK	1	
Θ	HOUSING	PA-46	UL94HB,BLACK	1	
ITEM	DESCRIPTION	MATERIAL	FINISH	Q'TY	NOTE



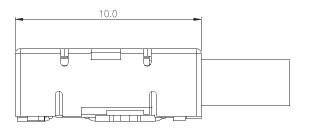


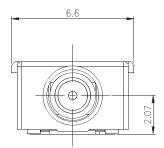
NOTE: JACKET STRIP OD DEFORMED MUST BE THAN LESS Ø2.75mm AFTER CUT OFF.



#### APPLICABLE COAXIAL CABLE DIMENSIONS:

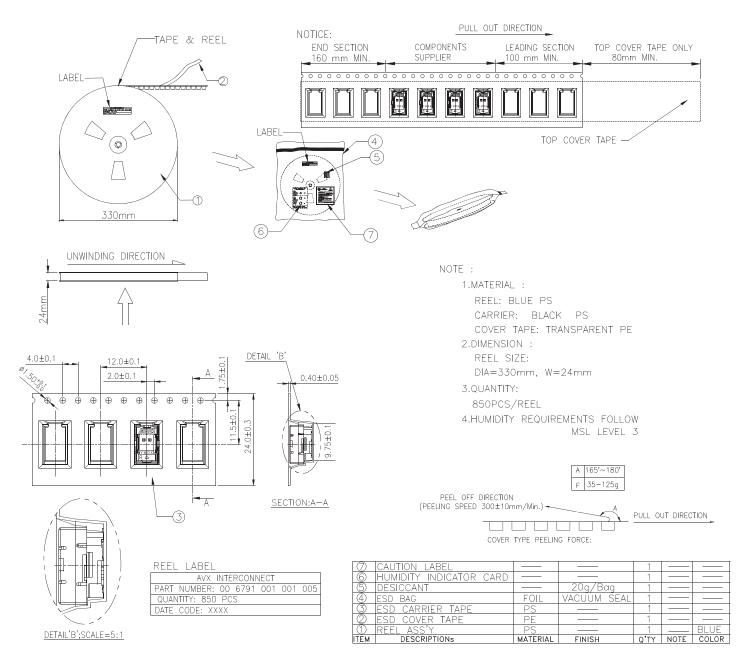
COMPONENT	DIAMETER (mm)				
COMPONENT	LOWER LIMIT	upper liMit			
(1) CONDUCTOR	Ø0.43	Ø0.54			
(2) DIELECTRIC	ø1.44	ø1.68			
(3) BRAID SHIELD	ø1.84	Ø2.08			
(4) JACKET	ø2.33	Ø2.60			



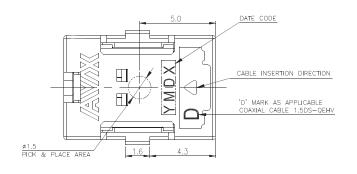


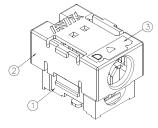
WIRED CONNECTOR

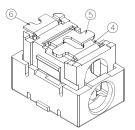


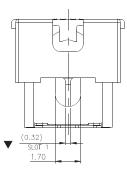


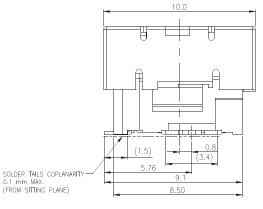


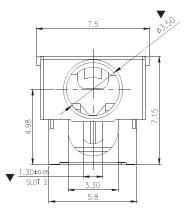


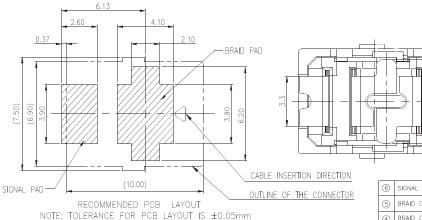










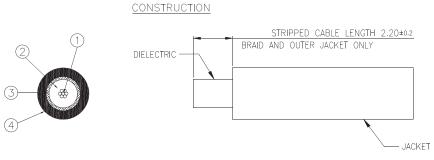


- NOTES: 1. VOLTAGE RATING: 125v 2. OPERATING TEMPERATURE: -40°C TO +105°C. 3. FOR REFLOW SOLDERING LEAD-FREE PROCESS. 4. SOLDERING HEAT RESISTANCE REFLOW SOLDERING 260°C. 5. RECOMMENDED PRESSING STOP HEIGHT AS 4.5±0.05mm. 6. ALLOW CABLE INSERT TOLERANCE: 0.3mm MAX. 7. GRITCAL DIMENSION: ▼ 8. GENERAL TOLERANCE ±0.20mm.

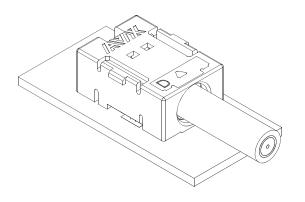
		Tin OVERALL, NICKEL UNDERPLATED		
SIGNAL CONTACT	COPPER ALLOY	THE OVERALL, NICKEL ONDERFEATED	1	
BRAID CONTACT(2)	COPPER ALLOY	Tin OVERALL, NICKEL UNDERPLATED	1	
BRAID CONTACT(1)	COPPER ALLOY	Tin OVERALL, NICKEL UNDERPLATED	1	
SUPPORT PLATE	STAINLESS STEEL		1	
CAP	PA-46	UL94HB,BLACK	1	
HOUSING	PA-46	UL94HB,BLACK	1	
DESCRIPTION	MATERIAL	FINISH	Q'TY	NOTE
	BRAID CONTACT(1) SUPPORT PLATE CAP HOUSING	BRAID CONTACT(2)         COPPER ALLOY           BRAID CONTACT(1)         COPPER ALLOY           SUPPORT PLATE         STAINLESS STEEL           CAP         PA-46           HOUSING         PA-46	SIGNAL CONTACT         COPPER ALLOY         Tin OVERALL, NICKEL UNDERPLATED           BRAID CONTACT(1)         COPPER ALLOY         Tin OVERALL, NICKEL UNDERPLATED           SUPPORT PLATE         STAINLESS STEEL         CAP           CAP         PA-46         UL94HB,BLACK           HOUSING         PA-46         UL94HB,BLACK	SIGNAL CONTACT         COPPER ALLOY         Tin         SUBAL         NICKEL         UNDERPLATED         1           BRAID CONTACT(2)         COPPER ALLOY         Tin OVERALL, NICKEL         1           BRAID CONTACT(1)         COPPER ALLOY         Tin OVERALL, NICKEL         1           SUPPORT PLATE         STAINLESS STEEL         1           CAP         PA-46         UL94HB,BLACK         1           HOUSING         PA-46         UL94HB,BLACK         1

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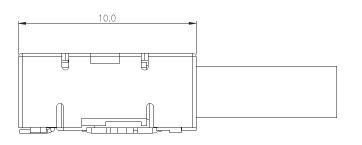


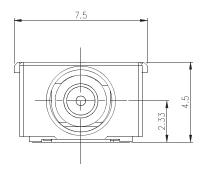
NOTE: JACKET STRIP OD DEFORMED MUST BE THAN LESS Ø3.30mm AFTER CUT OFF.



#### APPLICABLE COAXIAL CABLE DIMENSIONS:

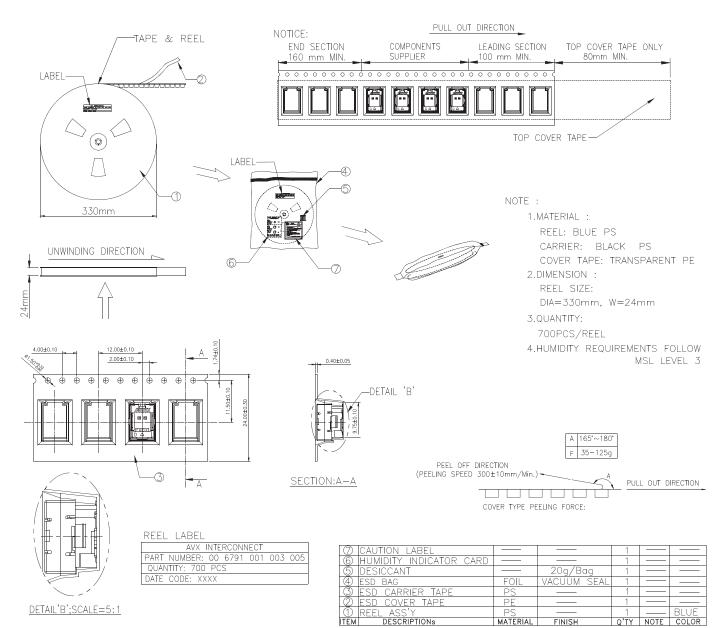
COMPONENT	DIAMETER (mm)		
COMPONENT	LOWER LIMIT	upper limit	
(1) CONDUCTOR	Ø0.46	Ø0.57	
(2) DIELECTRIC	ø1.45	¢1.70	
(3) BRAID SHIELD	ø1.85	ø2.10	
(4) JACKET	ø2.70	ø3.10	





WIRED CONNECTOR







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 009177001012006

 009177002022006
 009177003022006
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