

# MIL Compliant Product

HIF3M\*W Series

MIL-C-83503



## ■ Features

### 1. MIL Compliant product

- MIL Compliant product (MIL-C-83503)
- Suited for wide range of applications (both internal and external connections)
- Mating compatible with HIF3 series

### 2. UL Certified

- UL certified connector

### 3. Mis-Insertion Prevention Mechanism

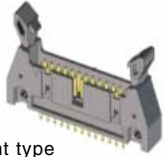
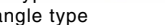
- Dual guide systems prevent mis-insertion
  1. MIL-compliant guide key (polarizing key) system  
The guide system matches the convex shape on the pin header (polarizing key attached) with the concave shape on the socket (polarizing key cavity).
  2. Polarizing guide/slot system  
The guide system matches the polarizing slot on the pin header with polarizing guide (mis-insertion prevention guide) on the socket.

### 4. Superior Usability


- A wide lock on the pin header and the long depth of the socket clamp makes push/pull action easier.
- The body and the protector of the socket can be detached, which makes cable assembly operation easier.

## ■ HIF3M\*W Series Products

### ● Pin header

HIF3M*W
MIL type pin header


Straight type Right angle type

### ● Socket

HIF3M*W
MIL type pin cable socket


## ■ Product specification

Ratings	Rated current 1A	Rated voltage AC200V
	Operating temperature : -55°C to 85°C (Note 1)	Operating humidity range : Relative humidity 85% or less (No condensation)
	Storage temperature : -10°C to 60°C (Note 2)	Storage humidity range : 5% to 85% (Note 2)

Items	Specifications	Conditions
1. Insulation resistance	1,000MΩ or more	Measured at DC500V
2. Withstand voltage	No flashover, breakdown	650V AC/1 minute
3. Contact resistance	15mΩ or less	Measured at 0.1A
4. Vibration resistance	No electrical shut-off of 1μs or more	Frequency 10-55Hz, half amplitude 0.75mm, 2 hours in 3-axial directions
5. Moisture resistance	Insulation resistance : 1,000MΩ or more	Temperature 40±2°C, humidity left for 96 hours in 90 to 95%
6. Temperature cycle	No damage, cracks, or parts looseness.	Temperature -55 → 5 to 35 → 125 → 5 to 35°C Time tested for 30 → 5 → 30 → 5 minutes, 5 cycles
7. Push-pull life	Contact resistance : 15mΩ or less	500 times of push-pull actions
8. Soldering heat resistance	No deformation of components affecting performance.	Solder bath : 260°C for 10 seconds Hand soldering : Temperature of soldering iron 360°C,

Note 1 : Includes temperature rise caused by current flow.

Note 2 : The term "storage" refers to products stored for long period of time prior to mounting and use. Operating Temperature Range and Humidity range covers non conducting condition of installed connectors in storage, shipment or during transportation.

## ■ Materials / Finish

### ● Pin header

Parts	Material	Color / Finish	Remarks
Lock	PBT	Black	UL94V-0
Insulator			
Contact	Brass	Contact part : gold plated 0.15μm MIN.	—
		Dip part : pure tin plated 2μm MIN.	—

### ● Socket

Parts	Material	Color processing	Remarks
Insulator	PBT	Black	UL94V-0
Contact terminal	Copper alloy	Contact part : gold plated 0.15μm MIN.	—
		IDC part : nickel plated 2.5μm MIN.	—

## Product Number Structure

Refer to the chart below when determining the product specifications from the product number.  
Please select from the product numbers listed in this catalog when placing orders.

### ● Pin header (Right angle)

**HIF**   **3**   **M\*W**   **-**   **\***   **PA**   **-**   **2.54**   **DS**

①   ②   ③   ④   ⑤   ⑥   ⑦

### ● Pin header (Straight)

**HIF**   **3**   **M\*W**   **-**   **\***   **PA**   **-**   **2.54**   **DSA**

①   ②   ③   ④   ⑤   ⑥   ⑦

### ● Socket

**HIF**   **3**   **M\*W**   **-**   **\***   **D**   **-**   **2.54**   **R**

①   ②   ③   ④   ⑤   ⑥   ⑦

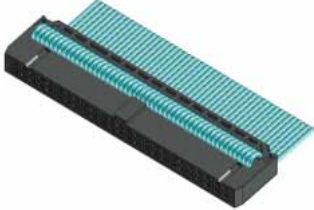
① Series name	HIF	⑤ Contact style	P : Pin header
② Series No.	3		A : Selective gold plated
③ Contact alignment	Pin header MAW : Total positions, MBW : 50,60, 64 positions only, MDW : 10 positions only	⑥ Contact pitch	D : Double
	Socket MAW : Total positions, MBW : 50, 60,64 positions only. Equipped with mis-insertion prevention guide	⑦ Product type	DS : Right angle type DSA : Straight type
④ Number of contacts	10,14,16,20,26,30,34,40,50,60,64		R : IDC

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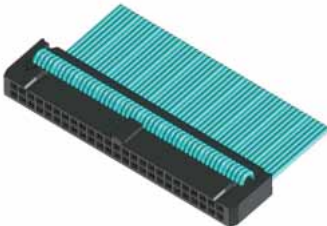
## ◆ HIF3 Series Mating Compatibility Wire-to-Board type

Receptacle socket side

Header side




◆ IDC connector  
HIF3MAW-\*D-2.54R  
HIF3MBW-\*D-2.54R




◆ IDC connector  
HIF3A-\*D-2.54R  
HIF3B-\*D-2.54R  
HIF3BA-\*D-2.54R

⚠ HIF3A-60D-2.54R and MIL type pin header can be mated only with HIF3BAE-60PA-2.54DS(A) Allows mating with other different number of positions and box type pin headers of HIF3A Series.



◆ Crimp connector  
HIF3BA-\*D-2.54C


MIL type pin header  
HIF3M\*W Series



◆ Straight type with lock  
HIF3MAW-\*PA-2.54DSA  
HIF3MBW-\*PA-2.54DSA  
HIF3MDW-\*PA-2.54DSA

◆ Right angle type with lock  
HIF3MAW-\*PA-2.54DS  
HIF3MBW-\*PA-2.54DS  
HIF3MDW-\*PA-2.54DS

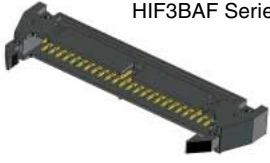
MIL type pin header  
HIF3B Series



◆ Straight type with lock  
HIF3BA-\*PA-2.54DSA  
HIF3BB-\*PA-2.54DSA  
HIF3BD-\*PA-2.54DSA

◆ Right angle type with lock  
HIF3BA-\*PA-2.54DS  
HIF3BB-\*PA-2.54DS  
HIF3BD-\*PA-2.54DS

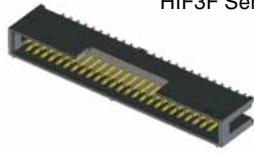
MIL type F Pin header with lock  
HIF3BAF Series



◆ Straight type  
HIF3BAF-\*PA-2.54DSA

◆ Right angle type  
HIF3BAF-\*PA-2.54DS

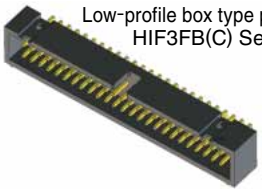
Box type pin header  
HIF3F Series



◆ Straight type  
HIF3F-\*PA-2.54DSA

◆ Right angle type  
HIF3F-\*PA-2.54DS


Low-profile box type pin header  
HIF3FB(C) Series



◆ Straight type  
HIF3FB-\*PA-2.54DSA  
HIF3FC-\*PA-2.54DSA

◆ Right angle type  
HIF3FB-\*PA-2.54DS  
HIF3FC-\*PA-2.54DS

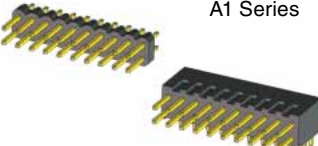
Pin header  
HIF3E Series



◆ Straight type  
HIF3E-\*PA-2.54DSA

◆ Right angle type  
HIF3E-\*PA-2.54DS


Pin header  
A1 Series



◆ Straight type  
A1-\*PA-2.54DSA

◆ Right angle type  
A1-\*PA-2.54DS

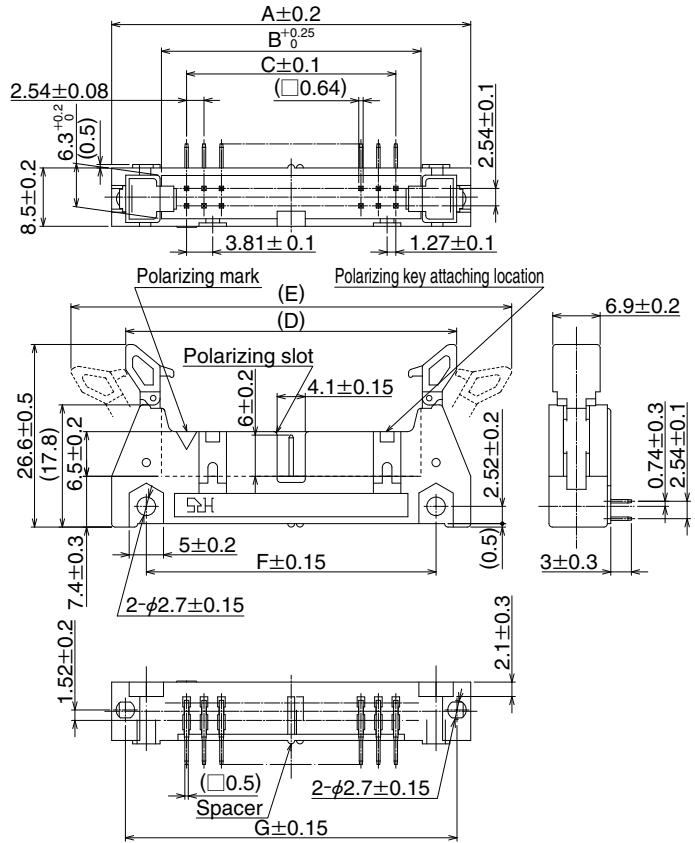
Ribbon cable plug  
HIF3B In-line type



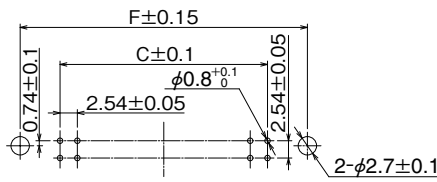
◆ In-line type  
HIF3BA-\*PD-2.54R-MC

## 4-wall right angle through hole

•HIF3M\*W-\*\*PA-2.54DS



### Recommended PCB Layout



\*As the number of polarizing slots and polarizing keys differs for each part, please refer to the table below and the list of polarization properties in HIF3M\*W Series on page 7.  
 \*The spacer moves to the right according to the number of positions.

Unit : mm

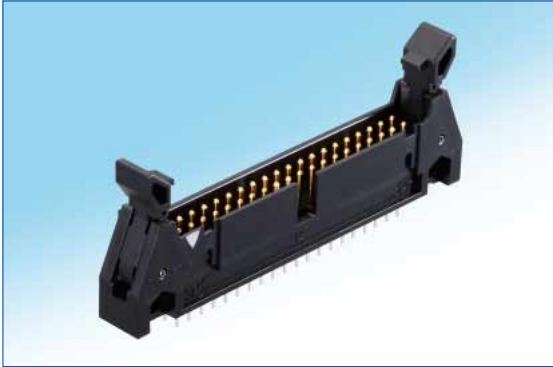
Part No.	HRS No.	No. of Contacts	A	B	C	D	E	F	G	Polarizing slot	Polarizing key	RoHS	
★ HIF3MAW-10PA-2.54DS(63)	610-3500-6 63	10	32	17.5	10.16	28.14	51.1	21.8	27.9	0	1	YES	
HIF3MDW-10PA-2.54DS(63)	610-3501-9 63										0		
★ HIF3MAW-14PA-2.54DS(63)	610-3502-1 63	14	37.1	22.6	15.24	33.24	56.2	26.9	33	1	YES		
★ HIF3MAW-16PA-2.54DS(63)	610-3503-4 63	16	39.6	25.1	17.78	35.74	58.7	29.5	35.5	1			
★ HIF3MAW-20PA-2.54DS(63)	610-3504-7 63	20	44.7	30.2	22.86	40.84	63.8	34.5	40.6				
★ HIF3MAW-26PA-2.54DS(63)	610-3505-0 63	26	52.3	37.8	30.48	48.44	71.4	42.2	48.3				
★ HIF3MAW-30PA-2.54DS(63)	610-3506-2 63	30	57.4	42.9	35.56	53.54	76.5	47.2	53.3				
★ HIF3MAW-34PA-2.54DS(63)	610-3507-5 63	34	62.5	48	40.64	58.64	81.6	52.3	58.4				
★ HIF3MAW-40PA-2.54DS(63)	610-3508-8 63	40	70.1	55.6	48.26	66.24	89.2	59.9	66				
★ HIF3MAW-50PA-2.54DS(63)	610-3509-0 63	50	82.8	68.3	60.96	78.94	101.9	72.6	78.7				2 ※
★ HIF3MBW-50PA-2.54DS(63)	610-3510-0 63											1	
★ HIF3MAW-60PA-2.54DS(63)	610-3511-2 63	60	95.5	81	73.66	91.64	114.6	85.3	91.4	2 ※		1	
★ HIF3MBW-60PA-2.54DS(63)	610-3512-5 63									1			
★ HIF3MAW-64PA-2.54DS(63)	610-3513-8 63	64	100.6	86.1	78.74	96.74	119.7	90.4	96.5	2 ※			
★ HIF3MBW-64PA-2.54DS(63)	610-3514-0 63									1			

\*Pitch of polarizing guide is 22.86mm.

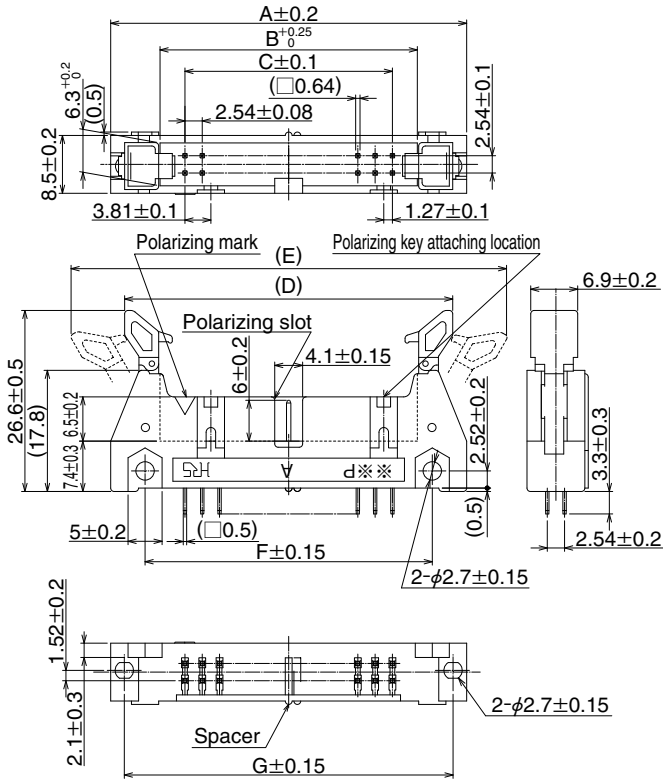
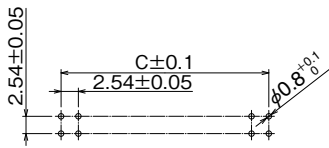
★ indicates MIL compliant product.

4-wall straight through hole

HIF3M\*W-\*\*PA-2.54DSA



Recommended PCB Layout



\*As the number of polarizing slots and polarizing keys differs for each part, please refer to the table below and the list of polarization properties in HIF3M\*W Series on page 7.  
 \*The spacer moves to the right according to the number of positions.

Unit : mm

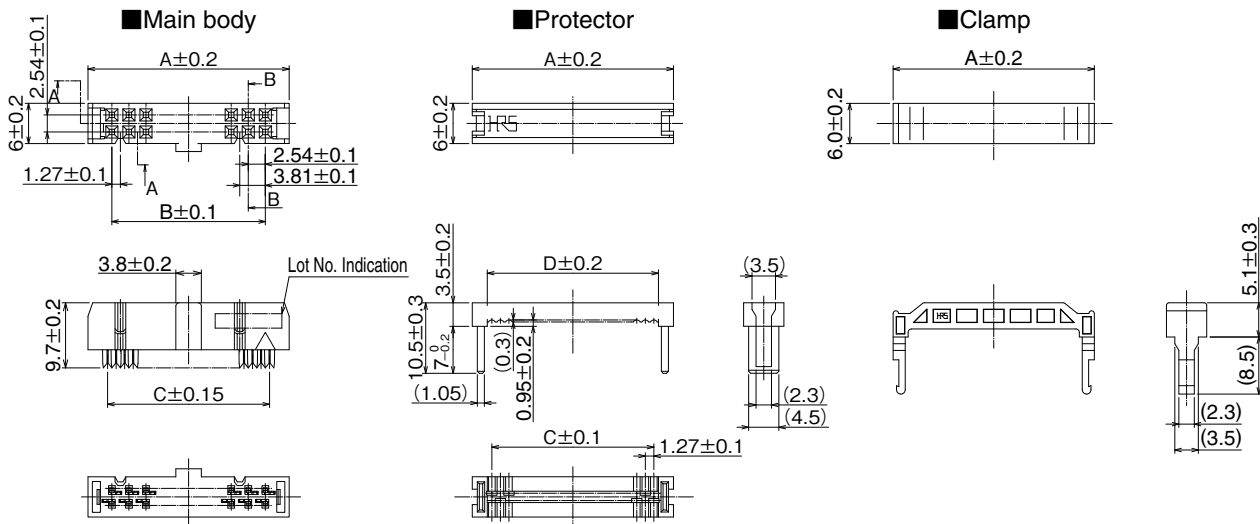
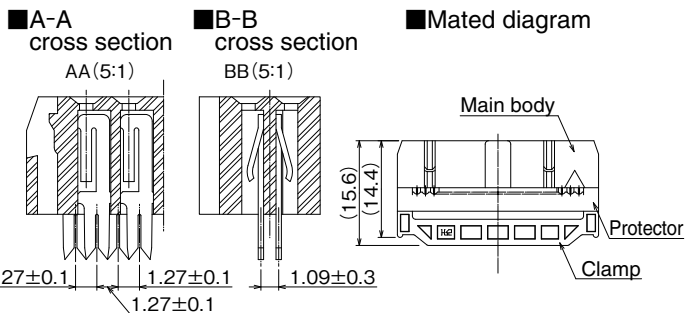
Part No.	HRS No.	No. of Contacts	A	B	C	D	E	F	G	Polarizing slot	Polarizing key	RoHS
★ HIF3MAW-10PA-2.54DSA(63)	610-3600-0 63	10	32	17.5	10.16	28.14	51.1	21.8	27.9	0	1	YES
HIF3MDW-10PA-2.54DSA(63)	610-3601-3 63										0	
★ HIF3MAW-14PA-2.54DSA(63)	610-3602-6 63	14	37.1	22.6	15.24	33.24	56.2	26.9	33	1		
★ HIF3MAW-16PA-2.54DSA(63)	610-3603-9 63	16	39.6	25.1	17.78	35.74	58.7	29.5	35.5	1		
★ HIF3MAW-20PA-2.54DSA(63)	610-3604-1 63	20	44.7	30.2	22.86	40.84	63.8	34.5	40.6			
★ HIF3MAW-26PA-2.54DSA(63)	610-3505-4 63	26	52.3	37.8	30.48	48.44	71.4	42.2	48.3			
★ HIF3MAW-30PA-2.54DSA(63)	610-3606-7 63	30	57.4	42.9	35.56	53.54	76.5	47.2	53.3			
★ HIF3MAW-34PA-2.54DSA(63)	610-3607-0 63	34	62.5	48	40.64	58.64	81.6	52.3	58.4			
★ HIF3MAW-40PA-2.54DSA(63)	610-3608-2 63	40	70.1	55.6	48.26	66.24	89.2	59.9	66			
★ HIF3MAW-50PA-2.54DSA(63)	610-3609-5 63	50	82.8	68.3	60.96	78.94	101.9	72.6	78.7	2 ※	2	
★ HIF3MBW-50PA-2.54DSA(63)	610-3610-4 63									1		
★ HIF3MAW-60PA-2.54DSA(63)	610-3611-7 63	60	95.5	81	73.66	91.64	114.6	85.3	91.4	2 ※		
★ HIF3MBW-60PA-2.54DSA(63)	610-3612-0 63									1		
★ HIF3MAW-64PA-2.54DSA(63)	610-3613-2 63	64	100.6	86.1	78.74	96.74	119.7	90.4	96.5	2 ※		
★ HIF3MBW-64PA-2.54DSA(63)	610-3614-5 63									1		

\*Pitch of polarizing guide is 22.86mm. ★ indicates MIL compliant product.

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## ■ Socket type (IDC, equipped with mis-insertion prevention guide)

• HIF3M\*W-\*\*D-2.54R



\*As the number of polarizing guides and polarizing keyways differs for each part, please refer to the table below and the list of polarization properties in HIF3M\*W Series on page 7.

Unit : mm

Part No.	HRS No.	No. of Contacts	A	B	C	D	Polarizing guide	Polarizing keyway	RoHS
★ HIF3MAW-10D-2.54R(63)	610-3002-9 63	10	17.27	10.16	11.43	12.8	1	1	YES
★ HIF3MAW-14D-2.54R(63)	610-3003-1 63	14	22.35	15.24	16.51	17.88			
★ HIF3MAW-16D-2.54R(63)	610-3004-4 63	16	24.89	17.78	19.05	20.42			
★ HIF3MAW-20D-2.54R(63)	610-2097-0 63	20	29.97	22.86	24.13	25.5			
★ HIF3MAW-26D-2.54R(63)	610-3005-7 63	26	37.59	30.48	31.75	33.12			
★ HIF3MAW-30D-2.54R(63)	610-2098-2 63	30	42.67	35.56	36.83	38.2			
★ HIF3MAW-34D-2.54R(63)	610-2099-5 63	34	47.75	40.64	41.91	43.28			
★ HIF3MAW-40D-2.54R(63)	610-2100-2 63	40	55.37	48.26	49.53	50.9		2	
★ HIF3MAW-50D-2.54R(63)	610-2101-5 63	50	68.07	60.96	62.23	63.6			
★ HIF3MBW-50D-2.54R(63)	610-2114-7 63								
★ HIF3MAW-60D-2.54R(63)	610-2102-8 63	60	80.77	73.66	74.93	76.3			
★ HIF3MBW-60D-2.54R(63)	610-2115-0 63								
★ HIF3MAW-64D-2.54R(63)	610-3006-0 63	64	85.85	78.74	80.01	81.38			
★ HIF3MBW-64D-2.54R(63)	610-0013-0 63								

\*Pitch of polarizing guide is 22.86mm.

★ indicates MIL compliant product.

### ● Applicable cable

Conductor size (number of cores)	Jacket
28 AWG Flat Cable (7pcs./0.127mm) <UL2651>	0.9±0.1mm

### ◆ Applicable IDC tool

Type	Part No.	HRS No.
IDC Connection	HI-FLEX-HHP502	550-0082-2
Guide plate	HIF3-GPA2	550-0156-7
Pressure block	PRESS BLOCK A-01	550-0133-1

\*Common to all No. of Contacts.

\*Please refer to p.10 for the description on connection.

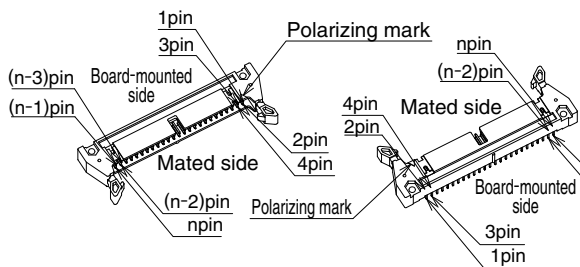
## HIF3M\*W Series List of polarization

Socket type				Header type				
Socket side part number	Polarizing guide	Polarizing key	Socket appearance	No. of Contacts	Pin header appearance	Polarizing slot	Polarizing key	Pin header part number
				10		0	1	·HIF3MAW-10PA-2.54DS(A)
·HIF3MAW-10D-2.54R	1	1				1	0	·HIF3MDW-10PA-2.54DS(A)
·HIF3MAW-14D-2.54R	1	1		14		1	1	·HIF3MAW-14PA-2.54DS(A)
·HIF3MAW-16D-2.54R ·HIF3MAW-20D-2.54R ·HIF3MAW-26D-2.54R ·HIF3MAW-30D-2.54R ·HIF3MAW-34D-2.54R ·HIF3MAW-40D-2.54R	1	2		16 to 40		1	2	·HIF3MAW-16PA-2.54DS(A) ·HIF3MAW-20PA-2.54DS(A) ·HIF3MAW-26PA-2.54DS(A) ·HIF3MAW-30PA-2.54DS(A) ·HIF3MAW-34PA-2.54DS(A) ·HIF3MAW-40PA-2.54DS(A)
·HIF3MBW-50D-2.54R ·HIF3MBW-60D-2.54R ·HIF3MBW-64D-2.54R	1	2		50 to 64		1	2	·HIF3MBW-50PA-2.54DS(A) ·HIF3MBW-60PA-2.54DS(A) ·HIF3MBW-64PA-2.54DS(A)
·HIF3MAW-50D-2.54R ·HIF3MAW-60D-2.54R ·HIF3MAW-64D-2.54R	2	2				2	2	·HIF3MAW-50PA-2.54DS(A) ·HIF3MAW-60PA-2.54DS(A) ·HIF3MAW-64PA-2.54DS(A)

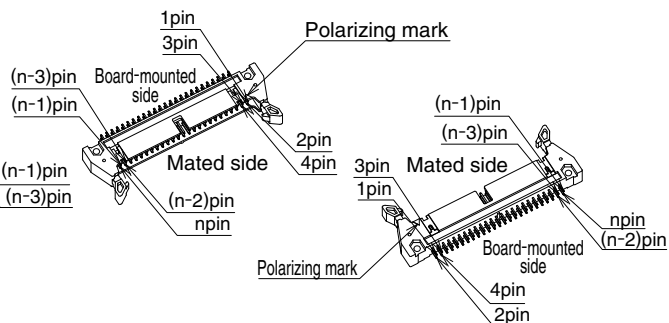
### Pin configuration correlation diagram

When terminal Nos. are arranged as 1,2,3,4.....n beginning from the side of the polarizing mark, contact positions are as shown in the diagram below.

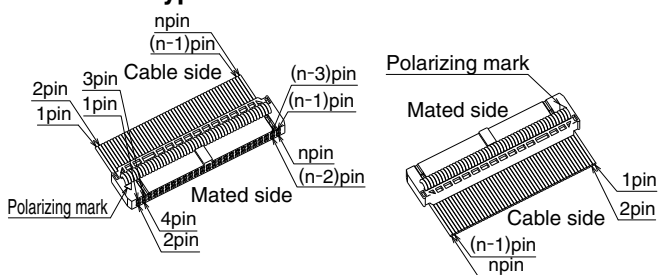
#### ● Right angle dip solder



#### ● Straight dip solder



#### ● Socket type



**Polarizing guide/slot : Mating combination**

**Compatible Mating Combinations**

10 pos.

- ◆Socket
  - HIF3MAW-10D-2.54R



- ◆Pin header
  - HIF3MDW-10PA-2.54DS(A)
  - Number of polarizing guides 1 = Number of polarizing slots 1

50 to 64 pos.

- ◆Socket
  - HIF3MAW-\*\*D-2.54R



- ◆Pin header
  - HIF3MAW-\*\*PA-2.54DS(A)
  - Number of polarizing guides 2 = Number of polarizing slots 2

50 to 64 pos.

- ◆Socket
  - HIF3MBW-\*\*D-2.54R



- ◆Pin header
  - HIF3MBW-\*\*PA-2.54DS(A)
  - Number of polarizing guides 1 = Number of polarizing slots 1

**Incompatible Mating Combinations**

10 pos.

- ◆Socket
  - HIF3MAW-10D-2.54R



- ◆Pin header
  - HIF3MAW-10PA-2.54DS(A)
  - Number of polarizing guides 1 ≠ Number of polarizing slots 0

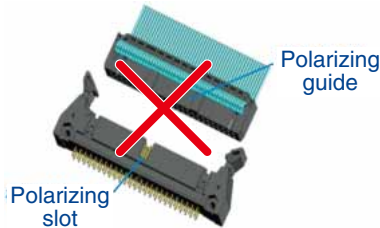


50 to 64 pos.

- ◆Socket
  - HIF3MAW-\*D-2.54R



- ◆Pin header
  - HIF3MBW-\*PA-2.54DS(A)
  - Number of polarizing guides 2 ≠ Number of polarizing slots 1

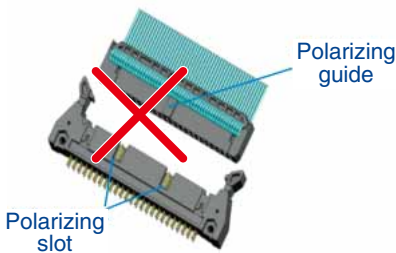


50 to 64 pos.

- ◆Socket
  - HIF3MBW-\*D-2.54R



- ◆Pin header
  - HIF3MAW-\*PA-2.54DS(A)
  - Number of polarizing guides 1 ≠ Number of polarizing slots 2



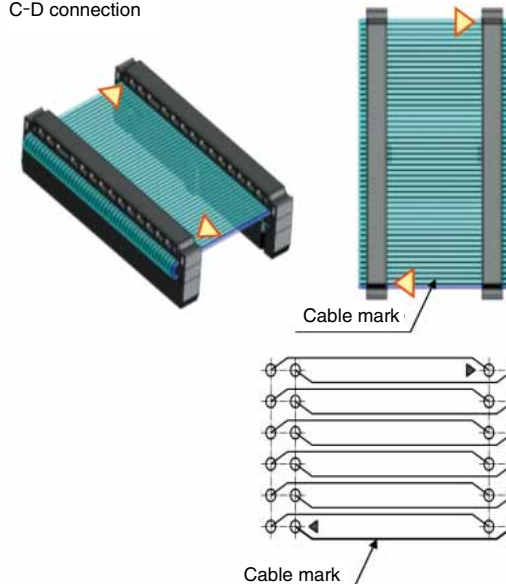
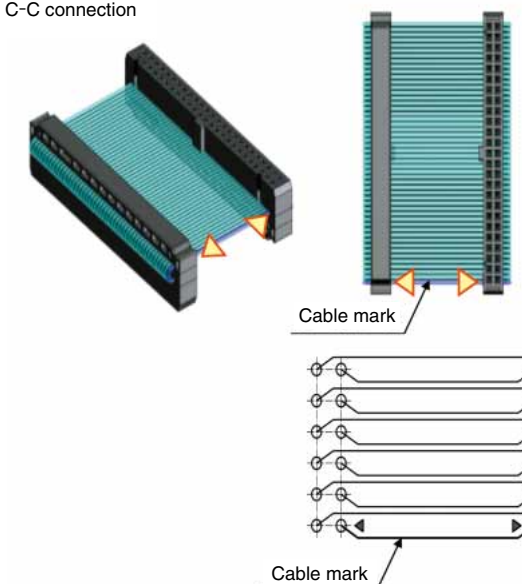
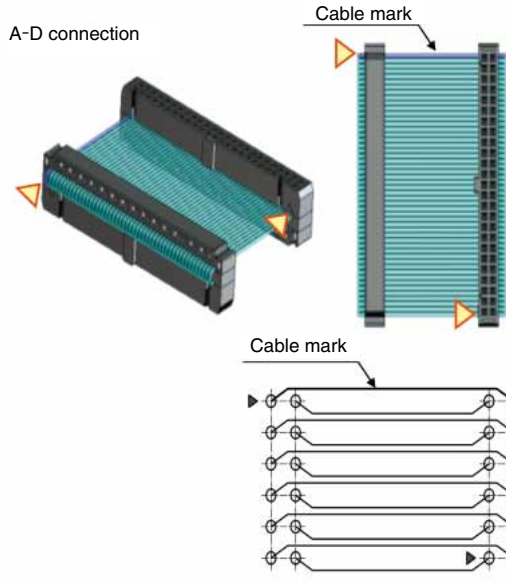
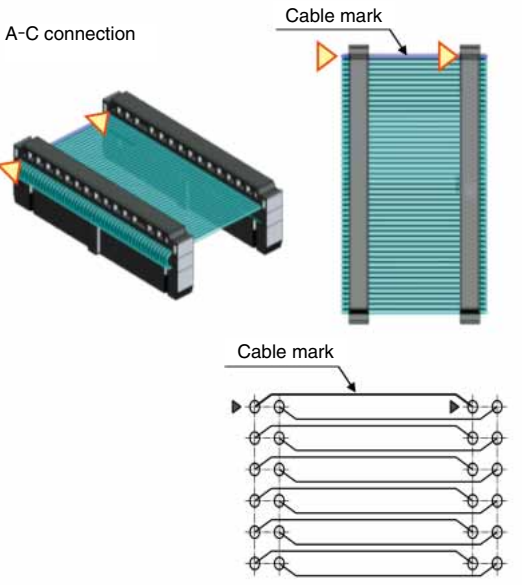
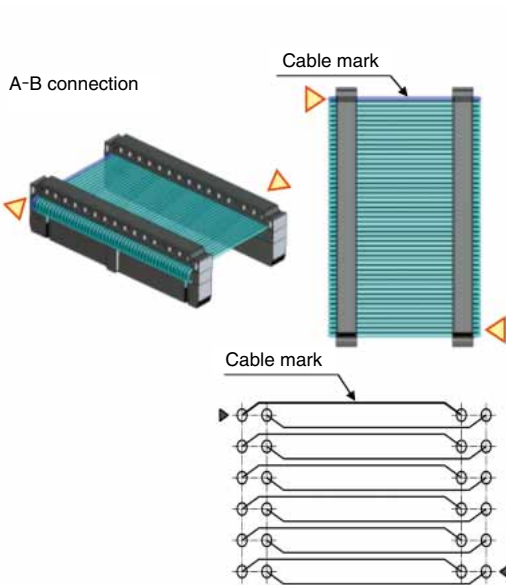
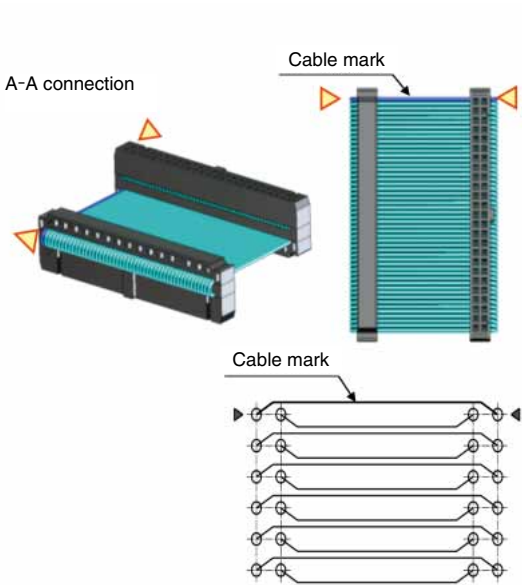
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### ◆ HIF3M\*W-\*\*D-2.54R Connection circuit diagram

The following is the connection circuit diagram of cable-connected HIF3M\*W-\*\*D-2.54R.

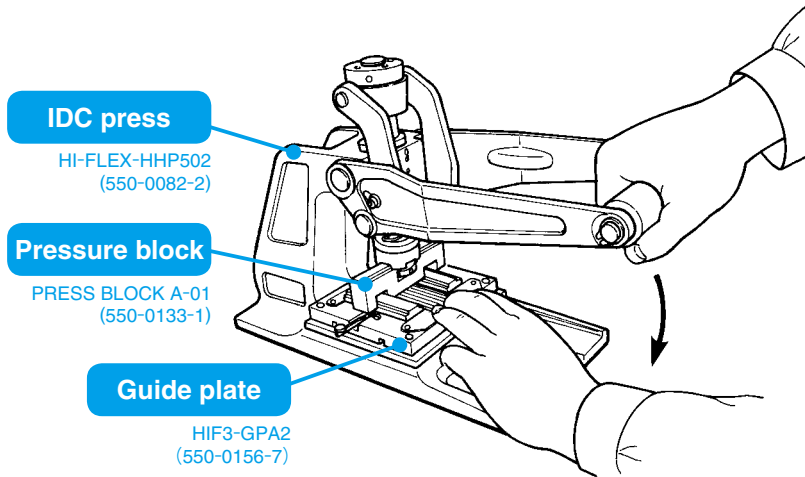
▷ ...Polarizing mark position



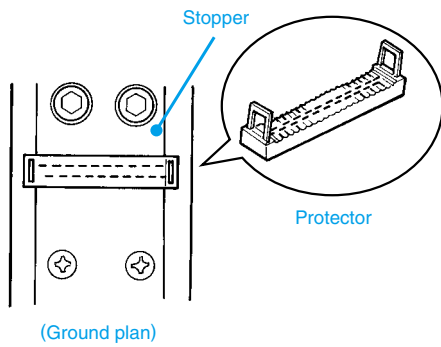
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## ◆ How to assemble the socket side (IDC)

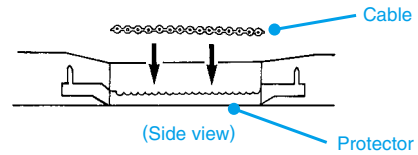
IDC press method : Dedicated tools as shown below are required for connection press of cables.



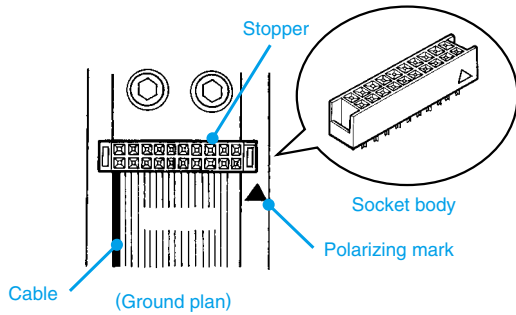
1. Place the protector on the guide plate.



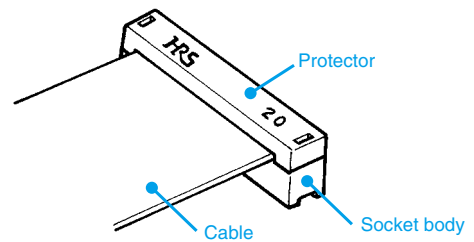
2. Place the cable on the top of the protector.



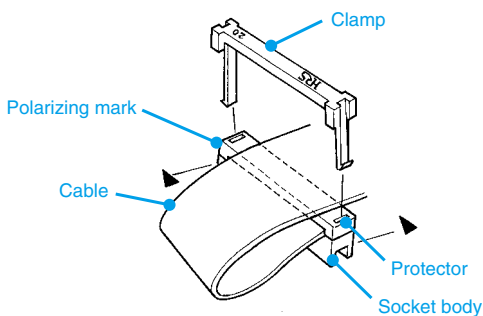
3. Place the socket body on the top of the cable.



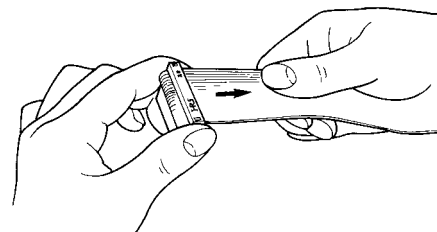
4. Depress the handle to terminate the socket body and the cable.



5. In order to enhance the connection reliability, fold back the cable and press down the clamp.



6. Pull the cable and eliminate deflection.



\*For details on cable connection and applicable termination tools, see "HIF Series Ribbon Cable Connection Instruction Manual".  
 \*HIF3M\*W Series can be assembled by using the same tools with HIF Series.