

# HM SERIES

## Features

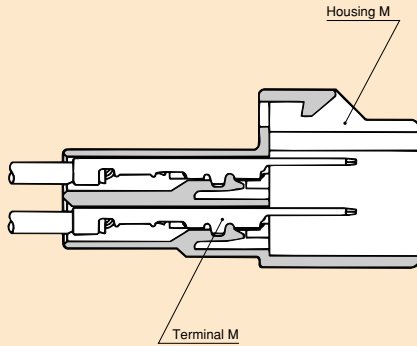
The HM connector series has a 4 mm pitch between terminal poles.

This series consists of a 090 type (090 and 250 types for the hybrid model) classified according to terminal size, supporting use in a variety of control circuits and low power circuits.

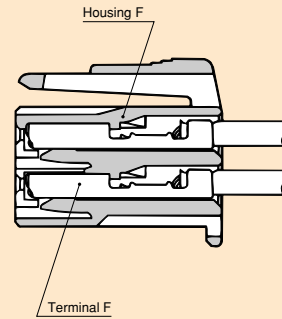
- A joint model allows you to integrate multiple connectors, regardless of the number of ways.
- A splice connector is also available.

### Structure

Connector M

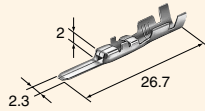


Connector F



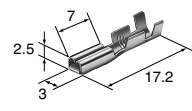
### Terminal (UNIT: mm)

Cable size (mm <sup>2</sup> )	0.2~0.3
Cable overall diameter (mm)	1.4~1.9
Material	Brass
Surface treatment	Tin-plated
Reel (piece)	5000
Thickness (mm)	0.3



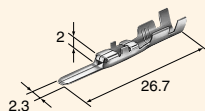
M(8230-4272)

Cable size (mm <sup>2</sup> )	0.2~0.3
Cable overall diameter (mm)	1.4~1.9
Material	Brass
Surface treatment	Tin-plated
Reel (piece)	5000
Thickness (mm)	0.25



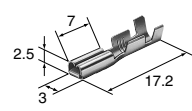
F(8240-4412)

Cable size (mm <sup>2</sup> )	0.5~1.25
Cable overall diameter (mm)	1.6~2.9
Material	Brass
Surface treatment	Tin-plated
Reel (piece)	5000
Thickness (mm)	0.3



M(8230-4282)

Cable size (mm <sup>2</sup> )	0.5~1.25
Cable overall diameter (mm)	1.6~2.9
Material	Brass
Surface treatment	Tin-plated
Reel (piece)	5000
Thickness (mm)	0.25



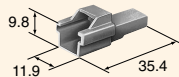
F(8240-4422)

### Housing (UNIT: mm)

Material / 66Nylon

Color / While natural color is the standard, other colors are also available at your request.

Ref: Terminal part No. E-02



M(6090-1031)

Ref: Terminal part No. E-02



F(6090-1001)

2way

Ref: Terminal part No. E-02

Note With clamp for 7mm dia.

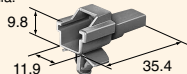


Plate thickness range for clamp :  
t = 0.7~2.2

**M(6090-1126)**

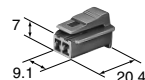
Ref: Terminal part No. E-02

Note Flanged



**M(6181-0001)**

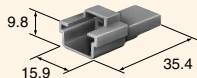
Ref: Terminal part No. E-02



**F(6090-1001)**

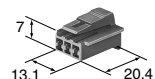
3way

Ref: Terminal part No. E-02



**M(6090-1131)**

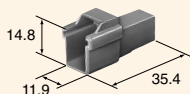
Ref: Terminal part No. E-02



**F(6090-1136)**

4way

Ref: Terminal part No. E-02



**M(6090-1041)**

Ref: Terminal part No. E-02

Note With clamp for 7mm dia.

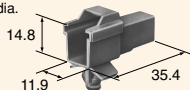
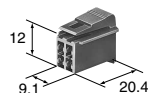


Plate thickness range for clamp :  
t = 0.7~2.2

**M(6090-1123)**

Ref: Terminal part No. E-02

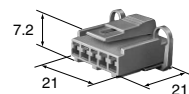


**F(6090-1011)**

5way

(Secondary Locking Type)

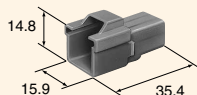
Ref: Terminal part No. E-02



**F(6090-1256)**

6way

Ref: Terminal part No. E-02



**M(6090-1149)**

Ref: Terminal part No. E-02



**F(6090-1218)**

E-04

6way

Ref: Terminal part No. E-02

Note With clamp for 7mm dia.

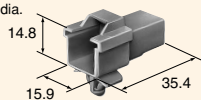
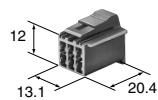


Plate thickness range for clamp :  
t = 0.7~2.2

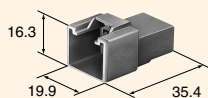
**M(6090-1124)**

Ref: Terminal part No. E-02



**F(6090-1218)**

Ref: Terminal part No. E-02



**M(6090-1051)**

Ref: Terminal part No. E-02

Note With clamp for 7mm dia.

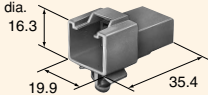


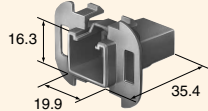
Plate thickness range for clamp :  
t = 0.7~2.2

**M(6090-1125)**

8way

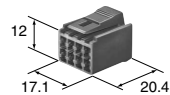
Ref: Terminal part No. E-02

Note Flanged



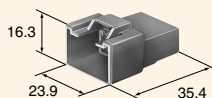
**M(6090-1122)**

Ref: Terminal part No. E-02



**F(6090-1021)**

Ref: Terminal part No. E-02



**M(6090-1056)**

Ref: Terminal part No. E-02

Note With clamp for 7mm dia.

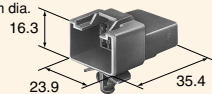


Plate thickness range for clamp :  
t = 0.7~2.2

**M(6090-1127)**

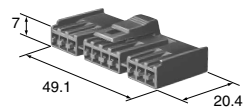
10way

Ref: Terminal part No. E-02



**F(6090-1220)**

Ref: Terminal part No. E-02



**F(6090-1254)**

## Dimensions of Installation Panel

### Standard type

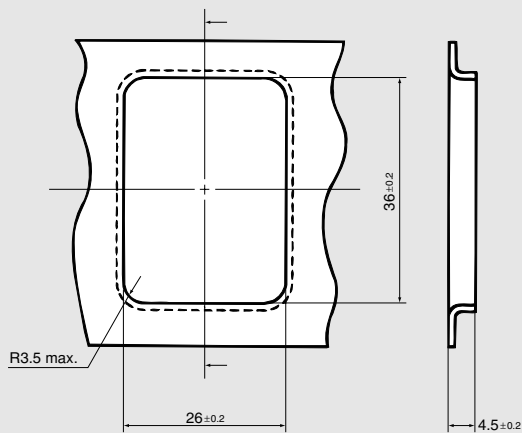
2-way M housing (6181-0001)

8-way M housing (6090-1122)

### Hybrid type

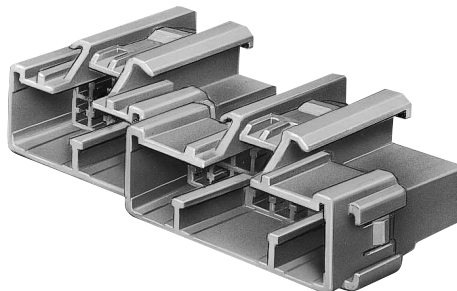
19-way M housing (6090-1182)

Housings mentioned above can be easily mounted by machining the panel as indicated in the figure.



The connectors which have different number of ways as well as the same number of ways can be connected each other. It is also possible to connect with the block type ET connectors.

Clamping a single connector on a device, etc. where only a narrow clamping location is available makes it possible to clamp a multiple number of connector.



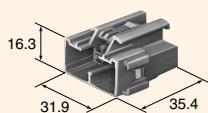
### Housing (UNIT: mm)

Material/66Nylon

Color/While natural color is the standard, other colors are also available at your request.

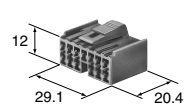
13way

Ref: Terminal part No. E-02



**M(6090-1090)**

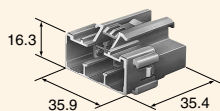
Ref: Terminal part No. E-02



**F(6090-1061)**

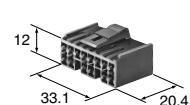
14way

Ref: Terminal part No. E-02



**M(6090-1221)**

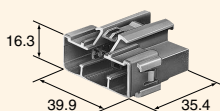
Ref: Terminal part No. E-02



**F(6090-1064)**

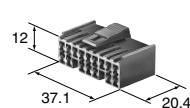
16way

Ref: Terminal part No. E-02



**M(6090-1099)**

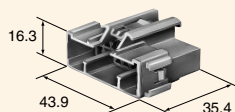
Ref: Terminal part No. E-02



**F(6090-1071)**

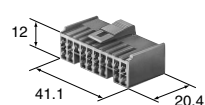
18way

Ref: Terminal part No. E-02



**M(6090-1101)**

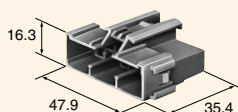
Ref: Terminal part No. E-02



**F(6090-1073)**

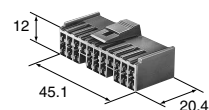
20way

Ref: Terminal part No. E-02



**M(6090-1107)**

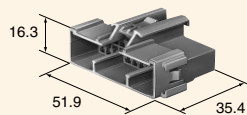
Ref: Terminal part No. E-02



**F(6090-1081)**

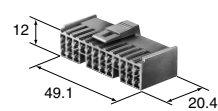
22way

Ref: Terminal part No. E-02



**M(6090-1112)**

Ref: Terminal part No. E-02

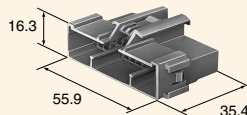


**F(6090-1086)**

E-07

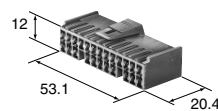
24way

Ref: Terminal part No. E-02



**M(6090-1113)**

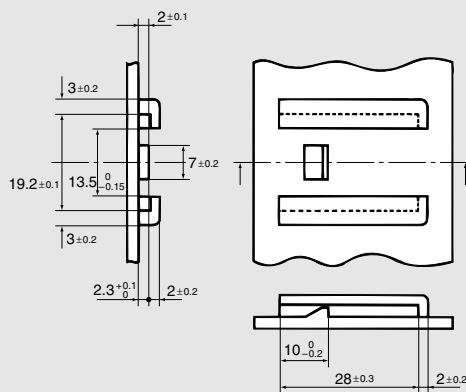
Ref: Terminal part No. E-02



**F(6090-1087)**

## Shape of Mating Support

090 Blocking type M housing can be mounted by providing the support as indicated above to the mating parts.



Note) The dimensions as shown here are reference dimensions and detail dimensions for mounting portion of the mating support are specified in the official drawing. Please contact our sales staff.

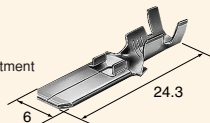
Hybrid connectors integrate models of 090 and 250 for the applications where control circuits and power circuits are handled together.

E-08

## Terminal (UNIT: mm)

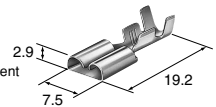
●Ref : 090 Terminal List (Page E-02)

Cable size (mm <sup>2</sup> )	0.3
Cable overall diameter (mm)	1.4~1.9
Material	Brass
Surface treatment	Anti-Corrosion treatment
Reel (piece)	4000
Thickness (mm)	0.4



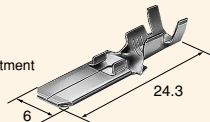
**M(8230-4050)**

Cable size (mm <sup>2</sup> )	0.3
Cable overall diameter (mm)	1.4~1.9
Material	Brass
Surface treatment	Anti-Corrosion treatment
Reel (piece)	5000
Thickness (mm)	0.32



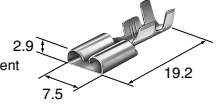
**F(8240-4220)**

Cable size (mm <sup>2</sup> )	0.5~2.0
Cable overall diameter (mm)	1.6~3.4
Material	Brass
Surface treatment	Anti-Corrosion treatment
Reel (piece)	4000
Thickness (mm)	0.4



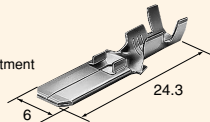
**M(8230-4040)**

Cable size (mm <sup>2</sup> )	0.5~2.0
Cable overall diameter (mm)	1.6~3.4
Material	Brass
Surface treatment	Anti-Corrosion treatment
Reel (piece)	5000
Thickness (mm)	0.32



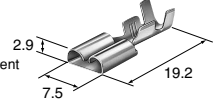
**F(8240-4140)**

Cable size (mm <sup>2</sup> )	2.0~3.0
Cable overall diameter (mm)	2.9~4.1
Material	Brass
Surface treatment	Anti-Corrosion treatment
Reel (piece)	3500
Thickness (mm)	0.4



**M(8230-4060)**

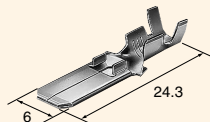
Cable size (mm <sup>2</sup> )	2.0~3.0
Cable overall diameter (mm)	2.9~4.1
Material	Brass
Surface treatment	Anti-Corrosion treatment
Reel (piece)	5000
Thickness (mm)	0.32



**F(1500-0081)**

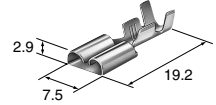
250

Cable size (mm <sup>2</sup> )	0.3
Cable overall diameter (mm)	1.4~1.9
Material	Brass
Surface treatment	Tin-plated
Reel (piece)	4000
Thickness (mm)	0.4



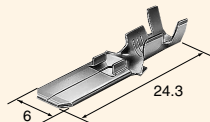
**M(8230-4052)**

Cable size (mm <sup>2</sup> )	0.3
Cable overall diameter (mm)	1.4~1.9
Material	Brass
Surface treatment	Tin-plated
Reel (piece)	5000
Thickness (mm)	0.32



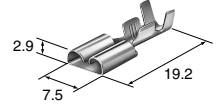
**F(8240-4202)**

Cable size (mm <sup>2</sup> )	0.5~2.0
Cable overall diameter (mm)	1.6~3.4
Material	Brass
Surface treatment	Tin-plated
Reel (piece)	4000
Thickness (mm)	0.4



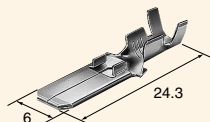
**M(8230-4042)**

Cable size (mm <sup>2</sup> )	0.5~2.0
Cable overall diameter (mm)	1.6~3.4
Material	Brass
Surface treatment	Tin-plated
Reel (piece)	5000
Thickness (mm)	0.32



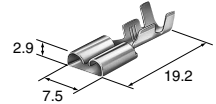
**F(8240-4182)**

Cable size (mm <sup>2</sup> )	2.0~3.0
Cable overall diameter (mm)	2.9~4.1
Material	Brass
Surface treatment	Tin-plated
Reel (piece)	3500
Thickness (mm)	0.4



**M(8230-4062)**

Cable size (mm <sup>2</sup> )	2.0~3.0
Cable overall diameter (mm)	2.9~4.1
Material	Brass
Surface treatment	Tin-plated
Reel (piece)	5000
Thickness (mm)	0.32



**F(8240-4538)**



## Housing (UNIT: mm)

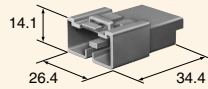
**Material** / 66Nylon

**Color** / While natural color is the standard, other colors are also available at your request.

No. of way : ( ) corresponds to 090, 250, in order from left to right.

**6way**  
(4+2)

Ref: Terminal part No. [090] E-02  
[250] E-08



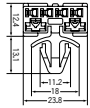
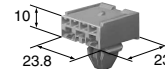
**M(6090-1250)**

Ref: Terminal part No.

[090] E-02  
[250] E-08

**Note**

With clamp for 7mm dia.

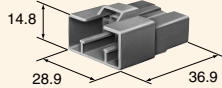


**F(6090-1251)**

Plate thickness range for clamp : 1=0.7~1.2mm  
The corners are rounded. 10 X 8mm

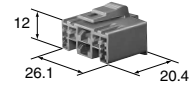
**8way**  
(6+2)

Ref: Terminal part No. [090] E-02  
[250] E-08



**M(6090-1231)**

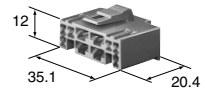
Ref: Terminal part No. [090] E-02  
[250] E-08



**F(6090-1224)**

**10way**  
(6+4)

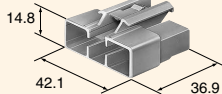
Ref: Terminal part No. [090] E-02  
[250] E-08



**F(6090-1230)**

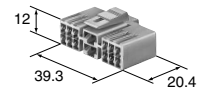
**14way**  
(12+2)

Ref: Terminal part No. [090] E-02  
[250] E-08



**M(6090-1119)**

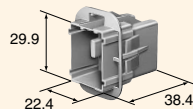
Ref: Terminal part No. [090] E-02  
[250] E-08



**F(6090-1219)**

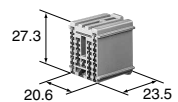
**19way**  
(18+1)

Ref: Terminal part No. [090] E-02  
[250] E-08



**M(6090-1182)**

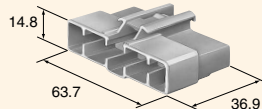
Ref: Terminal part No. [090] E-02  
[250] E-08



**F(6090-1183)**

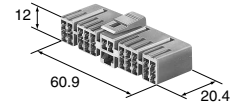
**23way**  
(22+1)

Ref: Terminal part No. [090] E-02  
[250] E-08



**M(6090-1120)**

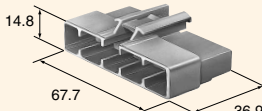
Ref: Terminal part No. [090] E-02  
[250] E-08



**F(6090-1117)**

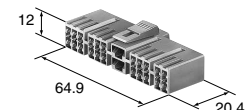
**24way**  
(22+2)

Ref: Terminal part No. [090] E-02  
[250] E-08



**M(6090-1121)**

Ref: Terminal part No. [090] E-02  
[250] E-08

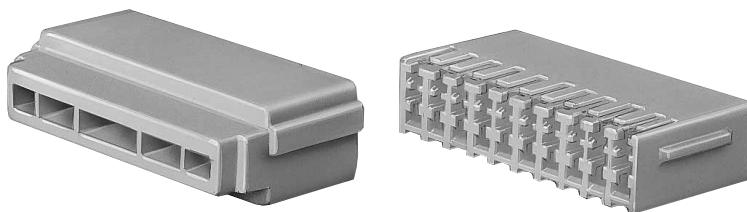


**F(6090-1118)**

**E-09**

The rationalization and reliability are appreciably improved,  
by concentrating the splices in the wiring harness at one position.

E-10

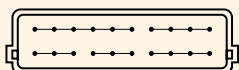


## Splice connector

Material/66Nylon

●Ref : 090 Terminal List (Page E-02)

Type 1



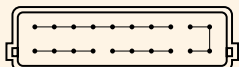
M(6409-0071)

Ref: Terminal part No. E-02

Color Black

Connector F (Mate)NO. F(6400-0012)

Type 2



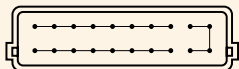
M(6409-0072)

Ref: Terminal part No. E-02

Color Green

Connector F (Mate)NO. F(6400-0013)

Type 3



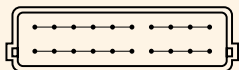
M(6409-0255)

Ref: Terminal part No. E-02

Color Gray

Connector F (Mate)NO. F(6400-0081)

Type 4



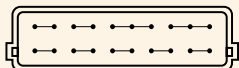
M(6409-0073)

Ref: Terminal part No. E-02

Color Blue

Connector F (Mate)NO. F(6400-0014)

Type 5



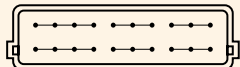
M(6409-0076)

Ref: Terminal part No. E-02

Color Natural

Connector F (Mate)NO. F(6400-0010)

Type 6

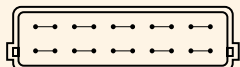


**M(6409-0075)**

Ref: Terminal part No.	E-02
Color	Orange

Connector F (Mate)NO. **F(6400-0016)**

Type 7

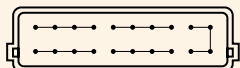


**M(6409-0070)**

Ref: Terminal part No.	E-02
Color	Red

Connector F (Mate)NO. **F(6400-0011)**

Type 8

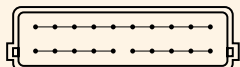


**M(6409-0074)**

Ref: Terminal part No.	E-02
Color	Yellow

Connector F (Mate)NO. **F(6400-0015)**

Type 9

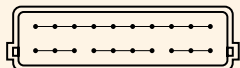


**M(6440-0128)**

Ref: Terminal part No.	E-02
Color	Pink

Connector F (Mate)NO. **F(6440-0129)**

Type 10

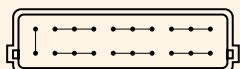


**M(6409-0603)**

Ref: Terminal part No.	E-02
Color	Brown

Connector F (Mate)NO. **F(6400-0186)**

Type 11



**M(6440-0135)**

Ref: Terminal part No.	E-02
Color	Wisteria violet

Connector F (Mate)NO. **F(6440-0136)**