



V-line[®]
**Industrial
Interconnect System**



Amphenol
Industrial



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Low Profile Industrial Interconnect

V-line® multi-pin, metal shell, attachable electrical connectors are environmental grade plugs and receptacles designed for commercial and industrial applications. V-line features a low profile, quick mate, threaded coupling system for control and signal applications. V-line is designed to accommodate commercial wire and cable.

V-line hand tightens to a metal to metal lock-up that incorporates a ratcheted anti-vibration design to prevent loosening under extreme conditions. These mechanical and environmental features accompanied with an electroless nickel finish make V-line an exceptional connector for hostile environments and abusive applications. It is V-line's low profile, compact and rugged design that offers proven performance in the areas of automation, process control, stage lighting, audio reinforcement, robotics, machine tool and material handling that make V-line connectors an asset to the termination requirements of many industrial control products.

Features & Benefits



V-line's design includes a one piece 5 keyed shell, coupling nut, cable adapter and gland nut constructed of high strength machined aluminum and finished in all electroless nickel for superior corrosion resistance and durability.

The V-line plug shell coupling system incorporates a unique design that includes a ratcheted anti-vibration mechanism and a knurled and fluted grip area for easy handling.

The cable adapter and top nut feature large hex machined surfaces for damage free wrench tightening during connector assembling.

A basketweave strain relief controls cable bend radius and pull out. The gland nut compresses a tapered grommet around the jacketed cable to seal out liquids and contaminants.

Other sealing features include a shell interface gasket, an insert cork and bottle seal membrane, insert rear wire seal grommet and a cable adapter o-ring seal. A panel mount gasket is also included.

V-line connector inserts are a multi-wafer design featuring a beryllium copper frustrum retainer bonded and sealed into the connector shells. The pin (male) insert features a cork and bottle interface seal that provides environmental protection around the pin contacts and the face of the mating socket (female) connector insert.

The rear of the pin insert incorporates a rear wire entry sealing grommet with several internal individual seal risers that seal around the insulated conductor. The center rigid dielectric retains and stabilizes the pin contacts.

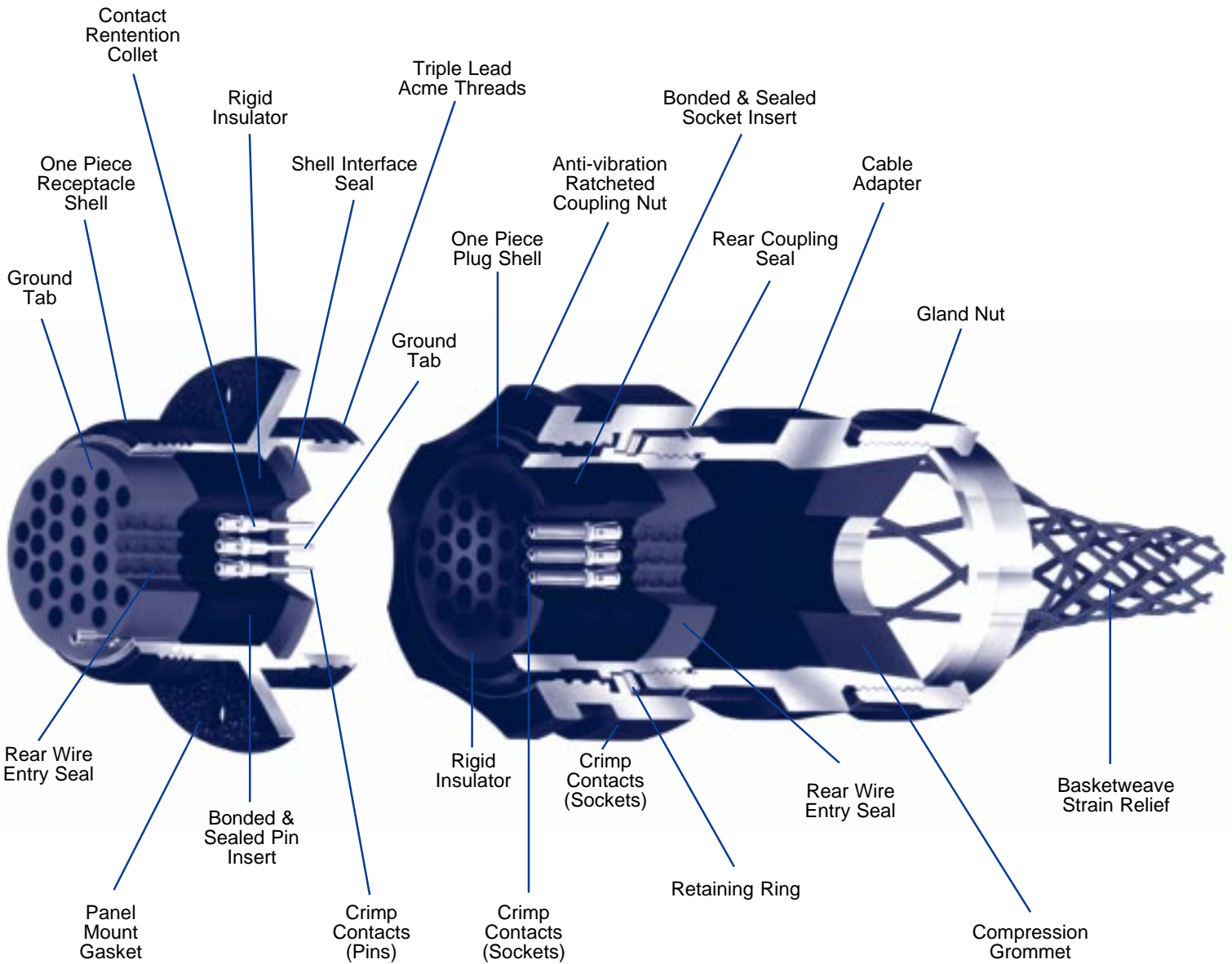
The socket insert design also features a rear wire entry sealing grommet with several internal individual seal risers. The front rigid component holds and stabilizes the socket contacts while the closed entry design of the front insulator piece protects the socket contacts and guides the pin contact into the socket chamber. The contact locations are marked on the front and rear of both pin and socket insert.

Designed for durability and electrical efficiency, V-line contacts are made of a high strength, highly conductive gold plated copper alloy. Socket contacts feature a protective stainless steel hood. This hood is positioned over the socket tines to reduce probe damage.

Contacts are inserted or removed at the rear of the insert. They are locked into the insert by retention collets embedded in the insert rigid insulator. All contacts are crimped with simple hand tools. The crimp is an 8-indent pattern for maximum wire retention. A long ground pin contact and shell ground clip are offered with most insert configurations (for applications requiring a ground circuit from a specified contact to the connector shell).



Key Features



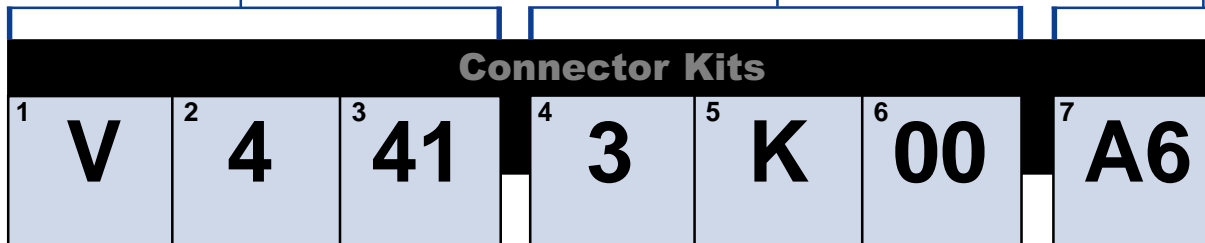
Product Ordering Guide



Insert Configuration Selection

Insert Gender / Hardware Style Selection

Entry Size Selection



- (1) V-Line
- (2) Insert Type
- (3) Insert Configuration
- (4) Insert Gender
- (5) Connector Backend Hardware
- (6) Calls Out Connector Kit Only
- (7)

5=20 AWG
4=16 AWG (GND)
3=16 AWG
2=12 AWG (GND)
1=12 AWG

Consult Pages 5-6

Panel Mount Receptacle
(1) Male
(2) Female

Plug
(3) Male
(4) Female

In-line Flanged Receptacle
(5) Male
(6) Female

In-line Receptacle
(7) Male
(8) Female

(D) Straight Cable Adapter Plain

(K) Straight Cable Adapter w/ Basketweave

(T) Threaded Conduit Adapter

(X) 75 Cable Adapter

(Y) 75 Cable Adapter w/ Basketweave

(P) Panel Mount

MIN.	MAX.	NPT SIZE For Threaded Adapters	ENTRY SIZE
.062	.125	1/8	A1
.125	.250	1/4	A2
.250	.375	3/8	A3
.375	.500	1/2	A4
.500	.625		A5
.625	.750	3/4	A6
.750	.875		A7
.875	1.000	1	A8
1.000	1.125		B1
1.125	1.250	1-1/4	B2
1.250	1.375		B3
1.375	1.500	1-1/2	B4
1.500	1.625		B5
1.625	1.750		B6
1.750	1.875		B7

INCHES

NOTE: Omit the Entry Size selection's last two digits from the part number when ordering a panel mount or dummy adapter.

Insert Configurations

Insert Configuration

V	4	2	1					
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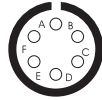
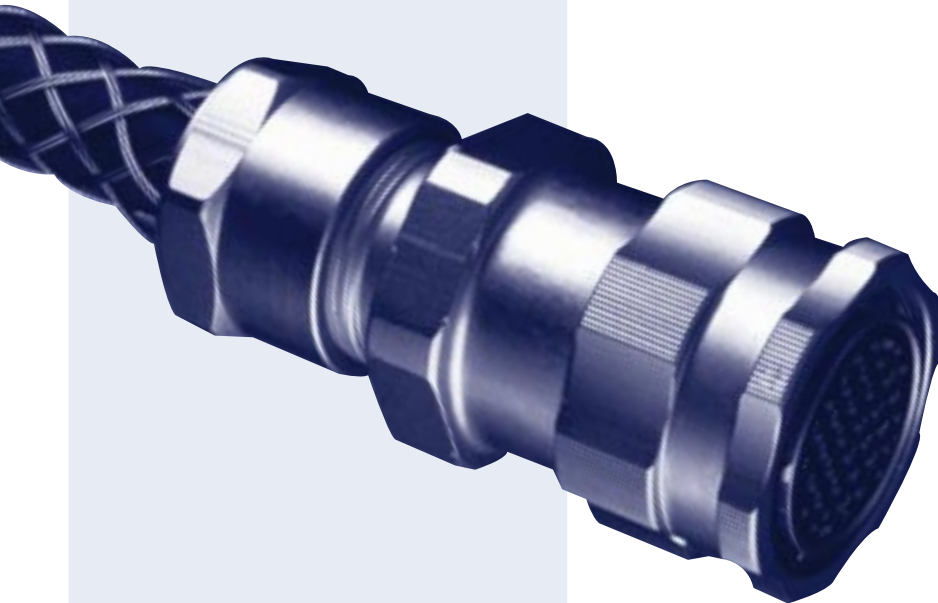
20 AWG

300V-1A AC/DC*

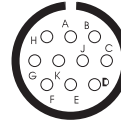
*Insert Voltage Ratings are based upon the dielectric separation of contacts, dielectric strength of the insulating materials used and proven by qualification testing to the applicable requirements of MIL-C-26482.

Insert Current Ratings are developed and based on several factors, such as use of compatible wire gage to contact size, quantity of contacts, wire insulation, temperature rating and operating ambient temperature. The summation of the thermal effects of these variables plus the contact thermal loss shall not exceed the total temperature rating of the connector (200° C, 392° F).

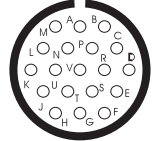
The configurations shown are viewed from the front face of the male pin insert. Female socket inserts are opposite. They are not drawn to actual size. Configurations are shown in their normally keyed insert rotation position. Other alternately keyed insert rotation positions are available for most layouts. Also, other insert configurations are available - please consult factory.



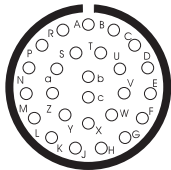
6 Contact
Shell Size 10
UNGN V506



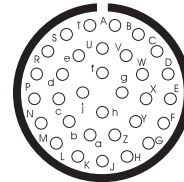
10 Contact
Shell Size 12
UNGN V510



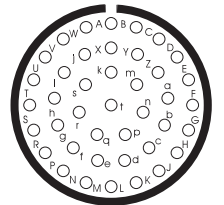
19 Contact
Shell Size 14
UNGN V519



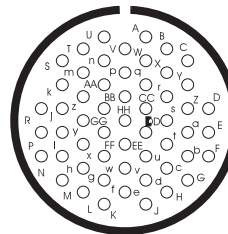
26 Contact
Shell Size 16
UNGN V526



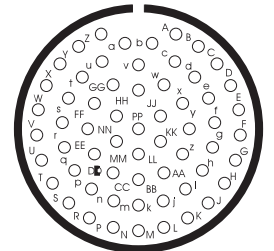
32 Contact
Shell Size 18
UNGN V532



41 Contact
Shell Size 20
UNGN V541



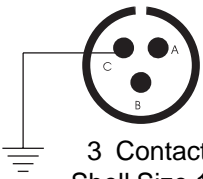
55 Contact
Shell Size 22
UNGN V555



61 Contact
Shell Size 24
UNGN V561

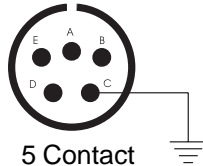
16 AWG

300V-7A AC/DC*



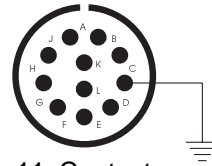
3 Contact
Shell Size 12

UNGND V303
GND V403



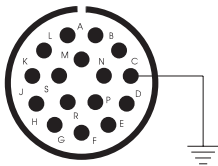
5 Contact
Shell Size 14

UNGND V305
GND V405



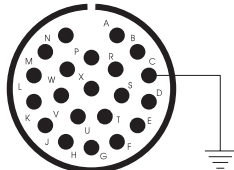
11 Contact
Shell Size 18

UNGND V311
GND V411



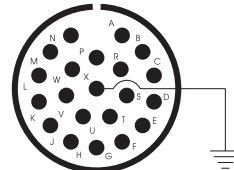
16 Contact
Shell Size 20

UNGND V316
GND V416



21 Contact
Shell Size 22

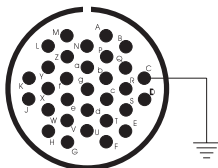
UNGND V321
GND V421



21 Contact
Shell Size 22

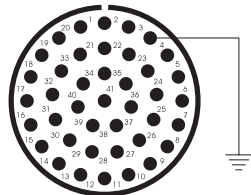
GND V4FX

Special Automotive
Specification
(Please consult factory)



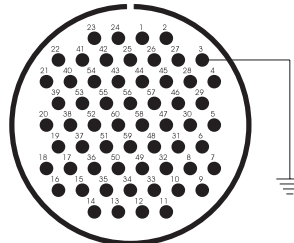
31 Contact
Shell Size 24

UNGND V331
GND V431



41 Contact
Shell Size 28

UNGND V341
GND V441

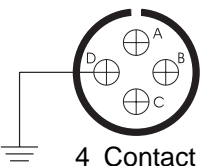


60 Contact
Shell Size 36

UNGND V360
GND V460

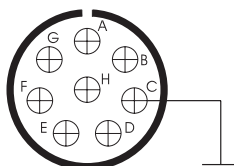
12 AWG

300V-20A AC/DC*



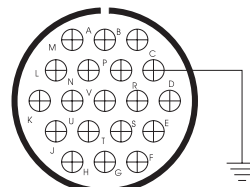
4 Contact
Shell Size 14

UNGND V104
GND V204



8 Contact
Shell Size 18

UNGND V108
GND V208



19 Contact
Shell Size 24

UNGND V119
GND V219

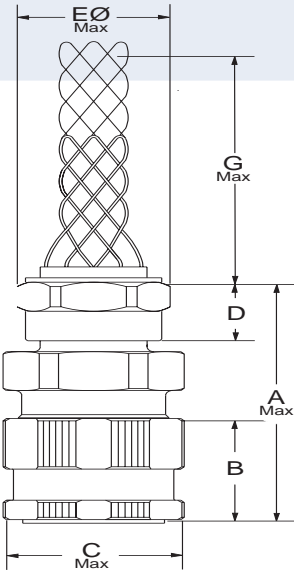
Contact Legend

20 ○ 16 ● 12 ⊕

Dimensional Information Plug Connectors

line

(Overall Clearance Dimensions)



Straight w/o Basketweave

(Note 1)	A	B	C	D	E	F	G
Shell Size							
10	3.19 (81.03)	1.35 (34.29)	1.25 (31.75)	0.82 (20.83)	1.26 (32.00)	N/A	7.25 (184.15)
12	3.19 (81.03)	1.35 (34.29)	1.36 (34.54)	0.82 (20.83)	1.26 (32.00)	N/A	7.25 (184.15)
14	3.19 (81.03)	1.35 (34.29)	1.50 (38.10)	0.82 (20.83)	1.40 (35.56)	N/A	9.50 (241.30)
16	3.19 (81.03)	1.35 (34.29)	1.61 (40.89)	0.82 (20.83)	1.40 (35.56)	N/A	9.50 (241.30)
18	3.19 (81.03)	1.35 (34.29)	1.66 (42.16)	0.82 (20.83)	1.40 (35.56)	N/A	9.50 (241.30)
20	3.88 (98.55)	1.35 (34.29)	1.79 (45.47)	1.17 (29.72)	1.83 (46.48)	N/A	9.75 (247.65)
22	3.88 (98.55)	1.35 (34.29)	1.92 (48.77)	1.17 (29.72)	1.83 (46.48)	N/A	9.75 (247.65)
24	4.09 (103.89)	1.35 (34.29)	2.05 (52.07)	1.17 (29.72)	1.83 (46.48)	N/A	9.75 (247.65)
28	4.66 (118.36)	1.35 (34.29)	2.38 (60.45)	1.17 (29.72)	2.23 (56.64)	N/A	11.75 (298.45)
36	5.09 (129.29)	1.35 (34.29)	2.92 (74.17)	1.17 (29.72)	2.81 (71.37)	N/A	14.75 (374.65)

Insert Gender	Straight Adapter	Straight w/Basketweave
Pin	3D00	3K00
Socket	4D00	4K00

75° w/o Basketweave

(Note 1)	A	B	C	D	E	F	G
Shell Size							
10	3.19 (81.13)	1.35 (34.29)	1.25 (31.75)	0.82 (20.83)	1.26 (32.00)	2.92 (74.20)	7.25 (184.15)
12	3.21 (81.50)	1.35 (34.29)	1.36 (34.54)	0.82 (20.83)	1.26 (32.00)	2.98 (75.59)	7.25 (184.15)
14	3.35 (85.13)	1.35 (34.29)	1.50 (38.10)	0.82 (20.83)	1.40 (35.05)	3.03 (76.85)	9.50 (241.30)
16	3.59 (91.31)	1.35 (34.29)	1.61 (40.89)	0.82 (20.83)	1.40 (35.56)	4.16 (105.65)	9.50 (241.30)
18	3.60 (91.48)	1.35 (34.29)	1.66 (42.16)	0.82 (20.83)	1.41 (35.56)	4.18 (106.29)	9.50 (241.30)
20	3.66 (92.88)	1.35 (34.29)	1.79 (45.47)	1.17 (29.72)	1.83 (35.79)	4.26 (108.20)	9.75 (247.65)
22	4.12 (104.61)	1.35 (34.29)	1.92 (48.77)	1.17 (29.72)	1.83 (46.48)	4.77 (121.21)	9.75 (247.65)
24	4.11 (104.29)	1.35 (34.29)	2.05 (52.07)	1.17 (29.72)	1.83 (46.48)	4.83 (122.65)	9.75 (247.65)
28	4.54 (115.38)	1.35 (34.29)	2.38 (60.45)	1.17 (29.72)	2.23 (56.64)	5.64 (143.36)	11.75 (298.45)
36	5.48 (139.31)	1.35 (34.29)	2.92 (74.17)	1.17 (29.72)	2.81 (71.37)	6.76 (171.66)	14.75 (374.65)

Insert Gender	75° Adapter	75° w/Basketweave
Pin	3X00	3Y00
Socket	4X00	4Y00

Dummy Adapter

(Note 1)	A	B	C	D	E	F	G
Shell Size							
10	3.35 (85.09)	1.35 (34.29)	1.25 (31.75)	1.64 (41.66)	1.25 (31.75)	N/A	N/A
12	3.35 (85.09)	1.35 (34.29)	1.36 (34.54)	1.64 (41.66)	1.36 (34.54)	N/A	N/A
14	3.35 (85.09)	1.35 (34.29)	1.50 (38.10)	1.64 (41.66)	1.50 (38.10)	N/A	N/A
16	3.35 (85.09)	1.35 (34.29)	1.61 (40.89)	1.64 (41.66)	1.61 (40.89)	N/A	N/A
18	3.35 (85.09)	1.35 (34.29)	1.66 (42.16)	1.64 (41.66)	1.66 (42.16)	N/A	N/A
20	3.85 (97.79)	1.35 (34.29)	1.79 (45.47)	2.14 (54.36)	1.79 (45.47)	N/A	N/A
22	3.85 (97.79)	1.35 (34.29)	1.92 (48.77)	2.14 (54.36)	1.92 (48.77)	N/A	N/A
24	4.15 (105.41)	1.35 (34.29)	2.05 (52.07)	2.44 (61.98)	2.05 (52.07)	N/A	N/A
28	4.65 (118.11)	1.35 (34.29)	2.38 (60.45)	2.94 (74.68)	2.38 (60.45)	N/A	N/A
36	5.10 (129.54)	1.35 (34.29)	2.92 (74.17)	3.39 (86.11)	2.92 (74.17)	N/A	N/A

Insert Gender	Dummy Adapter
Pin	3S00
Socket	4S00

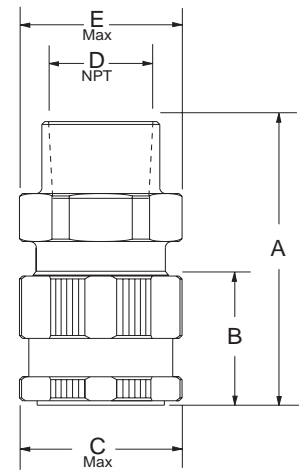
NOTE 1: Insert configuration determines connector shell size. Refer to pages 5-6.

NOTE 2: All dimensions shown are for overall clearance purposes. They are not necessarily true component dimensions. All metric dimension conversions are rounded.



Conduit Adapter

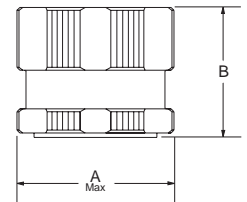
(Note 1) Shell Size	A	B	C	D	E
10	2.72 (69.09)	1.35 (34.29)	1.25 (31.75)	1/2 NPT	1.25 (31.62)
12	3.10 (78.74)	1.35 (34.29)	1.36 (34.54)	1/2 NPT	1.36 (34.42)
14	2.97 (75.44)	1.35 (34.29)	1.50 (38.10)	3/4 NPT	1.50 (37.97)
16	2.97 (75.44)	1.35 (34.29)	1.61 (40.89)	3/4 NPT	1.61 (40.77)
18	2.97 (75.44)	1.35 (34.29)	1.66 (42.16)	3/4 NPT	1.66 (42.04)
20	3.35 (85.09)	1.35 (34.29)	1.79 (45.47)	1 NPT	1.79 (45.34)
22	3.35 (85.09)	1.35 (34.29)	1.92 (48.77)	1 NPT	1.92 (48.64)
24	3.78 (96.01)	1.35 (34.29)	2.05 (52.07)	1 NPT	2.05 (51.94)
28	4.53 (115.06)	1.35 (34.29)	2.38 (60.45)	1 1/4 NPT	2.38 (60.33)
36	5.23 (132.84)	1.35 (34.29)	2.92 (74.17)	1 1/4 NPT	2.92 (74.04)



Insert Gender	Conduit Adapter
Pin	3T00
Socket	4T00

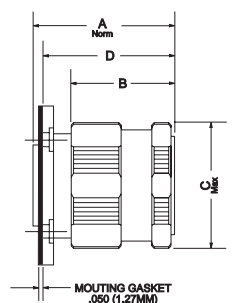
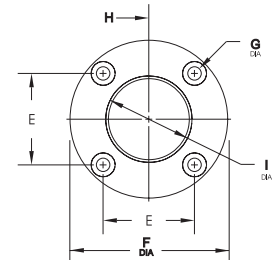
Plug Connector

(Note 1) Shell Size	A	B	C
10	1.25 (31.75)	1.35 (34.29)	N/A
12	1.36 (34.54)	1.35 (34.29)	N/A
14	1.50 (38.10)	1.35 (34.29)	N/A
16	1.61 (40.89)	1.35 (34.29)	N/A
18	1.66 (42.16)	1.35 (34.29)	N/A
20	1.79 (45.47)	1.35 (34.29)	N/A
22	1.92 (48.77)	1.35 (34.29)	N/A
24	2.05 (52.07)	1.35 (34.29)	N/A
28	2.38 (60.45)	1.35 (34.29)	N/A
36	2.92 (74.17)	1.35 (34.29)	N/A



Panel Mount Plug

(Note 1) Shell Size	A	B	C	D	E	F	G	H	I
10	1.85 (46.99)	1.35 (34.29)	1.25 (31.75)	1.73 (43.94)	0.800 (20.32)	1.50 (38.10)	0.18 (4.57)	2.80 (71.12)	0.688 (17.48)
12	1.85 (46.99)	1.35 (34.29)	1.36 (34.54)	1.73 (43.94)	0.924 (23.47)	1.68 (42.67)	0.18 (4.57)	3.00 (76.20)	0.813 (20.65)
14	1.85 (46.99)	1.35 (34.29)	1.50 (38.10)	1.73 (43.94)	1.020 (25.91)	1.81 (45.97)	0.18 (4.57)	3.10 (78.74)	0.938 (23.83)
16	1.85 (46.99)	1.35 (34.29)	1.61 (40.89)	1.73 (43.94)	1.114 (28.30)	1.95 (49.53)	0.18 (4.57)	3.20 (81.28)	1.063 (27.00)
18	1.85 (46.99)	1.35 (34.29)	1.66 (42.16)	1.73 (43.94)	1.191 (30.25)	2.06 (52.32)	0.18 (4.57)	3.40 (86.36)	1.125 (28.58)
20	1.85 (46.99)	1.35 (34.29)	1.79 (45.47)	1.73 (43.94)	1.286 (32.66)	2.19 (55.62)	0.18 (4.57)	3.50 (88.90)	1.250 (31.75)
22	1.85 (46.99)	1.35 (34.29)	1.92 (48.77)	1.73 (43.94)	1.362 (34.59)	2.30 (58.42)	0.18 (4.57)	3.60 (91.44)	1.375 (34.93)
24	1.85 (46.99)	1.35 (34.29)	2.05 (52.07)	1.73 (43.94)	1.424 (36.17)	2.39 (60.71)	0.18 (4.57)	3.70 (93.98)	1.500 (38.10)
28	1.85 (46.99)	1.35 (34.29)	2.38 (60.45)	1.73 (43.94)	1.750 (44.45)	2.91 (73.91)	0.20 (5.08)	4.00 (101.60)	1.813 (46.05)
36	1.93 (49.02)	1.35 (34.29)	2.92 (74.17)	1.81 (45.97)	2.094 (53.19)	3.46 (87.88)	0.26 (6.60)	4.80 (121.92)	2.312 (58.72)

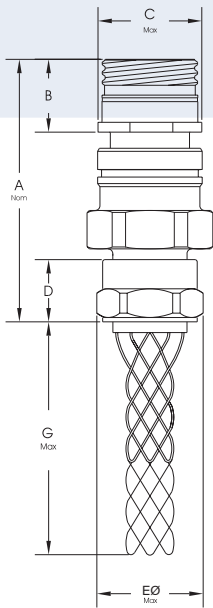


Insert Gender	Panel Mount Plug
Pin	3P00
Socket	4P00

H = Minimum clearance dimension between panel mount centers. For mixed shell sizes, add clearance dimension for each, and divide by two.

Dimensional Information Receptacle Connectors

(Overall Clearance Dimensions)



Straight w/o Basketweave

(Note 1)	A	B	C	D	E	F	G
Shell Size							
10	3.44 (87.38)	0.97 (24.64)	0.81 (20.52)	0.81 (20.57)	1.26 (32.00)	N/A	7.25 (184.15)
12	3.44 (87.38)	0.97 (24.64)	0.98 (24.89)	0.81 (20.57)	1.26 (32.00)	N/A	7.25 (184.15)
14	3.44 (87.38)	0.97 (24.64)	1.12 (28.45)	0.81 (20.57)	1.40 (35.56)	N/A	9.50 (241.30)
16	3.44 (87.38)	0.97 (24.64)	1.25 (31.75)	0.81 (20.57)	1.40 (35.56)	N/A	9.50 (241.30)
18	3.44 (87.38)	0.97 (24.64)	1.36 (34.54)	0.81 (20.57)	1.41 (35.56)	N/A	9.50 (241.30)
20	4.10 (104.14)	0.97 (24.64)	1.50 (38.00)	1.19 (30.23)	1.83 (46.48)	N/A	9.75 (247.65)
22	4.10 (104.14)	0.97 (24.64)	1.60 (40.64)	1.19 (30.23)	1.83 (46.48)	N/A	9.75 (247.65)
24	4.40 (111.76)	0.97 (24.64)	1.69 (42.93)	1.19 (30.23)	1.83 (46.48)	N/A	9.75 (247.65)
28	4.90 (124.46)	0.97 (24.64)	2.09 (53.09)	1.16 (29.46)	2.23 (56.64)	N/A	11.75 (298.45)
36	5.35 (135.89)	0.97 (24.64)	2.51 (63.75)	1.16 (29.46)	2.81 (71.37)	N/A	14.75 (374.65)

Insert Gender	Straight Adapter	Straight w/Basketweave
Pin	7D00	7K00
Socket	8D00	8K00

75° w/o Basketweave

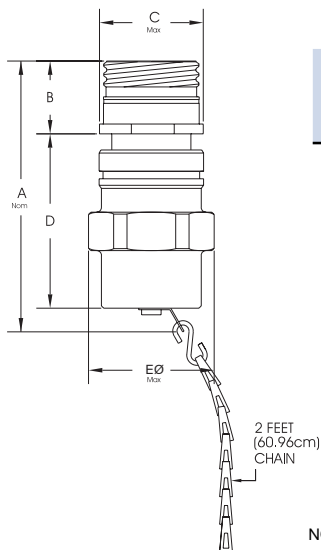
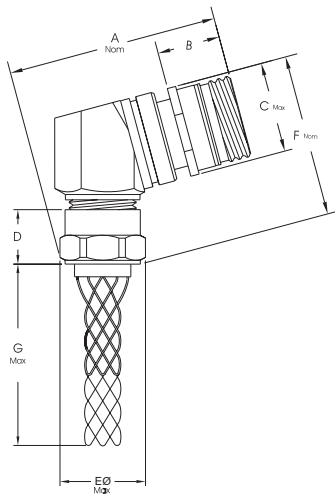
(Note 1)	A	B	C	D	E	F	G
Shell Size							
10	2.41 (61.25)	0.97 (24.64)	0.81 (20.52)	0.82 (20.83)	1.26 (32.00)	2.98 (75.62)	7.25 (184.15)
12	2.43 (61.83)	0.97 (24.64)	0.98 (24.89)	0.82 (20.83)	1.26 (32.00)	3.07 (78.04)	7.25 (184.15)
14	2.58 (65.49)	0.97 (24.64)	1.12 (28.45)	0.82 (20.83)	1.40 (35.56)	3.13 (79.42)	9.50 (241.30)
16	2.83 (71.77)	0.97 (24.64)	1.25 (31.75)	0.82 (20.83)	1.40 (35.56)	4.28 (108.60)	9.50 (241.30)
18	2.84 (72.18)	0.97 (24.64)	1.36 (34.54)	0.82 (20.83)	1.41 (35.56)	4.34 (110.13)	9.50 (241.30)
20	2.90 (73.65)	0.97 (24.64)	1.50 (38.00)	1.17 (29.72)	1.83 (46.48)	4.42 (112.29)	9.75 (247.65)
22	3.36 (85.31)	0.97 (24.64)	1.60 (40.64)	1.17 (29.72)	1.83 (46.48)	4.92 (125.05)	9.75 (247.65)
24	3.34 (84.89)	0.97 (24.64)	1.69 (42.93)	1.17 (29.72)	1.83 (46.48)	4.97 (126.11)	9.75 (247.65)
28	3.79 (96.32)	0.97 (24.64)	2.09 (53.09)	1.17 (29.72)	2.23 (56.64)	5.83 (148.09)	11.75 (298.45)
36	4.72 (119.98)	0.97 (24.64)	2.51 (63.75)	1.17 (29.72)	2.81 (71.37)	6.90 (175.37)	14.75 (374.65)

Insert Gender	Straight Adapter	Straight w/Basketweave
Pin	7X00	7Y00
Socket	8X00	8Y00

Dummy Adapter

(Note 1)	A	B	C	D	E	F	G
Shell Size							
10	3.60 (91.44)	0.97 (24.64)	0.81 (20.57)	2.27 (57.66)	1.25 (31.75)	N/A	N/A
12	3.60 (91.44)	0.97 (24.64)	0.98 (24.89)	2.27 (57.66)	1.36 (34.54)	N/A	N/A
14	3.60 (91.44)	0.97 (24.64)	1.12 (28.45)	2.27 (57.66)	1.50 (38.10)	N/A	N/A
16	3.60 (91.44)	0.97 (24.64)	1.25 (31.75)	2.27 (57.66)	1.61 (40.89)	N/A	N/A
18	3.60 (91.44)	0.97 (24.64)	1.36 (34.54)	2.27 (57.66)	1.66 (42.16)	N/A	N/A
20	4.10 (104.14)	0.97 (24.64)	1.50 (38.00)	2.77 (70.36)	1.79 (45.47)	N/A	N/A
22	4.10 (104.14)	0.97 (24.64)	1.60 (40.64)	2.77 (70.36)	1.92 (48.77)	N/A	N/A
24	4.40 (111.76)	0.97 (24.64)	1.69 (42.93)	3.07 (77.98)	2.05 (52.07)	N/A	N/A
28	4.90 (124.46)	0.97 (24.64)	2.09 (53.09)	3.57 (90.68)	2.38 (60.45)	N/A	N/A
36	5.35 (135.89)	0.97 (24.64)	2.51 (63.75)	4.02 (101.98)	2.92 (74.17)	N/A	N/A

Insert Gender	Dummy Adapter
Pin	7S00
Socket	8S00



NOTE 1: Insert configuration determines connector shell size. Refer to pages 5-6.

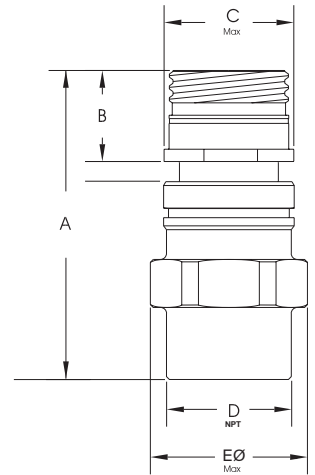
NOTE 2: All dimensions shown are for overall clearance purposes. They are not necessarily true component dimensions. All metric dimension conversions are rounded.

NOTE 3: Dimensions: Inches (mm)



Conduit Adapter

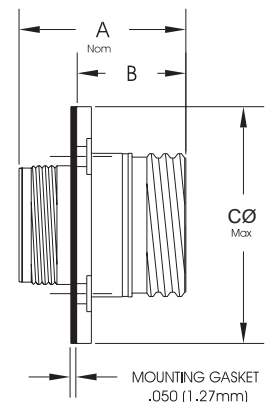
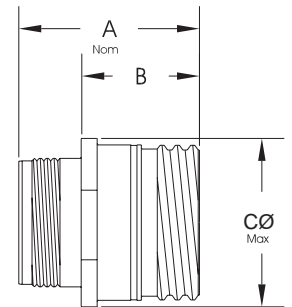
(Note 1)	A	B	C	D	E
Shell Size					
10	2.97 (75.44)	0.97 (24.64)	0.81 (20.57)	1/2 NPT	1.25 (31.62)
12	3.35 (85.09)	0.97 (24.64)	0.98 (24.89)	1/2 NPT	1.36 (34.42)
14	3.22 (81.79)	0.97 (24.64)	1.12 (28.45)	3/4 NPT	1.50 (37.97)
16	3.22 (81.79)	0.97 (24.64)	1.25 (31.75)	3/4 NPT	1.61 (40.77)
18	3.22 (81.79)	0.97 (24.64)	1.36 (34.54)	3/4 NPT	1.66 (42.04)
20	3.60 (91.44)	0.97 (24.64)	1.50 (38.00)	1 NPT	1.79 (45.34)
22	3.60 (91.44)	0.97 (24.64)	1.60 (40.64)	1 NPT	1.92 (48.64)
24	4.02 (102.11)	0.97 (24.64)	1.69 (42.93)	1 NPT	2.05 (51.94)
28	4.77 (121.16)	0.97 (24.64)	2.09 (53.09)	1 1/4 NPT	2.38 (60.33)
36	5.47 (138.94)	0.97 (24.64)	2.51 (63.75)	1 1/4 NPT	2.92 (74.04)



Insert Gender	Conduit Adapter
Pin	7T00
Socket	8T00

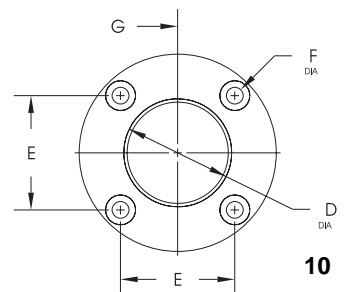
Inline Receptacle Connector

(Note 1)	A	B	C
Shell Size			
10	1.46 (37.08)	0.97 (24.64)	0.81 (20.57)
12	1.46 (37.08)	0.97 (24.64)	0.98 (24.89)
14	1.46 (37.08)	0.97 (24.64)	1.12 (28.45)
16	1.46 (37.08)	0.97 (24.64)	1.25 (31.75)
18	1.46 (37.08)	0.97 (24.64)	1.36 (34.54)
20	1.46 (37.08)	0.97 (24.64)	1.50 (38.00)
22	1.46 (37.08)	0.97 (24.64)	1.60 (40.64)
24	1.46 (37.08)	0.97 (24.64)	1.69 (42.93)
28	1.46 (37.08)	0.97 (24.64)	2.09 (53.09)
36	1.46 (37.08)	0.97 (24.64)	2.51 (63.75)



Panel Mount Receptacle

(Note 1)	A	B	C	D	E	F	G
Shell Size							
10	1.46 (37.08)	0.97 (24.64)	1.51 (38.35)	.0688 (17.48)	0.800 (20.32)	0.18 (4.57)	2.80 (71.12)
12	1.46 (37.08)	0.97 (24.64)	1.69 (42.93)	.0813 (20.65)	0.924 (23.47)	0.18 (4.57)	3.00 (76.20)
14	1.46 (37.08)	0.97 (24.64)	1.82 (46.23)	.0938 (23.83)	1.020 (25.91)	0.18 (4.57)	3.10 (78.74)
16	1.46 (37.08)	0.97 (24.64)	1.96 (49.78)	1.063 (27.00)	1.114 (28.30)	0.18 (4.57)	3.20 (81.28)
18	1.46 (37.08)	0.97 (24.64)	2.06 (52.32)	1.125 (28.58)	1.191 (30.25)	0.18 (4.57)	3.40 (86.36)
20	1.46 (37.08)	0.97 (24.64)	2.20 (55.88)	1.250 (31.75)	1.286 (32.66)	0.18 (4.57)	3.50 (88.90)
22	1.46 (37.08)	0.97 (24.64)	2.31 (58.67)	1.375 (34.93)	1.362 (34.59)	0.18 (4.57)	3.60 (91.44)
24	1.46 (37.08)	0.97 (24.64)	2.39 (60.71)	1.500 (38.10)	1.424 (36.17)	0.18 (4.57)	3.70 (93.98)
28	1.46 (37.08)	0.97 (24.64)	2.92 (74.17)	1.813 (46.05)	1.750 (44.45)	0.20 (5.08)	4.00 (101.60)
36	1.46 (37.08)	0.97 (24.64)	3.56 (90.42)	2.312 (58.72)	2.094 (53.19)	0.26 (6.60)	4.80 (121.92)

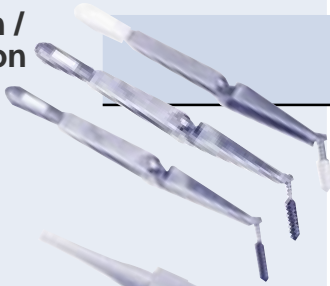


G = Minimum clearance dimension between panel mount centers. For mixed shell sizes, add clearance dimension for each, and divide by two.

Insert Gender	Panel Mount Plug
Pin	3P00
Socket	4P00

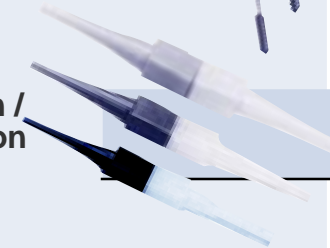
Tools & Replacement Contacts

Insertion / Extraction Tools (Metal)



Contact Size	Tool Number
12	CA-5K12
16	CA-5K16
20	CA-5K20

Insertion / Extraction Tools (Plastic)

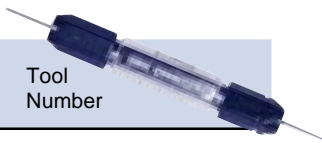


Contact Size	Tool Number
12	CA-5H12
16	CA-5H16
20	CA-5H20



Pneumatic Crimp Tool

Contact Size	Tool Number
12, 16, 20	CA-5E12




Contact Size	Tool Number
12, 16, 20	CA-5D12

Crimp Tool Inspection Gauge



Contact Size	Tool Number
12	CA-5G12
16	CA-5G16
20	CA-5G20

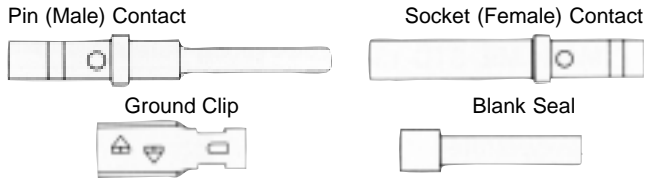
Hand Crimp Tool



Contact Size	Tool Number
12, 16	CA-5J16

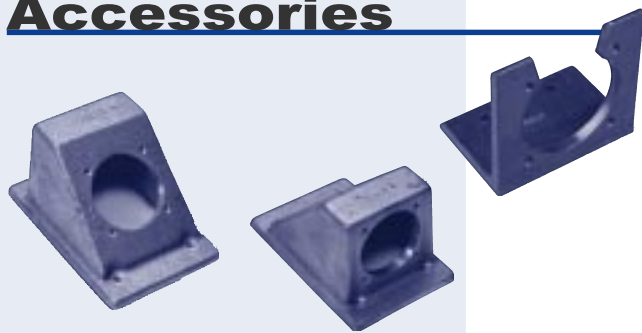
Ground Clip Crimping Tool

Contact Size	Pin Number	Socket Number	Ground* Pin Number	Ground* Clip Number (New Style)	Blank Seal Number
12	CA-4012-1K	CA-4112-1K	CA-4012-2N	CA-4212-2T	CA-4012-59
16	CA-4016-1K	CA-4116-1K	CA-4016-2N	CA-4216-2T	CA-4016-59
20	CA-4020-1K	CA-4120-1K			CA-4020-59



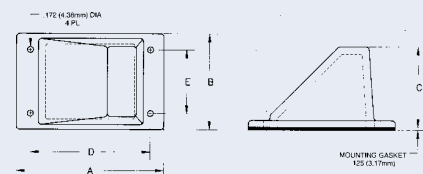
* Ground pin is silver plated and ground clip is tin plated.

Accessories

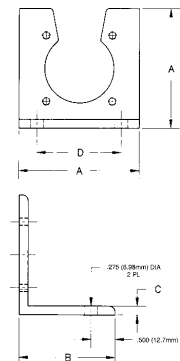


Shell Size	45 Degree Angle Adapter	86 Degree Angle Adapter	"L" Bracket
10	CA-2510-10	CA-2515-10	CA-2517-10-T
12	CA-2510-12	CA-2515-12	CA-2517-12-T
14	CA-2510-14	CA-2515-14	CA-2517-14-T
16	CA-2510-16	CA-2515-16	CA-2517-16-T
18	CA-2510-18	CA-2515-18	CA-2517-18-T
20	CA-2510-20	CA-2515-20	CA-2517-20-T
22	CA-2510-22	CA-2515-22	CA-2517-22-T
24	CA-2510-24	CA-2515-24	CA-2517-24-T
28	CV-2510-28	CV-2515-28	CV-2517-28-T

Shell Size	Dimensions Inches (mm)					
	A	B	C	D	E	Panel Cut-Out
10-22	4.30 (109.22)	2.82 (71.63)	2.38 (60.45)	3.25 (82.55)	1.88 (47.75)	2.00 x 2.50 (50.80 x 63.50)
24 (45)	4.30 (109.22)	2.82 (71.63)	2.38 (60.45)	3.25 (82.55)	1.88 (47.75)	2.00 x 2.50 (50.80 x 63.50)
24 (86)	6.44 (163.58)	4.56 (115.82)	3.63 (92.20)	5.44 (138.18)	3.25 (82.55)	3.75 x 4.25 (95.25 x 107.95)
28	6.44 (163.58)	4.56 (115.82)	3.63 (92.20)	5.44 (138.18)	3.25 (82.55)	3.75 x 4.25 (95.25 x 107.95)
36	6.44 (163.58)	4.56 (115.82)	3.63 (92.20)	5.44 (138.18)	3.25 (82.55)	3.75 x 4.25 (95.25 x 107.95)



Shell Size	Dimensions Inches (mm)			
	A	B	C	D
10-24	2.50 (63.50)	2.00 (50.80)	0.19 (4.83)	1.75 (44.45)
28-36	3.50 (88.90)	2.50 (63.50)	0.25 (6.35)	1.75 (44.45)



Engineering Data

Performance Specifications



Contact Data

Maximum current ratings of contacts and maximum allowable voltage drop under test conditions when assembled as in service are shown below. Maximum total current to be carried per connector is the same as that which is allowable in wire bundles as specified by the NEC (National Electric Code), MIL-W-5088, wire and cable specification and other engineering data. For application assistance please call one of our customer service representatives.

Contact Size AWG	Contact (Only) Amps	M.V. Drop	Max. Wire AWG Dia. Inches (mm)*	Max. Ins. Wire Dia. Depth Inches (mm)*	Crimp Wire Barrel Range Inches (mm)*	Wire AWG Crimp
Notes -	1	2	3	4	5	6
20	7.5	35	.048 (1.21)	.083 (2.10)	.160 (4.06)	20, 22, 24
16	13	25	.066 (1.67)	.103 (2.61)	.246 (6.24)	16, 18, 20
12	23	25	.098 (2.48)	.158 (4.01)	.246 (6.24)	12, 14, 16

* All metric dimension conversions are rounded.

Performance Data

1. Contact (only) - Non-interrupting maximum continuous rating amperes.
2. Millivolt drop measurement made at opposite ends of mated contacts - pin and socket.
3. Based on crimp contact wire barrel dimensions.
4. Maximum insulated wire overall diameter - based upon insert rear wire entry.
5. Contact wire barrel depth defines insulated wire strip length.
6. Range of wire AWG that can be crimped to given contact size.

Operating Temperature Rating -85° F (-65° C) to 392° F (200° C). The combination of ambient temperatures and current loading of contacts must not produce an insert temperature in excess of 392° F (200° C).

Durability Exceeds standard of connector halves mated and unmated 500 times under normal operative service.

Fluid Resistance Resistant to most oils, acids and alkalis (other fluids can be tested on request).

Humidity & Moisture Resistance Exceeds specification requirements as defined in method 1002 of MIL-STD-1344.

Air Leakage Exceeds specification requirement of .1 micron per cubic foot per hour maximum, where subjected to differential pressure of 14.7 lbs. per square inch.

Shock Meets MIL-STD-1344, method 2004 (300g duration of 3 milliseconds).

Vibration Meets MIL-STD-1344, method 2005 (49.5g RMS at ambient temperature).

Approvals U.L. recognized, CSA approved. Consult factory for specific insert configurations.

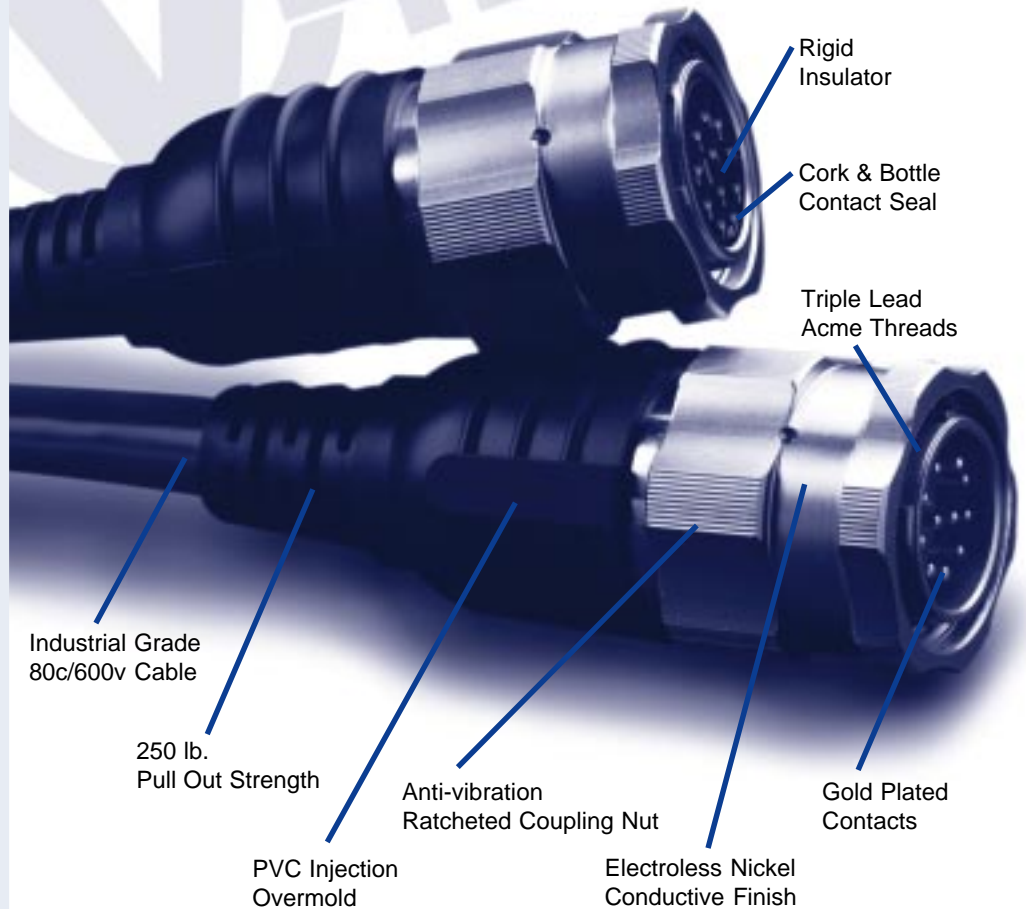
- Recognized under the Component Program of Underwriters Laboratories, Inc. for 250 volts. File No. E109316



- Certified by Canadian Standards Association. File No. LR83458



- Simplifying the planning or forecasting your cable assembly needs
- Up to 30% economical advantage over custom cable assemblies
- Simplified Sourcing
- Industrial compliant designs
- Environmental, IP65
- Low profile, High density
- Vibration resistant coupling system
- 16 awg or 18 awg versions
- Grounded Shell
- Manufactured to ISO9001 standards



Industria-link™

Cable Management Systems

Amphenol Sine Systems * Pyle Connectors Corporation is pleased to introduce the new V-line Industria-link™, multi-conductor cable assemblies. These assemblies are manufactured in standard insert configurations, from 11 to 31 contacts, and lengths of 25 to 100 feet.

The V-line connector features a triple lead ratcheted threaded coupling system that creates a metal to metal lock up between the plug and receptacle. V-line is resistant to vibration, it is environmentally sealed and ideal for many industrial applications including automation, robotics, machine tool and harsh environments.

These connectors are manufactured

from high strength aluminum with an electroless nickel plating for superior corrosion resistance and aesthetics.

We use only premium cable, offered in 16 AWG or 18 AWG.

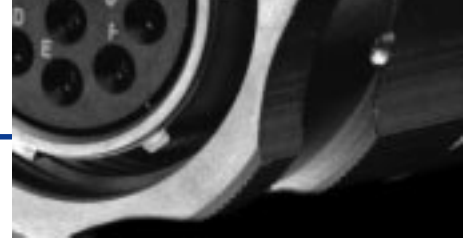
An injection molded strain relief is used to control bend radii, cable pull out and provide environmental sealing for the rear of the connector.

These cable assemblies are complemented by 8 different panel mount receptacles that come complete with mounting gasket, insertion / extraction tool and mounting hardware. Also offered are the "50 plus 5 pack" of TFFN wire assembled with gold plated

contacts. These packs allow for rapid wiring of panel receptacles. Simply insert the contact into the receptacle using the insertion / extraction tool, run your wire, trim to length and terminate. Panel wiring has never been easier.

This systems approach to industrial interconnect products allows the application engineer to specify off the shelf cable assembly products that will meet industrial requirements, while reducing costs, lead-time, inventory requirements and unnecessary manufacturing resources.

Product Information



Double Ended Cable Assemblies

Part No. 16 AWG	Part No. 18 AWG	Description	Length in Feet	Length in Meters
V4113C4C16E25	V4113C4C18E25	11 Position male/female plug	25 ft.	7.62 m
V4113C4C16E50	V4113C4C18E50	11 Position male/female plug	50 ft.	15.24 m
V4113C4C16E75	V4113C4C18E75	11 Position male/female plug	75 ft.	22.86 m
V4113C4C16E100	V4113C4C18E100	11 Position male/female plug	100 ft.	30.48 m
V4163C4C16E25	V4163C4C18E25	16 Position male/female plug	25 ft.	7.62 m
V4163C4C16E50	V4163C4C18E50	16 Position male/female plug	50 ft.	15.24 m
V4163C4C16E75	V4163C4C18E75	16 Position male/female plug	75 ft.	22.86 m
V4163C4C16E100	V4163C4C18E100	16 Position male/female plug	100 ft.	30.48 m
V4213C4C16E25	V4213C4C18E25	21 Position male/female plug	25 ft.	7.62 m
V4213C4C16E50	V4213C4C18E50	21 Position male/female plug	50 ft.	15.24 m
V4213C4C16E75	V4213C4C18E75	21 Position male/female plug	75 ft.	22.86 m
V4213C4C16E100	V4213C4C18E100	21 Position male/female plug	100 ft.	30.48 m
V4313C4C16E25	V4313C4C18E25	31 Position male/female plug	25 ft.	7.62 m
V4313C4C16E50	V4313C4C18E50	31 Position male/female plug	50 ft.	15.24 m
V4313C4C16E75	V4313C4C18E75	31 Position male/female plug	75 ft.	22.86 m
V4313C4C16E100	V4313C4C18E100	31 Position male/female plug	100 ft.	30.48 m

Power Loss (W) per 100 Ft. Cable

AWG	Voltage	DCR (Ohms/Cft)	Current		
			1 Amp	3 Amps	5 Amps
18	24/115	.6625	.66	5.96	16.56
16	24/115	.4154	.42	3.74	10.39

Power Loss in Watts = Current in Amperes Squared x Resistance in Ohms

Voltage Drop (V) per 100 Ft. Cable

AWG	Voltage	DCR (Ohms/Cft)	Current		
			1 Amp	3 Amps	5 Amps
18	24/115	.6625	.66	1.99	3.31
16	24/115	.4154	.42	1.25	2.08

Voltage Drop = Resistance x Amperes

50 + 5 pack Wire Kit for Receptacles

Each kit includes:

50 - 25' (7.62 m) TFFN Teflon wire leads pre-assembled with V-line gold plated contacts

5 - 25' (7.62 m) Green/Yellow TFFN Teflon wire leads pre-assembled with V-line silver plated ground contact



Receptacles

Contact Position	Male	Female
11	V411-1P00-LC	V411-2P00-LC
16	V416-1P00-LC	V416-2P00-LC
21	V421-1P00-LC	V421-2P00-LC
31	V431-1P00-LC	V431-2P00-LC

NOTE: Includes Recep Connector, Gasket, Scr Kit and Insertion/Extraction Tool only.



16 AWG	Wire Color	Male Contact	Female Contact
	Red	WY-1816- REDG- 25M	WY-1816- REDG- 25F
	Blue	WY-1816- BLUG- 25M	WY-1816- BLUG- 25F
	Yellow	WY-1816- YELG- 25M	WY-1816- YELG- 25F
	Orange	WY-1816- ORGG-25M	WY-1816- ORGG-25F
	Black	WY-1816- BLKG- 25M	WY-1816- BLKG- 25F
	White	WY-1816- WHTG-25M	WY-1816- WHTG-25F
18 AWG	Wire Color	Male Contact	Female Contact
	Red	WY-1818- REDG- 25M	WY-1818- REDG- 25F
	Blue	WY-1818- BLUG- 25M	WY-1818- BLUG- 25F
	Yellow	WY-1818- YELG- 25M	WY-1818- YELG- 25F
	Orange	WY-1818- ORGG-25M	WY-1818- ORGG-25F
	Black	WY-1818- BLKG- 25M	WY-1818- BLKG- 25F
	White	WY-1818- WHTG-25M	WY-1818- WHTG-25F

NOTE: For custom 50 + 5 pack consult factory

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