

This manual describes important and required points of handling about FM Connector (DIP Type). Be sure to read this manual thoroughly before using FM connector.

<u>C O N T E N T S</u>

Page 1. Model Number and Part Name 2 2. Storage 2 2.1 Connector storage 2 2.2 Storage of processed connectors 2 2.2 Storage of processed connectors 2 3. Applicable FFC·FPC 3 4. PC Board Pattern Layout 5 5. Handling Precautions 6 5.1 Inserting and releasing FFC·FPC 6 6. Handling of FFC·FPC after Mounting on PC Board 7 7. Precautions for Soldering Operation 8 7.1 Mounting connector on PC board 8 8. Other Precautions 8

K,Sumiya	N.Tanimura	-	K.Murata	
				IAR-4 [.]

IST Title subject: FM Connector (DIP Type)

1. Model Number and Part Name

(1) Model number

Part name	Model No.
FM connector (DIP Type)	※FM - 1.0(∗₁)T (LF)(SN)

Note 1: Number of circuits is indicated in 💥

Note 2: A letter in "*₁" denotes the connector type. B: Top entry type S: Side entry type

Note 3: Identification marking "(LF)(SN)" stands for lead-free product.

(2) Part name



Fig.1: Each part name (Connector)

2. Storage

2.1 Connector storage

Recommended storage condition: Temperature: 5 – 35 °C, Relative humidity 60 % or less (Under packaging like the state of JST shipment)

Keep off direct sunlight, places exposing to such corrosive gas as industrial gas (generate from a stove and whatnot) and ammonia gas (generate from a toilet and whatnot), dusty place and condensation. Note that the resin molding part may break due to transportation and handling, such as processing and mating, under dry or low temperature condition.

After unpacking, return products in the original package to store.

2.2 Storage of the processed connectors

Not leaving the processed connectors to stand in a place exposed to high humidity and direct sunshine, and not placing them directly on the ground, keep them in a clean storage room,

				(3/8)
JST	Title subject:	FM Connector (DIP Type)	No.	CHM-1-182

3. Applicable FFC·FPC

Item	Rated value	
Applicable FFC · FPC	Lead: Tin-plated flat copper conductor Lead pitch: 1.0 mm Lead width: 0.7 mm Mating part thickness: 0.33 + 0.02/-0.03 mm	

Note₄: Dimensions of FFC · FPC greatly affect to the contacting reliability with connector.

Conform the dimensions of FFC · FPC with those of applicable ones described in Fig.2.

Note₅: As above dimensions and construction are general conditions, FFC·FPC to be actually used should be checked for applicability with connector.

FFC · FPC, which applicability is not confirmed, might not be able to guarantee the performance.

In case of FFC

UNIT: mm



			(4/8)
Title subject:	FM Connector (DIP Type)	No.	CHM-1-182

In case of FPC

JST



Specification: Recommended value of tin-plated product

Base	Polyester	50µm
	or Polyimide	50µm
Conductor	Electrolytic copper foil	35µm
	Adhesive	25µm
	Tin-plated	2~8µm
Reinforcing board	Polyester	188µm
	Adhesive	50µm
Film cover lay		(25) µm

				(5/8)
JST	Title subject:	FM Connector (DIP Type)	No.	CHM-1-182

4. PC Board Pattern Layout

The following PC board pattern layout is recommended.

① Top entry type



Circuit	Dimension
No.	A ± 0.05
3	2.0
4	3.0
5	4.0
6	5.0
7	6.0
8	7.0
10	9.0
11	10.0
12	11.0

Recommended PC board hole size (Vied from top side)

- PC board insertion leg of each circuit starts from circuit No.1 and finishes on line "a" in case of odd circuit or finishes on line "b" in case of even circuit.
- Tolerances of PC board hole size are non-cumulative.
- ② Side entry type



Circuit	Dimension
No.	A ± 0.05
3	2.0
4	3.0
5	4.0
6	5.0
7	6.0
8	7.0
10	9.0
11	10.0
12	11.0

Recommended PC board hole size (Vied from bottom side)

- PC board insertion leg of each circuit starts from circuit No.1 and finishes on line "a" in case of odd circuit or finishes on line "b" in case of even circuit.
- · Tolerances of PC board hole size are non-cumulative.

Fig.3: PC board pattern layout

				(6/8)
JST	Title subject:	FM Connector (DIP Type)	No.	CHM-1-182

5. Handling Precautions

5.1 Inserting and releasing FFC·FPC

Inserting and releasing operations with FM connector and FFC·FPC shall be conducted on the same axis.

When the operation on same axis is difficult, conduct smooth operation within 15 degrees to each direction as below.



				(1/0)
JST	Title subject:	FM Connector (DIP Type)	No.	CHM-1-182

(7/9)

6. Handling of FFC · FPC after Mounting on PC Board

When inserted FFC·FPC is handled, provide sufficient FFC·FPC length so that force is not loaded to FM connector, because such loading may cause damage and discontinuity of connector.



In the case that load is applied to mating part of connector and FFC·FPC due to operation of rotation part of device, etc. when using connector, such condition may cause defective contacting at connector mating part due to abrasion.

In such case, some treatment such as fixing FFC·FPC around mating part should be conducted.

				(8/8)
JST	Title subject:	FM Connector (DIP Type)	No.	CHM-1-182

7. Precautions for Soldering Operation

7.1 Mounting connector on PC board

When mounting the connector on PC board, conduct the following points:

- ① When mounting the connector on a PC board, mount it in a straight on PC board without prying so that the lock part of the connector shall be inserted into the PC board together.
- When dip soldering is conducted for the tin-plated product, soldering should be conducted under the following condition.

Dip temperature: 245 ~ 265 °C Dip time: 5 sec. max.

③ Solder the connector mounted on a PC board and repair soldering using a soldering iron with temperature of 350 °C quickly within 3 seconds, and check appearance visually. When soldering, strictly conduct the following points.

Do not press soldering iron tip on connector contact lead part nor apply abnormal force such as lateral load, etc. If done, dismount and exchange connector, and conduct soldering again. Do not reuse dismounted connector.

8. Other Precautions

As adhesion of foreign matters such as seasoning, fruit juice, detergent, etc. may cause defective continuity and defective soldering. Pay careful attention and if stained, never use the stained connector.