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. 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 & # 30 wires.
- 5. 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.
- 9. DX with 3 cavities and 2 cavities for Co-axial contacts are newly introduced to meet the needs of high speed data transmission.
- 10. 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	$250 M\Omega$ or more at DC100V
Contact resistance	$50\mathrm{m}\Omega$ 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

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

Applicable cable

I/0 ca	ble(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 a	nd UL2789	

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

Ordering Information

Receptacle Connector

DX	10	※	\times	 50	S	 іі (50) 💥	
(1)	(2)	(Ś)	(5)	(6)	(Ż)	(8) (12)	

Plug Connector

DX	30	А	\times	 50 F	> —	\times	(50)
	T		T				
(1)	(2)	(4)	(5)	(6) (7	Ż)	(8)	(12)

Co-axial Connector

DX	30 A	∖J -	– 26 P –	- CP3 (50)
(1)	(2) (4	l) (5)	(10) (7)	(8) (12)

DX	10 J -	— 0 SE —	CR3 / A (50)
(1)	(2) (5)	(10) (7)	(8) (11) (12)

Accessories



(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 : Screw Lock Α (4) Applicable Wire Blank: AWG #30 Α : AWG #28 (5) Variation Blank: Standard : Co-axial contact included .1 (6) Number of Pins: 20, 28, 36, 50, 60, 68, 80, 100 (7) Types of Opening Р : 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 : 20 pins А (12) Specifications Content (% %) : Individual specifications

DX Series variations



Plug-in connector



• I/O connector with co-axial contact







2. Shell



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





DX-50-CV4

						i	Unit: mi
IIRS No.	No. of Pin	Part No.	А	В	C	D	RoHS
CL230-0226-1	36	DX-36-CV4	8.5	11	32.46	40.16	
CL230-0227-4	50	DX-50-CV4	8,5	11	41.35	49.05	YES
CL230-0228-7	68	DX-68-CV4	11.0	14	52.78	60.48	1



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



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



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



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





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



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







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



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





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





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





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



The product information in this catalog is for reference only. Please request the Engineering Drawing for the most current and accurate design information. All non-RoHS products have been discontinued, or will be discontinued soon. Please check the products status on the Hirose website RoHS search at www.hirose-connectors.com, or contact your Hirose sales representative.

7. Co-axial Connector 7.1 Co-axial, Signal Terminal Connector Applicable coaxial contact CL313-0351-6-40 MJ-P-1.5CV (P) (40) Applicable Cable Sumitomo Electric Industrial Co., Ltd. UL20121(80°C,30V) 9.2 65 Complex 29 pins cable with double shield (Light Beige) 15.24 38.23 B 8 ₿ 8 ₿ ₿ 2 7.2 申10 010 DX30AJ-26P-CP3(50) Lex ΠΠΙ 11138 TI TYY Unit: mm RoHS HRS N Part No DX30AJ-26P-CP3(50) YES L230-0148-0-50 52.45 46.45 AATTE TTAA - A 15.24 M2.6×0.45 40.65 DX10J-26S-CR3(50) 9.61 12.8 ø M2.6×0.45 46.45 Unit: mm HRS No Part No RoHS DX10J-26S-CR3(50) YES CL230-0063-9-50 52.45 46.45 **?∦**€ 10.5 0 1.27 M2.6×0.45 40.65 8.5 5.5 DX20J-26S-CR3(50) Ŋ Unit: mm RoHS Part No HRS No DX20J-26S-CR3(50) YES CL230-0064-1-50

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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)



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PC Board Layout (Recommended board thickness : 1.6mm)





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)



- 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)
- . 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

Calila	Commentary Norm	Wine Confirmation	Crimping	g(Connection)
Cable	Connector Name	Wire Configuration	Press	Guide plate
	DX30-20P (50) DX30A-20P (50)			DX30-20GP CL902-0118-7
	DX30-28P (50) DX30A-28P (50)			DX30-26GP CL902-0119-0
	DX30-36P (50) DX30A-36P (50)	By hand		DX30-36GP CL902-0120-9
I/O Cable (Discrete wire)	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) DX31A-28P (50)			DX31-2080GP.A
	DX31-36P (50) DX31A-36P (50)			(Common to 20P- 80P)
I/O Cable (1.27mm pitch	DX31-50P (50) DX31A-50P (50)		Hi-Flex Connecting press	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 block)

Extension Connector

0.11	Connector Name	Wi - Cooffee at in	Crimping (Connection)		
Cable	Connector Name	Wire Configuration	Press	Guide plate	
	DX30A-20S (50)			DX30-20SGP CL902-0292-4	
I/O Cable (Discrete wire) Ribbon Cable (IDC)	DX30A-36S (50) DX32A-36S (50)	By hand DX30	DX30-HP	DX30-36SGP CL902-0234-8	
	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	
	DX31A-20S (50)				
I/O Cable	DX31 A-36S (50) DX31 A-36S-LNA (55) DX33A-36S (50)			DX31-2080SGPA (Common to 20P- 80P)	
(1.27mm pitch fusion welding cable)	DX31A-50S (50) DX31A-50S-LNA (55) DX33A-50S (50) DX33A-50S-LNA (55)		Hi-Flex Connecting press HHP-502 CL550-0082-2	CL902-2013-0 (Comes with pressure block)	
Ribbon Cable	DX31A-100S-LNA (50) DX33A-100S-LNA (50)			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			Crin	nping	Remaining	Remaining part cutting	
Cable		Wire Configuration	Press	Unit	Press	Unit	
· · · · · · · · · · · · · · · · · · ·	DX30A-28P-PG (50)						
	DX30A-36P-PG (50)			DX30A-PG-GPT			
	DX30A-50P-PG (50)						
I/O Cable	DX30A-28S-SG (50)	By hand	DX30AM-HP1		DX30AM-HP1		
(Discrete wire)		DX30 Cable distribution JIG	CL902-0210-0		CL902-0210-0	DX30A-PSG-C	
(District wite)	DX30A-50S-SG (50)	CL902-0116-1	01002 0210 0	DX30A-SG-GPT			
(2 LL		W. C. f.		Crimping	1		
Cable	Connector Name	Wire Configuration	Press	Guide plate	Pressure block		
	DX31A-28P-PG (50)				DX31A-PG-PB		
I/O Cable			Hi-Flex Connecting		CL902-2025-9		
(institution pitchi	DX31A-50P-PG (50)]	press	DX31-PSG-GPA	000000000		
	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)]			000000001		

Coaxial Connector

Cable	Connector Name		Coaxial Connector Connection			Plug Connector Connection				
I/O Cable Coaxial Complex Cable	Plug Connector	Coaxial Signal Connector	Inner Conductor Crimping		Shell Contact	Wire	Crimping		Shield case	Hood insertion
			machine	Applicator	Caulking	Configuration	Press	Guide plate	fixing	msertion
	DX30AJ- 26P- CP3 (50)	MJ-P- 1.5CV(P)(40)	CM-105 CL901- 0005-4	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
			0005-4	3001-0	001		_			