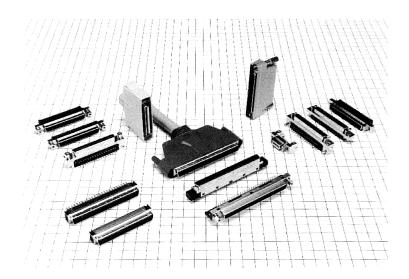
# DXM (1.27MM PITCH) SERIES HIGH-DENSITY I/O CONNECTOR

#### 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.
- 2. Bellow contacts create smooth and precise mating and unmating.
- 3. Unique shell design assures first make/last break grounding and overall noise protection.
- 4. IDC termination allows quick and low cost termination to AWG #28 wires.
- 5. Backshell and receptacle shell are made of diecast zinc alloy or stainless steel to reduce the

- penetration of external EMI noise.
- 6. 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**

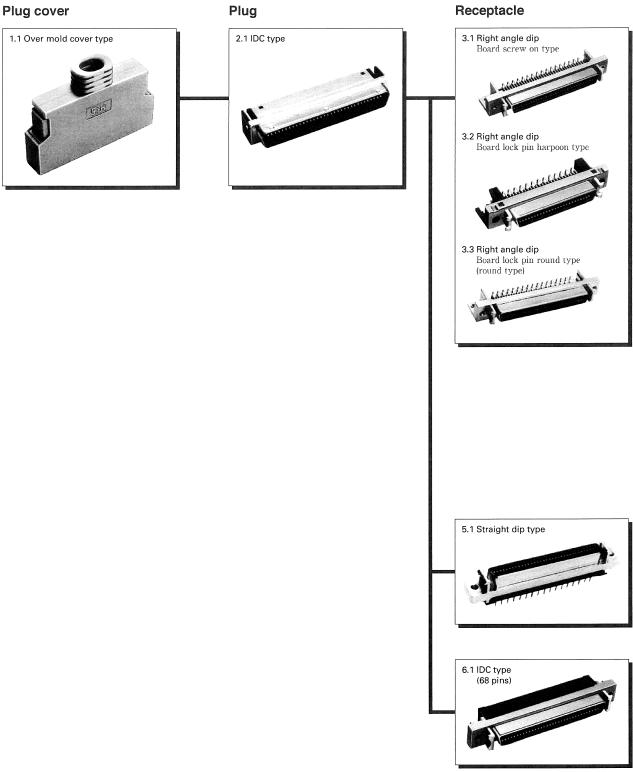
# **Specifications**

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 Ω or less at DC100mA	
Withstanding voltage	AC 300Vr.m.s. for 1 minute	

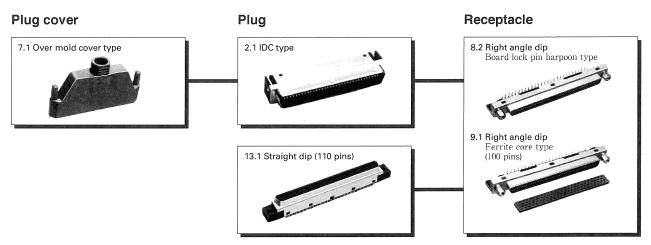
#### **DXM Series Variations**

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

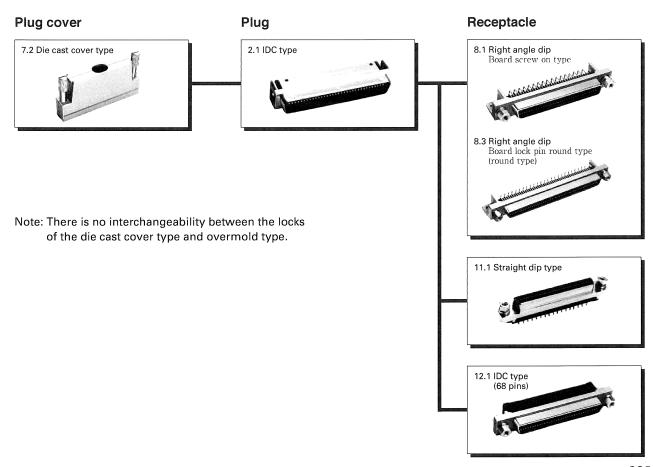


# **Screw lock type (68, 80, 100, 110 pins)**

#### Overmold cover type (100, 110 pins)



#### Die cast cover (68, 80, 100 pins)



# 1. One Touch Lock Plug Cover

# **Ordering Information**

# $\frac{\text{DX30M}}{\begin{vmatrix} & & & \\ & & &$

1) Series number: DX30M

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

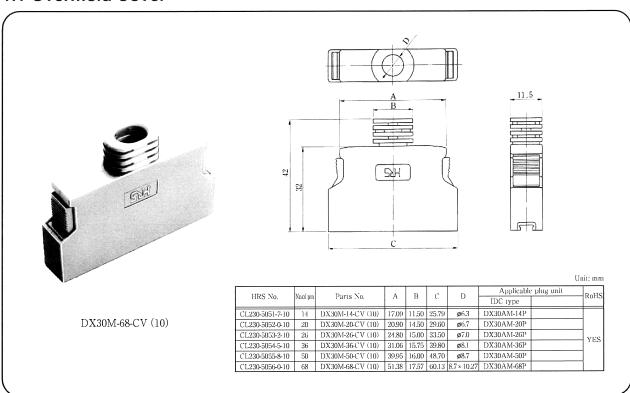
3) Cover case type

CV: Over mold cover case

#### **Material Treatment**

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

#### 1.1 Overmold Cover

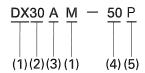


# **General List of Engagement Combinations**

Gi	Receptacle		
Cover case and plug unit	Right angle type	Straight type	IDC type
DX30M-14-CV (10) + DX30AM-14P	DX10M-14S (E), DX10GM-14SE	DX20M-14S	_
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 © , DX10GM-36SE	DX20M-36S	DX33AM-36S
DX30M-50-CV (10) + DX30AM-50P	DX10M-50S (E), DX10GM-50SE	DX20M-50S	DX33AM-50S
DX30M-68-CV (10) + DX30AM-68P	DX10M-68S (E), DX10GM-68SE	DX20M-68S	DX33AM-68S

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

# **Ordering Information**



1) Series No.: DX--M

2) Wiring style 30: Discrete cable IDC

(for fine wire use)

3) 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

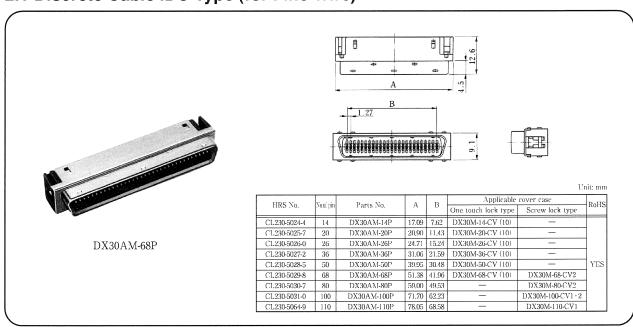
#### **Material Treatment**

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

# **Applicable**

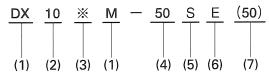
	Interface cable  Discrete cable fine wire type	
Conductor size	AGW#28	
Conductor composition	7/0.127	
o.d. of insulator	0.58	0.62
Cable style	UL20276 and UL2789	UL2990

# 2.1 Discrete Cable IDC Type (for Fine Wire)



## 3. One Touch Lock, Receptacle Right Angle Type

#### **Ordering Information**



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

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

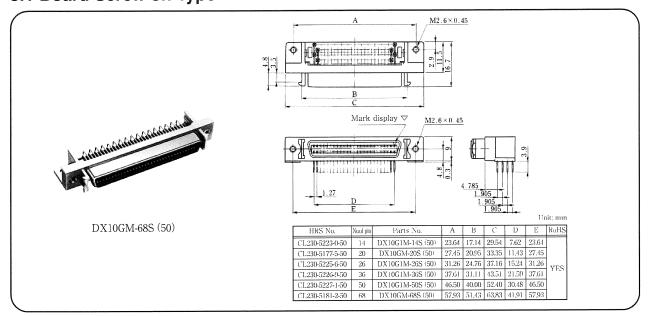
G: (Receptacle case material: steel)

# 3.1 Board Screw on Type

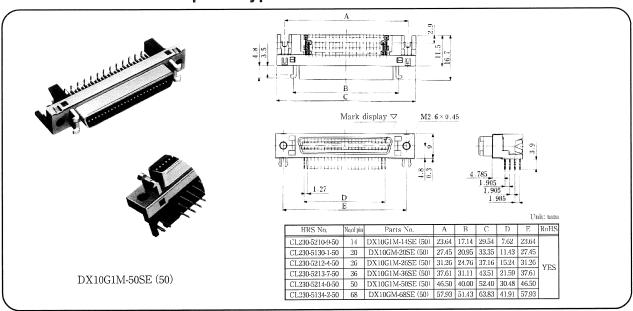
- 4) No. of pins: 14, 20, 26, 36, 50, 685) Mating type S: Receptacle
- 6) Board-fitting type
  Blank: Screw on type
  E: Lock pin type
- 7) Individual specifications (50) :Dip portion gold plated

#### **Material Treatment**

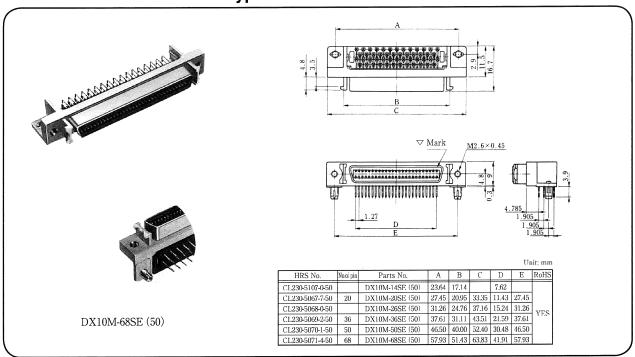
Item	Material	Remarks
Receptacle case	Zinc alloy die cast or steel	Nickel plating
Shell	Steel	Nickel plating
Insulators	PBT	Black (UL94V-0)
Female terminal	Copper alloy	Selective gold plating



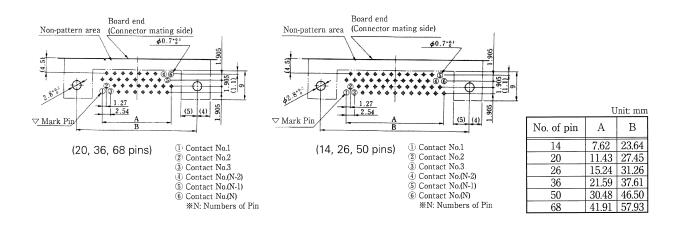
## 3.2 Board Lock Pin Harpoon Type



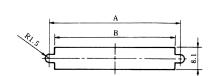
#### 3.3 Board Lock Pin Round Type



# PCB Layout (Recommended board thickness:1.6mm)



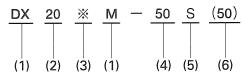
# Panel-Fitting Dimensional Drawing (Recommended panel thickness:max. 1.6mm)



	U	Init: mm
No. of pin	A	В
14	23.64	19.99
20	27.45	23.80
26	31.26	27.60
36	37.61	33.90
50	46.50	42.80
68	57.93	54.23

## 5. One Touch Lock, Receptacle Straight Type

#### **Ordering Information**



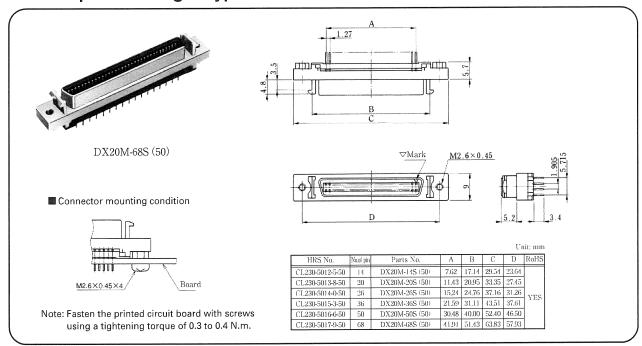
- 1) Series number: DX-M
- 2) Wiring style 20: Straight dip
- 3) Lock style Blank: One Touch Lock Type

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

#### **Material Treatment**

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

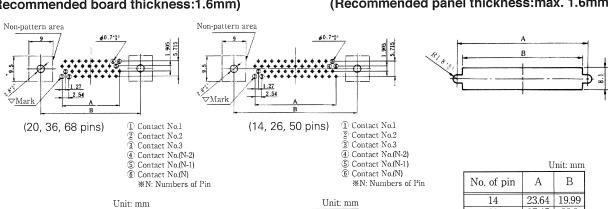
## 5.1 Receptacle Straight Type



#### **PCB Layout**

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

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



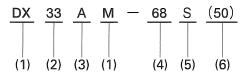
	Ţ	Init: mm
No. of pin	А	В
20	11.43	27.45
36	21.59	37.61
68	41.91	57.93

	U	nit: mm
No. of pin	A	В
14	37.61	33.90
26	46.50	42.80
68	57.93	54.23

No. of pin	A	В
14	23.64	19.99
20	27.45	23.8
26	31.26	27.6
36	37.61	33.9
50	46.50	42.8
68	57.93	54.23

# 6. One Touch Lock Receptacle Flat Ribbon Cable Type

#### **Ordering Information**



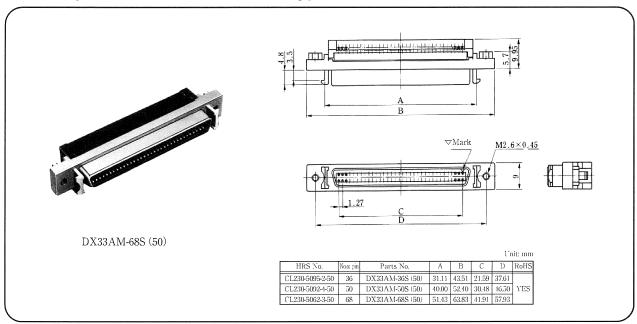
- 1) Series No.: DX--M
- 2) Connector style33: Flat IDC type(for ribbon cable use)
- 3) Applicable cable A: AWG#28

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

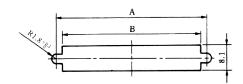
#### **Material Treatment**

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

#### 6.1 Receptacle, Flat Ribbon Cable Type



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



	U	nit: mm
No. of pin	A	В
36	37.61	33.90
50	46.50	42.80
68	57.93	54.23

# 7. Screw Lock Type, Plug Cover

# **Ordering Information**

# $\begin{array}{c|ccccc} DX30M & - & 110 & - & CV1 \\ \hline & & & & & \\ \hline (1) & & (2) & & (3) \end{array}$

# **Material Treatment**

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

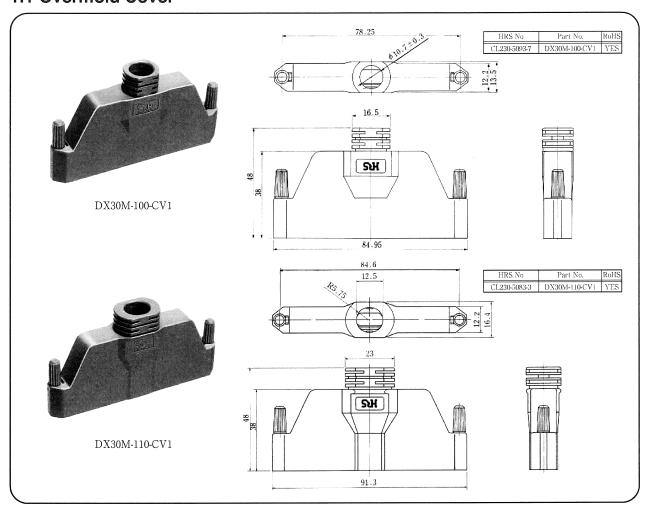
1) Series No.: DX30M

2) No. of pins: 68, 80, 100, 110

3) Cover case type

CV1: Overmold cover case CV2: Die cast cover

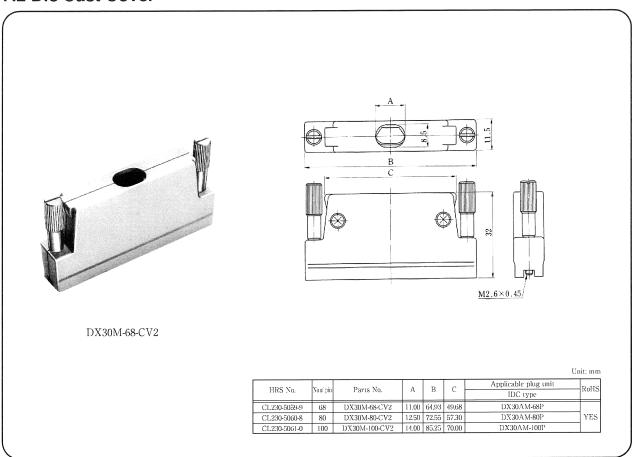
#### 1.1 Overmold Cover



# **List of Engagement Combinations**

C	Receptacle		
Cover case and plug unit	Right angle type	Ferrite core type	
DX30M-100-CV1 + DX30AM-100P	DX10AM-100SE2 (50), DX10AM-100SE1 (50)	DX10AMF-100SE1 (50)	
DX30M-110-CV1 + DX30AM-110P	DX10AM-110SE2 (50), DX10AM-110SE1 (50)	_	

#### 7.2 Die Cast Cover

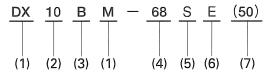


# **List of Engagement Combinations**

0 11 5	Receptacle		
Cover case and plug unit	Right angle type	Straight DIP type	Ribbon cable type
DX30M-68-CV2 + DX30AM-68P	DX10BM-68S (50), DX10BM-68SE (50)	DX20BM-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)	

# 8. Screw Lock, Receptacle Right Angle Type

#### **Ordering Information**



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

#### 5) Mating type S: Receptacle

6) Board fitting type

Blank : Screw on type

E : Lock pin round type

E1 : Lock pin harpoon type (Board thickness 1.6mm)

E2 : Lock pin harpoon type (Board thickness 1.2mm)

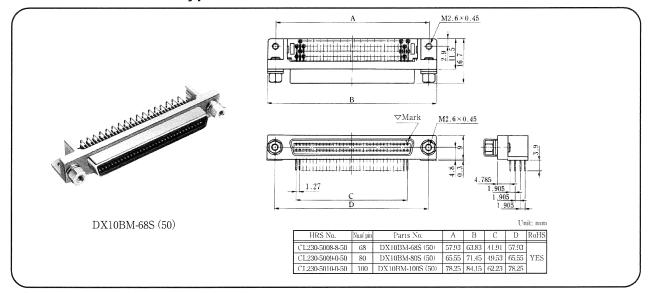
7) Individual specifications

(50) :Dip portion gold plated

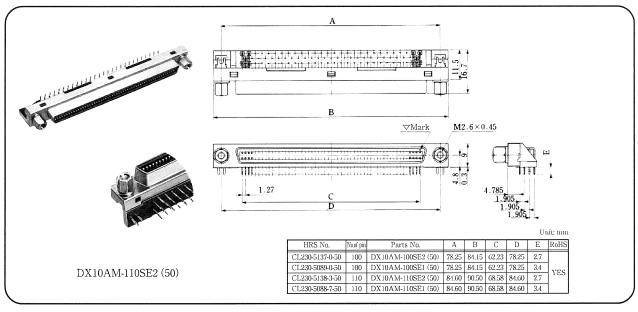
#### **Material Treatment**

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

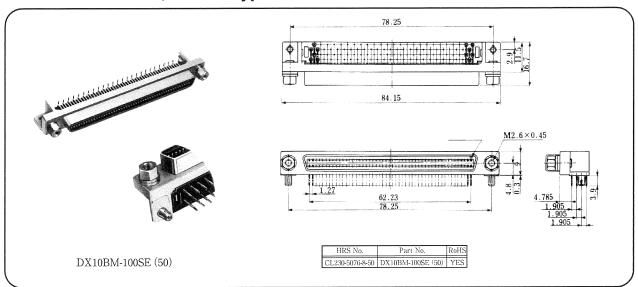
## 8.1 Board Screw on Type



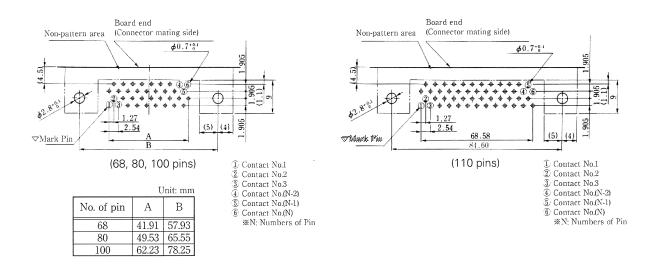
# 8.2 Board Lock Pin Harpoon Type



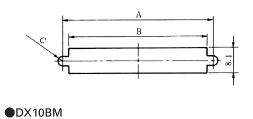
#### 8.3 Board Lock Pin, Round Type



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



# **Panel-Fitting Dimensional Drawing**



Panel thickness	No. of washers
0∼ t0.4	2
t0.8~1.2	1
t1.6~2	No washer

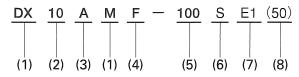
●DX	10AM
Pane	thickness
t(	1.8~1.2

				OIIIt, IIIIII
No. of Pin	Α	В	С	Remarks
68	57.93			DX10BM-68S(50)
80	65.55			DX10BM-80S(50)
100	78.25	74.55	R1.85	DX10BM-100SE (50)
100	79.95	74.55	R1.5	DX10AM-100SE2(50)
100	10.23	74.55	K1.5	DX10BM-100SE1(50)
110	84.5	80.8	R1.5	DX10AM-110SE2(50)
110	64.3	00.0	0.0 11.3	DX10AM-110SE1 (50)

Unit: mm

# 9. Screw Lock, Receptacle Ferrite Core Type

#### **Ordering Information**



- 1) Series No.: DX--M
- 2) Connector style
  - 10: Right angle type
- 3) Lock style (Screw lock type)A: Receptacle case material-steel
- 4) Board mounting style
  - F: Ferrite core type

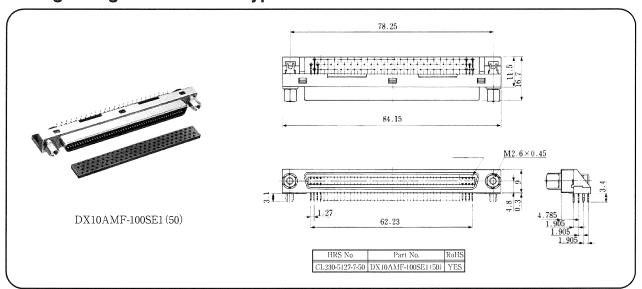
- 5) No. of pins: 100
- 6) Mating type
  - S: Receptacle
- 7) Board fitting type
  - E1: Lock pin type (Board thickness 1.6mm)
- 8) Individual specifications

(50): Dip portion gold plated

#### **Material Treatment**

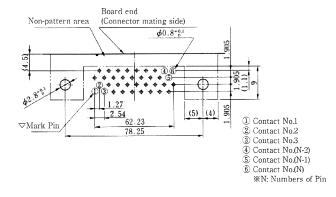
Item	Material	Remarks
Receptacle case	Steel	Nickel plating
Insulator	PBT resin	Black (UL94V-0)
Female terminal	Copper alloy	Selective gold plating
Ferrite core		

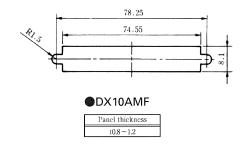
## 9.1 Right Angle Ferrite Core Type



# PCB Layout (Recommended Board Thickness:1.6mm)

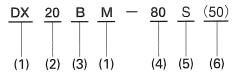
# **Panel-Fitting Dimensional Drawing**





## 11. Screw Lock Receptacle Straight Type

#### **Ordering Information**



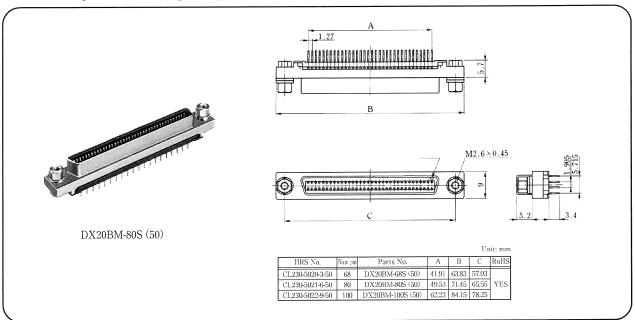
- Series No.: DX--M
   Connector style
   Straight dip
- 3) Lock style B: Screw lock type

- 4) No. of pins: 68, 80, 100
- 5) Mating type S: Receptacle
- 6) Individual specifications(50): Dip portion gold plated

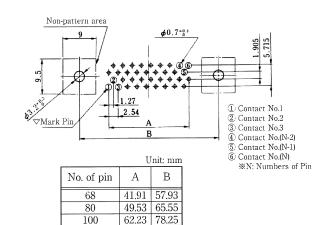
#### **Material Treatment**

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

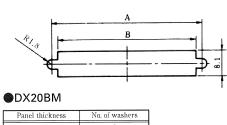
#### 11.1 Receptacle Straight Type



# PCB Layout (Recommended Board Thickness:1.6mm)



# **Panel-Fitting Dimensional Drawing**

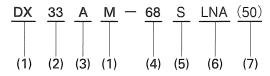


Panel thickness	No. of washers
0∼t0.4	2
t0.8~1.2	1
t1.6~2	No washer

	U	nit: mm
No. of pin	A	В
68	57.93	54.23
80	65.55	61.85
100	78.25	74.55

## 12. Screw Lock Receptacle, Flat Ribbon Cable Type

#### **Ordering Information**



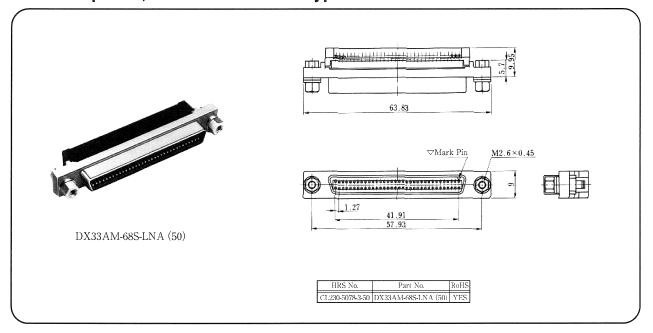
- 1) Series No.: DX--M
- 2) Connector style
  - 33: Flat IDC type (for ribbon cable)
- 3) Applicable wire A: AWG#28
- 4) No. of pins: 68

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

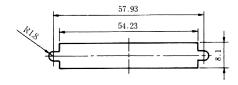
#### **Material Treatment**

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

# 12.1 Receptacle, Flat Ribbon Cable Type



# **Panel-Fitting Dimensional Drawing**



#### ●DX33AM

Panel thickness	No. of washers
0∼t0.4	2
t0.8~1.2	1
11.6~2	No washer

## 13. Plug Straight Type

#### **Ordering Information**

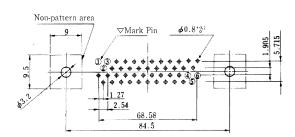
DX	20E	M —	110	Ρ
		T		
(1)	(2)	(1)	(3)	(4)

- 1) Series No.: DX--M
- Connector style
   Straight dip
- 3) No. of pins: 110
- 4) Mating type P: Plug

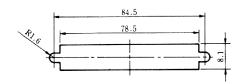
# 13.1 Plug Straight Type

	68.58	
DX20EM-110P	90.5	905
	68.58  (0.25 × 0.6)  HRS No. Part No. RoHS  CL230-5094-0 DX20EM-110P YES	1,905 5,715

# PCB Layout (Recommended Board Thickness:1.5mm)



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



#### **Diagram of Mounting Conditions for DX20EM**

**Material Treatment** 

Material

Steel

PBT resin

Copper alloy

Remarks

Nickel plating

Black (UL94V-0)

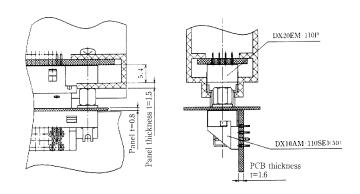
Selective gold plating

Item

Shell

Insulator Male contact

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



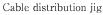
# **List of Engagement Combinations**

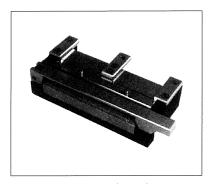
Plug straight type	Receptacle right angle type
DX20EM-110P	DX10AM-110SE1 (50) or DX10AM-110SE2 (50)

# **Connecting Method (Discrete Cable IDC Type)**

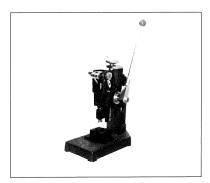
#### **Connecting Tools**



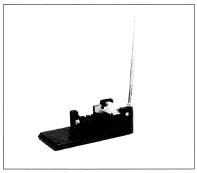




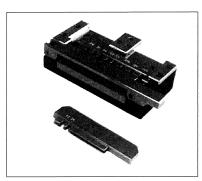
Cable shearing unit



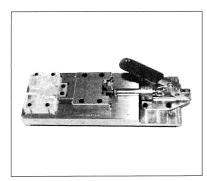
Shield case fixing jig



IDC press



IDC guide plate unit



Hood insertion jig

# **List of Connecting Jigs and Accessories Plug Connector**

#### **Plug Connector**

	Connector Name	Process						
Cable		Cable Disselbertion	Remaining part cutting		Crimping		Shield case fixing	Hood insertion
		Cable Distribution	Press	Unit	Press	Remaining Part cutting	Silield case fixing	riood ilisertion
	DX30AM-14P	By hand	DX30AM-HP1 CL902-0210-0	DX30AM-CU1 CL902-0211-2	DX30AM-HP1 CL902-0210-0	DX30AM-GPT1 CL902-0214-0	Order attachments	Order attachments
	DX30AM-20P						separately *1	separately *2
	DX30AM-26P							
I/O Cable	DX30AM-36P						DX30AM-CCT1	DX30AM-HPT1
(Discrete wire)	DX30AM-50P	DX30AM-CAT1					CL902-0213-8	CL902-0216-6
(Discrete wire)	DX30AM-68P	CL902-2090-0					_	
	DX30AM-80P							
	DX30AM-100P							Order attachments separately
	DX30AM-110P			ı			Order attachments separately	

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

#### **Receptacle Connector**

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

<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

# **Mouser Electronics**

**Authorized Distributor** 

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#### Hirose Electric:

DX10M-14S(50) DX10M-20S(50) DX10M-26S(50) DX10M-36S(50) DX10M-50S(50) DX10M-68S(50) DX10BM-68S(50) DX10BM-80S(50) DX10BM-100S(50) DX20M-14S(50) DX20M-20S(50) DX20M-26S(50) DX20M-36S(50) DX20M-50S(50) DX20M-68S(50) DX20BM-68S(50) DX20BM-80S(50) DX20BM-100S(50) DX20BM-100S(57) DX30AM-14P DX30AM-20P DX30AM-26P DX30AM-36P DX30AM-50P DX30AM-68P DX30AM-80P DX30AM-100P DX40M-20P DX40M-26P DX40M-36P DX40M-50P DX40M-100P DX30M-14-CV DX30M-14-CV(10) DX30M-14-CV(11) DX30M-14-CV(14) DX30M-20-CV DX30M-20-CV(10) DX30M-20-CV(11) DX30M-20-CV(13) DX30M-26-CV DX30M-26-CV(04) DX30M-26-CV(10) DX30M-26-CV(11) DX30M-36-CV DX30M-36-CV(10) DX30M-36-CV(13) DX30M-50-CV DX30M-50-CV(10) DX30M-50-CV(13) DX30M-50-CV(14) DX30M-68-CV DX30M-68-CV(04) DX30M-68-CV(10) DX30M-68-CV(13) DX30M-68-CV2 DX30M-80-CV2 DX30M-100-CV2 DX30AM-110P DX30AM-110-CV1 DX10M-20SE(50) DX10M-26SE(50) DX10M-36SE(50) DX10M-50SE(50) DX10M-68SE(50) DX10BM-100SE(50) DX30AM-100-CV1 DX30M-110-CV1 DX30M-68-CV3 DX20CM-68S(51) DX10AM-110SE1(50) DX10AM-100SE1(50) DX30M-100-CV1 DX10M-14SE(50) DXM-26S-DC2(50) DX10GM-20SE(50) DX10GM-68SE(50) DX10AM-110SE2(50) DX30M-50-CV4 DX30AM-20PA DX30AM-26PA DX30AM-36PA DX30AM-50PA DX10GM-20S(50) DX10GM-68S(50) DX70M-50P(TB)-CV DX10G1M-14SE(50) DX10G1M-26SE(50) DX10G1M-36SE(50) DX10G1M-36SE(51) DX10G1M-50SE(50) DX10G1M-14S(50) DX10G1M-26S(50) DX10G1M-36S(50) DX10G1M-36S(51) DX10G1M-50S(50) DX10HM-20SE(50) DX30M-100-CV1A DX30AM-HPT1 DX30AM-CCT1(62)