

Wire to Board Connectors AMP Dual-Line Interlock (DLI) Connectors



4

Features

- Used for wire-to-board connection
 - Compact in size and rugged in construction
 - Requires low insertion force; mating and unmating is easy
 - Good electrical connection; performs well in low current circuit applications
 - Arrayed in double rows, contacts are on 3mm centers and 4.6mm between rows
 - Plug for wire termination loaded with crimp snap-in contacts
 - Board mount cap housing available in two styles, horizontal and vertical mount.
- Both preloaded with post contacts.
- Housing made of 94 V-2 grade 66 nylon, black.
 - Contacts made of pretinned brass and accept wire size ranges of AWG # 22 — 20 (0.30 — 0.56mm²).

Dual-Line Interlock Connectors are durable and highly reliable high-density connectors designed and developed for applications which require miniaturization of connections in electronic equipment on Automotive industry. The connectors consist of crimp snap-in receptacle contacts with plug housing and a board mount cap housing assembly. For the plug housing in which receptacle contacts are loaded, a double-lock version is also available which with a locking plate, makes confirmation of contact loading easier and at the same time increases tensile strength of the connectors. Many advanced design features are incorporated into the plug housing. These include a positive locking mechanism, a clearly audible locking sound, provides to

orientation and damage of contacts by scooping at mating/unmating. The cap assembly, preloaded with post contacts is available in two styles; one for horizontal mount and the other for vertical mount. Contacts are on 3mm centerline and 4.6mm or 4.0mm (horizontal) between rows. The plug housing is available in 4 sizes of 8, 12, 16 and 20 positions and the cap housing in sizes up to 48 positions. The cap housings larger than 28 positions accommodate more than 2 plug housings of different sizes. Mating force is kept low with these DLI connectors and in spite of easy mating and unmating, they can provide an outstanding performance in low current circuits with good electrical connection. The housings are made of

UL 94V-2 66 nylon and the contacts are of brass or phosphor bronze, either pretinned or selectively gold-plated. The contacts can accept wires of AWG # 22 — 20 (0.3 — 0.56mm²) with insulation diameters of 1.4 — 2.4mm.

Performance Data

Current rating:

5A continuous (max.)

Voltage rating:

250 VAC and 350 VDC (max.)

Low level resistance:

6mΩ (max.)

Insulation resistance

(DC 500V): 500MΩ (min.)

Dielectric withstanding voltage:

1,000 VAC (one minute)

Contact retention force:

5kg (min.)

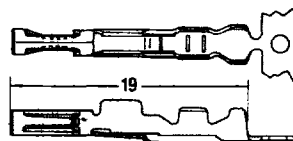
Product specifications:

108-5124

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Receptacle Contacts

Material: Brass or Phos. Brz.,
(0.3mm thickness)



Wire Size AWG	Wire Ins. mm ²	Wire Ins. Dia.	Material/Finish	Receptacle Part No.		Hand Tool Part No.
				S.T.	L.P.	
22-20	0.3~0.56	2.4 Max.	Brass/Pre-Tin	1-170291-1	1-170321-1	724748-1
				3-170291-1*	—	
			Brass/Sel. Gold	—	—	
			Phos. Brz/Pre-Tin	1-170291-4	1-170321-4	
			Phos. Brz/Sel. Gold	1-170291-7	1-170321-7	

Note: 0.38μm selective gold on contact area.

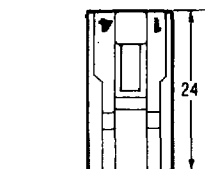
Hand Tool No.: 724748-1 (Instruction Sheet: IS-137J)

Extraction Tool No.: 724655-1 (Instruction Sheet: IS-175J)

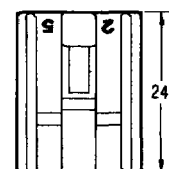
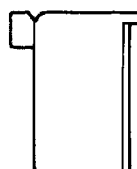
* Reverse Reel.

8, 12, 16 and 20 Circuits Plug Housings

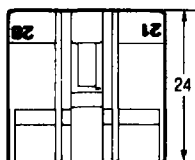
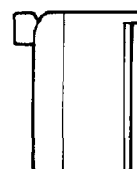
Material: UL 94V-2 rated,
66 Nylon, Black



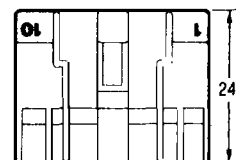
8 Circuits



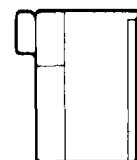
12 Circuits



16 Circuits



20 Circuits

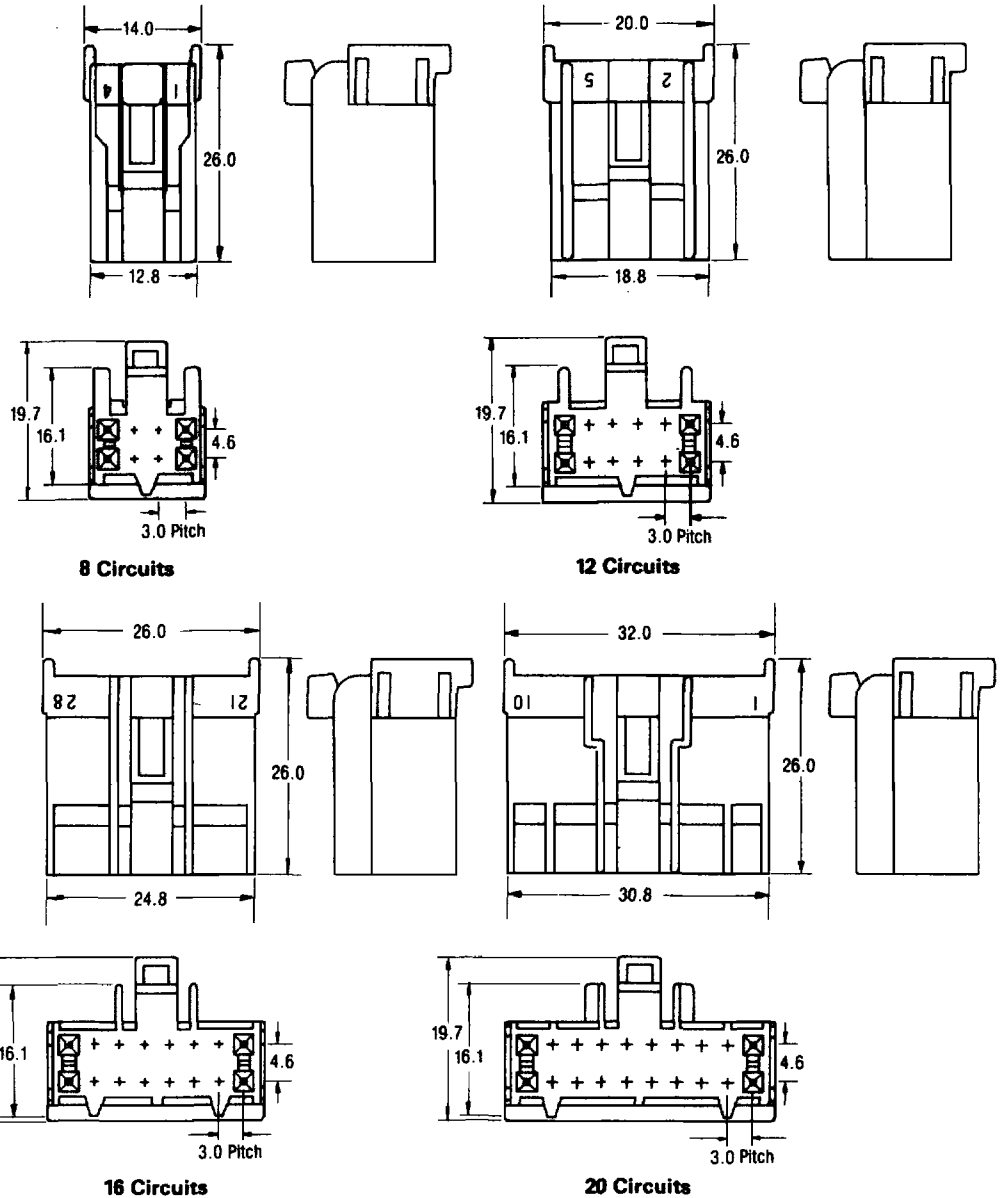


No. of Circuits	Plug Housing Part No.
8	172246-2
12	172245-2
16	172021-2
20	172047-2

Wire to Board Connectors AMP Dual-Line Interlock (DLI) Connectors

8, 12, 16 and 20 Circuits Plug Double-Lock Housing

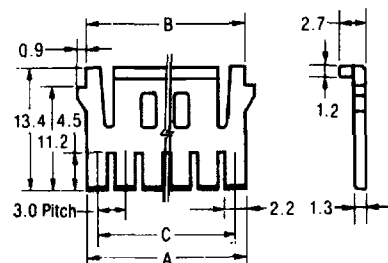
Material: UL94V-2 rated,
66 Nylon, Black



No. of Circuits	Double Lock Plug Part No.
8	172856-2
12	172854-2
16	172852-2
20	172850-2

Locking Plate

Material: UL94V-2 rated,
66 Nylon, Natural



No. of Circuits	Dimensions			Locking Plate Part No.
	A	B	C	
8	11.2	11.8	9	172857-1
12	17.2	17.8	15	172855-1
16	23.2	23.8	21	172853-1
20	29.2	29.8	27	172851-1

Note: To be used with two locking plates per plug housing.
Locking plate Extraction Tool No.: 753879 (IS-247J)

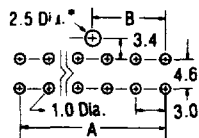
Wire to Board Connectors AMP Dual-Line Interlock (DLI) Connectors

Vertical Mount Type 8, 12, 16 and 20 Circuits Cap Headers

Material:

Housing—UL94V-2 rated,
66 Nylon, Black
Contact—0.64 square, Phos. Brz.
Finish: Pre-Tin

PC Board Layout



*Type 3 tapping, pan head screw
(JIS B1115, B1122) 2 nominal dia.,
5mm length

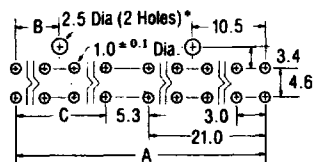
No. of Circuits	Dimensions	
	A	B
8	9.0	4.5
12	15.0	7.5
16	21.0	10.5
20	27.0	13.5

28 and 36 Circuits Split Type Cap Headers

Material:

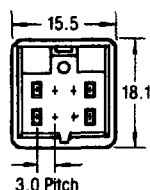
Housing—UL94V-2 rated,
66 Nylon, Black
Contact—0.64 square, Phos. Brz.
Finish: Pre-Tin

PC Board Layout

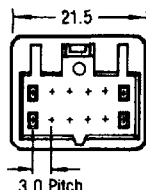


*Type 3 tapping, pan head screw
(JIS B1115, B1122) 2 nominal dia.,
5mm length

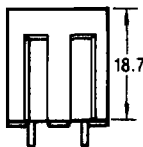
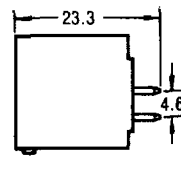
No. of Circuits	Dimensions		
	A	B	C
28	41.3	7.5	15.0
36	53.3	13.5	27.0



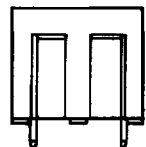
3.0 Pitch



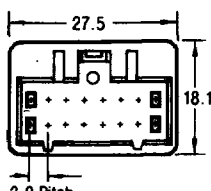
3.0 Pitch



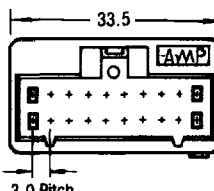
8 Circuits



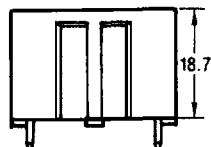
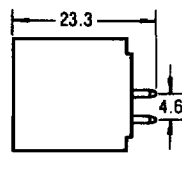
12 Circuits



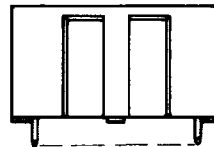
3.0 Pitch



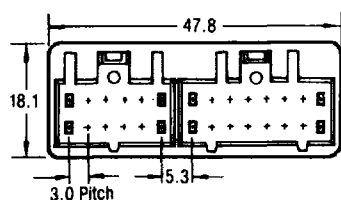
3.0 Pitch



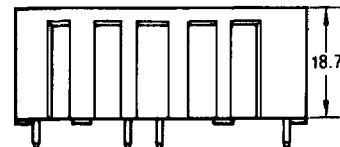
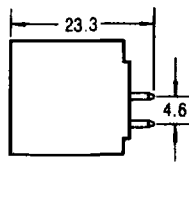
16 Circuits



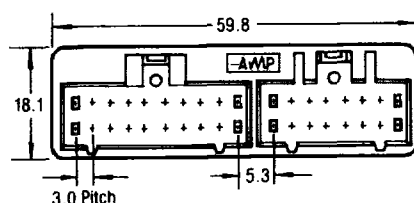
20 Circuits



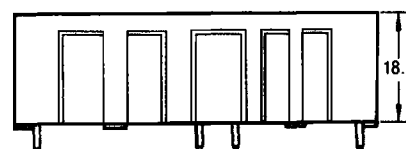
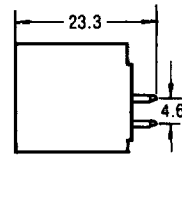
3.0 Pitch



28 Circuits



3.0 Pitch



36 Circuits

No. of Circuits	Part No.
8	172280-2
12	172288-2
16	172288-2
20	172287-2

No. of Circuits	Part No.	Mating Plug
28 Split Type	172286-2	One 12 Circuits Plug
		One 16 Circuits Plug
36 Split Type	172286-2	One 16 Circuits Plug
		One 20 Circuits Plug

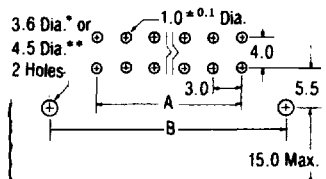
Wire to Board Connectors AMP Dual-Line Interlock (DLI) Connectors

Horizontal Mount Type 8, 12, 16 and 20 Circuits Cap Headers

Material:

Housing—UL94V-2 rated,
66 Nylon, Black
Post—0.64 square, Phos. Brz.
Finish: Pre-Tin, Sel. Gold

PC Board Layout



*M3 Screw

**Type 1 & 4 tapping, pan head
screw (JIS B1115, B1122)
4 nominal dia., more than 8mm
length

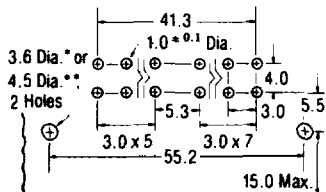
No. of Circuits	Dimensions	
	A	B
8	9.0	22.9
12	15.0	28.9
16	21.0	34.9
20	27.0	40.9

28 Circuits Split Type

Material:

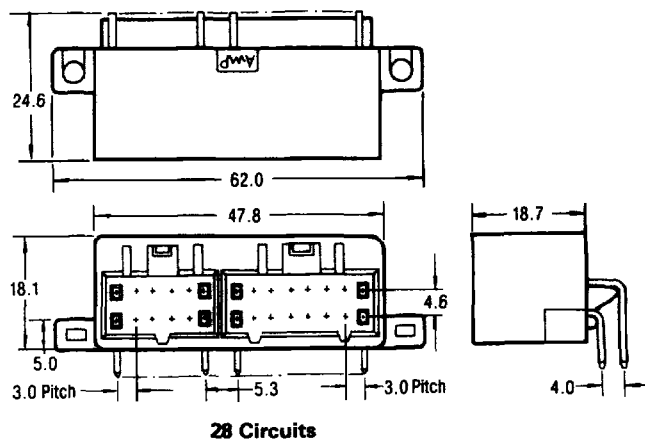
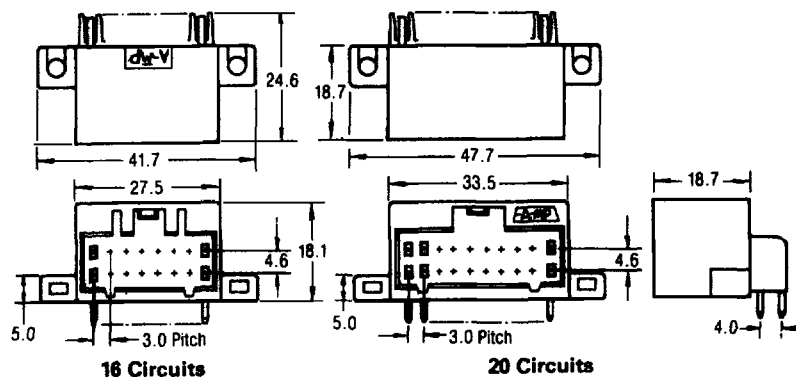
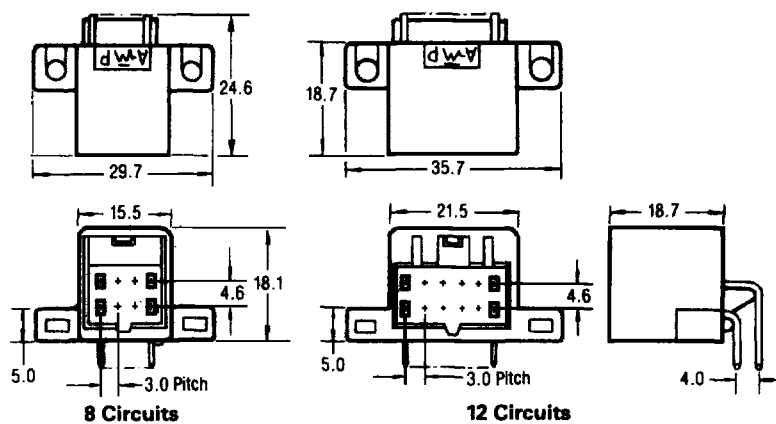
Housing—UL94V-2 rated,
66 Nylon, Black
Post—0.64 square, Phos. Brz.
Finish: Pre-Tin, Sel. Gold

PC Board Layout



*M3 Screw

**Type 1 & 4, tapping, pan head
screw (JIS B1115, B1122)
4 nominal dia., more than
8mm length



No. of Circuits	P/N of Horizontal Mount Cap Housing		Mating Plug
	Contact Finish		
	Pre-Tin	Sel. Gold	
8	172244-2	1-172244-3	8 Circuits
12	172243-2	1-172243-2	12 Circuits
16	172242-2	1-172242-2	16 Circuits
20	172143-2	1-172143-2	20 Circuits
28			One 12 Circuits
Split Type	172241-2	1-172241-2	One 16 Circuits

Wire to Board Connectors AMP Dual-Line Interlock (DLI) Connectors

Horizontal Mount Type 36 and 48 Circuits Split Type Cap Headers

Material:

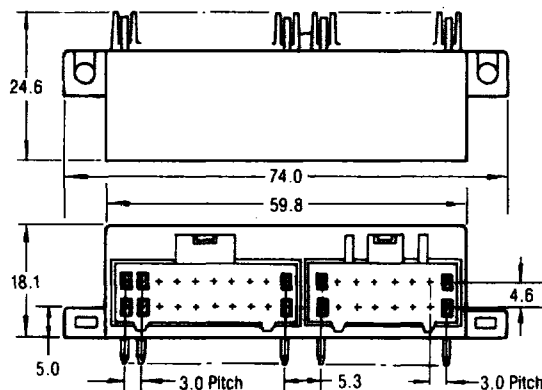
Housing—UL94V-0, rated,

66 Nylon, Black

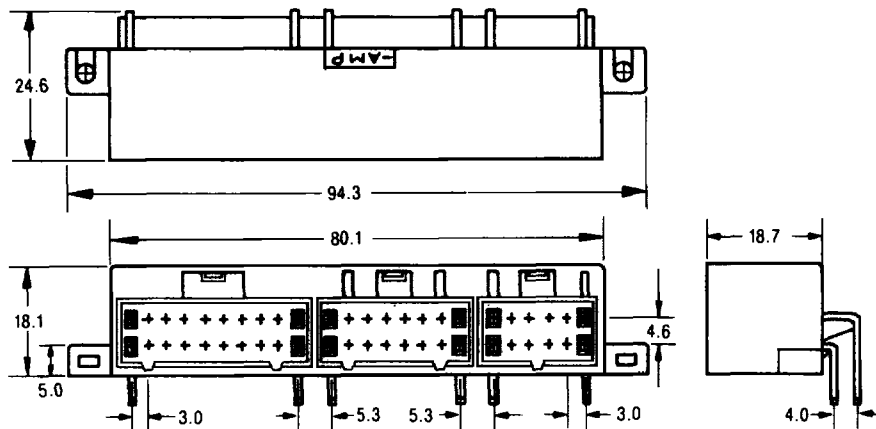
Post—0.64 square, Phos. Brz.

Finish: Pre-Tin, Sel. Gold

36 Circuits



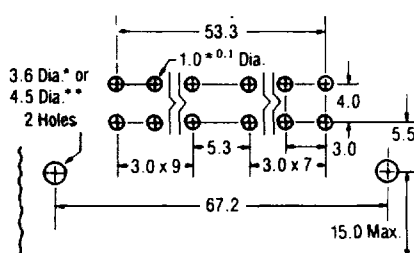
48 Circuits



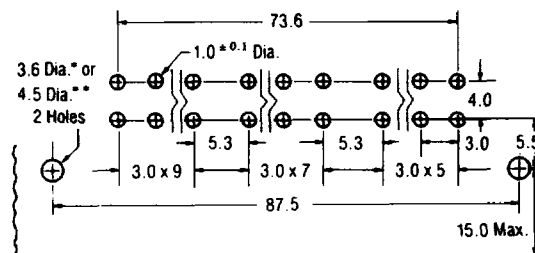
No. of Circuits	P/N of Horizontal Mount Cap Housing		Mating Plug
	Contact Finish		
	Pre-Tin	Sel. Gold	
36 Split Type	172023-2	1-172023-2	One 16 Circuits
			One 20 Circuits
			One 12 Circuits
48 Split Type	172892-1	—	One 16 Circuits
			One 20 Circuits
			One 12 Circuits

PC Board Layout

- *M3 Screw
- **Type 1 & 4 tapping, pan head screw (JIS B1115, B1122) 4 nominal dia., more than 8mm length



For 36 Circuit



For 48 Circuit