
DLM Series

DL Metal Shell ZIF Connector



ITT Cannon

● DLM Metal Shell, ZIF Connector



ITT Cannon's DLM Metal Shell, Zero-Insertion-Force (ZIF) Connector Series has been expanded and is now available in its full range covering 60,96,156,250, and 360-way variants.

The special features of our DLM series includes an aluminum, die-cast shell which significantly enhances EMI/RFI shielding, and a new shield-lock mechanism which firmly engages plug and receptacle shells upon mating.

The operator friendly, ZIF function has been greatly improved by employing the use of a newly designed bearing cam mechanism. An improved DLM PC tail contact design facilitates reduced cross-talk and enhanced dielectric withstanding voltage through reduced tail diameters which enable the use of smaller PCB through-holes.

ITT Cannon's DLM Series connectors are used in a wide variety of instrumentation and test & measurement equipment of semiconductors, computers, radar, and factory automation applications requiring high-density interconnectivity with frequent mates and unmates.

● Performance Specifications

● Materials & Finishes

Shell :	Aluminum, nickel plated
Insulator :	Glass filled thermoplastic, UL94 V-0 rated
Contact :	Berylium Copper, Gold over Nickel, Tin/Lead plating on PC tail part
Cam shaft :	Stainless steel

● Electrical Data

Current Rating :	4A max. -PC/RC contact 5A max. -crimp contact/wrap post contact
DWV :	AC1200Vrms(M5/M6:AC1000Vrms)
Insulation Resistance :	5000M ohm min.
Contact Resistance :	30 mohm max.
Durability :	10,000 Cycles
Operating Temperature :	55 °C to 105 °C
Wire Accomodation :	#18 AWG -#42 AWG (Crimp Contact)
Contact Spacing :	2.54mm Square grid

● DLM ZIF mating mechanism and Shield-lock mechanism

● DLM ZIF mechanism and Shield-lock mechanism

In addition to the ZIF feature, ITT Cannon developed the Shield-lock mechanism to enhance EMI/RFI shielding. Contacts in the plug and receptacle do not touch each other while the connector halves are being engaged. By turning the cam-shaft a quarter turn, all the contacts mate

at once. Simultaneously, a spring in the plug shell pushes the connector halves together with an even force ensuring uniform pressure around the shell housing of the mated connector.

Zero Force Camming Operation

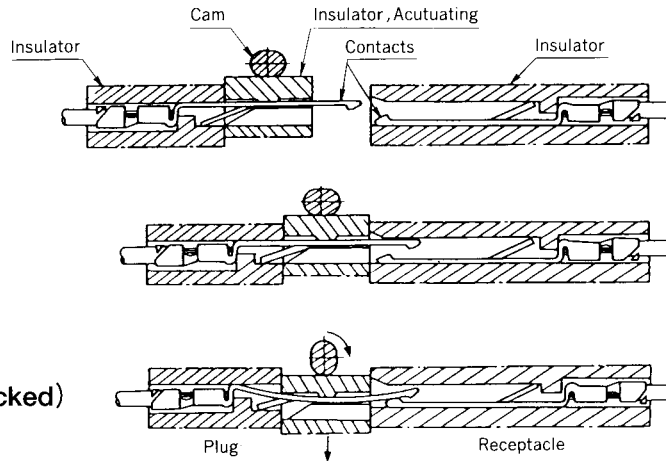
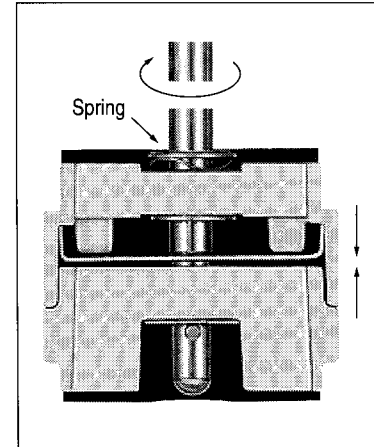


Fig.1
Unmated

Fig.2
Mated (Contact not made)

Fig.3
Mated (Contact made and locked)

Fig.4
Shield-Locking Mechanism



● How to Order:

Please note, PC/RC, and Wrap Post contacts are installed in Connector, but Crimp contacts are ordered separately

Contact Style	Plug		Receptacle	
	Description	Part Number	Description	Part Number
CP/RC Contact (0.50×4.50mm) Through-hole. Solder Termination	DLM1-156PC	127050-0207	DLM1-156RC	127050-0211
	DLM2-96PC	127050-0215	DLM1-156RC-M01	127050-0240
	DLM3-60PC	127050-0223	DLM2-96RC	127050-0219
	DLM5-260PC	127050-0111	DLM2-96RC-M01	127050-0241
	DLM6-360PC	127050-0097	DLM3-60RC	127050-0227
				DLM3-60RC-M01
Wrap Post Contact (0.64×5.90mm) Through-hole Solder/Wire-wrap termination	DLM1-156PW6	127050-0247	DLM5-260RC	127050-0112
	DLM2-96PW6	127050-0251	DLM6-360RC	127050-0098
	DLM3-60PW6	127050-0255		
	DLM5-260PW6	127050-0115		
Wrap Post Contact (0.64×15.00mm) Through-hole Solder/Wire-wrap termination	DLM1-156PW4	127050-0246	DLM1-156RW6	127050-0249
	DLM2-96PW4	127050-0250	DLM2-96RW6	127050-0253
	DLM3-60PW4	127050-0254	DLM3-60RW6	127050-0257
	DLM5-260PW4	127050-0113	DLM5-260RW6	127050-0116
	DLM6-360PW4	127050-0044		
For Crimp Contact (AWG #18-#42) Order separately for Crimp contact Reel (10Kpcs) or Loose (100pack) With Semi-Automatic Crimp Tool or Hand Crimp Tool	DLM1-156P	127050-0204	DLM1-156R	127050-0208
	DLM2-96P	127050-0212	DLM2-96R	127050-0216
	DLM3-60P	127050-0220	DLM3-60R	127050-0224
	DLM5-260P	127050-0109	DLM5-260R	127050-0110
	DLM6-360P	127050-0034	DLM6-360R	127050-0045

Please note : M-0X at last part of product description indicate customized modification code.

In case of DLM1-156RC-M01/DLM2-96RC-M01/DLM3-60RC-M01 are receptacle with grounding spring which provided to protect from electrostatic damage of electronics components in medical application.

● Characteristics of PC Tail Contact (PC/RC)

● PC Tail Contact

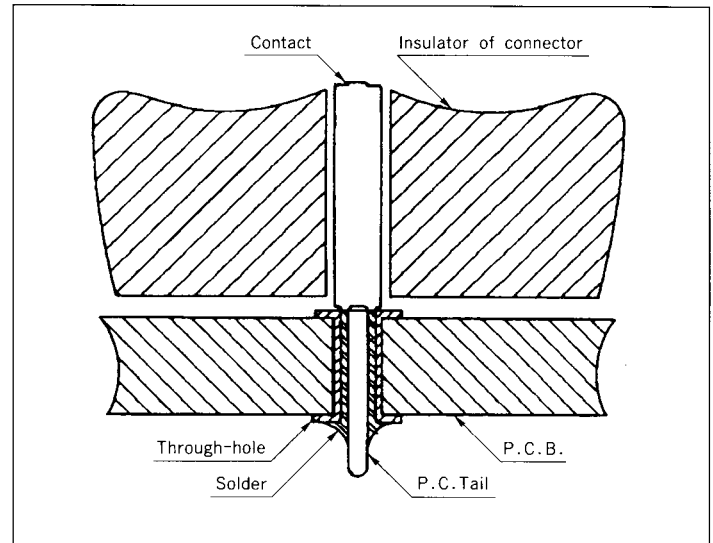
The soldering of contacts into through-holes on a PC board has become standard for medical equipment and test equipment for semiconductors.

As a result of the narrow spacing between the solder pad and circuit pattern, crosstalk between signals increases. A solution to this problem is to make the diameter of the contacts and solder lands smaller to provide more space between the lands and the patterns.

However, a smaller diameter contact results in higher impedance against high frequency characteristic of the contact decreases.

ITT Cannon designated a solution with a smaller diameter contact tail with solder filled at through-hole thus function of PC tail part is same as larger diameter tail.

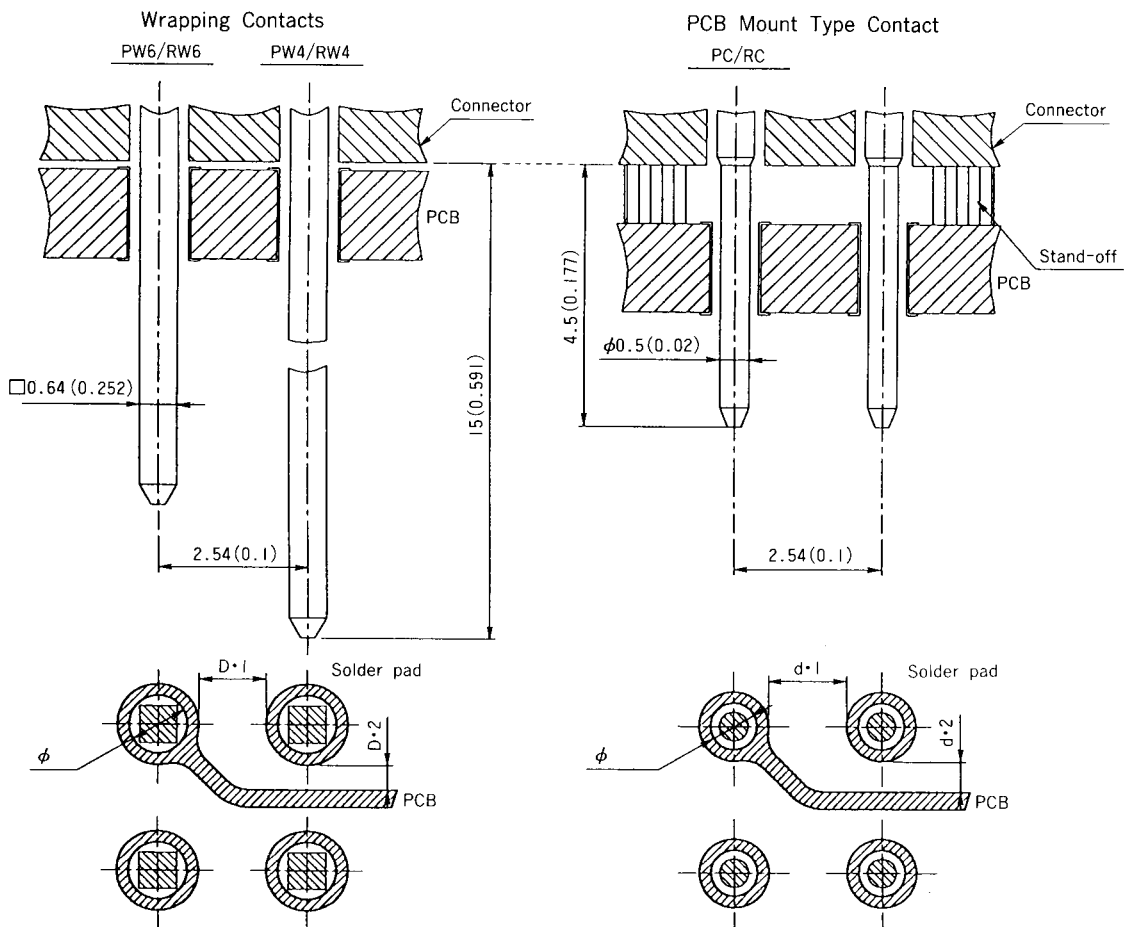
This design application allows the use of a smaller through-hole diameter without sacrificing the electrical characteristic of the contacts while reducing crosstalk and enhancing dielectric withstanding voltage.



● PCB mount type contact

The contact tail design has been modified from a .025 (0.64) square pin to a .020 (0.5) diameter round pin. The change enables a decrease in the diameter of the through-holes as well as the solder mounds on PCB's. (d_1

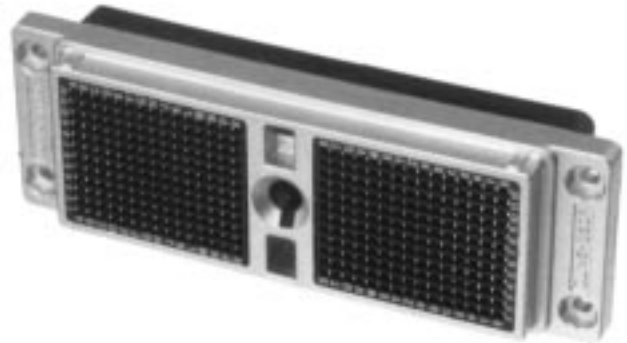
and d_2 can be wider than D_1 and D_2 .) This significantly reduces the crosstalk in RF circuits and enhances the dielectric withstanding voltage in high voltage circuits.



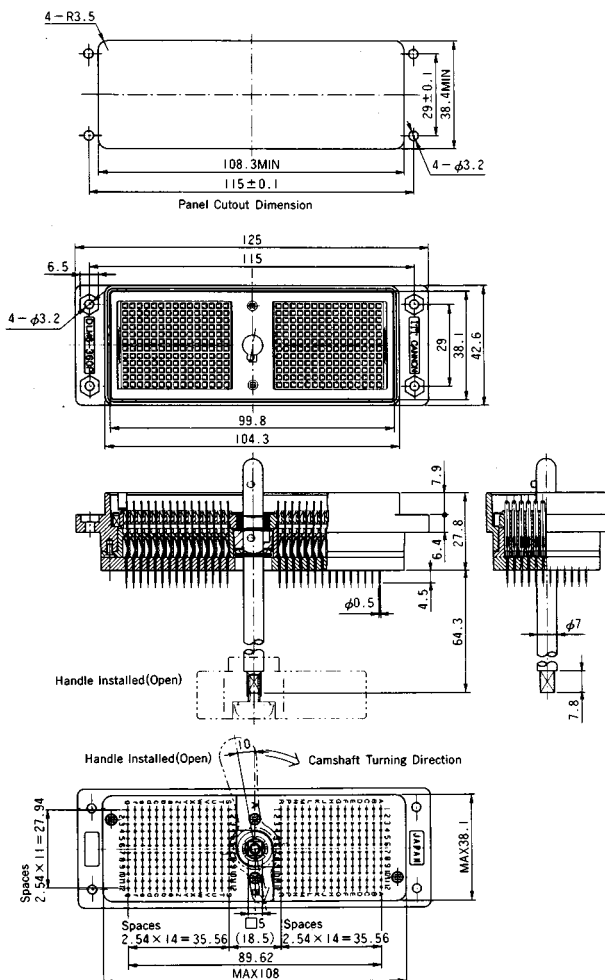
● DLM6-360

- 360way Plug/DLM6-360PC
P/N 127050-0097

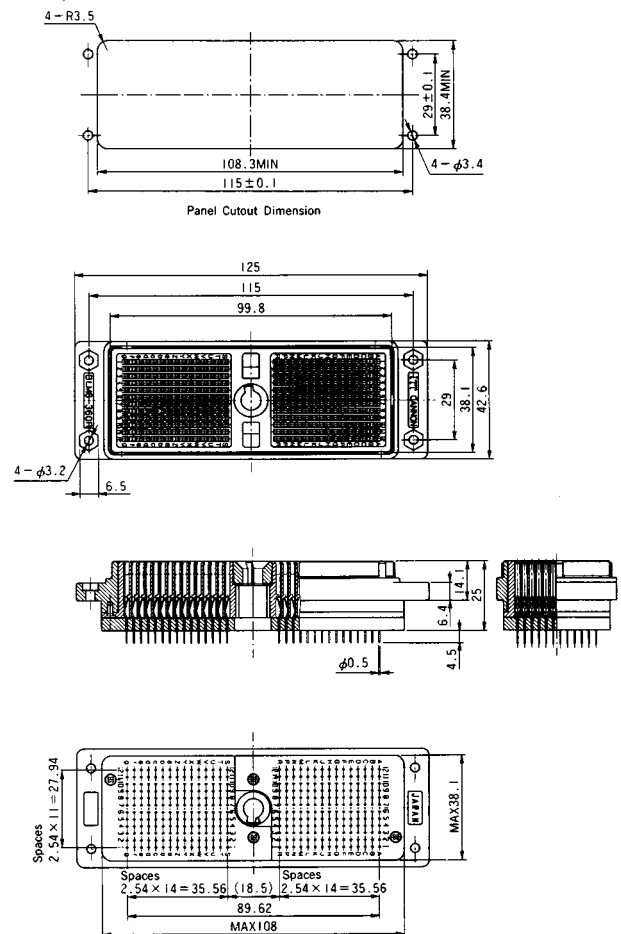
- 360way Receptacle/DLM6-360RC
P/N 127050-0098



DLM6-360PC



DLM6-360RC



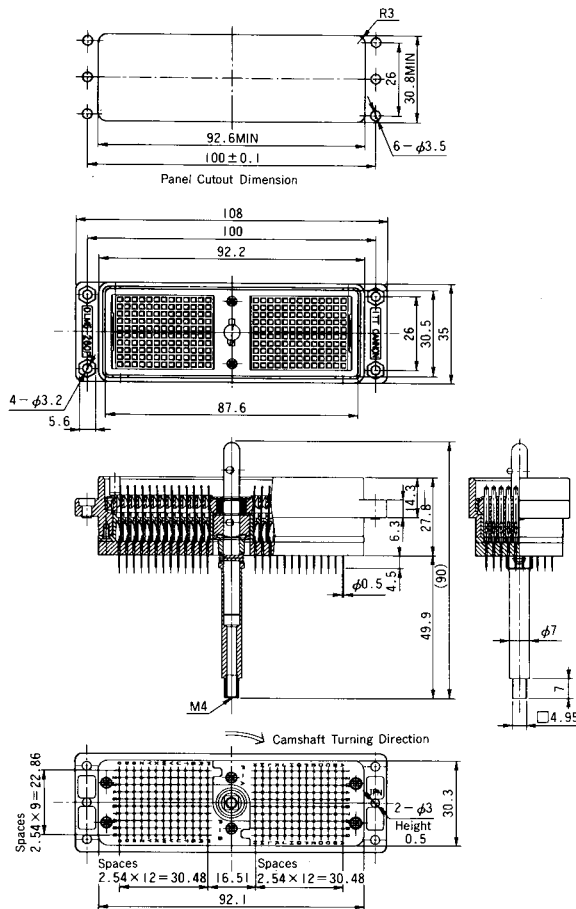
● DLM5-260

- 260way Plug/DLM5-260PC
P/N 127050-0111

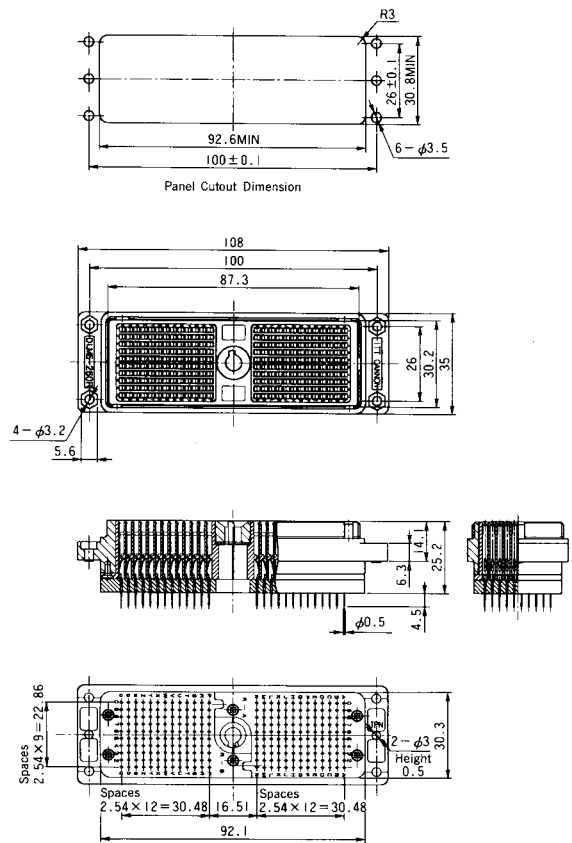
- 260way Receptacle/DLM5-260RC
P/N 127050-0112



DLM5-260PC

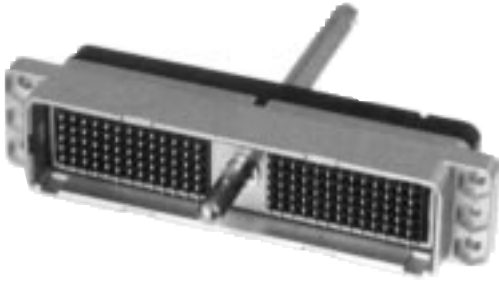


DLM5-260RC



● DLM1-156

- 156way Plug/DLM1-156PC
P/N 127050-0207



- 156way Receptacle/DLM1-156RC
P/N 127050-0211

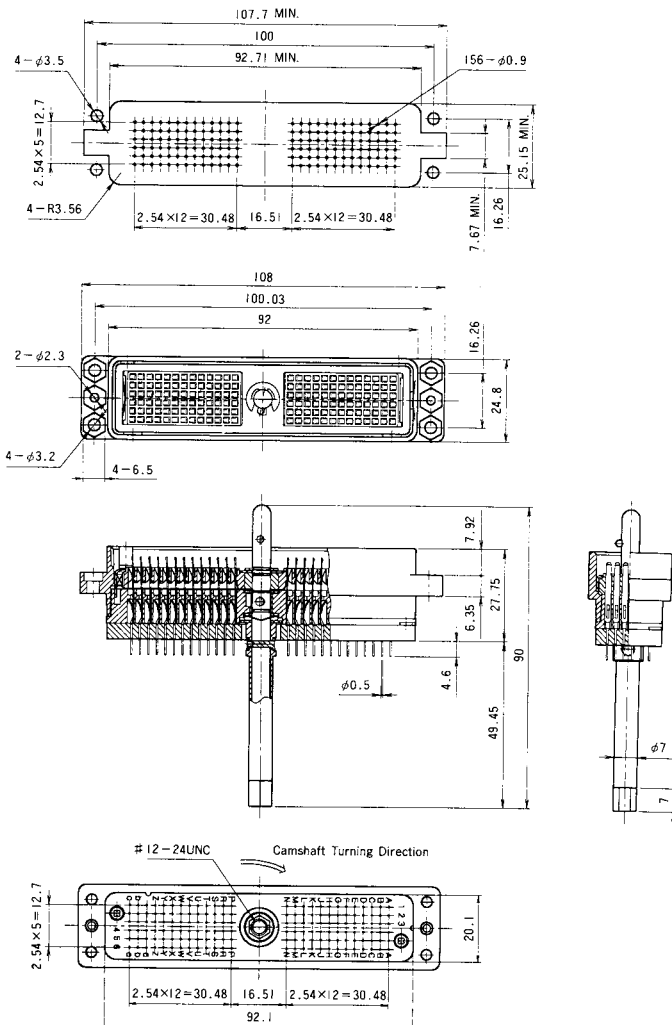


- Receptacle with grounding spring/
DLM1-156RC-M01

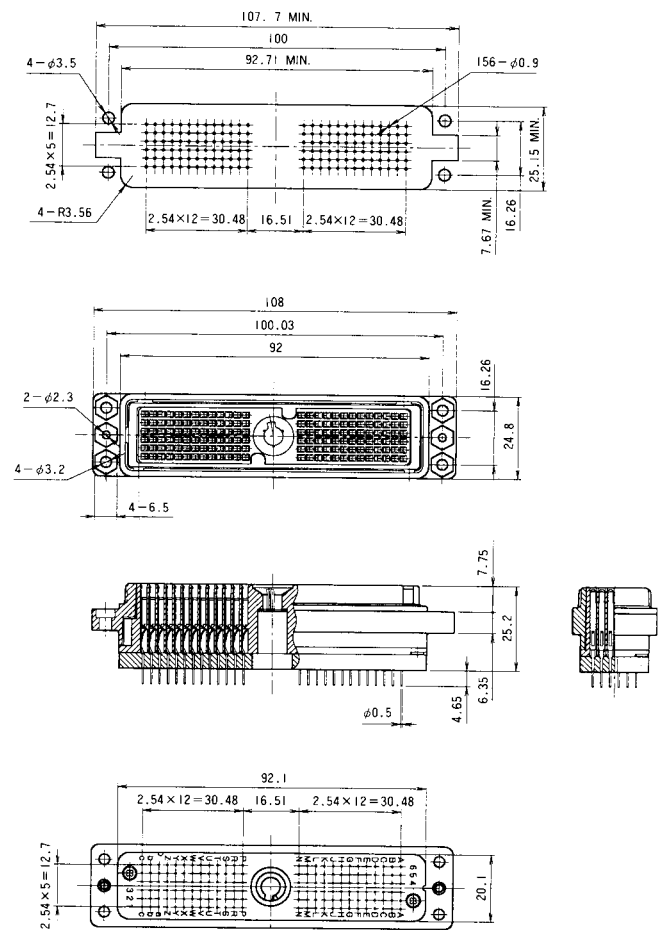
P/N 127050-0240



DLM1-156PC



DLM1-156RC

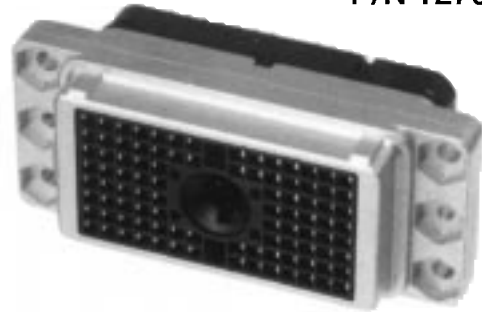


● DLM2-96

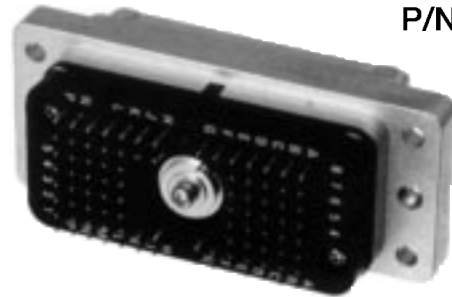
- 96way Plug/DLM2-96PC
P/N 127050-0215



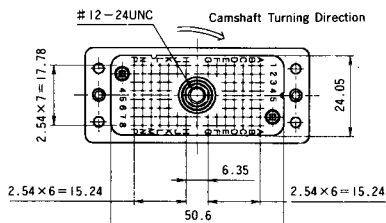
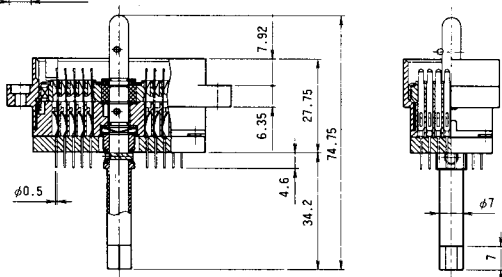
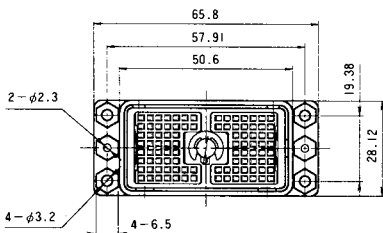
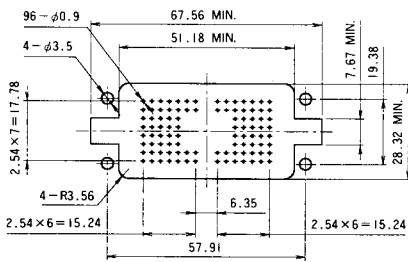
- 96way Receptacle/DLM2-96RC
P/N 127050-0219



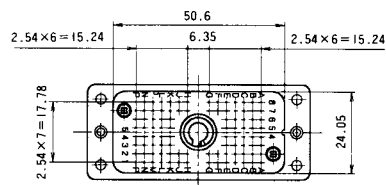
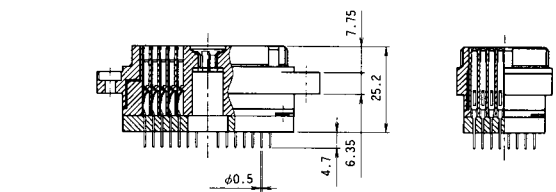
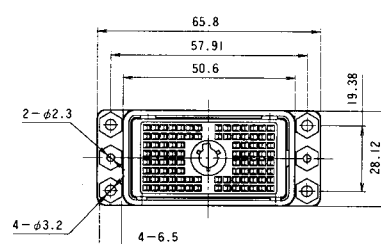
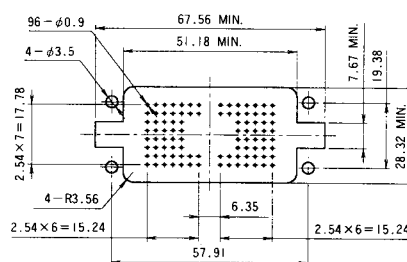
- Receptacle with grounding spring/
DLM2-95RC-M01
P/N 127050-0241



DLM2-96PC



DLM2-96RC



● DLM3-60

- 60way Plug/DLM3-60PC
P/N 127050-0223

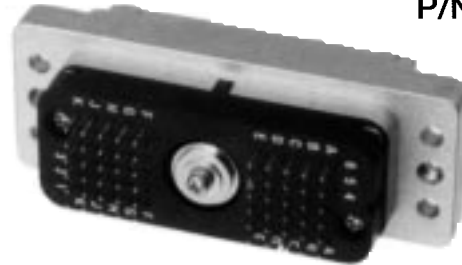


- 60way Receptacle/DLM3-60RC
P/N 127050-0227

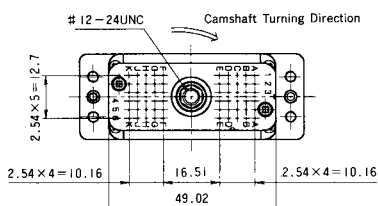
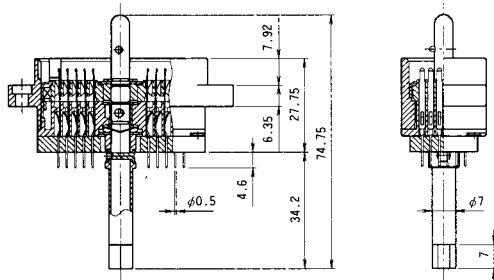
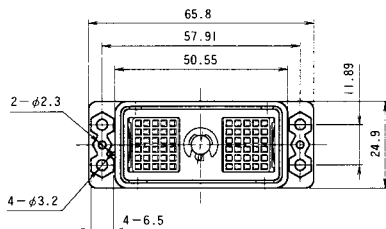
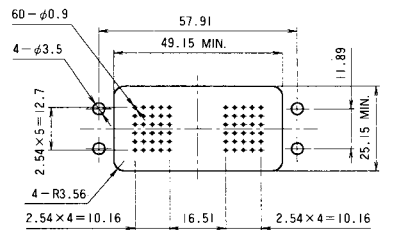


- Receptacle with grounding spring/
DLM3-60RC-M01

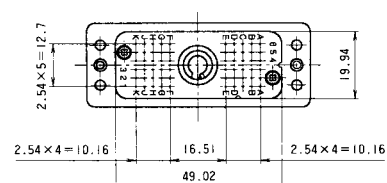
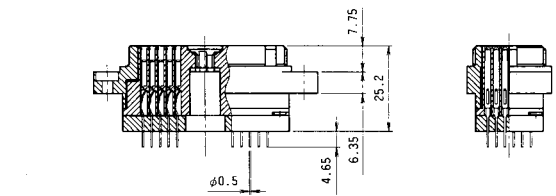
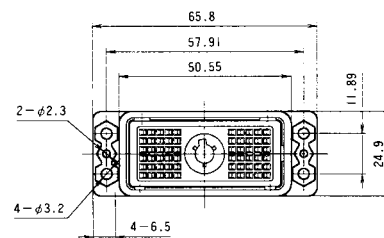
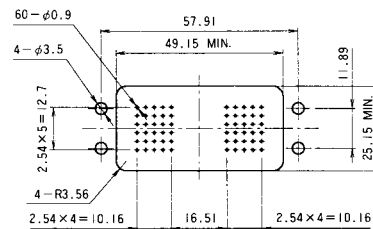
P/N 127050-0242



DLM3-60PC



DLM3-60RC



● Accessories

● Actuating Handle Kit



DLM1/DLM2/DLM3

Description **DL-HANDLE**
Part Number **127000-0484**



DLM5

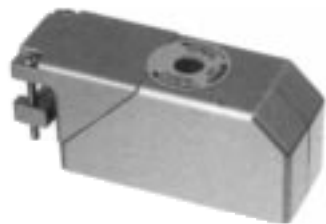
Description **DL5-HANDLE**
Part Number **204-4501-000**



DLM6

Description **DLM6-HANDLE**
Part Number **204-4500-000**

● Metal Backshell



DLM1-156 : 249-4516-000 BACK SHELL ASSY DL1-156
DLM2-96 : 249-4517-000 BACK SHELL ASSY DL2-96
DLM3-60 : 249-4518-000 BACK SHELL ASSY DL3-60



DLM6-360 : 249-4515-000 BACK SHELL ASSY DLM6-360
DLM5-260 : 249-4501-000 BACK SHELL ASSY-M01 DLM5-260

● Protective Cover (Dust Cap)

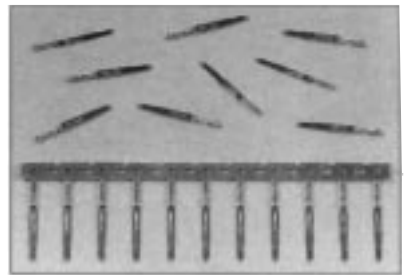
Pin count	Plug side	Receptacle side
156	DL1-P-D/C P/N : 025-0852-000	DL1-R-D/C P/N : 025-4506-000
96	DL2-P-D/C P/N : 025-0851-000	DL2-R-D/C P/N : 025-4507-000
60	DL3-P-D/C P/N : 025-0850-000	DL3-R-D/C P/N : 025-4505-000



● Contacts

● Crimp Contacts

Loose (sold in pack 100pcs)		Reeled (10Kpcs per reel)	
127000-2203	(AWG#18-20)	110238-0402	(AWG#18-20)
127000-2204	(AWG#20-22)	127000-2198	(AWG#20-22)
127000-2205	(AWG#24-26)	127000-2199	(AWG#24-26)
127000-2206	(AWG#28-32)	127000-1351	(AWG#28-32)
127000-2207	(AWG#36)	127000-1271	(AWG#36)
N.A.		127000-2278	(AWG#38-42)





● Semi-Automatic Crimp Tool (Striper & Crimper Type)

Crimper proper (SCM-150SN) ,Applicator (Select by wire size)
Semi automatically strip insulator and terminate contact by crimp

● Specification

Power Supply : AC100V, 50/60Hz single phase
Production Capacity : 1 cycle-0.9 seconds at 50Hz
Weights : 88Kg (Crimper 60Kg, Stripper & Applicator 28Kg)
Applicable Wire : AWG#28-#42
Applicable Contacts : 127000-1351/1271/2278 (10,000pcs/reel)

WIRE STRIPPER & CRIMPER

MAIN UNIT	APPLICATOR
SCM-150SN(T05-048-000)	— SCA-DLT-1(995-4521-053)AWG#28-32
	— SCA-DL-36(T05-049-000)AWG#36
	— SCA-DL-40(995-4521-056)AWG#38-42



● Semi-Automatic Crimp Tool (for crimping only)

Universal Crimp Die, is designed to semi-automatically crimp stamped and formed contacts on stranded or single conductor with pre-stripped wire.

● Specification

Power Supply : AC 100V 50/60Hz single phase
Production Capacity : 3,600 pcs/hour
Weight : 45Kg
Applicable Wire : AWG#20 to #32

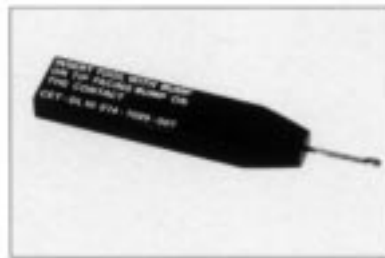
WIRE CRIMPER

MAIN UNIT	APPLICATOR
JCM-200SN(995-4521-058)	— JCA-DLT-3(995-4521-061)AWG#20-22
	— JCA-DLT-2(995-4521-060)AWG#24-26
	— JCA-DLT-1(995-4521-059)AWG#28-32



● Hand Crimp Tool

CCT-DLT-J (AWG#20~#26)
CCT-DLT-1J (AWG#28~#32)
CCT-DLT-2J (AWG#36)
CCT-DL-3 (AWG#18~#20)



● Contact Extraction Tool

Description CET-DL10 (for crimp type)

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