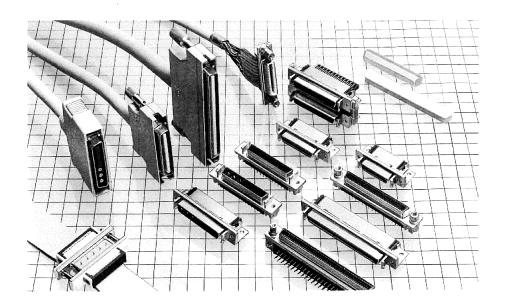
DX SERIES HIGH-DENSITY I/O CONNECTORS

General

DX 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. DX series offers you one of the most

varied and complete lines of High-Density connectors in the world, i.e. IDC, Solder and with Co-axial contacts for the plug and right angle dip, straight dip, IDC and with Co-axial contacts for the receptacle. Available in 20, 28, 36, 50, 68, 80, 100 and 132 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.
- 4. IDC termination allows quick and low cost termination to AWG # 28 & # 30 wires.
- Group IDC termination of 1.27mm pitch cable and loose piece contacts is possible simply by replacting the protector, allowing you to select a termination system meeting requirements, trial production and mass production, for example.
- Backshell and receptacle shell are made of diecast zinc alloy to reduce the penetration of external EMI noise.
- Easy to use 'One-Touch' and 'Screw' locking mechanisms assure quick and easy 'positive' closures every time.
- 8. Termination method is available in IDC, Soldering, Right Angle Dip, Straight Dip and SMT.
- DX with 3 cavities and 2 cavities for Co-axial contacts are newly introduced to meet the needs of high speed data transmission.
- Shielded Plug-in type for interface between 2 Units available.

Application

Office Automation, Computers, Communications Equipment, Factory Automation, Home Automation and other commercial applications needing high density interconnections.

Specifications

Items	Standard value
Current capacity	0.5A
Rated voltage	AC125V
Insulation resistance	$250 \mathrm{M}\Omega$ or more at DC100V
Contact resistance	50mΩ or less at DC100mA
Withstanding voltage	AC300Vr.m.s. for 1 minute

Material & Finish

Parts	Materials	Finish	
Plug shell	Zinc alloy die-cast	Silver finish	
Receptacle shell	Zinc alloy die-cast	Nickel plating	
Insulator	PBT resin or equivalent*	Black*	
Pin contact	Copper alloy	Selective gold plating	
Socket contact	Copper alloy	Selective gold plating	

[₩]UL94V-0

Applicable cable

I/O cable (Discrete wire)						
Conductor size	AWG #30	AWG #28				
Conductor information	7/0.1	7/0.127				
Insulator outer dia.	φ 0.5	φ 0.58				
UL style cables UL20276 and UL2789						

Ribbon cable (flat & slit)					
Conductor size	AWG #28				
Conductor information	19/0.08				
Cable thickness	0.9				
UL style cables	UL2651, UL2734, UL20012				

^{**}To identify DX30A, DX31A, DX32A & DX33A for AWG#28, natural color is partially used in the insulator.

Ordering Information

Receptacle Connector

Plug Connector

Co-axial Connector

Accessories

$$\frac{DX}{|} - \frac{50}{|} - \frac{CV}{|} \frac{(50)}{|}$$
(1) (6) (9) (12)

- (1) Series Number: DX
- (2) Connection Type
 - 10: Right Angle Dip
 - 20: Straight Dip
 - 30: IDC for discrete thin wire (AWG #28 and 30)
 - 31: IDC for discrete wire laminated (AWG #28 and 30)
 - 32: IDC for slit ribbon cable (AWG #28)
 - 33: IDC for flat ribbon cable (AWG #28)
- (3) Lock Type

Blank: One Touch Lock

A : Screw Lock

(4) Applicable Wire

Blank: AWG #30

A : AWG # 28

(5) Variation

Blank: Standard

- J : Co-axial contact included
- (6) Number of Pins: 20, 28, 36, 50, 60, 68, 80, 100
- (7) Types of Opening

: Plug connector

S : Receptacle connector

SW: Receptacle connector (double layer)

SE: Receptacle connector (Lock Pin)

(8) Variation

Blank: Standard

CR2A: 2 co-axial contacts provided (Receptacle)

CR3: 3 co-axial contacts provided (Receptacle)

CP3 : 3 co-axial contact holes provided (Plug)

LNA: Screw lock mechanism (Receptacle)

PG : Plug-in (Plug)

SG: Plug-in (Receptacle)

(9) Accessories

CV : Straight cable (One-touch lock type)

CV1 : Straight cable entry case (Screw lock type)

CV3 : Straight cable entry case (Over mode type)

CV4 : Straight cable entry (Symmetry big cable)

DC : Dust cap (Semi-hard, for one-touch lock)

DC1: Dust cap (Semi-hard, for screw lock)

DC2 : Dust cap (Soft for screw lock)

(10) No. of signal terminals: 0, 26

(11) Shell size

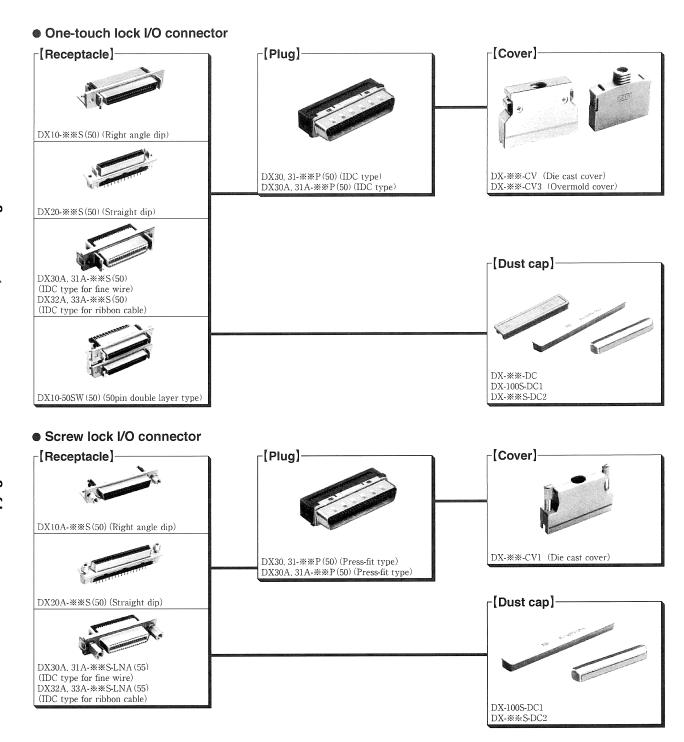
No.symbol: 50 pins

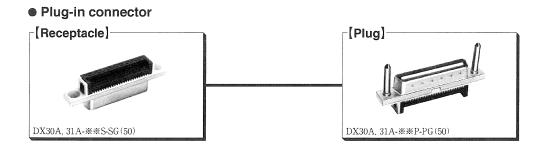
4 : 20 pins

(12) Specifications Content

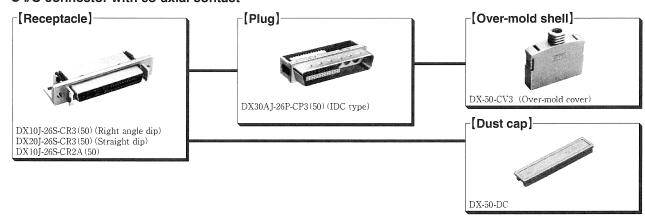
 $(\divideontimes \divideontimes): Individual\ specifications$

DX Series variations





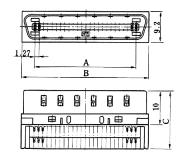
● I/O connector with co-axial contact



1. IDC Plug Connector 1.1 DX30, DX30A-% %P (50)



DX30-50P(50)







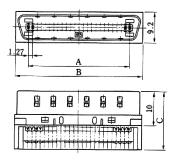
DX30A-50P(50)

						1	Unit: mm
HRS No.	No. of Pin	Part No.	Applicable cable	А	В	С	RoHS
CL230-0008-0-50	- 20	DX30-20P (50)	AWG#30	11.43	19.18	17.2	YES
CL230-0022-1-50	20	DX30A-20P (50)	AWG#28	11,43	19.10	17.2	
CL230-0009-3-50	28	DX30-28P (50)	AWG#30	16.51	24.26	17.2	
CL230-0023-4-50	20	DX30A-28P (50)	A W G # 28	10.51	2-1.20	17,2	
CL230-0010-2-50	36	DX30-36P (50)	AWG#30	21.59	29.34	17.2	
CL230-0024-7-50	30	DX30A-36P(50)	AWG#28			17.2	
CL230-0011-5-50	50	DX30-50P (50)	AWG#30	30.48	38.23	17.2	
CL230-0025-0-50	30	DX30A-50P(50)	AWG#28				
CL230-0012-8-50	68	DX30-68P (50)	A W G # 30	41.91	49.66	17.2	
CL230-0026-2-50	00	DX30A-68P (50)	AWG#28	41.31	45.00	17.2	
CL230-0013-0-50	80	DX30-80P (50)	∧WG#30	49.53	57.28	17.2	
CL230-0027-5-50	00	DX30A-80P (50)	AWG#28	40.00	37.26	17.2	
CL230-0014-3-50	100	DX30-100P (50)	AWG#30	69.99	60.09	18.2	
CL230-0028-8-50	100	DX30A-100P(50)	A W G # 28	02.20	62.23 69.98		

1.2 IDC Plug Connector DX31, DX31A- * * P (50) (Discrete Wire Laminated)



DX31-50P(50)





Unit; mm

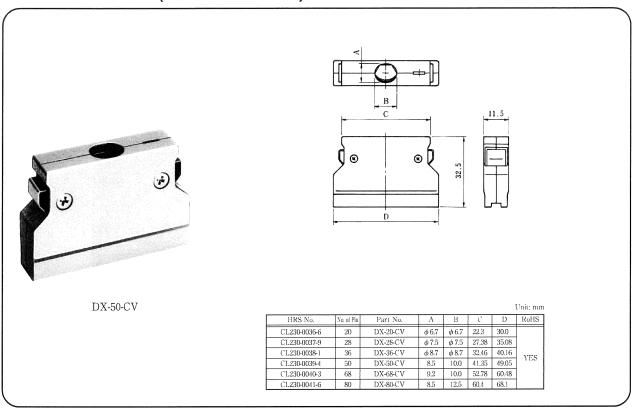


DX31A-50P(50)

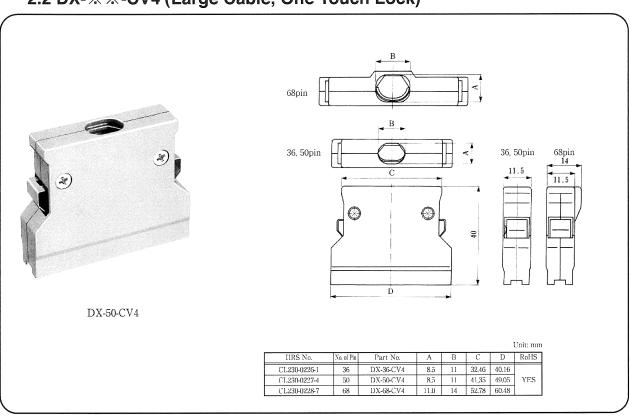
HRS No.	No. of Pin	Part No.	Applicable cable	A	В	С	RoHS
CL230-0015-6-50	20	DX31-20P (50)	AWG#30	11.43	19.18	17.2	-
CL230-0029-0-50	20	DX31A-20P (50)	AWG#28		19.10	17.2	
CL230-0016-9-50	28	DX31-28P (50)	AWG#30	16.51	24.26	172	
CL230-0030-0-50	20)	DX31A-28P (50)	AWG#28	10.51	24.20	11.2	
CL230-0017-1-50	36	DX31-36P (50)	AWG#30	21.59	29.34	17.2	
CL230-0031-2-50	30	DX31A-36P (50)	AWG#28	21.00	25.34	17.2	
CL230-0018-4-50	50	DX31-50P (50)	AWG#30	30.48	38.23	17.2	YES
CL230-0032-5-50	- 50	DX31A-50P (50)	AWG#28	50.46	30.23	17.2	1 1 1 1 1
CL230-0019-7-50	- 68	DX31-68P (50)	AWG#30	41.91	49.66	17.2	
CL230-0033-8-50	UO	DX31A-68P (50)	AWG#28	41,51	45.00	11.2	
CL230-0020-6-50	80	DX31-80P (50)	∧WG#30	49.53	57.28	17.2	
CL230-0034-0-50	00	DX31A-80P (50)	AWG#28	49.33	37.46	17.2	
CL230-0021-9-50	100	DX31-100P (50)	AWG#30	62,23	69.98	18.2	
CL230-0035-3-50	100	DX31A-100P (50)	A WG # 28	02,23	05.56	10.2	

2. Shell

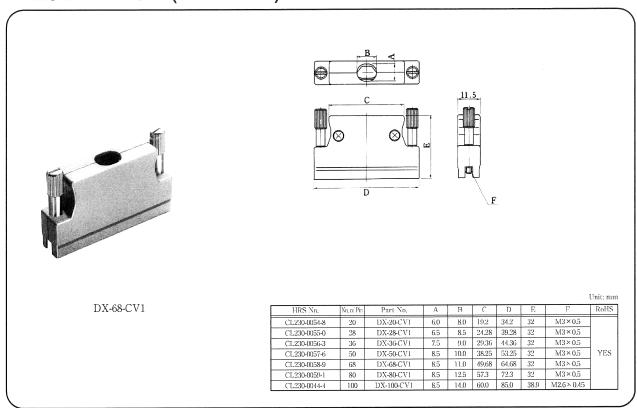
2.1 DX-% %-CV (One Touch Lock)



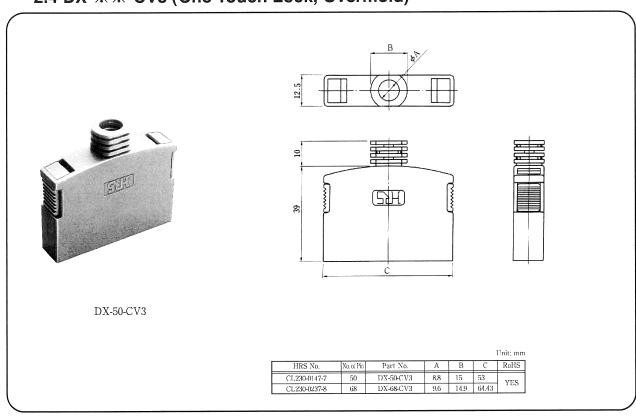
2.2 DX- ** **-CV4 (Large Cable, One Touch Lock)



2.3 DX-※ **-CV1 (Screw Lock)

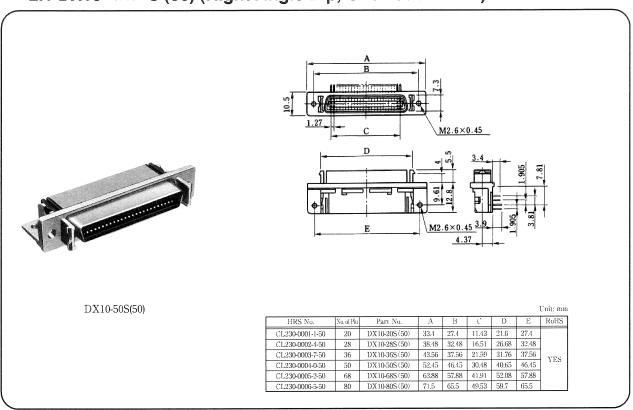


2.4 DX-% %-CV3 (One Touch Lock, Overmold)

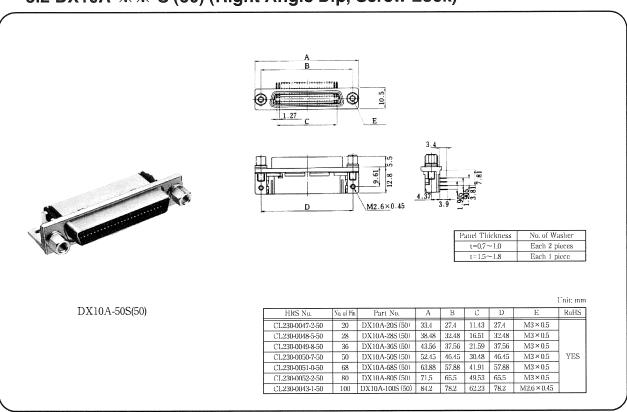


3. Receptacle

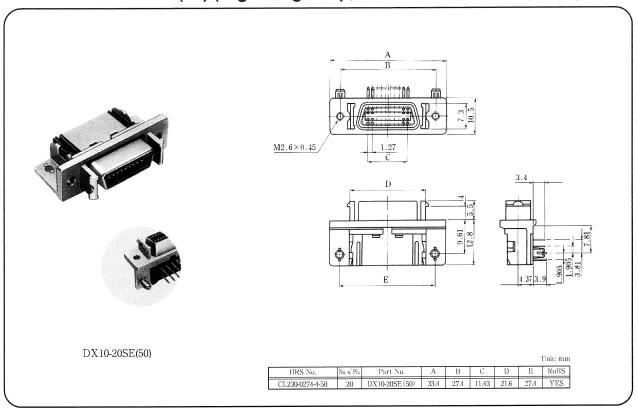
2.1 DX10-※ ※-S (50) (Right Angle Dip, One Touch Lock)



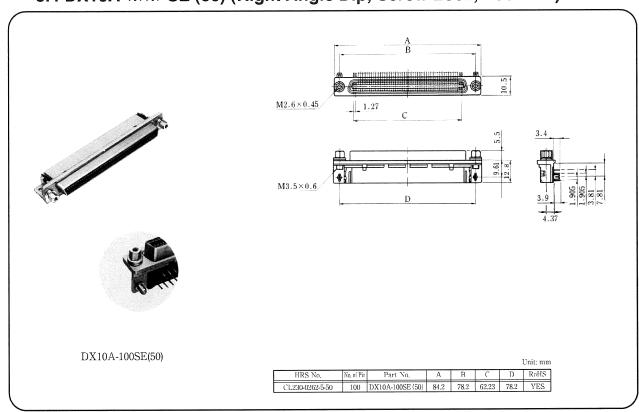
3.2 DX10A-X X-S (50) (Right Angle Dip, Screw Lock)



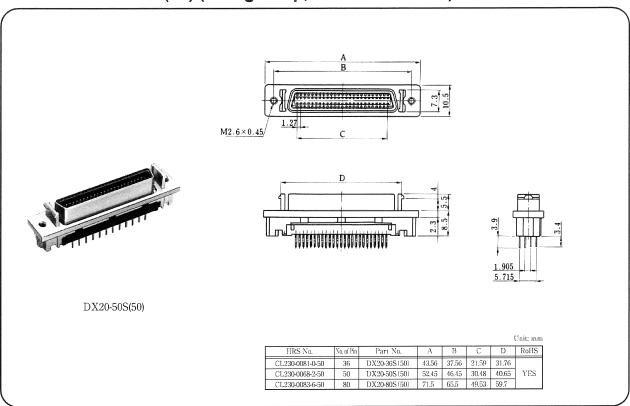
3.3 DX10-% %-SE (50) (Right Angle Dip, One Touch Lock, Lock Pin)



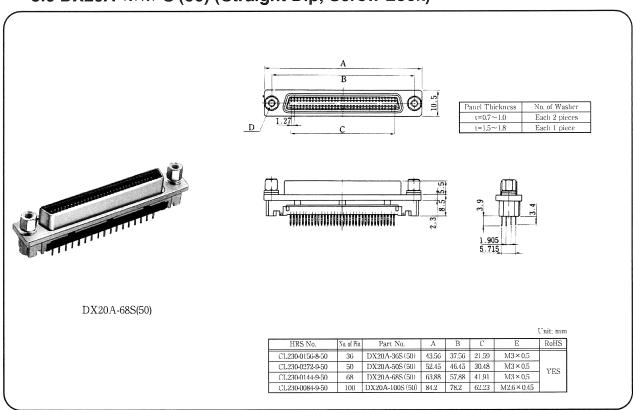
3.4 DX10A- ** *-SE (50) (Right Angle Dip, Screw Lock, Lock Pin)



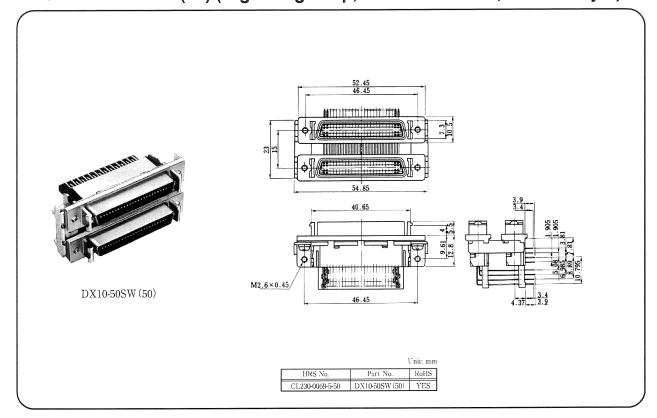
3.5 DX20-% %-S (50) (Straight Dip, One Touch Lock)



3.6 DX20A- ** *-S (50) (Straight Dip, Screw Lock)

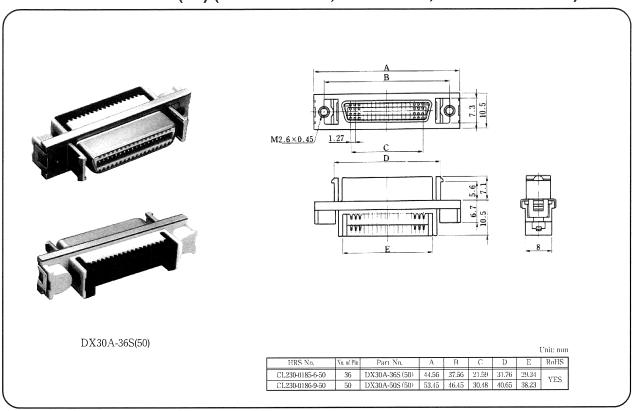


3.7 DX10-50-SW (50) (Right Angle Dip, One Touch Lock, Double Layer)

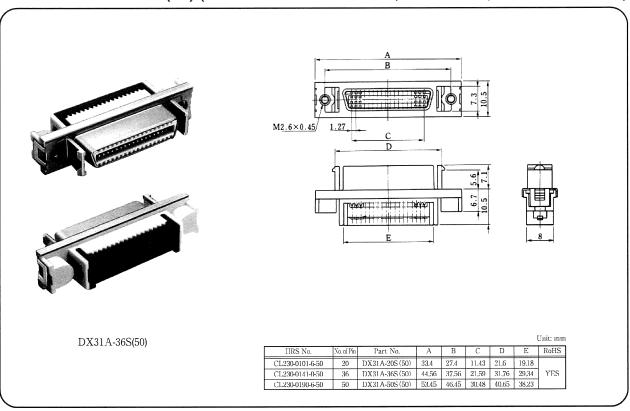


4. Panel mount Cable to Cable Connector

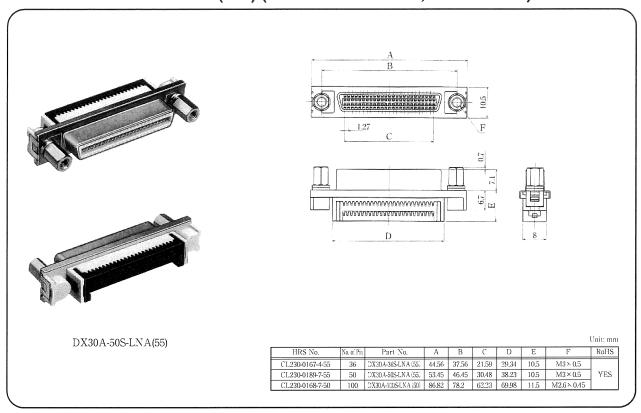
4.1 DX30A-X X-S (50) (Discrete Wire, Thin Cable, One Touch Lock)



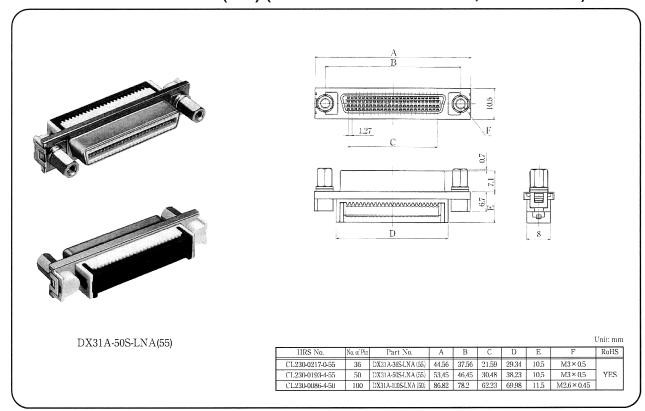
4.2 DX31A- * * -S (50) (Discrete Wire Laminated, Fine Cable, One Touch Lock)



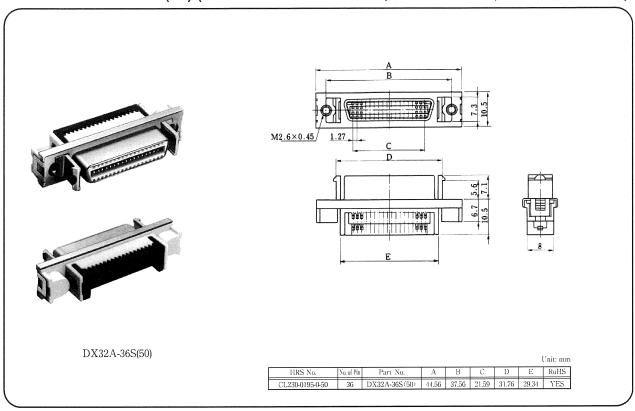
4.3 DX30A-% %S-LNA (5%) (Discrete Thin Wire, Screw Lock)



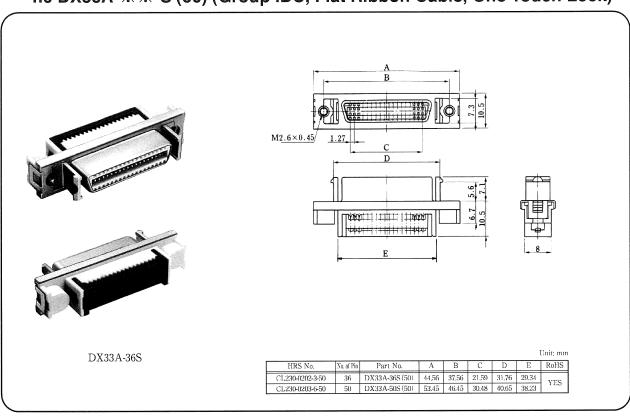
4.4 DX31A-% %S-LNA (5%) (Discrete Wire Laminated, Screw Lock)



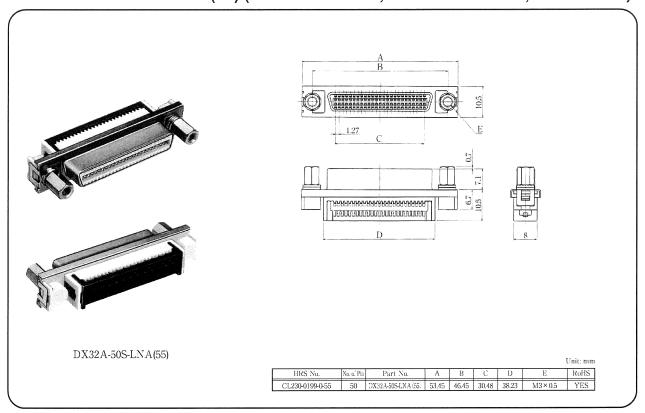
4.5 DX32A- ** **-S (50) (Discrete Wire Laminated, Ribbon Cable, One Touch Lock)



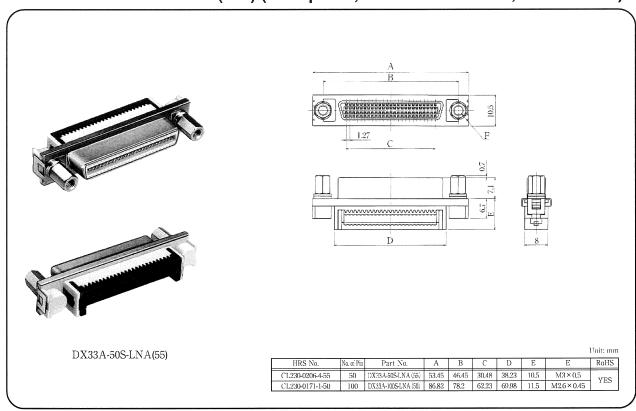
4.6 DX33A- ** *- S (50) (Group IDC, Flat Ribbon Cable, One Touch Lock)



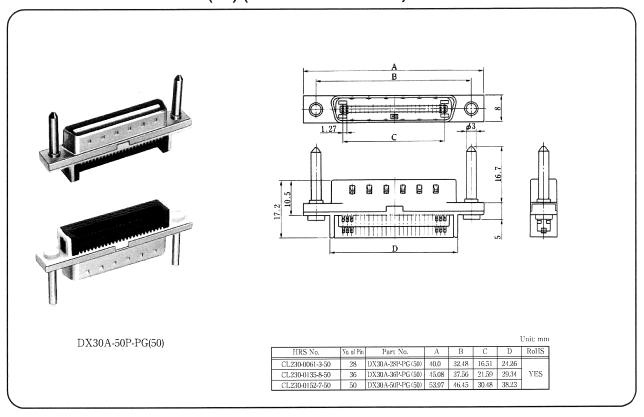
4.7 DX32A- * * S-LNA (55) (Loose Piece IDC, Slit Ribbon Cable, Screw Lock)



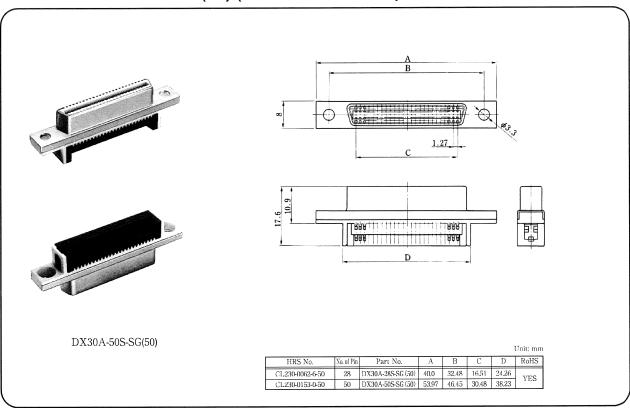
4.8 DX33A-% %S-LNA (5%) (Group IDC, Flat Ribbon Cable, Screw Lock)



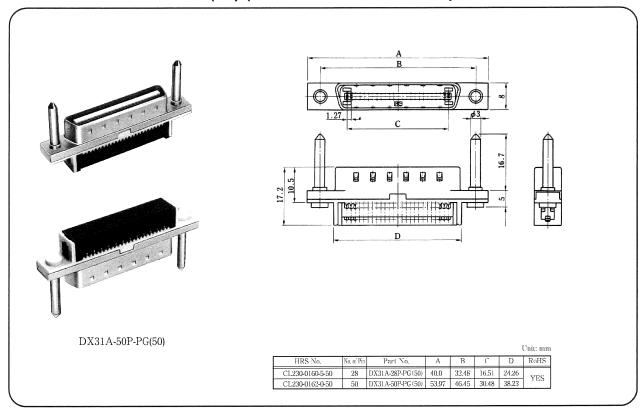
5. Plug In Connector 5.1 DX30A-※※P-PG (50) (Discrete Thin Wire)



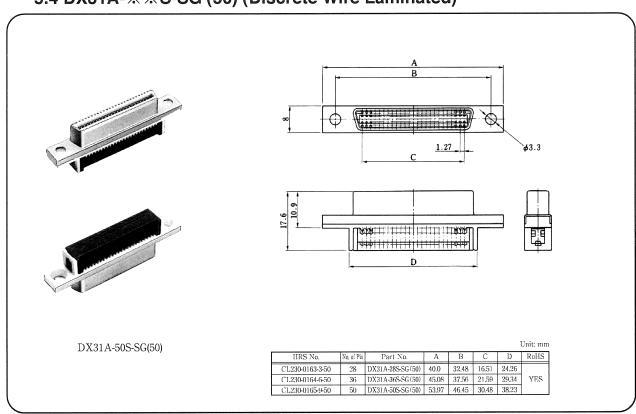
5.2 DX30A- * S-SG (50) (Discrete Thin Wire)



5.3 DX31A-% %P-PG (50) (Discrete WireLaminated)

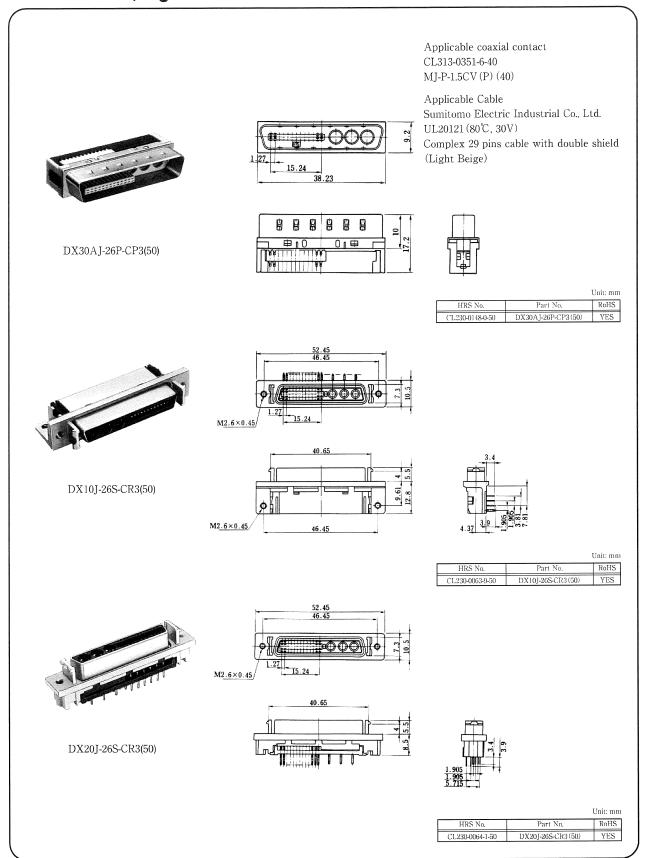


5.4 DX31A-% %S-SG (50) (Discrete Wire Laminated)



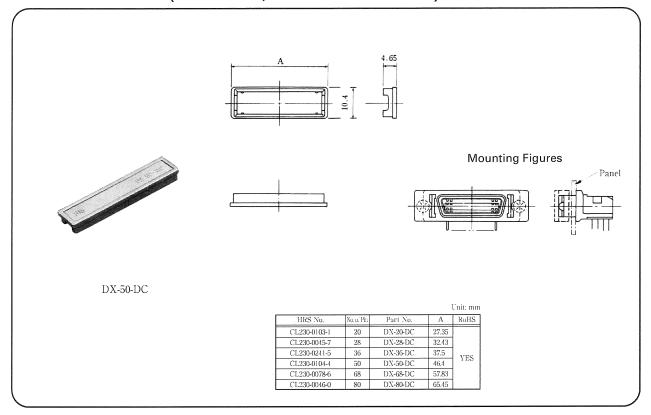
7. Co-axial Connector

7.1 Co-axial, Signal Terminal Connector

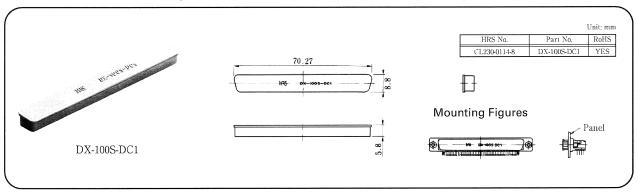


9. Dust Cap

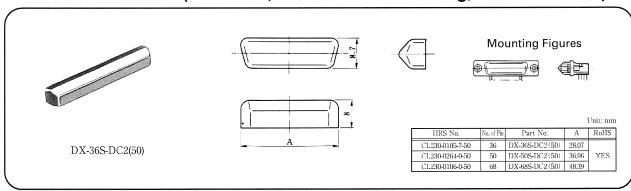
9.1 DX- ** -DC (Semi-Hard, for One Touch Lock)

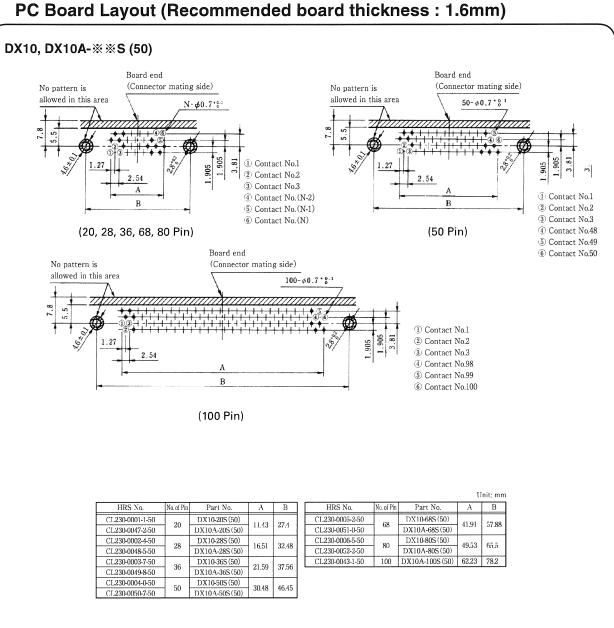


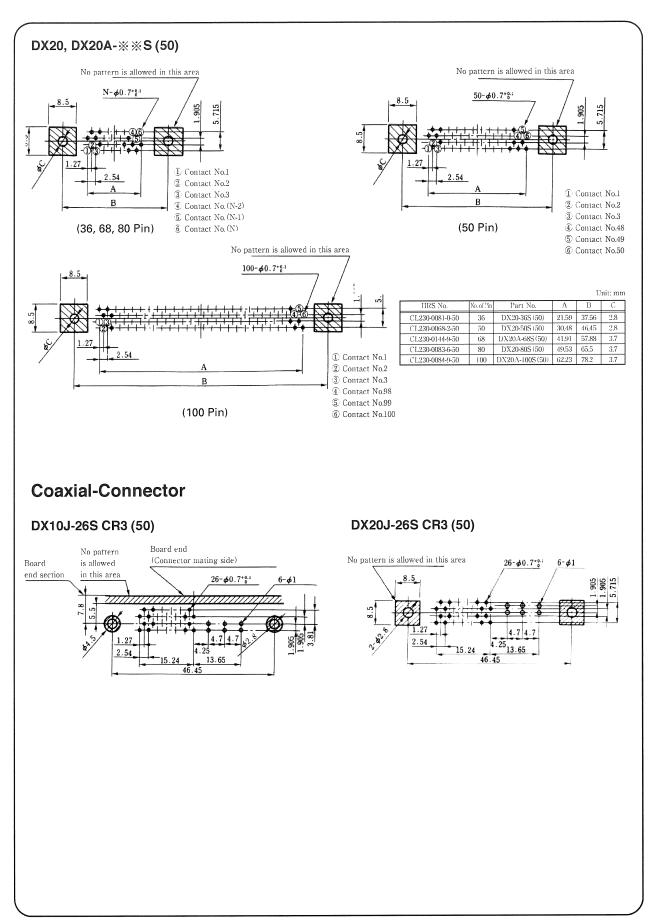
9.2 DX-100S-DC1 (Semi-Hard, for One-Touch Locking, for Screw Lock)

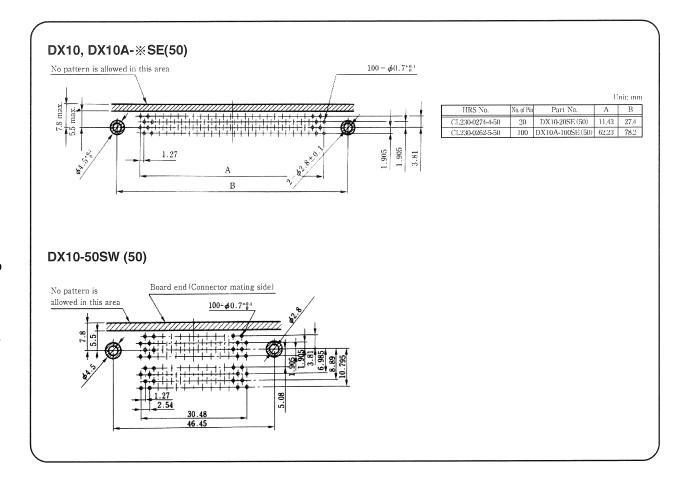


9.3 DX- ** S-DC2 (Soft-Hard, for One-Touch Locking, for Screw Lock)

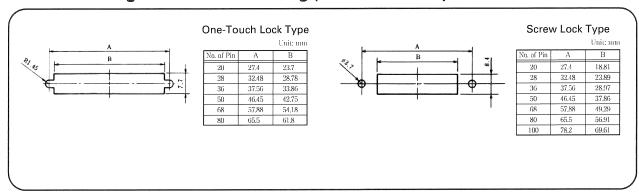




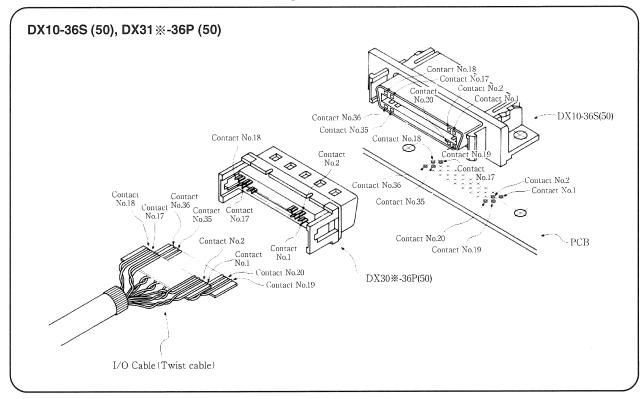




Panel-Fitting Dimensional Drawing (Recommended panel thickness:



DX Connector Distribution Diagram



Connecting Method (for Discrete Cable)

Connecting Tools



DX30 Cable Distribution Jig

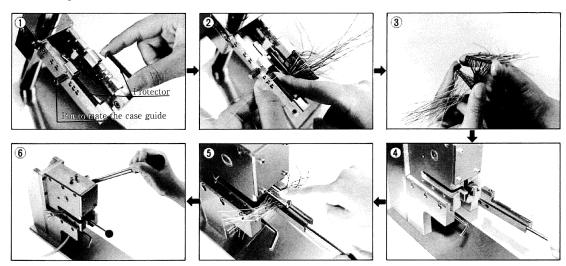


Guide Plate DX30-***GP ***(20, 28, 36, 50, 68, 80)



Connecting Press DX30-HR

Connecting Order



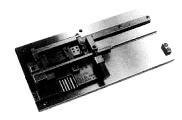
- 1. Mate the case guide of the distribution jig to the number of pins of the connector and set the protector.
- 2. Clamp the cable and distribute every one of the signal wires.
- 3. Combine the two protectors and temporarily fix it to the connector unit.
- 4. Set the guide plate (DX30-**GP) to the connecting press DX30-HP.
- 5. Set the connector to the guide plate and insert the guide plate in the connecting press DX30-HP.
- Depress the handle. (With this the connection and the cutting of a remaining part of cable have been completed)

Connecting Method (for Discrete Cable)

Connecting Tools

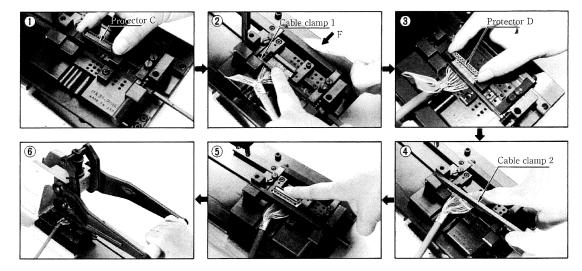


Connecting Press Hi-Flex Connecting Press



Guide Plate
DX31-2080GP (For 20P~80P)
DX31-100GP (For 100P)
Note: Comes with a pressure block

Connecting Order



- 1. Set the guide plate in the connecting press and set the Protector C in the guide plate.
- 2. Set the first cable. (Fix the first cable with the cable clamp 1 of the guide plate)
- 3. Combine the Protector D with the Protector C.
- 4. Set the second cable. (With the cable clamp 2 of the guide plate, fix the second cable)
- 5. Plate the connector body over the protector.
- Shift the side base to the position to crimp and depress the handle. (With this the connection has been completed)

List of Connecting jigs and Accessories

Plug Connector

C-11-	CN	Wine Confirmation	Crimping	g (Connection)	
Cable	Connector Name	Wire Configuration	Press	Guide plate	
	DX30-20P (50) DX30A-20P (50) DX30-28P (50)				
I/O Cable (Discrete wire)	DX30-28P (50) DX30A-28P (50)			DX30-26GP CL902-0119-0	
	DX30-36P (50) DX30A-36P (50)	By hand		DX30-36GP CL902-0120-9	
	DX30-50P (50) DX30A-50P (50)	DX30 Cable distribution JIG	Connecting press DX30-HP	DX30-50GP CL902-0121-1	
	DX30-68P (50) DX30A-68P (50)	CL902-0116-1	CL902-0117-4	DX30-68GP CL902-0122-4	
	DX30-80P (50) DX30A-80P (50)			DX30-80GP CL902-0123-7	
	DX30-100P (50) DX30A-100P (50)			DX30-100GP CL902-2031-1	
	DX31-20P (50) DX31A-20P (50)				
	DX31-28P (50) DX31 A-28P (50)			DX31-2080GPA	
	DX31-36P (50) DX31A-36P (50)			(Common to 20P- 80P)	
I/O Cable (1.27mm pitch	DX31-50P (50) DX31 A-50P (50)		Hi-Flex Connecting	CL902-2003-6 (Comes with	
fusion welding cable)	DX31-68P (50) DX31A-68P (50)		HHP-502 CL550-0082-2	pressure block)	
	DX31-80P (50) DX31A-80P (50)				
	DX31-100P (50) DX31A-100P (50)			DX31-100GPA CL902-0125-2	
				(100pin private) (Comes with pressure bl	

Extension Connector

Cable	Connector Name	Wire Configuration	Crimping (Connection)
Cable	Connector Name	wire Configuration	Press	Guide plate
	DX30A-20S (50)			DX30-20SGP CL902-0292-4
I/O Cable (Discrete wire)	DX30A-36S (50) DX32A-36S (50)	By hand DX30	DX30-HP	DX30-36SGP CL902-0234-8
(Discrete wire) Ribbon Cable (IDC)	DX30A-50S (50) DX30A-50S-LNA (55) DX32A-50S-LNA (55)	Cable distribution JIG CL902-0116-1	CL902-0229-8	DX30-50SGP CL902-0235-0
	DX30A-100S-LNA (50)			DX30-100SGP CL902-0230-7
I/O Cable (1.27mm pitch fusion welding cable) Ribbon Cable	DX31A-20S (50) DX31A-36S (50) DX31A-36S-LNA (55) DX33A-36S (50) DX31A-50S (50) DX31A-50S-LNA (55) DX33A-50S (50) DX33A-50S-LNA (55) DX33A-100S-LNA (50) DX33A-100S-LNA (50)		Hi-Flex Connecting press HHP-502 CL550-0082-2	DX31-2080SGPA (Common to 20P-80P) CL902-2013-0 (Comes with pressure block) DX31-100SGPA CL902-0246-7 (100pin private)
				(Comes with pressure block)

Note: Please assembly cable without lock screws.(LNA type)

Plug in Connector

0.11	(2) N	Mr. C. E	Crin	nping	Remaining	part cutting
Cable	Connector Name	Wire Configuration	Press	Unit	Press	Unit
	DX30A-28P-PG (50)					
	DX30A-36P-PG (50)			DX30A-PG-GPT		
	DX30A-50P-PG (50)					
I/O Cable (Discrete wire)	DX30A-28S-SG (50)	By hand DX30	DV20AM IID1		DX30AM-HP1	
		Cable distribution JIG	DX30AM-HP1 CL902-0210-0	DX30A-SG-GPT	CL902-0210-0	DX30A-PSG-C
	DX30A-50S-SG (50)	CL902-0116-1				
0.11	0	W. C. F.		Crimping		
Cable	Connector Name	Wire Configuration	Press	Guide plate	Pressure block	
	DX31A-28P-PG (50)				DWOLA DC DD	
I/O Cable			Hi-Flex Connecting		DX31A-PG-PB CL902-2025-9	
(1.27mm pitch	DX31A-50P-PG (50)		press	DX31-PSG-GPA	C1505-2025-3	
fusion welding	DX31A-28S-SG (50)		HHP-502	CL902-2024-6	DX31A-SG-PB	
cable)	DX31A-36S-SG (50)		CL550-0082-2		CL902-2026-1	
	DX31A-50S-SG (50)				013002 2020-1	

Coaxial Connector

Cable	Connect	or Name	Coaxial	Connector Co	nnection	Plug Connector Connection				
]	Plug	lug Coaxial				Shell Wire		Crimping		Hood
I/O Cable	Connector	Signal Connector	Crimping machine	Applicator	Contact Caulking	Configuration	Press	Guide plate	fixing	insertion
Coaxial Complex	DX30AJ- 26P- CP3 (50)	MJ-P- 1.5CV(P)(40)	CM-105 CL901-	AP-105-MJ- 1.5CV CL901-	MJ-P- 1.5CV (P)- CCT (01)	DX30J- CAT(01)	DX30-HP CL902-0117-4	DX30J-26GP	DX30J-CCT (01)	DX30J-HPT
Cable			0005-4	3001-0	CC1 (01)		_			