Size 22 Signal and Thermocouple Contacts, Removable Crimp and Printed Board Mount

Military/Industrial Quality Connectors

MIL-DTL-24308 and SAE AS 39029

U.L. Recognized File #E49351

CSA Recognized File #LR54219

Telecommunication U.L. File #14098



Densi-D Series connectors are Military/Industrial quality, high density rectangular connectors designed for use in sheltered, mildly corrosive environments having a wide range of temperature, pressure and humidity changes. These crimp removable contact connectors are qualified to MIL-DTL-24308 and SAE AS 39029.

Densi-D Series connectors utilize precision machined contacts with closed barrel crimp terminations, solder cup terminations, straight and 90° printed board mount. All female contacts are of closed entry design, featuring a fluted stainless steel shroud.

Six standard contact variants are offered in arrangements of 15, 26, 44, 62, 78 and 104 contacts. Densi-D Series connectors are mateable and compatible with other high density D-Subminiature connectors conforming to MIL-DTL-24308.

A wide assortment of mounting spacers, cable support hoods and locking systems is available from stock.

POSITRONIC INDUSTRIES RoHS Compliant per EU Directive 2002/95/EC

For RoHS options see page 51.

DENSI-D SERIES TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulators:	Glass filled polyester per MIL-M-24519, UL 94V-0, blue color.
Contacts:	Male contacts – precision machined high tensile copper alloy. Female contacts – precision machined high tensile copper alloy with stainless steel shroud.
Contact Plating:	Military performance – 0.000050 inch [1.27 microns] gold over copper plate. Industrial performance – gold flash over nickel plate. Other finishes available upon request.
Shells:	Steel with tin plate; zinc and cadmium plate with chromate seal, stainless steel, passivated. Other materials and finishes available upon request.
Mounting Spacers:	Nylon plastic and brass; zinc plate with chromate seal.
Push-On Fastener:	Phosphor bronze or beryllium copper with tin plate.
Vibration Lock Systems:	Slide lock and lock tabs, steel with nickel plate.
Jackscrew Systems:	Steel with zinc plate and chromate seal, or clear zinc plate.
Hoods:	Thermoplastic UL 94V-0. Composite, brass or steel with zinc plate and chromate seal.

NEW! **Non-magnetic versions are available, contact Technical Sales.**

ELECTRICAL CHARACTERISTICS:

Contact Current Rating:	5 amperes nominal.
Initial Contact Resistance:	0.005 ohms maximum.
Proof Voltage:	1000 V r.m.s.
Insulator Resistance:	5 G ohms.
Clearance and Creepage Distance [minimum]:	0.042 inch [1.06mm].
Working Voltage:	300 V r.m.s.

CLIMATIC CHARACTERISTICS:

Temperature Range:	-55°C to +125°C.
Damp Heat, Steady State:	21 days.

MECHANICAL CHARACTERISTICS:

Removable Contacts:	Insert contact to rear face of insulator and release from rear face of insulator. Size 22 contacts, male – 0.030 inch [0.76mm] diameter; female – closed entry design with stainless steel shroud.
Contact Retention In Insulator:	9 lbs. [40 N].
Contact Terminations:	Closed barrel crimp, wire sizes 22 AWG [0.3mm²] through 30 AWG [0.05mm²] per IEC 352-2. 90° Printed Board Mount contact terminations.
Shells:	Male shells may be dimpled for EMI/ESD ground paths.
Polarization:	Trapezoidally shaped shells and polarized jackscrews.
Mounting To Angle Brackets:	Jackscrews and riveted fasteners with 0.120 inch [3.05mm] clearance hole, and threaded riveted fasteners with 4-40 threads and nylon lock inserts.
Mounting To Printed Board:	Rapid installation push-on fasteners and mounting posts.
Locking Systems:	Jackscrews and vibration locking systems.
Mechanical Operations:	1000 operations minimum per IEC 512-5.

THERMOCOUPLE CONTACTS:

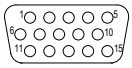
Size 22 crimp contacts are available, see page 47 for details.

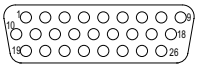
PCB mount contacts are available, please contact Technical Sales for details.

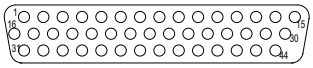
Downloaded from Arrow.com.

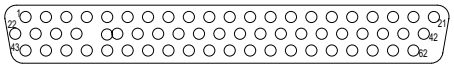
CONTACT VARIANTS

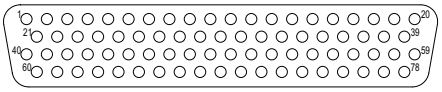
FACE VIEW OF MALE OR REAR VIEW OF FEMALE

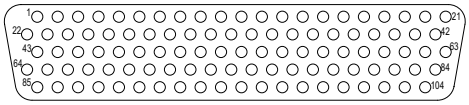

DD 15


DD 26

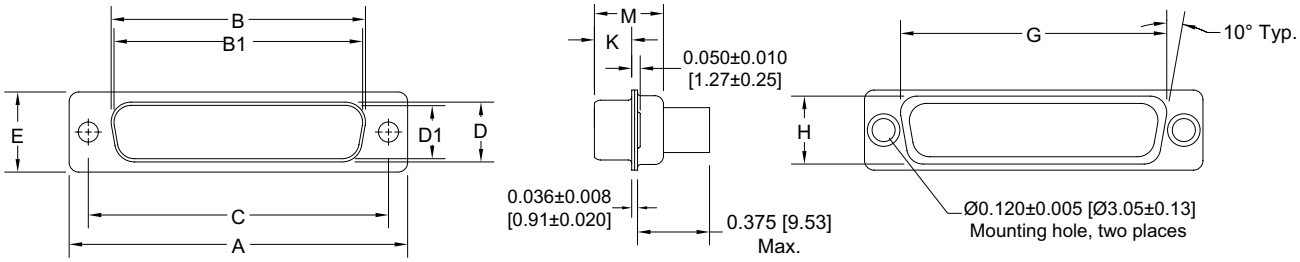

DD 44


DD 62

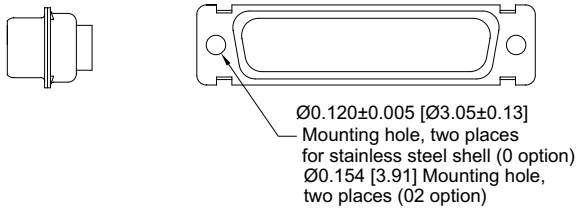

DD 78


DD 104

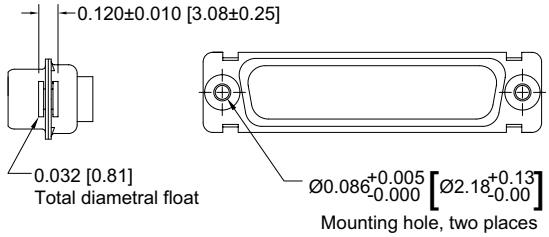
STANDARD SHELL ASSEMBLY



OPTIONAL SHELL ASSEMBLY (0, 02)



OPTIONAL SHELL ASSEMBLY WITH UNIVERSAL FLOAT MOUNTS (F)



CONNECTOR VARIANT SIZES	A ±0.015 [0.38]	B ±0.005 [0.13]	B1 ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	D1 ±0.005 [0.13]	E ±0.015 [0.38]	G ±0.010 [0.25]	H ±0.010 [0.25]	K ±0.005 [0.13]	M ±0.010 [0.25]
DD 15 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
DD 15 F	1.213 [30.81]	0.643 [16.33]		0.984 [24.99]	0.311 [7.90]		0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
DD 26 M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
DD 26 F	1.541 [39.14]	0.971 [24.66]		1.312 [33.32]	0.311 [7.90]		0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
DD 44 M	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
DD 44 F	2.088 [53.04]	1.511 [38.38]		1.852 [47.04]	0.311 [7.90]		0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
DD 62 M	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
DD 62 F	2.729 [69.32]	2.159 [54.84]		2.500 [63.50]	0.311 [7.90]		0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
DD 78 M	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
DD 78 F	2.635 [66.93]	2.064 [52.43]		2.406 [61.11]	0.423 [10.74]		0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.243 [6.17]	0.429 [10.90]
DD 104 M	2.729 [69.32]		2.212 [56.18]	2.500 [63.50]		0.503 [12.78]	0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.230 [5.84]	0.426 [10.82]
DD 104 F	2.729 [69.32]	2.189 [55.60]		2.500 [63.50]	0.485 [12.32]		0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.243 [6.17]	0.429 [10.90]

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

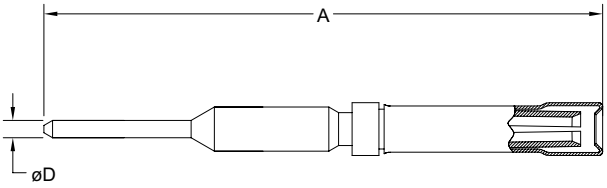
Downloaded from Arrow.com.

STRAIGHT PRINTED BOARD MOUNT CONTACTS

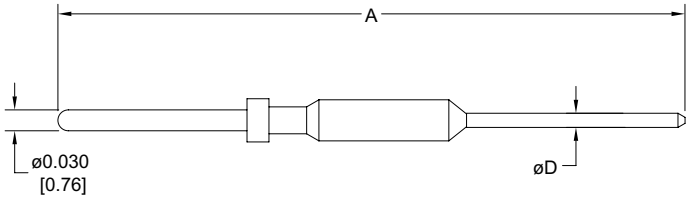
CODE 3 AND 32

CONTACTS ARE SUPPLIED IN CONNECTOR WHEN ORDERED.

FEMALE CONTACT
"CLOSED ENTRY" DESIGN



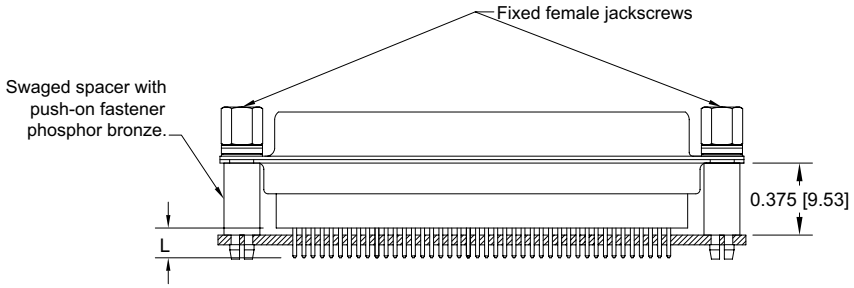
MALE CONTACT



CODE NUMBER	L	ØD	A
3	0.150 [3.81]	0.020 [0.51]	0.725 [18.42]
32	0.300 [7.62]	0.020 [0.51]	0.865 [21.97]

For straight printed board mount contacts specify code no. in step 4 of ordering information.

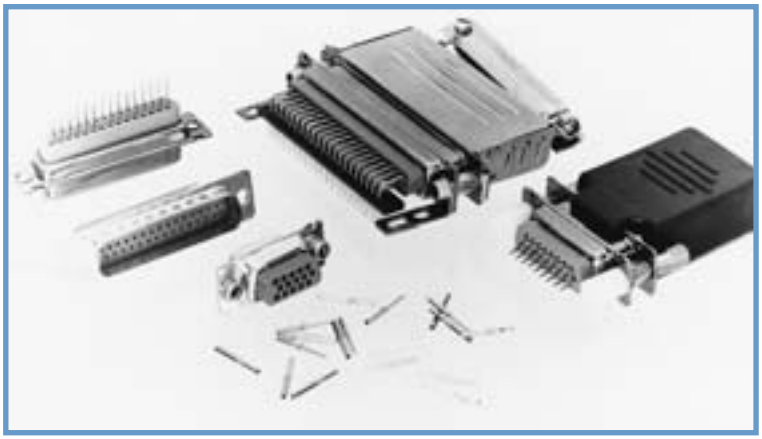
CODE NUMBER	L	ØD	A
3	0.150 [3.81]	0.020 [0.51]	0.737 [18.72]
32	0.300 [7.62]	0.020 [0.51]	0.877 [22.28]



Typical Part Number: DD62F3S60T2X

MATERIAL:
MALE CONTACTS: Brass.
FEMALE CONTACTS: Phosphor bronze.

PLATING:
STANDARD FINISH: Gold flash over nickel plate.
OPTIONAL FINISHES: Other finishes are available. See Step 10 on ordering information page for details.

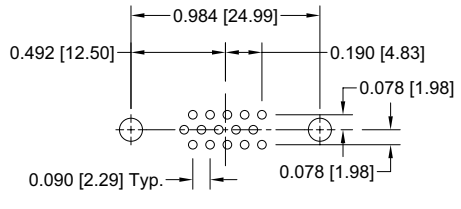


Downloaded from Arrow.com.

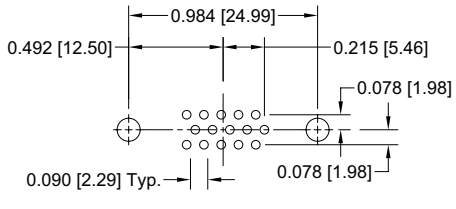
90° AND STRAIGHT PRINTED BOARD CONTACT HOLE PATTERN

MOUNT CONNECTOR WITH MATING FACE POSITIONED TO FOLLOW DIRECTION OF ARROWS.

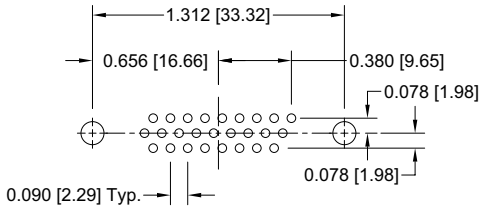
DD15 MALE



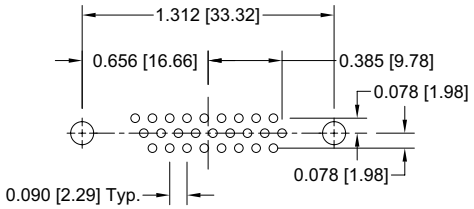
DD15 FEMALE



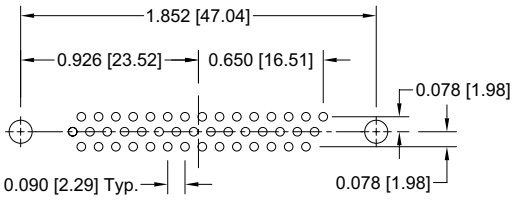
DD 26 MALE



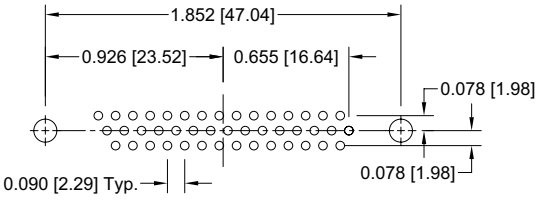
DD 26 FEMALE



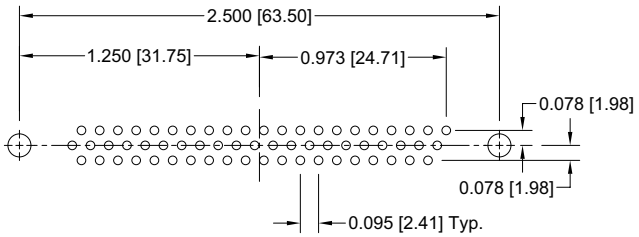
DD44 MALE



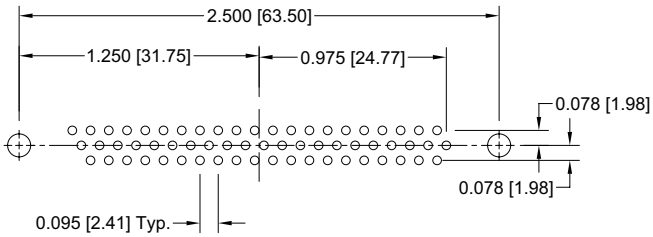
DD44 FEMALE



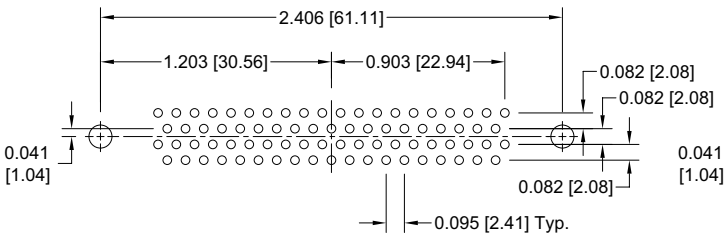
DD62 MALE



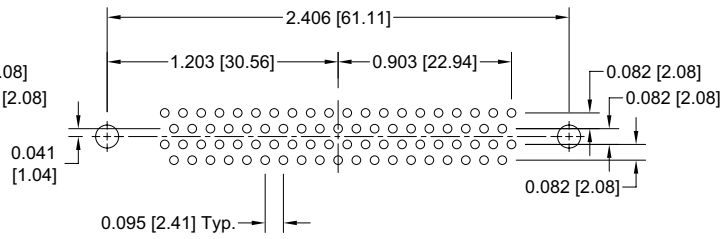
DD62 FEMALE



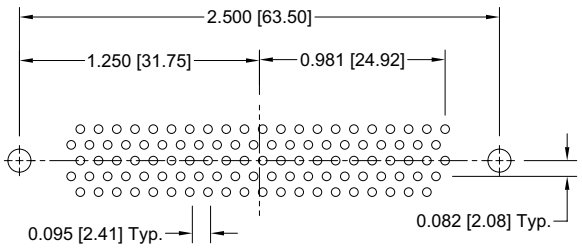
DD78 MALE



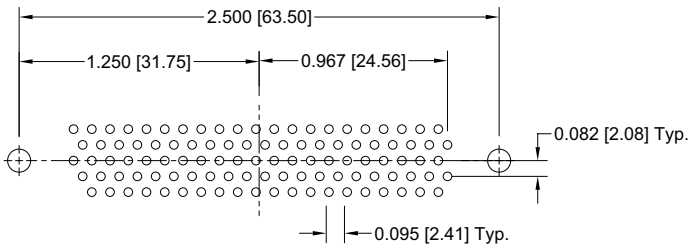
DD78 FEMALE



DD104 MALE



DD104 FEMALE



Suggest 0.035 [0.89] Ø hole for contact termination positions.
Suggest 0.123 ±0.003 [3.12 ±0.08] Ø hole for mounting connector with push-on fasteners.

Downloaded from Arrow.com.

ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 8

STEP	1	2	3	4	5	6	7	8	9		10
EXAMPLE	DD	62	F	4	R7	N	T6	S	/AA	—	-50

STEP 1 - BASIC SERIES

DD Series

STEP 2 - CONNECTOR VARIANTS

15, 26, 44, 62, 78, 104

STEP 3 - CONNECTOR GENDER

M - Male
F - Female

STEP 4 - CONTACT TERMINATION TYPE

0 - Ordered Without Contacts.
1 - Crimp, 22 AWG–30 AWG [0.3mm²–0.05mm²].
2 - Solder cup, 22 AWG-30 AWG [0.3mm²–0.05mm²].
3 - Solder, Straight Printed Board Mount with 0.150 [3.81] Tail Length.
32 - Solder, Straight Printed Board Mount with 0.300 [7.62] Tail Length.
4 - Solder, 90° Printed Board Mount with 0.450 [11.43] Contact Extension.

*STEP 5 - MOUNTING STYLE

0 - Mounting Hole, 0.120 [3.05] Ø.
02 - Mounting Hole, 0.154 [3.91] Ø.
B3 - Bracket, Mounting, 90° Metal with Cross Bar.
B8 - Bracket, Mounting, 90° Plastic with Cross Bar.
F - Float Mounts, Universal.
P - Threaded Post, Brass, 0.375 [9.53] Length.
P2 - Threaded Post, Nylon, 0.375 [9.53] Length.
R2 - Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Thread Fixed Female Jackscrews with Cross Bar.
R6 - Bracket, Mounting, 90° Metal, Swaged to Connector with 0.120 [3.05] Ø Mounting Hole with Cross Bar.
R7 - Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Threads with Cross Bar.
R8 - Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Locknut with Cross Bar.
S - Swaged Spacer, 4-40 Threads, 0.375 [9.53] Length.
S2 - Swaged Spacer, 4-40 Threads, 0.125 [3.18] Length.
S5 - Swaged Locknut, 4-40 Threads.
S6 - Swaged Spacer with Push-on Fasteners, 4-40 Threads, 0.375 [9.53] Length.
S7 - Swaged Spacer with Push-on Fastener for use with Ferrite Inductor, 4-40 Threads, 0.515 [13.08] Length.

*For additional information on accessories listed in steps 5, 6 and 7, see Accessory Catalog.

**Ferrite inductor is available on contact types 32 only. For more information on ferrite inductors, see page 5.

*** VL, V3 and V5 locking systems are not available for connector variants 62 and 78. Jackscrews are highly recommended to minimize damage to contacts on variants with high mating forces.

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

For crimping information and crimp tools, see Application Tools section, pages 69-72.

*STEP 6 - HOODS AND PUSH-ON FASTENERS

0 - None.
J - Hood, Top Opening, Plastic.
L - Hood, Side Opening, Plastic.
Y - Hood, Top Opening, Plastic with Rotating Male Jackscrews. Available in size 78 and 104 only.
Y6 - Hood, Top Opening, Plastic with Rotating Male and Female Polarized Jackscrews. Available in size 78 and 104 only.
Z - Hood, Top or Side Opening, Robust and Extended Height, Composite and Plastic with Rotating Male Jackscrews. Available in size 15, 26, 44, 62, and 78 only.
H - Hood, Top Opening, Metal. Available in size 26, 44, 62, and 78 only.
G - Hood, EMI/RFI, Metal.
W - Hood, Top or Side Opening, Plastic. Available in size 15, 26, and 44 only.
N - Push-on Fastener, for 90° Mounting Brackets.
**F - Ferrite Inductor

*STEP 7 -LOCKING AND POLARIZING SYSTEMS

0 - None.
***V3 - Lock Tab, connector front panel mounted.
***V5 - Lock Tab, connector rear panel mounted.
***VL - Lock Lever, used with Hoods only.
T - Fixed Female Jackscrews.
T2 - Fixed Female Jackscrews.
T6 - Fixed Male and Female Polarized Jackscrews.
E - Rotating Male Jackscrews.
E2 - Rotating Male Screw Locks.
E3 - Rotating Male with internal hex for 3/32 hex drives
E6 - Rotating Male and Female Polarized Jackscrews.

STEP 8 -SHELL OPTIONS

0 - Zinc Plated with Chromate Seal.
S - Stainless Steel.
X - Tin Plated.
Z - Tin Plated and Dimpled (male connectors only).
C - Cadmium with Chromate Seal.

STEP 9 - ENVIRONMENTAL COMPLIANCE OPTIONS

/AA - Compliant per EU Directive 2002/95/EC (RoHS)

NOTE: If compliance to environmental legislation is not required, this step will not be used. Example: DD62F4R7NT6S

STEP 10 - SPECIAL OPTIONS

-14 – 0.000030 [0.76µ] gold over nickel.
-15 – 0.000050 [1.27µ] gold over nickel.
-50 – 0.000050 [1.27µ] gold over copper.

CONTACT TECHNICAL SALES FOR ORDERING DETAILS OF THE FOLLOWING:
Other Special Requirements.
Straight and Right Angle Thermocouple PCB mount contacts

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

Downloaded from Arrow.com.