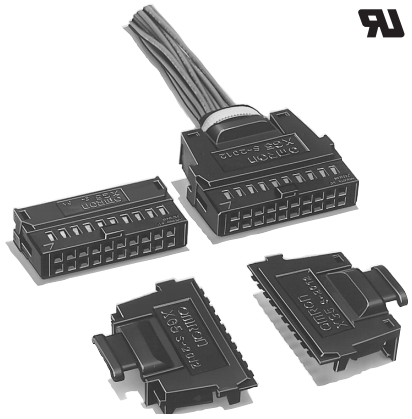
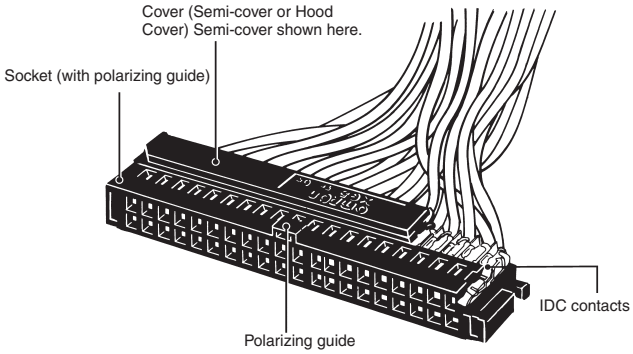
IDC Sockets for Discrete Wires
XG5

Trouble-free discrete-wire termination with IDC Sockets that mate with XG4 and XG8 Plugs.

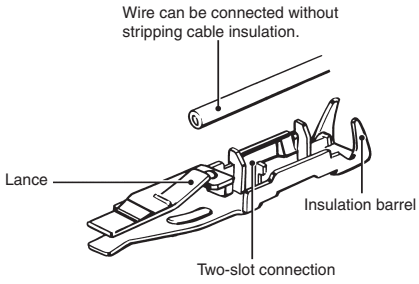
- Two-row, IDC construction and insulation barrel offers high reliability and large-current (3 A) discrete wiring capability.
- Adaptable to a variety of covers for space-saving and discrete wire termination.
- By using the simple, unique top lock-lever system, these Connectors can be locked to either the XG8W Unshrouded Plugs (with right-angle terminals) or XG4C Box-type Plugs.
- Conforms to UL standards (file no. E 103202) and CSA standards (file no. LR 62678).



■ Construction



Solderless Contact



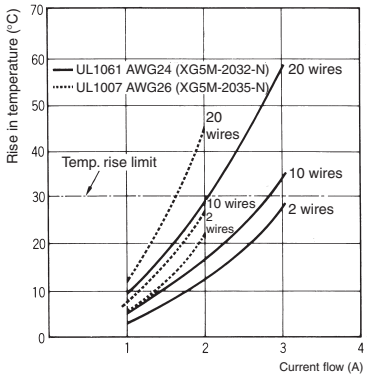
■ Ratings and Characteristics

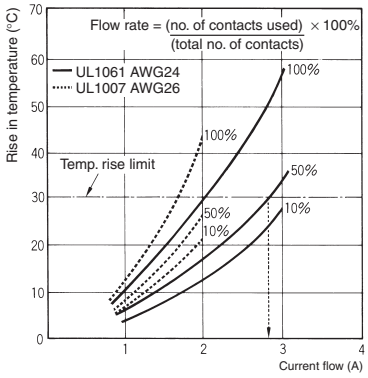
Rated current	3 A
Rated voltage	300 VAC
Contact resistance	20 mΩ max. (at 20 mV, 100 mA max.)
Insulation resistance	1,000 MΩ min. (at 500 VDC)
Dielectric strength	650 VAC for 1 min (leakage current: 1 mA max.)
Connector insertion	1.96 N max. per contact
Contact removal	0.29 N min. (with test gauge, 0.64 x 0.64 mm)
Insertion durability (See note.)	50 times
Ambient temperature	Operating: −55 to 85°C (with no icing)

Note: For standard 0.15-mm gold plating.

■ Current and Temperature Characteristics

Use the temperature data shown below as a reference for selecting current values and wires.





■ Materials and Finish

Housing		Fiber-glass reinforced PBT resin (UL94V-0)/black
Contacts	**Mating end**	Phosphor-bronze/nickel base, 0.15-μm gold plating (See note.)
	Terminals	Phosphor-bronze/nickel base, 2.0-μm solder plating
Cover		Fiber-glass reinforced polyamide resin (UL94V-0)/black
Cable tie		Polyamide resin (UL94V-0)/natural

Note: For non-standard plating, contact your OMRON representative.

■ Applicable Wires and Contact Sizes

Size #1	AWG24 (For UL-1061)	Insulation outside diameter: 1.1 to 1.3 mm} Core structure: 7 strands or more
Size #2	AWG28 or AWG26 (For UL-1007)	

Note: The contact numbers are marked on the contact insulation barrels.

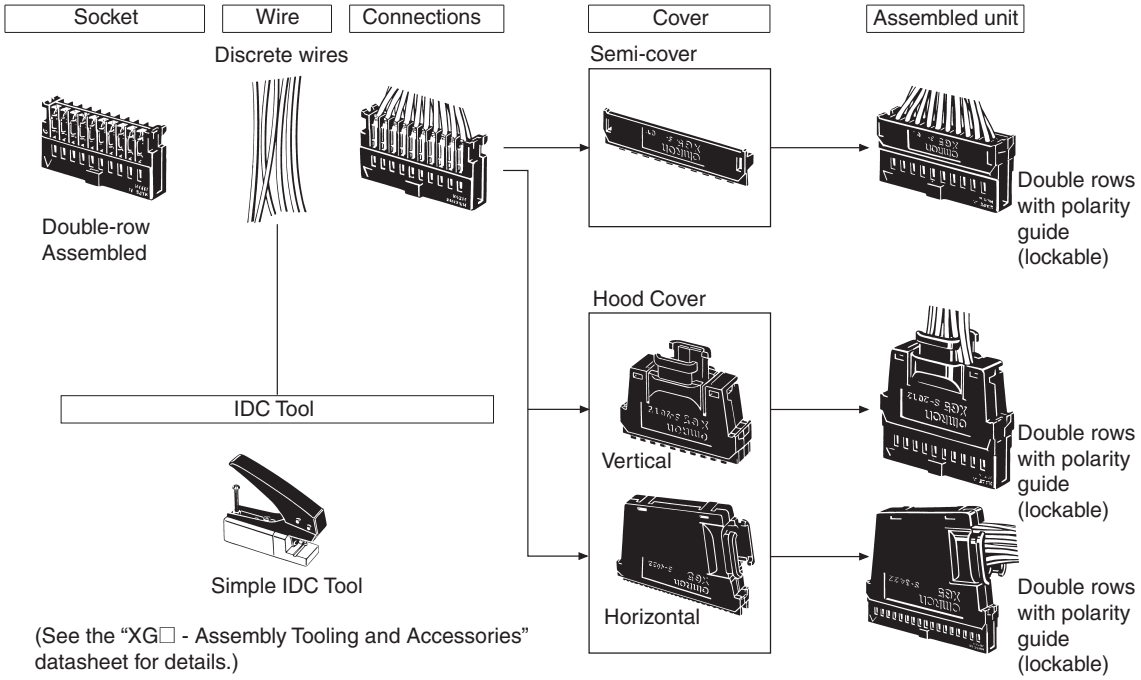
Assembled Configuration

■ Insulation Displacement (IDC) versus Crimp Termination

IDC termination provides the following advantages over crimp style termination, when using discrete wires;

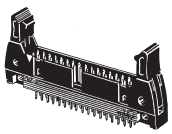
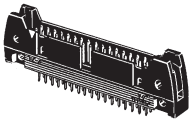
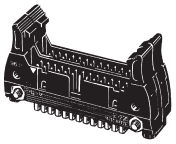
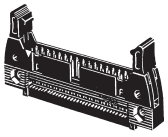
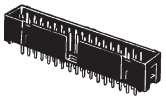
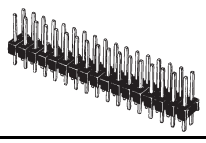
- Overall cost is lower, because less manhours are required. Wire stripping is eliminated and inspection is easier.
- IDC termination provides consistent quality, improving yield.
- XG5 terminals are installed in the socket housing at the factory, simplifying the Bill of Material and parts control.
- Optional replacement IDC terminals facilitates re-configuration of wiring.

Assembly



(See the "XG□ - Assembly Tooling and Accessories" datasheet for details.)

Applicable Mating Plugs

XG4A PCB Plugs with Long Locks	XG4A PCB Plugs w/o Lock Lever	XG4A PCB Double-row Plugs
	 (See Note 3)	
XG4E IDC Flat Cable Plugs	**XG4C PCB Box-type Plugs**	**XG8W/XG8B Double-row Unshrouded Plugs**
		

Note: 1. See XG4 and XG8 datasheets for plug dimensions.

2. When using the XG4A or XG4C, the number of XG4A or XG4C's polarity slots must be the same as the number of XG5M-N polarity guides.

3. Mount external Lock Levers after soldering.

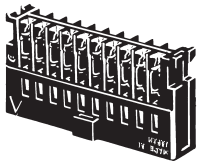
Double-row Sockets

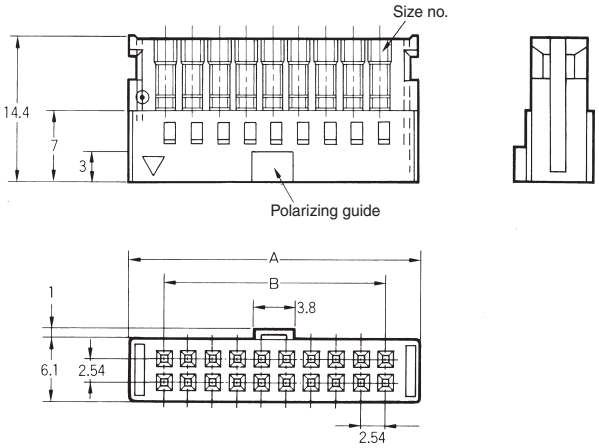
■ XG5M-N

Dimensions

Models with no polarizing guide
- **XG5M-1031-N (size #1)**
- **XG5M-1034-N (size #2)**

Models with polarizing guide
- **XG5M-□□32-N (size #1)**
- **XG5M-□□33-N (size #1)**
- **XG5M-□□35-N (size #2)**
- **XG5M-□□36-N (size #2)**

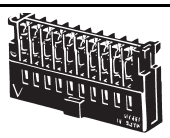




Dimensions

No. of contacts	Dimensions (mm)	
	A	B
10	17.3	10.16
14	22.3	15.24
16	24.9	17.78
20	30.0	22.86
26	37.6	30.48
30	42.7	35.56
34	47.7	40.64
40	55.4	48.26
50	68.1	60.96
60	80.8	73.66
64	85.8	78.74

Ordering Information

Appearance			
No. of contacts	**No. of polarizing guide**	**Size #1**	**Size #2**
10	0	**XG5M-1031-N**	**XG5M-1034-N**
	1	**XG5M-1032-N**	**XG5M-1035-N**
14	1	**XG5M-1432-N**	**XG5M-1435-N**
16	1	**XG5M-1632-N**	**XG5M-1635-N**
20	1	**XG5M-2032-N**	**XG5M-2035-N**
26	1	**XG5M-2632-N**	**XG5M-2635-N**
30	1	**XG5M-3032-N**	**XG5M-3035-N**
34	1	**XG5M-3432-N**	**XG5M-3435-N**
40	1	**XG5M-4032-N**	**XG5M-4035-N**
50	1	**XG5M-5032-N**	**XG5M-5035-N**
	2	**XG5M-5033-N**	**XG5M-5036-N**
60	1	**XG5M-6032-N**	**XG5M-6035-N**
	2	**XG5M-6033-N**	**XG5M-6036-N**
64	1	**XG5M-6432-N**	**XG5M-6435-N**
	2	**XG5M-6433-N**	**XG5M-6436-N**

Note: 1. The 10-contact XG5M-1031-N and XG5M-1034-N have no polarizing guides.
2. The distance between slots is 22.86 mm for the two guides on 50, 60, and 64-contact Connectors.
3. See the XG4 and XG8 datasheets for Mating Plug information.
4. Applicable discrete wire is AWG24 (UL1061) for size #1.
5. Applicable discrete wire is AWG28 to AWG26 (UL-1007) for size #2.

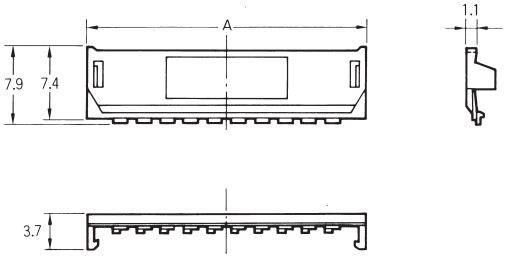
Semi-covers

■ XG5S

Semi-covers are used to cover the IDC termination area and insulation barrels, after wiring is completed. If the entire socket needs to covered, use XG5S Hood Covers.

Dimensions

XG5S-□□01



Dimensions

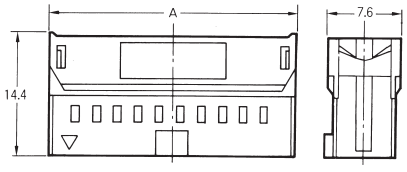
No. of contacts	Dimensions (mm)
	A
5	17.3
7	22.3
8	24.9
10	30.0
13	37.6
15	42.7
17	47.7
20	55.4
25	68.1
30	80.8
32	85.8

Ordering Information

No. of contacts	Model	Applicable Connector
5	**XG5S-0501**	**XG5M103□-N**
7	**XG5S-0701**	**XG5M-143□-N**
8	**XG5S-0801**	**XG5M-163□-N**
10	**XG5S-1001**	**XG5M-203□-N**
13	**XG5S-1301**	**XG5M-263□-N**
15	**XG5S-1501**	**XG5M-303□-N**
17	**XG5S-1701**	**XG5M-343□-N**
20	**XG5S-2001**	**XG5M-403□-N**
25	**XG5S-2501**	**XG5M-503□-N**
30	**XG5S-3001**	**XG5M-603□-N**
32	**XG5S-3201**	**XG5M-643□-N**

Note: One Semi-cover is used per termination row. Each XG5M Connector requires two semi-covers. Semi-covers are not packaged in pairs.

Assembled Dimensions (Socket with Semi-cover)

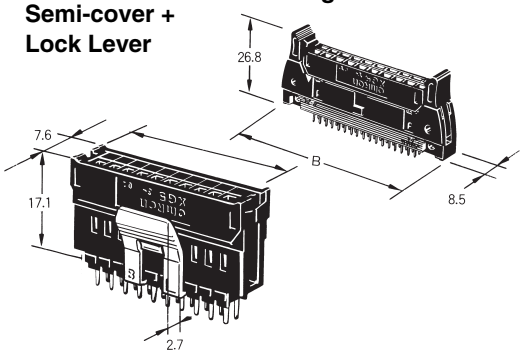


Dimensions

No. of contacts	Dimensions (mm)	
	A	B
10	17.3	32.0
14	22.3	37.1
16	24.9	39.6
20	30.0	44.7
26	37.6	52.3
30	42.7	57.4
34	47.7	62.5
40	55.4	70.1
50	68.1	82.8
60	80.8	95.5
64	85.8	100.6

Original Plug + Semi-cover + Lock Lever

MIL Plug + Semi-cover



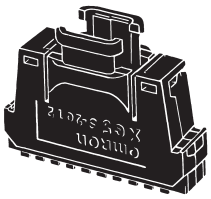
Hood Covers

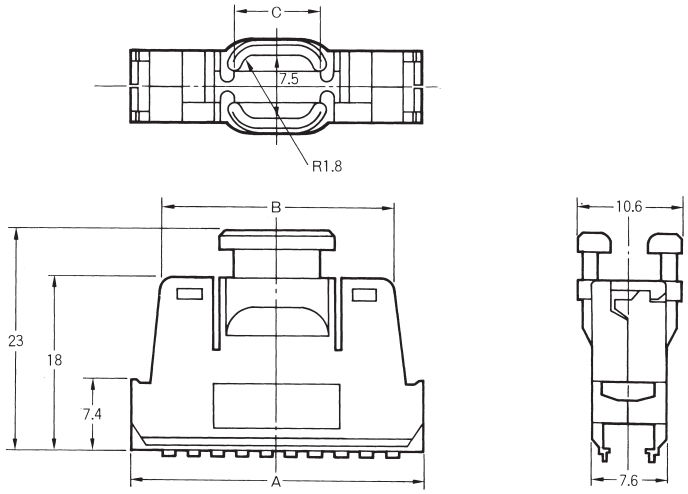
■ XG5S

Dimensions

Vertical

XG5S-□□12
(Left and right halves)



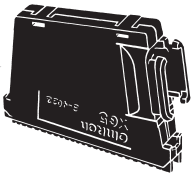


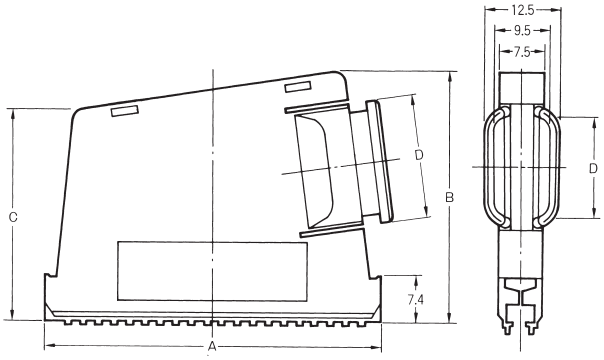
Dimensions

No. of contacts	Dimensions (mm)		
	A	B	C
20	30.0	23.8	8.8
26	37.6	31.4	11.4
30	42.7	36.5	15.1

Horizontal

XG5S-□□22
(Left and right halves)

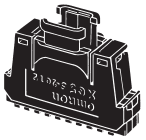
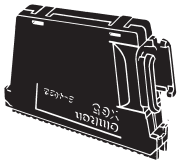




Dimensions

No. of contacts	Dimensions (mm)			
	A	B	C	D
34	47.7	38.7	32.0	14.6
40	55.4	40.7	34.0	16.6
50	68.1	44.1	39.4	20.0
60	80.8	47.4	42.8	23.4

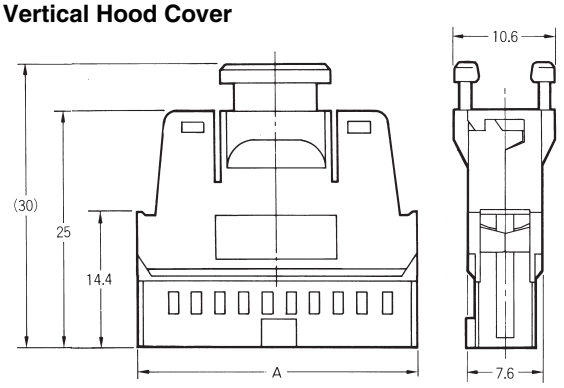
Ordering Information

Appearance	Vertical	Horizontal
		
No. of contacts (double rows)	Model (See note.)	Model (See note.)
20	**XG5S-2012**	**—**
26	**XG5S-2612**	**—**
30	**XG5S-3012**	**—**
34	**—**	**XG5S-3422**
40	**—**	**XG5S-4022**
50	**—**	**XG5S-5022**
60	**—**	**XG5S-6022**

Note: Hood Covers are packaged / shipped with left and right halves. Includes cable tie.

Assembled Dimensions (Socket and Hood Cover)

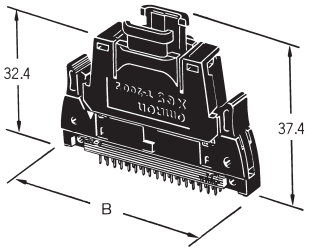
Vertical Hood Cover



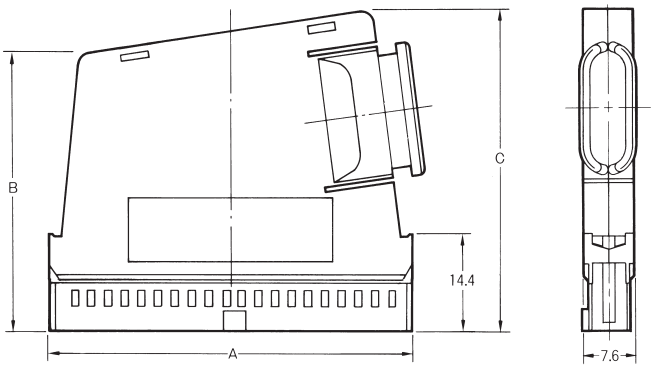
Dimensions

No. of contacts	Dimensions (mm)	
	A	B
20	30.0	44.7
26	37.6	52.3
30	42.7	57.4

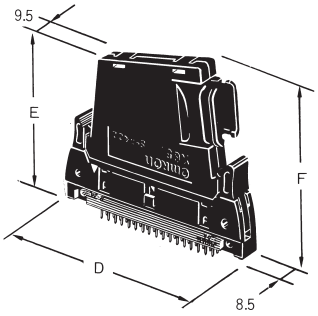
Assembled Unit
Plug + Vertical Hood Cover



Horizontal Hood Cover



Assembled Unit
Plug + Horizontal Hood Cover

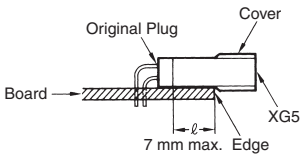


Dimensions

No. of contacts	Dimensions (mm)					
	A	B	C	D	E	F
34	47.7	39.0	45.7	62.5	46.4	53.1
40	55.4	41.0	47.7	70.1	48.4	55.1
50	68.1	46.4	51.1	82.8	53.8	58.5
60	80.8	49.8	54.4	95.5	57.2	61.8

Applicable Plugs

- XG4A, XG4C, XG4E and XG8 are recommended.
- XG4C and XG8 Plugs do not have locks. To prevent accidental removal, use a Lock Lever (XG4Z-0002, XG5Z-0002). (Lock Levers cannot be used with XG8W Straight Terminal Connectors.)
- When mounting the XG8 Original Plug (with right-angle terminals) to a circuit board, be sure that the cover is positioned off the board as shown below.

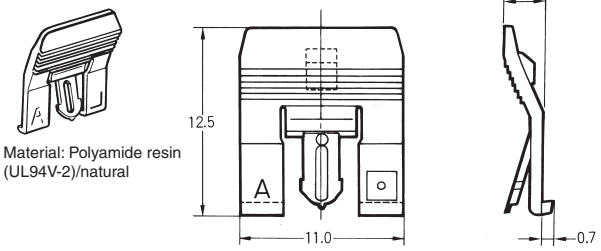


XG5 Accessories

■ Top Lock Levers

XG5Z-0002 - "Lock Lever"

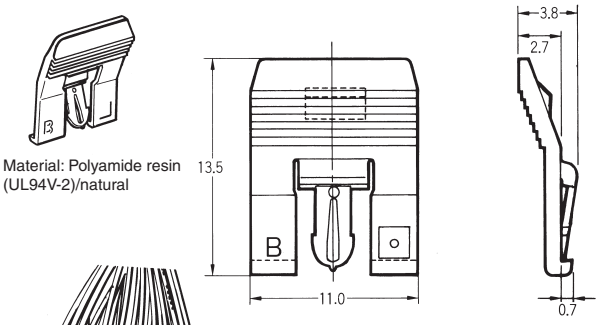
Use to lock unshrouded right-angle Plugs (XG8B and XG8W) to XG5 or XG4 mating sockets.



Material: Polyamide resin (UL94V-2)/natural

XG4Z-0002 - "Lock Lever II"

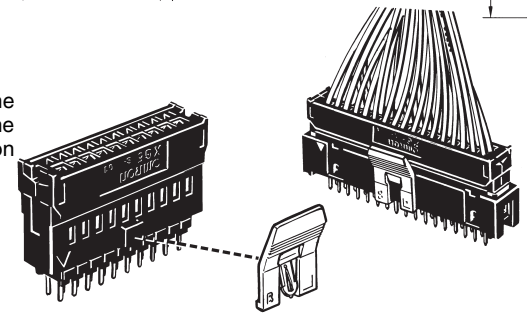
Use to lock XG4C Box-type Plugs.



Material: Polyamide resin (UL94V-2)/natural

Mounting the Lock Lever

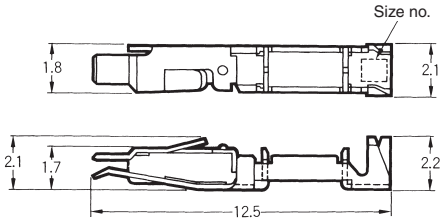
For Sockets with polarity guides, mount the Lock Lever to the tab to lock the Socket to the Unshrouded Plug as shown in the diagram on the right.



Model
XG5Z-0002
XG4Z-0002

■ Spare Contacts

XG5W-0031-N (Size #1)
XG5W-0034-N (Size #2)



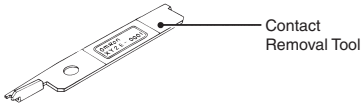
Model
XG5W-0031-N
XG5W-0034-N

Note: 1. These Contacts can be used as replacements if a wrong connection is made.

2. The applicable wire for size No. 1 is AWG24 (UL-1061). The applicable wire for size No. 2 is AWG26 to AWG28 (UL-1007).

Contact Removal Tool

XY2E-0001

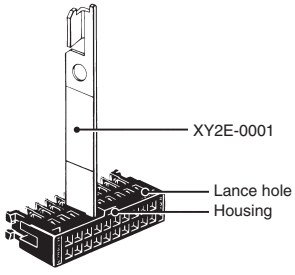


Used to remove contacts, which need to be replaced or reconfigured, from the housing.

Replacing Contacts

Use only this tool to remove incorrect IDC contacts.

1. Remove the cover.
2. Insert the tool into the housing lance holes and push the lance into the housing.
3. Pull out the contact while holding the lance down.
4. Insert a new contact.



■ XG5 IDC Assembly Tools

See the "XG□ - Assembly Tooling and Accessories" datasheet for details regarding manual and automated IDC Termination tools (part numbers XY2B-7006 and XY2B-2104-N)

Precautions

■ Correct Use

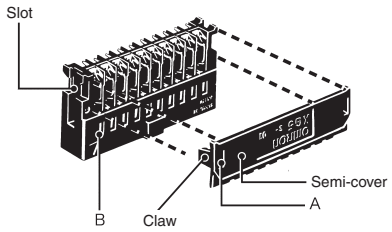
IDC Connectors

- For best results, use only the XG5 IDC Tool. (See the "XG□ - Assembly Tooling and Accessories" datasheet.)
- Contact your OMRON representative for details on the XG5 IDC Tool.
- Check the Contact size (No. 1 or No 2) and wire size before connecting.
- OMRON has a IDC Tool Reference Manual. Contact your OMRON representative to request a copy.

Mounting the Cover

- The cover is used to protect the connection position and prevent shorting out.

Mounting the Semi-cover

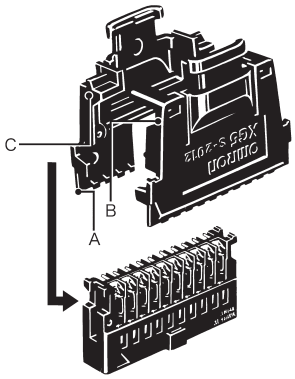


- See the above diagram.

1. Insert part A of the Semi-cover into part B of the Socket.
2. Push the claws on both sides of the Semi-cover onto the Socket.
3. Make sure the claws are firmly inserted in the slots.
4. To protect the wires, use cable ties to bind wires that may be subject to tension even when a Semi-cover is used.

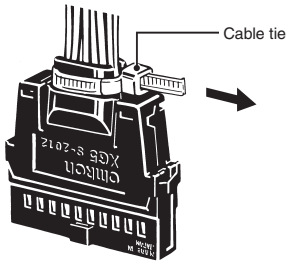
Mounting the Hood Cover

Vertical Hood Cover



- See the above diagram.

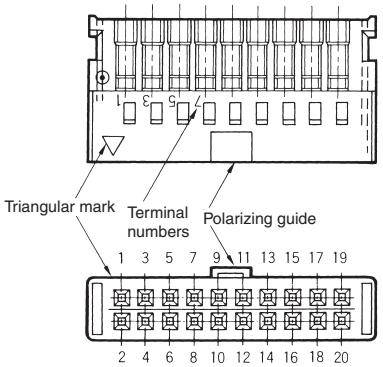
1. Insert the claws of part A of the Hood Cover into the slots.
2. Insert claws B on the Hood cover into part C on the other part of the Hood Cover.
3. Wrap the wires with a cable tie.



Horizontal Hood Cover

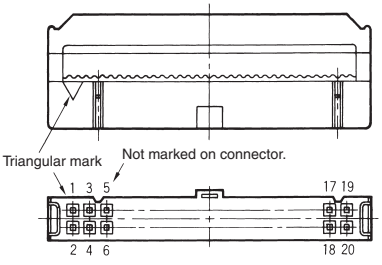
- Follow the mounting procedure for the vertical cover.
- The left and right parts of the cover are different. Assemble carefully.

XG5M-N Double-row Socket Contact Numbers



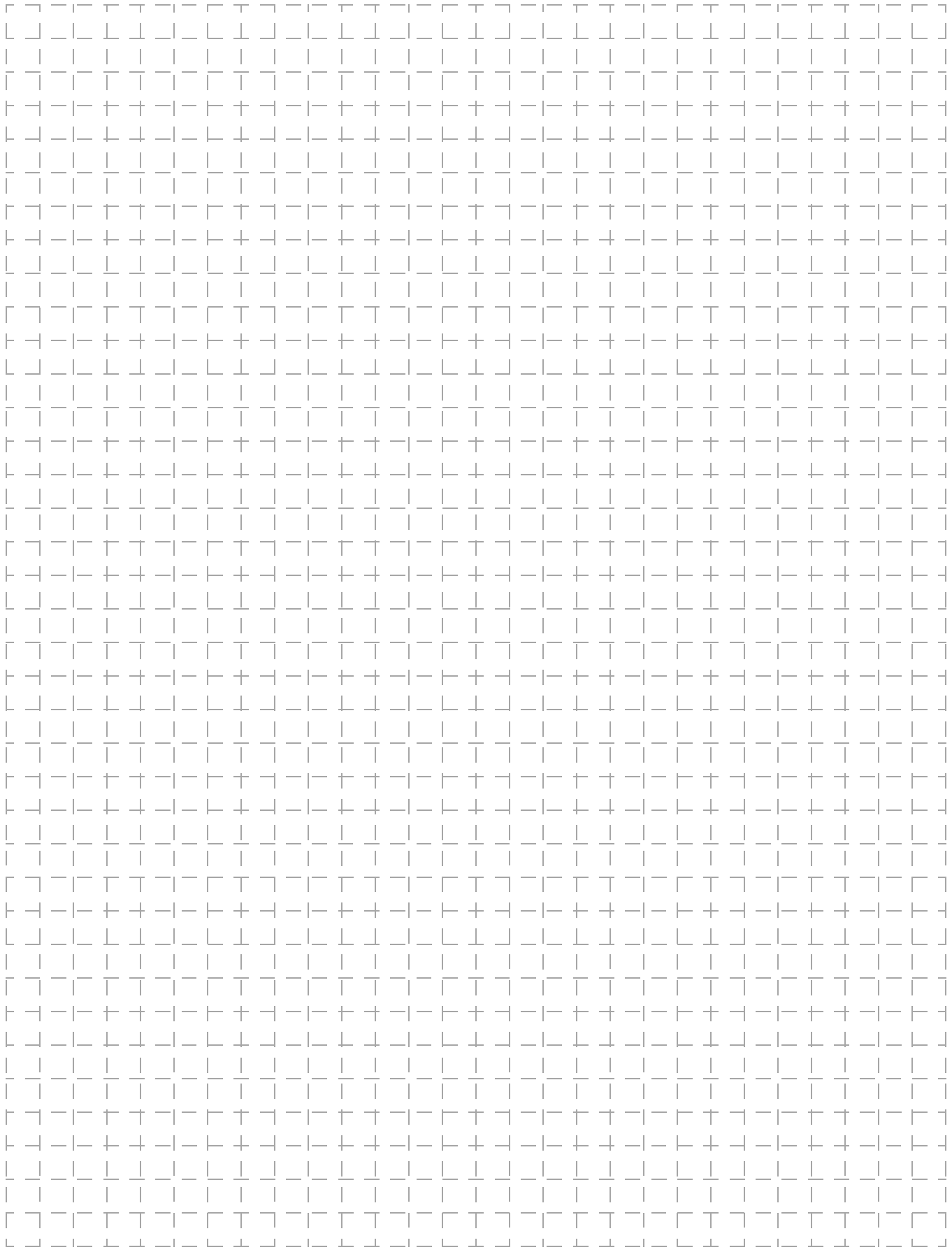
- The Contact numbers on the Double-row Assembled Socket match the numbers on the XG4M Flat Cable MIL Socket. (See the above diagrams.)

XG4M Terminal Numbers



- When making IDC connections on the Double-row Assembled Connector, use the polarity guide to distinguish the front and back. (Note: The 10-contact Connector does not have a guide.)

MEMO



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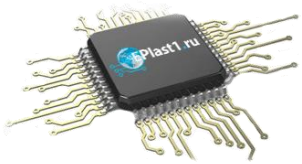

Как с нами связаться

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