# OMRON

Flat Cable Connectors

The Mainstream of Circuit Board Connectors conforming MIL Standards with Improved Design.

■ Our new production system improves reliability.

■ Space-saving Box-type Plugs (XG4C) available.

■ IDC Plugs (XG4E) can be used for relaying.

■ An endless number of combinations can be made using the XG-5 IDC Connectors for discrete wires, XG8 Original Plugs, and the XG2 IDC Connectors for PCBs.

■ The Original Plugs (XG8) and the Box-type Plugs (XG4C) can be locked using Lock Levers.

■ Conform to MIL standards (MIL-C-83503).

■ UL standards (file No. E103202)
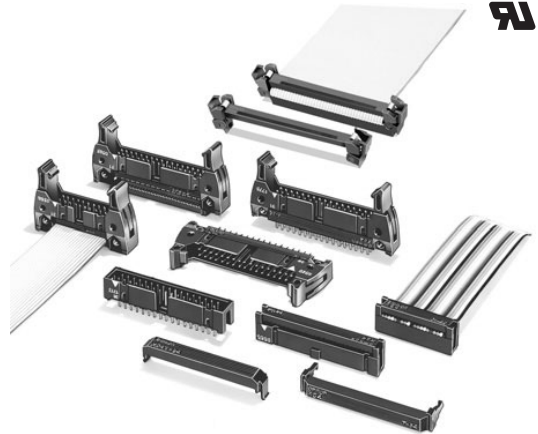
■ Ordering Information

Model	XG4M XG4M-U	XG4M XG4T	XG4A	XG4A	XG4E XG4S	XG4C	XG4H
Appearance	MIL sockets with strain relief (with lock)	MIL sockets with strain relief	MIL plugs	Plugs with dual ports	IDC plugs with strain relief	Box-type plugs	Board-to-board connector sockets
Page	C-3	C-4	C-5 to C-10	C-11 to C-12	C-13 to C-14	C-15 to C-16	C-17 to C-18

■ Ratings and Characteristics

Item	MIL Sockets: XG4M Relay Plug: XG4E	MIL Plugs: XG4A Box-type Plugs: XG4C PCB-to-PCB Connectors: XG4H
Rated current	1 A	3 A (See note 1.)
Rated voltage	250 VAC	300 VAC
Contact resistance	20 mΩ max. (at 20 mV, 100 mA max.)	
Insulation resistance	1,000 MΩ min. (at 500 VDC)	
Dielectric strength	500 VAC for 1 min (leakage current: 1 mA max.)	
Connector insertion	1.96 N max. per contact	
Contact removal	0.39 N min. (with test gauge, t= 0.64 mm)	
Insertion durability	50 times (See note 2.)	
Ambient temperature	Operating: −55 to 105°C (with no icing)	

Note:
1. The rated current will depend on the Socket you are using. It is 1 A using the XG4M for example.
2. For standard 0.15-μm gold plating.
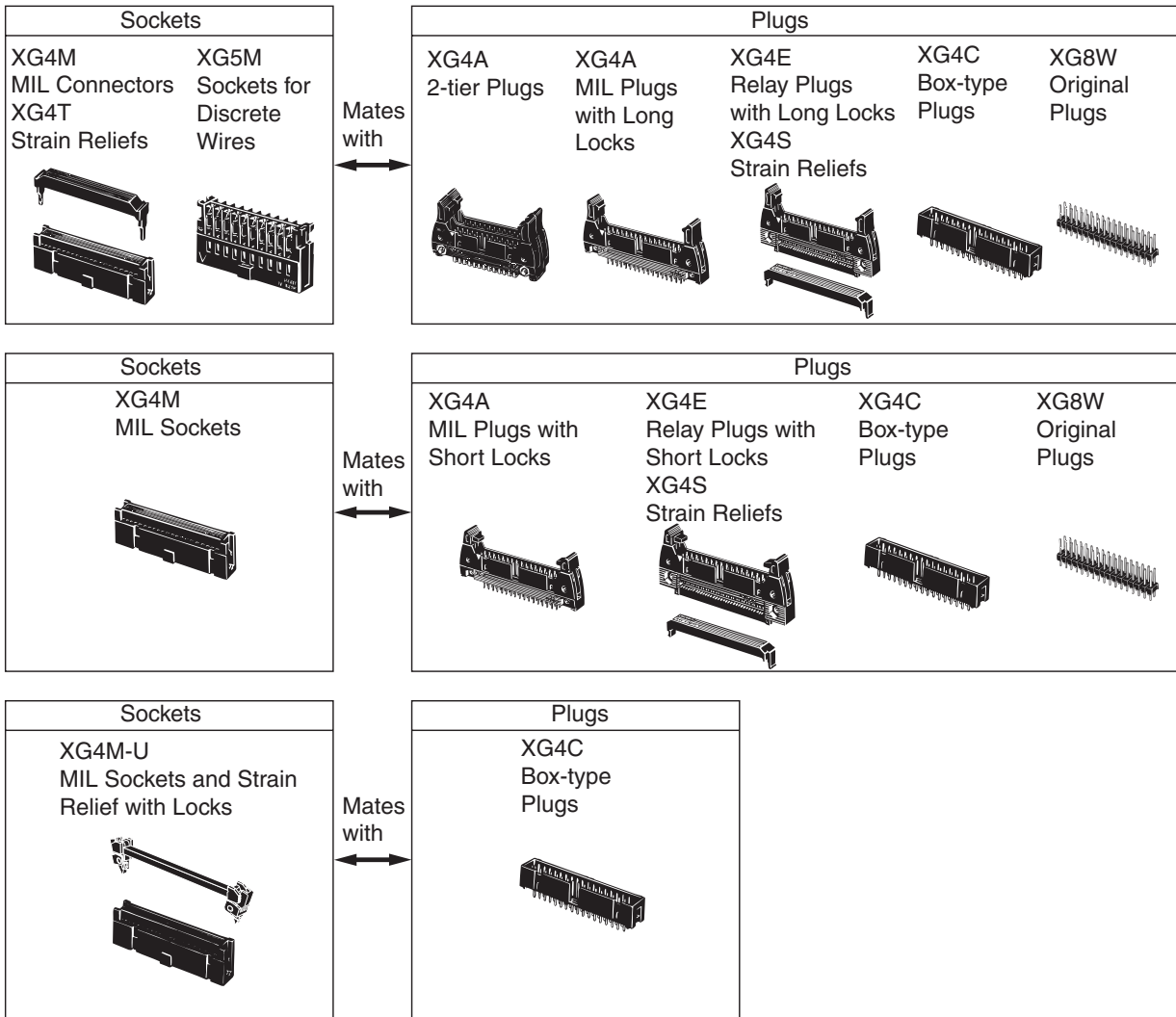
■ Materials and Finish

Item		MIL Plugs: XG4A Box-type Plugs: XG4C	Relay Plugs: XG4E (Strain Relief: XG4S)	MIL Sockets: XG4M (Strain Relief: XG4T)	Board-to-board Connector: XG4H
Housings		Fiber-glass reinforced PBT resin (UL94V-0)/black			
Covers		---	Polyamide resin (UL94V-0)/black	Fiber-glass reinforced PBT resin (UL94V-0)/black	---
Contacts	Mating end	Brass/nickel base, 0.15-μm gold plating (See note.)	Phosphor bronze/nickel base, 0.15-μm gold plating (See note.)		
	Terminal Press fit	Brass/nickel base, tin plating	Phosphor bronze/nickel base, tin plating		
Strain Reliefs		---	Polyamide resin (UL94V-0)/black	Fiber-glass reinforced PBT resin (UL94V-0)/black	---

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

■ Applicable Wires

1.27-mm pitch, 7-strand flat cable

• UL2651(standard cable)
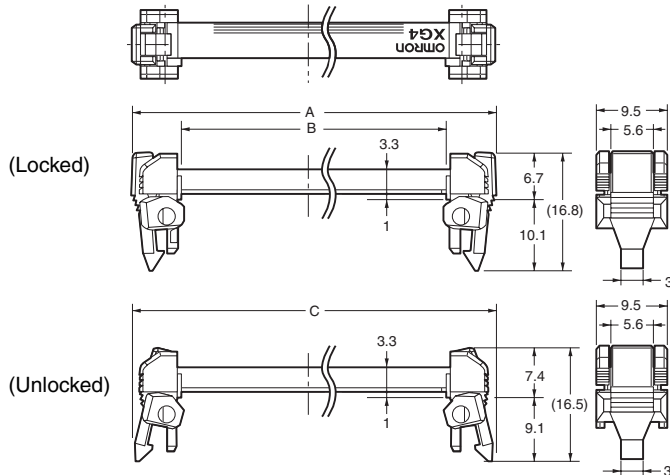
• UL20012 (folding cable)

• UL20028 (color-coded cable)
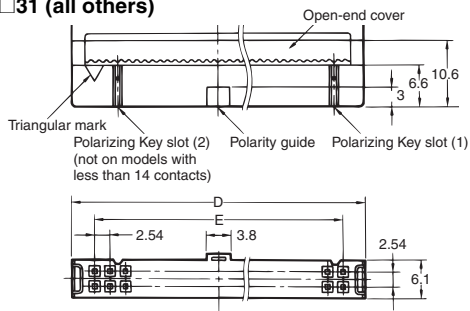
■ Mating Combinations for XG4 and XG5

Sockets			Plugs				
XG4M MIL Connectors XG4T Strain Reliefs	XG5M Sockets for Discrete Wires	Mates with	XG4A 2-tier Plugs	XG4A MIL Plugs with Long Locks	XG4E Relay Plugs with Long Locks XG4S Strain Reliefs	XG4C Box-type Plugs	XG8W Original Plugs

Sockets		Plugs			
XG4M MIL Sockets	Mates with	XG4A MIL Plugs with Short Locks	XG4E Relay Plugs with Short Locks XG4S Strain Reliefs	XG4C Box-type Plugs	XG8W Original Plugs

Sockets		Plugs
XG4M-U MIL Sockets and Strain Relief with Locks	Mates with	XG4C Box-type Plugs

XG4M-U MIL Connectors with Socket Locks

■ Dimensions

**XG4U
Strain Reliefs with Locks**

(Locked)

(Unlocked)

**XG4M-□□30 (one polarity guide)
XG4M-□□31 (all others)**

Open-end cover

Triangular mark
Polarizing Key slot (2)
(not on models with
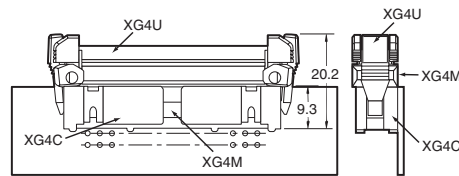less than 14 contacts)
Polarity guide
Polarizing Key slot (1)

■ Mating Diagrams for XG4M

XG4U + XG4M + XG4C (with straight terminals)
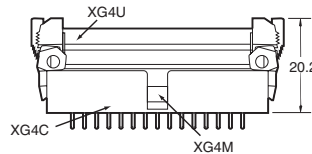
XG4U + XG4M + XG4C (with right-angle terminals)

Dimensions

No. of contacts	Dimensions (mm)				
	A	B	C	D	E
10	26.8	13.2	26.2	17.3	10.16
14	31.8	18.2	31.2	22.3	15.24
16	34.4	20.8	33.8	24.9	17.78
20	39.5	25.9	38.9	30.0	22.86
26	47.1	33.5	46.5	37.6	30.48
30	52.2	38.6	51.6	42.7	35.56
34	57.2	43.6	56.6	47.7	40.64
40	64.9	51.3	64.3	55.4	48.26
50	77.6	64.0	77.0	68.1	60.96
60	90.3	76.7	89.7	80.8	73.66
64	95.3	81.7	94.7	85.8	78.74

■ Ordering Information

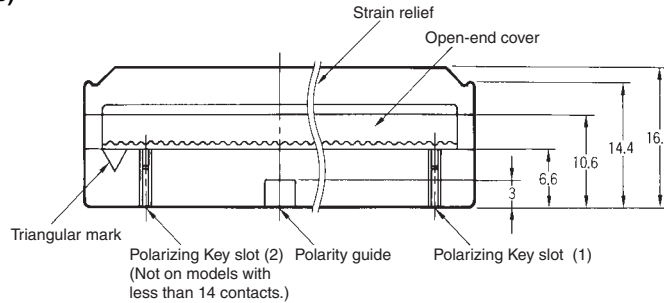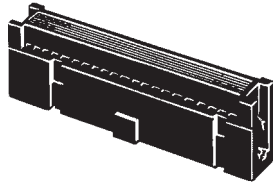| No. of contacts	No. of polarity guides	Socket and Strain Relief Sets (See note 1.)	Socket with Open-end Cover (See note 2.)	Strain Relief with Locks
10	0	XG4M-1031-U	XG4M-1031	XG4U-1004
	1	XG4M-1030-U	XG4M-1030	
14	1	XG4M-1430-U	XG4M-1430	XG4U-1404
16	1	XG4M-1630-U	XG4M-1630	XG4U-1604
20	1	XG4M-2030-U	XG4M-2030	XG4U-2004
26	1	XG4M-2630-U	XG4M-2630	XG4U-2604
30	1	XG4M-3030-U	XG4M-3030	XG4U-3004
34	1	XG4M-3430-U	XG4M-3430	XG4U-3404
40	1	XG4M-4030-U	XG4M-4030	XG4U-4004
50	1	XG4M-5030-U	XG4M-5030	XG4U-5004
	2 (See note 3.)	XG4M-5031-U	XG4M-5031	
60	1	XG4M-6030-U	XG4M-6030	XG4U-6004
	2 (See note 3.)	XG4M-6031-U	XG4M-6031	
64	1	XG4M-6430-U	XG4M-6430	XG4U-6404
	2 (See note 3.)	XG4M-6431-U	XG4M-6431	

Note: 1. With open-end cover.
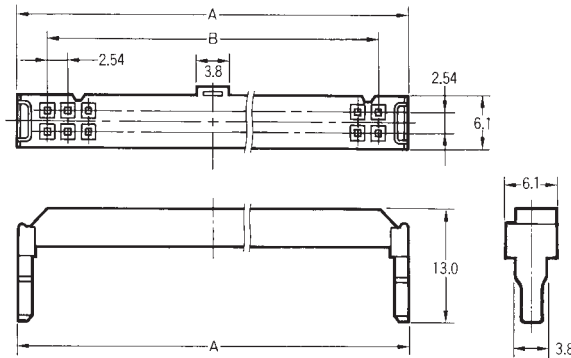   **2.** Strain Relief sold separately.
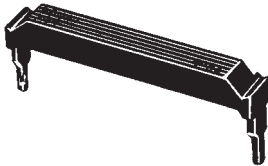
3. Polarity guide pitch is 22.86 mm.

XG4M MIL Sockets

■ Dimensions

XG4M-□□30 (one polarizing guide)
XG4M-□□31 (all others)

Strain relief
Open-end cover

Triangular mark

Polarizing Key slot (2)   Polarity guide   Polarizing Key slot (1)
(Not on models with
less than 14 contacts.)

14.4   16.1
10.6
6.6
3

XG4T-□□04
Strain Relief

A
B
2.54   3.8   2.54
6.1

13.0

6.1
3.8

A

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

XG4M-□□30-T (XG4M-□□30 + XG4T-□□04)
XG4M-□□31-T (XG4M-□□31 + XG4T-□□04)
MIL Socket and Strain Relief Sets

■ Ordering Information

No. of contacts	No. of polarity guides	Socket and Strain Relief Set (See note 1.)	Socket with Open-end Cover (See note 2.)	Strain Relief for the XG4M
10	0	XG4M-1031-T	XG4M-1031	XG4T-1004
	1	XG4M-1030-T	XG4M-1030	
14	1	XG4M-1430-T	XG4M-1430	XG4T-1404
16	1	XG4M-1630-T	XG4M-1630	XG4T-1604
20	1	XG4M-2030-T	XG4M-2030	XG4T-2004
26	1	XG4M-2630-T	XG4M-2630	XG4T-2604
30	1	XG4M-3030-T	XG4M-3030	XG4T-3004
34	1	XG4M-3430-T	XG4M-3430	XG4T-3404
40	1	XG4M-4030-T	XG4M-4030	XG4T-4004
50	1	XG4M-5030-T	XG4M-5030	XG4T-5004
	2 (See note 3.)	XG4M-5031-T	XG4M-5031	
60	1	XG4M-6030-T	XG4M-6030	XG4T-6004
	2 (See note 3.)	XG4M-6031-T	XG4M-6031	
64	1	XG4M-6430-T	XG4M-6430	XG4T-6404
	2 (See note 3.)	XG4M-6431-T	XG4M-6431	

Note: 1. With open-end cover.
2. Strain Relief sold separately.
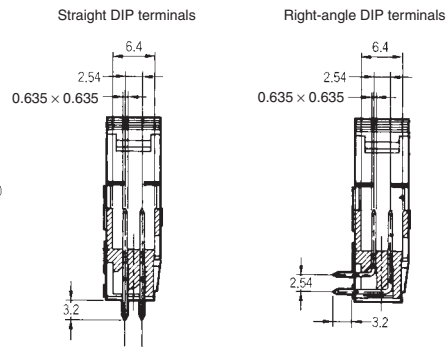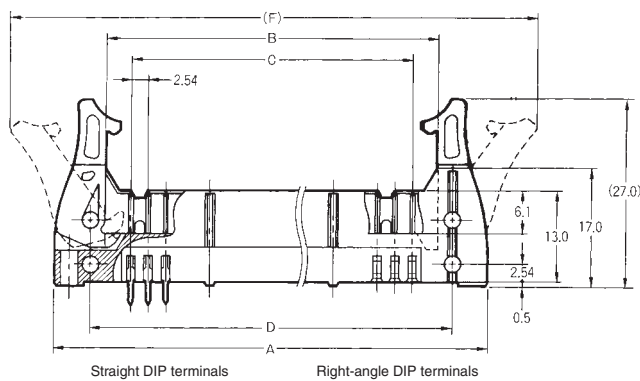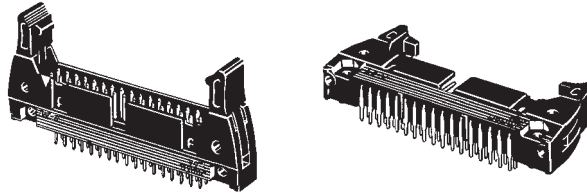**3.** Polarity guide pitch is 22.86 m

XG4A MIL Plugs with Long Locks

■ Dimensions

XG4A-□□31/-□□71 (With straight DIP terminals)
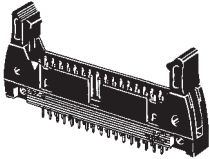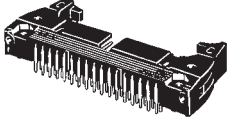**XG4A-□□34/-□□74 (With right-angle DIP terminals)**

Straight DIP terminals   Right-angle DIP terminals

Straight DIP terminals   Right-angle DIP terminals

Two, 2.6 dia.
(M3 tapping screw hole)

Two, 2.65 dia.

Polarity slot
Triangular mark
Polarizing Key slot
Polarizing Key slot
(not on models with less than 14 contacts)

Mounting view (bottom view)
Right-angle terminals

0.8 +0.1/0 dia. (DIP terminals)

Two, 2.8 dia.
(M2.6)
Two, 3.2 dia.
(M3 tapping screw hole)

Straight terminals

0.8 +0.1/0 dia. (DIP terminals)

Two, 3.2 dia.
(M3 tapping screw hole)

Dimensions

No. of contacts	Dimensions (mm)					
	A	B	C	D	E	F
10	32.0	17.5	10.16	21.8	27.9	46.4
14	37.1	22.6	15.24	26.9	33.0	51.5
16	39.6	25.2	17.78	29.5	35.6	54.1
20	44.7	30.2	22.86	34.5	40.6	59.1
26	52.3	37.9	30.48	42.2	48.3	66.8
30	57.4	42.9	35.56	47.2	53.3	71.8
34	62.5	48.0	40.64	52.3	58.4	76.9
40	70.1	55.6	48.26	59.9	66.0	84.5
50	82.8	68.3	60.96	72.6	78.7	97.2
60	95.5	81.0	73.66	85.3	91.4	109.9
64	100.6	86.1	78.74	90.4	96.5	115.0

Note: See page C-16 for details on the availability (10-contact Connectors) and pitch (with 50, 60, or 64-contact Connectors) of polarity slots.

■ Ordering Information
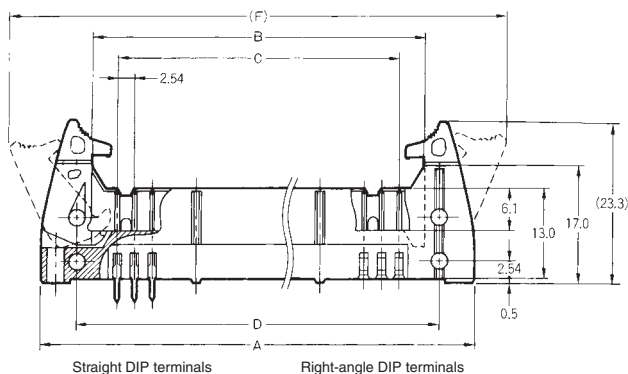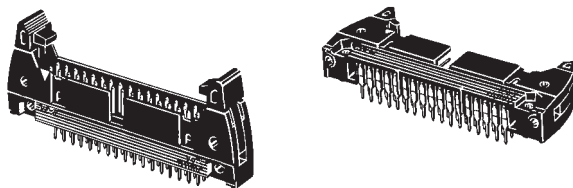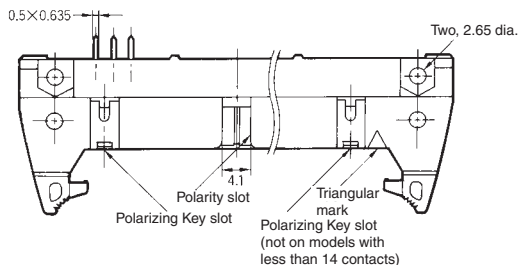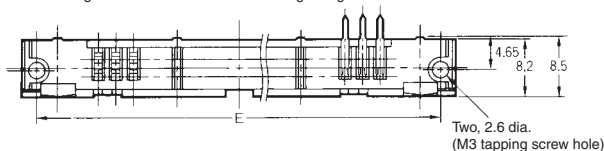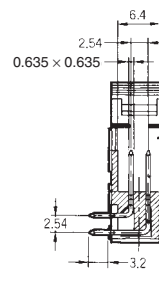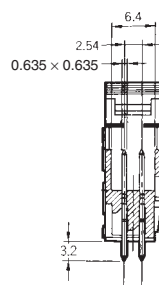
Use in Combination with Strain-relief Sockets.

No. of contacts	No. of polarizing slots	Plugs with straight DIP terminals	Plugs with right-angle DIP terminals
10	0	XG4A-1071	XG4A-1074
	1	XG4A-1031	XG4A-1034
14	1	XG4A-1431	XG4A-1434
16	1	XG4A-1631	XG4A-1634
20	1	XG4A-2031	XG4A-2034
26	1	XG4A-2631	XG4A-2634
30	1	XG4A-3031	XG4A-3034
34	1	XG4A-3431	XG4A-3434
40	1	XG4A-4031	XG4A-4034
50	1	XG4A-5031	XG4A-5034
	2 (See note.)	XG4A-5071	XG4A-5074
60	1	XG4A-6031	XG4A-6034
	2 (See note.)	XG4A-6071	XG4A-6074
64	1	XG4A-6431	XG4A-6434
	2 (See note.)	XG4A-6471	XG4A-6474

Note: Polarizing slot pitch is 22.86 mm.

XG4A MIL Plugs with Short Locks

■ Dimensions

XG4A-□□32/-□□72 (With straight DIP terminals)
XG4A-□□35/-□□75 (With right-angle DIP terminals)

Straight DIP terminals

Right-angle DIP terminals
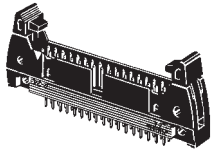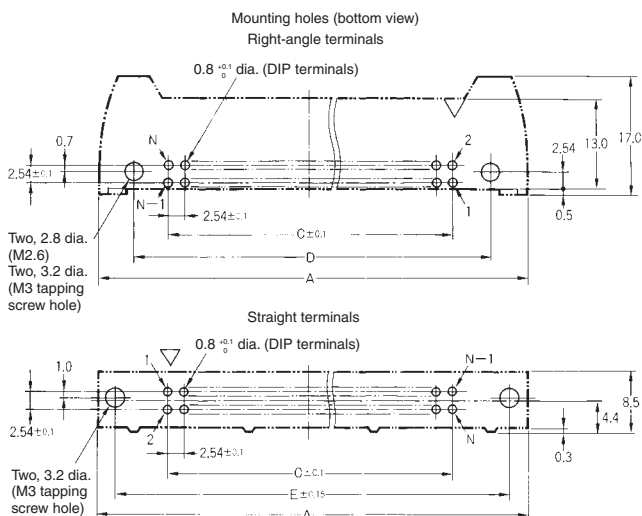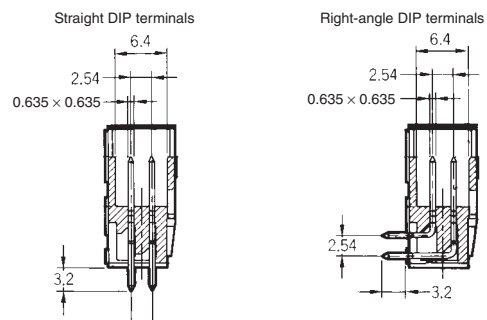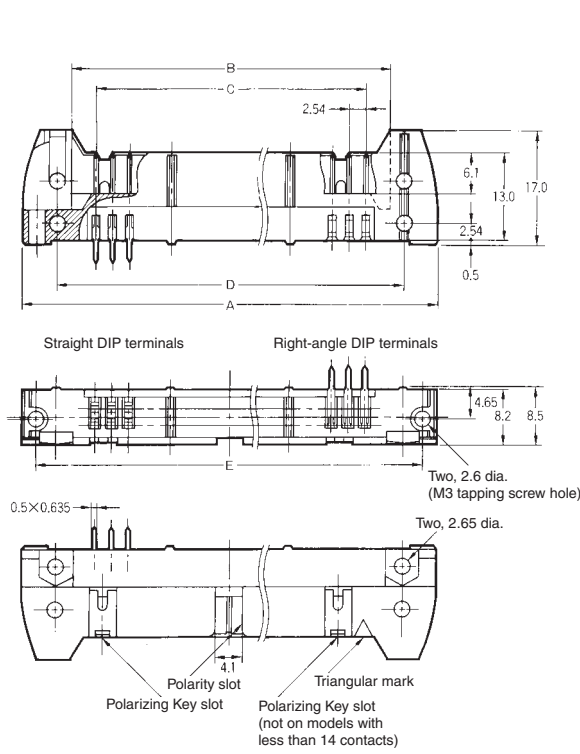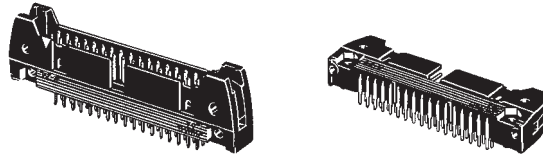
Straight DIP terminals

Right-angle DIP terminals

Two, 2.6 dia.
(M3 tapping screw hole)

Two, 2.65 dia.

Polarity slot
Polarizing Key slot

Triangular mark
Polarizing Key slot
(not on models with
less than 14 contacts)

Mounting holes (bottom view)
Right-angle terminals

0.8 ⁺⁰·¹₀ dia. (DIP terminals)

Two, 2.8 dia.
(M2.6)
Two, 3.2 dia.
(M3 tapping
screw hole)

Straight terminals

0.8 ⁺⁰·¹₀ dia. (DIP terminals)

Two, 3.2 dia.
(M3 tapping
screw hole)
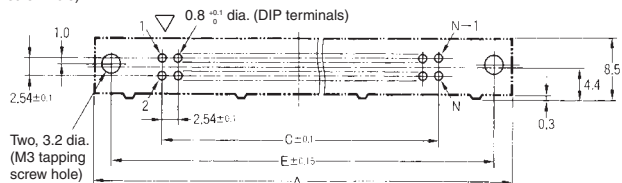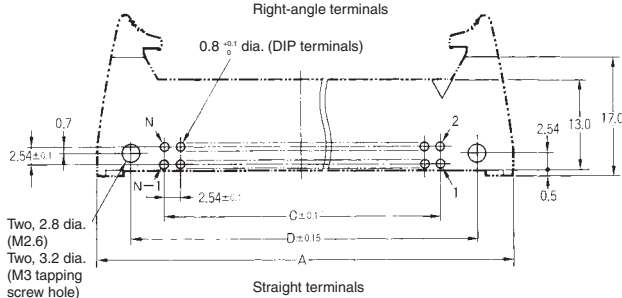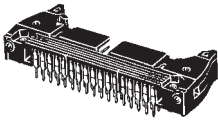
Dimensions

No. of contacts	Dimensions (mm)					
	A	B	C	D	E	F
10	32.0	17.5	10.16	21.8	27.9	40.4
14	37.1	22.6	15.24	26.9	33.0	45.5
16	39.6	25.2	17.78	29.5	35.6	48.0
20	44.7	30.2	22.86	34.5	40.6	53.1
26	52.3	37.9	30.48	42.2	48.3	60.7
30	57.4	42.9	35.56	47.2	53.3	65.8
34	62.5	48.0	40.64	52.3	58.4	70.9
40	70.1	55.6	48.26	59.9	66.0	78.5
50	82.8	68.3	60.96	72.6	78.7	91.2
60	95.5	81.0	73.66	85.3	91.4	103.9
64	100.6	86.1	78.74	90.4	96.5	109.0

Note: See page C-16 for details on the availability (10-contact Connectors) and pitch (with 50, 60, or 64-contact Connectors) of polarity slots.

■ Ordering Information

No. of contacts	No. of polarizing slots	Plugs with straight DIP terminals	Plugs with right-angle DIP terminals
10	0	XG4A-1072	XG4A-1075
	1	XG4A-1032	XG4A-1035
14	1	XG4A-1432	XG4A-1435
16	1	XG4A-1632	XG4A-1635
20	1	XG4A-2032	XG4A-2035
26	1	XG4A-2632	XG4A-2635
30	1	XG4A-3032	XG4A-3035
34	1	XG4A-3432	XG4A-3435
40	1	XG4A-4032	XG4A-4035
50	1	XG4A-5032	XG4A-5035
	2 (See note.)	XG4A-5072	XG4A-5075
60	1	XG4A-6032	XG4A-6035
	2 (See note.)	XG4A-6072	XG4A-6075
64	1	XG4A-6432	XG4A-6435
	2 (See note.)	XG4A-6472	XG4A-6475

Note: Polarizing slot pitch is 22.86 mm.

XG4A MIL Plugs without Lock Levers

■ Dimensions

XG4A-☐☐33/-☐☐73 (With straight DIP terminals)
XG4A-☐☐36/-☐☐76 (With right-angle DIP terminals)

Straight DIP terminals

Right-angle DIP terminals

Straight DIP terminals

Right-angle DIP terminals

Two, 2.6 dia.
(M3 tapping screw hole)

Two, 2.65 dia.

Polarity slot
Polarizing Key slot

Triangular mark

Polarizing Key slot
(not on models with
less than 14 contacts)

Mounting holes (bottom view)
Right-angle terminals

0.8 $^{+0.1}_{0}$ dia. (DIP terminals)

Two, 2.8 dia.
(M2.6)
Two, 3.2 dia.
(M3 tapping
screw hole)

Straight terminals

0.8 $^{+0.1}_{0}$ dia. (DIP terminals)

Two, 3.2 dia.
(M3 tapping
screw hole)

Dimensions

No. of contacts	Dimensions (mm)				
	A	B	C	D	E
10	32.0	17.5	10.16	21.8	27.9
14	37.1	22.6	15.24	26.9	33.0
16	39.6	25.2	17.78	29.5	35.6
20	44.7	30.2	22.86	34.5	40.6
26	52.3	37.9	30.48	42.2	48.3
30	57.4	42.9	35.56	47.2	53.3
34	62.5	48.0	40.64	52.3	58.4
40	70.1	55.6	48.26	59.9	66.0
50	82.8	68.3	60.96	72.6	78.7
60	95.5	81.0	73.66	85.3	91.4
64	100.6	86.1	78.74	90.4	96.5

Note: See page C-16 for details on the availability (10-contact Connectors) and pitch (with 50, 60, or 64-contact Connectors) of polarizing slots.

■ Ordering Information

No. of contacts	No. of polarizing slots	Plugs with straight DIP terminals	Plugs right-angle DIP terminals
10	0	XG4A-1073	XG4A-1076
	1	XG4A-1033	XG4A-1036
14	1	XG4A-1433	XG4A-1436
16	1	XG4A-1633	XG4A-1636
20	1	XG4A-2033	XG4A-2036
26	1	XG4A-2633	XG4A-2636
30	1	XG4A-3033	XG4A-3036
34	1	XG4A-3433	XG4A-3436
40	1	XG4A-4033	XG4A-4036
50	1	XG4A-5033	XG4A-5036
	2 (See note.)	XG4A-5073	XG4A-5076
60	1	XG4A-6033	XG4A-6036
	2 (See note.)	XG4A-6073	XG4A-6076
64	1	XG4A-6433	XG4A-6436
	2 (See note.)	XG4A-6473	XG4A-6476

Note: Polarity slot pitch is 22.86 mm.

Lock Levers

• This series of Connectors allows you to attach Lock Levers on Right-angle Terminal Plugs after automated soldering is completed.
• Lock Levers can be easily mounted simply by manually pushing them in.

XG4Z-0010
Long Lock Lever

XG4Z-0011
Short Lock Lever

Type	Model	Min. order
Long Lock Levers	XG4Z-0010	20
Short Lock Levers	XG4Z-0011	
Slim Long Lock Levers	XG4Z-0012	
Slim Short Lock Levers	XG4Z-0013	

Note: The left and right Lock Levers are identical. One pair is needed for each Plug.

Attachment after Soldering

• Long Levers interfere with automated mounting.
• Long Levers are in the way when boards are packed.

↓

• These problems are resolved using Connectors with Long Levers that can be attached after soldering is completed.
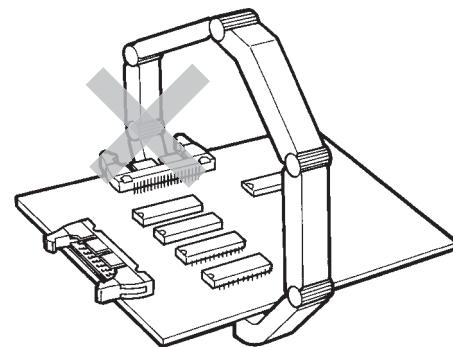
XG4A 2-tier Plugs with Long Lock

■ Dimensions

XG4A-□□39-A/-□□79-A
(With long locks and right-angle DIP terminals)

Two, 2.65 dia.

Stopper

Two, 2.65 dia.

Polarity slot

Triangular mark

Polarizing Key slot (not on the XG4A-1039-A)

Polarizing Key slot (not on models with less than 14 contacts)

Mounting holes (bottom view)

0.8 ⁺⁰·¹₀ dia.

Two, 2.8 dia.
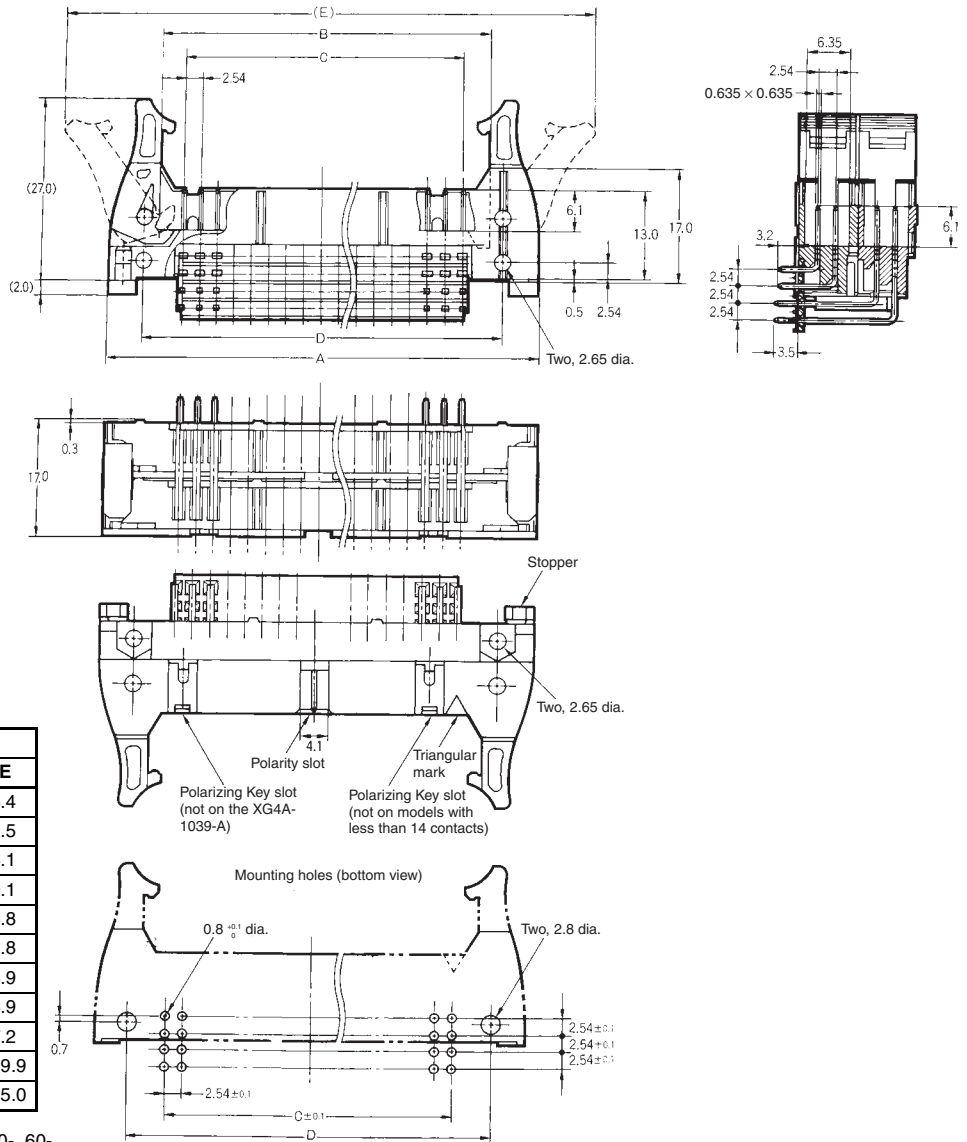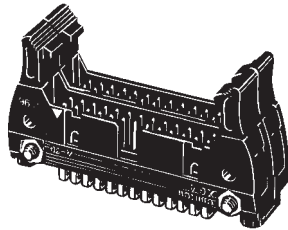
Dimensions

No. of contacts	Dimensions (mm)				
	A	B	C	D	E
10 × 2	32.0	17.5	10.16	21.8	46.4
14 × 2	37.1	22.6	15.24	26.9	51.5
16 × 2	39.6	25.2	17.78	29.5	54.1
20 × 2	44.7	30.2	22.86	34.5	59.1
26 × 2	52.3	37.9	30.48	42.2	66.8
30 × 2	57.4	42.9	35.56	47.2	71.8
34 × 2	62.5	48.0	40.64	52.3	76.9
40 × 2	70.1	55.6	48.26	59.9	84.9
50 × 2	82.8	68.3	60.96	72.6	97.2
60 × 2	95.5	81.0	73.66	85.3	109.9
64 × 2	100.6	86.1	78.74	90.4	115.0

Note: Polarizing slot pitch is 22.86 mm for 50-, 60-, and 64-contact Connectors.

■ Ordering Information

No. of contacts	No. of polarizing slots	Model	No. of contacts	No. of polarity slots	Model
10 × 2	0	XG4A-1079-A	40 × 2	1	XG4A-4039-A
	1	XG4A-1039-A			
14 × 2	1	XG4A-1439-A	50 × 2	1	XG4A-5039-A
16 × 2	1	XG4A-1639-A		2 (See note 2.)	XG4A-5079-A
20 × 2	1	XG4A-2039-A	60 × 2	1	XG4A-6039-A
26 × 2	1	XG4A-2639-A		2 (See note 2.)	XG4A-6079-A
30 × 2	1	XG4A-3039-A	64 × 2	1	XG4A-6439-A
34 × 2	1	XG4A-3439-A		2 (See note 2.)	XG4A-6479-A

Note: 1. Comes in a set with stopper and screws included. **2.** Polarizing slot pitch is 22.86 mm.

■ Mounting Example
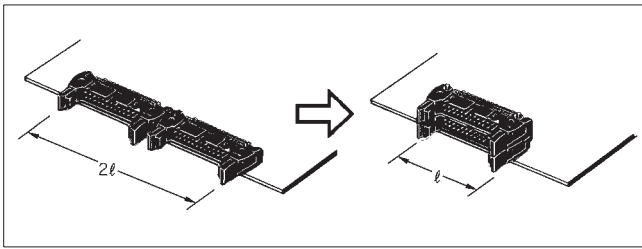
■ 2-tier Plug Features

- Recommended for high-density mounting.
- MIL-compliant cable ensures faster delivery times and lower cost than half-pitch board cable. The 2.54-mm pitch simplifies patterning.

■ Applicable Sockets

No. of contacts	No. of polarity slots	Model	XG4M for flat cable (See note 1.)	XG5M-N for discrete wire (See note 2.)
10 × 2	0	XG4A-1079-A	XG4M-1031	XG5M-103☐-N
	1	XG4A-1039-A	XG4M-1030	XG5M-103☐-N
14 × 2	1	XG4A-1439-A	XG4M-1430	XG5M-143☐-N
16 × 2	1	XG4A-1639-A	XG4M-1630	XG5M-163☐-N
20 × 2	1	XG4A-2039-A	XG4M-2030	XG5M-203☐-N
26 × 2	1	XG4A-2639-A	XG4M-2630	XG5M-263☐-N
30 × 2	1	XG4A-3039-A	XG4M-3030	XG5M-303☐-N
34 × 2	1	XG4A-3439-A	XG4M-3430	XG5M-343☐-N
40 × 2	1	XG4A-4039-A	XG4M-4030	XG5M-403☐-N
50 × 2	1	XG4A-5039-A	XG4M-5030	XG5M-503☐-N
	2 (See note 3.)	XG4A-5079-A	XG4M-5031	
60 × 2	1	XG4A-6039-A	XG4M-6030	XG5M-603☐-N
	2 (See note 3.)	XG4A-6079-A	XG4M-6031	
64 × 2	1	XG4A-6439-A	XG4M-6430	XG5M-643☐-N
	2 (See note 3.)	XG4A-6479-A	XG4M-6431	

Note: 1. Use with the supplied Strain Relief.
2. Use with the supplied Semi-cover. Hood Cover cannot be used.
3. Polarity slot pitch is 22.86 mm.

■ Cable Number and Contact Position

Cable and Corresponding Contact Number

The contact numbers are not marked on the Connector. Use the triangular mark as a guide when wiring and designing circuit boards.

For the cable number, count starting from the cable mark side as shown below.
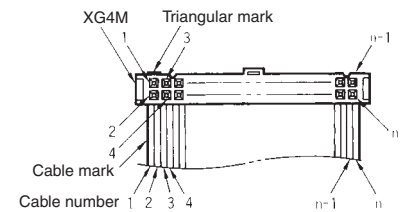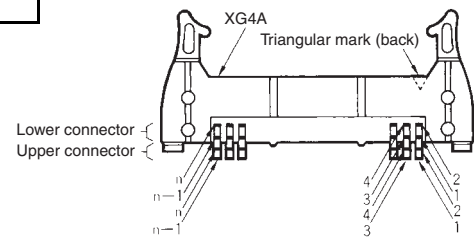
■ Precautions

Correct Use

Mounting
- Be sure to anchor the board with screws before mounting.
- Note that a Polarizing Key cannot be mounted on the lower Plug.

Connecting the Socket
- Before connecting the XG4M with Strain Relief, remove as much slack from the cable as possible. Insert as shown below.
- Attach the Semi-cover before connecting the XG5M-N. It is not possible to use the Hood Cover.
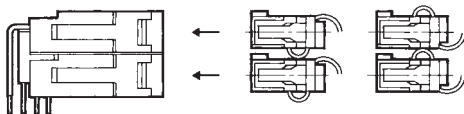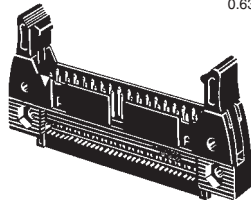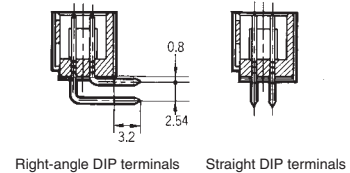

Soldering
- **Automated Soldering Conditions (Jet Flow)**

1. Soldering temperature: 250 ±5°C
2. Continuous soldering time: Within 5 s

XG4E Relay Plugs

■ Dimensions

**XG4E-□□31/-□□71
(With long locks)
XG4E-□□32/-□□72
(With short locks)**

(Long locks)

(Short locks)

Open-end cover

Strain Relief

Two, 2.6 dia.
(M3 tapping screw hole)

Two, 2.65 dia.

Polarity slot
Polarizing Key slot

Triangular mark
Polarizing Key slot
(Not on models with less than 14 contacts.)
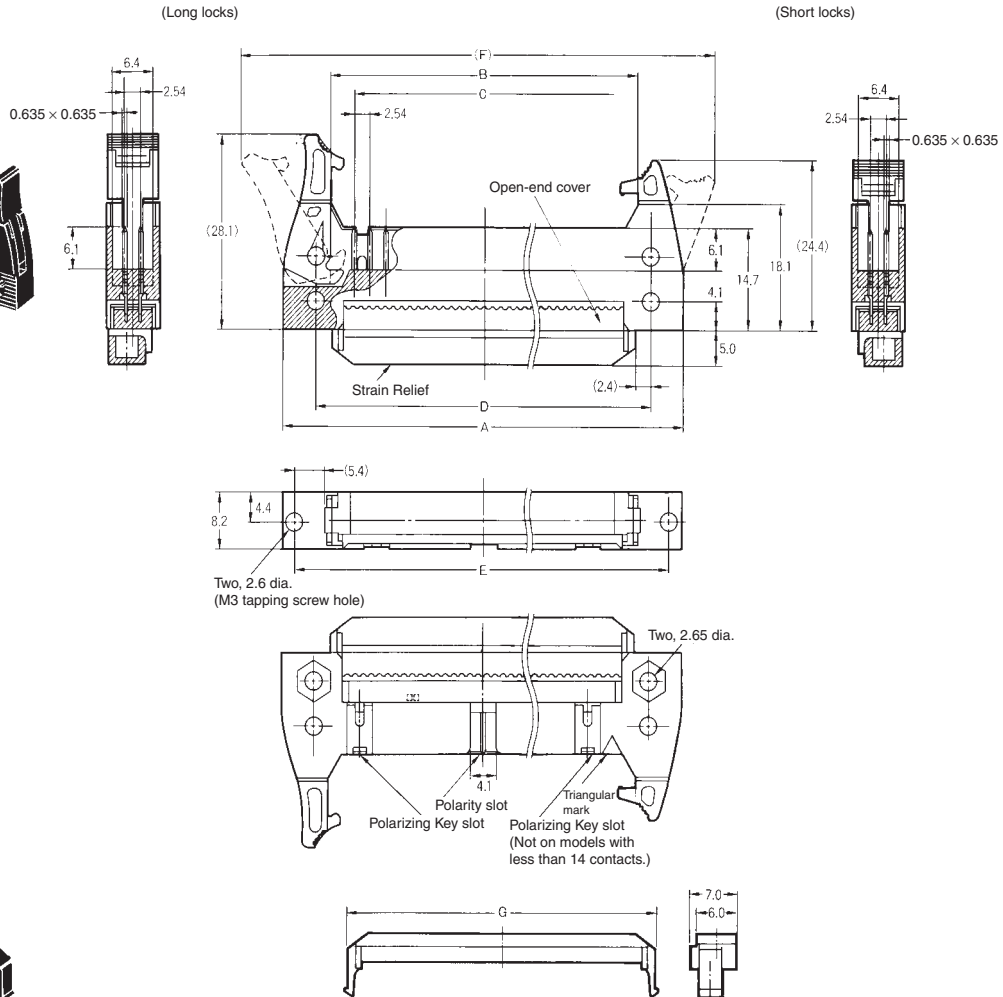
**XG4S-□□04
Strain Relief**

Dimensions

No. of contacts	Dimensions (mm)					F		G
	A	B	C	D	E	Long Lock	Short Lock	
10	32.0	17.5	10.16	21.8	27.9	46.4	40.4	16.9
14	37.1	22.6	15.24	26.9	33.0	51.5	45.5	22.0
16	39.6	25.2	17.78	29.5	35.6	54.1	46.0	24.6
20	44.7	30.2	22.86	34.5	40.6	59.1	53.1	29.6
26	52.3	37.9	30.48	42.2	48.3	66.8	60.7	38.0
30	57.4	42.9	35.56	47.2	53.3	71.8	65.8	42.3
34	62.5	48.0	40.64	52.3	58.4	76.9	70.9	47.4
40	70.1	55.6	48.26	59.9	66.0	84.5	78.5	55.0
50	82.8	68.3	60.96	72.6	78.7	97.2	91.2	67.7
60	95.5	81.0	73.66	85.3	91.4	109.9	103.9	80.4
64	100.6	86.1	78.74	90.4	96.5	115.0	109.0	85.5

Note: See the following page for details on the availability (10-contact Connectors) and pitch (with 50, 60, or 64-contact Connectors) of polarity slots.
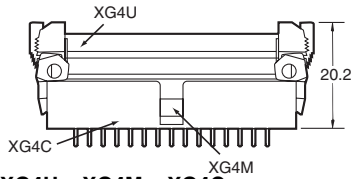
■ Ordering Information

Relay Plugs

Use Long-lock Plugs together with Strain-relief Sockets, and use Short-lock Plugs together with Non-strain-relief Sockets.

No. of contacts	No. of polarizing slots	Long-lock Plugs with Open-end Covers (See note 1.)	Short-lock Plugs with Open-end Covers (See note 1.)	Strain Reliefs for XG4E
10	0	XG4E-1071	XG4E-1072	XG4S-1004
	1	XG4E-1031	XG4E-1032	
14	1	XG4E-1431	XG4E-1432	XG4S-1404
16	1	XG4E-1631	XG4E-1632	XG4S-1604
20	1	XG4E-2031	XG4E-2032	XG4S-2004
26	1	XG4E-2631	XG4E-2632	XG4S-2604
30	1	XG4E-3031	XG4E-3032	XG4S-3004
34	1	XG4E-3431	XG4E-3432	XG4S-3404
40	1	XG4E-4031	XG4E-4032	XG4S-4004
50	1	XG4E-5031	XG4E-5032	XG4S-5004
	2 (See note 2.)	XG4E-5071	XG4E-5072	
60	1	XG4E-6031	XG4E-6032	XG4S-6004
	2 (See note 2.)	XG4E-6071	XG4E-6072	
64	1	XG4E-6431	XG4E-6432	XG4S-6404
	2 (See note 2.)	XG4E-6471	XG4E-6472	

Note: 1. Strain Relief sold separately.
2. Polarity slot pitch is 22.86 mm.

■ Cable Number and Contact Position

Cable and Corresponding Contact Number

The contact numbers are not marked on the Connector. Use the triangular mark as a guide when wiring and designing circuit boards.

For the cable number, count starting from the cable mark side as shown on the right.

Socket (mated side)

Right-angle Terminal Plug (terminal side)

Plug (XG4E)

Straight Terminal Plug (terminal side)
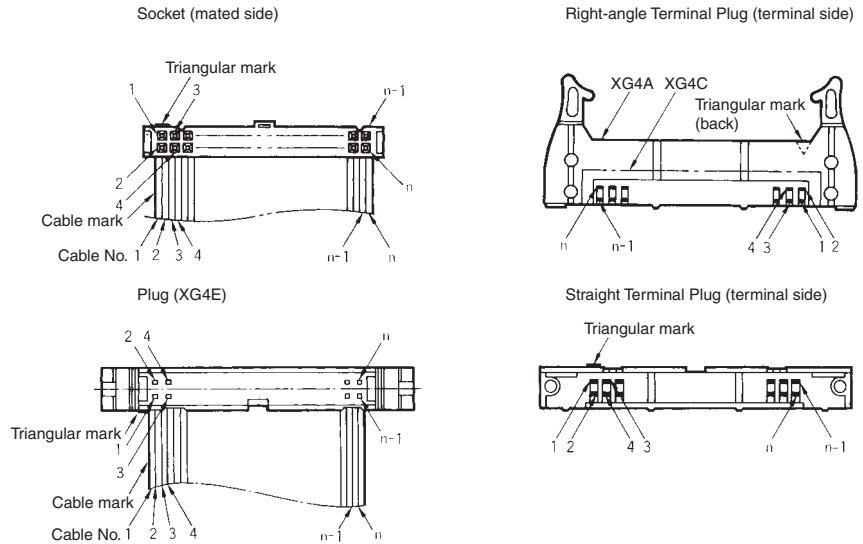
XG4C Box-type Plugs

■ Dimensions

XG4C-□□31/-□□71
(With straight DIP terminals)

XG4C-□□34/-□□74
(With right-angle DIP terminals)

Triangular mark
Polarizing Key slot (Not on models with less than 14 contacts.)
Polarity slot
Polarizing Key slot

(Straight DIP terminals)   (Right-angle DIP terminals)

Right-angle DIP terminals   Straight DIP terminals

Mounting holes (bottom view)
Straight DIP terminals

0.8 +0.1/0 dia.

Right-angle DIP terminals

0.8 +0.1/0 dia.
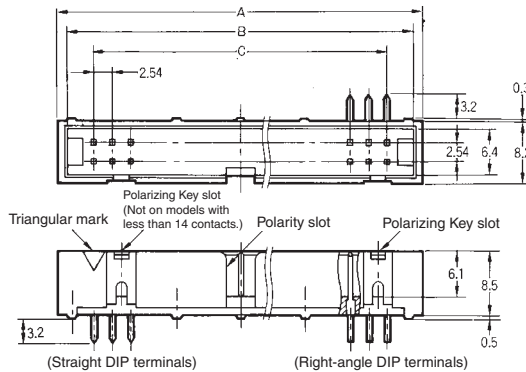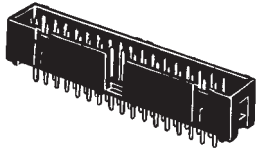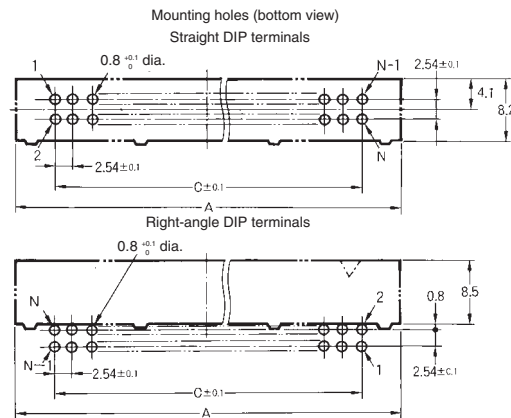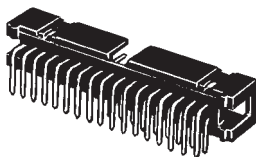
Dimensions

No. of contacts	Dimensions (mm)		
	A	B	C
10	20.0	17.5	10.16
14	25.1	22.6	15.24
16	27.6	25.2	17.78
20	32.7	30.2	22.86
26	40.3	37.9	30.48
30	45.4	42.9	35.56
34	50.5	48.0	40.64
40	58.1	55.6	48.26
50	70.8	68.3	60.96
60	83.5	81.0	73.66
64	88.6	86.1	78.74

Note: See the following page for details on the availability (10-contact Connectors) and pitch (with 50, 60, or 64-contact Connectors) of polarity slots.

■ Ordering Information

No. of contacts	No. of polarizing slots	Plugs with straight DIP terminals	Plugs with right-angle DIP terminals
10	0	XG4C-1071	XG4C-1074
	1	XG4C-1031	XG4C-1034
14	1	XG4C-1431	XG4C-1434
16	1	XG4C-1631	XG4C-1634
20	1	XG4C-2031	XG4C-2034
26	1	XG4C-2631	XG4C-2634
30	1	XG4C-3031	XG4C-3034
34	1	XG4C-3431	XG4C-3434
40	1	XG4C-4031	XG4C-4034
50	1	XG4C-5031	XG4C-5034
	2 (See note 1.)	XG4C-5071	XG4C-5074
60	1	XG4C-6031	XG4C-6034
	2 (See note 1.)	XG4C-6071	XG4C-6074
64	1	XG4C-6431	XG4C-6434
	2 (See note 1.)	XG4C-6471	XG4C-6474

Note: 1. Polarizing slot pitch is 22.86 mm.
2. The Box-type Plug can be locked using Lock Lever II (sold separately). (See XG4Z-0002 on page C-30.)

■ Mating Diagrams for XG4M

XG4U + XG4M + XG4C
(With straight terminals)

XG4U
20.2
XG4C
XG4M
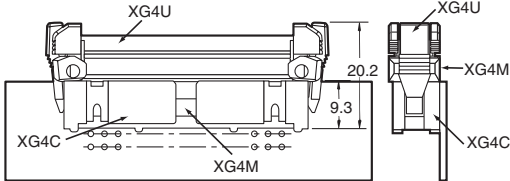
XG4T + XG4M + XG4A

XG4T XG4M
23.5 27
XG4A
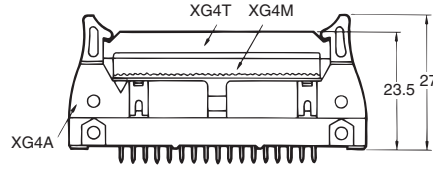
XG4T + XG4M, + XG4C + Lock Lever

XG4T XG4M
10.9
19.0
XG4C
XG4Z-0002
Lock Lever

XG4U + XG4M + XG4C
(With right-angle terminals)

XG4U
20.2
9.3
XG4C
XG4M
XG4U
XG4M
XG4C
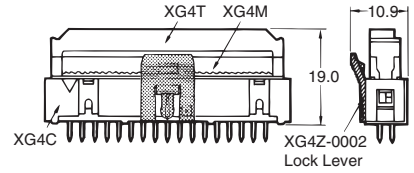
XG4T + XG4M + XG8B (Unshrouded Plug) + Lock Lever

XG4T XG4M
9
18.8
XG8B
XG5Z-0002
Lock Lever

XG4T + XG4M + XG4E

24.7 28.1
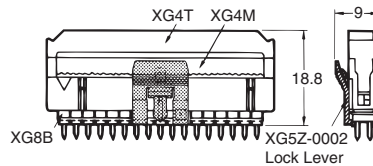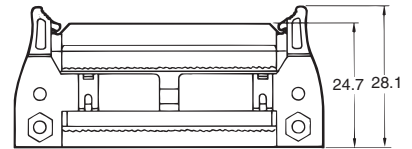
■ Polarity Slot and Polarizing Key Slot Number and Position

Classification	No. of contacts			
	10 contacts	14 contacts	16 to 40 contacts	50 to 64 contacts
XG4M **MIL Socket**	XG4M-1031	XG4M-1030	XG4M-1430	XG4M-1630 to XG4M-6430 Polarizing Key slot
			---	XG4M-5031, XG4M-6031, XG4M-6431 Polarizing guide
XG4A **MIL Plug** **XG4E** **IDC Plug**	XG4A-107☐ XG4E-107☐	XG4A-103☐ XG4E-103☐	XG4A-143☐ XG4E-143☐	XG4A-163☐ to XG4A-643☐ Polarizing Key slot XG4E-163☐ to XG4E-643☐
			---	XG4A-507☐, XG4A-607☐, XG4A-647☐ Polarizing slot XG4E-507☐, XG4E-607☐, XG4E-647☐
XG4C **Box-type Plug**	XG4C-107☐	XG4C-103☐	XG4C-143☐	XG4C-163☐ to XG4C-643☐ Polarizing slot
			---	XG4C-507☐, XG4C-607☐, XG4C-647☐ Polarizing slot
No. of polarizing guides (Polarizing Slots)	0	1	1	1 2 (H = 22.86 mm)
No. of Polarizing Key slot (Polarizing Key Slots)	1	0	1	2

	10 contacts	14 contacts	16 to 40 contacts	50 to 64 contacts
No. of polarizing guides	0	1	1	1 / 2 (H = 22.86 mm)
No. of Polarizing Key slot	1	0	1	2

XG4H Board-to-Board Sockets

■ Dimensions

XG4H-□□31/-□□71
(With straight DIP terminals)
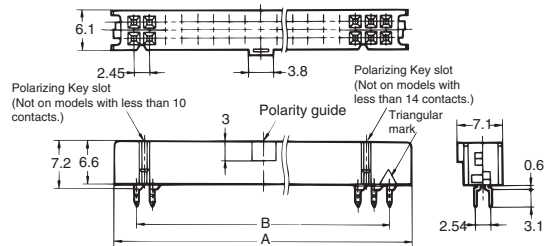
XG4H-3431-1
XG4H-4031-1
(With straight DIP terminals)

*Sockets with model numbers ending in -1 are available only with 34 or 40 contacts (provide kinked terminals and standoff to prevent the Sockets from falling over).
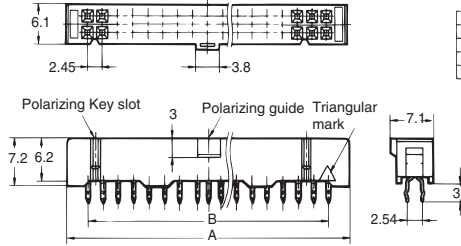
Mounting holes (bottom view)
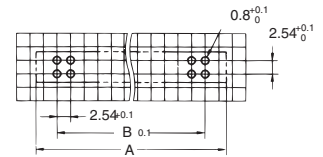
$0.8^{+0.1}_{0}$
$2.54^{+0.1}_{0}$

6.1

2.45   3.8

Polarizing Key slot
(Not on models with less than 10 contacts.)   Polarity guide   Polarizing Key slot (Not on models with less than 14 contacts.)   Triangular mark

3

7.2 6.6   7.1

0.6

2.54   3.1

B
A

6.1

2.45   3.8

Polarizing Key slot   Polarizing guide   Triangular mark

3

7.2 6.2   7.1

3.1

2.54

B
A

2.54±0.1

B 0.1
A
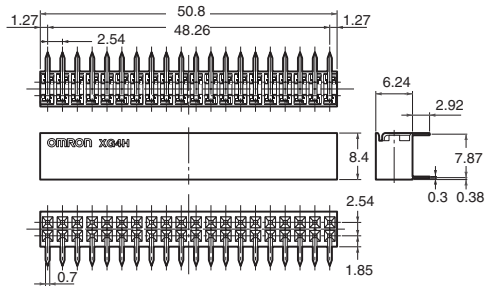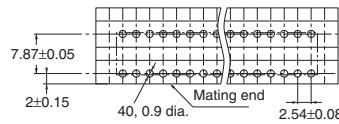
Dimensions

No. of contacts	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

XG4H-4034
(With right-angle DIP terminals)

1.27   50.8   1.27
2.54   48.26

OMRON XG4H

6.24
2.92
8.4   7.87

2.54
0.3 0.38

0.7   1.85

Mounting holes (bottom view)

7.87±0.05

2±0.15   40, 0.9 dia.   Mating end   2.54±0.08

■ Ordering Information

No. of contacts	No. of polarizing slots	Sockets with straight DIP terminals
10	1	XG4H-1031
14	1	XG4H-1431
16	1	XG4H-1631
20	1	XG4H-2031
26	1	XG4H-2631
30	1	XG4H-3031
34	1	XG4H-3431-1
40	1	XG4H-4031-1
50	1	XG4H-5031
	2 (See note.)	XG4H-5071
60	1	XG4H-6031
	2 (See note.)	XG4H-6071
64	1	XG4H-6431
	2 (See note.)	XG4H-6471

No. of contacts	Sockets with right-angle DIP terminals
40	XG4H-4034

Note: Polarizing guide pitch is 22.86 mm.

■ Mating Diagrams for XG4H

Plug Socket	XG8W Original Plugs	XG4C Box-type Plugs
XG4H-☐☐31/-☐☐71 **(With straight DIP terminals)**	 Stacking Vertical	 Stacking Vertical
XG4H-4034 **(With right-angle DIP terminals)**	 Horizontal (forward direction) Horizontal (reverse direction) Vertical	---

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■ Tools and Accessories (Sold Separately)

XG4Z-0004 Polarizing Key

Polarity guides and slots can be used by themselves to help prevent reverse insertion. Use the Polarizing Key as well for best results.

Material: PBT resin (ULV94V-0)/white

How to use

Insert — Twist

Polarizing Key

Polarizing Key slot
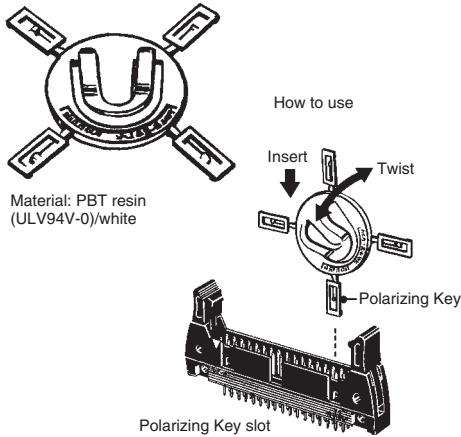
Note: Each XG4Z-0004 has 4 Polarizing Keys.

XG4Z-0005 Coding Pin

(To prevent erroneous insertion)

The Coding Pin is used to prevent confusion when many Connectors with the same number of contacts are lined up. It can also be used to prevent reverse insertion when using Connectors without a shroud like the XG8 Unshrouded Plug. The Coding Pin can also be used with XC2, XC5, and XC6 DIN Connectors as well as with XG5 Discrete-wire IDC Connectors.

Material: PBT resin (ULV94V-0)/white

How to use
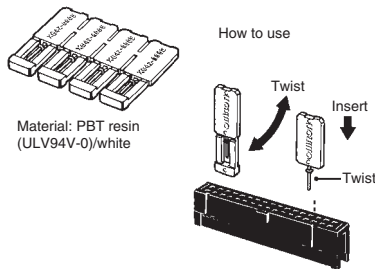
Twist
Insert
Twist

Note: 1. A contact with a Coding Pin inserted cannot be used.
2. Each XG4Z-0005 has 4 Polarizing Keys.

XY2E-0002 Contact Cutting Driver

The Contact Cutting Driver is used to cut (twist off) a contact on the mating Plug when using an XG4Z-0005 Coding Pin.

How to use

Twist

Insert the plug contact into the groove on the Driver, and twist off the contact from the base.
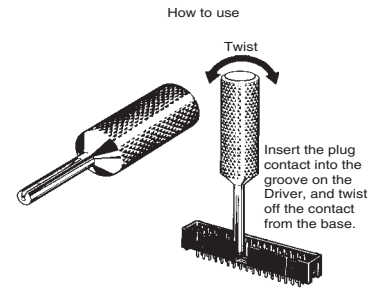
Lock Lever for XG8B and XG8W Plugs (With Right-angle Terminals)

XG5Z-0002

Use to lock Unshrouded Plugs (for XG8B and XG8W Plugs with right-angle terminals).

Material: Polyamide resin (UL94V-2)/natural

Lock Lever
Tab
XG4M
Polarity guide hole
XG8B

Insert the tab on the Lock Lever into the guide hole.

2.6
12.5
A
11.0
−0.7
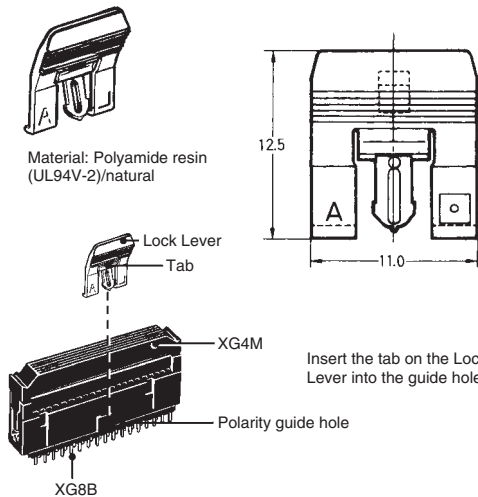
Lock Lever II for XG4C Plugs

XG4Z-0002

Use to lock XG4C Box-type Plugs.

Material: Polyamide resin (UL94V-2)/natural

XG4M
XG4C

3.8
2.7
13.5
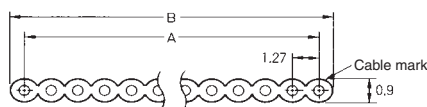B
11.0
0.7
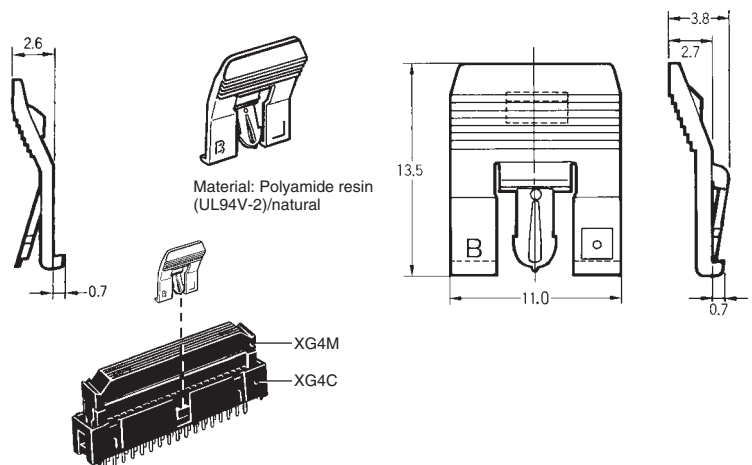
■ Precautions

Correct Use

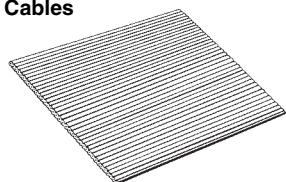• **Automated Soldering Conditions (Jet Flow)**

1. Soldering temperature: 250 ±5°C
**2.** Continuous soldering time: Within 5 s

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Flat Cable Connectors for PCBs | XG2

High-density mounting and speedy termination are possible with the XG2.

■ IDC connections allow you to wire all terminals at once without terminating the cable.

■ Can be DIP-soldered directly to the circuit board.

■ Small size (height 5.8 mm, width 6.8 mm) allows more efficient use of circuit board space.

■ Uses a 2.54-mm grid terminal arrangement for easier design of circuits.

■ Type: standard and reverse.

■ Uses UL94V-0 approved insulation material.

■ The IDC Tool has Attachments for all terminals. The result is efficient, labor-saving wiring.
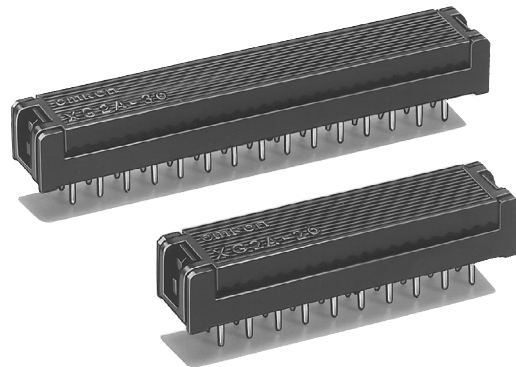
■Terminal Arrangement

The contact numbers are not marked on the Connector. If the cables are numbered from 1 starting from the edge, the relationship between the wires and the terminals would be as shown at the right.

Standard Terminal Arrangement
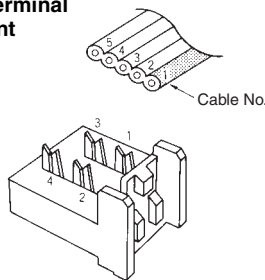
Reverse Terminal Arrangement
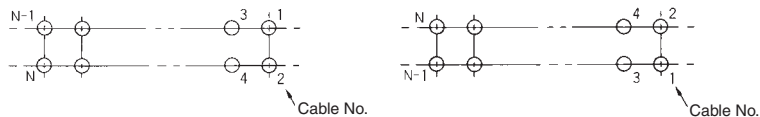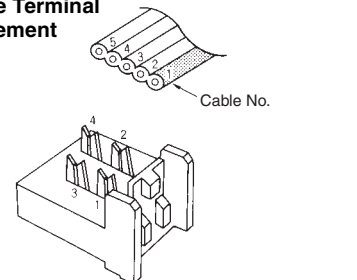
Cable number arrangement (top view)

■Ratings and Characteristics

Rated current	1 A
Rated voltage	250 VAC
Contact resistance	15 mΩ max. (at 20 mV, 100 mA max.)
Insulation resistance	1,000 MΩ min. (at 500 VDC)
Dielectric strength	500 VAC for 1 min (leakage current: 1 mA max.)
Operating temperature	−55 to 85°C (with no icing at low temperature)

■Materials and Finish

Base		Fiber-glass reinforced PBT resin (UL94V-0)/black
Contacts	Mating end	Copper alloy/nickel base, tin plating
	Terminals	Copper alloy/nickel base, tin plating
Cover		Fiber-glass reinforced PBT resin (UL94V-0)/black

■Applicable Wires

1.27-mm pitch, AWG28, 7-strand flat cable.

• UL2651 (standard cable)
• UL20012 (folding cable)
• UL20028 (color-coded cable)

XG2A Double-row PCB Connectors

■ Dimensions

Standard Terminal Arrangement: XG2A-☐☐01
Reverse Terminal Arrangement: XG2A-☐☐02
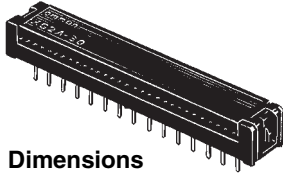
Dimensions

No. of contacts	Dimensions (mm)	
	A	B
10	17.9	10.16
14	22.9	15.24
16	25.5	17.78
20	30.6	22.86
26	38.2	30.46
30	43.3	35.56
34	48.3	40.64
40	56.0	48.26
50	68.7	60.96
60	81.4	73.66
64	86.4	78.74
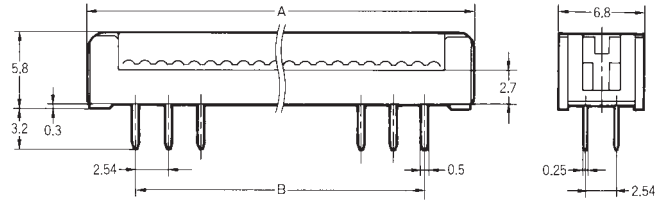
Mounting holes (bottom view)

Standard terminal arrangement
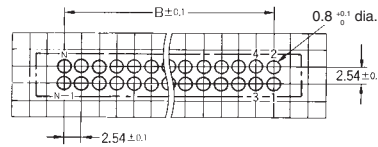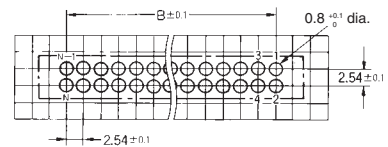
Reverse terminal arrangement

■ Ordering Information

No. of contacts	Connectors with standard terminal arrangement	Connectors with reverse terminal arrangement
10	XG2A-1001	XG2A-1002
14	XG2A-1401	XG2A-1402
16	XG2A-1601	XG2A-1602
20	XG2A-2001	XG2A-2002
26	XG2A-2601	XG2A-2602
30	XG2A-3001	XG2A-3002
34	XG2A-3401	XG2A-3402
40	XG2A-4001	XG2A-4002
50	XG2A-5001	XG2A-5002
60	XG2A-6001	XG2A-6002
64	XG2A-6401	XG2A-6402

Note: The cover is an open-end type.

■ Precautions

Correct Use

Handling
• There is no Strain Relief for the PCB Connector. Leave enough slack to avoid tension on the cable.
• Terminals can be press fit no matter which direction the base and cover are facing.

• See page C-23 for information on special tools, such as IDC connectors.

Automated Soldering Conditions (Jet Flow)
1. Soldering temperature: 250 ±5°C
2. Continuous soldering time: Within 5 s

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XY3A Flat Cable (UL-approved Wires)

■ Dimensions

XY3A-□□01
Standard Cables

XY3A-□□02
Folding Cables

Contact area   Non-contact area
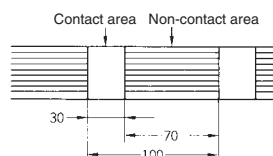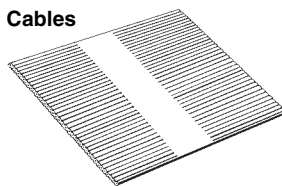
XY3A-□□03
Color-coded Cables

Core No.	Insulation color	Core No.	Insulation color
1	Brown	6	Blue
2	Red	7	Purple
3	Orange	8	Gray
4	Yellow	9	White
5	Green	10	Black

Note: The colors above repeat again from 11 cores.

■ Ordering Information (Order in 1-roll (61.0 m) units)

No. of cores	Standard Cable	Folding Cable (See note.)	Color-coded Cable	Dimensions (mm)		Applicable Connector		
				A	B	MIL	IDC Plug	PCB
10	XY3A-1001	XY3A-1002	XY3A-1003	11.4	12.7	XG4M-10□□	XG4E-10□□	XG2A-100□
14	XY3A-1401	XY3A-1402	XY3A-1403	16.5	17.8	XG4M-1430	XG4E-143□	XG2A-140□
16	XY3A-1601	XY3A-1602	XY3A-1603	19.1	20.3	XG4M-1630	XG4E-163□	XG2A-160□
20	XY3A-2001	XY3A-2002	XY3A-2003	24.1	25.4	XG4M-2030	XG4E-203□	XG2A-200□
26	XY3A-2601	XY3A-2602	XY3A-2603	31.8	33.0	XG4M-2630	XG4E-263□	XG2A-260□
30	XY3A-3001	XY3A-3002	XY3A-3003	36.8	38.1	XG4M-3030	XG4E-303□	XG2A-300□
34	XY3A-3401	XY3A-3402	XY3A-3403	41.9	43.2	XG4M-3430	XG4E-343□	XG2A-340□
40	XY3A-4001	XY3A-4002	XY3A-4003	49.5	50.8	XG4M-4030	XG4E-403□	XG2A-400□
50	XY3A-5001	XY3A-5002	XY3A-5003	62.2	63.5	XG4M-50□□	XG4E-50□□	XG2A-500□
60	XY3A-6001	XY3A-6002	XY3A-6003	74.9	76.2	XG4M-60□□	XG4E-60□□	XG2A-600□
64	XY3A-6401	XY3A-6402	XY3A-6403	80.0	81.3	XG4M-64□□	XG4E-64□□	XG2A-640□

Note: Dimensions A and B are for the contact area of folding flat cable.

■ Ratings and Characteristics

Classification / Item	XY3A-□□01 Standard Cables	XY3A-□□02 Folding Cables	XY3A-□□03 Color-coded Cables
UL file No.	UL2651	UL20012	U:20028
Max. operating voltage	300 V	150 V	150 V
Max. operating temperature	105°C	80°C	105°C
Max. conductor resistance	224 Ω/km (at 20°C)		
Dielectric strength	2,000 VAC, 50/60 Hz for 1 min		
Min. insulation resistance	5 kΩ-km (at 20°C)		

■ Materials

Conductor	AWG28 (7/0,127), tin plated, soft copper wire
Insulation	Heat-resistant vinyl

■ Special Tools

XY2B-0002
IDC Tool (Attachments sold separately)

430

165   300
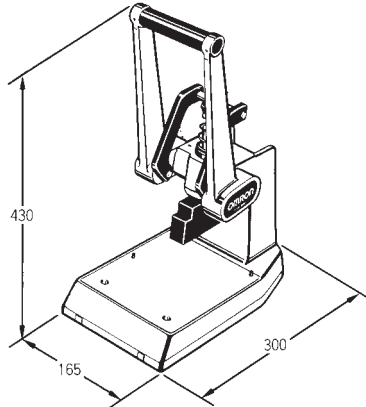
■ IDC Tool Attachments for XG4M and XG2A

XY2B-1007
Attachment for the XG4M

Locator groove
Cable stopper
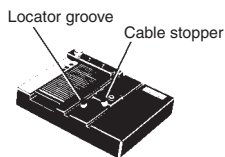
**XY2B-1006**
Attachment for the XG2A
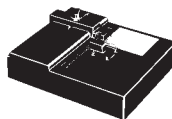
Operation

XG4M-series Connectors must be placed face down into the locator slot of the Attachment. (With the XG2A Series, place the terminal block in the Attachment.) Insert the cable until it is flush against the cable stopper. Connections are made by pulling the handle towards you until it stops. For details on operation, see the user's manual supplied with the IDC Tool.

Combinations

IDC Tool	Attachment	Applicable Socket
XY2B-0002	**XY2B-1007**	XG4M (All contacts)
	XY2B-1006	XG2A (All contacts)

■ IDC Tool Attachments for XG4E

XY2B-1004
Attachment for the XG4E

XY2B-14☐☐
Spacer for the XG4E
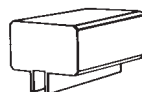
Operation

XG4E-series Connectors must be placed face down into the locator slot of the Attachment. Insert the cable until it is flush against the cable stopper. Next set the proper spacer for the Plug. Connections are made by pulling the handle towards you until it stops.

Ordering Information

IDC Tool	Attachment	Spacer	Applicable Plug
XY2B-0002	**XY2B-1004**	XY2B-1401	XG4E-10☐1/-10☐2 XG4E-1431/-1432
		XY2B-1402	XG4E-1631/-1632 XG4E-2031/-2032
		XY2B-1403	XG4E-2631/-2632 XG4E-3031/-3032
		XY2B-1404	XG4E-3431/-3432
		XY2B-1405	XG4E-4031/-4032
		XY2B-1406	XG4E-50☐1/-50☐2
		XY2B-1407	XG4E-60☐1/-60☐2 XG4E-54☐1/-64☐2

Spacer
XG4E
Attachment
Cable   Cover

OMRON

IDC Connectors for Discrete Wires | XG5
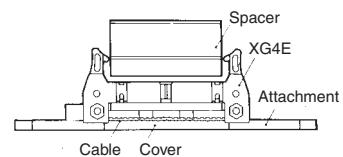
Trouble-free discrete-wire termination with IDC Sockets that accommodate MIL Plugs.

- Two-slot, IDC construction and insulation barrel offer 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 lock-lever system, these Connectors can be locked to either the XG8B/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

Cover (Semi-cover or Hood Cover) Semi-cover shown here.
Socket (with polarizing guide)
IDC contacts
Polarizing guide

Solderless Contact

Wire can be connected without stripping cable insulation.

Lance
Insulation barrel
Two-slot connection
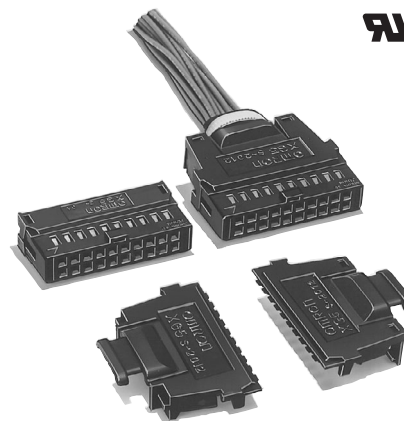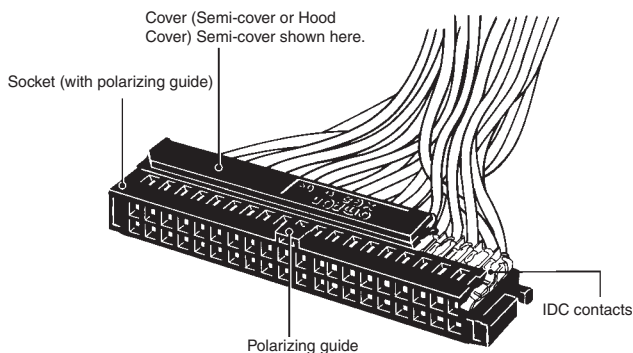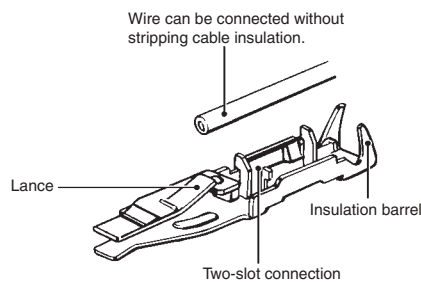
■ Ratings and Characteristics

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

■ 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.

■ Current and Temperature Characteristics

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

UL1061 AWG24 (XG5M-2032-N)
UL1007 AWG26 (XG5M-2035-N)
20 wires
Temp. rise limit
10 wires
2 wires

Flow rate = (no. of contacts used) × 100% / (total no. of contacts)
UL1061 AWG24
UL1007 AWG26
Temp. rise limit
100%
50%
10%
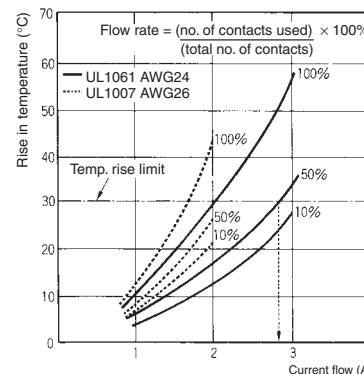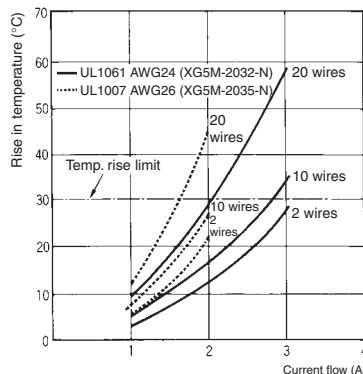
■ Applicable Wires and Contact Sizes

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

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

OMRON
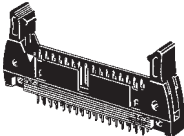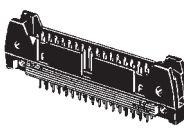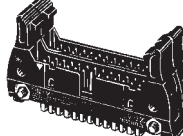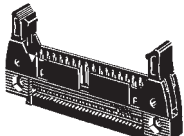
■Configuration

Assembly

| Socket | Wire | Connections | Cover | Assembled unit |

Discrete wires

Semi-cover

Double-row
Assembled

Double rows
with polarity
guide
(lockable)

IDC Tool

Hood Cover

Vertical

Double rows
with polarity
guide
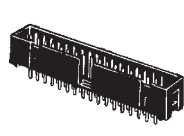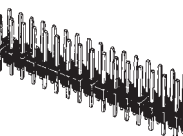(lockable)

Simple IDC Tool

Horizontal

Double rows
with polarity
guide
(lockable)

■Applicable Plugs

XG4A Flat Cable MIL Plugs with Long Locks	XG4A Flat Cable Plugs without Lock Lever (Lock Levers mounted later)	XG4A Flat Cable Double-row Plugs
XG4E IDC Flat Cable Plugs	XG4C Flat Cable Box-type Plugs	XG8W/XG8B Double-row Unshrouded Plugs

Note: **1.** Plug dimensions are listed on the Plug's page.

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

■Press-fitting (XG5M) and Crimping

The advantages of press fitting over crimping are as follows:

- Overall cost is lower because less man-hours are required (no wire stripping and easier inspections).
- Consistent quality improves yield.
- Contacts built into the housing simplify parts control.

XG5M-N Double-row Sockets

■ 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)
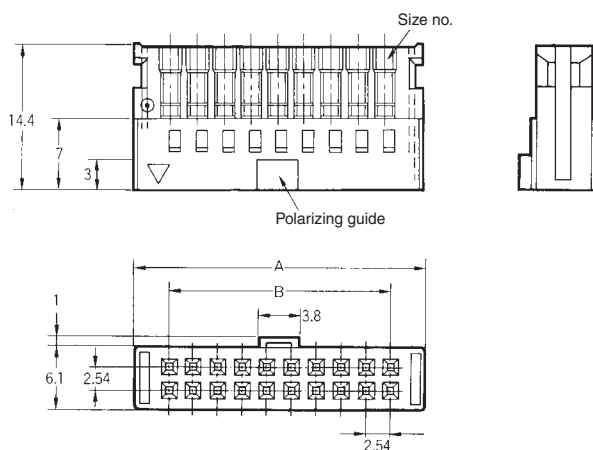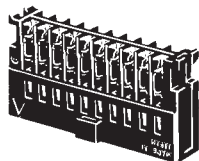
Size no.

14.4
7
3
Polarizing guide

A
B
3.8
1
6.1 2.54
2.54

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

No. of contacts	No. of polarizing guide	Size #1 (See note 1.)	Size #2 (See note 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. The distance between slots is 22.86 mm for the two guides on 50, 60, and 64-contact Connectors.

2. See the previous page for Plug information.

3. Applicable wire is AWG24 (UL1061) for size #1.

4. Applicable wire is AWG28 to AWG26 (UL-1007) for size #2. For details, see page C-24.

XG5S Semi-covers

■ Dimensions

XG5S-□□01
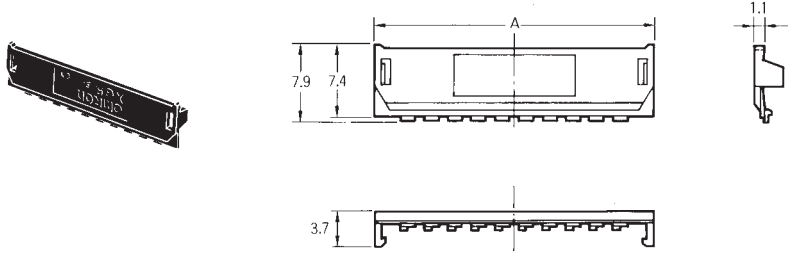
Dimensions

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	Order in multiples of	Applicable Connector
5	XG5S-0501	10	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 row. Each XG5M Connector requires two semi-covers.

■ 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

XG5S Hood Covers

■ Dimensions

Vertical/XG5S-□□12
(Left and right halves)
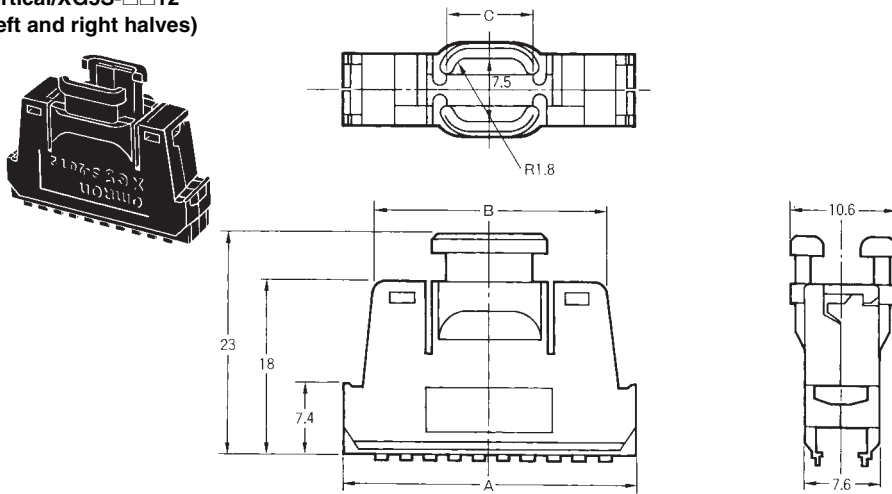
Dimensions

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
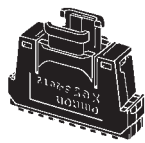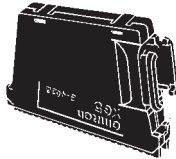
Horizontal/XG5S-□□22
(Left and right halves)
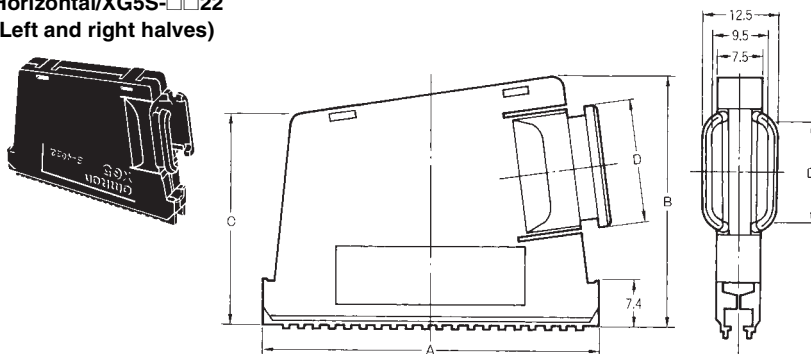
Dimensions

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.)	Order in multiples of	Model (See note.)	Order in multiples of
20	XG5S-2012	10	---	---
26	XG5S-2612		---	---
30	XG5S-3012		---	---
34	---	---	XG5S-3422	10
40	---	---	XG5S-4022	
50	---	---	XG5S-5022	
60	---	---	XG5S-6022	

Note: Includes cable tie.

■ Assembled Dimensions (Socket and Hood Cover)

Vertical Hood Cover

Assembled Unit
MIL Plug + Vertical Hood Cover
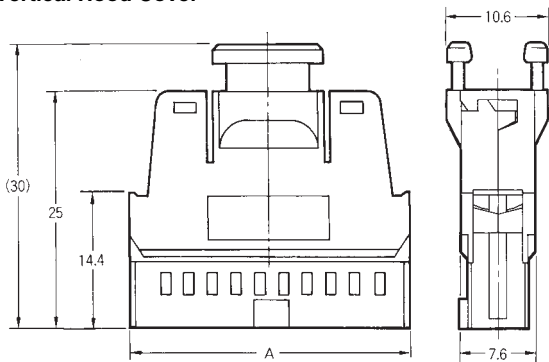
Dimensions

No. of contacts	Dimensions (mm)	
	A	B
20	30.0	44.7
26	37.6	52.3
30	42.7	57.4
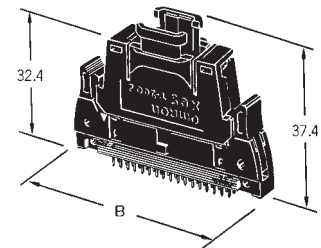
Horizontal Hood Cover
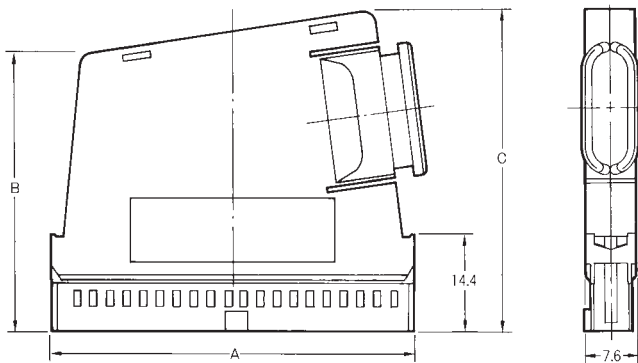
Assembled Unit
MIL Plug + Horizontal Hood Cover
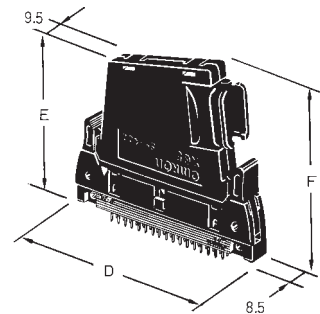
Dimensions

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

■ XG5 Accessories

Lock Levers

XG5Z-0002

Use to lock Unshrouded Plugs (XG8B and XG8W, with right-angle terminals).

Material: Polyamide resin
(UL94V-2)/natural

2.6

12.5

11.0

0.7

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.

Lock Levers

XG4Z-0002

Use to lock XG4C Box-type Plugs.

Material: Polyamide resin
(UL94V-2)/natural

3.8

2.7

13.5

11.0

0.7
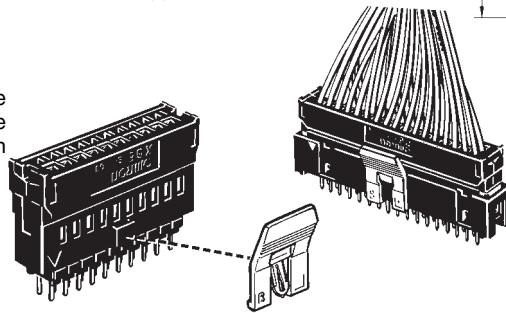
Model	Order in multiples of
XG5Z-0002	10
XG4Z-0002	

Spare Contacts

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

Size no.

1.8

2.1

2.1 1.7

2.2

12.5
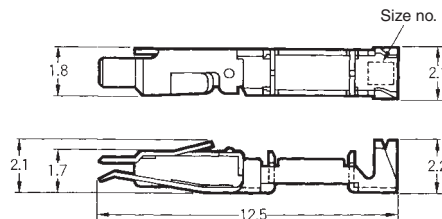
Model	Order in multiples of
XG5W-0031-N	100
XG5W-0034-N	

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 AWG24 (UL-1007). See page C-24 for details.

■ XG5 IDC Tools

Simple IDC Tool

XY2B-7006
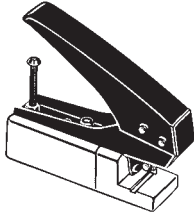
This tool is a compact, light-weight model, ideal for use in the laboratory or for maintenance.

Specifications

Applicable connector	XG5M-N
Applicable wire	AWG24 to AWG28 (with an insulation outer diameter of 1.1 to 1.3 mm)
Dimensions	25 (W) × 100 (L) × 80 (H)
Weight	Approx. 180 g

■ Tools for the XG5

Contact Removal Tool

XY2E-0001

Contact Removal Tool
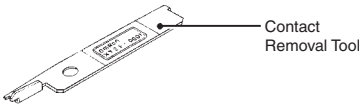
Used to remove from the housing, contacts which are wrong.

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.

XY2E-0001

Lance hole
Housing
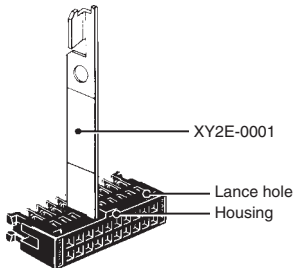
■ Tools

Simple Wire IDC Tool Set

XY2B-2104-N
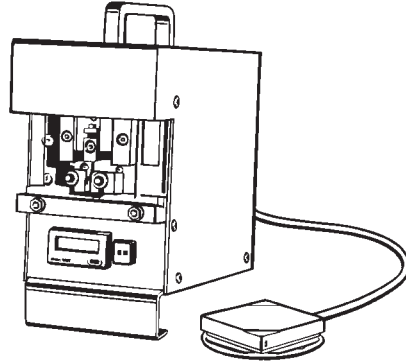
This Wire IDC Tool Set is designed for XG5 Discrete-wire Connectors.

Specifications

Stroke	13 mm
Motor speed	83/100 rpm (50/60 Hz)
Feed pitch	2.54 mm
Operation	Foot switch
Weight	About 6 kg
Rated voltage	0.5 A, 100 VAC (50/60 Hz)
Fuse	1 A
Dimensions	120 × 200 × 225 mm (W × H × D)

Note: For function and operation details, see the user's manual for the Pressure Welder provided separately.

Applicable Connectors and Wires

Applicable Connector	Size No.	Applicable wires			
		UL file No.	Size [No. of wires/ diameter (mm)]	Cross-sectional area (mm)	Covering diameter (mm)
XG5M-☐☐31-N XG5M-☐☐32-N XG5M-☐☐33-N	No. 1	UL1061	AWG24 [7/0.203]	0.21	1.10
XG5M-☐☐34-N XG5M-☐☐35-N XG5M-☐☐36-N	No. 2	UL1007	AWG26 [7/0.16]	0.13	1.30
			AWG28 [7/0.127]	0.09	1.22

Note: Use only wires specified in the table above.

■ Precautions

Correct Use

IDC Connectors

- For best results, use only the XG5 IDC Tool.
- 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
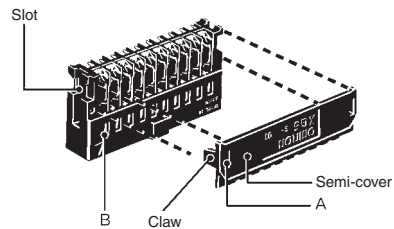
- See the above diagram.

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
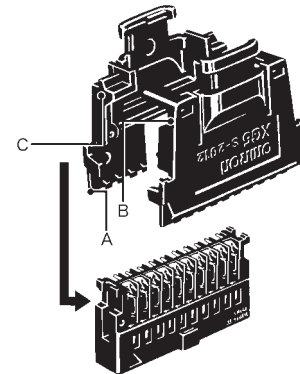
- See the above diagram.

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.
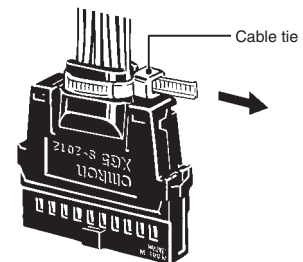
Horizontal Hood Cover

- 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

Triangular mark   Terminal numbers   Polarizing guide

1 3 5 7 9 11 13 15 17 19

2 4 6 8 10 12 14 16 18 20

XG4M Terminal Numbers

Triangular mark   Not marked on connector.

1 3 5   17 19

2 4 6   18 20
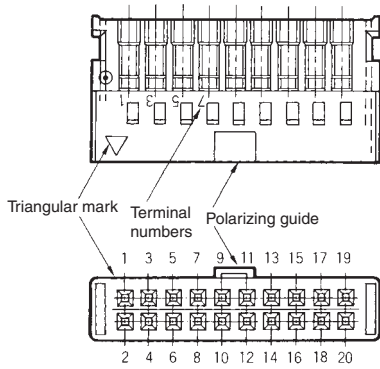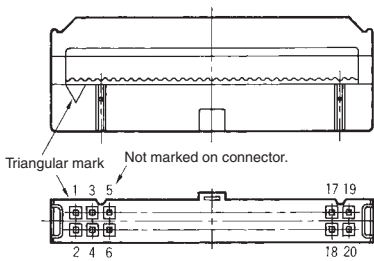
• The Contact numbers on the Double-row Assembled Socket match the numbers on the XG4M Flat Cable MIL Socket. (See the above diagrams.)
• When making IDC connections on the Double-row Assembled Connector, use the polarity guide to distinguish the front and back. (Note: The 10-contact Connector does not have a guide.)

Applicable Plugs

• XG4A, XG4C 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.

Original Plug   Cover

Board

7 mm max. Edge ℓ XG5

OMRON
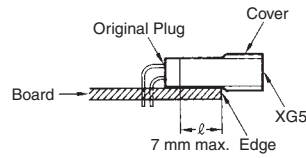
Original Plugs | XG8

Original Plug that can be used in a wide range of applications.

- Can use as a Plug for different Sockets.
  Applicable Sockets:
  XG4M Flat Cable Connector
  XG5 Discrete-wire IDC Connector
- OMRON's unique production system maintains low costs.
- Straight Terminal Plugs are easily divided into the desired number of contacts.
- Through-holes handle 0.8-mm wires.
- With Double-row Plugs with right-angle terminals, block-base soldering improves productivity while lock levers simplify locking (excluding XG8V and XG8W Plugs with straight terminals).
- Simply cut to divide (excluding XG8W Right-angle Plugs).

■Connectors

Model	XG8V		XG8W	
Appearance	Single-row plugs with straight terminals	Single-row plugs with right-angle terminals	Double-row plugs with straight terminals	Double-row plugs with right-angled terminals
Page	C-35		C-36	
Model	XG8A		XG8B	
Appearance	Single-row plugs with straight terminals	Single-row plugs with right-angle terminals	Double-row plugs with straight terminals	Double-row plugs with right-angle terminals
Page	C-37			

■Ratings and Characteristics

Rated current	3 A (See note 1.)
Rated voltage	300 VAC
Contact resistance	20 mΩ max. (at 20 mV, 100 mA max.) (See note 2.)
Insulation resistance	1,000 MΩ min. (at 500 VDC)
Dielectric strength	650 VAC for 1 min (leakage current: 1 mA max.)
Ambient temperature	Operating: −55 to 105°C (with no icing)

Note: 1. The rated current will depend on the Socket you are using. It is 1 A using the XG4M for example.

2. The contact resistance is measured with the Plug mated to an XG5M-N.

■Materials and Finish

Model		XG8V and XG8W (See note.)	XG8A and XG8B
Base		Fiber-glass reinforced PBT resin (UL94V-0)/black	
Contacts	Mating end	Brass/nickel base, 0.15-μm gold plating	Brass/nickel base, 0.15-μm gold plating
	Terminal	Brass/nickel base, tin plating	Brass/nickel base, tin plating

Note: Two types of contacts and mating ends, one with gold plating and the other with tin plating, are available.

■Applicable Sockets

XG8W and XG8B (Double Row)	XG4M Flat Cable Connectors (Sockets)
	XG4H Board-to-Board Connectors (Sockets)
	XG5M-N Discrete-wire IDC Connectors (Double-row Sockets)

XG8V Single-row Original Plugs

■ Dimensions

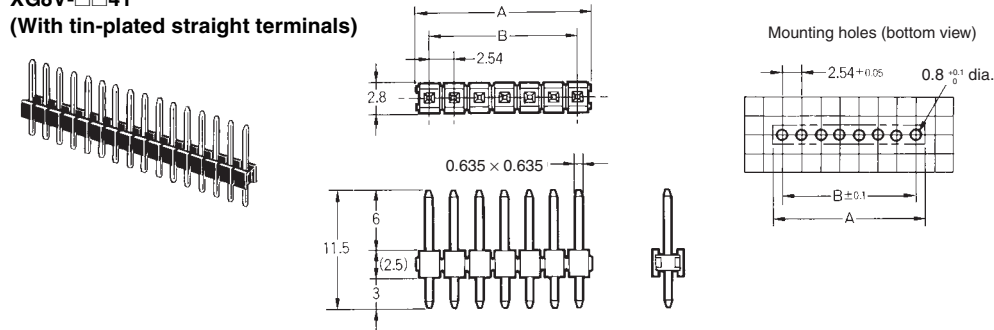**XG8V-□□31**
(With gold-plated straight terminals)
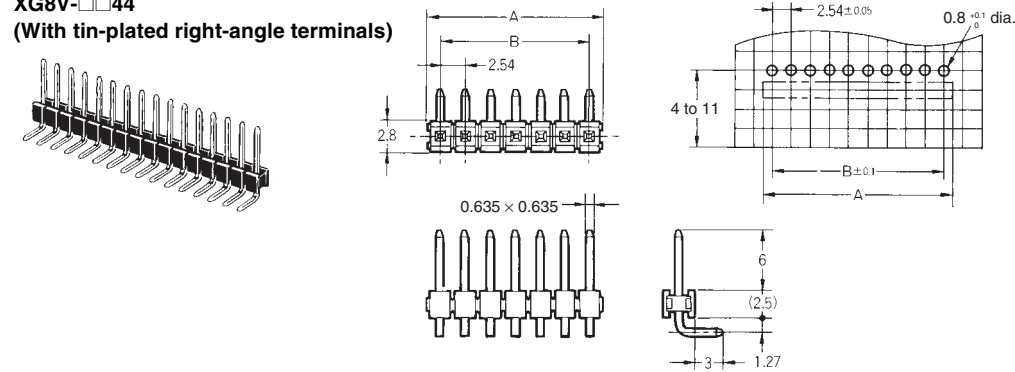**XG8V-□□41**
(With tin-plated straight terminals)

Mounting holes (bottom view)

$0.8 ^{+0.1}_{0}$ dia.

Dimensions

No. of contacts	Dimensions (mm)	
	A	B
3	7.6	5.08
4	10.2	7.62
5	12.7	10.16
6	15.2	12.70
7	17.8	15.24
8	20.3	17.78
10	25.4	22.86
12	30.5	27.94
13	33.0	30.48
15	38.1	35.56
16	40.6	38.10
17	43.2	40.64
20	50.8	48.26
36	91.4	88.90

XG8V-□□34
(With gold-plated right-angle terminals)
XG8V-□□44
(With tin-plated right-angle terminals)

Mounting holes (bottom view)

$0.8 ^{+0.1}_{0}$ dia.

Dimensions

No. of contacts	Dimensions (mm)	
	A	B
3	7.6	5.08
4	10.2	7.62
5	12.7	10.16
6	15.2	12.70
7	17.8	15.24
8	20.3	17.78
10	25.4	22.86
12	30.5	27.94
13	33.0	30.48
15	38.1	35.56
16	40.6	38.10
17	43.2	40.64
20	50.8	48.26
36	91.4	88.90

■ Ordering Information

Appearance	Plugs with straight terminals		Plugs with right-angle terminals	
No. of contacts	Model (gold plated)	Model (tin plated)	Model (gold plated)	Model (tin plated)
3	XG8V-0331	XG8V-0341	XG8V-0334	XG8V-0344
4	XG8V-0431	XG8V-0441	XG8V-0434	XG8V-0444
5	XG8V-0531	XG8V-0541	XG8V-0534	XG8V-0544
6	XG8V-0631	XG8V-0641	XG8V-0634	XG8V-0644
7	XG8V-0731	XG8V-0741	XG8V-0734	XG8V-0744
8	XG8V-0831	XG8V-0841	XG8V-0834	XG8V-0844
10	XG8V-1031	XG8V-1041	XG8V-1034	XG8V-1044
12	XG8V-1231	XG8V-1241	XG8V-1234	XG8V-1244
13	XG8V-1331	---	XG8V-1334	---
15	XG8V-1531	---	XG8V-1534	---
16	XG8V-1631	XG8V-1641	XG8V-1634	XG8V-1644
17	XG8V-1731	---	XG8V-1734	---
20	XG8V-2031	XG8V-2041	XG8V-2034	XG8V-2044
36	XG8V-3631	XG8V-3641	XG8V-3634	XG8V-3644

XG8W Original Plugs for MIL Connectors

■ Dimensions

XG8W-□□31
(With gold-plated straight terminals)
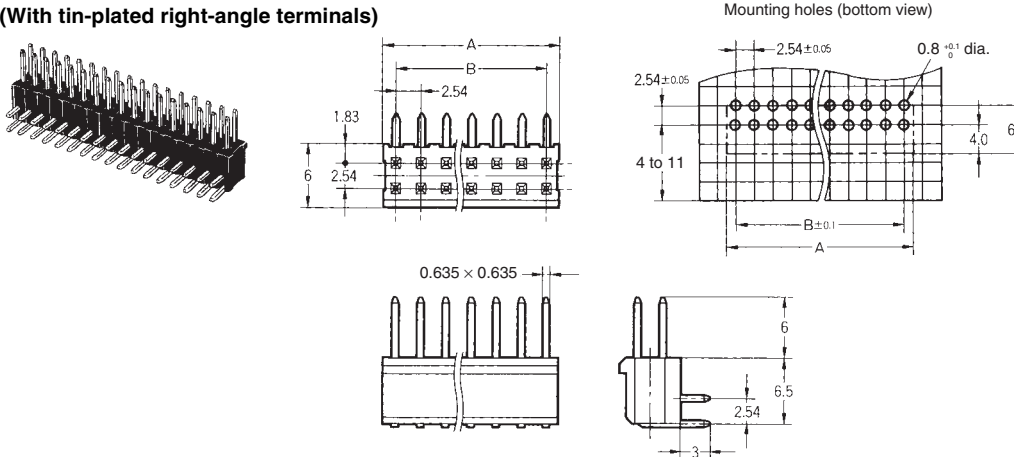**XG8W-□□41**
(With tin plated straight terminals)

Mounting holes (bottom view)

2.54±0.05   0.8 $^{+0.1}_{0}$ dia.

A
B
2.54
5   2.54
0.635 × 0.635
6
11.5
(2.5)
3
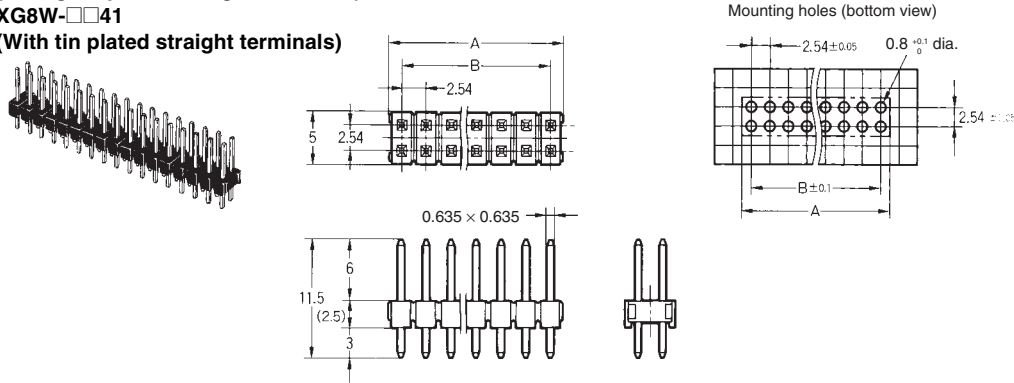
Dimensions

No. of contacts	Dimensions (mm)	
	A	B
10	12.7	10.16
14	17.8	15.24
16	20.3	17.78
20	25.4	22.86
26	33.0	30.48
30	38.1	35.56
34	43.2	40.46
40	50.8	48.26
50	63.5	60.96
60	76.2	73.66

XG8W-□□34
(With gold-plated right-angle terminals)
XG8W-□□44
(With tin-plated right-angle terminals)

Mounting holes (bottom view)

2.54±0.05   0.8 $^{+0.1}_{0}$ dia.
2.54±0.05

A
B
2.54
1.83
6   2.54
4 to 11
6.5
4.0
B±0.1
A
0.635 × 0.635
6
6.5
2.54
3
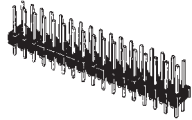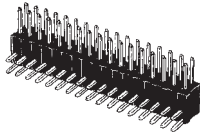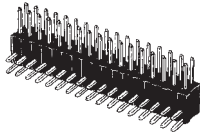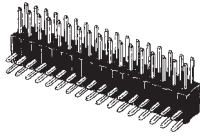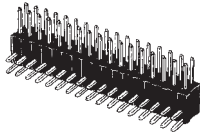
Dimensions

No. of contacts	Dimensions (mm)	
	A	B
20	25.4	22.86
26	33.0	30.48
30	38.1	35.56
34	43.2	40.64
40	50.8	48.26
50	63.5	60.96

■ Ordering Information

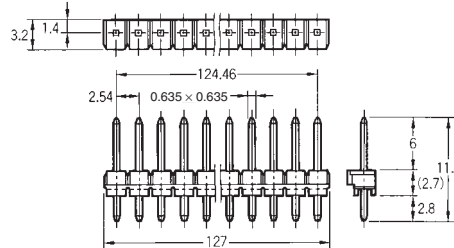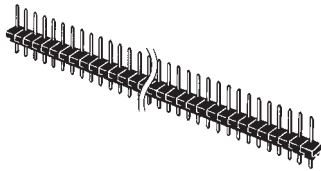| Appearance	Plugs with straight terminals		Plugs with right-angle terminals	
No. of contacts	Model (gold plated)	Model (tin plated)	Model (gold plated)	Model (tin plated)
10	XG8W-1031	XG8W-1041	---	---
14	XG8W-1431	XG8W-1441	---	---
16	XG8W-1631	XG8W-1641	---	---
20	XG8W-2031	XG8W-2041	XG8W-2034	XG8W-2044
26	XG8W-2631	XG8W-2641	XG8W-2634	XG8W-2644
30	XG8W-3031	XG8W-3041	XG8W-3034	XG8W-3044
34	XG8W-3431	XG8W-3441	XG8W-3434	XG8W-3444
40	XG8W-4031	XG8W-4041	XG8W-4034	XG8W-4044
50	XG8W-5031	XG8W-5041	XG8W-5034	XG8W-5044
60	XG8W-6031	XG8W-6041	---	---

XG8A (Single-row)/XG8B (Double-row)

Original Plugs for MIL Connectors
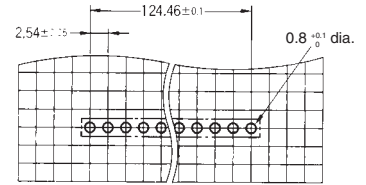
■ Dimensions

Single-row Plugs

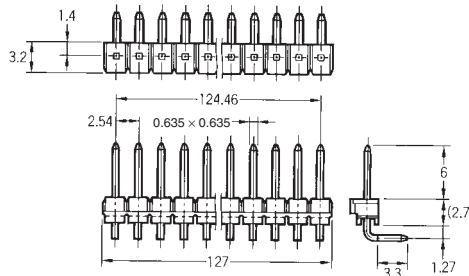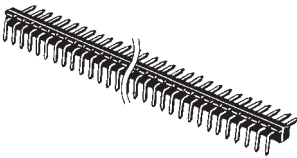**XG8A-5031**
(With straight terminals)
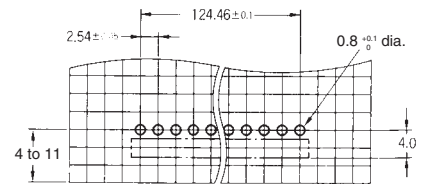
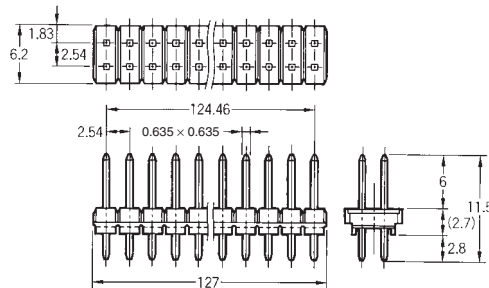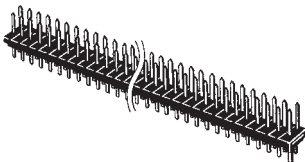Mounting holes (bottom view)

XG8A-5034
(With right-angle terminals)

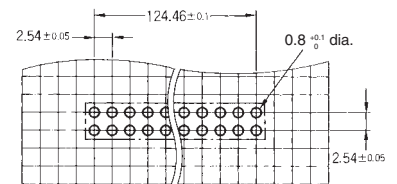Mounting holes (bottom view)

4 to 11

Double-row Plugs

XG8B-0131
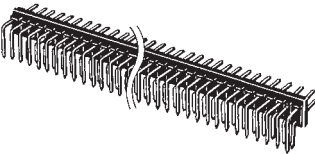**(With straight terminals)**

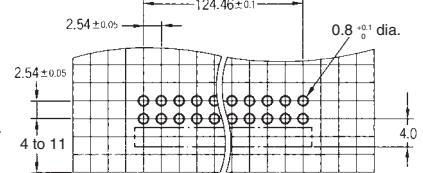Mounting holes (bottom view)

XG8B-0134
(With right-angle terminals)

Mounting holes (bottom view)

4 to 11
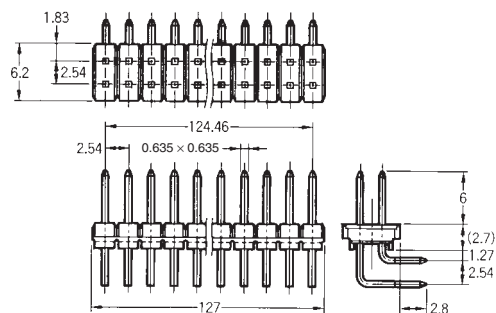
■ Ordering Information

| Terminal type	Plugs with straight terminals	Plugs with right-angle terminals
No. of contacts	Model (gold plated)	Model (gold plated)
50 (Single-row)	XG8A-5031	XG8A-5034
100 (Double-row)	XG8A-0131	XG8A-0134

■ Accessories

Lock Levers

XG5Z-0002

Can be used to lock XG8W Double-row Right-angle Terminal Plugs to XG4M Flat Cables and XG5M-N Discrete-wire IDC Connectors.

They cannot be used with XG8W Double-row Straight Terminal Plugs or XG8V Single-row Plugs.

2.6

12.5

11.0

0.7
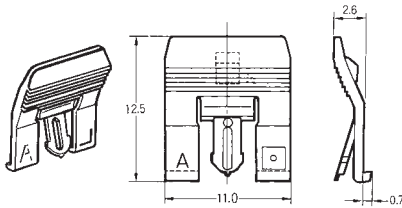
Note: Order the above model in multiples of the minimum order.

Mounting the Lock Lever

Insert the tab on the Lock Lever into the hole on a Socket with a polarity guide. In this way, it can be locked with XG8W Right-angle Terminal Plugs.
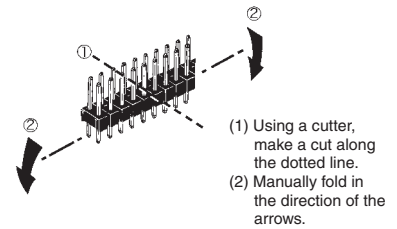

Polarizing guide hole XG4M

XG8

Tab

Lock lever
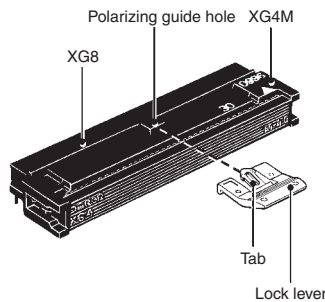
■ Precautions

Correct Use

Dividing the XG8W (with Straight Terminals), XG8V, XG8A, and XG8B

• Using a Cutter, make a cut on the slot as indicated by the dotted line in the diagram. Then fold the Plug manually in the direction of the arrows.

①

②

②

(1) Using a cutter, make a cut along the dotted line.
(2) Manually fold in the direction of the arrows.

Automated Soldering Conditions (Jet Flow)

1. Soldering temperature: 250 ±5°C
2. Continuous soldering time: Within 5 s

■ Ordering Procedure

• Contact your OMRON representative if you require a product with a non-standard number of contacts.