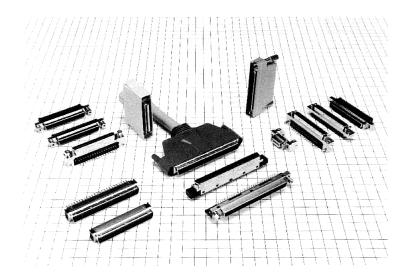
DXM (1.27MM PITCH) SERIES HIGH-DENSITY I/O CONNECTOR

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. 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.
- 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

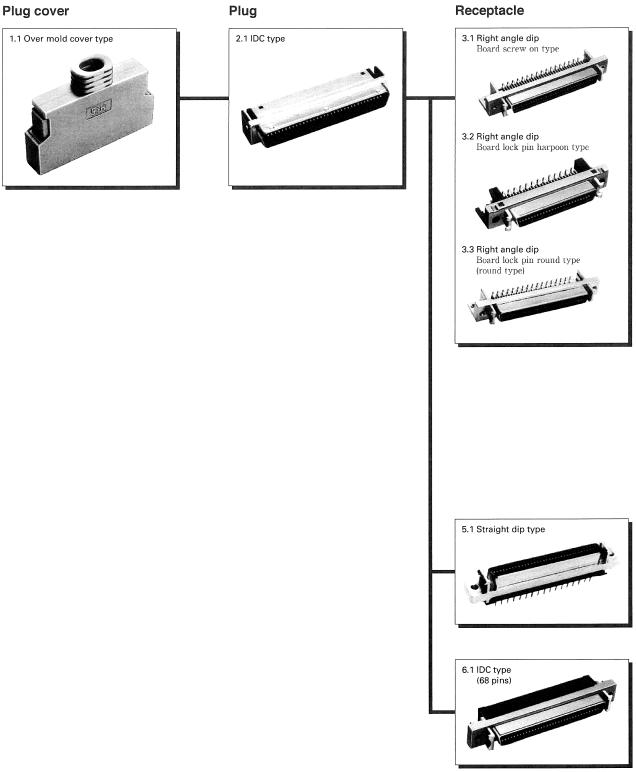
Specifications

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 Ω or more at DC100V |
| Contact resistance | 35m Ω or less at DC100mA |
| Withstanding voltage | AC 300Vr.m.s. for 1 minute |

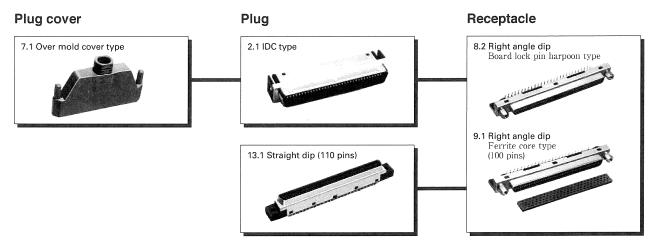
DXM Series Variations

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

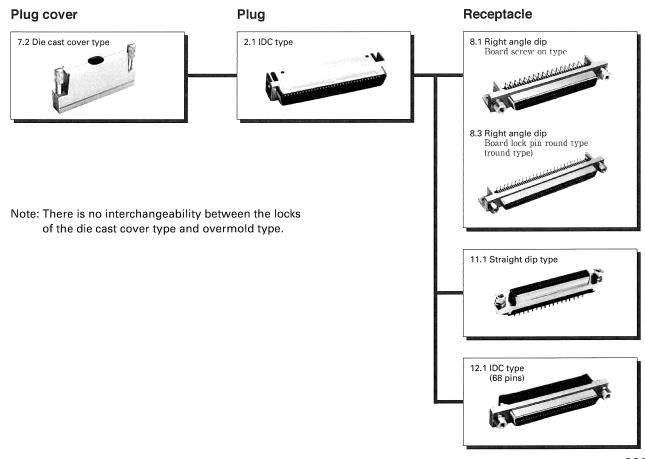


Screw lock type (68, 80, 100, 110 pins)

Overmold cover type (100, 110 pins)



Die cast cover (68, 80, 100 pins)



1. One Touch Lock Plug Cover

Ordering Information

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

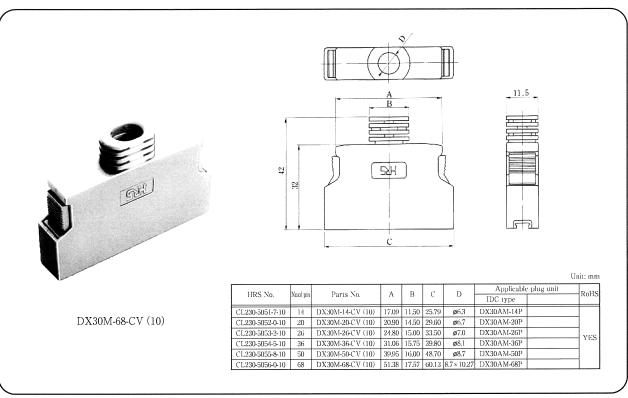
Material Treatment

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

- 1) Series number: DX30M
- 2) No. of pins: 14, 20, 26, 36, 50, 68
- 3) Cover case type

CV: Over mold cover case

1.1 Overmold Cover

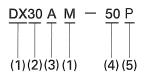


General List of Engagement Combinations

| | 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 (E), 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

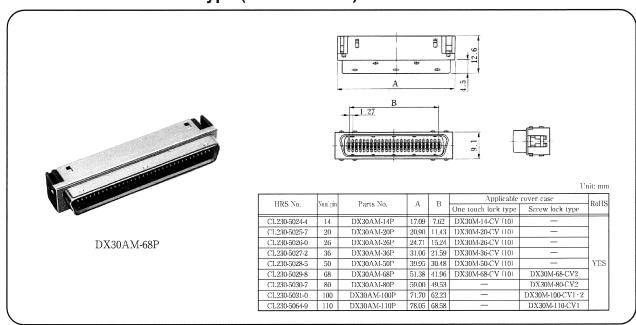
Material Treatment

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

Applicable

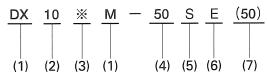
| | Interface cable Discrete cable fine wire type | |
|-----------------------|---|--------|
| | | |
| Conductor size | AGW#28 | |
| Conductor composition | 7/0.127 | |
| o.d. of insulator | 0.58 | 0.62 |
| Cable style | UL20276 and UL2789 | UL2990 |

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)

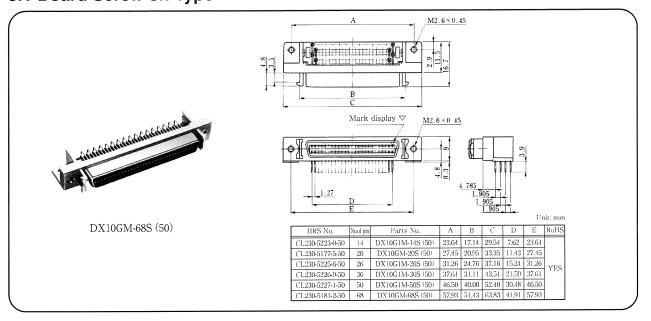
3.1 Board Screw on Type

- 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

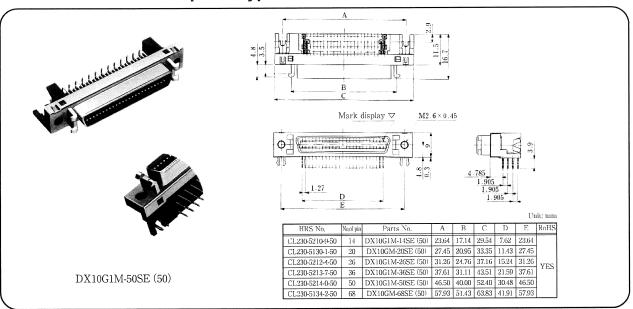
(50) :Dip portion gold plated

Material Treatment

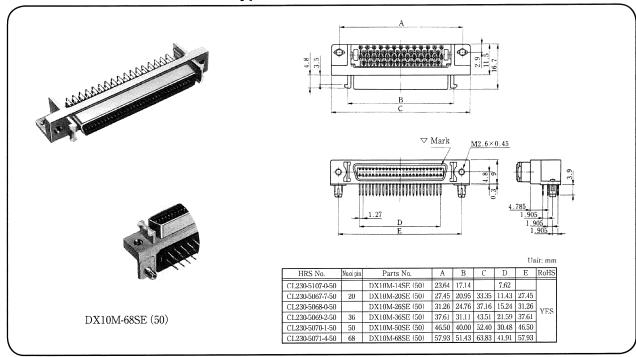
| Item | Material | Remarks |
|-----------------|------------------------------|------------------------|
| Receptacle case | Zinc alloy die cast or steel | Nickel plating |
| Shell | Steel | Nickel plating |
| Insulators | PBT | Black (UL94V-0) |
| Female terminal | Copper alloy | Selective gold plating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



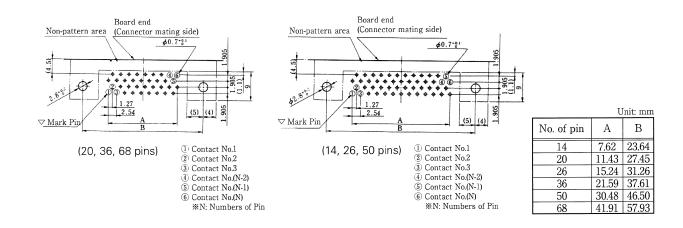
3.2 Board Lock Pin Harpoon Type



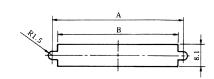
3.3 Board Lock Pin Round Type



PCB Layout (Recommended board thickness:1.6mm)



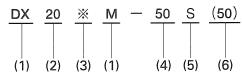
Panel-Fitting Dimensional Drawing (Recommended panel thickness:max. 1.6mm)



| | U | nit: 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



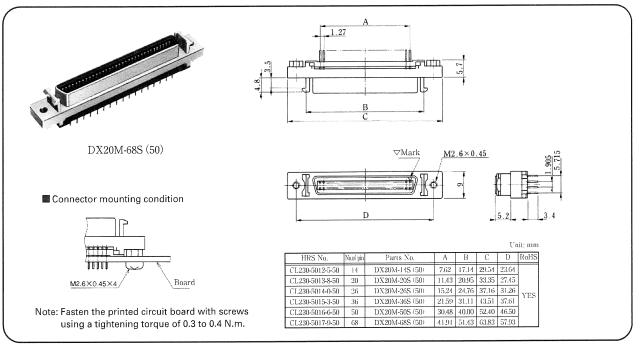
- 1) Series number: DX-M
- 2) Wiring style 20: Straight dip
- 3) Lock style Blank: One Touch Lock Type

- 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



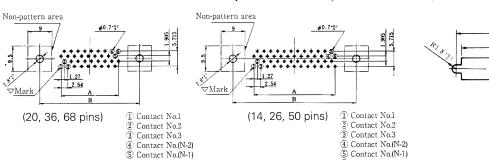
PCB Layout

(Recommended board thickness:1.6mm)

Contact No.(N)

*N: Numbers of Pin

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



| | U | nit: mm |
|------------|-------|---------|
| No. of pin | А | В |
| 20 | 11.43 | 27.45 |
| 36 | 21.59 | 37.61 |
| 68 | 41.91 | 57.93 |

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

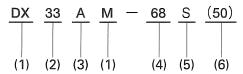
Contact No.(N-1) 6 Contact No.(N)

*N: Numbers of Pin

| | U | nit: mm |
|------------|-------|---------|
| 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



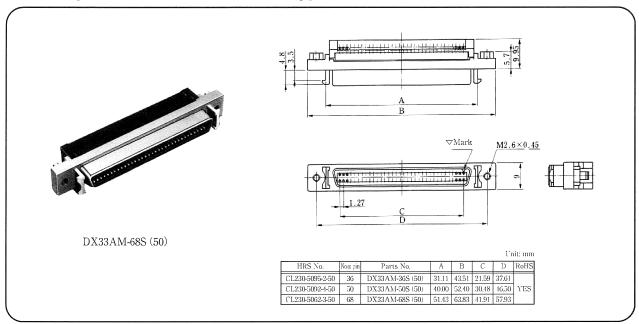
- 1) Series No.: DX--M
- 2) Connector style33: Flat IDC type(for ribbon cable use)
- 3) Applicable cable A: AWG#28

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

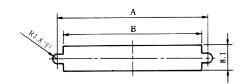
Material Treatment

| 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

$\frac{\text{DX30M}}{|} - \frac{110}{|} - \frac{\text{CV1}}{|} \\ (1) (2) (3)$

Material Treatment

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

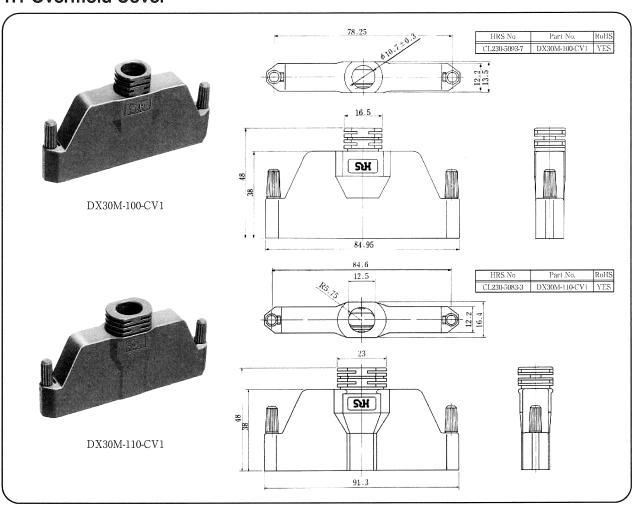
1) Series No.: DX30M

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

3) Cover case type

CV1: Overmold cover case CV2: Die cast cover

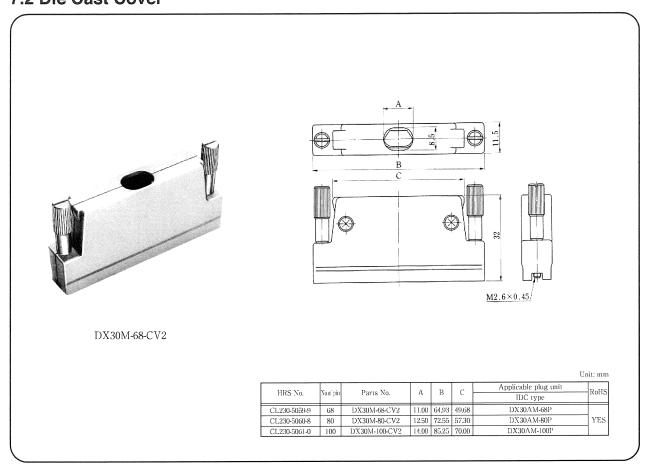
1.1 Overmold Cover



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

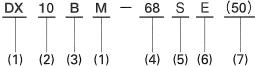


List of Engagement Combinations

| 6 | R | eceptacle | |
|-----------------------------|-------------------------------------|-------------------|---------------------|
| 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

aterial Treatment

5) Mating type S: Receptacle

6) Board fitting type Blank: Screw on type

Ε

Ε1

| | 10 | D | IVI | 00 | | 드 | (50) |
|-----|-----|-----|-------|--------|-----|-----|------|
| | | | T | | | | |
| | | | | | | | |
| (1) | (2) | (3) | (1) | (4) | (5) | (6) | (7) |
| (1) | (2) | (3) | (1 / | (/ | (3) | (0) | (// |

7) Individual specifications (50) :Dip portion gold plated

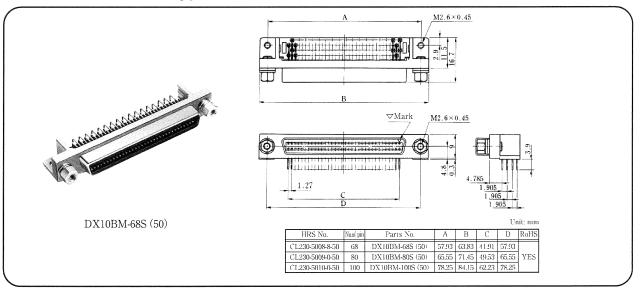
: Lock pin round type

| Material Treatment | | | | |
|--------------------|------------------------------|-----|--|--|
| Item | Material | | | |
| Recentacle case | Zinc alloy die cast or steel | Nic | | |

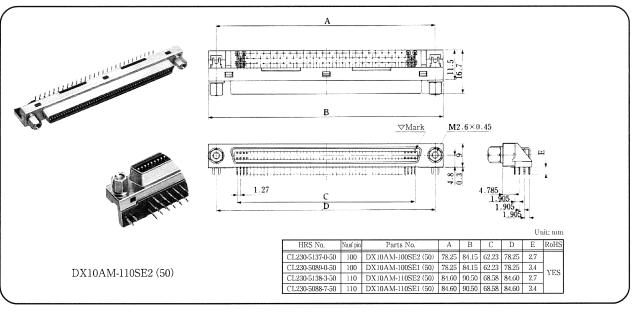
| Item | Material | Remarks |
|-----------------|------------------------------|------------------------|
| Receptacle case | Zinc alloy die cast or steel | Nickel plating |
| Shell | Steel | Nickel plating |
| Insulators | PBT resin | Black (UL94V-0) |
| Female terminal | Copper alloy | Selective gold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

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

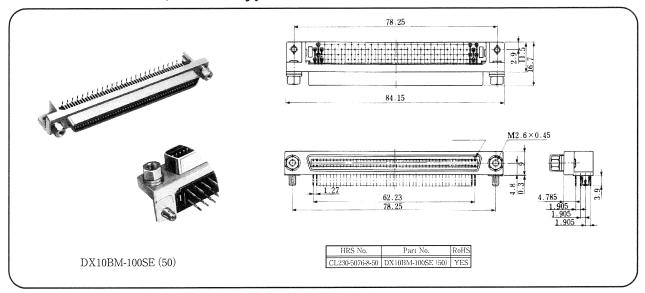
8.1 Board Screw on Type



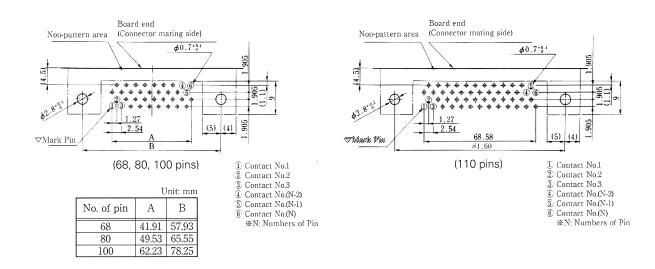
8.2 Board Lock Pin Harpoon Type



8.3 Board Lock Pin, Round Type

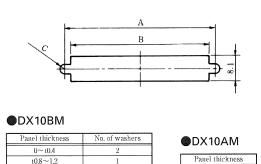


PCB Layout (Recommended Board Thickness:1.2mm, 1.6mm)



Panel-Fitting Dimensional Drawing

t1.6~2

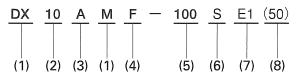


No washer

| | | | | Unit: nım |
|------------|-------|-------|-------|--------------------|
| No. of Pin | Α | В | С | Remarks |
| 68 | 57.93 | | | DX10BM-68S (50) |
| 80 | 65.55 | 61.85 | R1.85 | DX10BM-80S(50) |
| 100 | 78.25 | 74.55 | R1.85 | DX10BM-100SE (50) |
| 100 | 78.25 | 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 | K1.5 | DX10AM-110SE1 (50) |

9. Screw Lock, Receptacle Ferrite Core Type

Ordering Information



- 1) Series No.: DX--M
- 2) Connector style10: Right angle type
- 3) Lock style (Screw lock type)
 - A: Receptacle case material-steel
- 4) Board mounting style
 - F: Ferrite core type

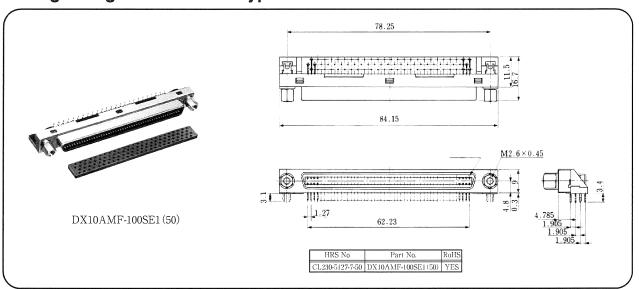
- 5) No. of pins: 100
- 6) Mating type
 - S: Receptacle
- 7) Board fitting type
 - E1: Lock pin type (Board thickness 1.6mm)
- 3) Individual specifications

(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



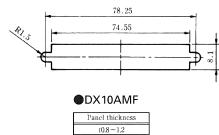
PCB Layout (Recommended Board Thickness:1.6mm)

Non-pattern area Board end (Connector mating side) 60.8 - 61 78.25 74.55

2 Contact No.2
3 Contact No.3
4 Contact No.(N-2)
5 Contact No.(N-1)
6 Contact No.(N)
**N: Numbers of Pin

Contact No.1

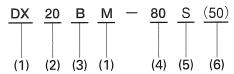
(5) (4)



Panel-Fitting Dimensional Drawing

11. Screw Lock Receptacle Straight Type

Ordering Information



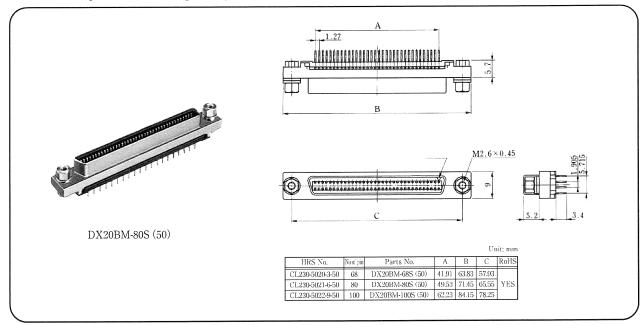
- 1) Series No.: DX--M
- 2) Connector style20: Straight dip
- 3) Lock style
 - B: Screw lock type

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

Material Treatment

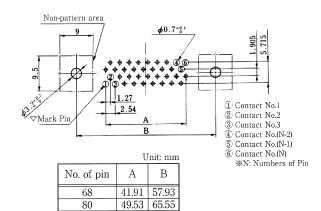
| Item | Material | Remarks |
|-----------------|---------------------|------------------------|
| Receptacle case | Zinc alloy die cast | Nickel plating |
| Shell | Steel | Nickel plating |
| Insulator | PBT resin | Black (UL94V-0) |
| Female terminal | Copper alloy | Selective gold plating |

11.1 Receptacle Straight Type

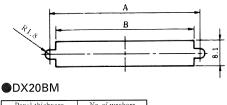


PCB Layout (Recommended Board Thickness:1.6mm)

100



Panel-Fitting Dimensional Drawing

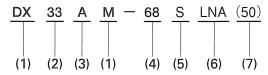


| Panel thickness | No. of washers |
|-----------------|----------------|
| 0∼t0.4 | 2 |
| t0.8~1.2 | 1 |
| t1.6~2 | No washer |

| | 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



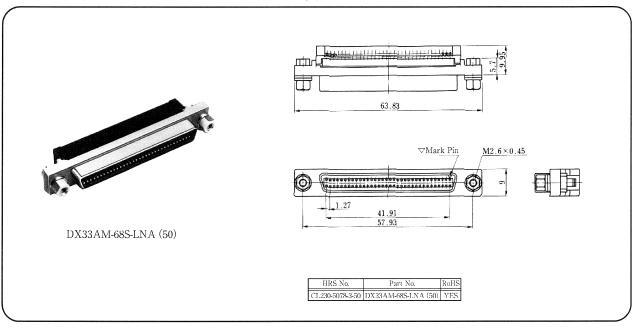
- 1) Series No.: DX--M
- 2) Connector style
 - 33: Flat IDC type (for ribbon cable)
- 3) Applicable wire A: AWG#28
- 4) No. of pins: 68

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

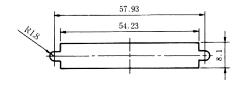
Material Treatment

| Item | Item Material | | |
|-----------------|---------------------|------------------------|--|
| 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 | |

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 | | T |
| | | | | |
| (1) | (2) | (1) | (3) | (4) |

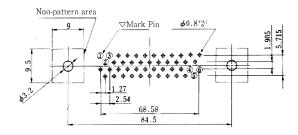
- 1) Series No.: DX--M
- Connector style
 Straight dip
- 3) No. of pins: 110
- 4) Mating type P: Plug

13.1 Plug Straight Type

| | 84.5 | |
|--|--|----------------|
| | 68.58 | |
| | | |
| | · · | |
| The second secon | 90.5 78.05 | |
| | ф ф ф | |
| | 322 | 3.5 |
| DX20EM-110P | | 1.905 5.715 |
| | 68.58 (0.25×0.6) | 5.715 |
| | HRS No. Part No. RoHS CL230-5084-0 DX20EM-110P YES | |

PCB Layout

(Recommended Board Thickness:1.5mm)



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

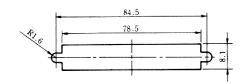


Diagram of Mounting Conditions for DX20EM

Material Treatment

Material

Steel

PBT resin

Copper alloy

Remarks

Nickel plating

Black (UL94V-0)

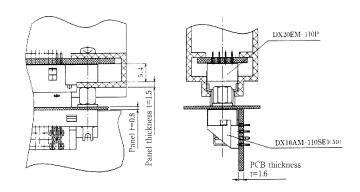
Selective gold plating

Item

Shell

Insulator Male contact

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



List of Engagement Combinations

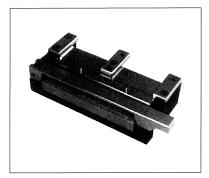
| Plug straight type | Receptacle right angle type | | |
|--------------------|--|--|--|
| DX20EM-110P | DX10AM-110SE1 (50) or DX10AM-110SE2 (50) | | |

Connecting Method (Discrete Cable IDC Type)

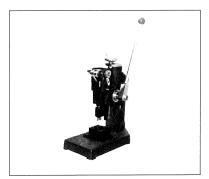
Connecting Tools



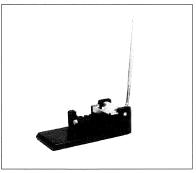
Cable distribution jig



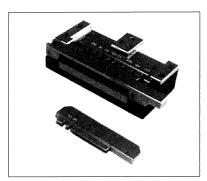
Cable shearing unit



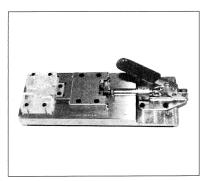
Shield case fixing jig



IDC press



IDC guide plate unit



Hood insertion jig

List of Connecting Jigs and Accessories Plug Connector

Plug Connector

| | | Process | | | | | | |
|------------------------------|----------------|-----------------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|---------------------|---------------------------------|
| Cable | Connector Name | Cable Disselbertion | Remaining part cutting | | Crimping | | Shield case fixing | Hood insertion |
| | | Cable Distribution | Press | Unit | Press | Remaining Part cutting | Silicia case fixing | rioud msertion |
| | DX30AM-14P | | DX30ANI-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 | By hand | | | | | DX30AM-CCT1 | DX30AM-HPT1 |
| I/O Cable (Discrete wire) | DX30AM-50P | DX30AM-CAT1 CL902-2090-0 | | | | | CL902-0213-8 | CL902-0216-6 |
| | DX30AM-68P | | | | | | _ | |
| | DX30AM-80P | | | | | | | |
| | DX30AM-100P | | | | | | | Order attachments separately 3 |
| | DX30AM-110P | | | | | | | Order attachments separately 38 |

^{**1} 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 |

^{*2} DX30AM-HPT1-14 CL902-0217-9 *3 DX30AM-HPT1-100 CL902-0218-1

^{*4} DX30AM-HPT1-110 CL902-0219-4