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# HIGH-DENSITY I/O CONNECTOR

#### General

DXM series high-density I/O connectors with bellow contacts are perfect for tomorrow's miniaturized electronic devices. This new 1.27mm (0.050") interconnect design ensures positive locking, effortless coupling, terminal protection and EMI reduction in a miniaturized and rugged package. DXM series offer you one of the

most varied and complete lines of High-Density connectors in the world, i.e. IDC and Solder for the plug and right angle dip, straight dip, IDC and SMT for the receptacle. Available in 14, 20, 26, 36, 50, 68, 80, 100 and 110 way.



#### **Features**

- 1.27mm (0.050") contact spacing conserves valuable board space and permits ultra-high density designs.
- Bellow contacts create smooth and precise mating and unmating.
- Unique shell design assures first make/last break grounding and overall noise protection.
   IDC termination allows quick and low cost termina-
- 5. Backshell and receptacle shell are made of diecast zinc alloy or stainless steel to reduce the

tion to AWG #28 wires.

- penetration of external EMI noise.
- Ferrite added to DX Right Angle Dip Type for EMI Protection is available.
- Overmold backshell provided for ESD protection is available in 'One-Touch' locking and 'Screw' locking
- Termination methods are available in IDC, Soldering, Right Angle Dip, Straight Dip and SMT.

#### Application

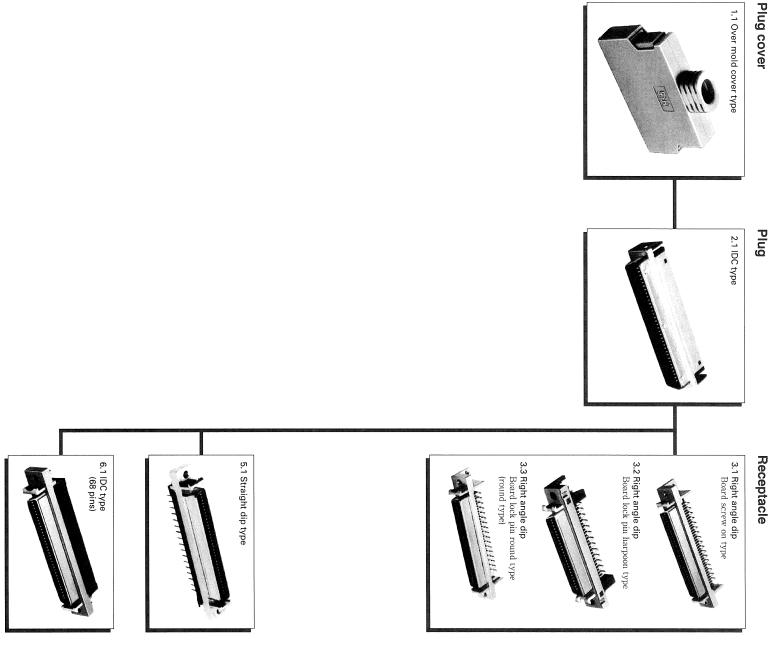
### Specifications

Office Autmation, Computers, Measurement, Communication and Control Equipment, Factory Automation, Home Automation and other commercial applications needing high density interconnections.

Items	Standard value
Current capacity	0.5A
Rated voltage	AC125V
Insulation resistance	250M $\Omega$ or more at DC100V
Contact resistance	35m $\Omega$ or less at DC100mA
Withstanding voltage	Withstanding voltage AC 300Vr.m.s. for 1 minute

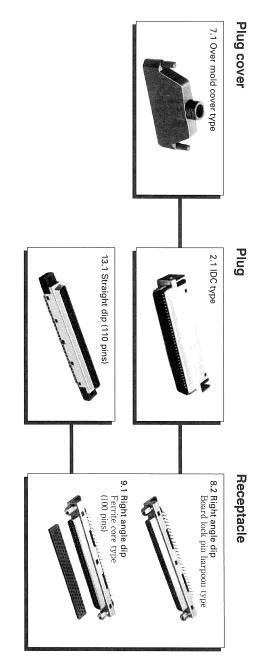
## **DXM Series Variations**

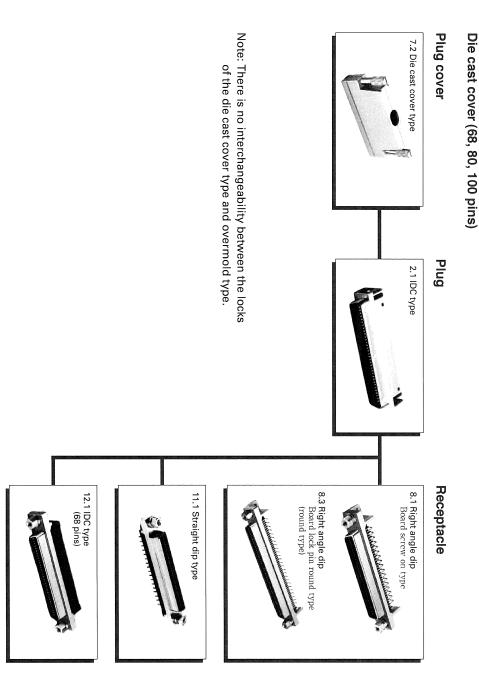
# One-touch lock type (14, 20, 26, 36, 50, 68 pins)



## Screw lock type (68, 80, 100, 110 pins)

Overmold cover type (100, 110 pins)





## One Touch Lock Plug Cover

## Ordering Information

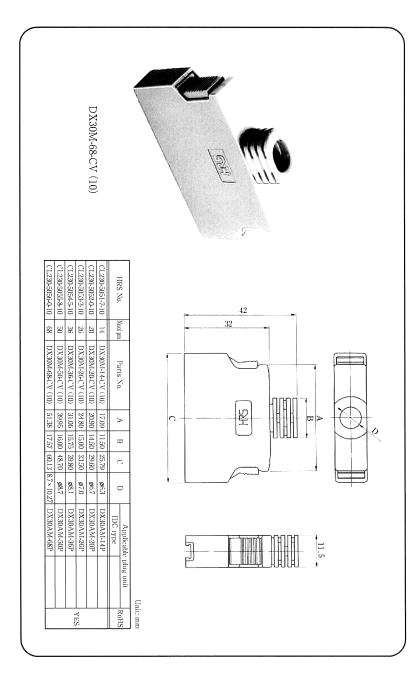
$$\frac{DX30M}{(1)} - \frac{50}{(2)} - \frac{CV}{(3)}$$

### **Material Treatment**

Overmold cover case	Item
Synthetic resin, Stainlless	Material
Light beige	Remarks

- 3 2 3
  - 83
- 1) Series number: DX30M 2) No. of pins: 14, 20, 26, 36, 50, 6i 3) Cover case type CV: Over mold cover case

#### Overmold Cover



# **General List of Engagement Combinations**

Cd plus unit	Receptacle	acle	
Cover case and plug dim	Right angle type	Straight type	IDC type
DX30M-14-CV (10) + DX30AM-14P	DX10M-14S(E), DX10GM-14SE	DX20M-14S	1
DX30M-20-CV (10) + DX30AM-20P	DX10M-20S(E), DX10GM-20SE	DX20M-20S	-
DX30M-26-CV (10) + DX30AM-26P	DX10M-26S (E), DX10GM-26SE	DX20M-26S	
DX30M-36-CV (10) + DX30AM-36P	DX10M-36S(E), DX10GM-36SE	DX20M-36S	DX33AM-36S
DX30M-50-CV (10) + DX30AM-50P	3S09-W501XQ (3) S09-W01XQ	DX20M-50S	DX20M-50S DX33AM-50S
DX30M-68-CV (10) + DX30AM-68P   DX10M-68S (E), DX10GM-68SE	DX10M-888-DX10GM-888E	DX20M-68S DX33AM-68S	DX33AM-68S

# Plug Unit (Interchangeable One Touch-Screw Lock Type)

## Ordering Information

(1)(2)(3)(1)	DX30 A M
-4	
<u>ග</u> –	<b>−</b>

- Series No.: DX--M
   Wiring style 30: Discrete cable IDC (for fine wire use)
   Applicable wire A: AWG#28

- (Discrete cable press-fit type)
  4) No. of pins: 14, 20, 26, 36, 50, 68, 80, 100, 110
  5) Mating type P: Plug

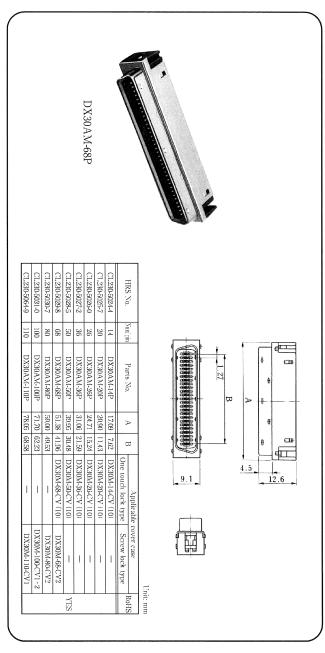
### **Material Treatment**

Male terminal	Insulator	Shell	Item
Copper alloy	PBT	Steel	Material
Selective gold plating	Black (UL94V-0)	Nickel plating	Remarks

#### **Applicable**

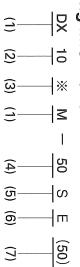
Cable style	o.d. of insulator	Conductor composition	Conductor size	/	/
UL20276 and UL2789	0.58	7/0.127	AGW#28	Discrete cable fine wire type	Interface cable
UL2990	0.62	.127	V#28	fine wire type	e cable

## 5 Discrete Cable IDC Type (for Fine Wire)



## ω One Touch Lock, Receptacle Right Angle Type

## Ordering Information



- 3 2 3 Series No.: DX--M
  - Wiring style 10: Right angle type
- Lock style (one touch lock type)

Blank : (Receptacle case material: zinc alloy die cast)
G : (Receptacle case material: steel)

: (Receptacle case material: steel)

#### ယ \_ **Board Screw on Type**

## No. of pins: 14, 20, 26, 36, 50, 68

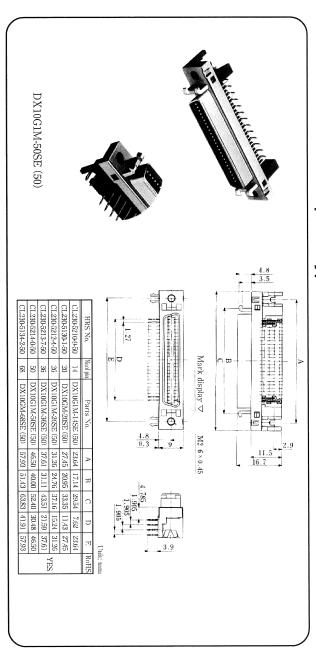
- Mating type S: Receptacle Board-fitting type
- 6) (5) (4)
- Blank: Screw on type : Lock pin type
- ۲
- Individual specifications (50) :Dip portion gold plated

### Material Treatment

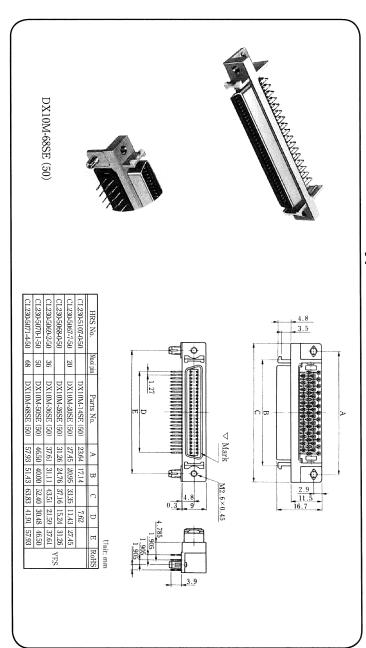
		_	_	
Female terminal	Insulators	Shell	Receptacle case	Item
Copper alloy	PBT	Steel	Zinc alloy die cast or steel	Material
Selective gold plating	Black (UL94V-0)	Nickel plating	Nickel plating	Kemarks

#### DX10GM-68S (50) ф 1.27 Mark display ▽ )||(di Ó. $M2.6 \times 0.45$ 2.9 $M2.6 \times 0.45$

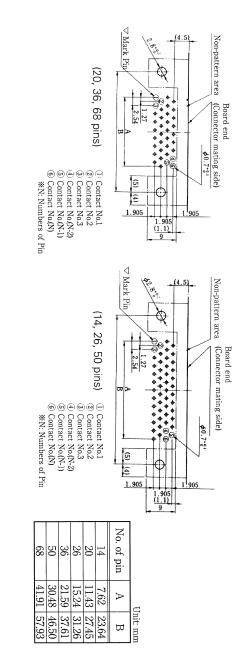
### <u>အ</u> ည **Board Lock Pin Harpoon Type**



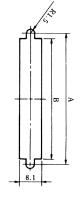
## 3.3 Board Lock Pin Round Type



## PCB Layout (Recommended board thickness:1.6mm)



# Panel-Fitting Dimensional Drawing (Recommended panel thickness:max. 1.6mm)



26 31.26	37		46
-		61 26	45 26 61
8	23.80 27.60	3.80 7.60 3.90	23.80 27.60 33.90 42.80

#### Ġ One Touch Lock, Receptacle Straight Type

## Ordering Information

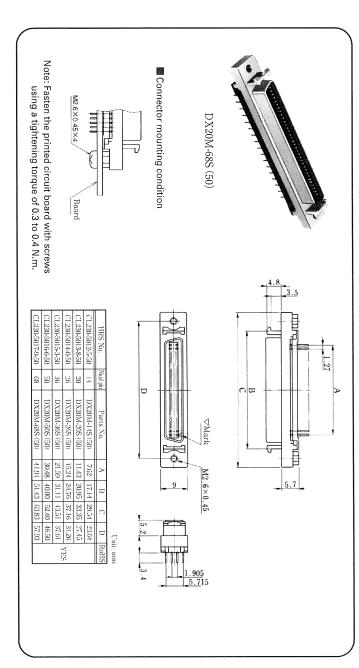
- 2) \_\_ Series number: DX-M
- Wiring style
- 20: Straight dip
- $\underline{\omega}$ Lock style
- Blank: One Touch Lock Type

- 5 4 Number of positions: 14, 20, 26, 36, 50, 68
- Type of aperture
- Individual specifications S: Receptacle connector
- 0 (50): Dip portion gold plated

### Material Treatment

Selective gold plating	Copper alloy	Female terminal
Black (UL94V-0)	PBT resin	Insulators
Nickel plating	Steel	Shell
Nickel plating	Zinc alloy die cast	Receptacle case
VEHIGINS	MIGHTAL	TLEIII

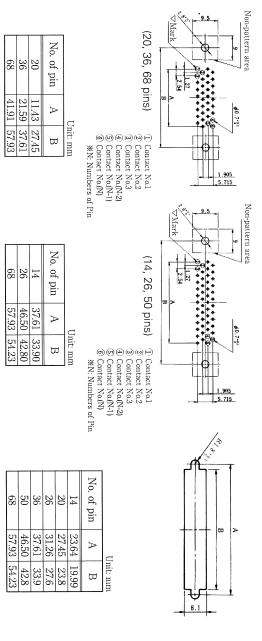
#### G \_\_ Receptacle Straight Type



### **PCB Layout**

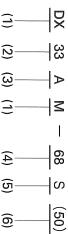
## (Recommended board thickness:1.6mm)

#### (Recommended Panel-Fitting panel thickness:max. 1.6mm) **Dimensional Drawing**



## တ One Touch Lock Receptacle Flat Ribbon Cable Type

## Ordering Information



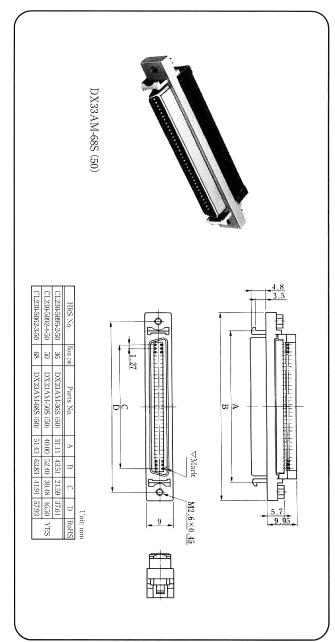
- 5 (2 No. of pins 36, 50, 68
- S: Receptacle Mating type
- 0 Individual specifications (50):Dip portion gold plated

- 2) 1) Series No.: DX--M
- 33: Flat IDC type (for ribbon cable use)
  Applicable cable Connector style
- $\underline{\omega}$ A: AWG#28

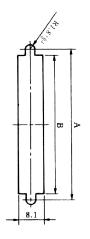
## **Material Treatment**

Female terminal	Insulators	Shell	Receptacle case	TIEIII
Copper alloy	PBT resin	Steel	Zinc alloy die cast	INTERCETAL
Selective gold plating	Black (UL94V-0)	Nickel plating	Nickel plating	WCHIGHNS

### <u>ට</u> Receptacle, Flat Ribbon Cable Type



## (Recommended panel thickness:max. 1.6mm) **Panel-Fitting Dimensional Drawing**



		Onit: mm
No. of pin	Α	В
36	37.61	33.90
50	46.50	42.80
68	57.93	54.23

## Screw Lock Type, Plug Cover

## Ordering Information

#### DX30M $\widehat{\Xi}$ 110 2 CV1 ω.

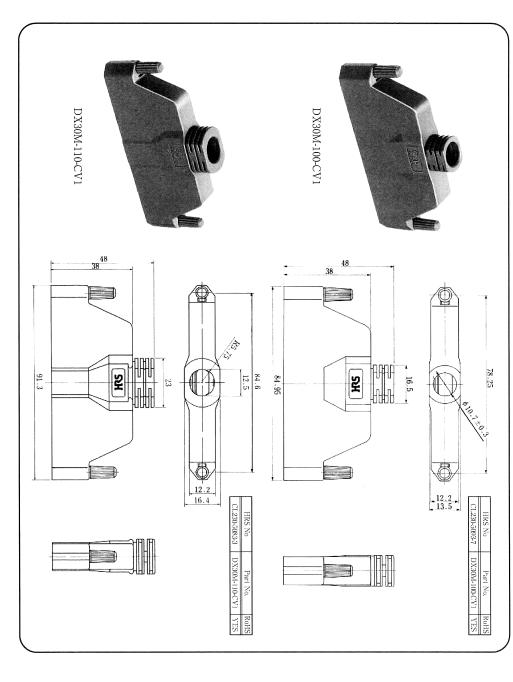
### **Material Treatment**

Die cast cover	Overmold cover	Item	
Zinc alloy die cast	Stainless steel, Synthetic resin	Material	
Silver coated	Dark grey	Remarks	

<u>w</u> <u>v</u> <u>-</u>

) Series No.: DX30M !) No. of pins: 68, 80, 100, 110 !) Cover case type CV1: Overmold cover case CV2: Die cast cover

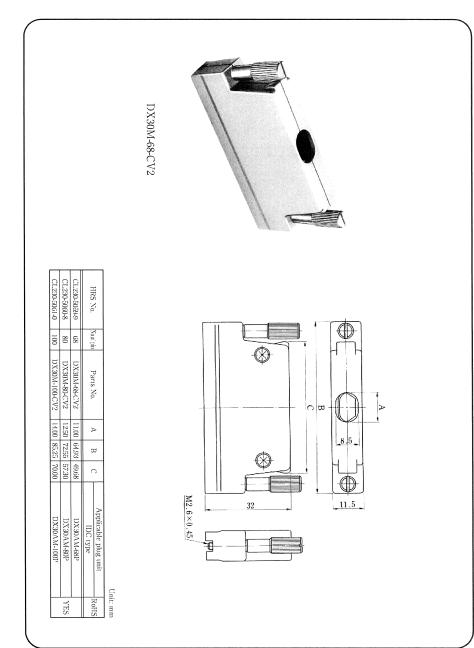
#### \_ **Overmold Cover**



## **List of Engagement Combinations**

Course and alice init	Receptacle	
COVEL CASE And Drug min	Right angle type	Ferrite core type
DX30M-100-CV1 + DX30AM-100P   I	DX10AM-100SE2 (50), DX10AM-100SE1 (50)	DX10AMF-100SE1 (50)
DX30M-110-CV1 + DX30AM-110P   I	DX10AM-110SE2 (50), DX10AM-110SE1 (50)	

### 7.2 Die Cast Cover



## **List of Engagement Combinations**

	25	Recentacle	
Cover case and plug unit	Right angle type	Straight DIP type	Ribbon cable type
DX30M-68-CV2 + DX30AM-68P	DX10DM-68S (50), DX10BM-68SE (50)	DX20DM-68S (50)	DX33AM-68S-LNA (50)
DX30M-80-CV2 + DX30AM-80P	DX10BM-80S (50), DX10BM-80SE (50)	DX20BM-80S (50)	
DX30M-100-CV2+DX30AM-100P	DX10BM-100S (50), DX10BM-100SE (50) DX20BM-100S (50)	DX20BNI-100S (50)	- Canada

# Screw Lock, Receptacle Right Angle Type

## Ordering Information

DX 70 2  $\widehat{\omega}$  $\overline{\mathbf{w}}$  $\leq$ 68 (50)

- <u>3</u> 2 <u>-</u>3 Series No.: DX--M
  - Connector style 10: Right angle type
- B: Receptacle case material Lock style (Screw lock type) A: Receptacle case material Steel Zinc alloy die cast
- 4 No. of pins: 68, 80, 100, 110

#### **Board Screw on** Туре

Φ

00

Mating type S: Receptacle

<u>o</u> 5 Board fitting type

Blank: Screw on type

: Lock pin round type

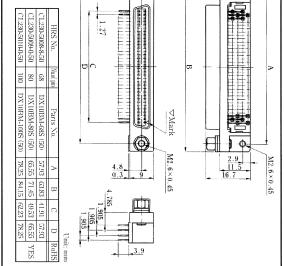
: Lock pin harpoon type (Board thickness 1.2mm) : Lock pin harpoon type (Board thickness 1.6mm)

7) Individual specifications

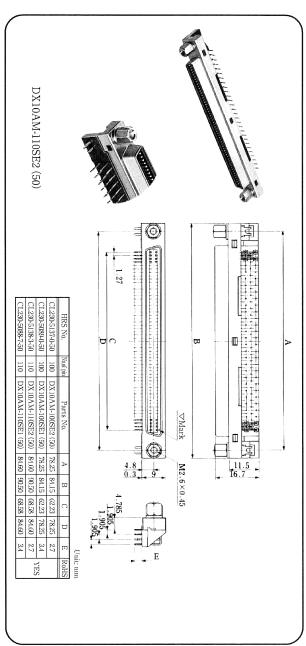
#### **Material Treatment** :Dip portion gold plated

Female terminal	Insulators	Shell	Receptacle case	Item
Copper alloy	PBT resin	Steel	Zinc alloy die cast or steel	Material
Selective gold plating	Black (UL94V-0)	Nickel plating	Nickel plating	Remarks

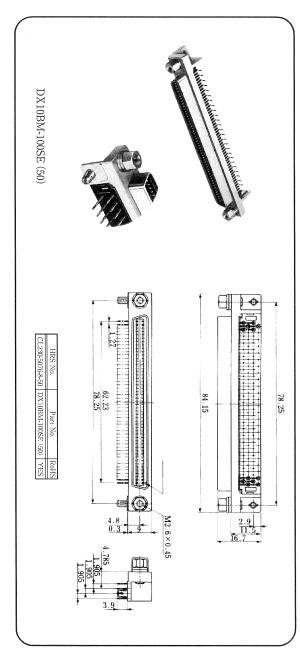
### DX10BM-68S (50) 0



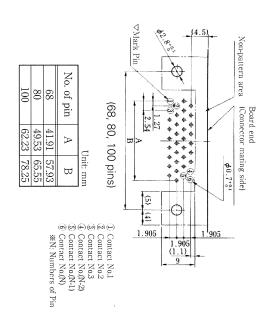
### ω Ν **Board Lock Pin Harpoon Type**

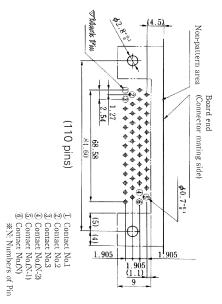


## 8.3 Board Lock Pin, Round Type

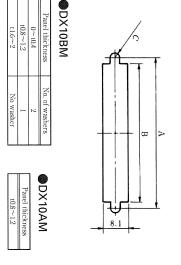


## PCB Layout (Recommended Board Thickness:1.2mm, 1.6mm)





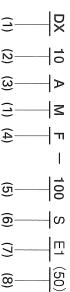
## **Panel-Fitting Dimensional Drawing**



DX10AM-110SE1(50)		00:0	01.0	++
DX10AM-110SE2 (50)	ਨ ਹ	808	ж 24 7	110
DX10BM-100SE1(50)		70.20 74.00 101.0	10.23	100
DX10AM-100SE2(50)		74 55	70 25	100
78.25   74.55   R1.85   DX10BM-100SE (50)	R1.85	74.55	78.25	100
65.55   61.85   R1.85   DX10BM-80S (50)	R1.85	61.85	65.55	80
57.93   54.23   R1.85   DX10BM-68S (50)	R1.85	54.23	57.93	89
Remarks	С	В	Α	No. of Pin
Unit: mm				

## 9 Screw Lock, Receptacle Ferrite Core Type

## Ordering Information



- Series No.: DX--M
- 2) \_\_) Connector style
- $\underline{\omega}$ 10: Right angle type Lock style (Screw lock type)
- A: Receptacle case material-steel
- 4 Board mounting style
- F: Ferrite core type

- <u>o</u> <u>o</u> No. of pins: 100
- Mating type
- S: Receptacle
- $\supset$ Board fitting type E1: Lock pin type (Board thickness 1.6mm) Individual specifications

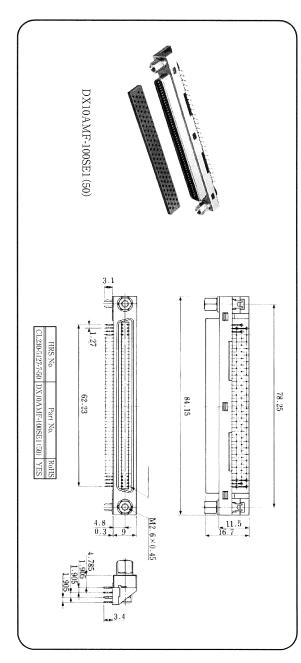
 $\infty$ 

### (50): Dip portion gold plated

Material Treatment

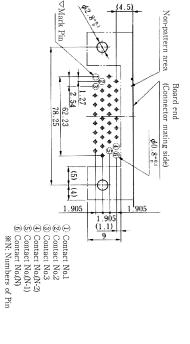
Ferrite core	Female terminal	Insulator	Receptacle case	Item
	Copper alloy	PBT resin	Steel	Material
	Selective gold plating	Black (UL94V-0)	Nickel plating	Remarks

### Right Angle Ferrite Core Type



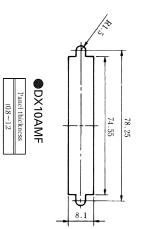
## **PCB Layout**

## (Recommended Board Thickness:1.6mm)



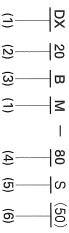
(4.5)

## **Panel-Fitting Dimensional Drawing**



## Screw Lock Receptacle Straight Type

## Ordering Information



- 5 (2 No. of pins: 68, 80, 100
- Mating type S: Receptacle
- <u>o</u> Individual specifications (50): Dip portion gold plated

## **Material Treatment**

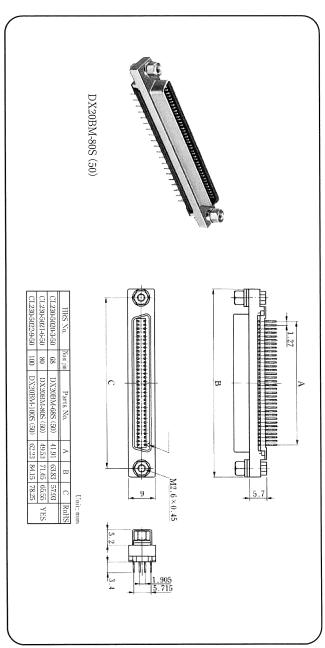
Female terminal	Insulator	Shell	Receptacle case	Item
Copper alloy	PBT resin	Steel	Zinc alloy die cast	Material
Selective gold plating	Black (UL94V-0)	Nickel plating	Nickel plating	Kemarks

 $\omega$ 2) \_ Lock style 20: Straight dip Connector style

Series No.: DX--M

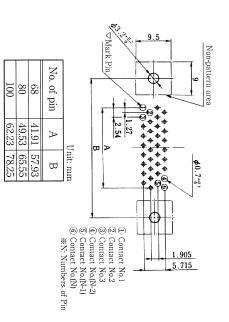
B: Screw lock type

#### <u>\_</u> \_\_ Receptacle Straight Type

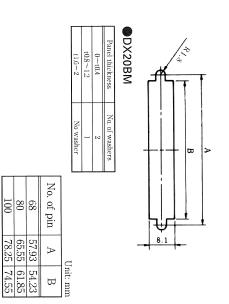


## **PCB** Layout

## (Recommended Board Thickness:1.6mm)

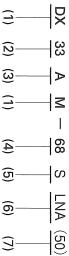


### Panel-Fitting **Dimensional Drawing**



## <u>5</u> Screw Lock Receptacle, Flat Ribbon Cable Type

## Ordering Information



- 5) Mating type S: Receptacle
- 0 Board fitting type
- 7) Individual specifications (50) :Dip portion gold plated LNA: Screw lock type

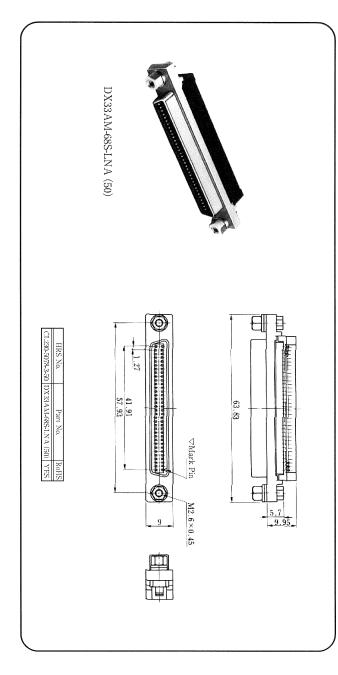
### Material Treatment

Female terminal	Insulator	Shell	Receptacle case	Item
Copper alloy	PBT resin	Steel	Zinc alloy die cast	Material
Selective gold plating	Black (UL94V-0)	Nickel plating	Nickel plating	Remarks

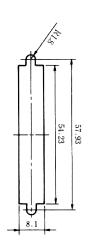
#### $\underline{\omega}$ Series No.: DX--M Connector style Applicable wire 33: Flat IDC type (for ribbon cable)

4 No. of pins: 68 A: AWG#28

### 12.1 Receptacle, Flat Ribbon Cable Type



## **Panel-Fitting Dimensional Drawing**



■DX33AM	
Panel thickness	No. of washers
0~10.4	2
10.8~1.2	1

#### ᇊ Plug Straight Type

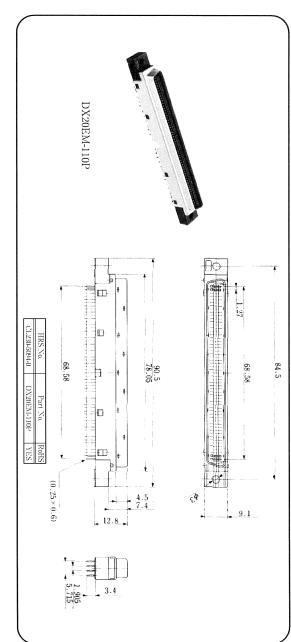
## Ordering Information

### **Material Treatment**

Male contact	Insulator	Shell	Item
Copper alloy	PBT resin	Steel	Material
Selective gold plating	Black (UL94V-0)	Nickel plating	Remarks

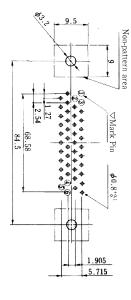
- Series No.: DX--M
   Connector style
   Straight dip
- <u>&</u> No. of pins: 110Mating typeP: Plug

#### <u>1</u>3 Plug Straight Type

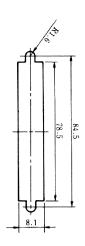


### **PCB** Layout

## (Recommended Board Thickness:1.5mm)

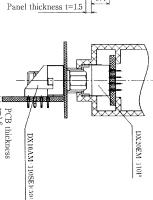


## Panel-Fitting Dimensional Drawing (Recommended Panel Thickness:Max.1.5mm)



## Diagram of Mounting Conditions for DX20EM

Note: Secure the connectors and boards of this product to the panel



## PCB thickness t=1.6

Panel t=0.8

## **List of Engagement Combinations**

DX20EM-110P
DX10AM-110SE1 (50) or DX10AM-110SE2 (50)

# Connecting Method (Discrete Cable IDC Type)

#### **Connecting Tools**







Cable shearing unit



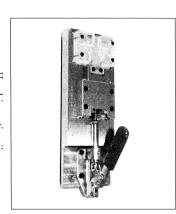
Shield case fixing jig



IDC press



IDC guide plate unit



Hood insertion jig

# List of Connecting Jigs and Accessories Plug Connector

#### **Plug Connector**

				DX30AM-110P	
				DX30AM-100P	
				DX30AM-80P	
		CHOCK CHICAGO	CL902-2090-0	DX30AM-68P	(Discitor wite)
		C1 902-02100	DX30AM-CAT1	DX30AM-50P	(Discrete wire)
DY30AM-HPI DY30AM-GPTI	I LIUM VOEAU	DV30ALHDI	By hand	DX30AM-36P	1/0 C*N s
				DX30AM-26P	
				DX30AM-20P	
Order attachments Order attachment				DX30AM-14P	
Press Remaining Part cutting	Unit	Press	Capie Distribution		
Crimping Shield case fixing	Remaining part cutting	Remaining	Cable Distribution	Connector Name	Cable
Process					

<sup>%1</sup> DX30AM-CCT1 (61) CL902-0213-8 (61) DX30AM-CCT1 (62) CL902-0213-8 (62)

### Receptacle Connector

R	Г
Ribbon Cable	Cable
DX33AM-68S-LNA (50) HI-Plex ( CL550-00	Connector Name
Hi-Flex Connecting press DX33AM-GPA HHP-502 (Come with pr CL550-0082-2 CL902-0233-5	Press
DX33AM-GPA (Come with pressure block)	Guide plate

<sup>\*2</sup> DX30AM-HPT1-14 CL902-0217-9 \*3 DX30AM-HPT1-100 CL902-0218-1

<sup>\*4</sup> DX30AM-HPT1-110 CL902-0219-4