

High Frequency /Ethernet Connector

高周波／車載イーサネット用コネクタ

**CONNECTORS
FOR
AUTOMOBILES**

HFC-IV SERIES

Features

HFC-IV (High Frequency Connector) series are suitable for applications such as Telematics, Infotainment, Camera, Antenna and sensor circuit. It reduces reflection/transmission loss and restraints noise radiation. It achieved smaller size with higher performance. Hybrid types for high frequency coaxial wire and automobile wire (AV) are established. (It supports diversity receiving system.) Retainer for secondary lock is preloaded and the structure allows the high frequency coaxial wire and AV wire to be set by one operation. Therefore improvement of assembling operation can be planned.

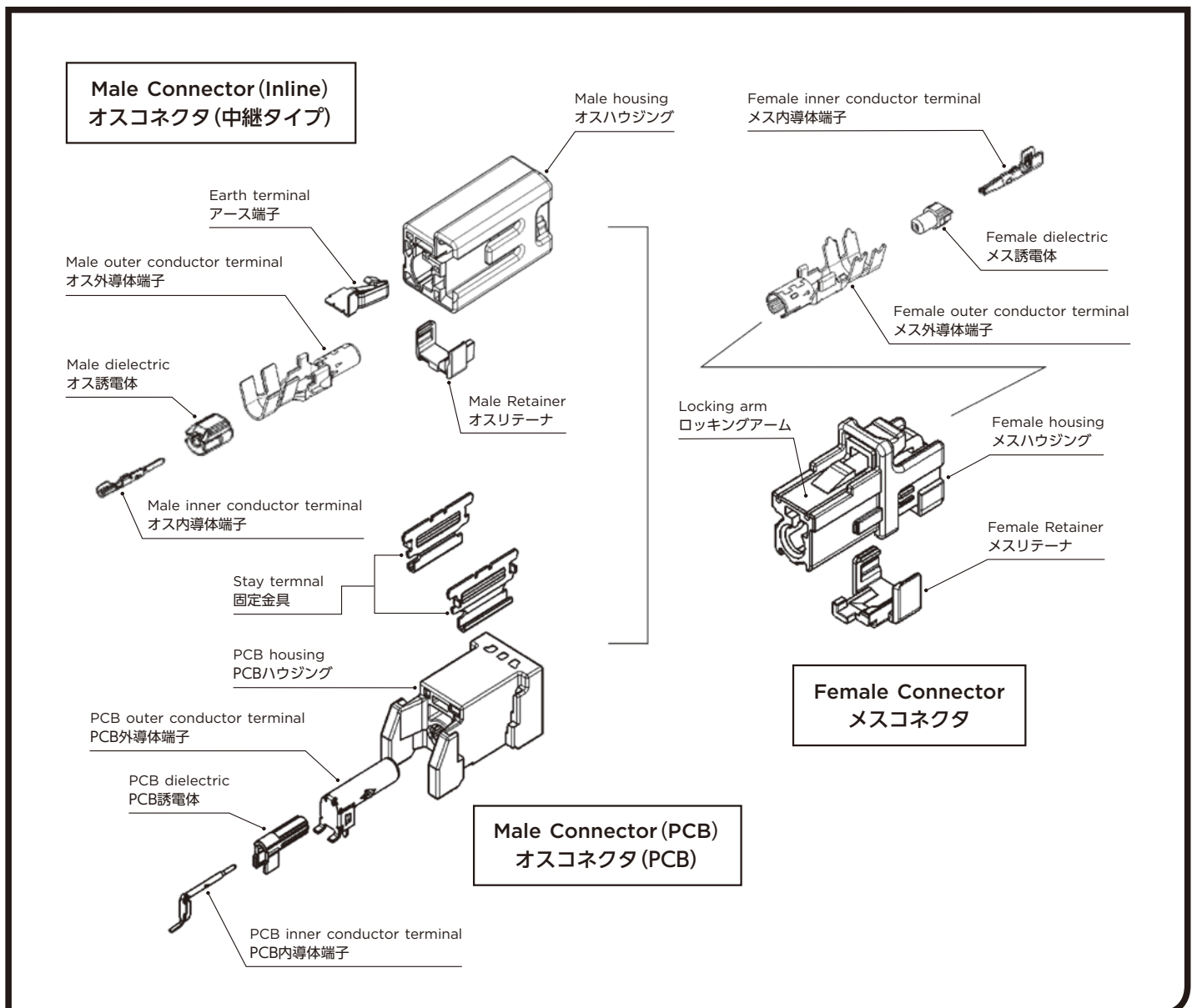
特長

HFC-IVシリーズ（高周波コネクタ）は、テレマティクス、インフォテインメント機器、カメラ、アンテナ等の車載アプリケーションに最適な、センサ回路にも適したコネクタです。伝送損失、反射、ノイズ放射を抑制し、小型高性能化を実現しています。

高周波同軸線と自動車用電線（AV）のハイブリッドタイプを設定しています。（ダイバシティ受信方式に対応しています。）

二重係止用リテーナは予め組み付けられており、高周波同軸線とAV線が同一作業でセットできる構造により、組み付け作業の向上が図れます。

Structure / 構造

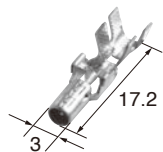


Conductor Terminal

(Note) Applicable Wire → JIS Standard.

(M) Terminal assy 端子ASSY

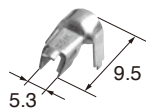
**8230-5984 (SS) 8230-5986 (MS) 8230-5985 (SM)
8230-6011 (LL)**



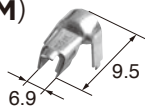
Material	
Dielectric(Natural color) 誘電体(自然色)	PBT
Outer conductor terminal 外導体端子	Brass(Tin-plated) 黄銅(Snめっき)
Inner conductor terminal 内導体端子	Brass(Tin/Au-plated) 黄銅(Sn/Auめっき)

(M) Cover terminal assy* カバー端子ASSY (Optional Parts)

8410-6378 (SS) 8410-6480 (LM)

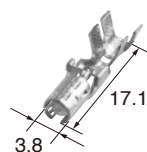


Material	
Dielectric(Light Gray color) 誘電体(淡灰色)	PP
Cover カバー	Brass(Tin-plated) 黄銅(Snめっき)



(F) Terminal assy 端子ASSY

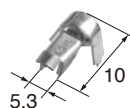
**8240-0765 (SS) 8240-0767 (MS) 8240-0766 (SM)
8240-0796 (LL)**



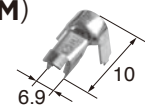
Material	
Dielectric(Natural color) 誘電体(自然色)	PBT
Outer conductor terminal 外導体端子	Brass(Tin-plated) 黄銅(Snめっき)
Inner conductor terminal 内導体端子	Heat resistant copper-alloy (Tin/Au-plated) 耐熱銅合金(Sn/Auめっき)

(F) Cover terminal assy* カバー端子ASSY (Optional Parts)

8240-0778 (SS) 8410-6479 (LM)



Material	
Dielectric(Light Gray color) 誘電体(淡灰色)	PP
Cover カバー	Brass(Tin-plated) 黄銅(Snめっき)

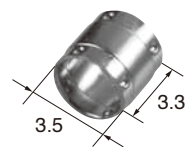


* (Note) Cover terminal is used under 6GHz frequency band conditions for 1.5D-2V/2.5D-FV wire.
注) 1.5D線以上において周波数帯～6GHzでご使用ください。

* (Note) Cover terminal is used under 6GHz frequency band conditions for 1.5D-2V/2.5D-FV wire.
注) 1.5D線以上において周波数帯～6GHzでご使用ください。

(M)/(F) Shared Sleeve* スリーブ (Optional Parts)

8410-6472

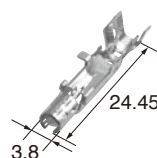


Material	
	SUS ステンレス

* (Note) Sleeve is used with foaming coaxial cable.
注) 発砲絶縁体の同軸電線でご使用ください。

(F) Terminal assy* 端子ASSY for RADIO

8240-0768 (SM) 8240-0769 (MM)



Material	
Dielectric(Natural color) 誘電体(自然色)	PBT
Outer conductor terminal 外導体端子	Brass(Tin-plated) 黄銅(Snめっき)
Inner conductor terminal 内導体端子	Heat resistant copper-alloy (Tin/Au-plated) 耐熱銅合金(Sn/Auめっき)

* (Note) The terminal for radio can connect a condenser inside.
On this occasion, a common crimping terminal is necessary.
注) ラジオ用端子は、内部にコンデンサを接続することが可能です。
その際、共圧着端子(8240-0777)をご使用ください。

Applicable coaxial wire for Terminal assy / 適用同軸電線

(M)	Applicable cable		Frequency band	Parts No.	Size	Sleeve	Cover terminal assy
	75Ω	1.5C-2V	～770MHz	8230-5984	(SS)	-	-
	1.5C-2W	～770MHz	8230-5986	(MS)	-	-	
50Ω	1.5D-2V	～240MHz カバー端子無し(Without cover terminal)	8230-5985	(SM)	-	8410-6378	
		～6GHz カバー端子有(With cover terminal)					
	2.5D-FV	～6GHz	8230-6011	(LL)	8410-6472	8410-6480	

(F)	Applicable cable		Frequency band	Parts No.	Size	Sleeve	Cover terminal assy
	75Ω	1.5C-2V	～770MHz	8240-0765	(SS)	-	-
	1.5C-2W	～770MHz	8240-0767	(MS)	-	-	
50Ω	1.5D-2V	～240MHz カバー端子無し(Without cover terminal)	8240-0766	(SM)	-	8240-0778	
		～6GHz カバー端子有(With cover terminal)					
	2.5D-FV	～6GHz	8240-0796	(LL)	8410-6472	8410-6479	

Basic specification / 基本仕様

Low voltage current resistance 低電圧電流抵抗	Coaxial wire 同軸線	Max. 20mΩ (Initial/初期)
	AV wire AV線	Max. 8mΩ (Initial/初期)
Insulation resistance 絶縁抵抗	Min. 100MΩ	
Working temperature 使用温度	-40℃～+105℃	

VSWR 電圧定在波比	75Ω系	～108MHz	Max. 1.2
		～770MHz	Max. 1.4
	50Ω系	～240MHz(1.5D系) Without cover terminal カバー端子無	Max. 1.3
		～3GHz(1.5D系) With cover terminal カバー端子有	Max. 1.3
		～3GHz(2.5D系)	Max. 1.2
	3～6GHz	Max. 1.3	

HFC-IV SERIES

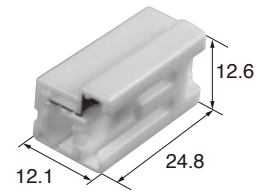
for Standard

Material : PBT

1 pole coaxial wire

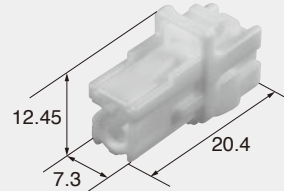
(Key A)

Color Natural



M (6098-9701)

F (6098-9503)



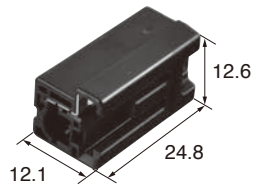
PCB Connector part No. 6098-9523

Color Natural

1 pole coaxial wire

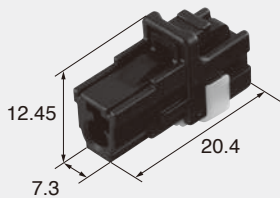
(Key B)

Color Black



M (6098-9704)

F (6098-9506)



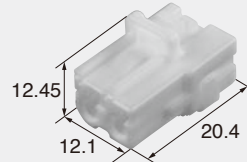
PCB Connector part No. 6098-9526

Color Black

2 poles coaxial wire

(Key A)

F (6098-9510)



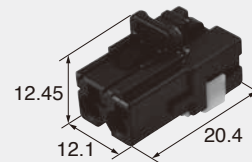
PCB Connector part No. 6098-9528

Color Natural

2 poles coaxial wire

(Key B)

F (6098-9513)



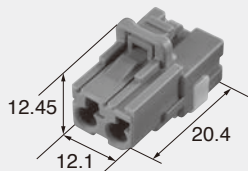
PCB Connector part No. 6098-9530

Color Black

2 poles coaxial wire

(Key C)

F (6098-9515)



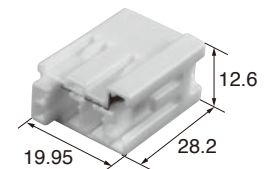
PCB Connector part No. 6098-9532

Color Gray

2 poles coaxial wire + 2 poles AV wire (0.64II)

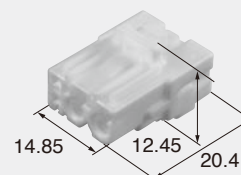
(Key A)

Color Natural



M (6098-9706)

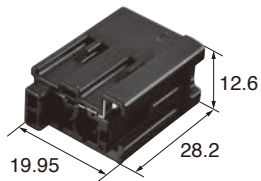
F (6098-9688)



Color Natural

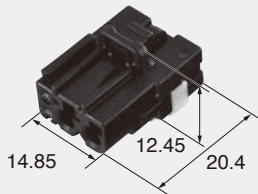
2 poles coaxial wire + 2 poles AV wire (0.64 II) (Key B)

Color Black



M (6098-9709)

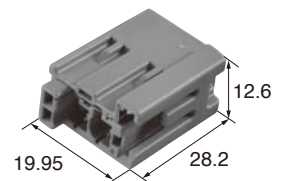
F (6098-9691)



Color Black

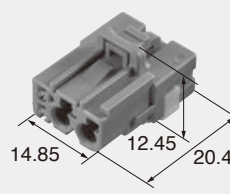
2 poles coaxial wire + 2 poles AV wire (0.64 II) (Key C)

Color Gray



M (6098-9711)

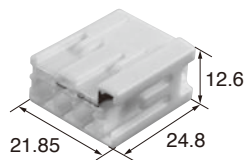
F (6098-9693)



Color Gray

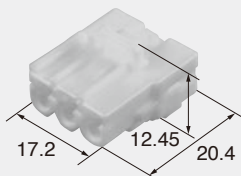
3 poles coaxial wire

Color Natural



M (6098-9713)

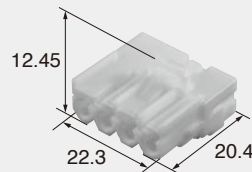
F (6098-9695)



Color Natural

4 poles coaxial wire

F (6098-9520)

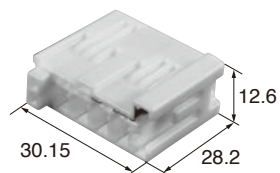


PCB Connector part No. 6098-9536

Color Natural

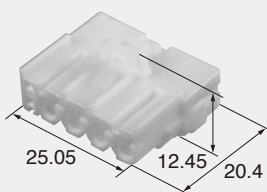
4 poles coaxial wire + 2 poles AV wire (0.64 II)

Color Natural



M (6098-9716)

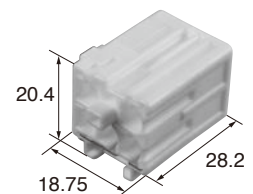
F (6098-9698)



Color Natural

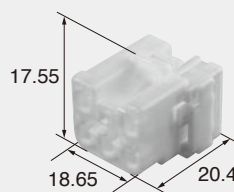
5 poles coaxial wire + 1 pole AV wire (0.64 II)

Color Natural



M (6098-9603)

F (6098-9600)



Color Natural

HFC-IV SERIES for PCB

Material : LCP

1 pole coaxial wire

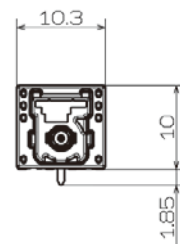
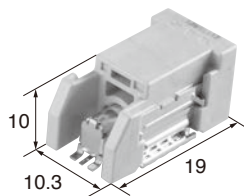
Horizontal SMT 水平タイプ (Key A)

M (6098-9523)

●Detailed dimension
寸法詳細

(F) Connector part
No. 6098-9503

Color Natural



1 pole coaxial wire

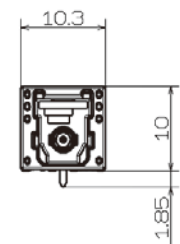
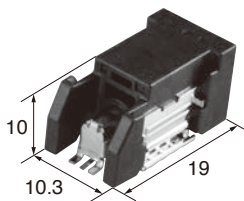
Horizontal SMT 水平タイプ (Key B)

M (6098-9526)

●Detailed dimension
寸法詳細

(F) Connector part
No. 6098-9506

Color Black



2 poles coaxial wire

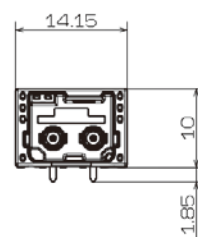
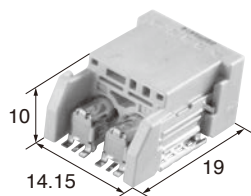
Horizontal SMT 水平タイプ (Key A)

M (6098-9528)

●Detailed dimension
寸法詳細

(F) Connector part
No. 6098-9510

Color Natural

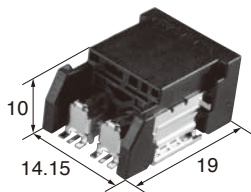


2 poles coaxial wire

Horizontal SMT 水平タイプ (Key B)

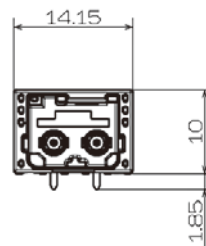
M (6098-9530)

●Detailed dimension
寸法詳細



(F) Connector part No. 6098-9513

Color Black

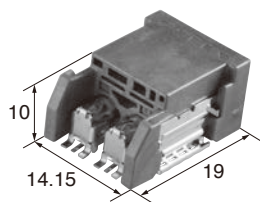


2 poles coaxial wire

Horizontal SMT 水平タイプ (Key C)

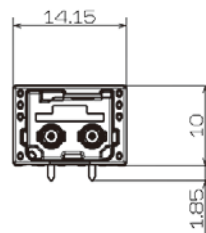
M (6098-9532)

●Detailed dimension
寸法詳細



(F) Connector part No. 6098-9515

Color Gray

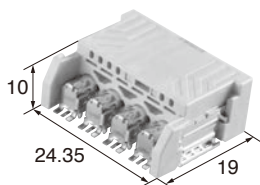


4 poles coaxial wire

Horizontal SMT 水平タイプ

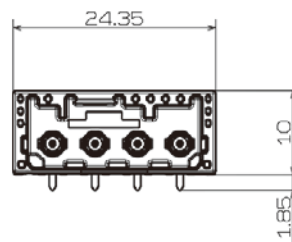
M (6098-9536)

●Detailed dimension
寸法詳細



(F) Connector part No. 6098-9520

Color Natural



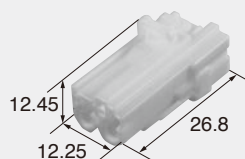
HFC-IV SERIES for RADIO

Material : PBT/LCP

STANDARD

2 poles coaxial wire + 1 pole AV wire (0.64II)

F (6098-9517)



PCB Connector part No.	6098-9534
Material	PBT
Color	Natural

PCB

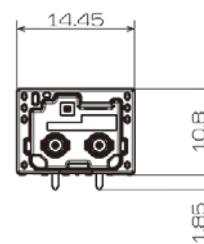
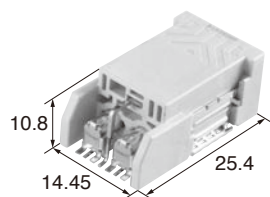
2 poles coaxial wire + 1 pole AV wire (0.64II)

Horizontal SMT 水平タイプ

M (6098-9534)

●Detailed dimension
寸法詳細

(F) Connector part No.	6098-9517
Material	LCP
Color	Natural



HFD-U2 SERIES (Ethernet Connector)

Features

In-vehicle Ethernet is Ethernet communication technology based on standards suitable for in-vehicle networks in automobiles. Sumitomo HFD-U2 series conforms to the *IEEE 802.3bw 100BASE-T1 (in-vehicle Ethernet) standard. HFD-U2 connector series is based on the Ethernet technology used in consumer and industrial applications, it meets the requirements of automobiles such as harness cost reduction, real-time communication and weight saving by uses UTP (Unshielded Twisted Pair) cables.

*IEEE is an organization in the field of electrical and information engineering and a technology standardization institution based in the United States.

特長

車載ネットワークに適応した通信規格による通信技術を車載 Ethernet と呼びます。

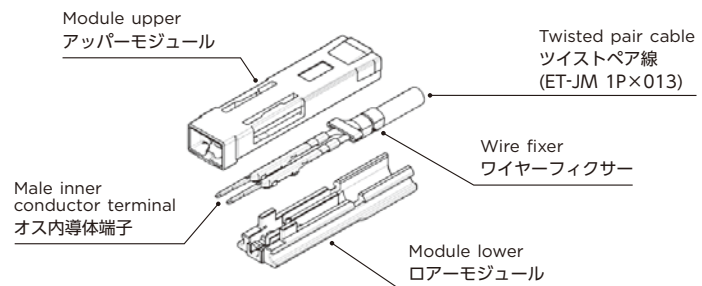
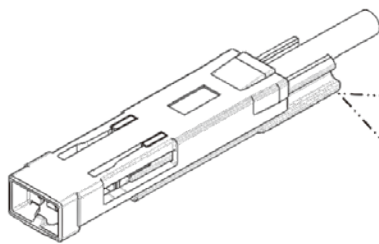
住友電装の HFD-U2 シリーズは、車載 Ethernet の通信規格である *IEEE 802.3bw 100BASE-T1 規格に準拠しております。

産業分野や民生分野で使われている Ethernet 技術をベースに、リアルタイム通信などの自動車で求められる車載 Ethernet 要件に対応し、UTP (Unshielded Twisted Pair) の採用によって省スペースや車体の軽量化、コスト削減のニーズに応えています。

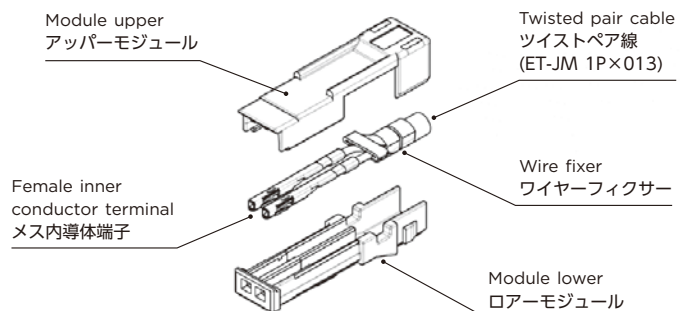
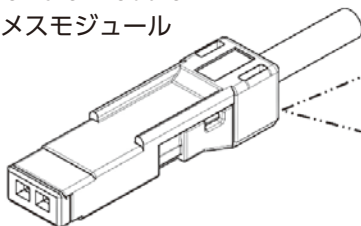
*IEEE は米国に本部を置く電気・情報工学分野の団体、技術標準化機関です。

Assy Module Structure / モジュール構造

Male module オスモジュール

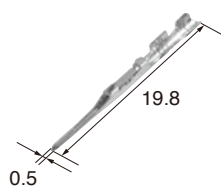


Female module メスモジュール



(M) Assy module

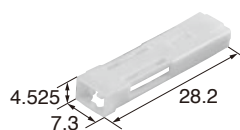
(M) Inner conductor terminal オス内導体端子



Parts No. **8230-5939**

Material Heat resistant copper-alloy(Tin-plated)
耐熱銅合金(Snめっき)

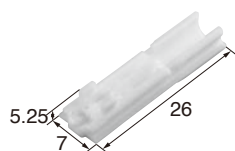
(M) Module upper アッパーモジュール



Parts No.	Color
6910-8307	Natural
6910-8310	Black
6910-8313	Blue
6910-8315	Gray

Material PBT

(M) Module lower ロアモジュール

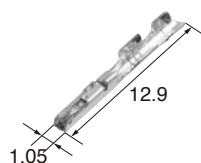


Parts No.	Color
6910-8308	Natural
6910-8311	Black
6910-8314	Blue
6910-8316	Gray

Material PBT

(F) Assy module

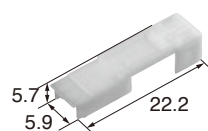
(F) Inner conductor terminal メス内導体端子



Parts No. **8240-0697**

Material Heat resistant copper-alloy(Tin-plated)
耐熱銅合金(Snめっき)

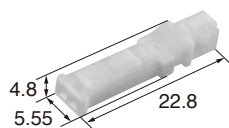
(F) Module upper アッパーモジュール



Parts No.	Color
6910-8251	Natural
6910-8255	Black
6910-8257	Blue
6910-8256	Gray

Material PBT

(F) Module lower ロアモジュール

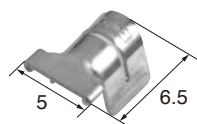


Parts No.	Color
6910-8252	Natural
6910-8258	Black
6910-8260	Blue
6910-8259	Gray

Material PBT

(M)(F) Shared 共通部品

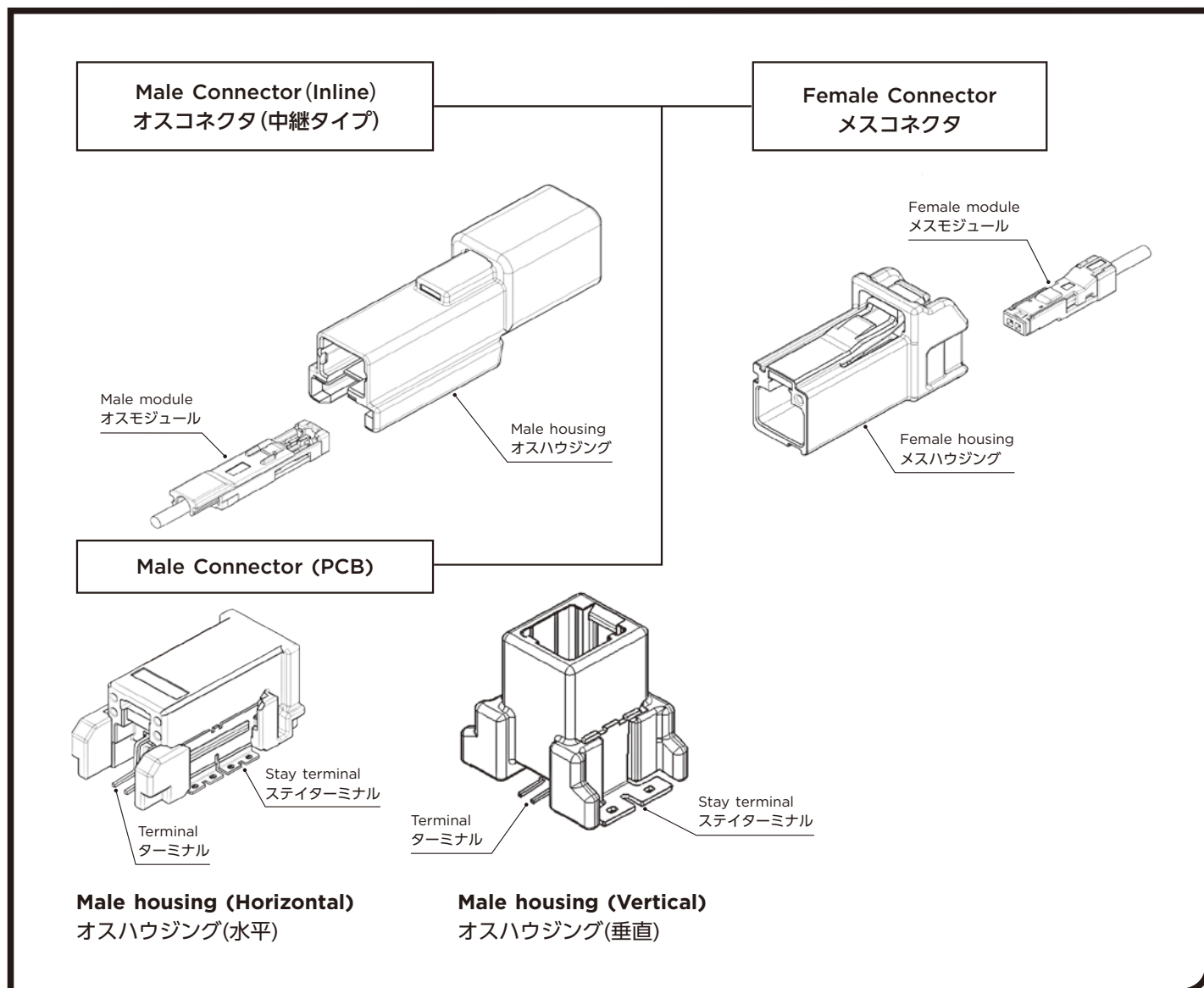
Wire fixer ワイヤフィクサー



Parts No. **8410-5733**

Material Brass(Tin-plated)
黄銅(Snめっき)

Non-Sealed Housing Structure / 非防水コネクタ 構造



Basic specification / 基本仕様

項目	性能
Low voltage current resistance 低電圧電流抵抗	Max. 10mΩ (Initial)
Insulation resistance 絶縁抵抗	Min. 100MΩ
Working temperature 使用温度	-40°C ~ +80°C
Transmission characteristics 通信特性	IEEE 100 BASE-T1 Definitions for Communication Channel 5.1.2 and 5.2.2 shall be satisfied.

HFD-U2 SERIES

for Non-Sealed STANDARD

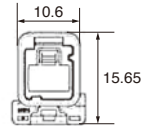
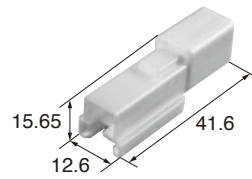
Material : PBT

1 pair

(Key A)

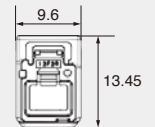
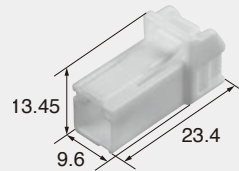
Color Natural

(Note) Bracket size 9mm



M (6910-8306)

F (6910-8250)



PCB Connector part No. 6910-8268
6910-8248

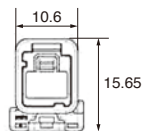
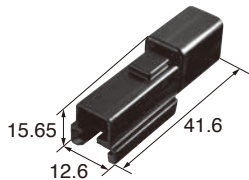
Color Natural

1 pair

(Key B)

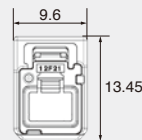
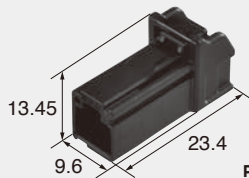
Color Black

(Note) Bracket size 9mm



M (6910-8309)

F (6910-8253)



PCB Connector part No. 6910-8269

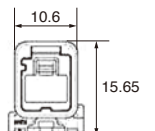
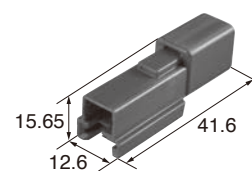
Color Black

1 pair

(Key C)

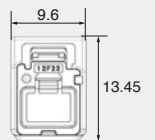
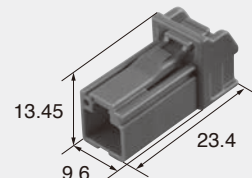
Color Blue

(Note) Bracket size 9mm



M (6910-8312)

F (6910-8254)



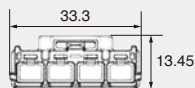
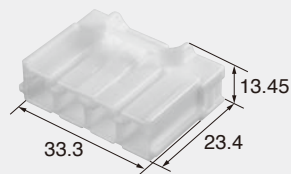
PCB Connector part No. 6910-8270

Color Blue

4 pairs

(Key A)

F (6910-8298)



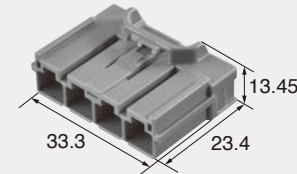
PCB Connector part No. 6910-8300

Color Natural

4 pairs

(Key B)

F (6910-8301)



PCB Connector part No. 6910-8302

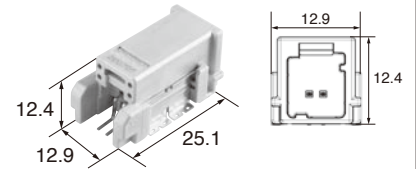
Color Gray

HFD-U2 SERIES for Non-Sealed PCB

Material : LCP

1 pair Horizontal SMT 水平タイプ (Key A)

M (6910-8268)

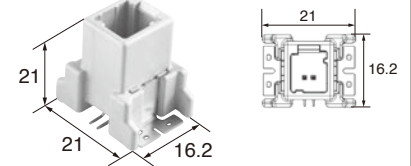


(F) Connector part No. 6910-8250

Color Natural

1 pair Vertical SMT 垂直タイプ (Key A)

M (6910-8248)

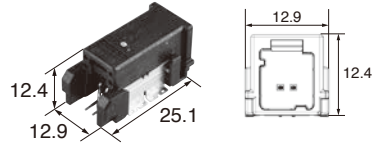


(F) Connector part No. 6910-8250

Color Natural

1 pair Horizontal SMT 水平タイプ (Key B)

M (6910-8269)

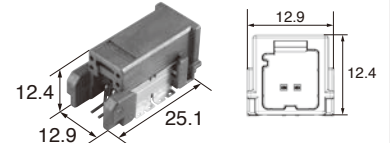


(F) Connector part No. 6910-8253

Color Black

1 pair Horizontal SMT 水平タイプ (Key C)

M (6910-8270)

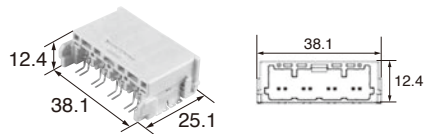


(F) Connector part No. 6910-8254

Color Blue

4 pairs Horizontal SMT 水平タイプ (Key A)

M (6910-8300)

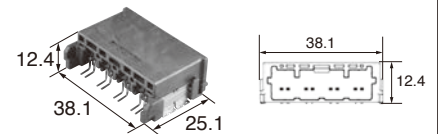


(F) Connector part No. 6910-8298

Color Natural

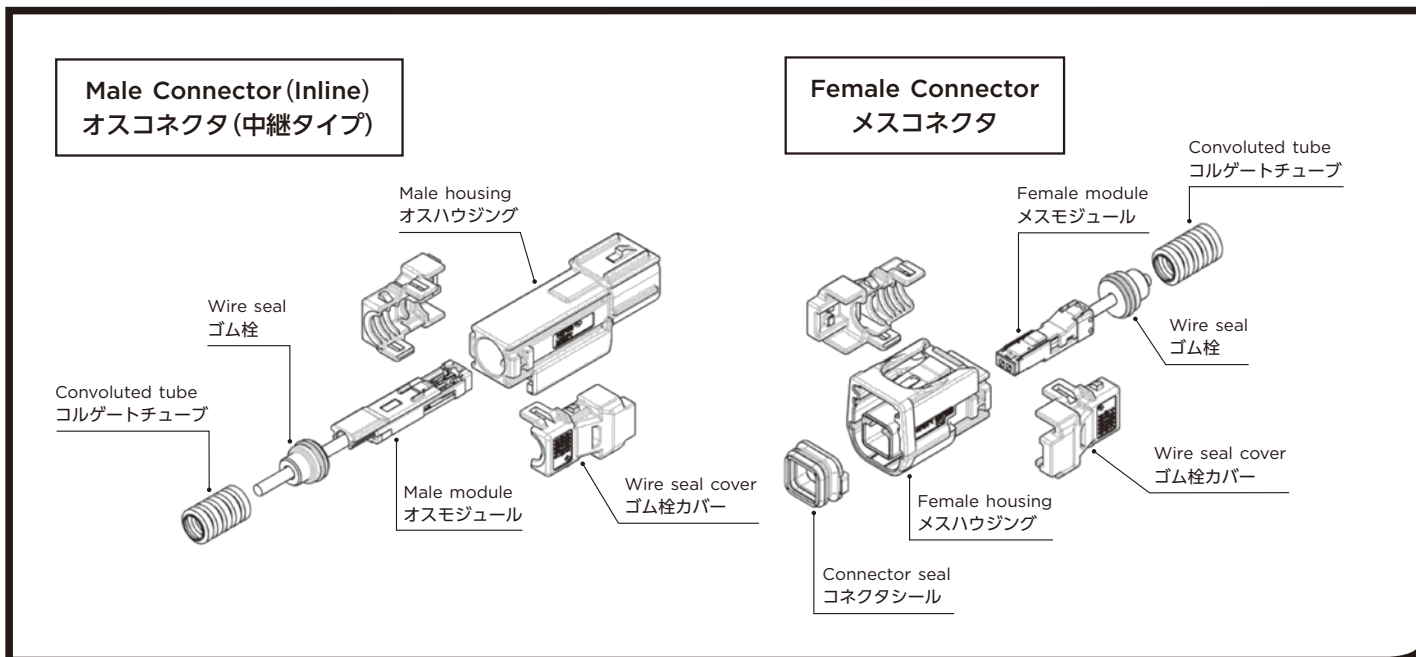
4 pairs Horizontal SMT 水平タイプ (Key B)

M (6910-8302)



(F) Connector part No. 6910-8301

Color Gray

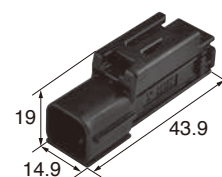


HFD-U2 SERIES for Sealed STANDARD

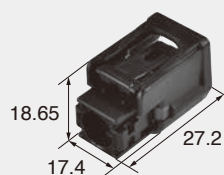
1 pair

Material	PBT
Color	Black

(Note) Bracket size 9mm



M (6098-9257)



Material	PBT
Color	Black

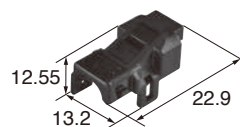
F (6910-8292)

Wire seal ゴム栓 (7165-1874)



Material	Silicone
Color	Reddish Brown ベンガラ

Wire seal cover ゴム栓カバー (6910-8293)



Material	PBT
Color	Black

(Note) for Convoluted tube ϕ D5
注) D5サイズ コルゲートチューブ対応



CAUTION

WARNING

- Do not exceed prescribed current to the connectors.
- Do not use a broken or cracked housing.
- Do not use a deformed or rusty terminal.
- 規定の電流値を超えて使用しないでください。
- 割れたりヒビが入ったハウジングは使用しないでください。
- 変形したり、錆びたターミナルは使用しないでください。

Which may result in overheating or fire.

発熱・発火の恐れがあります！

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- To select a suitable connector, please consult with our sales staff about operating environment, mounting conditions, and other information (e.g. unsealed type for indoor compartment use, sealed type for engine compartment use).
- The specifications, and performance of a connector may significantly vary depending on changes in variable elements in the operating environment, such as the number of ways, wire size, ambient temperature, etc.
- The specifications stated in this catalog applies to a single terminal, and is not guaranteed when the terminal is inserted into a housing. For detailed electrical characteristics of each product, see the "Specifications" of the relevant series.
- We have "Specifications" for connector performance and "Instruction Manuals" for connector usage, handling, and precautions, which are available for each connector series. Please be sure to read these in advance to select the appropriate connector and to use it correctly.
- For instruction on how to remove the terminal or details please refer to the instruction manual. Please consult with our sales staff when requesting applicable tools and jigs (terminal removal jigs, crimping dies, crimping machines, etc.).
- Some connector series require special attention during circuit checks, etc.
*For example, dedicated circuit check jigs must be used for "SL series" and "SL sealed series."
- Although some connector specifications include drawings showing mating support, these drawings are provided only for reference. The manufacture of mating parts is not possible without consideration to dimensional tolerances, etc.
- This catalogue includes the parts that was designed and developed jointly with a customer and require prior approval before sales. Please contact our sales staff for details.
- Before using the product, please obtain a "customer drawing" "Specifications" "Instruction Manuals" from our sales staff. Please contact our sales staff for details.
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