

CABLE DRAWING: MWA-3036

DRAWING TITLE:
SBC A/C Control Cable

DRAWING NO.: MWACAB-0036	DRAWN BY: DRC	DATE: 10-Dec-10	REV: A
		SHEET: 1 of 3	

Cable Detail:

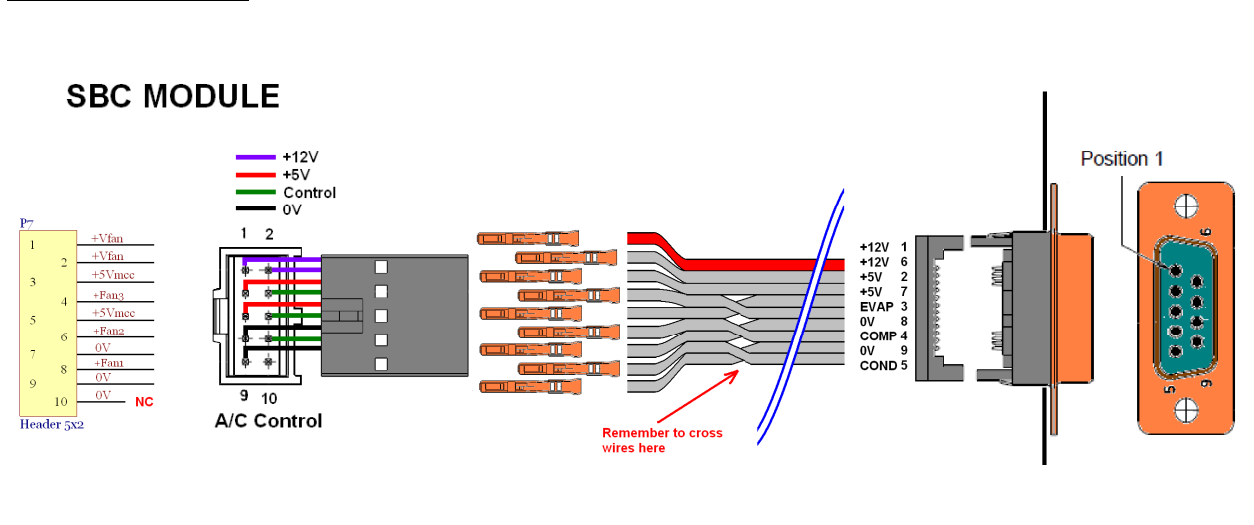
Connectors:	Description	Parts (Qty)
ATIM-C P7	10-Way Shell	See Note1 Below(1)
ATIM-C P7	Crimp Socket for above	See Note2 Below(9)
SBC FP	DE9 Female IDC	See Note3 Below(1)
Conductors:		
Cable	Ribbon Cable, Flat, 9Way	See Note4 Below(38cm)
Misc:		

Overall Length 355+/-5mm

Notes:

- 10-Way Shell can be supplied from Element14 #329-1583. Any equivalent will be OK refer to data sheets supplied with this drawing.
- Shell Sockets can be supplied from Element14 #973-3280. Any equivalent will be OK refer to data sheets supplied with this drawing.
- DE9 Female IDC connector can be supplied from Element14 #469-415. Any equivalent will be OK refer to data sheets supplied with this drawing.
- The ribbon cable can be supplied from RS# 363-626 or PSI Stock # PC-0004. Any equivalent will be OK refer to data sheets supplied with this drawing.

Typical Drawing:



REVISION

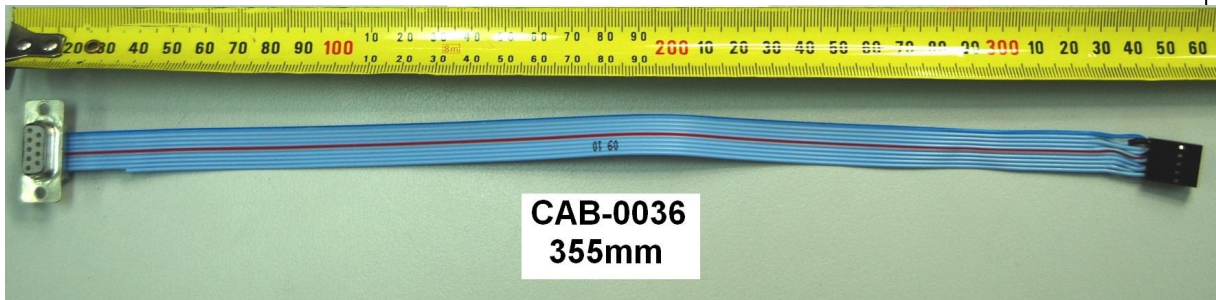
Date	Rev	Remarks
22/07/10	A	For Release
03/11/10	A	Salem Version – Farnell to Element14
10/12/10	A	Wire swap required see wiring diagram

CABLE DRAWING: MWA-3036

DRAWING TITLE:
SBC A/C Control Cable

DRAWING NO.: MWACAB-0036	DRAWN BY: DRC	DATE: 10-Dec-10	REV: A
		SHEET: 2 of 3	

Typical Drawing:



Pinouts Table:

SBC FP AC Control Pins(9)		ATIM Control P7 Pins(10)
1	+Vfan(12V)	1
6	+Vfan(12V)	2
2	+5Vmcc	3
3**	+Fan3(EVAP)	4
7**	+5Vmcc	5
4**	+Fan2(COMP)	6
8**	0V	7
5**	+Fan1(COND)	8
9**	0V	9
nc	0V	10

**** Note ribbon wire interchange**

Connection Detail:

From: (SBC) SBC Front Panel Connector
To: (SBC) ATIM-C P7 Connector

REVISION

Date	Rev	Remarks
22/07/10	A	For Release
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10/12/10	A	Wire swap required see wiring diagram

CABLE DRAWING: **MWA-3036**

DRAWING TITLE:
SBC A/C Control Cable

DRAWING NO.: MWACAB-0036	DRAWN BY: DRC	DATE: 10-Dec-10	REV: A
		SHEET: 3 of 3	

Assembly Details:

Wire Preparation

The wire must be stripped to the dimension provided in Figure 2.

Do not nick, scrape, or cut the wire conductor during the stripping operation.

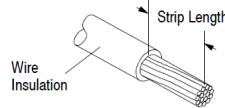


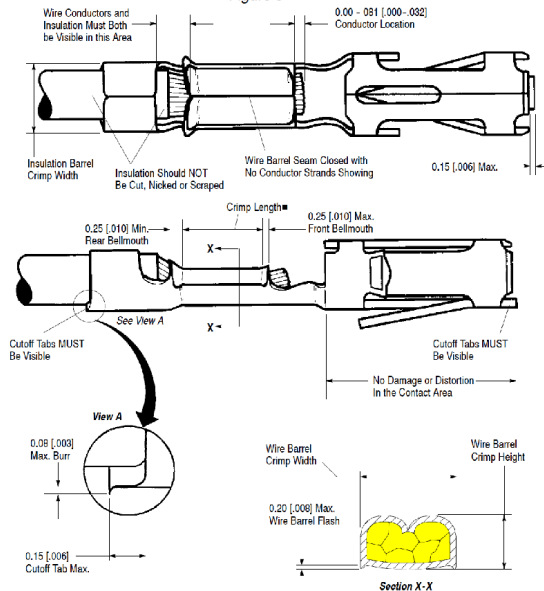
Figure 2

WIRE SIZE RANGE, (AWG)	INSUL DIA MAX.	STRIP LENGTH	WIRE BARREL		INSUL BARREL CRIMP WIDTH
			CRIMP HEIGHT	CRIMP WIDTH	
20	•	4.78-3.58	0.94-0.72	1.4	1.57
22	•	4.78-3.58	0.84-0.72		
24	•	4.78-3.58	0.83-0.64		
22	1.55	4.37-2.77	0.97-0.81	1.07	
24	1.55	4.37-2.77	0.86-0.71		
26	1.55	4.37-2.77	0.81-0.71		
26-30	1.22	4.37-2.77	0.74-0.64	1.4	1.4
27, 28	1.02	4.37-2.77	0.61-0.51	0.84	
30, 32	1.02	4.37-2.77	0.61-0.48		

Crimp Length

For optimum crimp effectiveness, the crimp must be within the area shown and must meet the crimp dimensions provided in Figure 3. Effective crimp length shall be defined as that portion of the wire barrel, excluding bellmouth(s), fully formed by the crimping tool.

Figure 3



NOTE: Comparing a crimped contact to an uncrimped contact should reveal any fault that may have occurred to front shoulder or locking lances during crimping.

■ Effective crimp length shall be 2.67 mm minimum for 20-24 AWG wire, and 2.16 mm minimum for all other wire sizes; and is defined as that portion of the wire barrel fully formed by the tool, excluding the bellmouths.

REVISION

Date	Rev	Remarks
22/07/10	A	For Release
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D Sub

Socket Connector

8300 Series



- Available in either preassembled or two piece covers
- Available in either open or closed end cover
- Improved metal strain relief — hooks directly to metal shell
- Low profile
- Four mounting options

Date Modified: September 29, 1999

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Sheet 1 of 3

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Physical

Insulation

Material: Glass Filled Polyester (PBT)
Flammability: UL 94V-0
Color: Gray

Contact

Material: Copper Alloy
Plating
Underplate: 100 μ " (1.27 μ m) Nickel — QQ-N-290, Class 2
Wiping Area: 30 μ " (0.76 μ m) Gold — MIL-G-45204, Type II, Grade C

Shell

Material: Steel
Plating: Tin

Strain Relief Material: Stainless Steel .016 (0.40) Thick

Wire Accommodation: 26 & 28 AWG Solid or Stranded

Marking: 3M Logo & Contact Position Numbers

Electrical

Current Rating: 1 A

Insulation Resistance: $> 1 \times 10^9 \Omega$ at 500 VDC

Withstanding Voltage: 1000 Vrms at Sea Level

Environmental

Temperature Rating: -55° to $+105^\circ$

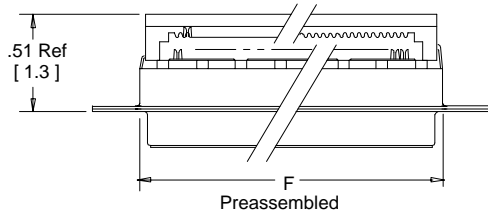
UL File No.: E68080

3M Interconnect Solutions Division

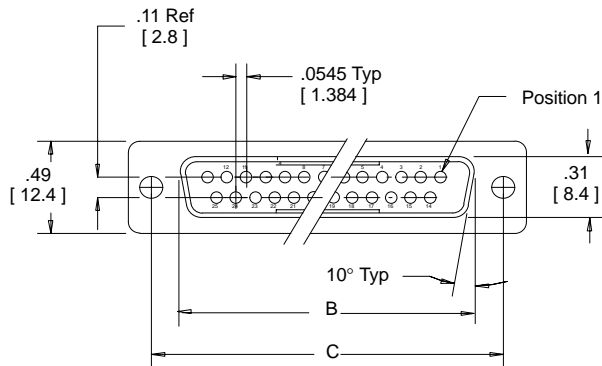
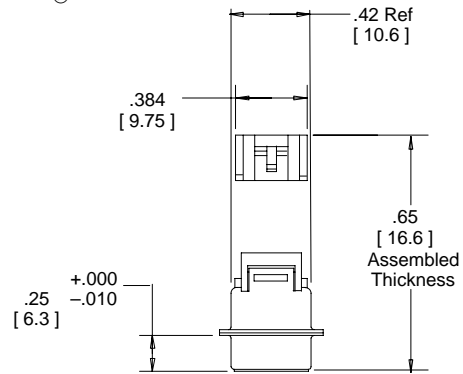
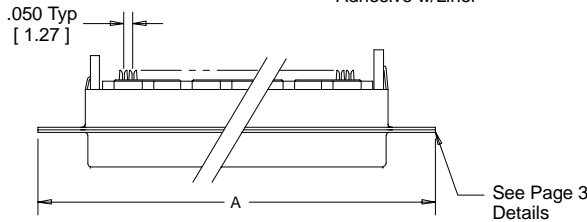
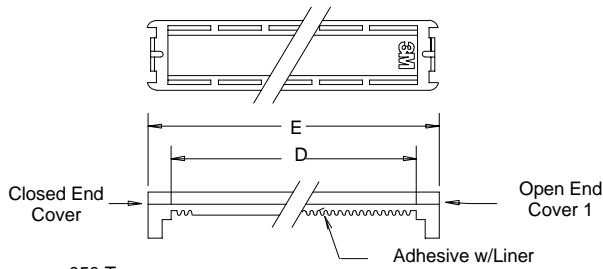
6801 River Place Blvd.
Austin, TX 78726-9000

For technical, sales or ordering information call
800-225-5373

Contact Quantity	Dimensions					
	A	B	C	D	E	F ± .008
09	1.23 [31.2]	.64 [16.3]	.98 [24.9]	.46 [11.7]	.67 [17.0]	.70 [17.7]
15	1.56 [39.6]	.97 [25.6]	1.31 [33.3]	.76 [19.3]	.99 [25.2]	1.03 [26.2]
25	2.10 [53.3]	1.51 [38.4]	1.85 [47.0]	1.27 [32.3]	1.54 [39.1]	1.57 [39.9]
37	2.74 [69.6]	2.16 [54.9]	2.50 [63.5]	1.87 [47.5]	2.19 [55.6]	2.22 [56.4]



Note: Preassembled closed cover on Pin 1 side of connector.



Inch
[mm]

Tolerance Unless Noted			
	.0	.00	.000
Inch	± .1	± .01	± .005

[] Dimensions for Reference only

Ordering Information

Connector 83XX-X00X

Contact Quantity

Cover Style:
6 = Open Cover
7 = Closed Cover
8 = Open Cover, w/o Adhesive, Preassembled
9 = Closed Cover, w/o Adhesive, Preassembled

Mounting Style:
0 = ∅ .120 [3.05]
3 = 4-40 UNC
4 = M3

Strain Relief (Order Separately) 3448-8DXXA

09 = 9 Position
15 = 15 Position
25 = 25 Position
37 = 37 Position

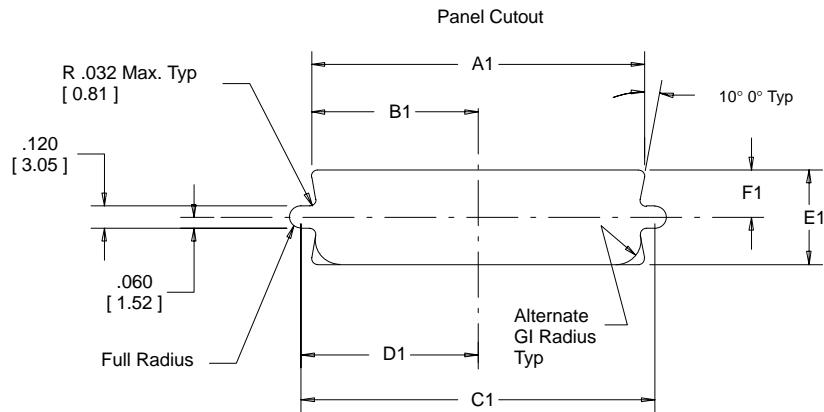
TS-0235-17
Sheet 2 of 3

D Sub Socket Connector

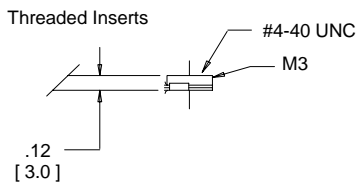
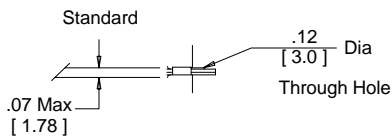
8300 Series

Mounting Method*	Contact Quantity	Dimensions						
		A1	B1	C1	D1	E1	F1	G1
Front	9	.87 [22.0]	.44 [11.2]	.98 [24.9]	.49 [12.5]	.51 [13.0]	.26 [6.6]	.12 [3.1]
	15	1.20 [30.5]	.60 [15.2]	1.31 [33.3]	.66 [16.8]			
	25	1.74 [44.2]	.87 [22.1]	1.85 [47.0]	.93 [23.6]			
	37	2.39 [60.7]	1.20 [30.5]	2.50 [63.5]	1.25 [31.8]			
Rear	9	0.81 [20.6]	.40 [10.2]	.98 [25.0]	.49 [12.5]	0.45 [11.4]	0.22 [5.8]	.12 [3.1]
	15	1.13 [28.7]	.57 [14.5]	1.31 [33.3]	.66 [16.8]			
	25	1.67 [42.4]	.84 [21.3]	1.85 [47.0]	.93 [23.6]			
	37	2.33 [59.2]	1.16 [29.5]	2.50 [63.5]	1.25 [31.8]			

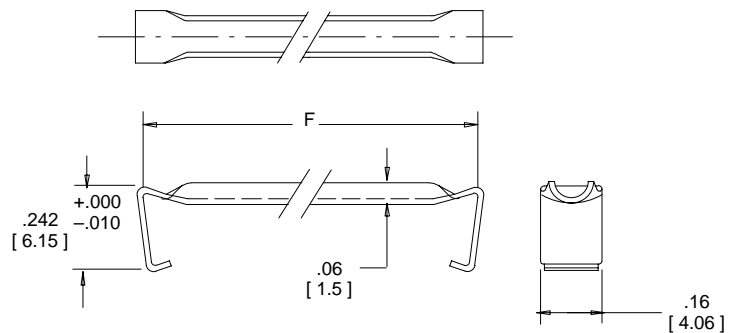
* Front Mount—The connector is mounted in front of the panel.
Rear Mount—The connector is mounted behind the panel.



Mounting Styles



Strain Relief (Order Separately or with Connector)



TS-0235-17
Sheet 3 of 3

3M Interconnect Solutions Division

6801 River Place Blvd.
Austin, TX 78726-9000

For technical, sales or ordering information call
800-225-5373

FEATURES AND SPECIFICATIONS

Features and Benefits

- Sizes 6 to 64 circuits
- Polarized
- Friction lock

Reference Information

Product Specification: PS-99020-0001
 Packaging: Bag
 Mates With: 90122, 90130 and 90131
 Use With: 90119
 Designed In: Inches

Electrical

Voltage: 350V
 Current: 3.0A max.
 Contact Resistance: 20mΩ max.
 Insulation Resistance: 1000 MΩ min.

Mechanical

Contact Retention to Housing: 15N min.
 Normal Force: 1N

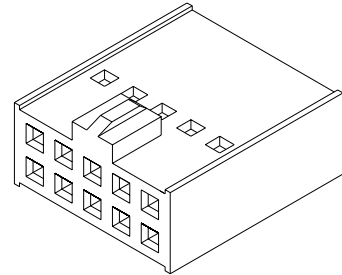
Physical

Housing: Black polyphenylene oxide, UL 94V-1
 Operating Temperature: -55 to +105°C



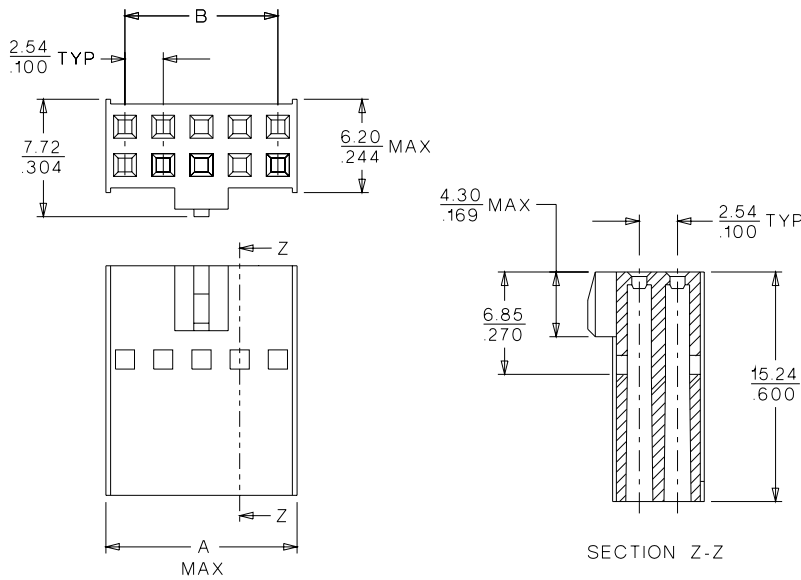
**2.54mm (.100") Pitch
 C-Grid III™
 Crimp Connector Housing**

**90142
 Dual Row**



CATALOG DRAWING (FOR REFERENCE ONLY)

Not For Use With Molex SL™ Components



Delivered on a carrier with 20 pieces per strip.
Actual Size **Universal Polarizing Pin**
40713-1
 Order No. 15-04-0292

ORDERING INFORMATION AND DIMENSIONS

Circuits	Order No.	Dimension	
		A	B
6	90142-0006	7.77 (.306)	5.08 (.200)
8	90142-0008	10.31 (.406)	7.62 (.300)
10	90142-0010	12.85 (.506)	10.16 (.400)
12	90142-0012	15.39 (.606)	12.70 (.500)
14	90142-0014	17.93 (.706)	15.24 (.600)
16	90142-0016	20.47 (.806)	17.78 (.700)
18	90142-0018	23.01 (.906)	20.32 (.800)
20	90142-0020	25.55 (1.006)	22.86 (.900)
22	90142-0022	28.09 (1.106)	25.55 (1.006)
24	90142-0024	30.63 (1.206)	27.94 (1.100)
26	90142-0026	33.17 (1.306)	30.48 (1.200)

Circuits	Order No.	Dimension	
		A	B
30	90142-0030	38.25 (1.506)	35.56 (1.400)
34	90142-0034	43.33 (1.706)	40.64 (1.600)
36	90142-0036	45.87 (1.806)	43.18 (1.700)
38	90142-0038	48.41 (1.906)	45.72 (1.800)
40	90142-0040	50.95 (2.006)	48.26 (1.900)
44	90142-0044	56.03 (2.206)	53.34 (2.100)
50	90142-0050	63.65 (2.506)	60.96 (2.400)
54	90142-0054	68.73 (2.706)	66.06 (2.600)
60	90142-0060	76.35 (3.006)	73.66 (2.900)
64	90142-0064	81.43 (3.206)	78.74 (3.100)
68	90142-0068	86.51 (3.406)	83.82 (3.300)

For other available circuit sizes contact Molex

FEATURES AND SPECIFICATIONS

Features and Benefits

- Fully enclosed contact box
- Contact and plating orientation according to DIN 41651
- North/south contact orientation avoids overstress

Reference Information

Product Specification: PS-99020-0001
 Packaging: Chain or bag
 Mates With: 0.64mm (.025") square pins
 Use With: 90123, 90142, 90143, 90156 and 90160
 Designed In: Inches

Electrical

Voltage: 350V
 Current: 3.0A
 Contact Resistance: 20mΩ max.

Mechanical

Contact Retention to Housing: 15N (1.5kgf)
 Normal Force: 1N

Physical

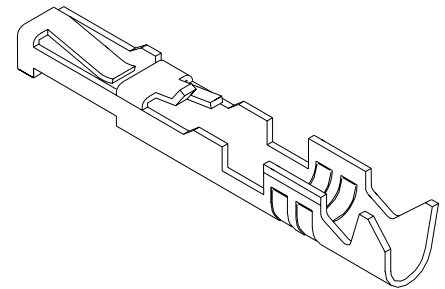
Contact: Copper Alloy
 Plating: See Table
 Wire Range: 22 to 24 and 26 to 28 AWG
 Wire Insulation Diameter: 1.70mm (.067") max.



2.54mm (.100") Pitch C-Grid III™ Terminal

90119

Female Crimp

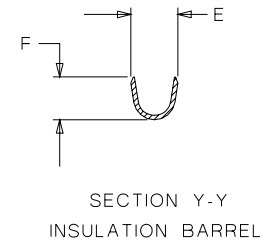
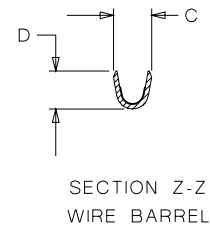
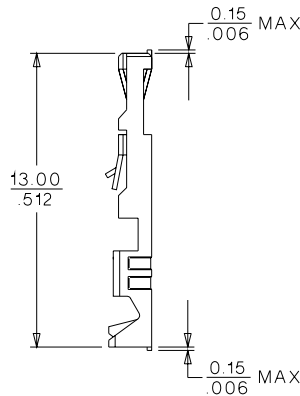
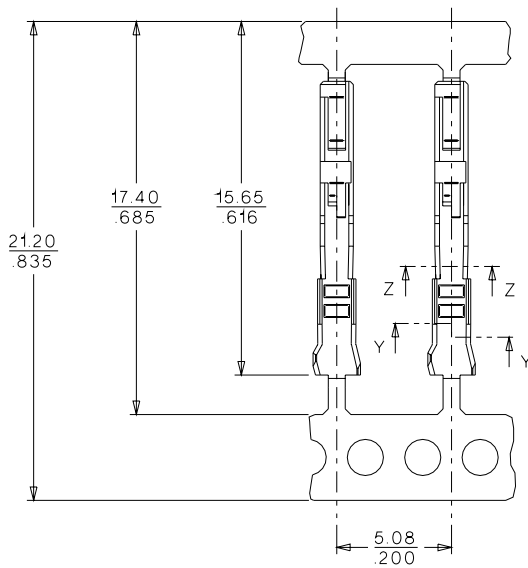


C

2.54mm (.100") Pitch

CATALOG DRAWING (FOR REFERENCE ONLY)

Not For Use With Molex SL™ Components



ORDERING INFORMATION AND DIMENSIONS

Order No.	Plating Option	Form	Wire Size (AWG)	Insulation Diameter Range	Dimension			
					C	D	E	F
• 90119-0109	A	Chain—Left Hand Feed	22-24	1.02/1.47 (.040/.058)	1.70 (.067)	1.70 (.067)	2.10 (.083)	1.90 (.075)
• 90119-0110	E							
• 90119-0111	F							
• 90119-0120	A		26-28	0.76/1.22 (.030/.048)	1.37 (.054)	1.37 (.054)	2.00 (.079)	1.70 (.067)
• 90119-0121	E							
• 90119-0122	F							
90119-2109	A	Bag	22-24	1.02/1.47 (.040/.058)	1.70 (.067)	1.70 (.067)	2.10 (.083)	1.90 (.075)
90119-2110	E							
90119-2111	F							
90119-2120	A		26-28	0.76/1.22 (.030/.048)	1.37 (.054)	1.37 (.054)	2.00 (.079)	1.70 (.067)
90119-2121	E							
90119-2122	F							

• Molex European standard product, usually available within shorter lead times

For other available versions contact Molex

Plating A: 1.00μm (39μ") min. Hot Tin dip

Plating E: 0.38μm (15μ") selective Gold over Nickel and 4μm (160μ") Tin/Lead over Nickel

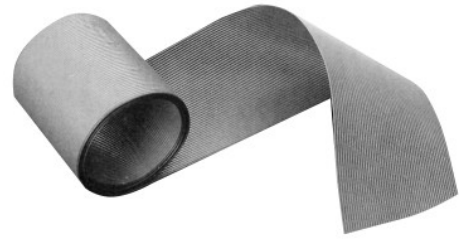
Plating F: 0.76μm (30μ") selective Gold over Nickel and 4μm (160μ") Tin/Lead over Nickel

.050" PITCH FLAT CABLE

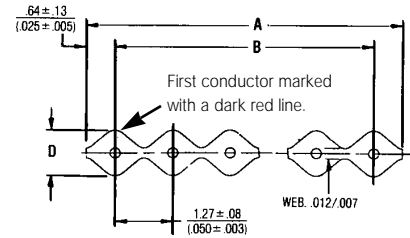
SERIES 171 – 28 AWG (7/36) STRANDED

SERIES 173 – 28 AWG SOLID

SERIES 179 – 26 AWG (7/34) STRANDED



CATALOG SERIES	SPECIFICATIONS						
	171		173		179		
Wire Size AWG	28 Stranded		28 Solid		26 Stranded		
Insulation Material	PVC		PVC		PVC		
Conductor Spacing mm (in)	1.27 (.050)		1.27 (.050)		1.27 (.050)		
Temperature Rating (°C)	105		105		105		
Voltage Rating (RMS)	300		300		300		
Impedance Ohms	100		105		93		
Capacitance pF/M (pF/FT)	46 (14)		44.3 (13.5)		49.5 (15.1)		
Inductance μH/M (μH/FT)	.46 (.14)		.49 (.15)		.43 (.13)		
Velocity of Propagation nS/M (nS/FT)	4.53 (1.38)		4.53 (1.38)		4.43 (1.35)		
Insulation Resistance Ohms/Ft	10 ¹⁰		10 ¹⁰		10 ¹⁰		
Typical Crosstalk Characteristics	Rise Time nSec	3.0	7.0	3.0	7.0	3.0	7.0
	Near End (%)	5.0	3.2	4.8	3.1	5.2	3.8
10FT Sample 1 line driven	Far End (%)	6.7	2.7	7.3	2.9	6.1	2.3
	UL Style No.	2651		2651		2651	



Accumulation of pitch tolerance between conductors in entire cable may not exceed tolerance of dim. "B".

CABLE SERIES	DIMENSIONS IN MM (INCHES)	
	D	
171	.91 (.036)	
173	.91 (.036)	
179	1.02 (.040)	

Ordering Information

28 GAUGE STRANDED	CATALOG NUMBERS		NO. OF POS.	DIMENSIONS IN MM (INCHES)		
	28 GAUGE SOLID	26 GAUGE SOLID		A	B	B TOLERANCE
171-10ED	173-10	—	10	12.70 (.500)	11.43 (.450)	± .18 (±.007)
171-12	—	—	12	15.24 (.600)	13.97 (.550)	
171-14	173-14	179-14	14	17.78 (.700)	16.51 (.650)	
171-15	173-15	—	15	19.05 (.750)	17.78 (.700)	± .25 (±.010)
171-16	173-16	—	16	20.32 (.800)	19.05 (.750)	
171-20	173-20	—	20	25.40 (1.000)	24.13 (.950)	
171-24ED	173-24	179-24	24	30.48 (1.200)	29.21 (1.150)	
171-25	173-25	—	25	31.75 (1.250)	30.48 (1.200)	
171-26	173-26	—	26	33.02 (1.300)	31.75 (1.250)	
171-28	—	—	28	35.56 (1.400)	34.29 (1.350)	± .38 (±.015)
171-30ED	—	—	30	38.10 (1.500)	36.83 (1.450)	
171-34	173-34	—	34	43.18 (1.700)	41.91 (1.650)	
171-36	—	179-36	36	45.72 (1.800)	44.45 (1.750)	
171-37	173-37	—	37	46.99 (1.850)	45.72 (1.800)	
171-40ED	173-40	—	40	50.80 (2.000)	49.53 (1.950)	
171-44	173-44	—	44	55.88 (2.200)	54.61 (2.150)	
171-50	173-50	179-50	50	63.50 (2.500)	62.23 (2.450)	± .38 (±.015)
171-56	173-56	—	56	71.12 (2.800)	69.85 (2.750)	
171-60	173-60	—	60	76.20 (3.000)	74.93 (2.950)	
171-64	—	—	64	81.28 (3.200)	80.01 (3.150)	